

# Clausal complements to N in Danish\*

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## 1 Introduction

Danish has two ways of realizing a clausal complement to N (Mikkelsen 1998, Hansen and Heltoft 2011:1510–1512):

- |     |  |                                |
|-----|--|--------------------------------|
| (1) | håb-et om at alle vil deltage<br>hope-DEF about that everyone will participate<br><i>the hope that everyone will participate</i> | [RELATIONAL structure: N P CP] |
| (2) | det håb at alle vil deltage<br>the hope that everyone will participate<br><i>the hope that everyone will participate</i>         | [DIRECT structure: N CP]       |

### Characteristic differences

1. Direct structure allows a wider range of nouns than relational structure.
2. Relational structure allows full range of determiners; direct structure allows only definite article.
3. Relational structure allows restrictive adjectival modification; direct structure allows only non-restrictive adjectival modification.
4. Relational structure shows the usual alternation between prenominal and postnominal definiteness marking; direct structure allows only prenominal definiteness marking.
5. Direct structure seems to be not fully definite (cf. Delsing 1993:128, Julien 2005:35–44 and others on not fully definite uses of prenominal definite article in Swedish and Norwegian.)

### Goals of this talk

- Connect these differences to subtle, but systematic ambiguity in interpretation of attitude nominals like *hope* observed for English by Pryor (2007:233) (cf. Davies and Dubinsky 2003:12–14):
  - ATTITUDE interpretation: the noun designates an attitude towards a proposition or state of affairs; here the attitude of hoping.
  - CONTENT interpretation: the noun designates a set of propositions, here all the propositions that qualifies as hopes by virtue of being hoped for by someone.
- Argue that the relational structure in (1) profiles the attitude interpretation, whereas the direct structure (2) profiles the content interpretation.

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\*This talk builds on joint work with Jorge Hankamer (Hankamer and Mikkelsen 2009, 2012). I am also grateful to Ryan Bochnak, Michael Rieppel and Eve Sweetser for discussing these data with me and pointing me to relevant literature. I concentrate on finite CPs throughout the talk, though infinitival CPs also occur in both the relational and direct structures. Throughout I omit the “orthographic” comma between the preposition and the CP in the relational structure.

- Propose syntactic structures for relational and direct realizations that reflect this semantic difference and that help us make sense of the remaining differences.
- Bring attention to these constructions; comparison of Danish to descriptions of Norwegian (Faarlund et al. 1997:272–274) and Swedish (Teleman et al. 1999:42, 95, 103, 121–8) suggests that this is another area of complex variation between the mainland Scandinavian languages.

## 2 Three classes of propositional nouns

I use the term PROPOSITIONAL NOUN for a noun that, in some intuitive sense, references a proposition.<sup>1</sup> Such nouns are characterized by being able to occur in the copula constructions in (3)—(5):

- (3) The/my N is that XYZ.
- The/My hope is that everyone participates.
  - The fact is that everyone participated.
- (4) It is a/my N that XYZ.
- It is my hope that everyone participates.
  - It is a fact that everyone participated.
- (5) That XYZ is a N.
- That everyone participates is my (biggest) hope.
  - That everyone participated is a fact.

Among propositional nouns, we can distinguish three types:

- (6) ATTITUDE nouns: denote a mental state that relates, epistemically or emotionally, to some proposition or state-of-affairs, e.g.

*håb* ‘hope’, *frygt* ‘fear’, *bekymring* ‘worry’, *tro* ‘belief’, *forhåbning* ‘hope’, *drøm* ‘dream’, *forventning* ‘expectation’, *antagelse* ‘assumption’, *ønske* ‘wish’, *viden* ‘knowledge’, *forestilling* ‘notion’, *formodning* ‘supposition’, *mistanke* ‘suspicion’, *opfattelse* ‘understanding’, *overbevisning* ‘conviction’, *tanke* ‘thought’.

- (7) SPEECH ACT nouns: denote a linguistic act in which some proposition was expressed, raised or otherwise evoked, e.g.

