

# Introduction (part I): Trees and fields and Danish clauses

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## 1. About the project

This is the final event of our project, which has almost the same name as this workshop, viz.

*Similarities and Differences between Clauses and Nominals –  
Comparative Syntax across Theoretical Approaches.*

Although the information is available on our webpage ([www.hum.au.dk/engelsk/engsv/clauses-nominals/](http://www.hum.au.dk/engelsk/engsv/clauses-nominals/)), I would like to introduce you to the other members of the project:



Eva Engels



Steffen Krogh



Henning Nølke



Katrine Planque  
Tafteberg

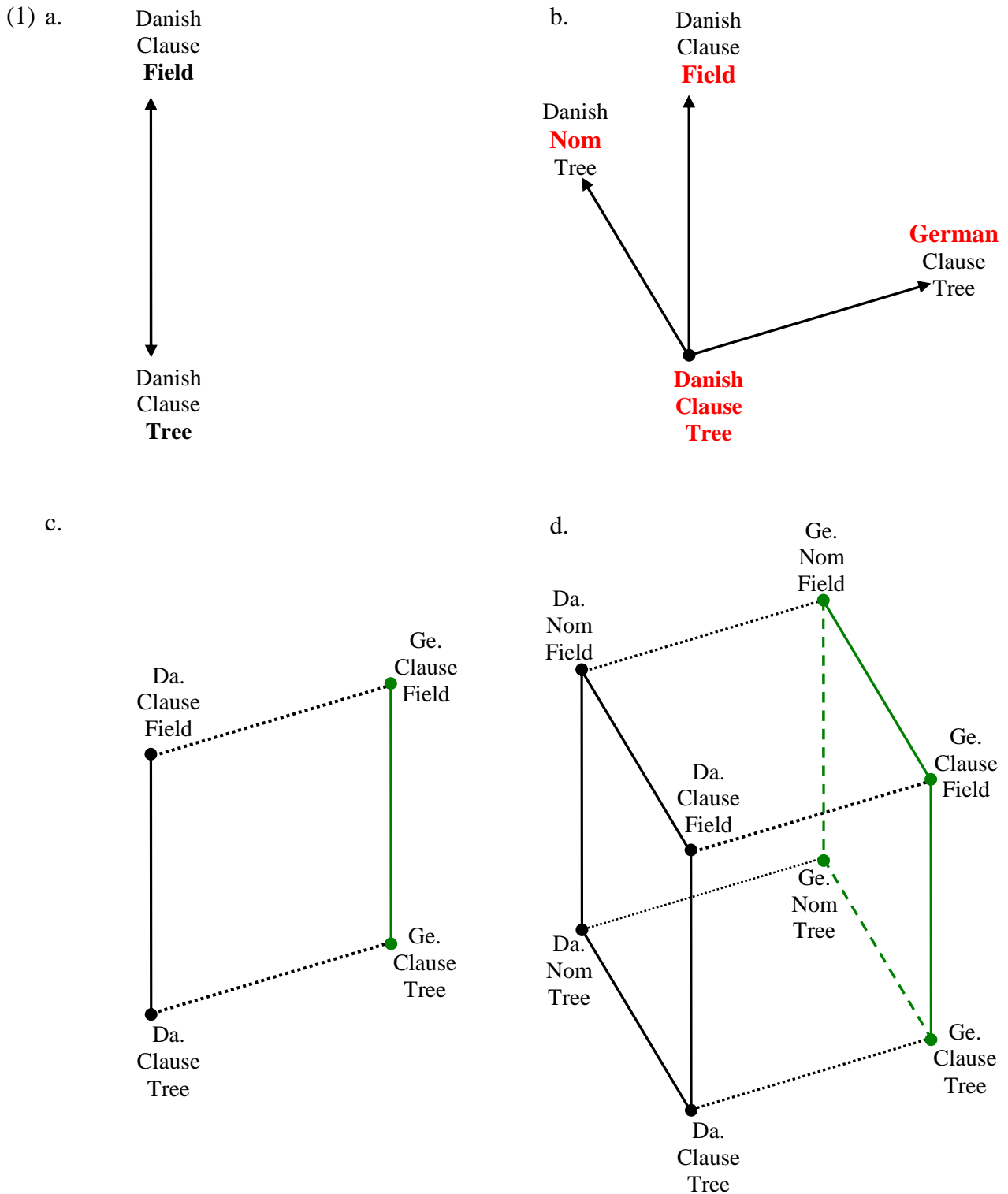


Johanna Wood

One of the central ideas behind the project is to be comparative in (at least) three dimensions,

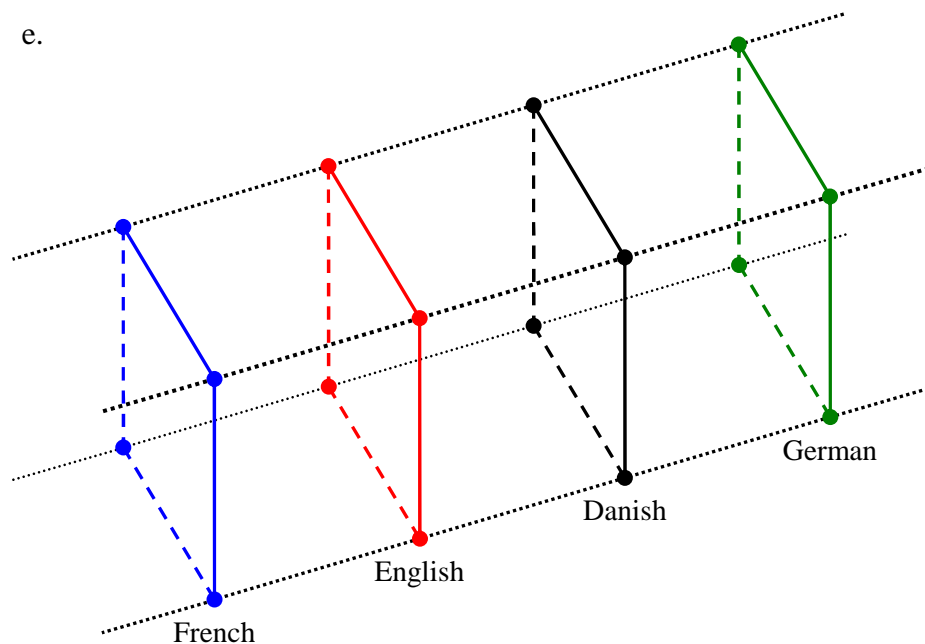
- approaches ("trees" vs. "fields")
- languages
- clauses vs. nominals

This first part of the introduction will only deal with the first dimension, (1)a, and the second part (after the short break) will then introduce the other two dimensions, (1)c and (1)d:



As far as languages are concerned, there is of course no reason to stop at just Danish vs. German:

e.



In fact, one could go on, including Yiddish, Icelandic, ...

In this two-part introduction, Eva Engels and I will nevertheless focus on only two languages, namely Danish vs. German. This language pair is particularly instructive because of the directionality differences: German verbs follow their objects, as also found in e.g. Dutch, Frisian and presumably Yiddish, whereas Danish verbs precede their objects, as found in a number of languages, including the other Scandinavian languages, English, French and the other Romance languages, etc.

## 2. Tree analyses vs. field analyses

A fundamental difference between various approaches to clause structure is the one between

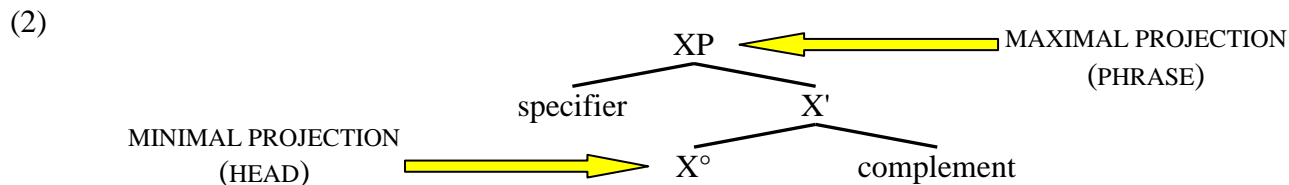
- **tree analyses**, like the ones used in generative analyses of the Chomskyan type, e.g. Principles & Parameters or Minimalism, and possibly in other analyses,
- **field analyses**, like the *sætningsskema* analyses of Danish of Diderichsen (1946) and many others or like the *topologische Modell* analyses of German of Drach (1937) and many others.

The difference is to which extent the various constituents of the clause are seen to be inside other constituents (trees) or to follow other constituents (fields).

It is important that this is merely a question of extent, as no analysis can only have constituents inside each other or only have constituents one after the other: Even to Diderichsen (1946) or to Drach (1937), some constituents are inside other constituents, e.g. the object is part of the content field in Danish and part of the central field in German. An object clause is thus inside a slot or a field in one clause and at the same time it consists itself of a number of fields and slots. Similarly, even in the generative analyses some constituents follow other constituents -- otherwise tree structures would only contain mothers and daughters but no sisters.

## 2.1 X-bar structure

In a generative analysis (a "tree analysis"), syntactic constituents all have the same basic structure, namely the **X-bar structure** shown in (2) (where the sequence of the head and the complement may vary):



- (3)
- XP = phrase / the maximal projection of X
  - X' = X-bar / the intermediate projection of X
  - X° = head / the minimal projection of X (= e.g. a word or an even smaller unit)

Saying that XP and X' are projections of X expresses the idea that these constituents are built up around X°, such that i.e. [<sub>PP</sub> *across the hall*] is built around [<sub>P°</sub> *across*].

A head is always the head of its own phrase (its own maximal projection), and all maximal projections have a head (are endocentric). Inside a phrase, there is also room for two other phrases, namely in the specifier position and in the complement position.

The position of the so-called specifier position is most often considered to be fixed, i.e. it is taken to be the left daughter of XP. The sequence of the head and the complement may on the other hand vary, depending on the language (in fact this is a crucial difference Danish-German).

