

# Verb-second structures: Evidence from Danish VP anaphora\*

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UCLA linguistics colloquium  
April 15, 2011

## 1 Introduction

General verb-second (V2) configuration (Germanic minus English, Kashmiri (Hook and Manaster-Ramer, 1985), Breton (Schafer, 1995), Ingush (Nichols, 2009)):

(1) [ XP  $V_{fin}$  ... ]

where a wide range of elements can instantiate XP (= INITIAL POSITION). In Danish, anything but

- $V_{fin}$
- negation (*ikke*)
- handful of adverbs (*også* ‘also’, *jo* ≈ ‘you know’, *skam* ≈ ‘really’, *sgu* ≈ ‘damned’ *da* ≈ ‘surely’)

### Frequently Asked Questions:

1. Where is XP and where is  $V_{fin}$ ?

- XP in specifier of CP
- $V_{fin}$  in  $C^0$

(2) [CP XP  $V_{fin}$  [TP DP<sub>subj</sub> ... ]] (Koster 1975 and onwards)

2. Which clauses are V2 in which language? (overview in Heycock 2005)

- main clauses and most embedded clauses in Icelandic and Yiddish
- main clauses and some embedded clauses in Danish, Swedish, Norwegian, German, Dutch

3. Are subject-initial V2 clauses CPs or smaller?

CPs = [CP DP<sub>subj</sub>  $V_{fin}$  [TP ⟨DP<sub>subj</sub>⟩ ⟨ $V_{fin}$ ⟩ ... ]] (e.g. Schwartz and Vikner 1989, Vikner 1995, van Craenenbroeck and Haegeman 2007)

TPs = [TP DP<sub>subj</sub>  $V_{fin}$  ... ] (e.g. Travis 1991, Zwart 1997)

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\*The material presented here grew out of The Danish Verb Phrase Anaphora project, which is a collaboration with Michael Houser, Maziar Toosarvandani, and, earlier on, also Ange Strom-Weber (see <http://linguistics.berkeley.edu/~danish/>). I am especially grateful to Michael Houser for setting up the on-line database for naturally occurring examples of VP anaphora on which I draw heavily in what follows. I am also grateful to Peter Juel Henriksen and Frans Gregersen for giving me access to the BySoc corpus of spoken Danish.

To make progress Q3, we need to ask a seemingly unrelated, and rarely asked, question:

4. When a clause contains several candidates for initial position, which one gets to go there?

**Danish functional tradition** (e.g. Heltoft 1992, Jakobsen 1998, Jørgensen 2000:81–85, Thomsen 1996):

Q4 is too hard, since initial position is multifunctional, hosting unmarked themes ( $\approx$  continuation topics), marked themes ( $\approx$  contrastive topics), and rhemes ( $\approx$  information focus), but defaulting to subject.

**Generative tradition** (implicitly): Q4 is too easy, since there are just three categories:

- i. constituent questions: (highest) wh-phrase must go first
- ii. polar questions, imperatives and V-initial antecedents of conditionals: null operator in Spec-CP
- iii. all other V2 clauses: not a matter of syntax, but of stylistics and text linguistics

**Today’s talk** offer partial answer to Q4 and show that it entails a particular and novel answer to Q3.

- Tool: VP anaphor, which may, must or cannot occupy initial position depending on its surroundings
- Claims:
  - i. There are intra-sentential syntactic principles governing initial position even in declarative V2 clauses (contra functionalist and generative traditions)
  - ii. Some subject-initial V2 clauses are TPs, some are CPs (my answer to Q3)
  - iii. While elements in initial position in V2-CPs may serve very different information-structural functions, they always serve some function; there are no undifferentiated V2-CPs.
- Larger agenda: understanding relationship between syntax and information structure (esp. claim iii).

## 2 What does come first in Danish V2 clauses?

No comprehensive quantitative study, but examination of 750 V2-clauses from newspaper, fiction and spoken language yielded the proportions listed in under GENERAL in (3). Compare this general pattern to initial position in 408 V2-clauses containing a VP anaphor, listed under VPA-CLAUSES:<sup>1</sup>

(3)

INITIAL	GENERAL	VPA-CLAUSES
Subject	61%	23%
Adverbial	22%	16%
Object	9%	1%
Other	7%	60%

- The presence of a VP anaphor affects initial position:
  - radically fewer initial subjects;
  - radically fewer initial objects;
  - slightly fewer initial adverbials.
- What’s in ‘Other’?

