

## A Defective Auxiliary in Danish

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In English, auxiliaries form a cohesive category—unlike main verbs, they all raise to T. In Danish, it is not so obvious that auxiliaries form such a unified category. In root clauses, all verbal elements can raise to T (and then to C), while in embedded clauses they always stay in situ. Therefore, determining the position of a verbal element in the extended verbal projection is a challenging task. We examine the Danish verbal element *gøre* ‘do’ that shows up when the verb phrase has been topicalized, elided, or pronominalized. Even though on the surface *gøre* might appear to be of category T or v, we argue that it is located right in the middle. We argue that it is an auxiliary, but, unlike other auxiliaries, *gøre* is defective because it only subcategorizes for vPs that are pronominal.\*

### 1. Introduction.

In many languages, traditional grammatical descriptions recognize a class of auxiliaries distinct from main verbs. They are distinguished by

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both language-independent and language-specific characteristics. By definition, auxiliaries can co-occur with a main verb, and they do not contribute to the thematic structure of the clause (Schachter 1985:41–44, Payne 1997:84f.). In English, auxiliaries raise to T, to the left of negation and left-edge adverbs, and they require the verbal element immediately following them to appear in a special inflectional form (participial, infinitive, and so on) (Jespersen 1931:11). In one early generative line of investigation, started by Ross (1969) and continued by Pollock (1989) and others, this distinction was argued to be unnecessary. Auxiliaries were simply verbs that selected another verb phrase as complement. The past fifteen years, however, have witnessed a resurgence of the more traditional view, according to which auxiliaries comprise a conceptual category distinct from main verbs.

To begin with, the generative conception of clause structure has expanded dramatically to include a variety of functional heads. The *v* head, in particular, introduces the external argument so that the “main verb” is actually a composite of a functional *v* head and a lexical *V* head (Hale & Keyser 1993b, Kratzer 1996). This more articulated clausal structure presents a problem for the analysis that treats auxiliaries as verbs that select a verb-phrase complement. The question is whether auxiliaries have both a lexical and a functional component, just like main verbs do—that is, whether auxiliaries have their own *v*, or can auxiliaries simply be analyzed as functional projections located above the verb?

The current consensus is that auxiliaries should be treated as functional heads. In Adger’s (2003:155–203) implementation of this view, the English auxiliaries fall into four categories: modals (Mod), the perfect *have* (Perf), the progressive *be* (Prog), and the passive *be* (Pass). All four functional heads are located above *v* and below T. Under this view, while auxiliaries are internally diverse, they are still distinct from main verbs because they occur above both *v* and *V*.<sup>1</sup>

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<sup>1</sup> There is an alternative way to represent auxiliaries in the structure, namely, auxiliaries can be treated as members of the category *v*. However, in order to account for the syntactic properties of auxiliaries, these *v*’s would have to be distinguished from the *v* that introduces the external argument. These auxiliary *v*’s would have to bear an additional diacritic to trigger raising to T, while the argument-structure introducing *v* would lack it. To our mind, this is practically a notational variant of Adger’s system where auxiliaries are distinguished from *v* and *V* in their primary category feature.

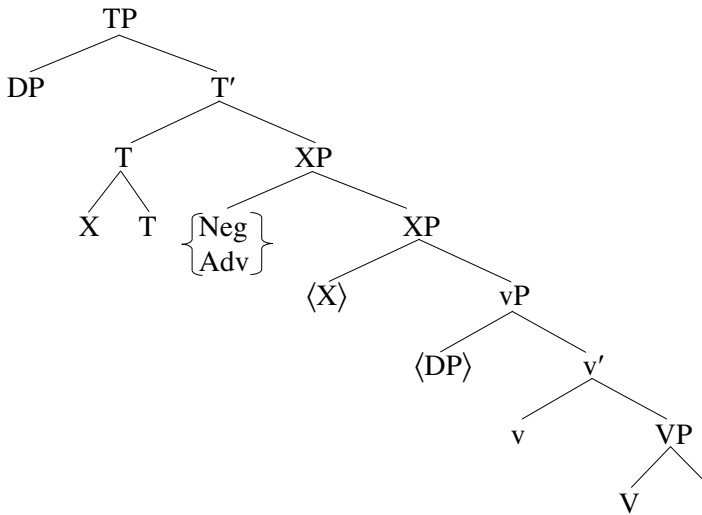
While in English the division between auxiliaries and main verbs seems relatively clear cut, making the same distinction in Danish is not as easy. On the basis of language-independent properties, Danish does have a class of auxiliaries that includes a variety of modals, the perfect *have* 'have', the perfect *være* 'be', and the passive *blive* 'become'. These verbal forms co-occur with main verbs and do not affect the assignment of thematic roles.<sup>2</sup> However, the Danish auxiliaries differ from their English counterparts in a number of ways. In root clauses, Danish has verb-second word order: The highest verbal element, whether it is an auxiliary or a main verb, raises to T and then to C, where it follows the first major sentence constituent (Vikner 1995, among others). In most embedded clauses—including adverbial clauses, clausal subjects, clausal complements to non-bridge verbs (Iatridou & Kroch 1992), relative clauses, and clausal complements of nouns—all verbal elements stay in situ, where they surface below negation and other left-edge elements.<sup>3</sup> Consider, then, what the surface position of a miscellaneous verbal head X located between T and v would be. In matrix clauses, X would be indistinguishable on the surface from T since it would raise and head-adjoin to it, thus occurring to the left of negation and other left-edge elements (see 1a). By contrast, in embedded contexts, X would be indistinguishable from v, which in Danish is null, or from V (see 1b).

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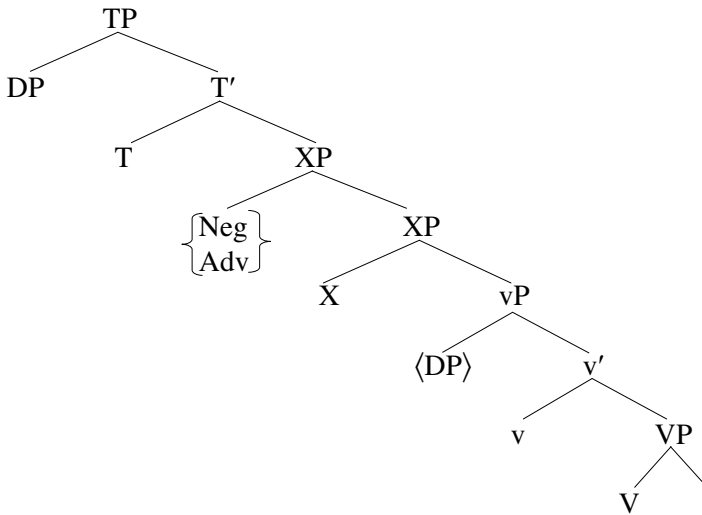
<sup>2</sup> Most modals also have a main verb use. As main verbs, they select a DP, a PP, or a CP argument and contribute to the thematic structure of the clause. We are not concerned with these here.

<sup>3</sup> Not surprisingly, subject-initial root clauses exhibit verb-second word order as well. The main verb occurs after the subject and before negation or sentence adverbs. We analyze subject-initial sentences as TPs, following Travis (1984:137) and Zwart (1997a:191–244). Without a CP projection, the subject in SpecTP is the leftmost element of the clause. Other authors, Schwartz & Vikner (1996) for example, argue that subject-initial clauses are CPs, and that the subject appears in SpecCP. Nothing in our proposal, as far as we can tell, depends on which analysis is correct.