X (and also Y, Z, and W) above may stand for one of the following categories:

(4)

lexical categories (word classes)	"functional" categories
N (noun)	C ("complementiser" = subordinating conjunction)
V (verb)	I (inflection)
P (preposition)	D (determiner)
Adj (adjective)	etc.
Adv (adverb)	

Both heads and phrases (minimal and maximal projections) may move. Heads may only move into other head positions, and phrases may only move into other phrase positions. X-bar constituents (intermediate projections) may not move at all.

Both heads and phrases may be adjoined to other constituents. Heads may only adjoin to other heads, and phrases may only adjoin to other phrases. X-bar constituents may not be adjoined at all.

Adjunction takes the following form, where the adjoined constituent may be adjoined either to the left or to the right of the XP that it modifies:



Notice that what used to be called a noun phrase (NP) is here called a determiner phrase (DP). There still is an NP, it just does not include the determiner:

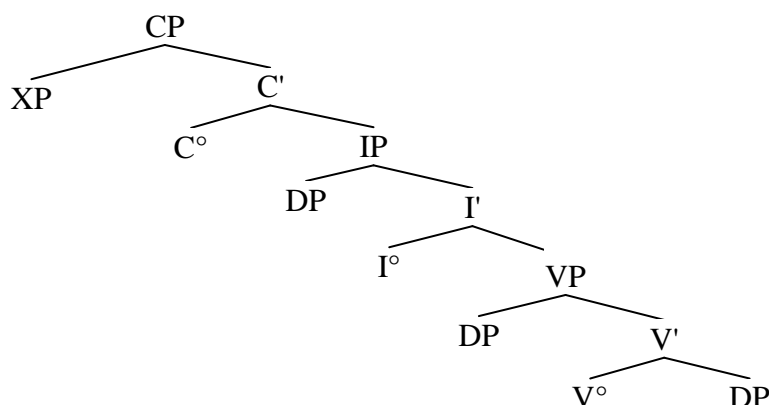
- (6)
- [<sub>DP</sub> a [<sub>NP</sub> teacher of physics] ]

In a somewhat simplified generative analysis, the structure of a sentence (irrespective of whether it is a main or an embedded clause) is as follows:

- (7) A clause is a CP,  
the complement of the head of CP (= C°) is an IP, and  
the complement of the head of IP (= I°) is a VP.

For a sentence with no auxiliary verb and with a (mono-)transitive main verb the structure looks as follows:

- (8) Da.



## 2.2 Diderichsen's (1946) analysis

Diderichsen's (1946) analysis (a "field analysis") of clause structure is the one most frequently employed by functional linguists in Scandinavia (including Lundskær-Nielsen & Holmes 2011 and also the new major grammar of Danish, Hansen & Heltoft 2011).

- (9) a. Main clause: (Diderichsen 1946:162)

Foundation field	Nexus field			Content field		
F	v	n	a	V	N	A
Saa <i>Then</i>	har <i>has</i>	han <i>he</i>	vist <i>probably</i>	glemt <i>forgotten</i>	Galocherne <i>the galoshes</i>	her <i>here</i>

- b. Embedded clause: (Diderichsen 1946:186)

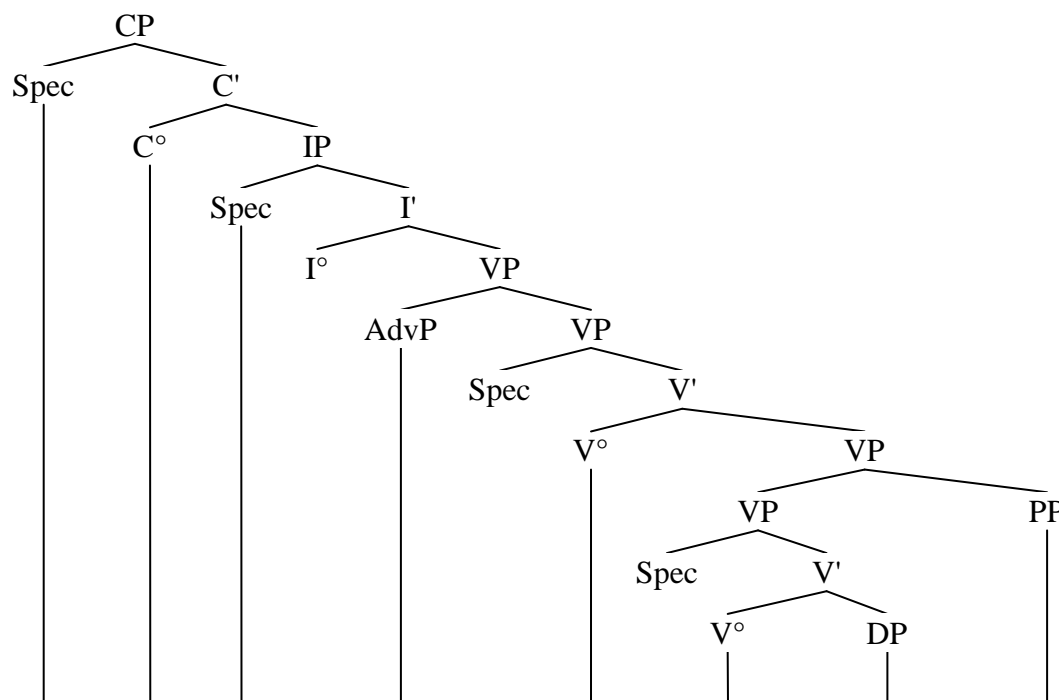
Conjunctive field	Nexus field			Content field		
k	n	a	v	V	N	A
... fordi <i>... because</i>	han <i>he</i>	vist <i>probably</i>	har <i>has</i>	glemt <i>forgotten</i>	Galocherne <i>the galoshes</i>	her <i>here</i>

In the field analysis in (9)a,b/(10)b,c, the number of levels and the kinds of constituents that can occur on each level are fixed: There are three levels containing three different kinds of constituents, namely clause – fields – slots / *sætning* – *felter* – *pladser*. In other words, the only possible sister of a field is another field, and the only possible sister of a slot is another slot (even if a slot may contain another clause which again has the same three levels). In the tree analysis in (10)a below, on the other hand, this strict separation between layers is not found at all. It is perfectly possible to have a head (X°) and a phrase (XP) as sisters.

### 3. The structure of main & embedded clauses in both analyses

If we take the structure in (8) and add the possibility that adverbials (etc.) may be adjoined both on the left side and on the right side of a VP, the result is the generative structure (10)a which may be compared to the simplified Diderichsen model of constituent order in modern Danish, Norwegian and Swedish as illustrated in (10)b for main clauses and in (10)c for embedded clauses.

(10) a.



b.	<b>F</b>	<b>Nexus field</b>				<b>Content field</b>		
	<b>F</b>	<b>v</b>	<b>n</b>	<b>a</b>		<b>V</b>	<b>N</b>	<b>A</b>
	Nu <i>Now</i>	har <i>has</i>	Peter <i>Peter</i>	igen <i>again</i>		poleret <i>polished</i>	bilen <i>car-the</i>	med ståluld <i>with steel wool</i>
c.	<b>Conj. f.</b>	<b>Nexus field</b>				<b>Content field</b>		
		<b>k</b>	<b>n</b>	<b>a</b>	<b>v</b>	<b>V</b>	<b>N</b>	<b>A</b>
		om <i>If</i>	Peter <i>Peter</i>	igen <i>again</i>	har <i>has</i>	poleret <i>polished</i>	bilen <i>car-the</i>	med ståluld <i>with steel wool</i>

(11) Abbreviations used in (9) and (10)b,c (cf. Diderichsen 1946, 1964):

<b>F</b>	foundation (topic, theme)	"fundament"	(1946:190)
<b>v, V</b>	verbal	"verbal"	(1946:169)
<b>n, N</b>	nominal	"nominal"	(1946:169, 1964:369) (replaced the original <b>s, S</b> for <i>substantialer</i> )
<b>a, A</b>	adverbial	"adverbial"	(1946:179)
<b>k</b>	conjunction	"konjunktional"	(1946:183)

Diderichsen (1946) does not relate the main clause model with the embedded clause one.

The first attempt to establish direct correspondences was Hansen (1977:73), cf. (16) below. The analysis advocated in (10) above is Platzack (1985:71, fn 5), cf. also (18) below.

These attempts fall into three groups, depending on how they handle the differences between the slots in the nexus field of the main clause and the slots in the nexus field of the embedded clause.

- The first group has **no correspondences** between slots in the main clause nexus field and ones in the embedded clause nexus field:

(12) Allan et al. (1995:498)

k	n	a		v	V	N	A
k	F	v	n	a	V	N	A

embedded

main

Here **v** in main clauses is the same as **a** in embedded clauses, and **a** in main clauses is the same as **v** in embedded clauses. In addition to **v** and **a** swapping places, the subject is moved back in main clauses compared to embedded ones.

(13)	Lundskær-Nielsen et al. (2010:584)	k		n	a	v	V	N	A	embedded
		k	F	v	n	a	V	N	A	

(Lundskær-Nielsen et al. 2010 is the revised edition of Allan et al. 1995 and it is also the unabridged version of Lundskær-Nielsen et al. 2011). Here there is a complete reshuffling of the three slots in the nexus field: **v-n-a** in main clauses becomes **n-a-v** in embedded clauses.

- In the second group, **the v-slot** in the main nexus field and in the embedded one is constant:

(14)	Becker-Christensen (2010:82)	<table><tr><td>k</td><td>n</td><td>a</td><td>v</td><td></td><td>V</td><td>N</td><td>A</td></tr><tr><td></td><td>F</td><td></td><td>v</td><td>n+a</td><td>V</td><td>N</td><td>A</td></tr></table>	k	n	a	v		V	N	A		F		v	n+a	V	N	A	<div>embedded</div> <div>main</div>
k	n	a	v		V	N	A												
	F		v	n+a	V	N	A												

The price for keeping **v** constant in the main and the embedded clause is that both **n** and **a** have to be in different slots. On top of this, there is the asymmetry that **n** and **a** occupy two different (and adjacent) slots in the embedded clause, whereas they only occupy one slot together in the main clause.