(4)

INITIAL	GENERAL	VPA-CLAUSES
Null <sup>2</sup>	3%	7%
<b>VP anaphor</b>	2%	<b>53%</b>
Object of P	1%	0%
Remainder	1%	0%

<sup>1</sup>Percentages in do not necessarily sum to 100 due to rounding. See appendix A for details of the quantitative studies.

<sup>2</sup>The category ‘Null’ includes polar questions, imperatives, and verb-initial antecedents of conditionals. In all of these, there is no element in the initial position or, under certain analyses, there is an element, but that element is null.

### 3 VP anaphoric *det*

Components:

- anaphoric proform *det* (= 3rd singular neuter pronoun; glossed DET)
- licensor = modal, perfective, passive or dummy auxiliary (Houser et al., 2011); possessive *have*; copula
- antecedent = [...]<sup>3</sup>

- (5) Esbjerg [satser på trænersiden]<sub>i</sub>, mens Aalborg ikke gør **det**<sub>i</sub>. [P206]  
Esbjerg emphasizes on coach.side.DEF while Aalborg not does DET  
*Esbjerg emphasizes coaching, while Aalborg doesn't.*

In embedded clauses that are not V2, *det* surfaces in situ, as in (5).

In V2-clauses (= main clauses and certain embedded clauses), *det* may surface:

1. in situ: [SUBJECT AUXILIARY (NEG) *det*]
2. object-shifted position: [SUBJECT AUXILIARY *det* (NEG)]
3. initial position: [*det* AUXILIARY SUBJECT (NEG)]

This talk: 1 & 2 (= non-fronted) vs. 3 (fronted)

(on 1 vs. 2, see Andréasson 2008)

#### 3.1 Non-fronted *det*

Fronting of *det* is impossible in:

1. **Constituent questions** here subject question, but also manner, locative, temporal, and reason questions.

- (6) Vi [trættes], men ...  
we tire.PASS.PRES but  
*We get tired, but ...*
- a. hvem gør ikke **det**! [P223]  
who does not DET  
*who doesn't!*
- b. \***det** gør hvem ikke!  
DET does who not

Syntax of constituent questions requires wh-fronting + only one fronted position available → *det* cannot front.

2. **Polar questions** (Fronting of *det*, as in (7b), is possible under a declarative interpretation.)

- (7) Ja - febrilsk ædru og spurgte om jeg kunne [låne hende nogle penge].  
yes agitatedly sober and asked whether I could lend her some money  
*Yes, she was sober but agitated and asked whether I could lend her some money.*
- a. "Gjorde du **det**?" spørger Mette. [P311]  
did you DET asks Mette  
*Did you, Mette asks*
- b. \*"**Det** gjorde du?" spørger Mette.  
DET did you asks Mette

Syntax of polar questions requires no/empty initial position → *det* cannot front.

<sup>3</sup>I use the following abbreviations in the glosses: DEF = definite, DP = discourse particle, PASS = passive, POSS = possessive, REFL = reflexive. Examples from the database are annotated with their id number, which is a P followed by a number between 1 and 415. The sources for these examples are listed on p. 13 of the handout. Judgments on other examples come from 16 native Danish speakers residing in Denmark or the San Francisco Bay Area.

### 3. Imperatives

- (8) “[Fortæl ham det og se, hvad der sker],” siger Lars. “Nej,” siger Lisbeth.  
tell him it and see what there happens says Lars no says Lisbeth  
*Tell him and see what happens, Lars says. No, Lisbeth says.*
- a. “Gør **det**. Ellers gør jeg det.” [P362]  
do DET otherwise do I DET  
*Do it or I’ll do it.*
- b. \***Det** gør. Ellers gør jeg det.”  
DET do otherwise do I DET

Syntax of imperatives requires no/empty initial position → *det* cannot front.

### 4. Antecedent of conditional clauses

- (9) Et net af lyttcentraller skal oprettes, og alle private internetudbydere skal [installere systemer,  
a net of listening.centers shall create.PASS and all private internet.service.providers shall install systems  
der gør overvågningen mulig.]  
that makes surveillance possible  
*A web of listening stations are to be created and all private internet service providers are to install systems that allow for surveillance.*
- a. Gør de ikke **det**, kan ejeren straffes med fængsel i op til tre år. [P117]  
do they not DET can owner.DEF punish.PASS with prison in up to three years  
*If they don’t, the owner can be punished with up to three years of prison.*
- b. \***Det** gør de ikke, kan ejeren ...  
DET do they not can owner.DEF

Syntax of conditionals requires no/empty initial position in antecedent → *det* cannot front.

