NORWEGIAN *WHEN*-CLAUSES

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Abstract

Norwegian has two connectives meaning *when*: *da* and *når*. *Da*- and *når*-clauses have been treated as relative clauses that differ essentially in aspectual features (cf. Faarlund *et al*. 1997). I show that this view fails to fully account for the data, and I argue instead that *da* and *når* are crucially different in their lexical-syntactic properties. Whereas *når* always introduces relative clauses (bound or free), *da* can only introduce relative clauses that have a lexical head. *Da*-clauses without a lexical head are subordinate clauses adjoined directly to the matrix clause. Corpus data reveal that the actual aspectual properties of *da*- and *når*-clauses correlate with the status of the clause as relative or non-relative.

1. Introduction

Norwegian, like German, Dutch and Danish, exhibits two temporal connectives that correspond to the English *when* (see Vikner 2004). Though their syntactic properties have been largely ignored, these two connectives, *da* and *når*, constitute classic ingredients of Norwegian grammars. In general, both *da*- and *når*-clauses are regarded as relative clauses that differ crucially in aspectual features (see Faarlund, Lie & Vannebo 1997). According to normative tradition, *da* introduces clauses denoting past episodic events, while *når* is used with present, future, and habitual past events. The examples in (1) and (2) illustrate clauses that conform to this tradition.

(1) Det skjer [når folket vil]
That happens [NÅR people-DEF will]
'That happens when the people want.'

(2) Jeg fartet mye rundt (…) [da jeg var korrespondent]
I traveled much around [DA I was correspondent]
'I traveled around a lot (…) when I was a correspondent.'

As shown in (3)-(4), *da*- and *når*-clauses also appear with overt lexical heads.

(3) Hver dag [når vi kom på jobb] (…)
Every day [NÅR we came to job]
'Every day when we came to work, (…).'

(4) I en tid [da boksalget synker] (…)
In a time [DA book-sale-DEF sink]
'In a time when the book's sales are sinking (…).'

Within the framework of LFG, I consider each type of temporal clause above and show that the traditional analysis fails to adequately account for the data. I propose that the essential differences between *da*- and *når*-clauses lie in their lexical-syntactic properties, not in their aspectual features. Specifically, the connective *når* always introduces a relative clause. *Når*-clauses that modify a lexical head as in (3) are bound relatives, while those without lexical heads (e.g. (1)) are free relatives. In contrast, although *da* is also used for bound relatives (see (4)), *da* cannot introduce free relatives. Unlike the *når*-clause in (1), the *da*-clause in (2) is adjoined directly to the matrix clause. Section 2 below addresses *når*-clauses and argues that, in sentences like (1) and (3), *når* consistently appears in the specifier position of a relative CP and has one lexical entry. Section 3 turns to the more controversial status of *da*, arguing that *da* is positioned in C and requires two lexical entries, one for relative clauses and one for non-relative clauses. Section 4 then shows that the actual aspectual properties of these clauses as revealed by corpus data support the purposed analysis.

2. *Når*

2.1 Properties of når

Når is generally regarded as an *hv*-word (*wh*-word). Like other *hv*-words, *når* can introduce direct and indirect questions as shown in (5) and (6), respectively.

(5) Når skal vi politikere bli voksne?
NÅR shall we politicians become grown
'When will we politicians grow up?'

(6) Jeg spurte ham om når hun kom tilbake.
I asked him about NÅR she comes back
'I asked him when she'll come back.'

A typical feature of *hv*-words is that they also introduce both bound and free relative clauses. Significantly, temporal *når*-clauses that lack an overt lexical head (e.g. (1)) exhibit behavior indicative of free relatives. For example, like free relatives and *hv*-words in general, they allow expansion (see Bresnan & Grimshaw 1978). One manifestation of this property in Norwegian is the addition of *som helst* (lit. 'as rather'):

(7) [Når som helst jeg har søkt om råd] har han gitt meg veiledning[1]
[NÅR SOM HELST I have sought about advice] has he given me direction
'Whenever I have looked for advice, he has given me direction.'