- In the four analyses of the third group, both **the n- and the a-slot** in the main nexus field and in the embedded one are constant:

(15)      Togebly (2003:98-102)

			k	n	a	v	V	N	A
k	F	v		n	a		V	N	A

embedded

main

(16)	Hansen (1977:73)	<table><tr><td>K</td><td>k</td><td></td><td></td><td>n</td><td>a</td><td>v</td><td>V</td><td>N</td><td>A</td></tr><tr><td>K</td><td></td><td>F</td><td>v</td><td>n</td><td>a</td><td></td><td>V</td><td>N</td><td>A</td></tr></table>	K	k			n	a	v	V	N	A	K		F	v	n	a		V	N	A	<div>embedded</div> <div>main</div>
K	k			n	a	v	V	N	A														
K		F	v	n	a		V	N	A														

In (15) and (16), **v** (the finite verb) in main clauses does not correspond to **k** (the subordinating conjunction) in embedded clauses, even though all 12 examples illustrating the collapsed model in Togebly (2003:102) either have **v** empty and **k** filled, or **v** filled and **k** empty.

In the last two analyses, **v** (the finite verb) in main clauses corresponds to **k** (the subordinating conjunction) in embedded clauses. The main difference between them is that in Jørgensen (2000:70), one slot (**k**) in the embedded clause corresponds to two slots (**F** & **v**) in the main clause:

(17)

Jørgensen (2000:70)

	k	n	a	v	V	N	A
F	v	n	a		V	N	A

embedded

main

(18)	Platzack (1985:71, fn 5), Heltoft (1986:108), Hansen & Heltoft (2011:328-330)	<table><tr><td>(F)</td><td>k</td><td>n</td><td>a</td><td>v</td><td>V</td><td>N</td><td>A</td></tr><tr><td>F</td><td>v</td><td>n</td><td>a</td><td></td><td>V</td><td>N</td><td>A</td></tr></table>	(F)	k	n	a	v	V	N	A	F	v	n	a		V	N	A	embedded main
(F)	k	n	a	v	V	N	A												
F	v	n	a		V	N	A												

- (19) "The term *fundamentfelt* (approximately. 'foundation field') is in principle a rhetorical term, meant to signify a position in the Danish sentence that transmits the rhetorical clue of the sentence (topic, theme). It is defined formally as the position in front of the main verb in main clauses. In the syntax of Danish, this position is the only position that is open to different types of syntactic phrases. " (Bjerre, Engels, Jørgensen & Vikner 2008:140)

The possibility of having a "fundamental field" in an embedded clause to the left of the subordinating conjunction, as in (16) and (18) above, is illustrated by the following authentic colloquial example:

- (20) Da. 

	<b>F</b>	<b>k</b>	
Han turde ikke sige	hvorfor	at	han selv havde været på politistationen
<i>He dared not say</i>	<i>why</i>	<i>that</i>	<i>he self had been on police-station-the</i>

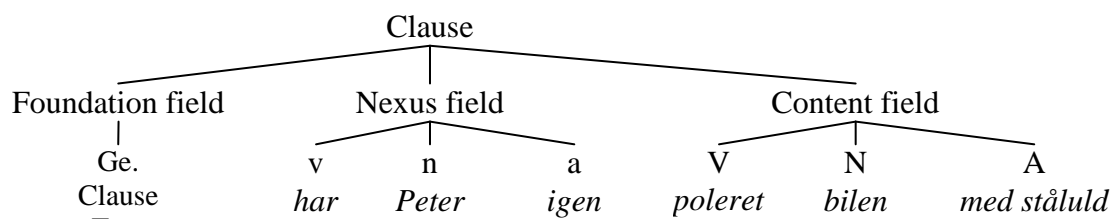
 1990, Corpus DK87-90, cf. Bergenholtz (1991, 1992)

In the generative analysis, the initial *wh*-element in an embedded question is in CP-spec, i.e. the fundamental field (=F). To e.g. Hansen (1977:72) and Tøgeby (2003:99), the initial *wh*-element in an embedded question is in the field of the subordinating conjunction, **k**. The problem with this is that such a *wh*-element can clearly be seen to be an XP, a phrase, (*I wonder what he prefers* vs. *I wonder which of the two solutions he prefers*), just like the elements occupying **F**, and as opposed to the elements otherwise occupying **k** (cf. Vikner 2007).

Finally, please note that the difference in (10) between tree analyses and field analyses is **NOT** one of notation. The tree in (10)a can also be expressed by means of boxes (or at least square brackets) as in (21)a, and the boxes in (10)b can also be illustrated by means of a tree structure as in (21)b:

- (21) a. [CP [AdvP Nu] [C° har] [IP [DP Peter] [VP [AdvP igen] [VP [VP [V° poleret] [DP bilen]] [pp med ståluld]]]]]

b.



## 4. Further developments of the Diderichsen analysis

Before we go on to a more detailed comparison, a few more words about the Diderichsen model.

The following is a less simplified though still not quite complete version of the Diderichsen model for the main clause (Diderichsen 1964:370, 379):



(22)

Forbinder-felt	Fundament-felt	Nexusfelt			Indholdsfelt		
		v-plads	n-plads	a-plads	V-plads	N-plads	A-plads
				a   A	v   V	IO   DO	fast   frit

Connector-field	Foundation field	Nexus field			Content field		
		v-slot	n-slot	a-slot	V-slot	N-slot	A-slot
				a   A	v   V	IO   DO	fixed   free

As seen in the previous section, there have been several modifications of the original model. The following is adapted from the new large grammar of Danish, Hansen & Heltoft (2011:238-330), cf. also Bjerre et al. (2008:141).

(23) a. Main clause ("declarative"): (adapted from Hansen & Heltoft 2011:329)

Modal field		Core field						Localisation field
F	M	Subject		Content field				
X	V <sub>f</sub>	S	SA	V <sub>i</sub>	DO	P	MV	FV/FA
måske <i>maybe</i>	har <i>have</i>	de <i>they</i>	først <i>first</i>	sendt <i>sent</i>	brevet <i>letter-the</i>	ud <i>out</i>		i går <i>yesterday</i>
de <i>they</i>	har <i>have</i>		nok <i>probably</i>	skudt <i>shot</i>			på dem <i>at them</i>	uden skrupler <i>without scruples</i>

b. Embedded clause ("neutral"): (adapted from Hansen & Heltoft 2011:330)

Modal field	Core field						Localisation field
M	Subject		Content field				
K	S	SA	V	DO	P	MV	FV/FA
hvis <i>if</i>	de <i>they</i>	først <i>first</i>	har sendt <i>have sent</i>	det <i>it</i>	ud <i>out</i>		i går <i>yesterday</i>
at <i>that</i>	det <i>it</i>	ikke <i>not</i>	var <i>was</i>		rigtigt <i>right</i>	af hende of her	dengang <i>then</i>

(24) Abbreviations and terminology used in (23), cf. Hansen & Heltoft (2011:311, 319, 1583, 1585):

	modal field	"modalfelt"
	core field	"kernefelt"
	localisation field	"lokaliseringsfelt"

<b>F</b>	first slot	"førsteplads"
<b>M</b>	Modal slot	"modalplads"
	subject	"subjekt"
	content field	"indholdsfelt"

<b>X</b>	any phrase	"variabelt led"
<b>V<sub>f</sub></b>	finite verb	"finit verbum"
<b>K</b>	conjunction	"konjunktion"
<b>S</b>	subject	"subjekt"
<b>SA</b>	sentential adverbial	"sætningsadverbial"
<b>V<sub>i</sub></b>	non-finite verb	"infinit verbum"
<b>V</b>	verb	"verbum"
<b>DO</b>	direct object	"direkte objekt"
<b>P</b>	(non-temporal) predicate	"prædikativer"
<b>MV</b>	prepositional valency arguments	"middelbart valensled"
<b>FA</b>	free adverbial	"frit adverbial"
<b>FV</b>	free valency arguments	"frit valensled"

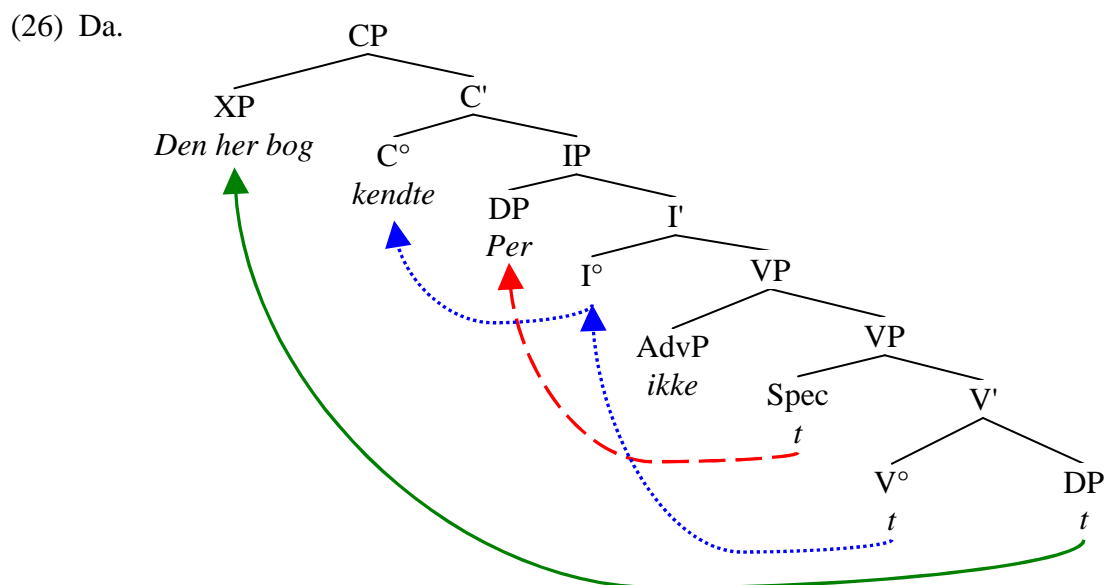
## 5. Similarities between the two analyses

### 5.1 Topology vs. syntax

The generative analysis with its tree structures might seem to not have any distinction corresponding to the one between Diderichsen's two levels of analysis "**topology**" and "**syntax**", which Heltoft (1986:121) describes as follows: "**topological analysis** (Where are which constituents placed?) and **syntactic analysis** (Which constituents may a sentence consist of and how may they be combined?)".