- (10) **VP Anaphora Fronting Generalization (part I)** (cf. Andréasson 2008:37–8)  
When the expression of illocutionary force makes demands on initial position, VP-anaphoric *det* can not front.

### 3.2 Fronted *det*

More surprisingly, there are also environments where *det*-fronting may be required:

1. clauses with expletive subjects
2. answers to polar questions
3. generalizations
4. repetitions

I propose to unify these in terms of information structure, specifically Discourse-givenness (Prince 1981):

- (11) **VP Anaphora Fronting Generalization (part II):**  
In a verb-second clause with VP anaphora, an information-structurally undistinguished subject cannot occupy the initial position, where information-structurally undistinguished subjects are either expletives or Discourse-given subjects of an equally Discourse-given predicate.

**1. Expletive subjects** In V2-clauses with an expletive subject (*der*), the expletive cannot take initial position at the expense of VP-anaphoric *det*:<sup>4</sup>

- (12) Jeg kaster et blik ind i stuen, for at se om der [er et eller andet pinligt, jeg skal  
 I throw a glance into in living.room.DEF for to see if EXPL is one or other embarrassing I shall  
 have ryddet af vejen], men ...  
 have cleared off way.DEF but  
*I glance into the living room to see if there is anything embarrassing that I need to clear away, but ...*
- a. **det** er der ikke. [P332]  
 DET is EXPL not  
*there isn't.*
- b. \*der er (**det**) ikke (**det**).  
 EXPL is DET not DET

- In (12b) an information-structurally undistinguished subject (expletive *der*) occupies initial position at the expense of the VP anaphor (*det*) in violation of the fronting generalization in (11).
- The grammatical (12a) satisfies (11).

The contrast between (12a) and (12b) would also follow from a simpler version of (11):

- (13) **Hypothetical VP Anaphora Fronting Generalization (part II):**  
 In a verb-second clause with VP anaphora and an information-structurally undistinguished subject, the VP anaphor must front. Information-structurally undistinguished subjects are either expletives or Discourse-given subjects of an equally Discourse-given predicate.

However, the hypothetical (13) cannot account for (14):

- (14) Da jeg åbnede døren troede jeg først at der havde [været indbrud], men ...  
 when I opened door.DEF thought I first that EXPL had been break.in but  
*When I opened the door, I first thought that someone had broken into the house but ...*
- a. **det** havde der heldigvis ikke.  
 DET had EXPL luckily not  
*luckily that wasn't the case.*
- b. \*der havde (**det**) heldigvis ikke (**det**).  
 EXPL had DET luckily not DET
- c. heldigvis havde der ikke **det**.  
 luckily had EXPL not DET

- Real and hypothetical generalization both correctly rule in (14a), which has the anaphor in initial position
- Both correctly rule out (14b), which has the undistinguished subject in initial position
- Hypothetical generalization incorrectly rules out (14c), which has the adverbial 'luckily' in initial position
- Real generalization correctly rules in (14c), since the undistinguished subject is not in initial position.

→ (11) is the correct generalization.

→ There is no absolute requirement that *det* fronts in declarative clauses.

→ If there are no other candidates for fronting, as in (12), we get obligatory *det*-fronting as a special case. (Recall that negation and  $V_{fin}$  are ineligible for initial position.)

Certain discourse contexts induce a V2-clause with a contentful, but information-structurally undifferentiated subject. In such clauses the subject also cannot take initial position at the expense of VP-anaphoric *det*.

<sup>4</sup>Since I am interested in initial position, the alternative positions for *det*, in situ and object-shifted position, are collapsed in (12b) and below.

**2. Answers to polar questions** In matching (= not over-informative; Kiefer 1980, Yadugiri 1986) answers to polar questions, a subject cannot take initial position in place of a VP anaphor:<sup>5</sup>

(15) Tjener! Bestilte jeg ikke en gin og tonic?  
 waiter ordered I not a gin and tonic  
*Waiter, didn't I order a gin and tonic?*

- a. Jo, **det** gjorde De. [P131]  
 yes DET did you  
*Yes, you did.*
- b. #Jo, De gjorde **det**  
 yes you did DET
- c. Jo, De bestilte en gin og tonic.  
 yes you ordered a gin and tonic  
*Yes, you ordered a gin and tonic*

- The subject in (15a/b) is information-structurally undistinguished, because both it and its predicate are equally Discourse-Given by the question.
- (11) thus rules out (15b), in which the undistinguished subject takes the initial position at the expense of the VP anaphor.
- The grammaticality of (15c) shows that undistinguished subjects can occupy initial position if the VP is not pronominals. The same is true for expletive subjects and undistinguished subjects in other environments.

