Pseudocoordination in Danish

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Abstract

In this paper we propose an analysis of Danish pseudocoordination constructions. The analysis is based on a hybrid phrase hierarchy where phrase types are assumed to be subtypes of types that cut across the traditional division of phrasal types, allowing the phrasal type of pseudocoordinations to be a subtype of both coordinate phrases and headed phrases, and consequently inherit properties from both types. The analysis is linearization-based. We further develop a set of constraints on the phrasal types in the hierarchy.

The hybrid phrase hierarchy and the set of constraints on the various types in the hierarchy explain why, on the one hand, pseudocoordinations contain conjunctions and the conjuncts must have the same form and tense, and on the other, have a fixed order, allow extraction out of the second conjunct, do not allow overt subjects in the second conjunct and allow transitive verbs to appear in *there*-constructions.

1 Introduction[1]

The Danish *sidder og* construction is an example of a pseudocoordination. The construction has not received that much attention in the Danish literature, but cf. Diderichsen (1946, p. 156), Hansen (1967, vol. 3, pp. 30–31), Jensen (1985, p. 113), Brandt (1992) and Jørgensen (2001). The *sidder og* construction is also found in the other Nordic languages, cf. e.g. Johnsen (1988), Josefsson (1991), Johannessen (1998), Lødrup (2002), Vannebo (2003) and Wiklund (2005).

Pseudocoordinations are constructions that exhibit properties of both coordination and subordination, and conseqently the discussion in the Nordic literature has, among other things, been concerned with whether the construction is really a coordination or whether it may better be treated as a construction involving subordination.

(1) gives examples of the Danish *sidder og* construction.

(1) a. Peter sidder og synger en sang.
Peter sits and sings a song

b. Peter står og spiser et æble.
Peter stands and eats an apple

On the surface the *sidder og* construction consists of two verbal conjuncts and the conjunction *og*, 'and'. The verb in the first conjunct is an intransitive motion or position verb, primarily *sidder*, 'sit', *ligger*, 'lie', *går*, 'walk', *løber*, 'run', and *står*, 'stand'.

(2) gives examples of a Swedish and a Norwegian *sidder og* construction.

(2) a. Henry sitter och fiskar abborre.
Henry sits and fishes perches
Josefsson (1991)

[1]Tavs Bjerre's research was carried out as part of the project *Object Positions - comparative syntax in a cross-theoretical perspective* (www.hum.au.dk/engelsk/engsv/objectpositions/index.htm).

b. Han sitter og skriver dikt.
He sits and writes poems
Lødrup (2002)

Contrary to the above-mentioned proposals, the analysis presented in this paper rests on the assumption that the construction is both a coordination and a subordination at the same time. The main idea is based on a further development of a constructional approach to phrasal types, as presented in Ginzburg and Sag (2000).

The *sidder og* construction is syntactically related to the English examples in (3) which are labelled *coordinatively marked serials* by Zwicky (1990), *quasi-serial constructions* by Pullum (1990) and *non-symmetric coordinations* by Maxwell and Manning (1996).

(3) a. They'll up and bite you.
b. Go and get the paper.
c. Bill went and took the test.

The English examples could also be labelled pseudocoordinations. The Danish *sidder og* construction is, however, a special subtype of pseudocoordinations, characterized among other things by their aspectual semantics, cf. 2.

In German we find the socalled SGF constructions ('subject gaps in finite / frontal clauses') also related to the Danish pseudocoordinations, c.f. 7.

(4) In den Wald ging der Jäger und fing einen Hasen.
into the forest went the hunter and caught a rabbit
Kathol (1995)

2 The semantics of *sidder og*

The *sidder og* construction is mainly characterized by the aspectual information that it introduces, i.e. whether the event expressed by the second conjunct is regarded as completed or not, c.f. e.g. Brandt (1992) and Hansen (1967). The *sidder og* construction is used to remove any ambiguity that may be present in a certain context wrt. aspect. This is exemplified in (5).

(5) a. Peter lavede mad da jeg kom hjem.
Peter cooked when I came home
b. Peter stod og lavede mad da jeg kom hjem.
Peter stood and cooked when I came home

(5a) is ambiguous. Either the cooking event started before and was still in progress at the time of the arriving event, or the cooking event started at the time of the arriving event. (5b), on the other hand, is not ambiguous. In this case the cooking event was in progress at the time of the arriving event. The reader is referred to Bjerre and Bjerre (2007b) for a more detailed account of the semantics of the *sidder og* construction.

3 Coordination properties of the *sidder og* construction

There are two facts which suggest that the *sidder og* construction is a coordinate structure: It contains a coordinating conjunction, and the verbs in the two conjuncts must have the same form.

The conjunction is, however, restricted to *og*, 'and', as shown in (6).

(6) a. Peter sidder og sover.
Peter sits and sleeps

b. *Peter sidder eller / men sover.
Peter sits or but sleeps

With respect to verb form, as shown in (7), the two conjuncts must have the same value for finiteness.

