

Non-finite *do*-support in Danish

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1 Introduction

Do-support (henceforth: DS) generally refers to construction where a finite form of the verb *do* (or its equivalent in other languages) occurs in place of a lexical verb or with a non-finite lexical verb without adding semantic content and without altering the assignment of thematic roles or grammatical functions (Houser et al., 2010). When a lexical verb is present, it can be either in complement position or fronted. *Do*-support of this kind is observed in many languages and is shown below for English, German, Low German and Danish.¹

- (1) a. Did he read the newspaper? (ENGLISH)
b. Aber so richtig verstehen tut sie mich auch nicht² (GERMAN)
but so really understand does she me also not
'But she doesn't really understand me.'
c. Das täte mich interessieren (GERMAN)
that did.SUBJUNC me interest
'I would be interested in that.'
d. Wi haln rutkreegen, dat uns Oma mit Vörnohm Hedwig
we had found out, that our Grandmother with first name Hedwig
heeten däh³ (LOW GERMAN)
was called did
'We had found out that the first name of our Grandmother was Hedwig.'
e. Hører efter gør han aldrig (DANISH)
listen.PRES PREP does he never
'He never listens.'

Finite DS (henceforth FDS) as illustrated above may be either optional or obligatory. Optional FDS is observed in varieties of German, Dutch and Low German (Langer,

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¹Examples with no source are constructed. Examples from the Internet are provided with URL and the date they were last checked. Examples marked *KorpusDK* are extracted from the 56-million-words corpus *KorpusDK* of *Det Danske Sprog- og litteraturselskab*: <http://ordnet.dk/korpusdk>.

²Digitales Wörterbuch der deutschen Sprache: <http://www.dwds.de/>.

³www.plattland.de/Texte/mb-Hedwig.htm, 25/2 2010.

2001; Schwarz, 2004). The *do*-verb and the lexical verb form a kind of verbal complex, but the construction does not semantically differ from a construction with the lexical verb in the same tense and mood as the *do*-verb,⁴ cf. the examples in (1c) and (1d). Optional DS is subject to dialectal variation and appears not to occur in Danish.

Obligatory FDS, however, is required by the rules of the grammar. It appears to be motivated by a need to have a finite verb in cases where the lexical V is prevented from appearing in the position of the finite verb. In English, obligatory DS is observed with inversion (1a), negation (2a), polarity focus (2b), ellipsis (2c) and VP-topicalization (2d).

- (2) a. He did not wash the dishes
 b. He DID wash the dishes
 c. He should wash the dishes. And he did
 d. Wash the dishes he did

In Danish, obligatory FDS is observed when a VP goes “missing” not only due to fronting (3a) or elision (3b), but also due to pronominalization (3c) (Houser et al., 2010).

- (3) a. Venter gør han ikke (FRONTING)
 waits does he not
 ‘He doesn’t wait.’
 b. Han venter. Nej, han gør ej (ELLIPSIS)
 he waits no he does not
 ‘He’ll wait. No he won’t.’
 c. Han venter. Nej, det gør han ikke (PRONOMINALIZATION)
 he waits no that does he not
 ‘He is waiting. No he is not.’

But the requirement to have a finite verb cannot be the whole story about *do*-support. Also non-finite occurrences of *do*-support (in the following NFDS) are observed in English (Chalcraft, 2006; Kato and Butters, 1997; Miller, 2002; Sag, 2005).

- (4) So far, everything that could go wrong has done⁵

However, contrary to FDS, NFDS is claimed to be optional, only to occur with VP-ellipsis, and to be restricted to British English (Miller, 2002).⁶ Similarly, NFDS in Danish and Swedish is claimed to be optional and subject to other constraints than FDS (Houser et al., 2010; Platzack, 2008).

Concentrating on non-comparative clauses, the purpose of this paper is to show that NFDS in Danish is much more complex than previously assumed and that NFDS

⁴Many explanations for the use of optional DS have been put forward in the literature. Cf. Langer (2001) for an overview.

⁵The Guardian, 26/5 2001. Example from Miller (2002, p. 2).

⁶Miller (2002) notes that NFDS is also observed in comparative clauses in American English. This use of NFDS appears to be poorly understood.

sheds interesting light on the interaction between phrase structure and functional syntactic structure. NFDS occurs in the standard language and it is subject to subtle constraints making it obligatory in some contexts and optional in other contexts. And optional NFDS is not random. Clear preferences for the use of NFDS can be stated. The following examples all involving VP-pronominalization show cases where NFDS is optional (5a), strongly preferred (5b) and obligatory (5c).

- (5) a. Det plejer jeg (at gøre)
that use I to do.INF
'I usually do that.'
- b. Peter undskylder, men det ville jeg ikke ??(gøre)
Peter apologizes but that would I not do.INF
'Peter apologizes. I wouldn't do that.'
- c. Peter skal *(gøre) det
Peter must do.INF it
'Peter has to do it.'

Contrary to English, NFDS occurs in the very same syntactic environments as FDS with the exception of VP ellipsis where NFDS appears to be impossible (Houser et al., 2010). Starting from this observation, the analysis will show that NFDS serves to establish a canonical association of structure and function in the Danish clause, and that NFDS serves a crucial disambiguating function for verbs with both main verb and auxiliary-like readings. Furthermore the analysis will show that grammaticalized discourse functions such as Topic and Focus play a special role in the syntax, given that they are allowed to relax the requirement on canonical structure-function association - even in cases where a Topic is not in its canonical pre-verbal position.

The formal framework is that of Lexical-Functional Grammar (LFG) (Bresnan, 2001; Dalrymple, 2001; Falk, 2001). The proliferation of functional structure and constituent structure as two distinct levels of syntactic representation in LFG makes it particularly apt for stating the generalizations on NFDS uncovered in the present analysis.

2 The distribution of finite *do*-support in Danish

A brief discussion of FDS in Danish will provide the context for a discussion of NFDS, given that FDS appears to be more thoroughly investigated than NFDS.

In FDS a finite form of the verb *gøre* ('do') is inserted in place of a lexical verb. The following criteria apply to *do*-support (Jäger, 2006; Houser et al., 2010): 1) *do* and its complement belong to one tempus, aspect and modus domain 2) There is only one event, introduced by the complement of *do* 3) *do* does not influence the assignment of thematic roles 4) *do* does not influence the assignment of grammatical relations 5) *do* imposes no selectional restrictions on its complement. Thus the *do*-verb differs from the traditional class of temporal and passive auxiliaries in making no semantic contribution to the clause⁷ and in not altering the assignment of thematic roles or grammatical relations.

⁷ As we will see in section 4.2 this statement is not true in its full generality. There are examples where the use of non-finite *do*-support does have a semantic impact on the clause. But in these cases the use

In Danish, finite *gøre* ('do') never occurs with a verbal complement in complement position. FDS is observed in three syntactic environments where *do*-support is obligatory: VP-topicalization, VP pronominalization and VP ellipsis (Houser et al., 2010). Cf. the following examples.

- (6) a. Nej, pynter gør de ikke⁸(TOPICALIZATION)
 No decorate.PRES do they not
 'No, they are not actually decorating.'
- b. Han siger han ikke gjorde det med vilje (PRONOMINALIZATION)
 he says he not did it on purpose
 'he says he did not do it on purpose.'
- c. Han påstod, at jeg gjorde (ELLIPSIS)
 he claimed that I did

VP topicalization as illustrated in (6a) is a marked construction occurring in both root and embedded clauses. The VP with all its complements (but excluding left-adjoined adverbials, cf. Platzack (2008)) occurs in the prefield (SPEC of CP). The verb is either a bare infinitive or it carries the same tense as the finite support verb, as shown in (6a).