Moreover, as discussed in Faarlund *et al.* (1997), *når*-clauses as in (1) accommodate certain ambiguities typical of free relatives. They have a *general* or a *specific* interpretation, dependent upon whether they refer to something (here: a time) that is left undetermined (see (8)) or something that is specified in the utterance (see (9)).

(8) Kom [når du har lyst] (Faarlund *et al.* 1997, p. 1053) (*general interpretation*)
come [NÅR you have desire]
'Come when you want.'

(9) Hunden kom [når ho ropte] (*ibid*, p. 1054) (*specific interpretation*)
dogs-DEF came [NÅR she called]
'The dogs came when she called.'

Lastly, *når*-clauses without lexical heads behave like relatives in that they allow long-distance dependencies (cf. (10)-(11), due to Helge Lødrup, p.c.).

(10) Napoleon var faktisk på Korsika på den tiden [når du påstår at
N. was actually on Corsica at the time [NÅR you claim that
han ledet hæren i Italia_]
he lead army-DEF in Italy]
'N. was actually in Corsica at the time when you claim that he led the army into Italy.'

[1] http://www.yogasenteret.no/Artikler/artikkel.php?article_id=48

(11) Napoleon var faktisk på Korsika [når du påstår at han ledet hæren i Italia_]
'N. was actually in Corsica when you claim that he led the army into Italy.'

In light of these observations, both types of *når*-clauses should be given a relative clause structure.

Given the status of *når* as an *hv*-word, I adopt the well-precedented approach of assigning it to SpecCP (see, e.g., Dalrymple 2001). This analysis is supported by the fact that earlier stages of Norwegian (see (12)) and certain modern dialects (see (13)) allow *når* to immediately precede a complementizer.

(12) [Naar som helst **at** for[ne] Jacob hafde (…)]
[NÅR SOM HELST AT aforementioned Jacob had
'Whenever the aforementioned Jacob had (…).' (Absalon Pederssøn Beyer diary 1563[2])

(13) Selv [når **at** det stormer som verst] må du (…)[3]
Self [NÅR that it storms like worst] must you
'Even when it storms the worst, you must (…).'

Since *at* appears in C, an analysis of *når* as the head of CP would fail to explain the distribution in (12)-(13). Moreover, examples such as (7) also suggest that *når* should not be analyzed as a complementizer since *når* can be expanded to an element larger than that typically associated with C. In the ensuing discussion, I follow the work of Groos & van Riemsdijk (1981), Grosu (2003) and others and regard the *wh*-phrase to be in SpecCP in both bound and free relative clauses.

2.2 Analysis of når

In general, Norwegian is a head-initial V2 language.[4] Nevertheless, because V2 effects correlate with assertive force (Andersson 1975, Wechsler 1991, Sells 2001), none of the *when*-clauses relevant to this discussion will exhibit V2 syntax. In other words, since these are adjunct clauses, they, like most embedded clauses in Norwegian, are not assertions, and their finite verbs will necessarily appear in V regardless of which elements in the CP are filled.

Given the discussion so far, I propose the partial phrase structure rules for Norwegian in (14) and the lexical entry for *når* in (15).[5] Note that this lexical entry only applies to the use of *når* in relative clauses (hence the specification STMT-TYPE = REL) and does not account for interrogative uses of *når*.

(14) CP → CP XP
↑=↓ (↑ADJ)=↓
CP → XP C'
(↑DF) =↓ ↑=↓
C' → C IP
↑=↓ ↑=↓
NP → N' CP
↑=↓ (↑ADJ)
(↑INDEX)=(↓TOPIC INDEX)
(↓TOPIC)=(↓GF* GF)

[2] Thanks to H. Lødrup for this example, which is available at <http://www.dokpro.uio.no/cgi-bin/litteratur/oratxtprod.cgi?tabell=beyer&id=dagbok008&frames=Nei&offset=25896&lengde=11#sted>.
[3] http://www2.bi.no/biforum/bi298/07_2_98.htm
[4] For simplicity, I treat all V2 clauses as CPs with the finite verb fixed in C (though see Sells 2001).
[5] Though the notation is abbreviated throughout, I assume all adjuncts to be sets.