Restriction holds beyond direct Q-A exchanges:

(16) Jeg spørger bekymret, om han sørger for at lære sin kone dansk. [Indirect Q-Direct A]  
 I ask concerned if he take.care for to teach POSS wife Danish  
*I ask concerned, whether he is making sure to teach his wife Danish.*

- a. “Nej, **det** gør jeg ikke; faktisk ...” griner han ... [P94]  
 no DET do I not actually laughs he  
*No, I'm not, in fact it's me that's learning a bit of Georgian, he laughs and hesitates a little.*
- b. # “Nej, jeg gør (**det**) ikke (**det**); faktisk ...” griner han ...  
 no I do DET not DET actually laughs he

(17) Du er vel ikke blevet for fin til at more dig? [Direct Q-Indirect A]  
 you be DP not become too fine to to enjoy REFL  
*I trust you haven't become too high-class to have a good time?*

- a. **Det** var Kurt Victor ikke. [P148]  
 DET was Kurt Victor not  
*Kurt Viktor hadn't.*
- b. #Kurt Viktor var (**det**) ikke (**det**).  
 Kurt Viktor was DET not DET

(18) Morales spurgte en dreng på 7-8 år, om han havde fået sine børnepenge. [Indir. Q-Indir. A]  
 Morales asked a boy on 7-8 years if he has received POSS child.money  
*Morales asked a boy who was 7 or 8 years old whether he had received his “child money”*

- a. **Det** havde han. [P41]  
 DET had he  
*He had.*
- b. #Han havde **det**.  
 he had DET

→ Initial position is governed by Discourse-givenness, not specific conversational interaction.

<sup>5</sup>I use # to indicate infelicity in a given context.

**3. Generalizations** Generalizations from a specific instance can also give rise to undistinguished subjects with VP-anaphora:

(19) Men Bush [sagde nej]. [P99]  
 but Bush said no  
*But Bush said no.*

a. **Det** gør han ofte.  
 DET does he often  
*He often does.*

b. #Han gør (**det**) ofte (**det**).  
 he does DET often DET

- By virtue of the antecedent clause the subject and predicate in (19a/b) are equally Discourse-given.
- (11) correctly rules out (19b) where the undistinguished subject takes initial position in place of the VP anaphor.

#### 4. Repetitions

(20) Men jeg [tilgiver ham på stedet]. [P88]  
 but I forgive him on place.DEF  
*But I forgive him on the spot.*

a. **Det** gør jeg.  
 DET do I.  
*I do.*

b. #Jeg gør **det**.  
 I do DET

→ Undistinguished subjects cannot take initial position in place of VP-anaphoric *det*, whether the undistinguishedness is lexically determined (expletive subjects) or contextually determined (contentful subjects in matching answers to polar questions, generalizations, and repetitions).

#### (21) VP Anaphora Fronting Generalization

- When the expression of illocutionary force makes demands on initial position, VP-anaphoric *det* does not front.
- In a verb-second clause with VP anaphora, an information-structurally undistinguished subject cannot occupy the initial position, where information-structurally undistinguished subjects are either expletives or Discourse-given subjects of an equally Discourse-given predicate.

The second part of this generalization helps explain why there are radically fewer initial subjects in VPA-clauses than in V2-clauses in general (23% vs. 61%).

## 4 An analytical proposal

**Assumptions** (See Appendix B for implementation in terms of feature-checking)

- Danish V2 clauses may be TP or CP.
- V2-TPs are subject initial and subject is information-structurally undifferentiated.
- V2-CPs may be subject-initial or not and initial element bears some function (clause type, focus, contrastive topic, anaphoric topic, marking various rhetorical relations) → all V2-Cs require a specifier, and all place some content requirement on that specifier (wh, Q, focus, contrastive topic, ...).
- Information-structurally undistinguished elements cannot bear any C-related function.
- VP *det* is an ANAPHORIC TOPIC (cf. López and Winkler 2000) and must be licensed by a C.