(7) a. Peter har *siddet* og *sovet*.
Peter has sit and slept

b. *Peter har *siddet* og *sover*.
Peter has sit and sleeps

The two conjuncts must also have the same value for tense, as shown in (8).

(8) a. Peter sidder og spiser.
Peter sits and eats

b. *Peter sidder og spiste.
Peter sits and ate

The constraint on tense does not always hold for ordinary coordinations, though, as the example in (9) shows.

(9) Peter kom i går og tager afsted i morgen.
Peter came yesterday and leaves tomorrow

4 Subordination properties of *sidder og*

Other facts favour an analysis of the *sidder og* construction as a subordinate structure. We will discuss its behaviour wrt. order of constituents, extraction, overt subjects and *there*-constructions.

4.1 Order of constituents

An important characteristics of pseudocoordinations is that, unlike ordinary coordinations, (10), the order of the conjuncts is fixed, (11).

(10) a. Peter sang og dansede.
Peter sang and danced

b. Peter dansede og sang.
Peter danced and sang

(11) a. Peter sad og læste.
Peter sat and read

b. *Peter læste og sad.
Peter read and sat

4.2 Extraction and *sidder og*

According to the Coordinate Structure Constraint, Ross (1967), a conjunct cannot contain a gap except in 'Across-the-Board' cases where each conjunct has a gap that refers to one and the same filler. (12a) is an example of the *sidder og* construction clearly violating this constraint, whereas the constraint is obeyed in the coordination without *sidder*, (12b).

(12) a. Pigen$_i$ Peter sad og kyssede e_i.
Girl-the Peter sat and kissed

b. *Pigen$_i$ Peter dansede og kyssede e_i.
Girl-the Peter danced and kissed

4.3 No overt subject in second conjunct in *sidder og*

In pseudocoordinations, the second conjunct cannot have an overt subject, cf. (13).

(13) a. Han sidder og læser.
He sits and reads

b. *Han sidder og han læser.
He sits and he reads

In ordinary coordinations the overt expression of the second subject is optional, cf. (14).

(14) a. Han synger og danser.
He sings and dances

b. Han synger og han danser.
He sings and he dances

In some cases the subject of the second conjunct may be overtly expressed in what may look like a *sidder og* construction, but in that case the construction loses its characteristic aspectual meaning and is not a *sidder og* construction, but an ordinary coordination.

4.4 *There*-constructions and the *sidder og* construction

A restricted set of verbs, typically intransitive verbs, may appear in *there*-constructions. This set includes the verb *sidder*. Transitive verbs typically do not appear in *there*-constructions.

(15) a. Der sad en mand i bilen.
There sat a man in car-the

b. *Der læste en mand en bog.
There read a man a book

However, *sidder og* constructions with a transitive verb in the second conjunct do occur in *there*-constructions, as shown in (16).

(16) Der sidder en mand og læser en bog.
There sits a man and reads a book

It should be noted that *en mand* in (15a) and (16) is in object and not in subject position. This can be seen by the different positions of the negations in (17a) and (17b).

(17) a. Der sidder ikke en mand og læser en bog.
There sits not a man and reads a book

b. Sidder manden ikke og læser en bog?
Sits man-the not and reads a book.

In Danish main clauses, the negation appears after the subject, but before the object.

5 Complex predicate analysis

In the previous sections we showed that the *sidder og* construction has both subordination and coordination properties. In this section we suggest that the *sidder og* construction, in addition to being a coordination construction, is also a complex predicate construction consisting of a host predicate, the verb in the first conjunct, and a copredicate, the second conjunct.

(18) shows examples of other complex predicates. In each case the finite verb is the host and the adjective or nonfinite verb is the copredicate.

(18) a. Manuskriptet blev færdigt.
Manuscript-the was finished

b. Manuskriptet var færdigt.
Manuscript-the was finished

c. Peter skulle læse manuskriptet.
Peter should read manuscript-the

d. Peter havde læst manskriptet.
Peter had read manuscript-the

It can be seen that in complex predicate constructions the copredicate is the most contentful part of the predicate, while the host predicate contributes with information on tense, aspect, modality etc. This also applies to the *sidder og* construction in (19).

(19) Peter sidder og råber.
Peter sits and yells

In (19) the most contentful part of the construction is the second conjunct. It is more about yelling than about sitting, in other words. The main purpose of the first conjunct is to add aspectual content even though the verb does have conceptual content, Peter is actually sitting.

6 Sentence coordination

Ellipsis analyses of coordination along the lines of Beavers and Sag (2004) account for examples like (20).

(20) Arbejdsløse drak sjældent og købte aldrig cognac i 30'erne.
Unemployed drank seldom and bought never cognac in thirties-the

(20) is the result of coordinating the two sentences in (21), deleting shared peripheral material in either the first or the second conjunct.