VP pronominalization is illustrated in (6b) for the pronoun *det* ('it'). Other VP pronominals are the relative/interrogative *hvad* ('what') and *hvilket* ('which') or a relative zero pronoun, as shown in (7).

- (7) Her var det frivilligt at sende svar ind, hvad / hvilket / som 746 gjorde.⁹
 here was it optional to send answer in what / which / as 746 did
 'it was optional to hand in an answer, what 746 did.'

There is an important difference between VP-Pronominalization in English and Danish. In English, VP-pronominalization is claimed not to involve *do*-support, but rather the main verb *do* since it is impossible with non-eventive verbs (Miller, 2000, p. 4). In Danish, VP pronominalization fulfills all the criteria for *do*-support: it adds no semantic content, it does not change the assignment of thematic roles to syntactic functions and it imposes no selectional restrictions on the antecedent of the VP-anaphor. VP anaphors are also possible with antecedents containing non-eventive verbs as in (8).

- (8) Peter elsker lasagne, og det gør Louise også
 Peter loves lasagna and that does Louise also
 'Peter loves lasagna and so does Louise.'

Moreover, Houser et al. (2007) have shown that VP anaphors of the kind shown in (6b) and (7) are overt surface anaphors making their internal structure visible to syntax. Anaphoric reference to an antecedent contained in the anaphor is possible (9a), and structural identity between the antecedent and anaphor is required (9b). Cf.

of NFDS brings out a specific reading of the governing verb rather than contributing semantic content itself.

⁸www.hedemarken.dk, 25/2 2010.

⁹Modification of an example from KorpusDK.

- (9) a. Jeg har aldrig redet på en kamel, men det har Ivan og han siger, at
 I have never ridden on a camel but that has Ivan and he says that
 den stank forfærdeligt¹⁰
 it stank terribly
 ‘I’ve never ridden a camel, but Ivan has and he says it stank terribly.’
- b. *Jeg ville hænge hesteskoen over døren og det gør den nu¹¹
 I would hang horseshoe.DEF over door.DEF and that does it now
 ‘I wanted to hang the horseshoe over the door and it is hanging there now.’

VP pronominalization is the most frequent environment for *do*-support in Danish. In general, Danish appears to use VP pronominalization where English uses VP ellipsis.

In VP ellipsis, the complement of *gøre* (‘do’) is missing all together as shown in (6c). As compared to English, VP ellipsis is highly restricted in Danish. VP ellipsis is observed in elliptical clauses and in sentential tags forming questions or affirming the polarity of the host clause.¹²

- (10) Jeg snød ikke, men Peter sagde jeg gjorde
 I cheated not but Peter said I did
 ‘I wasn’t cheating, but Peter said I was.’
- (11) Han snyder, gør han / gør han ikke?
 he is cheating, does he / does he not
 ‘he is definitely cheating / he is cheating, isn’t he?’

Dislocation, pronominalization or elision of the VP results in the lack of a finite verb and FDS appears to fulfil a requirement for a finite verb in a clause. This requirement may be given different formulations according to the specific theoretical assumptions: inflectional features must be spelled-out in cases where the inflectional features cannot be associated with a lexical verb (Roberts, 1985, a.o), all projections must contain a lexically filled (extended) head (Bresnan, 2000), or little *v* must be spelled-out (Platzack, 2008). A recent proposal by (Houser et al., 2010) assumes that the support verb is a special kind of auxiliary which is defective in the sense that it has a restricted distribution and that it only subcategorizes for a pronominal *v*P which can be either overt or covert. In ellipsis and VP topicalization the support verb combines with a

¹⁰Example from Houser et al. (2006).

¹¹Example from Houser et al. (2006).

¹² Halliday and Hasan (1976) make a distinction between substituting *do* and the verbal operator *do* (p. 129). In Danish, no substitution of *gøre* (‘do’) with a lexical verb is possible in VP topicalization and VP Pronominalization. VP ellipsis splits as to whether substitution is possible. Sentential tags do not allow substitution, but bona-fide elliptical constructions do allow substitution, as do comparative clauses.

- (i) Jeg snød ikke, men Peter sagde jeg gjorde / snød
 I cheated not but Peter said I did / cheated
 ‘I wasn’t cheating, but Peter said I was.’
- (ii) Han kommer, gør / *kommer han ikke?
 he is coming, does / comes he not?
 ‘he is coming, isn’t he?’

The consequences of this observation must be left for future research.

covert pronominal. In the latter case the topicalized VP is adjoined to CP and co-indexed with the covert pronominal in SPEC of CP. I will return to a discussion of the nature of the verb *gøre* ('do') in section 5.

3 The Distribution of non-finite *do*-support in Danish

In standard Danish, *do*-support is also observed in all environments where non-finite verbs occur. Non-finite *do*-support is not only observed in non-finite complements of predicates, but also in non-finite root clauses such as *wh*-root infinitivals.¹³ This suggests that the presence of finiteness cannot be the crucial licensing factor for *do*-support in general.

- (12) Skuespilleren Flemming Jensen elsker at rejse, så [hvorfor ikke gøre det]
 actor.DEF Flemming Jensen loves to travel, so why not do it
 samtidig med, at man arbejder.¹⁴
 simultaneously with that you work
 'The actor Flemming Jensen loves to travel, so why not do so and work at the same time.'

NFDS is, however, most frequently observed in the non-finite complements of verbs, as shown below for the raising verb *pleje* ('tend to').

- (13) Peter besvimede / protesterede / manglede. Det plejer han ikke at gøre.
 Peter fainted / protested / was missing that uses he not to do
 'Peter fainted / protested / was missing. That is unusual for him.'

As expected, NFDS is also observed in the non-finite complement of non-verbal predicates, i.e. adjectives, nouns and prepositions as shown for the adjective *forkert* ('wrong') below.

- (14) Jeg mener ikke, at børn på 12 år skal sættes i fængsel. Det synes
 I think not that children of 12 years shall be put to jail that think
 jeg ville være ganske forkert at gøre.¹⁵
 I would be totally wrong to do
 'I don't think that children of 12 years of age should be put to jail. That would be a completely wrong thing to do.'

The present discussion, however, will concentrate exclusively on NFDS in complements of verbal predicates as illustrated in (13).

The occurrence of non-finite *do* in (13) fulfills the criteria for *do*-support, outlined above: only one event is introduced and no changes in the assignment of thematic roles or grammatical relations is observed. Furthermore, the non-finite *do* imposes no selectional restrictions on its complement, i.e. on the fronted complement VP or the

¹³ Given that *wh*-root infinitivals always receive a directive interpretation (Reis, 2003), *do*-support is only observed with action verbs in *wh*-root infinitivals.

¹⁴ KorpusDK

¹⁵ KorpusDK

antecedent of the VP anaphor. In (13) the antecedent VP contains an unaccusative, an unergative and a non-eventive verb respectively.

Also syntactically there are no restrictions on what kind of verbs license NFDS. NFDS is observed with all kinds of verbs taking non-finite complements: auxiliaries, modals, raising and control verbs. Cf.