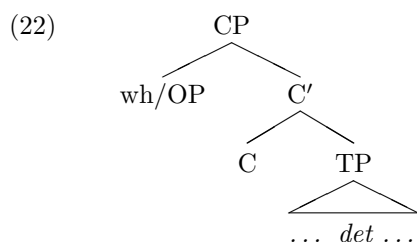
## 4.1 Accounting for *det*-in situ

In questions, imperatives, and antecedents of conditionals, *det* cannot front, since these constructions put independent demands on initial position:

- constituent questions: specifier of C must be occupied by wh-phrase
- polar Q, imperative, antecedent: specifier of C must be occupied by operator (or left empty, see App. B).

These constructions are compatible with VP-anaphoric *det*, since

- They each contain a C and any C licenses *det*.
- The requirements of C are met by the (lack of a) element in its specifier.
- There is no requirement that *det* fronts; *det* is licensed by C under c-command:



## 4.2 Accounting for initial position in expletive V2-clauses

VP anaphor or other non-subject, frontable element may occupy initial position (23a/b); subject may not (23c):

- (23)
- DET  $V_{fin}$  EXPLETIVE (Adv) ...
  - Adv  $V_{fin}$  EXPLETIVE DET ...
  - \*EXPLETIVE  $V_{fin}$  (Adv) DET ...

- Why is (23a) possible?
    - V2 clauses can be CPs and there is a V2-C that asks for an anaphoric topic in its specifier
    - *det* is an anaphoric topic and thus may front to specifier of such a C, yielding (23a).
  - Why is (23b) possible?
    - V2 clauses can be CPs and there is a V2-C that asks for an adverbial in its specifier
    - Adv may front to specifier of such a C, yielding (23b).
    - *det* is licensed in situ by C.
  - Why is (23c) impossible?
    - a V2-clause must be either a TP or a CP.
    - all V2-Cs require specifier to bear some function
    - expletives cannot bear any of these functions
    - **(23c) cannot be a wellformed CP**
    - VP anaphoric *det* must be licensed by a C
    - in a TP there is no C to license *det*
    - **(23c) cannot be a wellformed TP**
- **there is no well-formed structure for (23c)**

This analysis applies equally to the other cases of undistinguished subjects presented above (answers to polar questions, generalizations, repetitions). In each case:

- C must be present to license VP-anaphoric *det*
- every V2-C requires an information-structurally distinguished specifier
- the subject is information-structurally undistinguished and therefore cannot occupy Spec-CP
- something other than the subject must occupy initial position

## 5 Extensions

### 5.1 VP anaphora in embedded clauses

If VP anaphoric *det* can be licensed in situ by all and only C, and if expletive-initial V2 clauses are just TPs (because expletives cannot bear any information structural role), the possibility of VP anaphoric *det* in a clause embedded inside an expletive-initial clause is predicted to depend on whether the embedded clause is a TP or a CP:

(24) \*<sub>[TP EXPLETIVE V<sub>fin</sub> ... [TP ... DET]]</sub>

(25) <sub>[TP EXPLETIVE V<sub>fin</sub> ... [CP ... DET]]</sub>

- (24) is predicted to be ungrammatical because there is no C to license *det*.
- (25) is predicted to be grammatical because the embedded clause contains a C that can license *det*.

**[TP ... [TP ...]] case** Raising construction with (raised) expletive subject:

(26) “Lad os gå en tur,” sagde Klump, “ så sker der nok noget spændende.  
 let us go a walk said Klump then happens EXPL probably something exciting.  
*Lets go for a walk, Klump said, then probably something exciting will happen.*

a. \*<sub>[TP Der plejer jo [TP at gøre **det**]].</sub> [cf. (24)]  
 EXPL usually.is you-know to do DET

b. <sub>[CP **Det** plejer der jo [TP at gøre]].</sub> [P415]  
 DET usually.is you-know to do  
*As is usually the case.*

**[TP ... [CP ...]] case** Existential construction with CP complement to N-head of pivot:<sup>6</sup>

(27) Hossein ligner overhovedet ikke en mand, der har behov for at [drage til Christiania som kurer for  
 Hossein resembles at.all not a man who has need for to go to Christiania as courier for  
 at klare sig.]  
 to manage REFL  
*Hossein doesn't at all look like someone who needs to go to Cristiania as a courier to make a living.*

a. <sub>[TP Der må være en anden grund til, [CP at han gør **det**]].</sub> [P248; cf. (25)]  
 EXPL must be a second reason to that he does DET  
*There must be some other reason for him to do it.*

b. <sub>[CP **Det** må der være en anden grund til [CP at han gør.]</sub>  
 DET must there be a second reason to that he does  
*There must be some other reason for him to do it.*

<sup>6</sup>Clausal complements to indefinite Ns are preceded by a preposition in Danish, here *til* ‘to’. See Hankamer and Mikkelsen (2009).