(21) a. Arbejdsløse drak sjældent ~~cognac i 30'erne~~.
Unemployed drank seldom cognac in thirties-the

b. Og ~~arbejdsløse~~ købte aldrig cognac i 30'erne.
And unemployed bought never cognac in thirties-the

The following examples of sentence coordinations should also be well-formed on an ellipsis analysis.

(22) *Ude i skoven så Peter og plukkede Ole en sjælden orkide.
Out in wood-the saw Peter and picked Ole a rare orchid

(23) a. Ude i skoven så Peter ~~en sjælden orkide~~.
Out in wood-the saw Peter a rare orchid

b. Og ~~ude i skoven~~ plukkede Ole en sjælden orkide.
And out in wood-the picked Ole a rare orchid

(24) *Heldigvis vandt Peter og blev Ole diskvalificeret.
Fortunately won Peter and was Ole disqualified

(25) a. Heldigvis vandt Peter.
Fortunately won Peter

b. Og ~~heldigvis~~ blev Ole diskvalificeret.
and fortunately was Ole disqualified

We suggest that the reason they are not, is that only subjects preceding the finite verb in the second conjunct may be elided, other material preceding the finite verb may not.

On the ellipsis analysis, only peripheral material may be elided. This means that it does not account for medial verb gapping, (26). We will not go into that here.

(26) Peter væltede sin øl og Ole sin vin.
Peter knocked over his beer and Ole his wine

It also means that in V2 languages like German and Danish, the subject cannot be elided when another element occurs in first position, and the subject consequently occurs in the position following the finite verb.

(27) *Kl. 5 drak Peter ud og lidt senere gik hjem.
5 o'clock drank Peter out and a little later went home

(28) a. Kl. 5 drak **Peter** ud.
5 o'clock drank Peter out

b. Og lidt senere gik **Peter** hjem.
and a little later went Peter home

The subject *Peter* is shared material but cannot be elided because it does not occur peripherally. Instead the subject has to be repeated, e.g. with a pronoun as in (29).

(29) Kl. 5 drak Peter$_i$ ud og lidt senere gik **han**$_i$ hjem.
5 o'clock drank Peter out and a little later went he home

In the next section we will discuss SGF and pseudocoordination which are examples of non-constituent coordination which cannot be handled in terms of peripheral sharing, cf. e.g. Crysmann (2006), and therefore cannot be handled by the ellipsis analyses of non-consituent coordinations.

7 SGFs and the *sidder og* phrase

In this section we will relate the Danish *sidder og* construction to subject gaps in finite/frontal sentences, Höhle (1983) or SGF coordinations, Wunderlich (1988).

SGF coordinations are coordinations where two conjuncts share a subject that appears inside the first conjunct. This is illustrated in (30).

(30) In den Wald ging der Jäger und fing einen Hasen.
Into the forest went the hunter and caught a rabbit
Kathol (1995)

Der Jäger is the understood subject of both the verb *ging* and the verb *fing*.

According to Kathol (1995), the SGF coordination does not allow a further object gap in the second conjunct, coindexed with either a topicalized or non-topicalized object in the first conjunct. Further, German does not allow corresponding coordinations with only an object gap. This is shown in (31) which are examples from Kathol (1995)[2].

(31) *Die Briefmarken$_j$ zeigte Hans$_i$ dem Onkel t_j und verkaufte
the stamps-ACC showed Hans-NOM the uncle-DAT and sold
e_i t_j der Tante.
the aunt-DAT

*Gestern zeigte Hans$_i$ die Briefmarken$_j$ dem Onkel und
yesterday showed Hans-NOM the stamps-ACC the uncle-DAT and
verkaufte e_i e_j der Tante.
sold the aunt-DAT

*Gestern zeigte Hans die Briefmarken$_j$ dem Onkel und
yesterday showed Hans-NOM the stamps-ACC the uncle-DAT and
verkaufte Otto e_j der Tante.
sold Otto-NOM the aunt-DAT

In Danish there are wellformed sentences apparently similar to the ungrammatical sentence in (27).

(32) Kl. 5 drak Peter ud og gik hjem.
5 o'clock drank Peter out and went home

We suggest that the difference between (27) and (32) is that in the former we have sentence coordination while in the latter we have VP coordination. The latter type is very similar to the German constructions, so we call such Danish examples SGF constructions.

The *sidder og* construction may also resemble SGF coordinations. This is illustrated in (33).

(33) a. I går sad Peter og kyssede en pige.
Yesterday sat Peter and kissed a girl

b. Sad Peter og kyssede en pige?
Sat Peter and kissed a girl

In these Danish examples we also have a shared subject appearing inside the first conjunct. However, the Danish pseudocoordinaitons differ from the German SGF coordinations in that they allow extraction of the object out of the second conjunct, as in (34).

[2]Kathol uses $_t$ for extraction sites.