In the generative analysis, both "topological analysis" and "syntactic analysis" would surely fall under syntax. Very similar distinctions can be made in the tree analysis, however, by means of the movement mechanism. A moved constituent leaves a trace (in fact, more than one if it moves in several steps). An example like (25) is thus analysed as in (26):

(25) Da.      Den her bog    kendte Per ikke  
              *This here book knew Per not*      = 'This book, Per did not know'



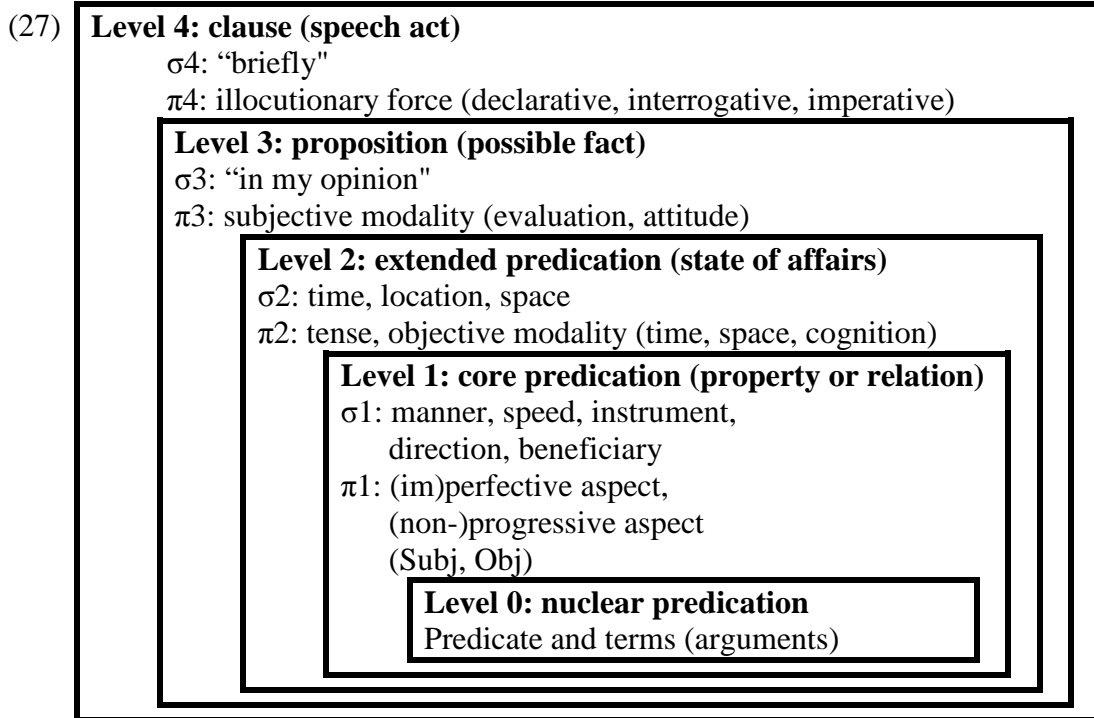
*Den her bog* is in CP-spec (Diderichsen's **topology**: it is placed in the "foundation field", **F**) and it has left a trace in the complement position of *kendte* (Diderichsen's **syntax**: it is the object of *kendte*).

We might therefore say that Diderichsen's difference between syntax and topology corresponds to the difference between the base position and the landing position (i.e. to the difference between D-structure and S-structure) in the tree analysis.

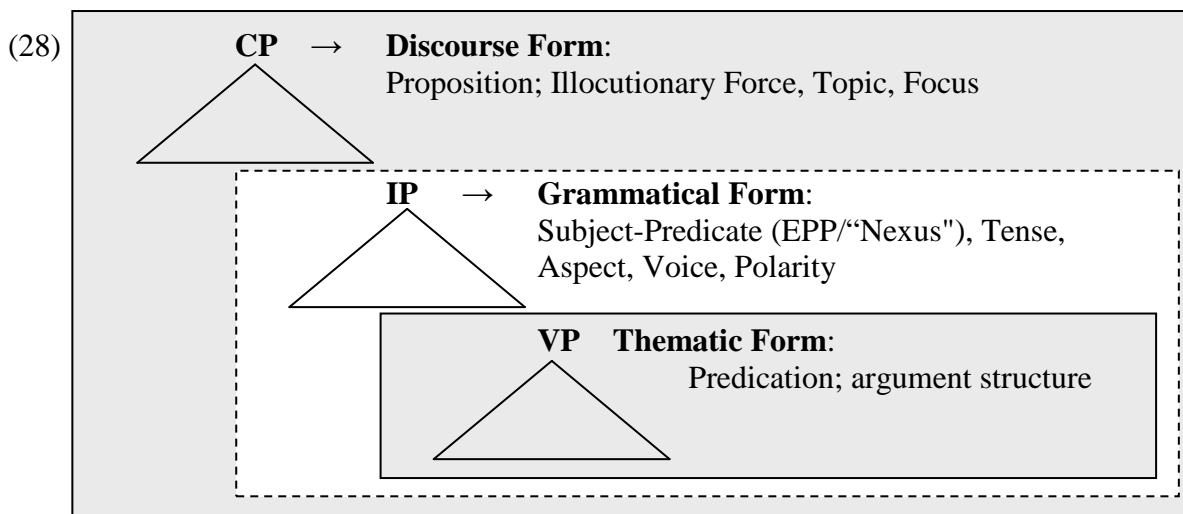
### 5.2 Topological fields and their equivalents in the tree structure

Another point of convergence concerns the fields in the field analysis and what they correspond to in the generative tree.

The main constituents on the clause level in the tree analysis, i.e. CP, IP and VP, can be seen as convergent with domains that are commonly accepted in most of those treatments of clause structure that employ field analyses. (27) shows a layered clause structure from Dik (1997:67, here cited from Christensen 2005:51), see also Harder (2005:101-110), where each level takes in more and more constituents of the clause, and where  $\pi$  stands for "grammatical operators" and  $\sigma$  for "lexical satellites" (e.g. adverbials):

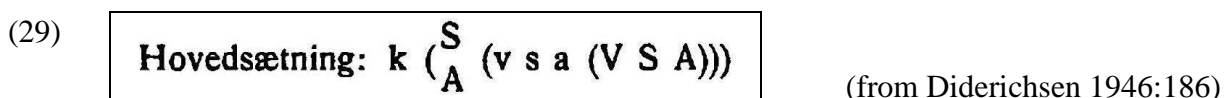


The same layered structure is also found in the more recent versions of generative linguistics, cf. the following illustration adapted from Christensen (2005:30), which is in turn based on Platzack (2001a,b):



At first sight, this convergence between functional grammar and generative syntax might seem not to include the Diderichsen model: Whereas each of the levels in both (27) and (28) contains the next lower level, the fields in Diderichsen (1946:161-162) are discrete entities, which do not contain each other. This difference may be less crucial than one might expect, however, for two reasons.

**One reason** is that some of the proponents of Diderichsen take at least some fields to be part of other fields. In Hansen & Heltoft (2011:329), e.g. the content field is part of the core field. Similarly in Togeby (2003:268) and Blom (2006:43), and actually also in a few places in Diderichsen (1946) itself (!), e.g. p. 186, where the bracket structures above the tables look as follows:



**S** above **A** is the indication for the foundation field, which can host both nominal expressions and adverbial ones.)

(30)

Foundation field	Orientation towards the context of the sentence Discourse-relevant elements
Nexus field	Interface between communication and content, e.g. polarity, aspect
Content field	Organisation of content: actants, circumstantials

(based on Diderichsen 1941:35; Togeby 2003:50-51; Heltoft 2005:115-117)

### 5.3 Movement and traces

(31) Man kan lægge Genstanden selv til Grund for Udsagnet (som "Genstandsfundament"), og Konjunktionalet bliver da adskilt fra Ledstammen og henstaar paa sin Plads i Indholdsfeltet: *Mig tænkte du vel ikke paa?* | *Hans sidste Digte er der ikke meget ved.* Eller man kan gaa ud fra en Situation og **flytter** da Konjunktionalet **med**: *I den lille By var der stort Røre.*

"You can make the object itself the basis for the statement (as object foundation), and the conjunction [i.e. the preposition, SV] is then split up from the object and remains inside the clause: *Me thought you proably not of?* | *His latest poems is there not much by* ('His latest poems are not much good'). Or you can take the sitation as basis and then **move** the conjunction [i.e. the preposition, SV] **as well**: *In the little town was there great commotion.* "

(32) Da. a. Vinden fører ( ) med sig langt ud over havet  
*Wind-the carries with it far out over sea-the*  
 en duft af hø og nyslåede enge  
*an air of hay and new-mown meadows*