The grammaticality of (28), where N has a non-finite CP complement (with a controlled PRO subjects), shows that it is syntactic category that matters for *det*-licensing (C vs. T), not finiteness (finite vs. non-finite).

(28) Hun studerede mig kritisk et øjeblik og så ud til at godkende mig.  
 she studied me critically a moment and saw out to to approve me  
*She studied me critically for a moment and appeared to approve of me.*

a. Der var heller ingen grund til [ikke at gøre **det**]. [P191]  
 EXPL was also no reason TO not to do DET  
*There wasn't any reason not to.*

→ VP anaphoric *det* must be licensed by C.

## 5.2 “Optional” fronting

In some contexts, *det*-initial and subject-initial versions of a V2-clause are both possible:

(29) Vi kan ikke [fare rundt og spørge], det vil alle opdage og undre sig over.  
 we can not rush around and ask it will everyone discover and wonder REFL about  
*We can't run around asking questions. Everyone would notice it and wonder about it.*

a. **Det** må en anden gøre.  
 DET must a other do  
*Someone else has to do it.*

b. En anden må gøre **det**. [P169]  
 a other must do DET  
*Someone else has to do it.*

(30) “Jeg [holder mig til de faktuelle hændelser, når jeg taler om fortiden] - ...  
 I hold REFL to the actual occurrences when I speak about past.DEF  
*I stick to what actually happened when I speak about the past.*

a. **det** burde du også gøre,” siger han. [P381]  
 DET ought you also do  
*You should too.*

b. du burde også gøre **det**.  
 you ought also do DET  
*You should too.*

- In (29), the attested order is (29b), with the subject in initial position, but (29a) with anaphor fronting is also possible.
- In (30), the attested order is (30a) with initial *det*, but the subject-initial order in (30b) is also possible.

### Analysis

- the subjects are contentful (‘someone else’ in (29) and ‘you’ in (30)) and may therefore take on an information-structural function
- contexts allow subjects to function as contrastive focus (‘someone else’ vs. ‘we’ in (29) and ‘you’ vs. ‘I’ in (30))
- as a contrastive focus, subject can occur in initial position (given the appropriate C), as in (29b) and (30b).
- however, context doesn’t require initial focus; speakers have a choice about how to construe the relation between the two clauses:
  - contrastive focus (→ subject-fronting) OR
  - anaphoric topic (→ *det*-fronting).
- (29a,b) and (30a,b) are all CPs

For some attested examples, speakers differ in whether they allow the alternative order:

- (31) En del af dem klarer sig,  
a portion of them manage REFL  
*Some of them manage*
- a. %**det** gør andre ikke.  
DET do others not
- b. andre gør **det** ikke. [P166]  
others do DET not  
*others don't*

- some speakers can only construe the relation between the clauses as one of contrasting two sets of individuals → forces the order in (31b).
- Other speakers also allow an anaphoric relation → both orders are possible.

## 6 Conclusions and open questions

### Conclusions

- While initial position in Danish V2 clause is multifunctional, there are more syntactic (intra-sentential) restrictions on this position than previously acknowledged. In particular, we can add declarative VPA-clauses to questions, imperatives, and antecedents of conditionals, as clause types where the choice of initial element is restricted.
- The analysis proposed to account for restrictions on initial position in expletive constructions extends straightforwardly to cases of context-governed restrictions on initial position, found in answers to polar questions, generalizations, and repetitions.
- Danish subject-initial V2 clauses are not structurally uniform: information-structurally differentiated ones are CPs, undifferentiated ones are TPs. Since TP is necessarily subject-initial, this explains why initial position “defaults to subject”, as noted in the descriptive literature.
- V2 involves a different relationship between information structure and syntax than systems in which there are dedicated positions for topic and/or focus, such as Hungarian (Kiss, 1998), Italian (Rizzi, 1997), and Mayan (Aissen, 1992). In Danish, Spec-CP must be occupied by an information-structurally distinguished element, but is not dedicated to a particular function.