*krav* ‘demand’, *påstand* ‘claim’, *trussel* ‘threat’, *erklæring* ‘declaration’, *forklaring* ‘explanation’, *forslag* ‘proposal’, *indvending* ‘objection’, *indrømmelse* ‘admission’, *anmodning* ‘request’, *bekræftelse* ‘confirmation’, *løfte* ‘promise’, *garanti* ‘warranty’, *klage* ‘complaint’, *opfordring* ‘suggestion’, *aftale* ‘agreement’, *antydning* ‘suggestion’, *diskussion* ‘discussion’, *forudsigelse* ‘prediction’, *hensetting* ‘request’, *hypotese* ‘hypothesis’, *lov* ‘law’, *regel* ‘rule’, *løgn* ‘lie’, *påbud* ‘order’, *påmindelse* ‘reminder’, *rygte* ‘rumor’, *tilbud* ‘offer’, *besked* ‘message’, *meddelelse* ‘notice’.

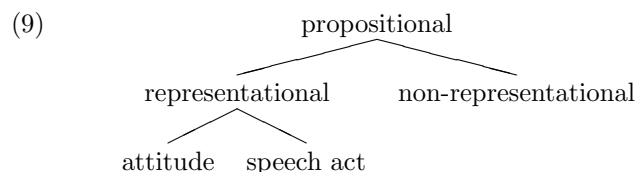
- (8) NON-REPRESENTATIONAL nouns: categorize propositions relative to some purpose or standard without connecting them to a mental state or linguistic act, e.g.

*kendsgerning* ‘fact’, *konsekvens* ‘consequence’, *løsning* ‘solution’, *forhold* ‘state of affairs’, *virkning* ‘effect’, *fordel* ‘advantage’, *ulempe* ‘disadvantage’, *skam* ‘shame’, *problem* ‘problem’, *sejr* ‘victory’, *nederlag* ‘defeat’, *triumf* ‘triumph’, *skandale* ‘scandal’, *ulykke* ‘bad luck’, *pris* ‘cost’, *fejltagelse* ‘mistake’, *tragedie* ‘tragedy’.

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<sup>1</sup>I have not been able to locate much discussion of these nouns in the formal semantics literature. Some of them are discussed, under a variety of labels, in the work of Asher (1993), Moltmann (2003a, 2003b) and Pryor (2007).

The first two types are united in being representational, whereas the third type is non-representational:



**Observation** The direct structure is possible with all three types of propositional nouns (10), whereas the relational structure is possible only with representational nouns (11).

- (10)
- |    |  |                          |
|----|--|--------------------------|
| a. | det <b>håb</b> at alle deltager                                | [attitude N]             |
|    | the hope that everyone participates                            |                          |
| b. | det <b>krav</b> at alle deltager                               | [speech act N]           |
|    | the demand that everyone participates                          |                          |
| c. | den <b>kendsgerning</b> at alle deltager                       | [non-representational N] |
|    | the fact that everyone participates                            |                          |
| d. | den <b>triumf</b> at alle deltager                             | [non-representational N] |
|    | the triumph that everyone participates                         |                          |
|    | <i>the hope/demand/fact/triumph that everyone participates</i> |                          |
- (11)
- |    |   |                          |
|----|---|--------------------------|
| a. | <b>håb</b> -et om at alle deltager            | [attitude N]             |
|    | hope-DEF about that everyone participates     |                          |
| b. | <b>krav</b> -et om at alle deltager           | [speech act N]           |
|    | demand-DEF about that everyone participates   |                          |
| c. | * <b>kendsgerning</b> -en om at alle deltager | [non-representational N] |
|    | fact-DEF about that everyone participates     |                          |
| d. | * <b>triumf</b> -en om at alle deltager       | [non-representational N] |
|    | triumph-DEF about that everyone participates  |                          |

### Proposal

- the presence of the preposition *om* signals a RELATIONAL interpretation, in which:
  - the CP expresses a proposition
  - the propositional noun is interpreted as separate from the propositional content, namely as a relation that holds between the proposition and an individual via that individual’s mental or linguistic representation of that proposition (cf. Pryor’s attitude interpretation)

→ non-representational nouns do not occur occur in the relational structure (11c,d), because they do not allow for the required separation of propositional content from a representation of that propositional content.

- the absence of the preposition *om* signals a SORTAL interpretation in which:
  - the CP expresses a proposition
  - the noun labels that proposition as being of a particular sort e.g. a hope, demand, fact, or triumph (cf. Pryor’s content interpretation)

→ the direct structure is available for non-representational nouns (10c,d) because non-representational nouns do sort propositions into categories, cf. (3b)–(5b).