(1) a. Matrix clause



b. Embedded clause



We are concerned here with one verbal element in Danish, *gøre*. Following traditional grammars (Diderichsen 1966:63, Hansen 1967:69, Allan et al. 1995:143f., 159, 511f.), we assume that *gøre* is an auxiliary and propose that it is located above *v* but below *T* in the extended verbal projection—precisely where *X* is located in 1—despite the issues this raises.<sup>4</sup> In root clauses, *gøre* moves to, and is indistinguishable from, *T*. In embedded clauses, *gøre* is especially hard to tell apart from *v* because it has a restricted syntactic distribution. *Gøre* only appears when the verb phrase has been topicalized, as in 2a, elided, as in 2b, or realized as a verbal proform *det*, as in 2c.<sup>5</sup>

(2) a. Jasper lovede at vaske bilen  
 Jasper promise.PAST to wash.INF car.DEF

og vaske bilen gjorde han så sandelig.  
 and wash.INF car.DEF do.PAST he so truly

‘Jasper promised to wash the car, and wash the car, he did indeed.’

b. Mona og Jasper vaskede bilen, eller rettere Mona gjorde.  
 Mona and Jasper wash.PAST car.DEF or rather Mona do.PAST  
 ‘Mona and Jasper washed the car, or rather Mona did.’

c. Mona vaskede ikke bilen men det gjorde Jasper.  
 Mona wash.PAST not car.DEF but det do.PAST Jasper  
 ‘Mona didn’t wash the car, but Jasper did.’

<sup>4</sup> To our knowledge, there is little formal literature on this use of *gøre* in Danish. This includes Platzack (to appear; a response to an earlier version of the present paper) and Ørsnes (to appear; mostly on non-finite *gøre*). Vikner (2001:456–457) mentions *gøre* in passing but does not develop an analysis. Other Germanic languages possess cognate constructions: Swedish (Källgren & Prince 1989), Norwegian (Lødrup 1990, 1994), dialects of German (Russ 1990, Langer 2000, Schwarz 2004, Jäger 2006:230–235), and dialects of Dutch (Cornips 1998).

<sup>5</sup> The verbal proform has the same form as the third person neuter singular pronoun *det* ‘it’. We gloss this item as DET throughout, leaving open the question of whether these are separate lexical items or one. See note 20 for further discussion.

In each construction in 2, the lexical verb V does not appear in its canonical position—it is either fronted, deleted, or replaced by a proform. Therefore, *gøre* could very plausibly originate very low in the clause—potentially as a *v*. We argue, nonetheless, that the only way one can account for the full range of *gøre*'s properties is to analyze it as an auxiliary that appears above *v* but below T.

Our argument proceeds as follows. In section 2 we set aside various alternative analyses of *gøre*. First, we show that *gøre* is not simply a realization of T since it can occur to the left of negation and left-edge elements in embedded clauses (section 2.1). Then, we distinguish between *gøre* in verb phrase ellipsis, topicalization, and pronominalization on the one hand, and *gøre* used as a main verb on the other hand (section 2.2). Nor can *gøre* plausibly realize *v* (section 2.3), an approach championed by Platzack (to appear). On the one hand, *gøre* has none of the characteristics that overt *v*'s have in other languages. On the other hand, as we show in section 3, *gøre* has a number of properties characteristic of auxiliaries. The proper analysis, then, is one where *gøre* is an auxiliary and occurs in the extended verbal projection between T and *v*. Additional evidence for the auxiliary status of *gøre* comes from occurrences of nonfinite *gøre* (section 3.1), co-occurrence restrictions with other auxiliaries (section 3.2), and the lack of ellipsis with infinitival *gøre* (section 3.3). As an auxiliary, however, it is defective—it has the restricted range of distribution illustrated in 1. We propose that, as the lowest auxiliary of the clause, *gøre* takes *v*P as its complement, though it subcategorizes for only certain types of *v*Ps, namely, those that are pronominal. In section 4, we show how this leads to *gøre* appearing only in the three environments identified above. Section 5 is a conclusion.

## 2. The Category of *Gøre*.

As stated in the introduction above, depending on the syntactic context *gøre* could be treated as any one of a number of verbal projections. Some of these analyses are relatively easy to set aside. First, we show that while the English pleonastic *do* that appears in negation, verum focus, inversion, and other contexts is often treated as a last resort pronunciation of T (Chomsky 1957:62–69, Halle & Marantz 1993:134–137, Bobaljik 1995:63–78), Danish *gøre* cannot be analyzed this way. Second, we argue that *gøre* cannot be analyzed simply as an instance of V. While

there is a homophonous main verb in Danish, various tests show that it is clearly distinct from the *gøre* we are interested in. Furthermore, since under a contemporary view of clause structure the main verb corresponds to the V-v complex, the same tests indicate that *gøre* cannot be analyzed as v. This leaves the most reasonable analysis of *gøre* as an auxiliary.

### 2.1. *Gøre* is Not a T.

As schematized in 1, in main clauses *gøre* raises to T, just like other finite verbal elements. In a previous analysis, we took *gøre* to be inserted into T in a last-resort operation that parallels English *do*-support (Houser et al. 2006). Embedded clauses show that *gøre* must originate lower in the extended verbal projection. In the relative clause in 3a, the present tense form *gør* appears below a left-edge adverb.<sup>6</sup> In 3b, *gøre* appears to the right of negation in the protasis of a conditional. Finally, in 3c, *gøre* surfaces inside a sentential subject, below the left-edge adverb ‘still’.<sup>7</sup>

- (3) a. Karsten var da en udmærket kollega, men [<sub>vP</sub> savne  
Karsten be.PAST well a fine colleague but miss.INF  
ham] kender jeg ikke nogen [<sub>CP</sub>der ligefrem gør].  
him know.PRES I not anyone who straight.forward do.PRES

‘Sure, Karsten was a fine colleague, but I don’t know anyone who actually misses him.’

- b. Der er en forventning om, at vi skal  
there be.PRES an expectation about that we shall.PRES  
[<sub>vP</sub>gå videre], selv om det snarere vil være en stor  
go.INF further even if it rather will be.INF a big

<sup>6</sup> The vP *savne ham* ‘miss him’ has been topicalized out of the relative clause. This is an instance of A-bar movement allowed under certain pragmatic conditions (Erteschik-Shir 1973:32–49, Jakobsen 1996).

<sup>7</sup> Recall that *gøre* only occurs when the vP has been topicalized, elided, or pronominalized. For topicalization, we always bracket the vP that has been fronted. For ellipsis and pronominalization, we bracket the antecedent of the missing vP or verbal proform. Elided constituents are represented with  $\Delta$ .

skuffelse end katastrofalt, [<sub>CP</sub>hvis vi ikke gør Δ].  
 disappointment than catastrophic if we not do.PRES

‘We are expected to go further (in the competition). That said, it would be a great disappointment, not a catastrophe, if we don’t.’

c. Kommunen lovede at [vedligeholde parken]  
 city.DEF promise.PAST to maintain.INF park.DEF

i to år.  
 in two years

[<sub>CP</sub>At de stadig gør det] er imponerende.  
 that they still do.PRES det be.PRES impressive.

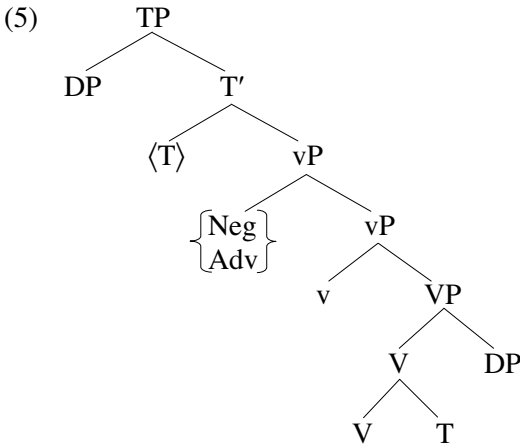
‘The city promised to maintain the park for two years. It’s impressive that they are still doing it.’

If *gøre* were inserted directly into T, then it would occur to the left of negation and other left-edge elements. However, this order is ungrammatical:

(4) \*...hvis vi gør ikke.  
 if we do.PRES not  
 Intended: ‘...if we don’t.’