- (15) a. Det havde han ikke gjort (AUXILIARY)
that had he not done
- b. Det skulle han ikke gøre (MODAL)
that should he not do
- c. Det plejer han ikke at gøre (RAISING)
that uses he not to do
- d. Det nægtede han at gøre (CONTROL)
that refused he to do

NFDS is observed in almost the same syntactic environments as FDS. It occurs with VP topicalization and with VP pronominalization. But crucially it is not licensed in VP ellipsis. I will consider each of these environments in turn.

3.1 NFDS with VP-topicalization

NFDS occurs with VP topicalization in both root sentences and embedded sentences.¹⁶ The VP with all internal complements (excluding left-adjoined adjuncts) is fronted to the position to the immediate left of the finite verb.

- (16) a. See paa hende syntes han ikke at goere¹⁷
look.INF at her seemed he not to do
'He didn't seem to be looking at her.'
- b. Døbt har de altid gjort, men Helligåndens belønning har
baptised have they always done but the whole ghost's reward have
de aldrig modtaget¹⁸
they never received
'They have always been baptising, but the reward of the holy ghost they never received.'
- c. Jeg vil sige, at købe den ville jeg aldrig gøre¹⁹
I would say that buy it would I never do
'Buy it, I don't think I would ever do that.'

As with FDS the V of the topicalized VP is either a bare infinitive as in (16a) or it has the same morpho-syntactic form as the *do*-verb, cf. (16b) and (16c).²⁰

¹⁶Embedded topicalization is observed in embedded V2-sentences, cf. e.g. Vikner (1995).

¹⁷www.adl.dk/adl_pub/.../AsciiPgVaerk2.xsql?, 3/3 2010.

¹⁸www.yaohushua.dk/HELLIGGOERELSE.pdf, 25/2 2010.

¹⁹www.min-mave.dk, 25/2 2010.

²⁰Topicalized VPs may be bare infinitives even though the governing verb requires a full infinitive with *at* ('to'). Cf. Hansen (1967) who gives the example in (i) from Nis Petersen, *Muleposen*, 1942 (Hansen,

In conjunction with VP-topicalization, NFDS is always optional, but the use of NFDS is not entirely random. NFDS is strongly preferred with auxiliaries and verbs with auxiliary-like readings. I will return to this point in section 4.2.

3.2 NFDS with VP-anaphors

NFDS is most frequently observed with VP pronominalization as also noted for FDS. NFDS is used with the same kind of surface VP anaphors as are observed with FDS. Cf. the following examples.

- (17) Nu nævner du Jerry, hvad jeg ikke ville have gjort, for ikke at såre
 now mention you Jerry what I not would have done so as not to hurt
 hans familie²¹
 his family
 ‘Now you mention Jerry, which I wouldn’t have done, so as to not hurt his family.’
- (18) Det skulle han ikke have gjort²²
 that should he not have done
 ‘He shouldn’t have done that.’

NFDS is either optional or obligatory in conjunction with VP-pronominalization. The gross generalization is that *do*-support is optional when the anaphor precedes the verbal head and it is obligatory when the anaphor follows the verbal head.²³ But even when NFDS is optional, the use of NFDS is not entirely random, as also noted for NFDS with VP topicalization. There are cases where NFDS is strongly preferred even with fronted VP anaphors, and similarly there are cases where NFDS is optional even with postverbal VP anaphors. All these intricate cases will be dealt with below.

1967, p. 70). *lære* ('to learn') otherwise selects a full infinitive with *at* ('to').

- (i) Synge lærte han
 sing.INF learned he
 ‘As for singing, he learned to do so.’

A bare infinitive, however, is only possible with verbs taking infinitival complements. A bare infinitive is not possible with participial complements of auxiliaries, contrary to English (Bresnan, 2001, p. 18). Cf.

- (ii) *Læse / læst bogen har han
 read.INF / read.PERFPART book.DEF has he
 ‘He has indeed read the book.’

This set of facts suggest that there is crucial difference categorial difference between true auxiliaries and the support verb *gøre* ('do') as discussed in section 5.

²¹ onlinedebat.religion.dk/showflat.php?Number=50173, 3/3 2010.

²² KorpusDK

²³ Since interrogative and relative anaphors always precede their verbal head (apart from *wh-in-situ*-questions), NFDS is most often optional with *hvad* ('what'), *hvilket* ('which') and *som* ('that').

3.3 NFDS and VP ellipsis

While FDS and NFDS pattern in their ability to occur with VP topicalization and VP anaphora, there are crucial differences between the two kinds of *do*-support as regards VP ellipsis. In general, NFDS does not appear to occur with VP ellipsis, neither in full clauses nor in sentence tags. Cf. the following examples.

- (19) a. Du skal arbejde hele natten. Nej, jeg skal ej (*gøre).
 you must work all night.DEF no I must not do
 'You'll have to work all night. No, I won't.'
- b. Du har snydt hele tiden, har du (*gjort).
 you have cheated whole time.DEF have you done
 'You have been cheating the whole time, have you.'

This generalization is challenged by comparative clauses where we do find NFDS in what appears to be elliptical structures. Cf. the following examples illustrating participial as well as infinitival *do*-support.

- (20) Per Toftlund boede på samme hotel, som Teddy havde gjort nogle dage
 Per Toftlund lived in same hotel as Teddy had done some days
 tidligere.²⁴
 earlier
 'P.T. lived in the same hotel, as Teddy had a couple of days earlier.'
- (21) Hvis der lægges vægt på helt andre ting end man plejer at
 if there is paid attention to quite different things than one tends to
 gøre.²⁵
 do
 'If you pay attention to quite different things than you usually do.'

These cases, however, appear not to be elliptical structures, but to be instances of structures with an optional (dislocated) comparative complement and a 0-relativizer respectively. In comparative clauses involving *end* ('than'), it is always possible to interpolate the comparative complement *hvad* ('what').

- (22) han sover mere end (hvad) han plejer at gøre / sove
 he sleeps more than what he uses to do / sleep
 'He sleeps more than he uses to.'

Examples such as (22) suggest that we are dealing with an optional dislocated complement and not with an elliptical structure. In equality comparative clauses as in (20) the comparative clause is a relative clause. For this kind of relative clauses with *som* ('that') there are two possible analyses: either *som* occurs with a 0-relativizer, or *som* ('that') is an invariant operator (Mikkelsen, 2002). In either case we are not dealing with an elliptical structure, but with VP-pronominalization. So comparative clauses do not constitute a counter-example to the claim that NFDS is not licensed with VP-ellipsis.

²⁴Leif Davidsen: *De gode søstre*. Copenhagen: Lindhardt og Ringhof, p. 149. Example from Houser et al. (2010).

²⁵KorpusDK

Houser et al. (2010) provide another example of an elliptical structure. Also conditional clauses appear to allow elliptical structures with NFDS. Cf. the following example from Houser et al. (2010):

- (23) Nu fisker jeg ikke efter en partner. Men hvis jeg havde gjort, havde jeg helt
 now fish I not after a partner but if I had done had I most
 klart ...²⁶
 certainly ...
 ‘Now I am not looking for a partner, but if I were, I would definitely ...’