(34) a. Den pige$_j$ sad Peter$_i$ og kyssede e_i e_j i går.
That girl sat Peter and kissed yesterday

b. Var det den pige$_j$ Peter$_i$ sad og kyssede e_i e_j?
Was it that girl Peter sat and kissed

In Danish it is not possible to have an object gap in the second conjunct co-indexed with a non-topicalized object. However, in the Norwegian so-called empty object constructions, cf. e.g. Larson (2005), we get a coordination with a non-topicalized object gap in the second conjunct as shown in (35).

(35) Jens$_i$ skrev to brev$_j$ og e_i sendte e_j til England. (Norwegian)
Jens wrote two letters and sent to England

Even though the Danish *sidder og* construction does not behave exactly like the German SGF coordination, we nevertheless want to say that it is related to the German SGF coordination in that they are both non-sentence coordinations.

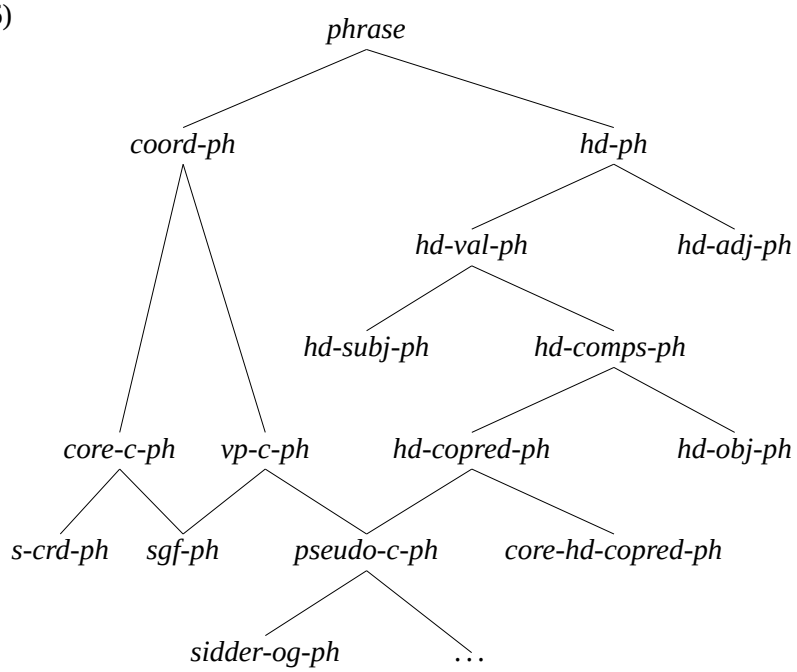
Kathol (1995) provides a linearization-based account of the German SGF coordinations. In the next section we will present a linearization-based account of the Danish data.

8 Formalization

In this section we will show a formalization that explains the behavior of the *sidder og* construction wrt. the range of phenomena outlined in previous sections. The formalization further develops the hybrid phrase hierarchy in Bjerre and Bjerre (2007a) and provides formal constraints on the types in the hierarcy.

To account for the *sidder og* construction as both a coordination and a complex predicate construction, we will develop constraints on the types in the hierarchy shown in (36).

(36)



The hierachy allows the *sidder-og-ph*, and other pseudocoordination constructions, to inherit contraints expressed on headed as well as on coordinate phrases.

Based on a strong tradition in Danish grammar originating with Diderichsen (1946), and Linearization-based HPSG, Reape (1994), Kathol (1995, 2000), we describe word order with a list-valued DOM-feature, allowing separation of word order from immediate constituency. Further, for any headed phrase in Danish, the elements on this list must, if present, occur in the order given (37).

(37) $\textit{headed-ph} \longrightarrow \left[\text{DOM} \left\langle C \prec F \prec v \prec s \prec l^* \prec a1^* \prec V \prec O^* \prec P \prec a2^* \right\rangle\right]$[3]

The constraint on *coord-ph* in the hierarchy is given in (38).

[3]
C	coordinating conjunction
F	the subject or information structurally salient constituents
v	the finite verb or the subordinate conjunction
v	the subject
l	light (pronominal, unstressed) objects
a1	adverbials
V	the finite verb when the *v* slot is blocked by a conjunction
O	objects
P	copredicate
a2	adverbials

Elements marked with * may occur more that once.

(38) *coord-ph* $\longrightarrow$

$$\left[\begin{array}{l} \text{SS} \mid \text{LOC} \mid \text{CAT} \left[\begin{array}{ll} \text{HEAD} & \boxed{1} \\ \text{MARKING} & \boxed{2} \\ \text{CRD} & \text{-} \end{array}\right] \\ \text{DTRS} \left\langle \left[\begin{array}{l} \text{SS} \mid \text{LOC} \mid \text{CAT} \left[\begin{array}{ll} \text{HEAD} & \boxed{1} \\ \text{MARKING} & \boxed{2} \\ \text{CRD} & \text{-} \end{array}\right] \end{array}\right], \left[\begin{array}{l} \text{SS} \mid \text{LOC} \mid \text{CAT} \left[\begin{array}{ll} \text{HEAD} & \boxed{1} \\ \text{MARKING} & \boxed{2} \\ \text{CRD} & + \end{array}\right] \end{array}\right] \right\rangle \end{array}\right]$$

This constraint ensures that conjuncts and their mother have the same value for FORM (assumed to be defined as a head feature), by structure-sharing the value of HEAD between the two daughters and the mother. Cf. Sag (2003) for a discussion of the HEAD feature in connection with coordination. The second daughter but not the mother or the first daughter is introduced by a coordinating conjunction. Also the MARKING values are identical for the daughters and the mother prohibiting the coordination of a main and a subordinate clause.