However, if one assumes that *gøre* originates in the verbal projection below T and then follows the standard analysis of embedded clauses, according to which T lowers onto the highest verbal element in the clause, the correct ordering of *gøre* with respect to left-edge elements falls out naturally:





The question is whether *gøre* could originate in T, then lower onto another verbal projection, and thus appear to the right of negation and left-edge adverbs. We discuss three reasons why this could not be the case. First, there would be no reason for *gøre* to lower. As a bound tense morpheme, T lowers to join a morphological host (Chomsky 1957:38–42). However, *gøre* is a free morpheme and as such does not need a host. Second, as we discuss in section 4, *gøre* is only possible when the vP has been topicalized, elided, or replaced by a proform *det*. If *gøre* were in T, then there would be no verbal head for it to lower onto. Third, if *gøre* were in T one would never expect it to occur below any other verbal forms. Contrary to this expectation, the past participle form of *gøre* (*gjort*) occurs as the complement of perfect *have*, as in 6.

- (6) Hun [dukkede op] ligeså uannmeldt,  
 she emerge.PAST up as unannounced  
 som han selv ofte hadde gjort det.  
 as he self often have.PAST do.PART det

‘She emerged as unannounced as he himself had often done.’

Such instances of nonfinite *gøre* suggest that it cannot be analyzed as T. Moreover, as we discuss in section 3, they provide crucial evidence that *gøre* is an auxiliary.

2.2. *Gøre is Not a Main Verb.*

If *gøre* is not a realization of T, it could originate lower in the clause, as a V. Danish does have a main verb *gøre*, which, like the English main verb *do*, is transitive and has a highly schematic meaning that does not indicate the type of action undertaken on its own.

- (7) a. Vi gjorde noget ulovligt.  
 we do.PAST something illegal  
 ‘We did something illegal.’
- b. Han gør som regel det meste af arbejdet.  
 he do.PRES as rule the most of work.DEF  
 ‘He normally does most of the work.’
- c. Hun gjorde mig en stor tjeneste.  
 she do.PAST me a big favor  
 ‘She did me a big favor.’

A number of distributional and interpretive properties distinguish the main verb *gøre* from the auxiliary *gøre* that we are interested in here (see Jäger 2006:83f.). Specifically, only the auxiliary *gøre* exhibits the following five properties:

- (i) It can co-occur with lexical verbs in the same clause.
- (ii) It does not contribute to the conceptual structure of the clause.
- (iii) It does not introduce its own event.
- (iv) It does not add, remove, or modify the thematic roles.
- (v) It does not add, remove, or modify the grammatical relations.

Starting with property (i), *gøre* can co-occur with lexical verbs, such as *vaske* ‘to wash’ or even with main verb *gøre*, as shown in 8:

- (8) De sagde at slangen ikke ville gøre ondt,  
 they say.PAST that tube.DEF not would do.INF evil

men [<sub>VP</sub> gjøre ondt] gjorde den nu alligevel.  
 but do.INF evil do.PAST it now anyways

‘They said that the tube wouldn’t hurt, but hurt it did.’

Since the vP *gjøre ondt* ‘to hurt’ (literally, ‘to do evil’) is fronted, *gjøre*, which occurs in second position, must be of a category other than V.

The properties in (ii)–(v) are illustrated below: 9b is the topicalization sentence, while 9a is the corresponding basic sentence with the vP in its original position.

- (9) a. Jasper lovede at vaske bilen  
 Jasper promise.PAST to wash.INF car.DEF  
 og han vaskede så sandelig bilen.  
 and he wash.PAST so truly car.DEF

‘Jasper promised to wash the car, and he (indeed) washed the car.’

- b. Jasper lovede at vaske bilen  
 Jasper promise.PAST to wash.INF car.DEF  
 og [<sub>VP</sub> vaske bilen] gjorde han så sandelig.  
 and wash.INF car.DEF do.PAST he so truly

‘Jasper promised to wash the car, and wash the car, he did (indeed).’

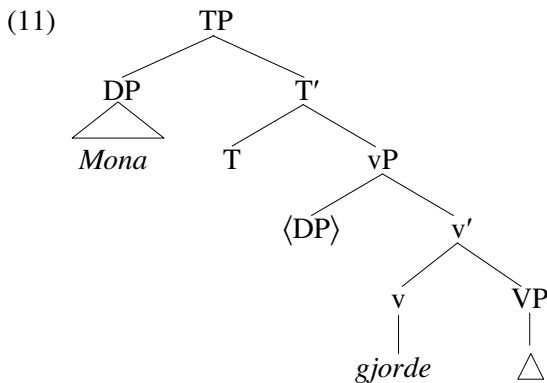
As the examples show, *gjøre* does not add anything to the conceptual structure of the sentence since the two sentences in 9 are truth-conditionally equivalent. It does not contribute its own event to the meaning of 9b either: just like 9a, 9b is construed as describing a single event of car washing. Finally, *gjøre* does not affect thematic roles or grammatical relations in the topicalization sentence. In both 9a and 9b, *han* ‘he’ is the agent and subject, while *bilen* ‘the car’ is the patient and direct object. In all these respects *gjøre* does not behave like a V.

### 2.3. *Gjøre Is Not a v.*

Finally, *gjøre* could potentially be analyzed as an instance of *v*, as

proposed by Platzack (to appear).<sup>8</sup> He treats *gøre* in Danish (as well as its cognates in the other Scandinavian languages) as the realization of *v* whenever *gøre* is not adjoined to *V*.<sup>9</sup> This happens when the VP has been elided, topicalized, or replaced by a proform. Thus, under Platzack's analysis the ellipsis sentence in 10 (repeated from 2b) has the structure in 11.

- (10) *Mona og Jasper vaskede bilen, eller rettere Mona gjorde Δ.*  
 Mona and Jasper wash.PAST car.DEF or rather Mona do.PAST  
 'Mona and Jasper washed the car, or rather Mona did.'



This analysis makes correct predictions regarding the distribution of *gøre* in embedded clauses. As the realization of *v*, *gøre* is expected to appear to the right of left-edge elements. However, if *gøre* is *v* it is expected to behave like other members of this category in other respects as well. Looking solely at Danish, this prediction is difficult to test since there are no other overt members of this category. Thus, we examine verbal elements in other languages that have been argued to instantiate the category of *v*.

The primary representatives of this category are light verbs, a term originally coined by Jespersen (1946:117) to describe English verb-NP

<sup>8</sup> Baltin (2007) analyses the verb *do* in a comparable British English construction in a similar way.

<sup>9</sup> For Platzack, the sister of *vP* is  $\sqrt{P}$ . This phrase corresponds to VP in our analysis, and in the ensuing discussion we refer to it as such. As far as we can tell, this difference in terminology does not have any analytical import.

combinations such as *take a rest* or *have a nap*. According to Butt (2003), in light verb constructions the core semantic content of the clausal predicate is provided by something other than the light verb, though the light verb contributes to the argument or event structure of the predicate.<sup>10</sup> This is exactly the contribution of *v* to the meaning of the predicate (Hale & Keyser 1993b, Kratzer 1996). Therefore, light verbs are perfect candidates to realize *v* overtly, as they indeed have been argued to do in a number of different languages, such as French and Italian (Folli & Harley 2007), Hindi-Urdu (Butt & Ramchand 2005), Persian (Megerdooian 2002, Folli et al. 2005), and Yiddish (Diesing 1998).

Persian is one of the languages that show this most clearly. It has an inventory of light verbs that, together with a nonverbal element (a noun, an adjective, or a PP), form the vast majority of predicates in this language.<sup>11</sup> Light verbs form pairs that participate in argument structure alternations. Two of these, *zadan* ‘to hit’ and *khordan* ‘to eat’, create complex predicates that differ only in whether or not they have an external argument. The complex predicate *laqat zadan* ‘to kick’ is transitive, while *laqat khordan* ‘to get kicked’ is unaccusative.