These examples lead Houser et al. (2010) to the conclusion that only infinitival *gøre* (‘do’) never licenses VP ellipsis, while participial *gørende* (‘doing’) does license VP ellipsis. And indeed NFDS in conditional clauses with infinitival *gøre* (‘do’) is degraded compared to the example above.

- (24) Nu skal jeg ikke selv arbejde, men hvis jeg skulle (*gøre), ...
 now must I not myself work but if I must work
 ‘Now I don’t have to work myself but if I had to.’

But still the exact conditions for VP ellipsis with participial *gørende* (‘doing’) are obscure. The following example is much worse than (23).

- (25) ??/* Peter svigter aldrig. Hvis han har gjort, bliver jeg overrasket
 Peter lets down never if he has done become I surprised
 ‘Peter never lets you down. If he has, I’ll be surprised.’

In a similar vein, conditional clauses with infinitival *gøre* (‘do’) do not appear to be totally impossible.

- (26) ? Du dumper ikke. Men hvis du skulle gøre, prøver du bare igen
 you fail not but if you should do try you just again
 ‘You don’t fail. But if you do, you just give it another try.’

What this boils down to is that NFDS with VP ellipsis is only observed in conditional clauses and under circumstances that appear to be poorly understood. In this way NFDS does indeed behave differently than FDS as regards VP ellipsis. But for the remainder I will ignore comparative and conditional clauses.

3.4 Conclusion

While FDS is triggered by a “missing” lexical verb, NFDS occurs in more restricted environments. NFDS is triggered when a complement is not in its canonical position (it is fronted), or when a complement has a non-canonical form (a verbal complement is realized as a pronominal). NFDS is used in cases of a non-canonical structure-function association, either because the verbal complement has been dislocated, or because a verbal complement is realized as an NP in the phrase structure. When the whole VP is

²⁶Skov, Leonora Christina. Review of David Rose (red.) "They call me Naughty Lola." Weekend Avisen, BÅrger. February 9-15, 2007, p. 5.

elided, there is no structure at all and so no mismatch between structure and function arises. VP ellipsis presents a mismatch between syntax and interpretation requiring interpretation of a syntactically missing constituent, but it is no mismatch between structure and function.

Concentrating on non-finite complements of verbal predicators, NFDS is observed when the non-finite complement is fronted or pronominalized. NFDS is optional with VP-fronting (including fronting of a VP-anaphor) and it is obligatory with non-fronted VP-anaphors. But there are exceptions to this gross generalization and there are strong preferences for NFDS even with fronted verbal complements (including VP anaphors).

4 Non-finite *do*-support - Analysis

Building on the observation that NFDS occurs when a verbal complement is not in its canonical position or does not have its canonical form, I will develop an analysis based on the assumption that NFDS establishes a canonical structure-function association. Still the structure/function-association is not sufficient to account for the whole range of data. NFDS is also used to disambiguate different verb readings and to license event-internal adverbs.

4.1 The Basic Generalization

The basic generalization underlying the use of NFDS with verbs taking non-finite complements consists of two parts and is given below.

- NFDS is OBLIGATORY with POST-verbal VP-anaphors
- NDFS is OPTIONAL with PRE-verbal (fronted) VP-anaphors and VPs

The effect of the first part of the generalization is illustrated below.

- (27) a. Peter plejer aldrig ??/*(at gøre) det
 Peter uses never to do that
 'Peter never uses to do that.'
- b. fordi Peter aldrig plejer ??/*(at gøre) det
 because Peter never uses to do that
 'because Peter never uses to do that.'

In LFG, verbs subcategorize for syntactic functions and not syntactic categories. A raising verb such as *pleje* ('use to') subcategorizes for a SUBJ(ect) and an open propositional complement XCOMP, i.e. a propositional complement lacking a functional subject (the infinitive in (27)). In (27) the propositional complement of the raising verb *pleje* ('use to') has been pronominalized: *det* ('it'). The VP anaphor occurs in the canonical complement-position inside the VP, the left edge of which is delimited by the sentential adverb *aldrig* ('never').²⁷ Thus in (27), the verbal complement of the raising

²⁷In V1/V2-clauses the finite verb appears outside the VP as in (27a). In non-V1/V2-clauses as in (27b) the finite verb is inside the VP.

verb syntactically surfaces as a pronominal NP in the canonical complement position inside the VP. The result is a mismatch between structure and function: Canonically, an XCOMP is associated with a VP. Conversely an NP in complement position canonically is associated with an OBJ(ect). In this particular case an NP is associated with an XCOMP-function. The use of NFDS avoids this mismatch: insertion of *gøre* ('do') projects a VP, which is the canonical realization of an XCOMP-function. The generalization is that complements in a canonical complement position (inside the VP) require a canonical structure-function association, and this is exactly what motivates the use of NFDS.

Support for this analysis comes from verbs selecting either an XCOMP or an OBJ such as the control verb *forsøge* ('to try').²⁸ Since these verbs can combine with either function we predict that they do license an NP-anaphor in complement position without any *do*-support (in which case the anaphor is an OBJ). And this is exactly what we find. In the following example *forsøge* ('to try') combines with both a VP (XCOMP) and an NP (OBJ) in complement position. However, *do*-support for the anaphor would also have been possible, projecting an XCOMP.

- (28) Jeg har aldrig forsøgt [at efterligne min far]. Enhver, der forsøgte [det],
 I have never tried to imitate my father anybody who tried that
 var bare en andenranskopi.²⁹
 was just an inferior copy
 'I never tried to be like my father. Anybody who tried to, was just an inferior copy.'

The second part of the generalization states that NFDS is optional when a VP or a VP anaphor is fronted. Cf. the following examples illustrating fronting of a VP anaphor and a VP respectively.

- (29) a. [Det] plejer Peter ikke (at gøre).
 that uses Peter not to do
 'Peter doesn't usually do a thing like that.'
- b. [Hørt efter] har han aldrig (gjort).
 listened PREP has he never done
 'Listen! he never did that.'

When a VP or a VP anaphor is fronted, NFDS is optional as shown in the examples above. Why is NFDS optional with fronted constituents? When a constituent is fronted, it is no longer in a canonical complement position. It appears in the prefield (SPEC of CP), which in Danish (as in most other V2-languages) allows (almost) any kind of grammatical function and any kind of syntactic category. SPEC of CP is the position for discourse prominent constituents and counts as a grammaticalized discourse function (either Topic or Focus) (Bresnan, 2001). It has long been recognized that fronting of constituents can give rise to so-called *movement paradoxes*, i.e. filler-gap constructions where the filler does not match the syntactic category of the gap (Bresnan, 2001; Webelhuth, 2007, a.o.). Cf. the following example from Bresnan (2001, p. 17).

²⁸I am grateful to a reviewer for drawing my attention to control verbs with either XCOMPS or OBJs.

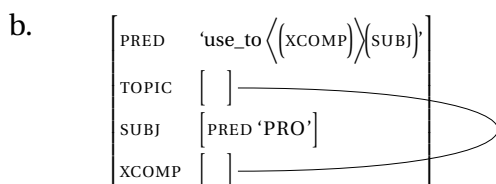
²⁹KorpusDK

(30) [_{cp} That he was sick] we talked about [_{np} ___] for days

The gap in (30) requires an NP constituent since prepositions in English only license NPs in complement position, but the fronted constituent is a CP which is excluded from occurring in the position of the gap. Such movement paradoxes pose no problems for LFG since dependency constructions are identified in the functional structure as a dependency between a discourse function and a syntactic function, and not as a relation between a fronted constituent and its extraction site in the constituent structure. The generalization behind these cases of movement paradoxes is that fronted constituents are not subject to the same structure-function associations as constituents in complement positions are. In (30) a CP is allowed to map to the OBJ of a preposition, while a CP in the canonical position to the right of the P cannot map to an OBJ. This special status of fronted constituents explains why *do*-support is optional with fronted constituents. I will first consider what happens if no *do*-support is used.