(39) shows the constraints on *core-coord-ph*.

(39) *core-coord-ph* $\longrightarrow$

$$\left[\begin{array}{l} \text{SS} \left[\begin{array}{l} \text{LOC} \mid \text{CAT} \mid \text{VAL} \quad \boxed{1} \\ \text{NONLOC} \mid \text{SLASH} \quad \boxed{2} \end{array}\right] \\ \text{DTRS} \left\langle \left[\begin{array}{l} \text{SS} \left[\begin{array}{l} \text{LOC} \mid \text{CAT} \mid \text{VAL} \quad \boxed{1} \\ \text{NONLOC} \mid \text{SLASH} \quad \boxed{2} \end{array}\right] \end{array}\right], \left[\begin{array}{l} \text{SS} \left[\begin{array}{l} \text{LOC} \mid \text{CAT} \mid \text{VAL} \quad \boxed{1} \\ \text{NONLOC} \mid \text{SLASH} \quad \boxed{2} \end{array}\right] \end{array}\right] \right\rangle \end{array}\right]$$

It says that valence information is identical for the daughters and the mother, and that the value for SLASH is identical: Either there is no extraction or the same element is extracted from both conjuncts. Importantly, the *sidder-og-ph* is not a subtype of the *core-coord-ph*, and consequently it does not inherit the constraint formalizing the coordinate structure contraint, explaining why they allow extraction from the second conjunct.

We assume that something like the following constraint from Beavers and Sag (2004) can be made to work for those coordinations that are not SGFs or pseudo-coorodinations (that is, our type *s-coord-ph* in (36)).

(40) *cnj-cxt* $\longrightarrow$

$$\left[\begin{array}{l}\text{MTR}\left[\begin{array}{l}\text{DOM}\ \boxed{A}\oplus\boxed{B_1}\oplus\boxed{C}\oplus\boxed{B_2}\oplus\boxed{D}\\ \text{SYN}\ \boxed{0}\end{array}\right]\\ \text{DTRS}\left\langle\left[\begin{array}{l}\text{DOM}\ \boxed{A}\left\langle\left[\begin{array}{ll}\text{FRM}&\boxed{F_1}\\ \text{HD}&\boxed{H_1}\end{array}\right],\ldots,\left[\begin{array}{ll}\text{FRM}&\boxed{F_n}\\ \text{HD}&\boxed{H_n}\end{array}\right]\right\rangle\oplus\\ \qquad\boxed{B_1}\textit{ne-list}\oplus\left\langle\left[\begin{array}{ll}\text{FRM}&\boxed{G_1}\\ \text{HD}&\boxed{I_1}\end{array}\right],\ldots,\left[\begin{array}{ll}\text{FRM}&\boxed{G_m}\\ \text{HD}&\boxed{I_m}\end{array}\right]\right\rangle,\\ \text{SYN}\ \boxed{0}\\ \text{CRD}\ -\end{array}\right],\right.\\ \qquad\left[\begin{array}{l}\text{DOM}\ \boxed{C}\left\langle\left(\left[\text{SYN}\ \textit{cnj}\right]\right)\right\rangle\oplus\left\langle\left[\begin{array}{ll}\text{FRM}&\boxed{F_1}\\ \text{HD}&\boxed{I_1}\end{array}\right],\ldots,\left[\begin{array}{ll}\text{FRM}&\boxed{F_n}\\ \text{HD}&\boxed{I_n}\end{array}\right]\right\rangle\oplus\\ \qquad\boxed{B_2}\textit{ne-list}\oplus\boxed{D}\left\langle\left[\begin{array}{ll}\text{FRM}&\boxed{G_1}\\ \text{HD}&\boxed{I_1}\end{array}\right],\ldots,\left[\begin{array}{ll}\text{FRM}&\boxed{G_m}\\ \text{HD}&\boxed{I_m}\end{array}\right]\right\rangle\\ \text{SYN}\ \boxed{0}\\ \text{CRD}\ +\end{array}\right]\left.\right\rangle\end{array}\right]$$

The effect of this constraint is that identical peripheral material in the two conjuncts is elided in one of the conjuncts. The relation between the two described situations may be looser than in non-sentence coordinations, and topologically the second conjunct is appended at the end of it.