- (12) a. Rostam Sohrāb-o laqat zad.  
 Rostam Sohrab-OBJ kick hit.PAST.3SG  
 ‘Rostam kicked Sohrab.’
- b. Sohrāb(\*-o) laqat khord.  
 Sohrab-OBJ kick eat.PAST.3SG  
 ‘Sohrab got kicked.’
- c. \*Rostam sohrāb(-o) laqat khord.  
 Rostam Sohrab-OBJ kick eat.PAST.3SG

(Toosarvandani 2009:64)

Only when *zadan* is present can the predicate have an external argument, as illustrated by the ungrammaticality of 12c. This leads Megerdooian (2002) and Folli et al. (2005) to conclude that the light verbs, including

<sup>10</sup> As Butt (2003:2) discusses, sometimes the light verb can also contribute a meaning component such as a benefactive reading, forcefulness, or suddenness.

<sup>11</sup> There are about 115 simplex predicates (Mohammad & Karimi 1992:195).

*zadan*, are *v*'s responsible for introducing the external argument.

At first glance, *gøre* can be analyzed as a light verb, just like Persian *zadan* or *khordan* (see Platzack to appear). As Toosarvandani (2009) argues, light verbs in Persian are able to license ellipsis of their complement that contains the nonverbal element and internal argument, as shown in 13.

- (13) Sohrāb piranā-ro out na-zad  
Sohrab shirts-OBJ iron NEG-hit.PAST.3SG

vali Rostam Δ zad.  
but Rostam hit.PAST.3SG

‘Sohrab didn’t iron the shirts, but Rostam did.’

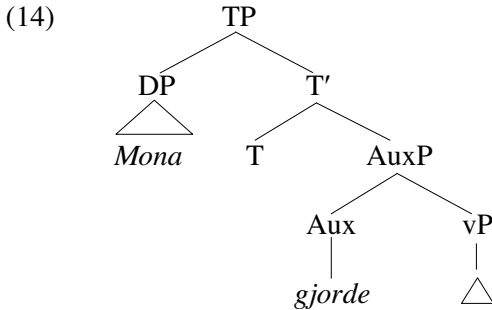
(Toosarvandani 2009:61)

However, *gøre* differs from Persian light verbs in two crucial respects. First, following the view in this paper, if *gøre* were a *v*, it would contribute to the content of the predicate. As we already showed in section 2, however, this is not the case. Second, *gøre* affects neither the predicate’s theta-assigning properties nor the grammatical relations within the sentence. In contrast, the Persian light verbs *zadan* ‘hit’ and *khordan* ‘eat’ require and forbid an external argument, respectively.

These considerations alone do not rule out entirely the analysis of *gøre* as *v*. It is possible that *gøre* does not show the same properties as other light verbs. Since in Danish all members of the *v* category are either null or realized as *gøre* paradigmatic alternations of the type found in Persian are not perceptible on surface. That is, in order to maintain a *v* analysis one would have to posit a collection of homophonous *v* heads *gøre*. One such *v* would introduce an external argument in transitive and unergative predicates, while another would occur in unaccusative predicates. Creating this type of radical homophony does not strike us as particularly insightful, but it is not necessary to rely solely on such considerations of parsimony to exclude this analysis. In the next section, we examine nonfinite forms of *gøre* and argue that it should be analyzed as an auxiliary and not a light verb of category *v*.

### 3. *Gøre* is an Auxiliary.

We propose that *gøre* is an auxiliary that heads a functional projection located above *v* but below T. The sentence in 10 has, under our analysis, the structure in 14.



This analysis derives the correct word order with respect to the left-edge elements. Negation and left-edge adverbs are adjoined to the complement of T, which in 14 is the AuxP headed by *gøre*. Thus, in embedded clauses *gøre* appears to the right of these elements.

It follows from our analysis that when there are no other auxiliaries, the presence of *gøre* in the extended verbal projection is obligatory. We assume that finite inflection is associated with its own terminal node, T. When the vP is elided, topicalized, or pronominalized there is no main verb that can function as a morphological host for this inflection. If *gøre* (or some other auxiliary) is not present in the numeration, then the finite inflection does not have a host, which violates the Stray Affix Filter—the requirement that a bound morpheme attach to a phonological host (Baker 1988:140).

If *gøre* is an Aux, it should behave like other members of that category. As we discussed in section 1, there are language-specific as well as language-independent criteria for determining if a verb is an auxiliary.<sup>12</sup> In particular, main verbs in Danish cannot appear in tag questions, as shown by the ungrammaticality of 15a, while Danish auxiliaries can, as shown in 15b. If *gøre* is an auxiliary the prediction is that it

<sup>12</sup> The most useful language-specific property of auxiliaries in English—they raise above negation and left-edge adverbs—is not relevant in Danish, since all verbal elements, including main verbs, can raise.

should be able to appear in tag questions as well. This prediction is borne out, as shown in 15c.

- (15) a. \*Han snyder, snyder han ikke?  
 he cheat.PRES cheat.PRES he not  
 Intended: 'He is cheating, isn't he?'
- b. Han har snydt, har han ikke?  
 he have.PRES cheat.PART have.PRES he not  
 'He has cheated, hasn't he?'
- c. Han snyder, gør han ikke?  
 he cheat.PRES do.PRES he not  
 'He is cheating, isn't he?'

Another language-specific property of auxiliaries in Danish is that they must be followed by either an infinitival form (in case of modal auxiliaries) or a participial (in case of perfect *have* and *være*, passive *blive*). Of course, no verb follows *gøre* when the vP is elided or pronominalized. However, when the vP is topicalized (as in 2a repeated here as 16), the main verb appears in the infinitive.

- (16) Jasper lovede at vaske bilen  
 Jasper promise.PAST to wash.INF car.DEF  
 og vaske bilen gjorde han så sandelig.  
 and wash.INF car.DEF do.PAST he so truly

'Jasper promised to wash the car, and wash the car, he did indeed.'

The language-independent properties of auxiliaries are some of the same ones we used in section 2 to show that *gøre*, when it appears in verb phrase ellipsis, pronominalization, and topicalization contexts, is not a main verb. Of course, auxiliaries can co-occur with a main verb in the same clause (though *gøre* only does so when the verb phrase has been topicalized). In addition, as Lødrup (1996) shows, they do not impose any semantic restrictions on the subject. That is to say, auxiliaries



do not contribute to the thematic structure of the clause.<sup>13</sup>

Until now, we have discussed only finite *gøre*. However, as we mentioned in section 2, there are also occurrences of nonfinite *gøre*. In the rest of this section, we show that nonfinite *gøre* provides two arguments in support of our analysis of this verb as an auxiliary. First, as discussed in section 3.2, nonfinite *gøre* does not occur as the complement of the perfect auxiliary *være* or the passive auxiliary *blive*. This distributional gap can be accounted for only if *gøre* is analyzed as an auxiliary. Second, as discussed in section 3.3, infinitival *gøre* does not license vP ellipsis. This is expected if *gøre* is an auxiliary, but not if it is a v.

### 3.1. Non-Finite Gøre.

When *gøre* combines with the perfect auxiliary *have* it appears in the participial form *gjort*, as shown in 17. When *gøre* follows a modal, it appears in the infinitival form *gøre*, as shown in 18.

- (17) a. Og [<sub>vP</sub> dominere valgkampen]  
 and dominate.INF election.campaign.DEF  
 har det allerede gjort.  
 have.PRES it already do.PART

‘And it has already dominated the election campaign.’

<sup>13</sup> In the Germanic languages, modal auxiliaries with root interpretations do seem to assign a thematic role of their own, and some of these root modals can even be passivized (Lødrup 1996). As shown below, *gøre* can be passivized as well.