The example in (31a) is associated with the (simplified) f-structure in (31b). The TOPIC (either the VP anaphor or the VP) is the subcategorized XCOMP of the verb. However, only the fronted VP anaphor triggers a relaxation of structure-function association. Canonically a pronominal NP does not map to a verbal function. But fronting of a constituent allows for a mismatch between structure and function, and so the fronted NP is allowed to map to a verbal XCOMP just as a CP is allowed to map to an OBJ in (30).

(31) a. [_{np} Det] / [_{vp} at betale] plejer han ikke
 it to pay uses.to he not
 ‘He doesn’t usually pay / he doesn’t usually do that.’



The broad generalization is that NFDS provides for a canonical structure-function association in complement position, but that fronted constituents are special in not requiring a canonical structure-function association. NFDS is obligatory to ensure that a verbal function matches a VP in complement position (to the right of the verb). NFDS is optional when the constituent is fronted since fronting suspends the canonical structure-function association. But still there may be independent reasons for preferring NFDS in these cases.

The canonical structure-function association is represented in the c-structure rules. The c-structure rules define the phrase structure and at the same time they define the mapping of phrase-structure nodes to the functional structure by means of functional annotations. In the rule expanding the VP, an NP is required to map to an OBJ while a VP is required to map to an XCOMP.³⁰

(32) C-structure rule for VP-expansion (preliminary version)

VP → V (VP) (NP)
 ↑=↓ (↑XCOMP)=↓ (↑OBJ)=↓

³⁰This may be an oversimplification as far as the VP is concerned. As shown in (Dalrymple and Lødrup, 2000) complement clauses may be either OBJ or XCOMP. In the present context it is important that an NP does not map to an XCOMP. NFDS is even invoked to avoid this. Cf. also footnote 41.

The special status of fronted constituents (grammaticalized discourse functions) is stated in the c-structure rule expanding the CP. This rule states that fronted VPs and NPs may either map to XCOMP or OBJ thus implementing the case of apparent *movement paradoxes* discussed above. The rule furthermore uses functional uncertainty to account for the fact that the fronted VP or VP anaphor can participate in long distance dependencies (Källgren and Prince, 1989). But this is not crucial for the present analysis.

(33) C-structure rule for CP-expansion

$$\begin{array}{ccc} \text{CP} \rightarrow & \{\text{VP|NP}\} & \text{C}' \\ & (\uparrow\text{DF})=\downarrow & \uparrow=\downarrow \\ & (\uparrow\text{DF})=(\uparrow\{\text{XCOMP|COMP}\}*\{\text{XCOMP|OBJ}\}) & \end{array}$$

On the basis of these rules a sentence such as the one in (34) without *do*-support is correctly ruled out. The NP maps to an OBJ, but the modal verb *skulle* ('must') requires an XCOMP complement as shown in the lexical entry in (35). This is a violation of Completeness and Coherence. The PRED(icate) is not associated with all subcategorized functions and the f-structure contains a function that is not licensed by a PRED(icate). With *do*-support a VP is projected in the c-structure mapping to the XCOMP required by the modal verb.

(34) * Peter skal ikke det
Peter must not it
'Peter doesn't have to do it.'

(35) *skulle* ('must') V (↑PRED)='MUST<(XCOMP)>(SUBJ)'

4.2 Preferences for NFDS when optional

The fact that NFDS is optional when the VP or the VP anaphor is fronted (as also noted in Platzack (2008) and Houser et al. (2010)) does not mean that the use of NFDS is totally random. There are strong preferences for using NFDS with particular kinds of verbs and with particular readings of verbs taking non-finite complements. Cf. the following examples.

(36) Han ved godt, at mange taler om at forberede den tredje alder,
he knows very well that many talk about to prepare the third age
men det fik han aldrig ??/*(gjort)³¹
but that got he never done
'He knows very well that many people talk about getting prepared for the time after retirement, but he never managed to do so.'

(37) Peter undskylder. Det ville jeg ikke ??/*(gøre)
Peter apologizes. That would I not do
'Peter is apologizing. I wouldn't do that.'

In the examples above the use of NFDS turns out to be crucial for the interpretation of the clause as was alluded to in footnote 7. The verb *få* ('to get') in (36) has a main verb

³¹www.kristeligt-dagblad.dk/.../231338:Liv—Sjael—Ikke-saa-ringe-endda, 11/5 2010.

use and an auxiliary-like use. As a main verb it takes an NP complement and means *to receive*. In the auxiliary-like reading it takes a VP complement and it is used for the recipient-passive or for an agentive causative reading *to manage to VP* (Jakobsen, 2009). In (36) NFDS provides the subcategorization of the auxiliary-like reading thus bringing out the associated agentive causative reading *but he did not manage to do so*.

Like other modals, the verb *ville* ('to want') allows for several readings roughly characterized as circumstantial and epistemic readings. In (37) *ville* ('to want') is used as a marker of counterfactuality, i.e. as an epistemic operator of another verb. The second clause is interpreted as a counterfactual statement: *I wouldn't have done so*. Omission of the *do*-verb forces another reading, where *ville* ('to want') receives a circumstantial reading, roughly meaning: *but I refused to do so*. Both readings are associated with a VP complement, so NFDS serves a somewhat different purpose here than with the verb *få* ('to get') above. All analytical verb forms are associated with Unit Accentuation, i.e. only the most salient non-finite verb is stressed. In the absence of non-finite verbs, stress is assigned to the finite verb. Epistemic readings, however, appear to be incompatible with stress in contexts where no contrastive focus is possible, as also noted for German in Öhlschläger (1989, p. 207).³² Cf.

- (38) Peter ville 'huske det
Peter would remember it
'Peter would remember / Peter wanted to remember.'
- (39) Peter 'ville
Peter will
'*Peter would / Peter wanted to.'

In order to bring out the epistemic reading of the modal in (37), NFDS must be used. *gøre* ('do') acts as a landing site for stress assignment, and destressing the modal brings out the intended epistemic reading.

When optional, the use of NFDS serves to bring out the auxiliary-like reading of an ambiguous verb. Auxiliarization is a gradual process (Heine, 1993) and main verb uses and auxiliary uses co-exist. The auxiliary reading is strongly associated with a non-finite verb (Heine, 1993) and the verbal complements are bare infinitives and participles, a typical property of auxiliaries (Ijbema, 2002). NFDS brings out the auxiliary-like reading by establishing the associated canonical subcategorization of a VP complement. In the case of modals NFDS provides a non-finite verb to establish Unit Accentuation. For this reason the following examples have slightly different interpretations out of context: (40a) favours a circumstantial reading, and (40b) favours a future-like (epistemic) reading of the modal.

- (40) a. Hvad skal jeg? (CIRCUMSTANTIAL)
what shall I
'What am I expected to do?'
- b. Hvad skal jeg gøre? (EPISTEMIC)
what shall I do?
'What am I supposed to do?'