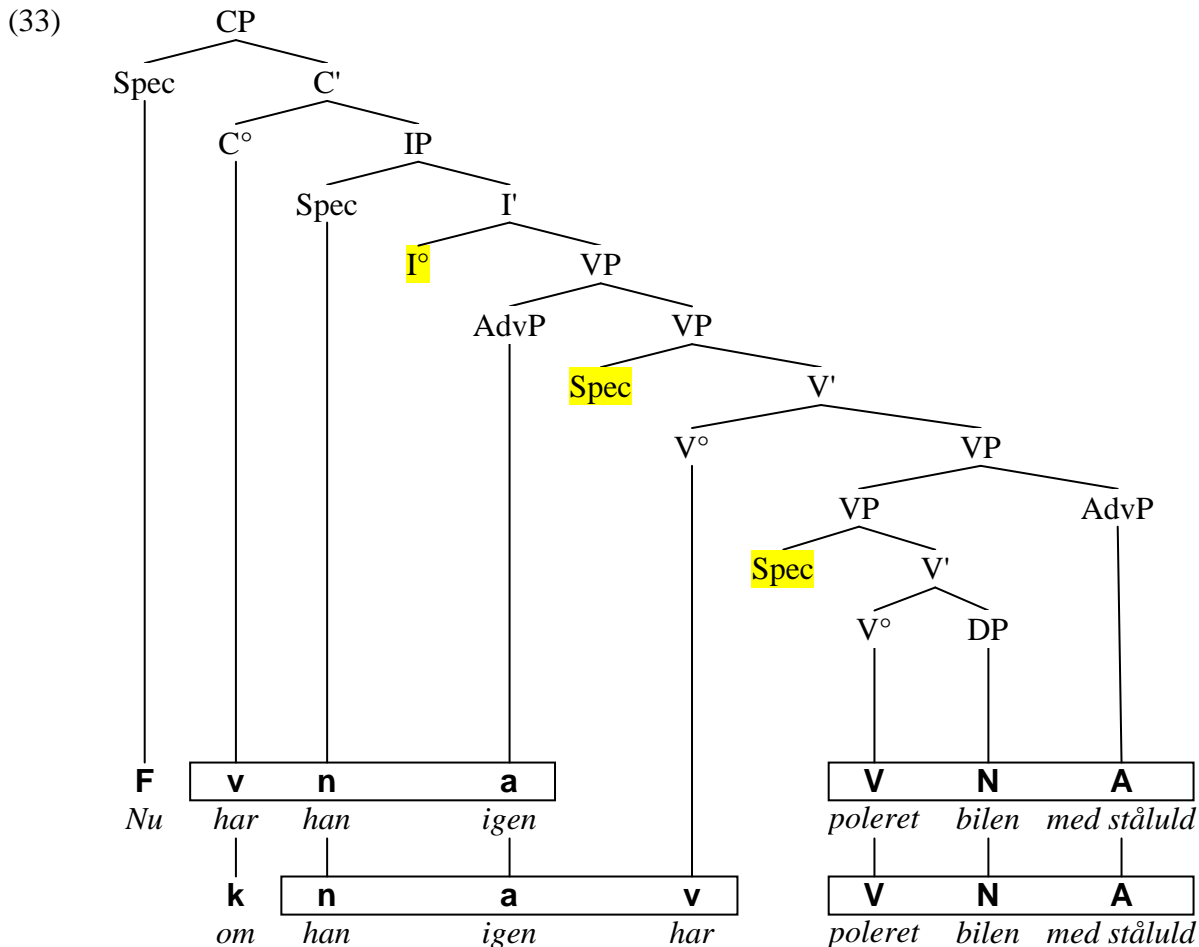
b. Den bemærkning lod jeg bare som om jeg ikke havde hørt ( )  
*That remark pretended I just as if I not had heard*

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## 6. Differences between the two analyses

### 6.1 The number of positions

The generative structure in (10)a contains two slots ("pladser") more than the Diderichsen model as in (10)b: VP-spec (the sister of V') and I°. (10) is repeated here:



**VP-spec** is the base position of the subject, which however always moves to the specifier of IP (the sister of I'), in order to be assigned case (which is nominative in most cases).

**I°** is always empty in Danish (and in English, it is only filled by finite auxiliaries and the finite main verb *be*), but on the other hand all finite verbs occur in I° in Icelandic and French (cf. Vikner 1995, 1997).

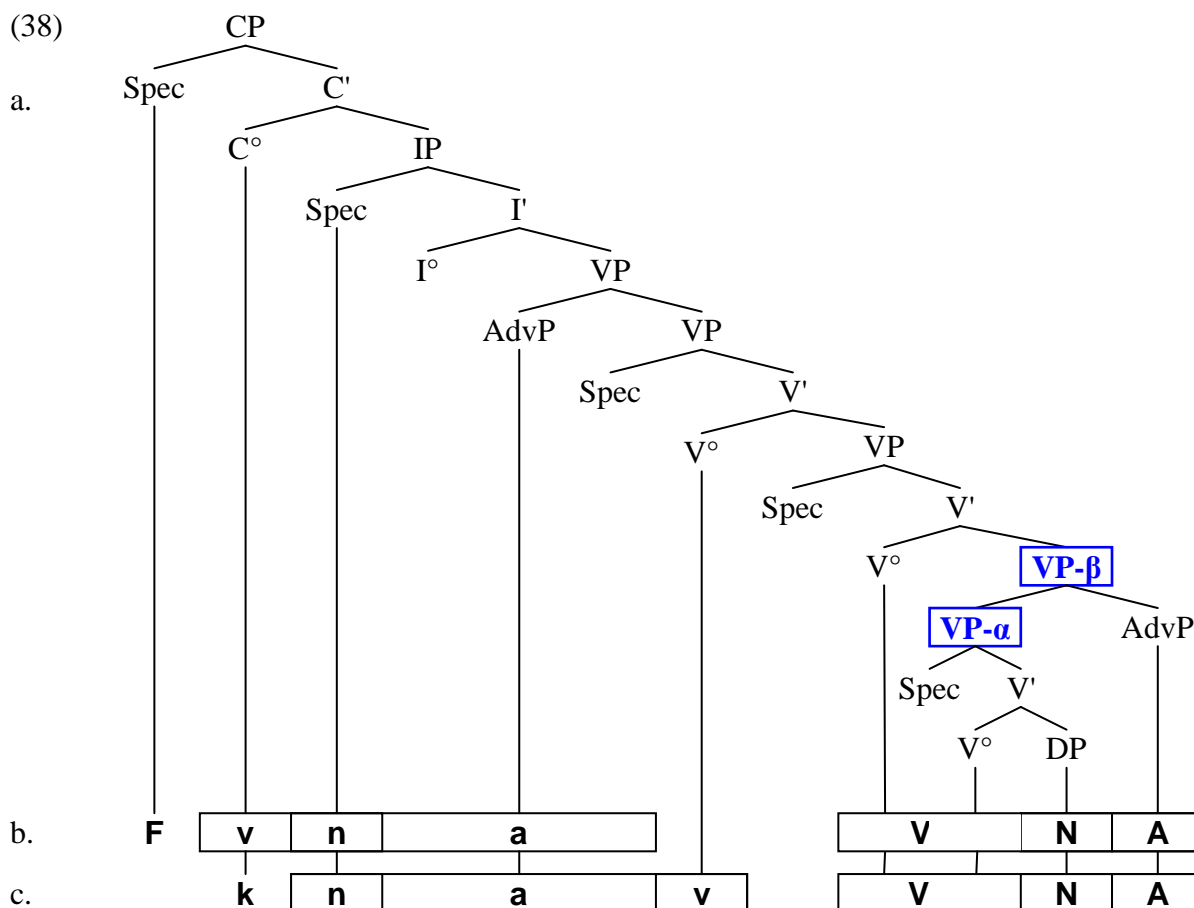
The generative structure can thus say something principled about differences between related languages, whereas different languages need different (pairs of) models in the Diderichsen view -- one pair for Danish/Swedish/Norwegian as in (10)b,c, another pair for old Danish/Icelandic, cf. Diderichsen (1941:89), and a completely different model for e.g. German, cf. the second part of this introduction. It is thus not possible for the field analyses to give any principled reason why Danish does not follow the model for German or why German does not follow the Danish one.

On the other hand, the Diderichsen model(s) for Danish and the one(s) for German, etc. have the advantage that they contain no positions which are never filled.

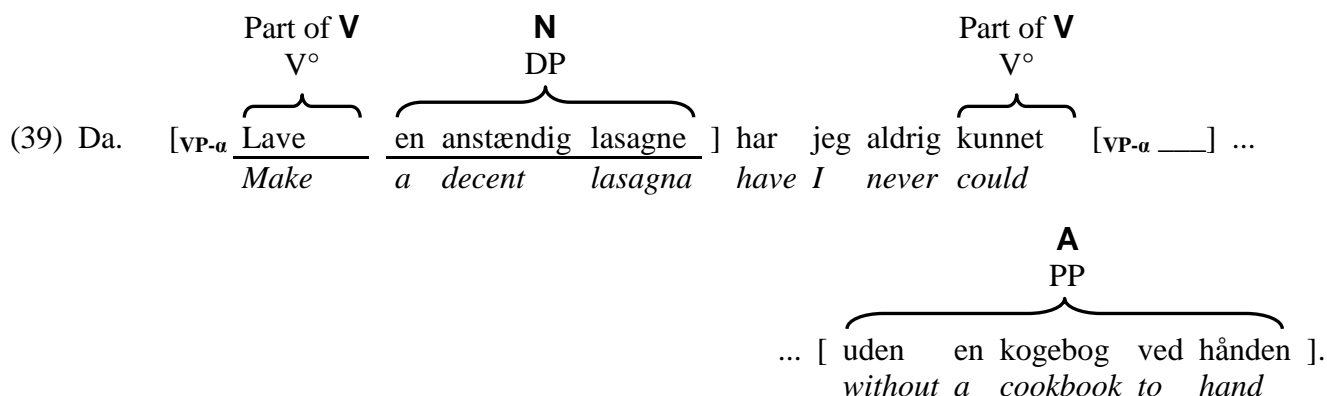


Furthermore, in the tree analysis for Danish, every verb heads its own VP, which means that if there are three verbs in the same clause, there are at least three VPs, two of which are headed by non-finite verbs. In such a clause, VPs headed by the main verb, i.e. by the last of two non-finite verbs, are completely impossible in the field analyses, as here all non-finite verbs occur in the same slot, **V**.

It can however be shown that such VPs are nevertheless constituents, because they can be moved, as in (39) and (41), or substituted by *det*, as in (40) and (42). Two different VPs are again relevant here: One VP headed by the main verb contains only the main verb and its object (marked as **VP- $\alpha$**  in (38)a), whereas another VP headed by the main verb contains the main verb plus its object plus the final adverbial (marked as **VP- $\beta$**  in (38)a).