- (i) a. Endnu forskes der ikke i nikotin som lægemiddel  
 yet research.PASS EXPL not in nicotine as medicine  
 her i landet.  
 here in country  
 ‘No one has yet researched medical uses of nicotine in this country.’  
 b. Men det gøres der i Stockholm.  
 but DET do.PASS EXPL in Stockholm  
 ‘But people in Stockholm have.’

Since some root modals can also be passivized, the lack of passivization is not a conclusive test for being an auxiliary.

b. Hun [dukkede op] ligeså uanmeldt, som han  
 she emerge.PAST up as unannounced as he  
 selv ofte havde gjort det.  
 self often have.PAST do.PART DET  
 ‘She emerged as unannounced as he himself had often done.’

c. Per Toftlund [boede på samme hotel],  
 Per Toftlund live.PAST on same hotel  
 som Teddy havde gjort nogle dage tidligere.  
 as Teddy have.PAST do.PART some days earlier  
 ‘Per Toftlund stayed at the same hotel that Teddy had stayed at  
 some days earlier.’

(18) a. Men [undersøge det], kan man vel altid gøre  
 but investigate.INF it can.PRES one PTC always do.INF  
 ‘But of course one can investigate it.’

b. Vi kan ikke [fare rundt og spørge],  
 we can.PRES not run.INF around and ask.INF  
 det vil alle opdage og undre sig over.  
 it would all detect.INF and puzzle.INF REFL about  
 En anden må gøre det.  
 a other must.PRES do.INF DET  
 ‘We can’t run around asking people. Everyone would notice and  
 be puzzled. Someone else has to do it.’

c. “Jeg [holder mig til de faktuelle hændelser],  
 I hold.PRES REFL to the actual occurrences  
 når jeg taler om fortiden –  
 when I speak.PRES about past.DEF  
 det burde du også gøre,” siger han.  
 DET ought.PAST you also do.INF says.PRES he  
 “I stick to what actually happened when I speak about the past.  
 You should too,” he says.’

Nonfinite auxiliary *gøre* satisfies the same five criteria described in section 2 that finite *gøre* does. For the first criterion, the participial form *gjort* co-occurs with the main verb *dominere* ‘dominate’ in 17a, and the infinitival form *gøre* co-occurs with the main verb *undersøge* ‘investigate’ in 18a. Satisfaction of the remaining four criteria can be established by comparing 17c and the parallel sentence in 19, which does not contain participial *gjort* and does not involve ellipsis.

- (19) Per Toftlund boede på samme hotel,  
 Per Toftlund live.PAST on same hotel  
 som Teddy havde boet på nogle dage tidligere.  
 as Teddy have.PAST live.PART on some days earlier  
 ‘Per Toftlund stayed at the same hotel that Teddy had stayed at  
 some days earlier.’

Nonfinite *gøre* does not contribute to the conceptual structure of a sentence (criterion ii): 17c and 19 have identical truth conditions. It also does not introduce its own event (criterion iii) since the relative clause describes a single event in both sentences, that of Teddy staying at the hotel in question. Finally, nonfinite *gøre* does not affect the thematic or grammatical roles of the clause it appears in (criteria iv and v). In both 17c and 19, *Teddy* is the subject and agent, and *samme hotel* ‘the same hotel’ is the object of the preposition *på* and it specifies a location. We can thus be certain that we are not dealing with main verb *gøre* here.

Like finite *gøre*, nonfinite *gøre* cannot appear with a canonically realized vP. Compare 17a that contains a topicalized vP and nonfinite *gjort* with the ungrammatical 20a, where the vP occurs in situ. Similarly, compare 17c, where nonfinite *gjort* occurs with vP ellipsis to the ungrammatical 20b with no ellipsis. Finally, compare 18b, where nonfinite *gør* co-occurs with the verbal proform *det*, to the ungrammatical 20c.

- (20)a. \*Det har allerede gjort  
 it have.PRES already do.PART  
 dominere / domineret valgkampen.  
 dominate.INF/ dominate.PART election.campaign.DEF  
 Intended: ‘It has already dominated the election campaign.’

- b. \*Teddy havde gjort bo /boet på det hotel.  
 Teddy have.PAST do.PART live.INF/live.pART on that hotel  
 Intended: ‘Teddy had lived at that hotel.’
- c. \*En anden må gøre fare rundt og spørge.  
 a other must.PRES do.INF run.INF around and ask.INF  
 Intended: ‘Someone else has to run around asking people.’

There is, however, one significant difference between finite and nonfinite *gøre*. Finite *gøre* is obligatory (as is any finite verb in Danish)—in the sense that leaving finite *gøre* out results in ungrammaticality—while nonfinite *gøre* is not (though, for relevant discussion, see Ørnsnes, to appear). As shown in 21, ellipsis is felicitous with participial *gjort* (the attested form) or without it.

- (21) I det øjeblik man  
 in the moment one  
 [dæmper disse planer og drager russerne ind på]  
 dampen.PRES these plans and draw.PRES Russians.DEF in on  
 en anden måde end man hidtil har (gjort) Δ,  
 a different way than one so.far have.PRES do.PART  
 så er russerne også parate til at forhandle.  
 then be.PRES Russians also ready to to negotiate.INF  
 ‘As soon as they dampen these plans and include the Russians in a  
 different way than they have so far, the Russians are ready to  
 negotiate.’

Participial *gjort* is optional in 17a, and infinitival *gøre* is optional in 18c (examples repeated below as 22a and 22b, respectively). In our analysis of *gøre* as an auxiliary, this follows from basic properties of all auxiliaries.

- (22)a. Og [dominere valgkampen]  
 and dominate.INF election.campaign.DEF  
 har det allerede (gjort).  
 have.PRES it already do.PART  
 ‘And it has already dominated the election campaign.’

- b. “Jeg [holder mig til de faktuelle hændelser],  
 I hold.PRES REFL to the actual occurrences  
 når jeg taler om fortiden –  
 when I speak.PRES about past.DEF  
 det burde du også (gøre),” siger han.  
 DET ought.PAST you also do.INF says.PRES he

‘I stick to what actually happened when I speak about the past.  
 You should too,’ he says.’

Like perfect *have* or any other auxiliary, *gøre* is not obligatorily present in the extended verbal projection. There are numerations that converge without it. When nonfinite *gøre* is present, its sister, vP, is topicalized, elided, or pronominalized. Since the other auxiliaries license these constructions as well, when nonfinite *gøre* is not present, they take the vP directly as complement.

### 3.2. Subcategorizing for *Gøre*.

The first argument in favor of our analysis of *gøre* as an auxiliary involves the perfect auxiliaries *have* ‘have’ and *være* ‘be’. Most verbs require *have* as an auxiliary, but a sizable minority appears with *være*, including *falde* ‘fall’, *komme sig* ‘recover’, and *smelte* ‘melt’ (see Vikner & Sprouse 1988 and Bjerre & Bjerre 2007 for discussion). As a starting point, we should point out that *gøre* is not inherently incompatible with main verbs that require *være*. Verb phrases with *være* can serve as antecedents of pronominalized and elided vPs introduced by finite *gøre*, as shown in 23.

- (23) a. De eskorterende soldater var rutinemæssigt  
 the escorting soldiers be.PAST routinely  
 [faldet i søvn]—det gør de jo.  
 fall.PART in sleep DET do.PRES they PTC

‘The escorting soldiers had as per routine fallen asleep—they do that.’

- b. Antarktis [smelter] ikke, eller rettere 96% gør ikke Δ.  
 Antarctica melt.PRES not or rather 96% do.PRES not  
 ‘Antarctica isn’t melting, or rather 96% isn’t.’

In 23a and 23b, finite *gøre* licenses pronominalization and ellipsis, respectively. Nonfinite *gøre* is also found with an antecedent that contains *være* in the perfect.

- (24) a. Flere af soldaterne [faldt i søvn under vagten],  
 several of soldiers.DEF fall.PAST in sleep during duty.DEF  
 og det må de absolut ikke gøre.  
 and DET may.PRES the absolutely not do.INF

‘Several of the soldiers fell asleep while on duty, which they are absolutely not allowed to do.’