³²Öhlschläger (1989, p. 207) actually claims that epistemic readings can never carry stress, but this claim is too strong since contrastive stress on epistemic readings appears to be possible.

The preference of auxiliary-like elements for *do*-support is captured in the lexical entries of the verbs. The auxiliary reading carries a further functional annotation to the effect that a VP node has to be among the nodes mapping to the XCOMP-function. The CAT predicate associates the f-structure of the XCOMP with the set of c-structure nodes mapping to that f-structure. The second argument of the predicate states that a VP must be among the c-structure nodes mapping to that piece of f-structure (Kaplan and Maxwell, 1996). Given this lexical entry NFDS will be enforced, also when a VP or a VP anaphor is topicalized.

(41) Lexical entry for two readings of *ville* ('will/would')

ville ('will') V (↑PRED)='WANT<(XCOMP)>(SUBJ)'
 V (↑PRED)='COUNTERFACTUAL<(XCOMP)>(SUBJ)'
 CAT((↑XCOMP),VP)

4.3 Exceptions to basic generalization: dislocated TOPICS

As shown in (27), VP-anaphors in postverbal position require NFDS to establish a canonical structure-function association: in complement position a verbal function is projected from a VP. However, there are cases where NFDS is only optional – even when VP anaphors occur postverbally, i.e. in complement position within the VP. In polar questions and clauses with *wh*-constituents or fronted sentence adverbials (Houser et al., 2010; Andréasson, 2008), a VP anaphor in complement position does not require NFDS. Contrary to the generalization above, NFDS is only optional. Cf. the following examples.

- (42) a. Må han vel det?
 may he VEL that
 'He is not allowed to do that, is he?'
 b. Hvem vil ikke gerne det?
 who will not like that
 'Who wouldn't like to do that?'
 c. Det eneste er at han ikke tager på - og selvfølgelig skal han det³³
 the only is that he not gains weight and of course must he that
 'Only thing is that he doesn't gain weight - and of course he needs to.'

Even though the VP anaphor in these examples is no longer in a fronted (discourse prominent) position, there are indications that the anaphor is nevertheless discourse prominent. In Danish, anaphors representing discourse-given, NON-prominent information undergo object-shift (Mikkelsen, 2009). A shifted object is unstressed and is linearized to the left of sentential adverbs in V1/V2-clauses with simple tenses.

- (43) Peter afslørede det ikke
 Peter revealed it not
 'Peter did not reveal it.'

The pronominal anaphors in (42a) and (42b) do not undergo object-shift. The objects are stressed and linearized to the right of a sentence adverbial. In fact, object-shift appears to be excluded in (42b) through (42c).

³³www.ammenet.dk, 8/3 2010.

- (44) a. ??/* Må han det vel?
 may he that VEL
 ‘He is not allowed to do that, is he?’
- b. ??/* Hvem vil det ikke gerne?
 who will that not happily
 ‘Who wouldn’t wanna do that?’
- c. ??/* Selvfølgelig skal han det ikke
 of course shall he that not
 ‘Of course he is not supposed to do that.’

However, as shown in Andréasson (2008) these anaphora do not presuppose a set of alternatives against which the present proposition is evaluated, i.e. they are not focal in the sense of Krifka (2007). On the analysis in Andréasson (2008), the VP anaphors fail to shift because pronouns with clausal antecedents in non-factive environments are harder to process than pronouns with NP antecedents or pronouns with clausal antecedents in factive environments. These anaphors are thus inherently topical and qualify as salient topics in these sense of Krifka (2007) and Cook (2001). They represent discourse prominent, given information. The default position for salient topics in Danish is SPEC of CP, but in (42) there are independent reasons why the salient topic cannot be fronted: In non-declarative clauses SPEC of CP is either empty (42a), or it is filled by a *wh*-operator (42b). In (42c), finally, another operator-like constituent occupies the first position.³⁴ The VP-anaphor, despite being a salient TOPIC, is forced to vacate the canonical position of a salient topic for independent reasons. Fanselow (2003) discusses similar word order phenomena in German where displacement of constituents cannot be explained by information structural properties of the displaced constituents themselves. Rather these constituents are displaced in order to allow other constituents to be fronted. Fanselow terms these kinds of displacement *altruistic movement*. What we see in the examples (42a) through (42c) is thus *altruistic movement*: a salient topic is linearized within the VP in order to let another constituent occupy the fronted position.

As shown in section 4.1, VP-anaphors as Topics are allowed to relax the canonical structure-function association. Being salient topics, though linearized postverbally due to *altruistic movement*, the VP anaphors in (42) are allowed to relax the canonical structure-function association and map to a verbal function without *do*-support. These examples are no exceptions to the basic generalization if we add the qualification that only post-verbal non-topics trigger NFDS. Instead they are exceptions to the rule that salient topics are fronted. The preliminary generalization about NFDS can now be stated more succinctly: NFDS establishes a canonical structure-function association for postverbal non-topics.

In order to account for dislocated topics, the c-structure rule for the VP-expansion given above must be altered. The rule must allow for an NP mapping to an XCOMP function under very specific circumstances: the NP is an anaphor and the NP is a topic, that is displaced due to altruistic movement. Altruistic movement in turn obtains when the clause contains a focal operator (a *wh*-word or a sentence adverbial) or if it is a polar question. The revised rule is given below.

³⁴Andréasson (2008) does not consider this particular context of un-shifted pronouns.

(45) C-structure rule for VP-expansion (final version)

VP →	(V)	(NP)	(VP)
	↑=↓	{(↑OBJ)=↓	(↑XCOMP)=↓
		(↑XCOMP)=↓	
		(↑TOPIC)=↓	
		(↓ANA)= _c +	
		{(↑FOCUS-OP)= _c +	
		(↑POL-INT)= _c + }	

4.4 Exception to basic generalization: Event-internal adverbs

In some cases a VP anaphor is accompanied by an adjunct which is semantically licensed by the denotation of the antecedent VP. This phenomenon is reminiscent of Bare Argument Ellipsis or Sluicing where the sole constituent can be a supplemental constituent of the antecedent clause (“Sprouting” in Culicover and Jackendoff (2005, p. 257)). When a manner adjunct or an instrumental adjunct is added, NFDS is always obligatory.

- (46) Sørg desuden for at rense huden grundigt. Det skal du ikke
 be sure also PREP to clean skin.DEF carefully that must you not
 ??/*(gøre) [med vand og sæbe]³⁵
 do with water and soap
 ‘Be sure to clean your skin carefully. Don’t do that with water and soap.’

- (47) Hvorfor skulle det være en statslig opgave at tvinge landets
 why should it be a governmental task to force country.DEF.GEN
 katolikker til det som de ikke vil *(gøre) [frivilligt]?³⁶
 catholics to that which they not will do voluntarily?
 ‘Why should it be a governmental task to force the catholics of the country to do what they are not prepared to do voluntarily?’

In (46) the second clause adds an instrument to the denotation of the antecedent VP and in (47) the relative clauses adds a manner adverb to the denotation of the antecedent VP. Note that NFDS is not required with sentential adverbs.

- (48) Det kan man [heldigvis]
 that can you fortunately
 ‘Fortunately you can.’