VP- $\alpha$ , which contains only the main verb and its object, can be moved, as in (39), and also be substituted by *det*, as in (40):



- (40) Da.      Hun sagde at    Egon skulle    [VP- $\alpha$  åbne pengeskabet ] med en papirkniv , ...  
*She said that Egon should                    open                    safe-the                    with a paper knife*
- ... men **det** sagde han at    han ikke kunne [VP- $\alpha$  \_\_\_\_] uden    rigtigt værktøj.  
*but that said he that he not could                    without proper tools*

VP- $\beta$ , which contains the main verb plus its object plus the final adverbial, can both be moved, as in (41), and be substituted by *det*, as in both (41) and (42):

- (41) Da.      [VP- $\beta$  Snakke ordentligt tysk uden at lave fejl ] har jeg altid ...  
*Speak                    proper German                    without making mistakes                    have I always*
- ... gerne villet    kunne    [VP- $\beta$  \_\_\_\_], men **det** er aldrig helt lykkedes.  
*really would                    could                    but it is never quite succeeded*
- (42) Da.      Oles mor sagde at    Ole skulle    [VP- $\beta$  lappe sin cykel med det samme ], ...  
*Ole's mum said that Ole should                    mend                    his bike                    right away*
- ... og **det** synes jeg også at    du skulle [VP- $\beta$  \_\_\_\_].  
*and that think I                    also that you should*

So, yes, there are many more constituents in the generative structure, (10)a than in the Diderichsen model(s) (10)b,c/(22). But this is a good thing, not a bad one, as it can be shown that at least some of those constituents that Diderichsen does not recognise actually do exist.



## 6.3 C-command

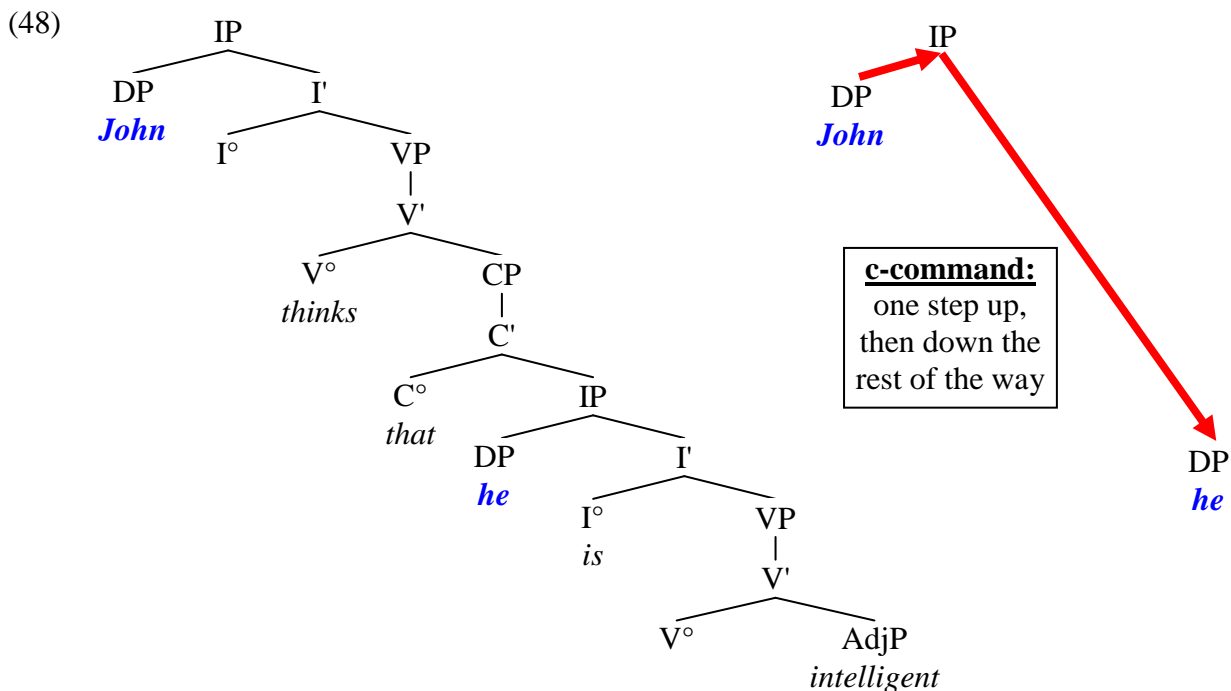
In generative syntax, it has turned out to be useful to assume the existence of the following relation, which goes by the name of **C-command**:

- (43) **C-command:** X c-commands Y if and only if
- all constituents that contain X also contain Y,
  - neither X nor Y dominates the other.
- (44) In other words:  
If Y is either the sister of X or part of the sister of X, then X c-commands Y.
- (45) In other words again:  
If you can get from X to Y in the tree by taking one step upwards and then climb downwards the rest of the way (not passing via X), then X c-commands Y.

C-command is used in a multitude of different generalisations, e.g. concerning where reflexive pronouns may and may not be used (e.g. Vikner 1985), where negative polarity items may be used (e.g. Vikner 2011), and also where personal pronouns and DPs may or may not corefer:

- (46) A pronoun and a DP may not be coreferential if the pronoun c-commands the DP

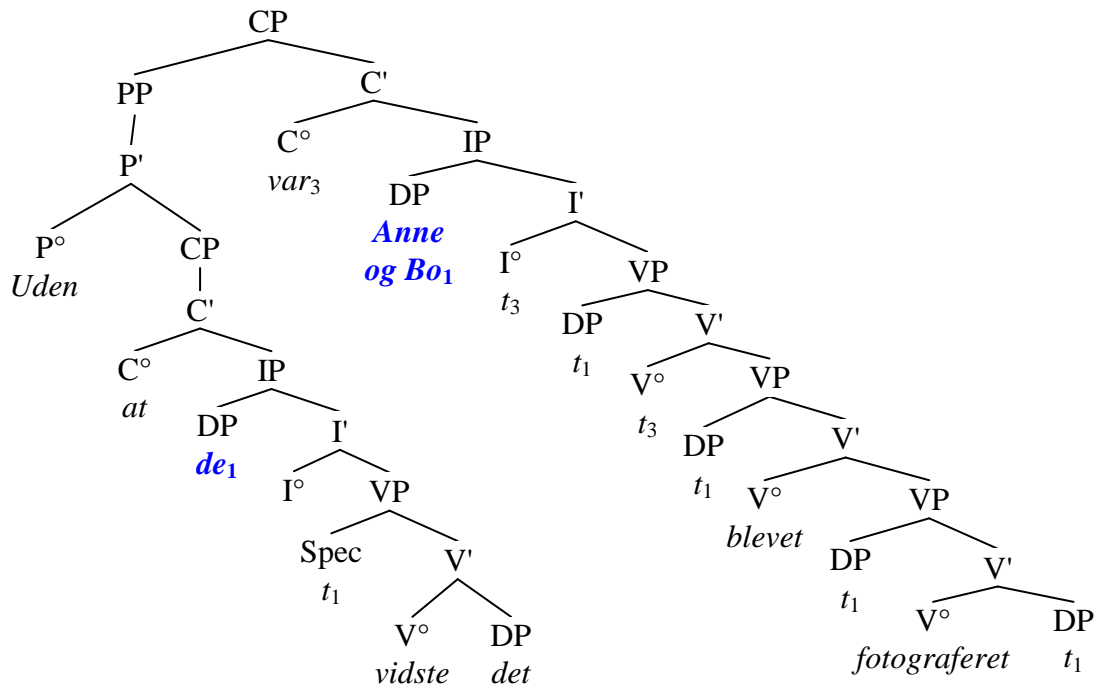
- (47) En. a. John thinks he is intelligent      NAME C-COMMANDS PRONOUN, COREFERENCE POSSIBLE  
 b. He thinks John is intelligent      PRONOUN C-COMMANDS NAME, COREFERENCE IMPOSSIBLE



Such generalisations would seem much more difficult to formulate within field analyses. In a field analysis, (9)a,b/(10)b,c/(21)b, the subject would only c-command other elements **inside** the nexus field, but it would not c-command the object itself or any elements inside the object clause in (48).

In this way, the difference between the possible (49) & (51) and the impossible (50) & (52) may be accounted for in a tree structure, whereas a purely linear rule would not be able to make the right distinctions between them.

(49) Da.



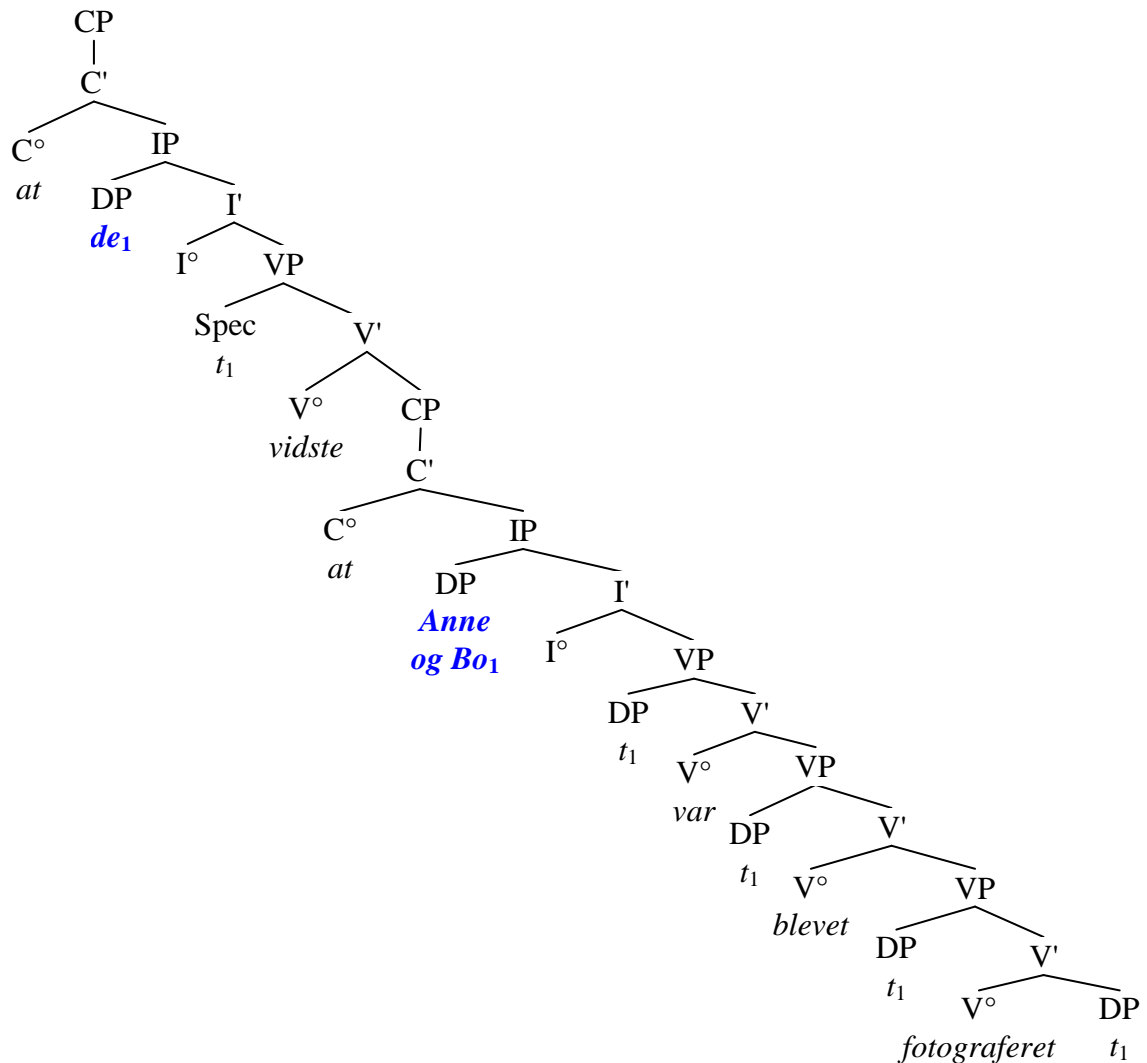
*Without that they knew it had Anne and Bo been photographed*