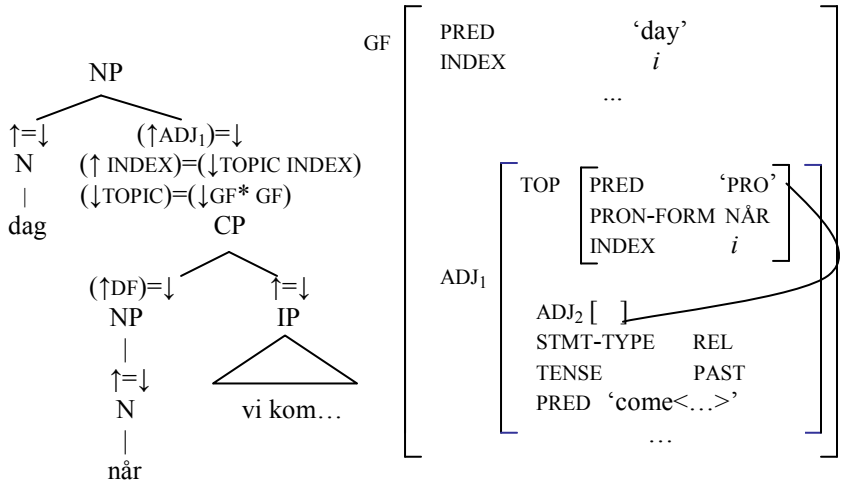
(15) *når* N

(ADJ ↑)	((TOPIC ↑) STMT-TYPE) = REL
(TOPIC ↑)	(TOPIC ↑) TENSE
(↑ PRED) = 'PRO'	(((ADJ TOPIC ↑) PRED) = 'PRO')
(↑ PRON-FORM) = NÅR	CAT((ADJ TOPIC ↑), N)
(↑ INDEX) = *i*	

Since adjuncts are represented by a variety of different phrase types, the lexical category of *når* is subject to debate. Even so, NPs are among the possible phrase types for adjuncts, and I treat *når* as belonging to category N, paralleling analyses for other *wh*-words (see Bresnan & Grimshaw 1978).

Applying (14) and (15) to bound relatives yields the c- and f-structures in (16).

(16) *Hver dag når vi kom* (…) (cf. (3))