→ the direct structure is also available for representational nouns (10a,b) because representational nouns also allow a sortal interpretation, as shown by (3a)–(5a).

### 3 The relational structure

In the relational structure the noun denotes the attitude or speech act, as opposed to the content of the attitude or speech act, which is provided by the CP.

Thus the relational structure is analogous to that in (12) where the content is expressed as a nominal phrase:

- (12)    håb-et    om    fuld deltagelse  
         hope-DEF about full participation  
         *the hope for full participation*

and more generally to DPs involving non-propositional relational nouns, like *medlem* ‘member’ or *billede* ‘picture’:

- (13)    et medlem af byrådet  
         a member of city.council.the  
         *a member of the city council*

- (14)    et billede af Simon  
         a picture of Simon  
         *a picture of Simon*

The CP itself is definite, in the sense that it denotes a singleton proposition, or a singleton set of propositions, but the set of attitudes towards that proposition is not required to be singleton.

Thus the relational structure can:

- occur with an indefinite determiner

- (15)    et håb/krav    om    at alle    deltager  
         a hope/demand about that everyone participates  
         *a hope/demand that everyone participates*

- occur with a possessor

- (16)    deres håb/krav    om    at alle    deltager  
         their hope/demand about that everyone participates  
         *their hope/demand that everyone participates*

- occur with a quantifier

- (17)    intet håb/krav    om    at alle    deltager  
         no hope/demand about that everyone participates  
         *no hope/demand that everyone participates*

- be restrictively modified by an attributive adjective

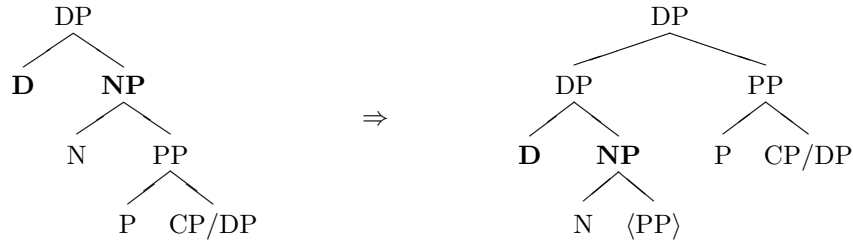
- (18)    Det største håb om    at alle    deltager    findes blandt arrangørerne.  
         the greatest hope about that everyone participates exists among organizers.the  
         *The greatest hope that everyone participates is found among the organizers.*

- (19)    Det seneste krav    om    at alle    deltager    kommer fra skoleinspektøren.  
         the latest demand about that everyone participates comes from school.principal.the  
         *The latest demand that everyone participates comes from the school principal.*

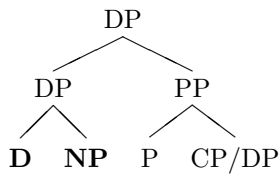
→ Relational structure has the behavior of a DP that contains a relational noun with a PP complement.

**Implementation** Two possibilities:<sup>2</sup>

(20) PP is complement to N but extraposes (Julien 2005:67–69)



(21) PP attaches high (Hankamer and Mikkelsen 2005:111-113, 118)



In both structures:

- D and NP are in the usual sister relation
- no direct relation holds between D and CP
- NP-external position of PP allows for post-nominal definiteness marking on N (section 5)
- the same structure is involved whether the content of the attitude is expressed by a CP or a DP

**Other prepositions used** While *om* is the default preposition in the relational structure, some representational nouns allow, or even prefer, a different preposition:

- (22)
- frygt **for** at ...  
fear for that
  - klage **over** at ...  
complaint over that
  - tro **på** at ...  
belief on that
  - afsløring **af** at ...  
revelation of that

- These alternative prepositions are typically carried over from verbal construction (22a–c)
- In the structure in (20), this is a straightforward matter of N selecting for the head of its complement.
- In the structure in (21) one has to appeal to a different notion of selection, e.g. along extended projection lines (Grimshaw 1991, 2005).