- b. Antarktis er begyndt at [smelte], nøjagtigt som  
 Antarctica be.PRES begin.PART to melt.INF exactly as  
 forskerne havde forudsagt det ville gøre Δ.  
 researchers.DEF have.PAST predict.PART it would do.INF

‘Antarctica has begun to melt, exactly as researchers had predicted it would.’

Even though *gøre* is compatible with verbs that require *være* in the perfect, it cannot itself co-occur with perfect *være*, as shown in 25. In contrast, *gøre* co-occurs quite felicitously with perfect *have*, as shown in 17 and 21 above.

- (25) a. Soldaterne er [faldet i søvn] og det  
 soldiers.DEF be.PRES fall.PART in sleep and DET  
 er tolken også (\*gjort).  
 be.PRES interpreter.DEF also do.PART

‘The soldiers have fallen asleep, as has the interpreter.’

- b. De forudsagde at Antarktis ville være  
they predict.PAST that Antarctica would be.INF

[smeltet ved udgangen af i år],  
melt.PART by exit.DEF of in year

men hele 96% er ikke (\*gjort).  
but whole 96% be.PRES not do.PART

‘They predicted that Antarctica would have melted by the end of this year, but as much as 96% hasn’t.’

Similarly, *gøre* cannot co-occur with the passive auxiliary *blive*, as shown in 26a.<sup>14</sup> Again, this restriction is not due to a more general incompatibility with a passive complement since *gøre* can have a passive antecedent, as shown in 24b, where the antecedent is the passive-participle *fulgt* ‘followed’.

- (26) a. Den gamle lov blev [fulgt],  
the old law become.PAST follow.PART  
men det bliver den nye ikke (\*gjort).  
but DET become.PRES the new not do.PART

‘The old law was adhered to, but the new one is not being adhered to.’

- b. De håber også, at hele retssystemet kommer til  
they hope.PRES also that whole court.system come.PRES to  
at fungere ordentligt, således at loven også reelt  
to function.INF properly so that law.DEF also in.reality  
bliver [fulgt]— det gør den ikke nu.  
become.PRES follow.PART DET do.PRES it not now

<sup>14</sup> A referee questioned the auxiliary status of *blive* in this case. It is true that *blive* can also mean ‘become’, in which case it is a main verb. However, when it is used in passive constructions it patterns with auxiliaries. For example, it can be used in tag questions. Moreover, crosslinguistically verbs used in analytical passive constructions are auxiliaries (Abraham 2006:2).

‘They are also hoping that the entire legal system will start functioning so that the law will actually be adhered to—that isn’t the case now.’

Consider now how these restrictions on nonfinite *gøre* are accounted for under the auxiliary analysis. As an auxiliary, *gøre* is generally optional. When it occurs it is selected for by a higher head, which is either T (yielding finite *gøre*) or another auxiliary (yielding nonfinite *gøre*). The same is true for any regular auxiliary. It is a complement of either T or another auxiliary. While T can take any auxiliary as its complement, auxiliaries are typically more selective. Thus, while perfect *have* does not allow complements headed by the passive *blive*, perfect *være* does. While perfect *være* does not allow modal complements, perfect *have* does. We suggest that the restrictions on nonfinite *gøre* should be accounted for along the same lines: *Gøre* is incompatible with perfect *være* because the latter does not subcategorize for *gøre*. Similarly, nonfinite *gøre* is incompatible with passive *blive* because *blive* does not subcategorize for *gøre*. In fact, *blive* cannot take auxiliaries as complements at all. These restrictions are summarized below:

- (27) a. modal < perfect *have* < modal < *gøre*  
 b. modal < perfect *være* < passive *blive*

*Gøre* belongs only to the auxiliary hierarchy in 27a since it is subcategorized for by modals and perfect *have*, but not by *være* or *blive*. There might be explanations for these subcategorization restrictions, but what is important here is that *gøre* patterns with other auxiliaries in that it is selected by some, but not all auxiliary verbs. *Gøre* itself does not allow for an auxiliary complement, but that does not disqualify it from being an auxiliary. For example, the passive auxiliary *blive* does not take an auxiliary complement either.

The dependence of nonfinite *gøre* on the auxiliary immediately above is entirely unexpected under Platzack’s analysis. From the outside, there is no syntactic difference between a vP in which V has raised to v on the one hand, and one in which V fails to raise and v is realized as *gøre*, on the other hand. For Platzack, this is an alternation governed entirely by the featural properties of V, and v itself is the same in both



cases. Since the two types of vP are indistinguishable from higher auxiliaries, any auxiliary should be able to select a vP in which V does not raise to v and v is pronounced as *gøre*. This is a prediction that Platzack himself acknowledges (p. 13): “If the support verb is a spelled-out v, we expect it to occur after all auxiliaries.” In particular, one would expect it to follow perfect *være* and passive *blive*, contrary to fact.<sup>15</sup>

Under the v analysis, to account for the inability of *gøre* to co-occur with perfect *være* and passive *blive*, one might say that these auxiliaries select the VP as their complement rather than the vP. There would be no v in structures 25 and 26a above, and hence no potential position for *gøre*. Though note Platzack commits himself explicitly (p. 9) to v being present in all clauses. It is clear, however, that some complements of perfect *være* and passive *blive* do contain a v. As shown in 23 and 26b, finite *gøre* is compatible with these verbs, and clauses with finite and nonfinite *gøre* have, by hypothesis, the exact same structure. To fully analyze finite and nonfinite *gøre* one would have to posit that v is optional in the structure. However, while some auxiliaries (modals and perfect *have*) would take either vP or VP as their complement, perfect *være* and passive *blive* would only take VP. This move seems entirely ad hoc to us as it vitiates any motivation for including v in the extended verbal projection in the first place. If v is optional what precisely does it do?

From the hierarchy in 27a one can tell that it is hard to distinguish between the two analyses of *gøre*, that is, the v analysis and the auxiliary analysis. On the v analysis, *gøre* appears immediately below the lowest auxiliary. On the auxiliary analysis, *gøre* is the lowest auxiliary. We conclude, nonetheless, that it is possible to differentiate between the two approaches. The ban on the co-occurrence of nonfinite *gøre* with perfect *være* and passive *blive* mimics gaps in the distribution of other auxiliaries. This similarity is captured by the auxiliary analysis that accounts

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<sup>15</sup> Platzack (to appear) claims that his prediction is borne out for Swedish *göra* and provides examples of nonfinite *göra* under modals and perfect *ha* ‘have’. Swedish does not form the perfect with the cognate of Danish *være*, so the question of whether participial *göra* occurs below *være* does not arise. However, Swedish passive constructions contain *bli* ‘become’, and in this respect Swedish behaves like Danish: It does not allow nonfinite *göra* below passive *bli* (Maia Andréasson, personal communication, May 15, 2009).

for all such gaps in terms of subcategorization.

### 3.3. *No Ellipsis with Infinitival Gøre.*

The difference between the auxiliary analysis and the *v* analysis becomes relevant in another area as well. When *gøre* is in its infinitival form it does not license verb phrase ellipsis, as shown in 28a–c. However, verb phrase pronominalization and topicalization are both possible, as shown in 17 repeated below as 29. The other nonfinite form of *gøre*, past participial *gjort*, is not subject to this restriction, as shown by the grammatical ellipsis example in 28d, and 16c and 20 repeated below as 30 and 31, respectively.

- (28) a. Jeg har ingen som helst grund til at tro,  
 I have.PRES no as any reason to to believe.INF  
 at Microsoft vil [misbruge deres magt]  
 that Microsoft want.PRES abuse.INF their power  
 eller på nogen måde vil [skade Danmark].  
 or on any way want.PRES harm.INF Denmark  
 Hvorfor skulle de (\*gøre) Δ?  
 why should they do.INF

‘I have no reason whatsoever to believe that Microsoft wants to abuse their power or in any way harm Denmark. Why should they?’