### Open questions

- Beyond Discourse-givenness, how does discourse **structure** restrict initial position in general, and the position of VP-anaphoric *det* in particular?
  - López (2009) argues that left-dislocation of anaphors in Romance is sensitive to discourse structure in that the clause containing the antecedent must be in a subordinated discourse relation to the clause containing the left-dislocated element (Asher and Vieu 2005).
  - Kehler (2000, 2002) shows that the derivation and interpretation of English VP ellipsis is sensitive to discourse structure, in particular Cause-Effect relations vs. Resemblance relations.
- Why should VP-anaphora require licensing by C?
  - Danish nominal anaphors do not → maybe VP anaphora affects discourse—and ultimately syntax—differently because event tracking is different from tracking of individuals?
  - However, Danish VP ellipsis appears to not require licensing by C → overttness matters for V2 syntax.

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## Data sources

ID	SOURCE
P41	Geertsen, Rune. "Den hvide mand i den røde poncho." <i>Information</i> , April 28-29, 2007. p. 9
P88	Marie Tetzlaff "Mere Malene end Maude" (Interview with Malene Schwarz), <i>Ud og Se</i> , August 2006, p. 16
P94	Anna Libak "Minoriteternes mand", <i>Weekendavisen</i> , December 22-28, 2007, p. 7
P99	Martin Krasnik "Cheneys finger", <i>Weekendavisen</i> , July 6-12, 2007, p. 8
P117	Louise Windfeld-Høeberg "Nu venter kun bumpet mod vejtræet", <i>Weekendavisen</i> , August 17-23, 2007, p. 3
P131	DK87-90 (corpus)
P148	DK87-90 (corpus)
P166	DK87-90 (corpus)
P169	DK87-90 (corpus)
P191	DK87-90 (corpus)
P206	"Tennis: Århus sidder på tennis-flæsket", <i>Jyllandsposten</i> February 7, 2000
P223	<a href="http://www.teo.au.dk/html/ny/ny/artik3.html">http://www.teo.au.dk/html/ny/ny/artik3.html</a>
P248	Jakob Ejersbo "Nordkraft", Gyldendal, 2002, p. 47
P311	Jakob Ejersbo "Nordkraft", Gyldendal, 2002, p. 233
P332	Jakob Ejersbo "Nordkraft", Gyldendal, 2002, p. 269
P362	Jakob Ejersbo "Nordkraft", Gyldendal, 2002, p. 342
P381	Jakob Ejersbo "Nordkraft", Gyldendal, 2002, p. 372
P415	Claes D. Voes <i>Rasmus Klump og den røde bil</i> , p. 1

## Appendix A

The proportions of initial elements reported in (3) and (4) were obtained in the following way:

**V2-clauses in general** I extracted samples from Danish newspapers, fiction and spoken language. Each sample contained 250 V2-clauses. The newspaper sample was drawn from 3 articles in *Weekendavisen* (May 24–June 1, 2006), the fiction from Jakob Ejersbo’s novel *Nordkraft* (published in 2002 by Gyldendal), and the spoken sample from the BySoc corpus, which contains transcriptions of sociolinguistic interviews. Counts of initial elements in those three samples are given in (32):

(32)

	NEWSPAPER		FICTION		SPEECH		ALL SAMPLES	
Subject	158	(63%)	162	(65%)	140	(56%)	460	(61%)
Adverbial	72	(29%)	26	(10%)	69	(28%)	167	(22%)
Object <sup>7</sup>	8	(3%)	41	(16%)	21	(8%)	10	(9%)
Other	12	(5%)	21	(9%)	20	(8%)	53	(7%)

Thomsen (1996) reports 57.5% subject-initial V2-clauses for spoken Danish in a corpus of 9002 words, which concurs with 56% initial subjects in my BySoc sample. He does not provide ratios for objects or adverbials. In general, the proportions are comparable to those reported for Swedish and Norwegian based on comprehensive corpus studies: Subject (64%-73%, depending on genre), adverbials (23%-30%), objects (2%-14%) (Bohnacker and Rosén 2008 and Ute Bohnacker p.c. March 30, 2009). These studies only considered declarative V2 clauses.

(33) represents the same samples, but differentiates the categories further. The category 'Null' includes polar questions, imperatives, and verb-initial antecedents of conditionals. In all of these, there is no element in the prefield or, under certain analyses, there is an element, but that element is a null operator.