Both *sgf-ph* and *pseudo-coord-ph* are non-sentence coordinations, i.e. they both have an unrealized subject. The two conjuncts describe two subevents of the same overall situation, this is reflected in the topological structure, the second conjunct is inserted into a slot in the first conjunct.

(41) shows the constraint on *non-s-coord-ph*.

(41) *non-s-coord-ph* $\longrightarrow$

$$\left[\begin{array}{l}\text{DOM}\ \boxed{1}\bigcirc\boxed{2}\\ \text{SS}\mid\text{LOC}\mid\text{CONT}\mid\text{INDEX}\mid\text{TENSE}\ \boxed{4}\\ \text{DTRS}\left\langle\left[\begin{array}{l}\text{DOM}\ \boxed{1}\\ \text{SS}\mid\text{LOC}\left[\begin{array}{l}\text{CAT}\mid\text{VAL}\mid\text{SUBJ}\left\langle\left[\ \right]\right\rangle\\ \text{CONT}\mid\text{INDEX}\mid\text{TENSE}\ \boxed{4}\end{array}\right]\end{array}\right],\right.\\ \qquad\left.\left[\begin{array}{l}\text{DOM}\ \boxed{3}\\ \text{SS}\mid\text{LOC}\left[\begin{array}{l}\text{CAT}\mid\text{VAL}\mid\text{SUBJ}\left\langle\left[\ \right]\right\rangle\\ \text{CONT}\mid\text{INDEX}\mid\text{TENSE}\ \boxed{4}\end{array}\right]\end{array}\right]\right\rangle\end{array}\right]$$

$\wedge$ *compaction*($\boxed{3}$,$\boxed{2}\langle a2\rangle$)

Both daughters have unrealized subjects. The second conjunct is compacted and inserted into the *a2* slot of the first conjunct. The conjuncts must also have the same value for tense. We assume that tense is a semantic feature defined as an index feature.

All that needs to be said about the type *sgf-ph* is that it must have an empty SLASH list, there can be no extraction out of an *sgf-ph*.

(42) *sgf-ph* $\longrightarrow$

$$\left[\text{SS}\mid\text{NONLOC}\mid\text{SLASH}\left\langle\right\rangle\right]$$

sgf-ph is a subtype of both *non-s-coord-ph* and *core-coord-ph*. From the former it inherits the constraint that the two daughters must have unrealized subjects, from the latter the constraint that the mother and the two daughters must have identical valence values.

pseudo-coord-ph is not a subtype of *core-coord-ph* but instead inherits from *hd-copred-ph* which is constrained as shown in (43).

(43) *hd-copred-ph* $\longrightarrow$

$$\left[\begin{array}{l}\textsc{dom}\ \boxed{1} \bigcirc \boxed{2} \\ \textsc{ss}\mid\textsc{loc}\mid\textsc{cat}\mid\textsc{val}\begin{bmatrix}\textsc{copred}\ \langle\rangle \\ \textsc{subj}\ \ \boxed{3} \\ \textsc{comps}\ \ \boxed{4}\end{bmatrix} \\ \textsc{dtrs}\left\langle\begin{bmatrix}\textsc{dom}\ \boxed{1} \\ \textsc{ss}\mid\textsc{loc}\mid\textsc{cat}\mid\textsc{val}\begin{bmatrix}\textsc{copred}\ \langle\boxed{5}\rangle \\ \textsc{subj}\ \ \boxed{3} \\ \textsc{comps}\ \ \boxed{4}\end{bmatrix}\end{bmatrix},\begin{bmatrix}\textsc{dom}\ \boxed{6} \\ \textsc{ss}\ \ \boxed{5}\end{bmatrix}\right\rangle\end{array}\right]$$

$\wedge$ *compaction*($\boxed{6}$,$\boxed{2}\langle P \vee a2\rangle$)

The head selects the copredicate which is compacted and inserted into *P* or *a2* of the head. Unlike in *core-coord-ph*, the SUBJ feature is only structure-shared between mother and head-daughter.

In a *pseudo-coord-ph* the head daughter must express either a *motion-rel* or a *position-rel*.

(44) *pseudo-coord-ph* $\longrightarrow$

$$\left[\textsc{dtrs}\left\langle\begin{bmatrix}\textsc{ss}\mid\textsc{loc}\mid\textsc{cont}\mid\textsc{rels}\langle \textit{mot-pos-rel}\mid \textit{list}\rangle\end{bmatrix},\begin{bmatrix}\textsc{ss}\mid\textsc{loc}\mid\textsc{cat}\mid\textsc{crd}\ \ \textit{and}\end{bmatrix}\right\rangle\right]$$

The second daughter of a *pseudo-coord-ph* has the value *and* for the feature CRD excluding the conjunctions *or* and *but*. The constraints in (43) and (44) together explain why the order of the order of the conjuncts in pseudocoordinations is fixed. The left conjunct is the head and restricted to have a *mot-pos-rel* and the head precedes its copredicate (the right conjunct).