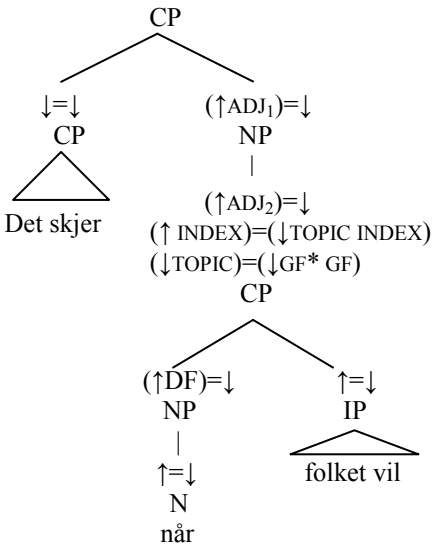


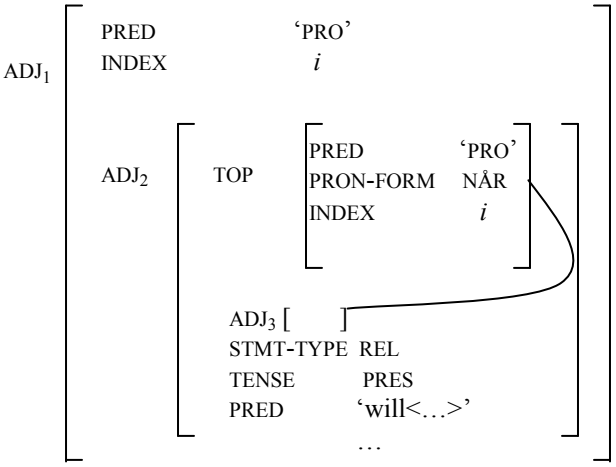
Taking this structure to be representative of relative clauses introduced by *når*, note that the f-structure of the CP is embedded in a larger f-structure and contains a TOPIC that shares an index with an element of the larger f-structure. This index sharing marks the semantic relationship between the head of the relative clause (*dag* in (16)) and *når* in SpecCP and is ensured by the functional annotation on CP and by the lexical specification of *når* as a TOPIC (see, e.g., Falk 2001 concerning the choice of TOPIC for this position). *Når*'s lexical entry also dictates that its f-structure is not only a TOPIC but also an ADJUNCT, and the functional uncertainty equation on CP guarantees that the TOPIC will structure share this ADJUNCT. This linking of the TOPIC to a GF appropriately integrates the TOPIC into the f-structure in fulfillment of the extended coherence condition (see Bresnan 2001). Moreover, it is this functional uncertainty equation that is responsible for licensing the unbounded dependencies. In essence, this equation ensures that the ADJUNCT representing the gap within the relative clause is linked to the TOPIC which is, in turn, co-indexed with the head of the relative clause.

Another notable property of this analysis is that the CP itself is headless. Because C is a functional category rather than a lexical one, the principle of endocentricity does not rule out the absence of C in the structure. Furthermore, information such as tense and clause-type that would be provided by C is supplied instead by *når*. Consequently, positing a C head would not contribute to the f-structure information and would, therefore, be ruled out by economy of expression (Bresnan 2001, Falk 2001). Similarly, the embedded IP lacks an I head. In this case, the information that would be provided by I is given in V, rendering I superfluous.

The above arguments apply equally to free relative clauses. Consider the c- and f-structure in (17).

(17) *Det skjer når folket vil* (cf. (1))





The key difference between the structures in (16) and (17) is that only the latter takes the PRED value of the N head of the relative clause from the lexical entry of *når*. Here, the operator CAT given in the lexical entry of *når* non-trivially dictates that an element of category N is available in the c-structure, thereby preserving the integrity of the phrase structure rules in (14) (see Asudeh 2002 where CAT accomplishes non-branching CP-over-IP). These phrase structure rules and the arguments presented here will also be relevant in the next section where *da*-clauses are addressed.

3. *Da*

Some uses of *da* and *når* differ transparently. For example, of the two, only *når* functions as an interrogative word, and only *da* can be used alone as a temporal adverb (see (18)-(19), respectively).

(18) a. Når skal vi gå?
when shall we go
b. *Da skal vi gå?

(19) a. Da var det lettere.
then was it easier
b. *Når var det lettere.

Nevertheless, because both *da* and *når* introduce temporal clauses, the extent to which they differ from each other as temporal connectives warrants clarification. In the following, I contrast the properties of *da* and *når* and argue that *da* is a complementizer that introduces relative clauses when a lexical head is present and non-relative clauses when a lexical head is absent.

3.1 Properties of da

As illustrated in section 1, and exemplified again in (20) and (21), two types of *da*-clauses are relevant to the present discussion.

(20) Forth var sammen med en kollega [da ugjerningen fant sted]
F. was together with a colleague [DA misdeed-DEF found place]
'Forth was with a colleague when the misdeed took place.'

(21) 18. mai 1993 var dagen [da danskene (…) sa ja til EU]
May was day-DEF [DA Danish-DEF.PL said yes to EU]
'May 18, 1993 was the day when the Danish said yes to the EU.'

Faarlund *et al.* (1997) recommend an analysis that considers *da* in both of the clause types above to be the head of a relative clause. Support for this view is purportedly provided by examples like (22) and (23) where *da* immediately precedes a *når*-clause. As (24) shows, *når* cannot precede *da* in this manner.

(22) Da, [når vi dveler ved dem], får vi anledning til[6] (…)
DA [NÅR we dwell upon that], receive we chance to
'When we dwell upon that, we get a chance to (…).'