<sup>2</sup>A third possibility is to treat NP and PP as arguments of a light nominal head following Adger (2012). Under that analysis, the relational semantics would be located in the light nominal head, not in the noun itself.

## 4 The direct structure

In the direct structure the CP identifies a particular proposition and the head noun provides a sortal label for that proposition.

The direct structure has an intuitive similarity to CLOSE NOMINAL APPPOSITION, in which the second element is a proper name that identifies the referent and the common noun labels that referent with a particular property:<sup>3</sup>

(23) the physicist Melissa Franklin

The CP provides the primary semantic content of the entire DP and the sortal information provided by N is secondary. This, together with the semantic properties of CPs, severely restricts the possible manipulations of the direct structure:<sup>4</sup>

- cannot occur with an indefinite article (Hansen and Heltoft 2011:1511):

(24) \*et håb/krav at alle deltager  
a hope/demand that everyone participates

- cannot occur with a possessor

(25) \*mit håb/krav at alle deltager  
my hope/demand that everyone participates

- cannot occur with a quantifier

(26) \*intet håb/krav at alle deltager  
no hope/demand that everyone participates

- does not allow restrictive modification by attributive adjectives

(27) \*Det største håb at alle deltager findes blandt arrangørerne  
the greatest hope that everyone participates exist among organizers.DEF

(28) \*Det seneste krav at alle deltager kommer fra skoleinspektøren.  
the latest demand that everyone participates comes from school.principle.DEF

This suggests a syntactic structure in which the CP is the complement of definite D (Hankamer and Mikkelsen, 2012):

(29) 
$$\begin{array}{c} \text{DP} \\ \swarrow \quad \searrow \\ \text{D}[\text{def}] \quad \text{CP} \end{array}$$

Such a structure is independently motivated by examples like (30), where definite D combines with a CP in the absence of a propositional noun:<sup>5</sup>

(30) [Det at alle deltog] vakte stor glæde.  
the that everyone participated caused great happiness  
*That everyone participated caused great happiness.*

<sup>3</sup>On close (aka integrated) nominal apposition and how it differs from loose (aka supplemental) apposition, see Burton-Roberts 1975, Huddleston and Pullum 2002:447, 1351–1362, and Lekakou and Szendrői 2012. I am also inspired by the discussion of ‘identifying descriptions’ like *the city of Oakland* in Rieppel (2013:429–33).

<sup>4</sup>Most of these properties are shared by close nominal apposition, though close nominal apposition allows a possessor if the common noun is a relational noun Burton-Roberts 1975:401.

<sup>5</sup>Hansen and Heltoft (2011:1510) considers this use of *det* along with the determiner of the direct structure a demonstrative pronoun, which is segmentally identical to the definite article.

The D-CP construction exhibits the same restrictions as the direct structure:

- cannot be indefinite:

(31) \*et at alle deltager  
a that everyone participates

- cannot contain a possessor

(32) \*arrangørerne-s at alle deltager  
organizer-POSS that everyone participates

- cannot be quantified

(33) \*intet at alle deltager  
no that everyone participates

- cannot be restrictively modified

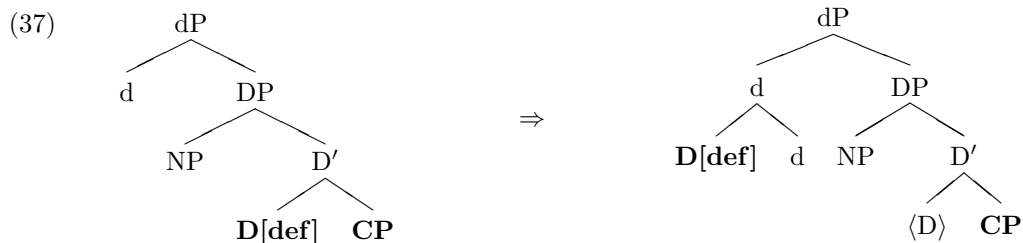
(34) \*Det største/bedste/seneste at alle deltog vakte stor glæde blant arrangørerne.  
the greatest/best/latest that everyone participated caused great joy among organizers.DEF

Moreover, both constructions allow non-restrictive modification by an attributive adjective:<sup>6</sup>

(35) den mærkelige fornemmelse at jeg har været her før  
the strange feeling that I have been here before  
*the strange feeling that I have been here before*