Before we discuss *there*-constructions, we need to look at the lexical entry for *sidder*, 'sit'. We analyse *sidder* in a *sidder og* construction as a control verb requiring an unsaturated co-predicate, cf. (45). Cf. also Lødrup (2002) for a control analysis of pseudocoordination.

(45)

$$\left[\begin{array}{l}\textsc{phon}\langle \textit{sidder}\rangle \\ \textsc{synsem}\mid\textsc{loc}\mid\textsc{cat}\begin{bmatrix}\textsc{val}\mid\ \textsc{co-pred}\left\langle\left[\textsc{ss}\mid\textsc{loc}\mid\textsc{cat}\mid\textsc{val}\mid\textsc{subj}\langle \textsc{np}_i\rangle\right]\right\rangle \\ \textsc{arg-st}\langle \textsc{np}_i\rangle\end{bmatrix}\end{array}\right]$$

Sidder selects a VP copredicate whose unrealized subject is coindexed with the argument of *sidder*. This also means that the co-predicate, or right conjucnt, cannot have an overt subject.

This argument may appear on the SUBJ list.

(46)
$$\begin{bmatrix} \text{PHON} \langle \textit{sidder} \rangle \\ \text{SYNSEM} \mid \text{LOC} \mid \text{CAT} \begin{bmatrix} \text{VAL} \mid \text{SUBJ} \langle \boxed{1} \rangle \\ \text{ARG-ST} \quad \langle \boxed{1}\text{NP} \rangle \end{bmatrix} \end{bmatrix}$$

If the argument is indefinite, it may appear on the COMPS list in which case *der*, 'there', appears on the SUBJ list.

(47)
$$\begin{bmatrix} \text{PHON} \langle \textit{sidder} \rangle \\ \text{SYNSEM} \mid \text{LOC} \mid \text{CAT} \begin{bmatrix} \text{VAL} \begin{bmatrix} \text{SUBJ} \quad \langle \textit{der} \rangle \\ \text{COMPS} \ \langle \boxed{1} \rangle \end{bmatrix} \\ \text{ARG-ST} \langle \boxed{1}\text{NP}_{indef} \rangle \end{bmatrix} \end{bmatrix}$$

In 4.4 we pointed out that transitive verbs typically do not appear in *there*-constructions, but that transitive verbs may appear in the second conjunct in a *there*-construction version of a *sidder og* construction, cf. (16). With the lexical entry for *sidder* in (47) and the constraints above we get an explanation why we may have a transitive verb in the second conjunct.

The unrealized subject of the second conjunct is coindexed with the element on the ARG-ST list, not on the SUBJ list. The unsaturated subject of the co-predicate, the right conjunct, becomes structure-shared with an element on the COMPS list in a there-construction, and the *der* subject of the head daughter is structure shared with the mother, because a *pseudo-coord-ph* is a subtype of the *hd-copred-ph*, in which the mother and the head daughter structure share the value of the SUBJ feature. In this way the conjunct with the transitive verb appears 'parasitically' on the first verb in the phrase in *there*-constructions with pseudocoordination.

Finally, we want to show how our analysis handles a subject appearing inside the first conjunct of an SFG og pseudo-coordination, or indeed after the finite verb in any structure where the subject does not appear in *F*, cf. the schema in (37).

(48) shows part of the constraint on the type *head-subj-ph*.

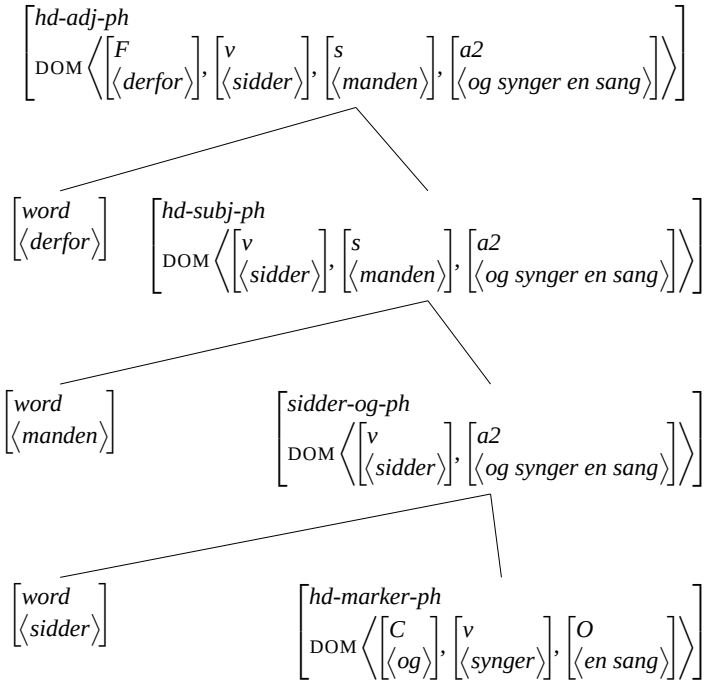
(48) *hd-subj-ph* $\longrightarrow$
$$\begin{bmatrix} \text{DOM} \ \boxed{1} \bigcirc \langle \boxed{2} \rangle \\ \text{DTRS} \left\langle \begin{bmatrix} \text{DOM} \ \boxed{1} \\ \text{SS} \mid \text{LOC} \mid \text{CAT} \mid \text{VAL} \mid \text{SUBJ} \langle \boxed{3} \rangle \end{bmatrix}, \begin{bmatrix} \text{DOM} \ \boxed{4} \\ \text{SS} \quad \boxed{3} \end{bmatrix} \right\rangle \end{bmatrix}$$
$$\wedge \textit{compaction}(\boxed{4}, \boxed{2} \langle F \vee s \rangle)$$