(23) Da [når ho kom heim], var alt i orden (Faarlund, *et al.* 1997, p. 10)
DA [NÅR she came home], was everything in order
'When she came home, everything was in order.'

(24) *Når, da vi dveler ved dem, får vi anledning til (…)

Faarlund *et al.* suggest that *da* in all of its uses as a temporal connective is an adverb that heads a relative clause. The data in (25)-(26) prove this analysis to be problematic, however. Unlike *når*-clauses, *da*-clauses allow unbounded dependencies only in bound relatives (cf. (25) vs. (26)) (Helge Lødrup, p.c.).

(25) Napoleon var faktisk på Korsika på den tiden [da du påstår at
N. was actually on Corsica at the time [DA you claim that
han ledet hæren i Italia_]
he lead army-DEF in Italy]
'N. was actually in Corsica at the time when you claim that he led the army into Italy.'

(26) *Napoleon var faktisk på Korsika [da du påstår at han ledet hæren i Italia_]
'N. was actually in Corsica when you claim that he led the army into Italy.'

If *da* were the head of the relative clause, one would expect sentences like (26) to be perfectly grammatical (cf. (10)-(11)). Hence, while I agree with Faarlund *et al.* that examples like (22) and (23) involve adverbial uses of *da*, I maintain that a different analysis is needed for subordinate clauses introduced by *da*. Specifically, subordinate *da*-clauses with lexical heads are relative clauses, while those without modify the matrix clause as a whole and are, therefore, non-relative clauses. Accordingly, I treat the former as adjunct clauses that adjoin to an N and the latter as adjunct clauses that adjoin directly to CP.

At this point, it remains for us to determine whether *da* is best understood as a complementizer or an *hv*-like element in SpecCP. Unlike *når*, *da* does not provide independent motivation for analysis as an *hv*-word. For example, it cannot be employed in question formation as illustrated in (18b). Furthermore,

[6]http://66.102.7.104/search?q=cache:gH5kiSe_OjEJ:www.ethikon.no/files/documents/altoppslukende_fokus.doc+%22da+n%C3%A5r+vi%22&hl=no

though *når* can be followed by the complementizer *at* in some cases, this option is not open to *da* (27), nor does *da* allow expansion (28):

(27) *Jeg fartet mye rundt i USA [da at jeg var korrespondent] (cf. (12)-(13))
(28) *Jeg fartet mye rundt i USA [da som helst jeg var korrespondent] (cf. (7))

Finally, since headed relative clauses with *da* allow unbounded dependencies while the other *da*-clauses do not, a free-relative-clause analysis of the latter is untenable. Thus, I treat *da* as a different type of complementizer in relative clauses and in non-relative clauses.

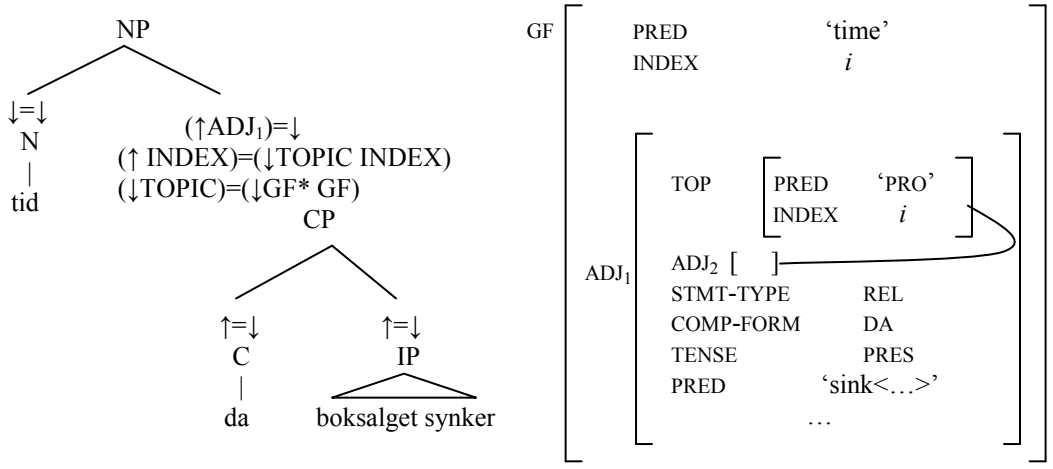
3.2 Analysis of da

Keeping in mind the phrase structure rules and analysis presented above, I propose the following lexical entry for *da* as it appears in relative clauses:

(29) *da*-REL C (↑ STMT-TYPE) = REL
(↑ COMP-FORM) = DA
(↑ TENSE)
(↑ ADJ)
(↑ TOPIC)
(↑ TOPIC PRED) = 'PRO'

This entry will interact with the proposed phrase structure rules to derive the c- and f-structures in (30). Note that (30) closely parallels the structures for *når* clauses in section 2.2. The main difference is that the information about the clause's TOPIC, ADJUNCT, tense and clause-type is housed in C, rather than SpecCP. The indexing between the head and the TOPIC of the relative clause is preserved by the annotation on the CP and the specification in *da*'s lexical entry that there is a TOPIC in the f-structure with the PRED value of 'PRO'. Unlike the case with *når*, this PRED value is not optional. As a result, the analysis makes the correct prediction that no overt element can appear in SpecCP. If there were an element competing for this position and thereby supplying an additional PRED value, the f-structure would violate the uniqueness principle since PRED values never unify. As with the *når*-clauses the functional uncertainty equation annotated on CP licenses the relative clause's unbounded dependencies. In turn, *da*'s lexical entry provides a GF, the ADJUNCT, for the TOPIC to associate with in fulfillment of the coherence principle.

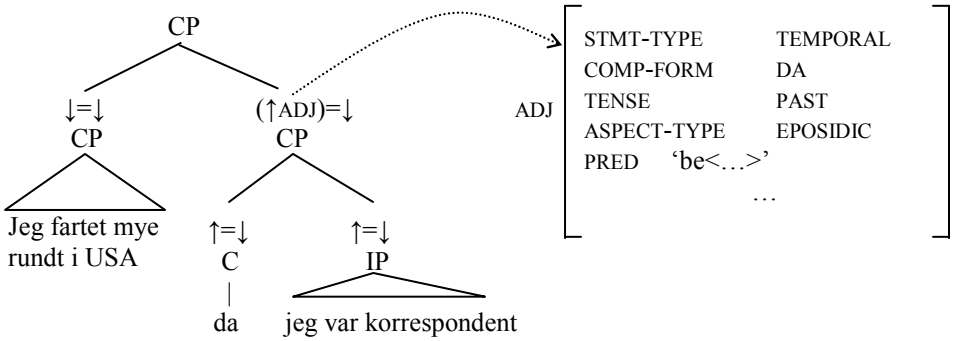
(30) *I en tid da boksalget synker* (…) (cf. (4))



The final structure to be presented here is that of *da* in non-relative clauses. As noted above, this type of *da*-clause does not contain a gap and should be regarded as a sister to the main clause. As such, the functional uncertainty equation employed above should not be involved in non-relative *da*-clauses. In the absence of any motivation for a TOPIC position, the *da* in non-relative clauses will specify that its f-structure does not contain a TOPIC. This ensures that non-relative *da*-clauses cannot appear in the position of relative clauses, as this would render the annotations on the relative CP that pertain to the TOPIC unsatisfiable. For *da* in non-relative clauses, I propose the lexical entry in (31) and the c- and f-structures in (32).

(31) *da* C (↑ STMT-TYPE) = TEMPORAL
(↑ COMP-FORM) = DA
(↑ TENSE)
¬(↑TOPIC)

(32) *Jeg fartet mye rundt i USA da jeg var korrespondent* (cf. (2))



The TEMPORAL clause-type specification in *da*'s lexical entry marks that the f-structure in question is a (non-relative) temporal ADJUNCT, and the f-structure is complete and coherent without the structure sharing assigned to the other clause types. In essence, unlike the *da* that introduces relative clauses, the *da* illustrated in (32) introduces clauses that adjoin to IP and needs a different lexical entry to account for the lack of unbounded dependencies and the absence of a TOPIC.