The reason for NFDS in (46) and (47) cannot be that an event-internal adjunct needs a VP to adjoin to, while a sentence adverb must adjoin to an IP. Rather an event-internal adjunct can appear in the very same position as a sentence adverbial without NFDS as shown in (49). An event-internal adverb must be licensed by a lexical verb such as *arbejde* (‘to work’) in (49) or *gøre* (‘do’) in (46) and (47).

- (49) I dag arbejder Peter [frivilligt]
 today works Peter voluntarily
 ‘Today Peter is working voluntarily’

³⁵KorpusDK

³⁶<http://karenmlarsen.eftertanke.dk/2010/02/16/skal-staten-inddrive-kirkeskat-for-den-katolske-kirke/>, 26/2 2010.

Following Bresnan (2001), I assume that adjuncts are licensed in functional structure. The *Extended Coherence Condition* (Bresnan, 2001) states that adjuncts must be in f-structures containing PREDs. However, the fact that sentential adjuncts and event-internal adjuncts have different licensing conditions suggests that these adjuncts require different kinds of PREDs as their licensors. While a sentential adjunct is licensed by a modal verb, an event-internal adjunct is not. So one possibility is to assume a subtyping of PREDs, such that e.g. an event-internal adjunct requires the f-structure to contain a special kind of lexical PRED, while a sentential adverb imposes no such restrictions. This would ultimately lead to a more refined version of the *Extended Coherence Condition*. However, the actual implementation of such an enhanced version of the *Extended Coherence Condition* must be tied to a complete theory of the licensing of different kind of adjuncts, which is beyond the scope of this paper. In this context the relevant generalization is that NFDS is pressed into service by providing a PRED to license an event-internal adjunct. Thus we arrive at the following generalization about the use of NFDS:

(50) **Non-finite *do*-support**

NFDS establishes a canonical structure-function association for postverbal non-topics and for verbal arguments of auxiliary-like verbs. NFDS licenses event-internal adjuncts by providing a lexical PRED.

5 The verb *gøre* ('do') as a main verb

The preceding discussion has remained silent on the nature of the dummy-verb *gøre* ('do') as used in *do*-support. The central question is whether dummy *do* is an auxiliary or a main verb. In this section I will argue that dummy *do* is best analysed as a main verb albeit a special kind of main verb, a raising verb selecting for a VP anaphor.

The crucial insight in the analysis of *gøre* ('do') in (Houser et al., 2010) is that there is no inherent relation between tense/finiteness and the occurrence of *gøre* ('do'), since non-finite *gøre* ('do') also occurs embedded under auxiliaries. This observation argues against the analysis of *gøre* ('do') in Platzack (2008), who makes *gøre* ('do') a host for the uninterpretable INFL-feature to be checked by T. Houser et al. follow Lødrup (1990) in assuming that *gøre* ('do') is an auxiliary, however a defective auxiliary in the sense that it only selects for a pronominal vP. Ellipsis is analyzed as a covert pronominal and VP topicalization as adjunction to a CP with a covert pronominal in SPEC of CP. As shown by Houser et al. (2010), *gøre* ('do') does exhibit a remarkable resemblance with auxiliaries in its syntactic behaviour, for example in its ability to occur in tag-questions just like true auxiliaries. Cf.

- (51) a. Peter har læst bogen, har han ikke?
 Peter has read book.DEF has he not
 'Peter has read the book, hasn't he?'
 b. Peter læser bogen, gør han ikke?
 Peter reads book.DEF does he not
 'Peter is reading the book, isn't he?'

But still there are also crucial differences between *gøre* ('do') and the bona-fide auxiliaries, arguing against an analysis of *gøre* ('do') as an auxiliary. And these properties apply to *gøre* ('do') no matter whether it combines with an NP or with a (topicalized) VP.³⁷

First of all auxiliaries take verbal complements in complement position, while *gøre* ('do') never does. This is the main motivation for making *gøre* ('do') an auxiliary selecting for a pronominal vP in Houser et al. (2010). Still, a simpler solution is to assume that *gøre* ('do') is not an auxiliary.

- (52) a. Han ville have læst sine lektier
 he would have done his home work
 b. * Han ville gøre læse sine lektier
 he would do read his home work

Auxiliaries determine the morphological shape of their complement. The core auxiliaries *have* ('have'), *være* ('be') and *blive* ('get') combine with perfect participles. *gøre* ('do'), however, does not impose any morpho-syntactic constraints on its complement (Cf. also footnote 20).

- (53) Læser / læse bogen gør han
 read.PRES / read.INF book.DEF does he

gøre ('do') allows both a finite and an infinite fronted VP. The fact that *gøre* ('do') does not impose any restrictions on the morpho-syntactic shape of its complement follows straight-forwardly, if *gøre* does not select a verbal complement in the first place, but rather a nominal object. The special configuration in (53) is only possible when a VP is fronted. As we have already seen, fronted constituents may violate category restrictions on complements (*movement paradoxes*). It follows from this analysis that fronted VPs with *do*-support as in (54) also present a category mismatch (*movement paradox*) between the filler and the gap.

- (54) [_{VP} Betale / betaler] plejer han ikke at gøre *e*
 pay / pays uses he not to do
 'He doesn't usually pay.'

Here the fronted VP maps to the OBJ of *gøre* ('do'). This particular configuration is also accounted for by the c-structure rule in (33). If the configuration in (53) is a non-canonical realization of an otherwise subcategorized OBJ, it is only to be expected that the verb of the topicalized VP surfaces in a default verbal form: either as a bare infinitive or as the same verbal form as the support verb. The governing verb imposes no restrictions. Thus the construction in (53) is expected viz-à-viz the existence of movement paradoxes and by assuming that *gøre* ('do') is not an auxiliary.

There are further differences between *gøre* ('do') and true auxiliaries. Auxiliaries like *have* ('have') and *være* ('be') do not license event-internal adverbials ("sprouting"). *gøre* ('do'), however, does license event-internal adverbials as discussed in section 4.4. Again *gøre* ('do') does not behave as an auxiliary.

³⁷Therefore there is no basis for assuming a main verb and an auxiliary verb *gøre* ('do'), as otherwise suggested by a reviewer.

- (55) Louise har ledet mange møder og det har hun altid *(gjort) godt
 Louise has conducted many meetings and that has she always done well
 'Louise has conducted many meetings and she always did it well.'

True auxiliaries are marginal in the imperative, while *gøre* ('do') is impeccable in the imperative.

- (56) Du skal løse denne opgave. *Hav / gør det til imorgen
 you must solve this task have / do it until tomorrow

Finally, the complement of *gøre* ('do') appears to have a different syntactic function from the complement of true auxiliaries. The complement of *gøre* may participate in missing-object-construction such as the complement of *tough*-adjectives, which are assumed always to be associated with an object gap in the infinitival complement (Dalrymple and King, 2000, a.o.). The auxiliaries *have* and *være* do not seem to allow *tough*-constructions suggesting that auxiliaries do not select objects the way *gøre* ('do') does.³⁸

- (57) Hvordan omregner jeg? Findes der en side på nettet hvor det er let at
 how calculate I is there a page on net.DEF where it is easy to
 gøre?³⁹
 do
 'How do I calculate it? Is there a page on the net where it is easy to do?'
- (58) ??/* Peter har gjort rent. Det er let at have når man ikke skal på arbejde
 Peter has done cleaning it is easy to have when you not must to work
 'Peter has cleaned. It is easy to have managed to do so when you don't have to go to work.'