It says that the DOM list of the subject daughter, $\boxed{4}$, is compacted to a *dom* element of type *F* or *s* which is then inserted into the DOM list of the head daughter through the *shuffle* function ($\bigcirc$). This means that the subject will occur either immediately before or immediately after the finite verb in *v*. In SFGs and pseudo-coordinations this *v* is the finite verb of the first conjunct, as the copredicate (right

conjunct), is inserted as a whole into the topological structure of the head daughter (left conjunct). (49) shows the topological structure of a pseudocoordination with a subject inside the first conjunct.

(49) a. Derfor sidder manden og synger en sang.
Therefore sits mand-the and sings a song

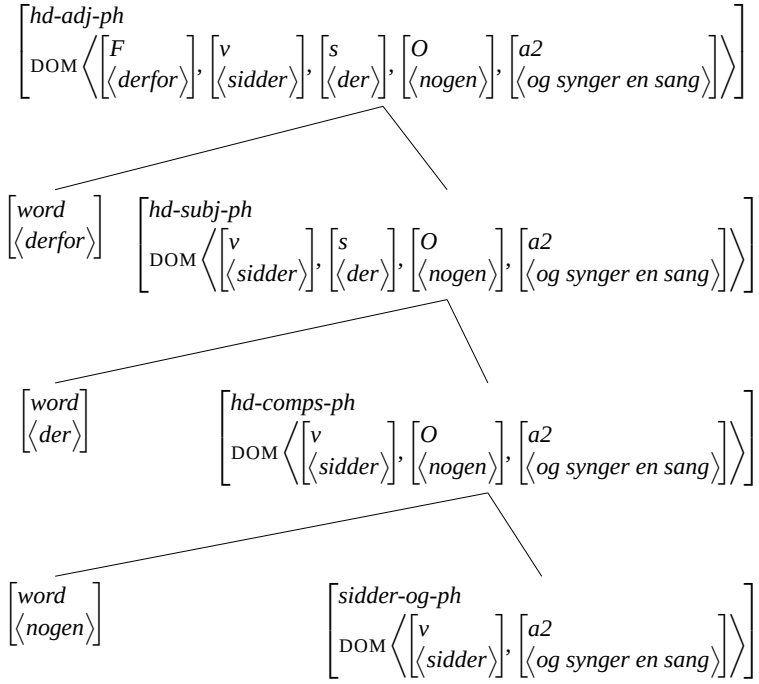
b.



(50) shows the corresponding sentence with *der*, 'there'.

(50) a. Derfor sidder der nogen og synger en sang.
Therefore sits there someone and sings a song

b.



As can be seen, the linearization-based approach allows the treatment of the coordinations as constituent coordinations, only at the topological level does the subject appear inside the first conjunct.

9 Conclusion

Building on Bjerre and Bjerre (2007a), we have proposed a hybrid phrase analysis of pseudocoordinations. In this paper we have further developed the hierarchy and formalized a set of constraints on the phrase types in the hierarchy where the type *pseudo-coord-ph* is a subtype of both *coord-ph* and *hd-copred-ph*, and consequently inherits properties from both types. The analysis is linearization-based.

The phrase hierarchy and the constraints on the various types in the hierarchy explain why, on the one hand, pseudocoordinations contain conjunctions and the conjuncts must have the same form and tense, and on the other, have a fixed order, allow extraction out of the second conjunct, do not allow overt subjects in the second conjunct and allow transitive verbs to appear in there-constructions.

We believe that this hybrid analysis sheds some light on the nature of pseudocoordinations. It turns out that the properties involved in the constraints on the *coord-ph* and its subtypes are maninly properties of form, ie. the features HEAD, FORM and TENSE. The properties involved in the constraints on *hd-copred-ph* and its subtypes are mainly properties of valence, i.e. SUBJ, CO-PRED and COMPS. Thus we may say that from the point of view of form, pseudocoordinations are co-

ordinations, but from the point of view of valence, pseudocoordinations are head-copredicate constructions.

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