(36) Så sker der [det mærkelige at alle giver sig til at synge].  
the happens the strange that everyone starts to sing  
*Then a strange thing happens: everyone begins to sing*

- If CP is the complement of D, what is the position of N?
- DP-shell structure w. head-movement of D to d (Hankamer and Mikkelsen 2012, Larson 1988, 1991):



- Restriction to definite D captured by selection: indefinite D, possessive D and quantifiers do not select for a CP complement
- Order of D, N and CP derived by head movement
- Sortal reading of N corresponds to lack of complement to N
- Lack of restrictive modification of N is due to D[def] combining first with CP, yielding a singleton proposition that cannot be further restricted.

<sup>6</sup>The example in (36) is inspired by a Norwegian example cited by Julien (2005:95). Other adjectives that can occur as a non-restrictive modifier of the CP include: *skør* 'crazy', *paradoksalt* 'paradoxical', *overraskende* 'surprising'. Such adjectives can also occur in place of *a/my N* in the copula constructions in (4) and (5). In the spirit of the present proposal the natural interpretation is that these belong to a class of propositional adjectives.

## 5 Definiteness marking and definiteness

One of the key differences between the two structures proposed is the structural relationship between D and NP:

- in the relational structure they are configured in the usual way: NP is a sister to D.
- in the direct structure NP is a specifier of D and the CP combines directly w. D.

This, I would like to suggest, connects to the remaining two difference between the relational and direct structures, which involve the morpho-syntactic realization definiteness marking and the interpretation of definiteness.

### 5.1 Definiteness marking

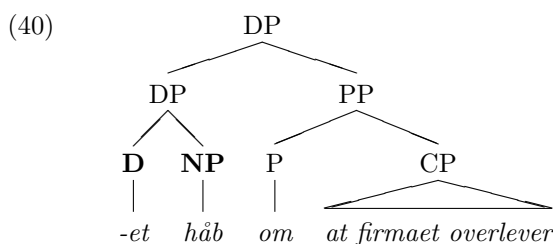
Like other definite DPs, the relational structure alternates between pre- or post-nominal definiteness marking based on the presence or absence of an attributive adjective:

(38) **det** sidste håb om at firmaet overlever  
 the last hope about that the company survives  
*the last hope that the company survives*

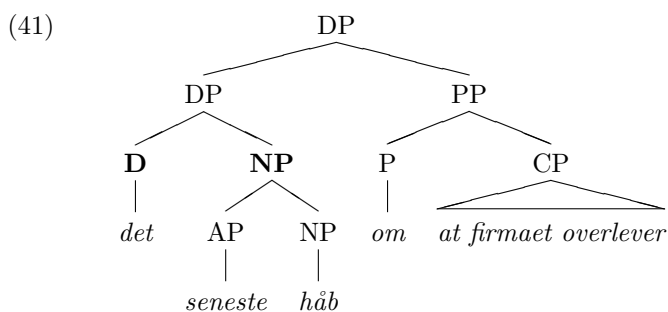
(39) håb-**et** om at firmaet overlever  
 hope-DEF about that company.DEF survives  
*the hope that the company survives*

- both *det* and *-et* are realizations of definite D (Delsing 1993, Julien 2005, Hankamer and Mikkelsen 2005)
- the definite suffix is licensed when definite D is a sister to a minimal NP; the definite article is used elsewhere (Hankamer and Mikkelsen 2005, 2013)

→ suffixal definiteness marking in (39), given the high position of PP:



→ prenominal article in (38), because the AP makes the NP sister of D non-minimal:



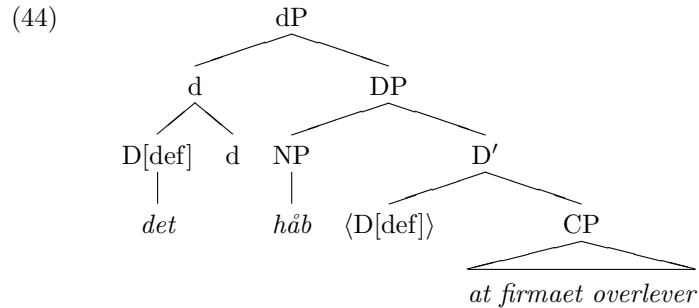
This pattern holds for all DPs containing PPs (Hankamer and Mikkelsen 2005, 2008).