In (49) at least one constituent contains *de*, 'they', without also containing *Anne og Bo*, 'Anne and Bo', e.g. the embedded clause that *de* is the subject of. (In other words, here *Anne og Bo*, 'Anne and Bo', is **not** part of the sister of *de*, 'they'.)

In (50), on the other hand, no constituents contain *de*, 'they', without also containing *Anne og Bo*, 'Anne and Bo'. (In other words, here *Anne og Bo*, 'Anne and Bo', is **is** part of the sister of *de*, 'they'.)

Thus the pronoun c-commands the name(s) in (50) - which leads to ungrammaticality if there is coreference, according to (46) - whereas the pronoun does not c-command the name(s) in (49).

(50) Da. \*Jeg tror ikke ...



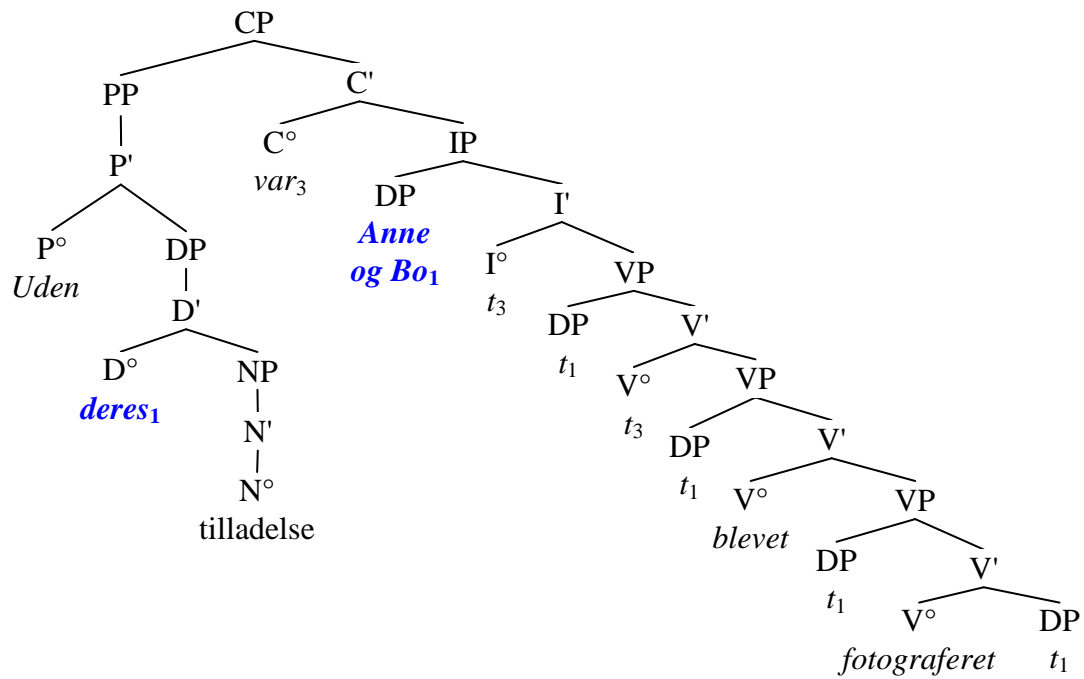
*I think not that they knew that Anne and Bo had been photographed*

Similarly, in (51) at least one constituent contains *deres*, 'their', without also containing *Anne og Bo*, 'Anne and Bo', e.g. the DP of which *deres* is the determiner. (In other words, here *Anne og Bo*, 'Anne and Bo', is **not** part of the sister of *deres*, 'their'.)

In (52) on the other hand, no constituents contain *deres*, 'their', without also containing *Anne og Bo*, 'Anne and Bo'. (In other words, here *Anne og Bo*, 'Anne and Bo', is part of the sister of *deres*, 'their'.)

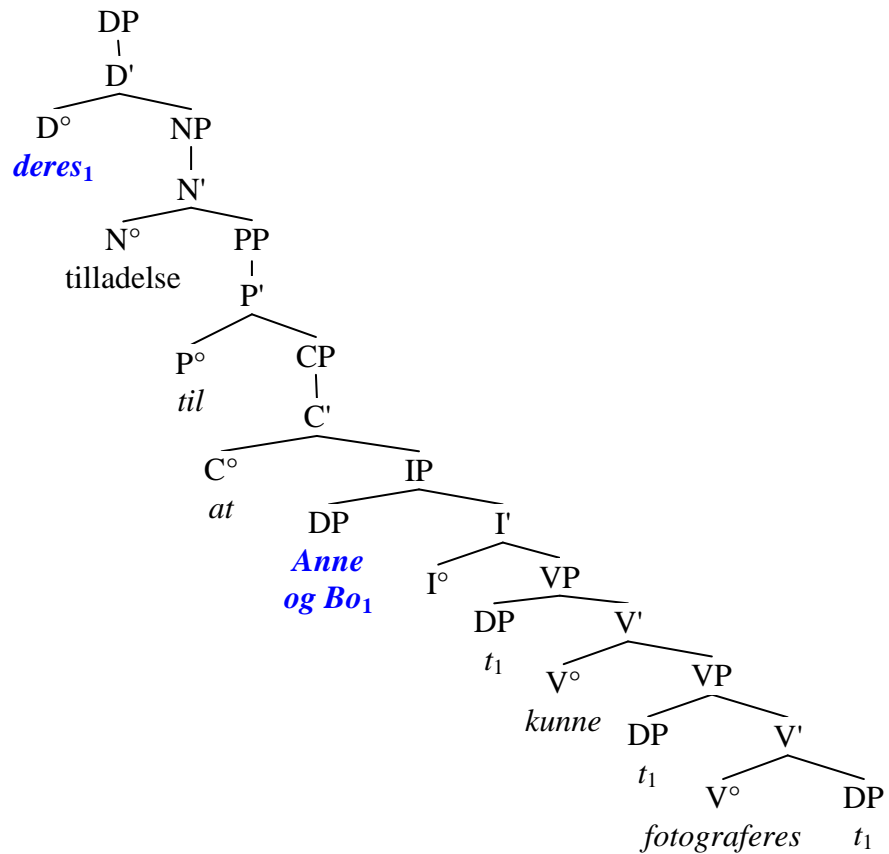
Thus the pronoun c-commands the name(s) in (52) - which leads to ungrammaticality if there is coreference, according to (46) - whereas the pronoun does not c-command the name(s) in (51).

(51) Da.



*Without their permission had Anne and Bo been photographed*

(52) Da. \*Jeg har ikke hørt om...

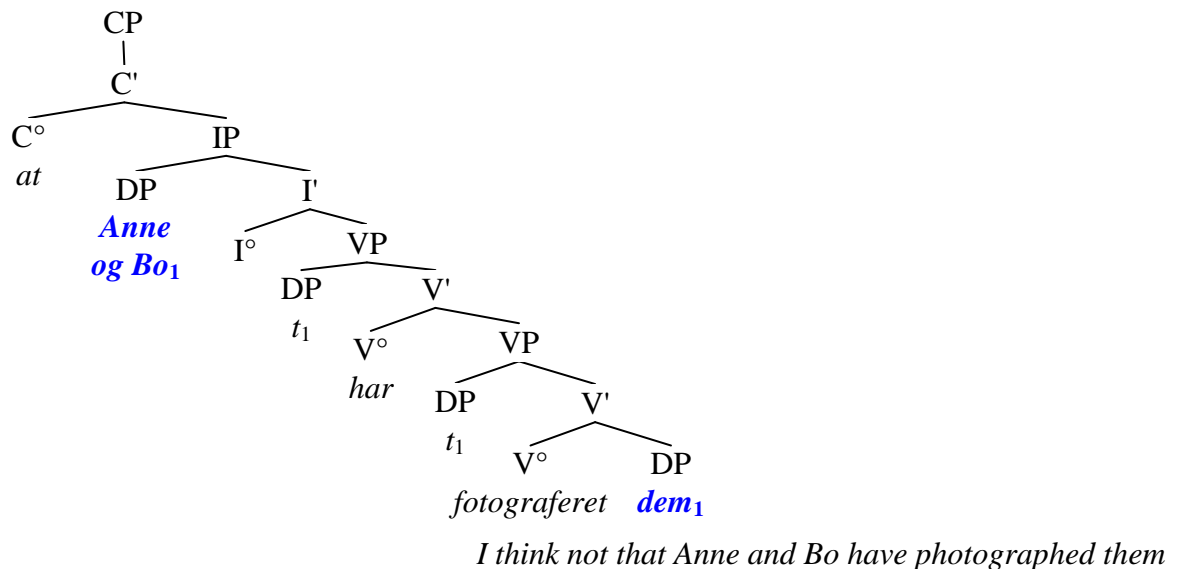


*I have not heard about their permission to that Anne and Bo could be-photographed*

Another generalisation involving c-command is that a DP may only be coreferential with a pronoun that it c-commands if the pronoun is inside a different clause.