- b. Da jeg [fik det fjernet], tænkte  
 when I get.PAST it remove.PART thought.PAST  
 jeg slet ikke på det som et barn.  
 I at.all not on it as a child  
 Havde jeg gjort det,  
 have.PAST I do.PART DET  
 så havde jeg ikke turdet (\*gøre) Δ.  
 then have.PAST I not dare.PART do.INF

‘When I had it removed, I didn’t think of it as a child at all. If I had, I wouldn’t have dared to.’

- c. Spillerne kunne være et afgangshold  
 players could.PRES be.INF a graduating.class  
 fra teaterskolen, der følger et løst skitseret  
 from theater.school.DEF that follow.PRES a loosely sketched  
 forløb og bytter roller og skifter karakter,  
 course and swap.PRES roles and change.PRES character  
 når de kan (\*gøre) Δ.  
 when they can.PRES do.INF

‘The actors could be a graduating class from a theater school that follow a loosely sketched plan and swap roles and change characters when(ever) they can.’

- d. Nu fisker jeg ikke efter en partner.  
 now fish I not after a partner  
 Men hvis jeg havde gjort Δ, havde jeg...  
 but if I had done had I

‘I’m not looking for a new partner. But if I had been, I would...’

- (29) a. Men [undersøge det], kan man vel altid gøre  
 but investigate.INF it can.PRES one PTC always do.INF  
 ‘But of course one can investigate it.’

- b. Vi kan ikke [fare rundt og spørge],  
 we can.PRES not run.INF around and ask.INF  
 det vil alle opdage og undre sig over.  
 it would all detect.INF and puzzle.INF REFL about  
 En anden må gøre det.  
 a other must.PRES do.INF DET

‘We can’t run around asking people. Everyone would notice and be puzzled. Someone else has to do it.’

- c. ‘Jeg [holder mig til de faktuelle hændelser],  
 I hold.PRES REFL to the actual occurrences

når jeg taler om fortiden –  
when I speak.PRES about past.DEF

det burde du også gøre,” siger han.  
DET ought.PAST you also do.INF says.PRES he

‘I stick to what actually happened when I speak about the past.  
You should too,’ he says.’

- (30) Per Toftlund [boede på samme hotel],  
Per Toftlund live.PAST on same hotel

som Teddy havde gjort nogle dage tidligere.  
as Teddy have.PAST do.PART some days earlier

‘Per Toftlund stayed at the same hotel that Teddy had stayed at  
some days earlier.’

- (31) I det øjeblik man  
in the moment one

[dæmper disse planer og drager russerne ind på]  
dampen.PRES these plans and draw.PRES Russians.DEF in on

en anden måde end man hidtil har (gjort) Δ,  
a different way than one so.far have.PRES do.PART

så er russerne også parate til at forhandle.  
then be.PRES Russians also ready to to negotiate.INF

‘As soon as they dampen these plans and include the Russians in a  
different way than they have so far, the Russians are ready to  
negotiate.’

In this respect, infinitival *gøre* patterns with regular auxiliaries. The infinitival forms of perfect *have* and passive *blive* are unable to license verb phrase ellipsis, as illustrated in 32a and 32b, respectively. Ellipsis with infinitival forms of modals is marginal at best, as shown in 32c.

- (32) a. \*Han kan måske [have lagt nøglerne ude]  
he can.PRES perhaps have.INF put.PART keys out

på trappen] eller rettere hans mor kan have Δ.  
 on stair.DEF or rather his mother can.PRES have.INF

Intended: ‘He might have put the keys out on the stairs, or rather his mother might have.’

- b. \*Mange fodboldtalenter håber på at blive  
 many football.talents hope.PRES on to become.INF

[udtaget til truppen] ligeså snart  
 select.PART for team.DEF just.as soon

de er gamle nok til at blive Δ.  
 they be.PRES old enough to to become.INF

Intended: ‘Many soccer talents hope to be selected for the team as soon they are old enough to be.’

- c. ??I øjeblikket kan jeg ikke  
 in moment.DEF can.PRES I not

[afse tid til det], men jeg håber at kunne Δ  
 off.see.INF time to it but I hope.PRES to can.INF

når projektet er afsluttet.  
 when project.DEF be.PRES finish.PART

‘At the moment I am not able to set time aside for this, but I hope to be able to when the project is done.’

Thus, the generalization is that infinitival forms of auxiliaries do not license verb phrase ellipsis.<sup>16</sup> Although there may be an explanation for

<sup>16</sup> Bjarne Ørsnes notes (p.c., November 17, 2009) that this restriction does not apply in comparative clauses:

- (i) De producerer flere svin nu  
 they produce more pigs now  
 end vi nogensinde vil (kunne) (gøre) Δ.  
 than we ever will can.INF do.INF

‘They produce more pigs now than we will ever be able to.’

this restriction, for now we simply observe that verb phrase ellipsis must be licensed in the extended verbal projection by some head with inflectional features (Lobeck 1995:141–150, Merchant 2001:60), and that the class of such heads may be different in different languages. In Danish, it seems that auxiliaries in their infinitival forms do not license verb phrase ellipsis, while auxiliaries in their finite and participial forms do.

Within Platzack's analysis of *gøre* as *v*, it is entirely unexpected that the infinitival form of *gøre* should prevent ellipsis. For Platzack, ellipsis versus pronominalization is mediated by the feature content of *V*. In his system, *v* bears a valued uninterpretable *Infl* feature that is checked by the corresponding interpretable feature on *T*. In Danish, *V* optionally also bears this uninterpretable feature. When it does not and when *V* also does not raise to *v*, then the *VP* is elided. If it does, and *V* still does not raise to *v*, then the *VP* is replaced by the proform *det*. Since the relationship between *gøre* and ellipsis is completely governed by a feature on *V*, it is not possible, within Platzack's system, to rule out ellipsis with just the infinitival form of *gøre*. Either it should be possible with every form, or it should not be possible at all. Even supposing that an analysis of auxiliary *gøre* as *v* were able to derive the facts in 28, it would miss a generalization. It is not just auxiliary *gøre* that fails to license ellipsis when it appears in the infinitive: all auxiliaries display this restriction. Ideally, however we explain the lack of ellipsis with infinitival *gøre*, we would want the same analysis to extend to all the other auxiliaries. By uniting them all in a single category, our analysis does exactly this.

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This observation is consistent with the well-known fact that comparatives allow for deletion of a range of constituents in addition to *vPs*. Therefore, deletion in comparatives cannot be reduced to verb phrase ellipsis. In particular, Kennedy (2002) argues that when the conditions for verb phrase ellipsis are met, the gap in a comparative clause is derived by ellipsis. When these conditions are not met the gap arises through movement (of the compared constituent) followed by deletion. Thus, there is an independent mechanism for deleting *vPs* in comparatives, and we suggest that this mechanism, and not ellipsis, is what derives apparent examples of verb phrase ellipsis with infinitival licensors, as shown in (i). What is important for our purposes is that *gøre* behaves like other auxiliaries in comparatives: Its infinitival form can co-occur with *vP* deletion in a comparative, and it cannot license verb phrase ellipsis outside comparatives.

#### 4. The Three Environments for Auxiliary *Gøre*.

We have argued that *gøre* is an auxiliary, though it is clearly different from other auxiliaries in two important respects that are related. We propose that *gøre* is a defective auxiliary since it has no dedicated semantic content and its distribution is syntactically restricted (in the same way that expletive pronouns are restricted to certain syntactic environments). In terms of its distribution, *gøre* occurs in three main environments: clauses with verb phrase ellipsis, clauses with verb phrase topicalization, and clauses where the verb phrase is replaced by the verbal proform *det*. It does not occur when the verb phrase is canonically realized. This contrasts with the other auxiliaries of the language that have semantic content and whose syntactic distribution is not restricted.