(33)

INITIAL	NEWSPAPER		FICTION		SPEECH		ALL SAMPLES	
Subject	157	(63%)	162	(65%)	140	(56%)	459	(61%)
Subject- <i>wh</i>	1	(0%)	0	(0%)	0	(0%)	1	(0%)
Adverb	27	(11%)	16	(6%)	65	(26%)	108	(14%)
Adverb- <i>wh</i>	6	(2%)	2	(1%)	1	(0%)	9	(1%)
Adverbial PP	33	(13%)	7	(3%)	3	(1%)	43	(6%)
Adverbial CP	6	(2%)	1	(0%)	0	(0%)	7	(1%)
Object	7	(3%)	36	(14%)	20	(8%)	63	(8%)
Object- <i>wh</i>	1	(0%)	5	(2%)	1	(0%)	7	(1%)
Null	4	(2%)	16	(6%)	5	(2%)	25	(3%)
VP anaphoric <i>det</i>	0	(0%)	1	(0%)	13	(5%)	14	(2%)
Object of P	2	(1%)	2	(1%)	2	(1%)	6	(1%)
Other	6	(2%)	2	(1%)	0	(0%)	8	(1%)

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<sup>7</sup>Of the 41 initial objects in the fiction sample, 34 are fronted objects of verbs of saying. All 34 are direct speech. The comparatively high number of initial objects in the fiction sample is thus due to the source being dialogue-heavy.

**VPA-clauses** The proportions of initial elements reported for VPA-clauses represent a database of 414 instances of VP anaphoric *det* gathered from corpora, newspapers, magazines, fiction, radio, and conversation. 7 of these were not contained in a V2-clause, but instead occurred in a fragment of some kind. These are not included in the counts below. The 407 tabulated examples include cases where *det* occurs as the predicate of the V2-clause itself as well as cases where it is the predicate of a non-V2-clause embedded in a V2-clause. In cases where *det* occurs as the predicate of a V2-clause embedded in another V2 clause, the constituent in the prefield of the (most deeply) embedded V2-clause is counted. The table in (34) shows the counts for initial position, using just four broad categories:

(34)

INITIAL	VPA-CLAUSES	
Subject	93	(23%)
Adverbial	67	(16%)
Object	3	(1%)
Other	244	(60%)

(35) gives counts for initial position differentiating the categories further:

(35)

INITIAL	VPA-CLAUSES	
Subject	82	(20%)
Subject- <i>wh</i>	11	(3%)
Adverb	27	(7%)
Adverb- <i>wh</i>	25	(6%)
Adverbial PP	3	(1%)
Adverbial CP	12	(3%)
Object	3	(1%)
Object- <i>wh</i>	0	(0%)
Null	28	(7%)
VP-anaphoric <i>det</i>	216	(53%)
Object of P	0	(0%)
Other	0	(0%)

All VPA examples were furthermore annotated as to whether fronting was obligatory, impossible or optional, based on judgments from native speakers. If speakers disagreed or reported uncertainty, the example was annotated as 'fronting status unclear'. The result of this annotation is given in (36).

(36)

FRONTING STATUS	VPA-CLAUSES	
Fronting obligatory	152	(37%)
Fronting impossible	153	(38%)
Fronting optional	57	(14%)
Fronting status unclear	45	(11%)

## Appendix B

A minimalist implementation of analysis:

- V2-C has an EPP requirement, which can be bundled with various features F (written EPP+F):
  - EPP+*wh*: wh-phrase in Spec-CP
  - EPP+Q: null question operator in Spec-CP<sup>8</sup>
  - EPP+imp: null imperative operator in Spec-CP
  - EPP+cond: null conditional operator in Spec-CP
  - EPP+*ufocus*: focus-bearing element in Spec-CP
  - EPP+*uatopic*: anaphoric topic in Spec-CP
  - EPP+*uctopic*: contrastive topic in Spec-CP
  - ...
- *det* bears interpretable [atopic] feature
- *det* fronts when:
  - C bears EPP+*uatopic*,
  - *det* is accessible to C (not in an island), and
  - there is no closer [atopic]-bearing element in the structure
- Some nonexistent Cs:
  - no [C, EPP] → No CPs with information-structurally undistinguished initial XP
  - no [C, clausetype:Q, EPP+*uatopic*] → No *det* fronting in constituent or polar questions
  - no [C, clausetype:imp, EPP+*uatopic*] → No *det* fronting in imperatives
  - no [C, clausetype:cond, EPP+*uatopic*] → No *det* fronting in antecedent of conditional

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<sup>8</sup>Under an analysis where Spec-CP is empty in polar questions, C bears a Q feature and no EPP feature. Similarly for imperatives and verb-initial antecedents of conditionals.