4. Aspectual Properties

Data compiled from the *Oslo Corpus of Tagged Norwegian Texts* (the *bokmål* section, 18.5 million words) reveal that the actual aspectual properties of Norwegian *when*-clauses support the distinctions drawn above. In particular, examples were found of all aspectual types for relative *when*-clauses (all *når*-clauses and a subset of the *da*-clauses) but not for non-relative *when*-clauses (the remaining *da*-clauses). Whereas the normative tradition holds that *når* appears in all but past episodic clauses, the example given in (33) illustrates that *når*-clauses can also be used for past episodic events.

(33) Heidi Tjugum var der hun skulle [når danskene skjøt] (*past episodic*)
H. T. was where she should [NÅR Dane-DEF.PL shot]
'Heidi Tjugum was where she should have been when the Danes shot.'

Similarly, the clauses in (34)-(36) show that relative uses of *da* are not limited to past episodic events.

(34) I de få perioder [da partiet har satt (…) parti fremst], har (…) (*past habitual*)
In the few periods [DA party-DEF has set party foremost], has
'During the few periods when the party has put party first, has (…)'

(35) Slik kan det gå i disse tider [da røyking er en kardinalsynd] (*present habitual*)
So can it go in these times [DA smoking is a cardinal-sin]
'So can it go in these times when smoking is a cardinal sin.'

(36) Lovprisningen fortsetter til denne dag [da hans etterkommere (…) sitter
Praise continues until the day [DA his descendant-DEF sit
på Thailands krone [sic., Intended: trone]] (*future*)
on Thailand's throne]
'Praise will continue until the day when his descendants sit on Thailand's throne.'

Despite the flexibility of *da* used in relative clauses, *da* in non-relative clauses appears to conform to the normative tradition which holds that *da*-clauses only describe past episodic events (see Vikner 2004 who makes the same observation for Danish *da*-clauses). This generalization evidently holds regardless of tense:

(37) Berit (…) *fikk* sin første bunad [da hun var fire år gammel] (*simple past*)
B. receive-PRET her first bunad [DA she was five years old]
'Berit (…) got her first national costume when she was five years old.'

(38) [Da det verste spetakkelet *hadde git* seg] hørte vi (…) (*perfect*)
[DA the worst noise had given-PAST.PART self] heard we
'When the worst noise was over, we heard (…).'

(39) Det er stille i bygningen [da Jeremy *låser* seg inn] (*historic present*)
It is quiet in town-DEF [DA Jeremy lock-PRES self in]
'It's quiet in the town when Jeremy locks himself in.'

In essence, for some speakers (though not all) the aspectual features of temporal *when*-clauses are impendent of whether *da* and *når* is used and are contingent instead upon the status of the clause as relative or non-relative.

5. Conclusion

The aspectual distinctions championed by normative grammarians fail to appropriately capture the differences between temporal *da*- and *når*-clauses. The connective *når* is best analyzed as a topic element that introduces either a bound or a free relative clause, appropriately accommodating unbounded dependencies in either case. Temporal *da*-clauses, on the other hand, are not all relative clauses. Instead, only *da*-clauses with lexical heads should be assigned a relative clause structure. Thus, even though *da* always appears in C, it requires two lexical entries: one for relative clauses that licenses unbounded dependencies and one for clauses that are sister to the matrix clause that prohibits unbounded dependencies. As shown in section 4, the aspectual features of these clauses are consonant with the proposed divisions. The only *when*-clauses in the corpus that exhibited clear aspectual restrictions were the non-relative *da*-clauses. The relative *da*-clauses patterned like *når*-clauses in permitting all aspectual types. Ultimately, I have shown that temporal *da*- and *når*-clauses must be evaluated on the basis of their syntactic structure, not merely on their lexical form and aspectual features.

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