In contrast, the direct structure occurs with prenominal definiteness marking, also in the absence of adjectival modification:<sup>7</sup>

- (43) **det** håb at firmaet overlever  
 the hope that company.DEF survives  
*the hope that the company survives*

This follows from the proposed structure, in which definite D is not a sister to NP; hence the suffixal definiteness marker is not licensed and we get the elsewhere form, *det*:



## 5.2 Definite interpretation

The final difference between the direct and relational structure concerns the interpretation of definiteness in the two structures.

- when marked for definiteness, relational structure has the usual anaphoric interpretation
- though invariably marked for definiteness, direct structure has a less-than-fully definite interpretation

### Felicity in indefinite contexts

- (45) a. Vi har **det** håb at firmaet overlever. [direct]  
 we have the hope that company.DEF survives  
*We hope that the company survives.*
- b. Vi har **et** håb om at firmaet overlever. [indefinite relational]  
 we have a hope about that company survives  
*We have a hope that the company survives.*
- c. #Vi har håb-**et** om at firmaet overlever. [definite relational]  
 we have hope-DET about that company survives

Reminiscent of patterns in Swedish and Norwegian documented by Delsing (1993:128), Julien (2005:35–44) and others. But different in that definite interpretation tracks the relational structure, not post-nominal definiteness marking per se, as can be seen by including a (non-restrictive) attributive adjective:

<sup>7</sup>Hansen and Heltoft (2011:1511) suggest that post-nominal definiteness is also possible in the direct structure, citing the example in (42):

- (42) ide-en at jorden er rund opstod for mange år siden  
 idea-DEF that earth is round arose for many years ago  
*the idea that the earth is round arose many years ago*

I find (42) unacceptable, unless read as a loose apposition with a pause between the definite noun and the CP, but the issue clearly warrants further empirical investigation, especially since post-nominal definiteness marking with a bare CP is possible in Norwegian and Swedish. Hansen and Heltoft also suggest that some occurrences of *det* and *den* in the direct structure are demonstrative determiners, rather than definite articles.

- (46) a. Vi har **det** store håb at firmaet overlever. [direct]  
 we have the great hope that company.DEF survives  
*We truly hope that the company survives.*
- b. Vi har **et** stort håb om at firmaet overlever. [indefinite relational]  
 we have a great hope about that company survives  
*We have a great hope that the company survives.*
- c. #Vi har **det** store håb om at firmaet overlever. [definite relational]  
 we have the great hope about that company survives

### Infelicity in presuppositional context

- (47) a. #Vi er ved at miste det håb at firmaet overlever.  
 we are at to lose the hope that company.DEF survives
- b. #Vi er ved at miste et håb om at firmaet overlever.  
 we are at to lose a hope about that company.DEF survives
- c. Vi er ved at miste håb-et om at firmaet overlever.  
 we are at to lose hope-DEF about that company.DEF survives  
*We are about to lose the hope that the company will survive.*

**Proposal** the direct structure is REFERENT-ESTABLISHING in the sense of Hawkins (1978: 130–149), whereas definite relational structures like (45c) and (46c) have the ANAPHORIC interpretation characteristic of definite DPs.

- Referent-establishing interpretation is linked to unusual syntax: D[def] takes a CP complement
- Anaphoric interpretation is linked to regular syntax: D[def] takes an NP complement

## 6 Final thoughts

- In this talk I have explored a corner of Danish DP syntax that has not received much attention, namely DPs that contain a complement clause.
- I have proposed that Danish has two syntactic strategies for realizing such DPs:
  - a relational structure, which is a particular instance of a generally available syntactic structure
  - a direct structure, which is unusual syntactically in that D combines directly with the complement clause.
- This structural difference has repercussions for the form that definiteness marking takes, the range of possible determiners, the range of possible head nouns, adjectival modification, and the interpretation in definiteness.
- Positing two distinct syntactic structures thus helps us make sense of the rich pattern of co-variation of form, meaning and usage observed for each construction, though many non-trivial questions remain.
- Finally, it is an open question to what extent other languages, in particular other North Germanic languages, exhibit a similar structural duality in this domain.

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