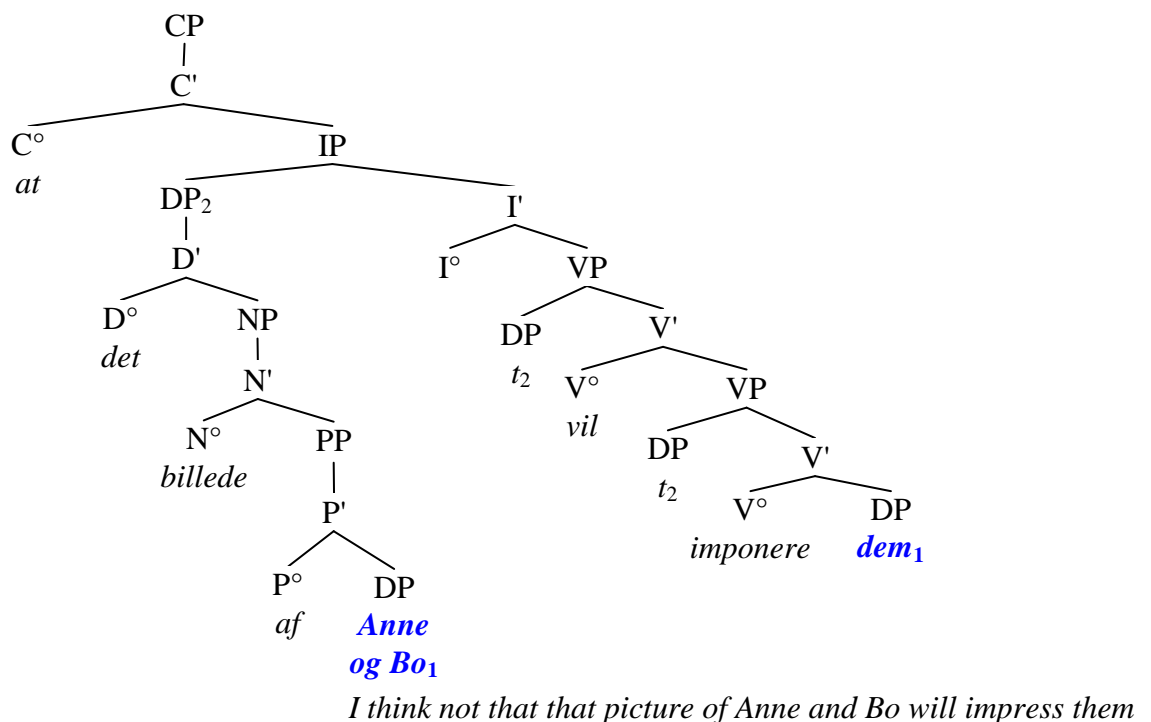
In (53), *Anne og Bo*, 'Anne and Bo', and *dem*, 'them', are in the same clause and *Anne og Bo* c-commands *dem*. The example is therefore correctly expected to be ungrammatical with coreference between *Anne og Bo* and *dem*.

(53) Da. \*Jeg tror ikke...



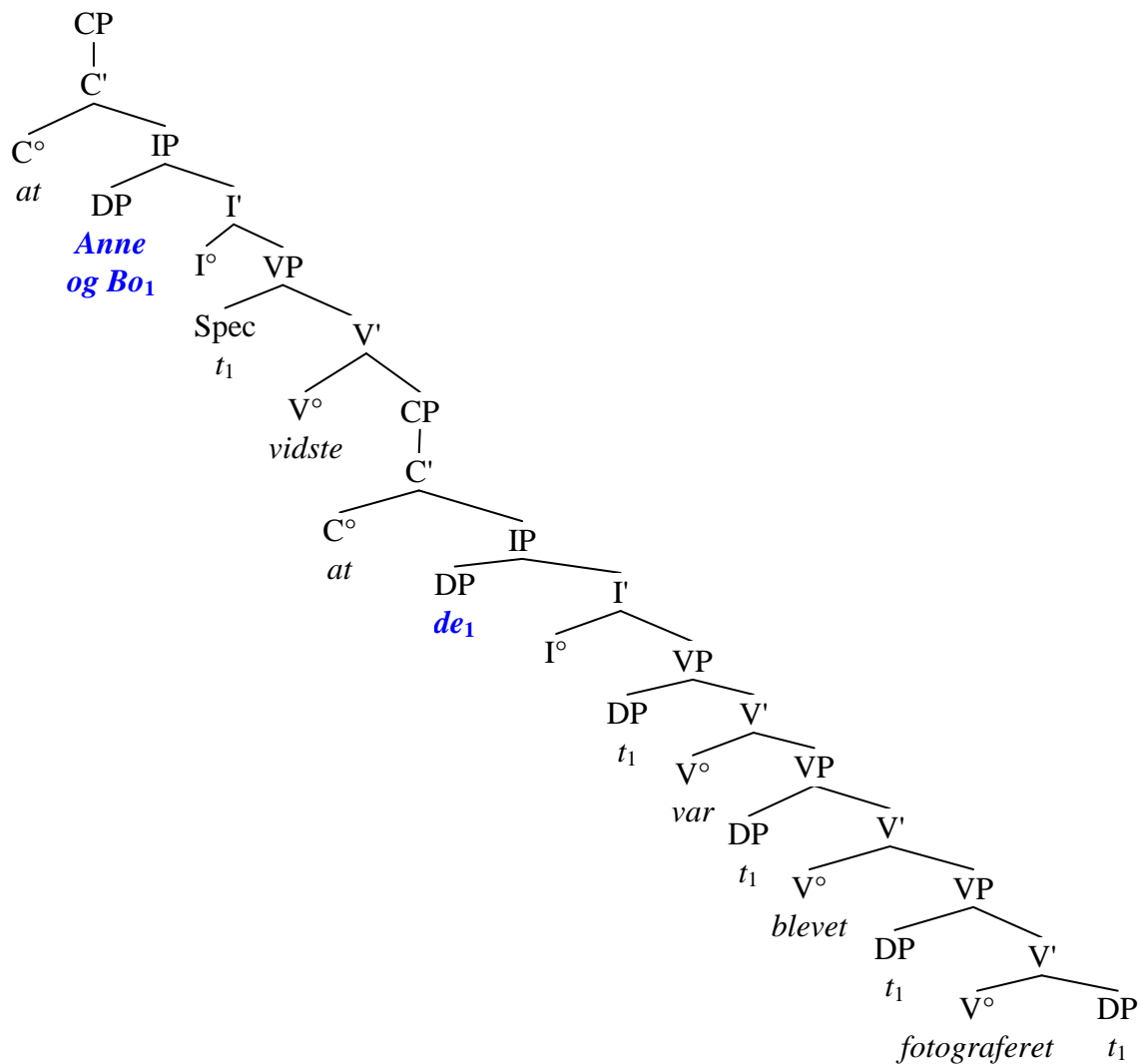
In (54) *Anne og Bo*, 'Anne and Bo', and *dem*, 'them', are also in the same clause, but here *Anne og Bo* does not c-command *dem*. The example is therefore correctly expected to allow coreference between *Anne og Bo* and *dem*.

(54) Da. Jeg tror ikke...



In (55) *Anne og Bo*, 'Anne and Bo', does c-command *dem*, 'them', but as the two expressions are not inside the same clause, this example is therefore correctly expected to allow coreference between *Anne og Bo* and *dem*.

(55) Da. Jeg tror ikke ...



*I think not that Anne and Bo knew that they had been photographed*

Such generalisations, which are not only valid for Danish, cannot be formulated within a field analysis framework like the Diderichsen (1946, 1964) one -- at least not as far as I can see.

## 7. Conclusion

The objective here was to illustrate both how much the **tree analyses** and the **field analyses** have in common, and what exactly distinguishes them. (I have not compared clauses with nominals or Danish with other languages, as this is what Eva Engels will do after the break in part II of the introduction.)

The most striking difference is probably that the tree analysis is not tailor-made for Danish, and therefore requires more comprehensive machinery than the field analyses do. This more comprehensive machinery on the other hand has the advantage that the tree analysis has more to say about comparative data. This is made even more interesting by the fact that when it is possible to say something about the difference between Danish and Icelandic, then it is also possible to say something about the diachronic development of Danish.

It is important that these different approaches have a number of properties in common. Underlying our project is also the idea that syntacticians would be well advised to look further than the surface of the different formal and functional approaches. Despite the occasionally polemic tone, the various approaches actually have much in common, which also means that they may learn from each other's insights.

All linguists, regardless of theoretical persuasion, are ultimately interested in explaining language data. Given the complex subject matter of the discipline, we need all the help we can get, and therefore none of us can afford to ignore the results reached within 'the opposite camp'.

It should be emphasised that this does not mean that linguists should forget all the differences between the two approaches, but merely that they should not forget that in spite of such differences, there are areas where the two approaches can learn from each other and build on each others' insights.

At the end of the day, linguists from the two approaches will still set out in different directions when it comes to searching for an explanation, and this is as it should be, given that "*the growth of knowledge depends entirely upon disagreement*" (Popper 1994:x).

This quote is further explained in Popper (1994:93-94): "*Since the method of science is that of critical discussion, it is of great importance that the theories discussed should be tenaciously defended. For only in this way can we learn their real power. And only if criticism meets resistance can we learn the full force of a critical argument.*"

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