This data points to the conclusion that the complement of *gøre* ('do') is different from the complement of auxiliaries. The complement of *gøre* ('do') is an object and not part of an auxiliary complex. So even though there are remarkable similarities between *gøre* ('do') and auxiliaries, there are also remarkable differences pointing to the conclusion that *gøre* ('do') is indeed a main verb and no auxiliary.

However, there is no doubt that *gøre* is a subject raising verb. The subject is determined by the antecedent of the anaphor. *gøre* ('do') itself does not assign a thematic role to the subject.

- (59) Regner det? Det plejer [det] at gøre
 rains it it uses it to do
 'Is it raining? It usually does.'

³⁸The passive-auxiliary *blive* ('to get') does allow *tough*-constructions, but there is independent evidence, that this auxiliary behaves like a main verb. Like other main verbs, *blive* ('to get') allows *gøre* ('do') in tag-questions.

(i) Peter blev forfremmet, gjorde / ?blev han ikke?
 Peter was promoted did / was he not
 'Peter was promoted, wasn't he?'

³⁹<http://www.webfora.dk/geocaching/archive/index.php/t-1268.html>, 8/3 2010.

- (60) Arbejder han? Ja, det gør [han]
 works he yes that does he
 'Is he working? Yes, he is.'

In (59), *gøre* ('do') occurs with an expletive subject as required by the VP antecedent containing the athematic verb *regne* ('rain'). In (60) *gøre* ('do') occurs with an agentive subject as required by the unergative *arbejde* ('work') in the VP antecedent.

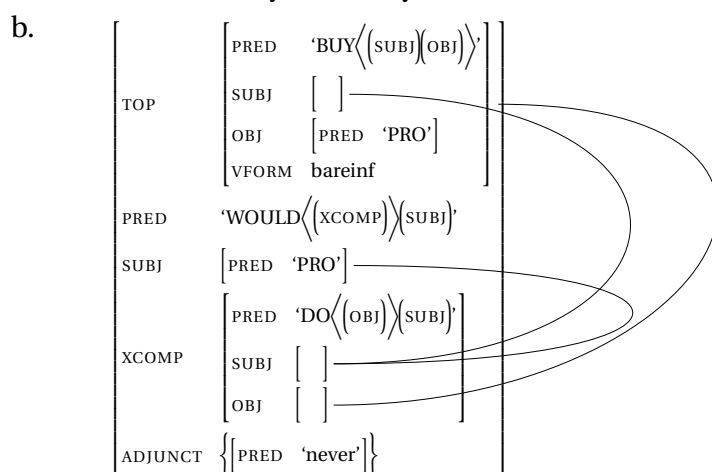
Thus, I propose that *gøre* ('do') is a subject-raising main verb obligatorily selecting for a VP-anaphor as its object. The semantics of this verb is highly underspecified, but still the verb is able to license event-internal adjuncts that cannot be licensed by modals and auxiliaries alone. A corollary of this analysis is that VP-anaphors must be allowed to take subjects, even though they are categorially nouns. The lexical entry for *gøre* ('do') is given in (61).⁴⁰

- (61) Lexical entry for *gøre* ('do')
- gøre* ('do') V (↑PRED)='DO⟨(OBJ)⟩(SUBJ)'
 (↑SUBJ)=(↑OBJ SUBJ)
 { (↑OBJ ANA) =_c + | { (↑OBJ VFORM) =_c (↓VFORM) |
 (↑OBJ VFORM) =_c BAREINF } }

The first part of the lexical entry states that the verb selects a non-thematic subject and an object. The subject is structure-shared with the subject of the object-complement accounting for the raising-behaviour of the verb (Bresnan, 2001, p. 80/81).

The second part with the disjunction takes care of the categorial realization of the OBJ(ect). The OBJ(ect) is constrained to be either an anaphor or a VP associated with a VFORM attribute. In the latter case the value of the VFORM must be a bare infinitive or identical to the VFORM of the support verb.⁴¹ Thus the embedded clause in (62a) has the f-structure shown in (62b).

- (62) a. Jeg vil sige, at købe den ville jeg aldrig gøre e
 I would say, that buy it would I never do



⁴⁰This entry will ultimately also account for the finite uses of *gøre* ('do'), since I assume that FDS is enforced by the c-structure rules, i.e. the requirement that a (finite) clause is projected from a finite verb. However, the different distribution of finite and non-finite *gøre* ('do') as regards ellipsis needs to be accounted for.

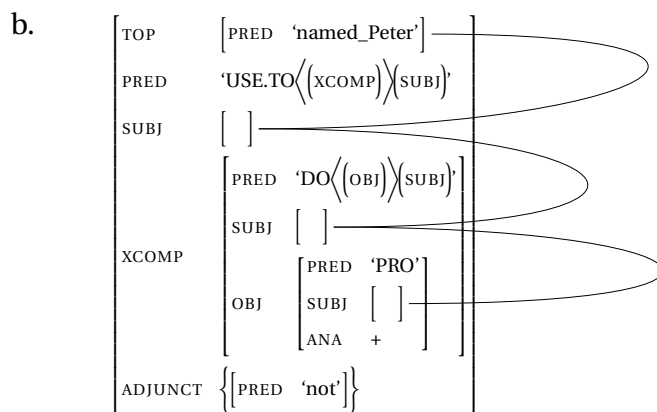
⁴¹If postverbal VPs are allowed to map to OBJ as in the analysis of Dalrymple and Lødrup (2000) this entry will have to be revised. However, in that case a mechanism to distinguish nominal from verbal objects is independently needed to prevent transitive verbs like *to read* from taking a VP object.

As noted above this analysis presupposes that a VP-anaphor selects a subject for *gøre* ('do') to raise. The lexical entry for the VP anaphor *det* ('it') is given below.

- (63) *det* ('it') N (↑PRED)='PRO<(↑SUBJ)>'
 (↑ANA)= +

The example in (64a) is assigned the f-structure shown in (64b).

- (64) a. Peter plejer ikke at gøre det
 Peter uses not to do it
 'Peter usually doesn't do it.'



6 Conclusion

The present analysis of NFDS in Danish has confirmed the claim in (Houser et al., 2010) that *do*-support in Danish is not entirely connected to tense. However, contrary to Houser et al. (2010) and contrary to Platzack (2008) NFDS has been shown not be optional. In specific environments NFDS is obligatory, and even in environments, where NFDS is indeed optional, its use is not random. Strong generalizations can be made about the use of NFDS in environments where it is otherwise optional. NFDS projects a VP where structure-function association requires a VP in the C-structure or where a specific reading of a verb requires a VP for reasons of subcategorization or stress placement. Finally NFDS serves to license event-internal adjuncts. Also, the status of support-*do* as an auxiliary as in Houser et al. (2010) has been cast into doubt. Instead support-*do* is analyzed as a special kind of raising verb obligatorily selecting a VP-anaphor. Several issues on NFDS are still pending. The claim that NFDS serves to license event-internal adjuncts needs to be given a firm theoretical underpinning, and other occurrences of NFDS are still in need of an analysis. I have offered no account of NFDS with non-verbal predicates (cf. section 2) and I have not accounted for NFDS in comparatives where NFDS even appears to allow ellipsis (contrary to the claim in Houser et al. (2010)). In this sense *do*-support still continues to present new questions and uses to be accounted for.

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