We propose to account for *gøre*'s defective status by restricting it to subcategorizing for only pronominal vPs, as stated in 33. All other Danish auxiliaries can subcategorize for any type of vP, including pronominal ones.

(33) Subcategorization frame for *gøre*

[<sub>AuxP</sub> *gøre* [<sub>VP</sub> *pro*]]

The pronominal vP that *gøre* subcategorizes for receives its interpretation in one of two ways. Either it is anaphoric and has an antecedent in the discourse, or it is bound and saturated by a sentence-initial vP. Since fully realized vP's are not pronominal, *gøre* never co-occurs with a main verb. Thus, 34 is ungrammatical regardless of the choice of nonfinite inflection on the lower verb.

- (34) \*Han gjorde vaske /vasket bilen.  
 he do.PAST wash.INF/wash.PART car.DEF  
 Intended: 'He washed the car.'

While it might strike some as odd to distinguish between pronominal and nonpronominal members of a category in this way, we know from other domains that syntax can make reference to such a distinction. For example, the Scandinavian languages are well known for object shift, an operation where the object moves to the left of the verb. In Danish, only simple pronominal DPs undergo object shift. Full DPs never do, no matter what their prosodic properties are (Vikner 1989).

Crucially, while *gøre* subcategorizes for a proform, it does not specify whether or not this proform should be overt. Nor does *gøre* subcategorize for a single type of overt proform—*det*, for instance. As we show in the following sections, both overt and null proforms are attested with *gøre*, as well as several types of overt proforms.

#### 4.1. *Verb Phrase Ellipsis.*

Following Dalrymple et al. 1991, Hardt 1993, Lobeck 1995, and Culicover & Jackendoff 2005:266–272, we treat the elided vP as a null proform that receives its interpretation from the surrounding discourse (see Chung et al. 1995 for a related but not identical analysis of sluicing).<sup>17</sup> Though it has received little attention in the literature, verb phrase ellipsis is productive in Danish, as attested by the naturally occurring examples in 35.<sup>18</sup>

- (35) a. Har            du [set            hendes    eksamenspapirer].  
           have.PRES   you   see.PART   her            exam.papers  
           Jeg   har            aldrig Δ.  
           I        have.PRES   never

‘Have you seen her exam papers. I never have.’

<sup>17</sup> According to the more traditional analysis, recently resurrected by Merchant (2001), ellipsis is deletion of a fully formed vP under semantic identity with an antecedent vP. Under this conception, we see no way of unifying verb phrase ellipsis with the other environments where *gøre* appears. Should the deletion view of ellipsis turn out to be correct, the subcategorization frame in 33 would have to be stated disjunctively with one specification for ellipsis and another for topicalization and pronominalization.

<sup>18</sup> For reasons that we do not currently understand, the use of verb phrase ellipsis in Danish is somewhat more restricted than in English, especially in main clauses. Overall, pronominalization is five to six times more frequent than ellipsis in running text. Specifically, in main clauses pronominalization is eight to nine times more frequent, and in embedded clauses it is three times more frequent. The availability of verb phrase pronominalization and its interaction with verb second might help to explain these statistics (Andréasson 2008, Mikkelsen 2009).



- b. Hun [bærer tørklæde]... fordi hun gerne vil  $\Delta$ .  
 she wear.PRES scarf because she willingly will.PRES  
 ‘She wears a head scarf... because she wants to.’
- c. Jeg har ingen som helst grund til at tro,  
 I have.PRES no as any reason to to believe.INF  
 at Microsoft [vil misbruge deres magt eller på  
 that Microsoft want.PRES abuse.INF their power or on  
 nogen måde vil skade Danmark].  
 any way want.PRES harm Denmark  
 Hvorfor skulle de  $\Delta$ ?  
 why should.PAST they

‘I have no reason whatsoever to believe that Microsoft wants to abuse their power or in any way harm Denmark. Why should they?’

If in ellipsis contexts, the vP is a proform, then *gøre* should be able to take it as complement, as indeed it does in 36 (see below). The second conjunct of the sentence in 36 has the structure in 37. The vP in the first conjunct functions as the antecedent of the null proform that replaces the vP, which accounts for the interpretation of the second conjunct, namely, that Mona washed the car.

One possible objection to this analysis is that the subject must merge directly in SpecTP and therefore is not interpretable. We must abandon the Uniform Theta Assignment Hypothesis (UTAH; Baker 1988) as a syntactic principle since agent arguments are no longer required to generate in Spec vP.<sup>19</sup> However, the basic idea behind the UTAH can be

<sup>19</sup> One way to reconcile our analysis of *gøre* with the UTAH is to assume that pronominal vPs have a syntactically articulated vP sister, and that arguments originate within that vP, in accordance with the UTAH (we are grateful to Idan Landau for suggesting this possibility). Under this analysis, verb phrase ellipsis would be deletion of the syntactically articulated vP, following Merchant 2001. The articulated vP would also delete in structures with the overt vP proform *det*, yielding the verb phrase pronominalization construction analyzed immediately below. As an alternative to deletion, the articulated vP can move to SpecCP. If the proform is null, this movement would yield verb phrase topicalization, and if

preserved. The vP proform in ellipsis contexts must be of type  $\langle e, t \rangle$ —that is, a function from individuals to truth values. The e-type argument is saturated by the referent of the subject DP. If the antecedent of an anaphoric proform is an unaccusative vP, then the subject would be a patient. If the antecedent of an anaphoric proform is an unergative or transitive vP, then the subject would be an agent.<sup>20</sup>

- (36) Mona og Jasper vaskede bilen,  
Mona and Jasper wash.PAST car.DEF

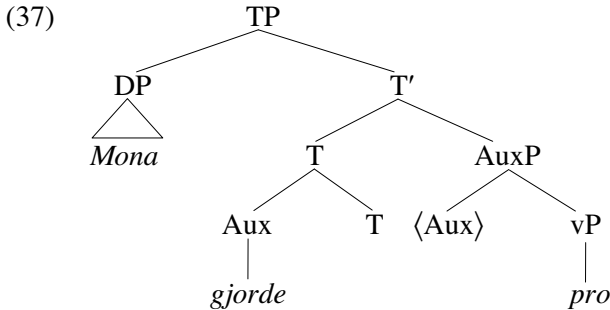
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the proform is overt, vP left dislocation. Such fronting constructions are discussed in more detail in section 4. As far as we can tell, this alternative analysis is compatible with the data and observations presented in this paper. The main reason for not adopting it here is the lack of independent evidence that verbal proforms can take vP complements. As a matter of fact, overt proforms can never co-occur with an articulated vP in situ, so some principle or mechanism is required to ensure that the articulated vP deletes or moves. At present, we do not know what this principle or mechanism would be. Moreover, the proform and articulated vP can co-occur neither as the pivot of an *it*-cleft constructions nor as the counterweight of a pseudocleft construction, as might have been expected if they formed a constituent.

<sup>20</sup> We assume that *det* in verb phrase pronominalization is a verbal proform. An obvious alternative, advocated by a referee, is that it is a nominal proform, that is, a pronoun. It is difficult to tell the two apart on morphosyntactic grounds, since *det* carries no inflection. The analysis of *det* as a pronoun has the advantage of capturing its use as the third person singular neuter pronoun. If that is what appears in verb phrase pronominalization there is no need to posit a separate homophonous verbal *det*. However, this view of *det* would require auxiliaries to select nominal complements, which is inconsistent with the generalization that auxiliaries are verbal elements that select other verbal elements as complements. Thus, either *det* is ambiguous between a verbal and a nominal interpretation or auxiliaries can select both verbal and nominal complements. Although we have opted for the former, our analysis of *gøre* is compatible with the latter option as well as long as the null proform involved in ellipsis and topicalization, as well as the relative proforms in 59, is also nominal. Furthermore, the subcategorization frame in 33 should also mention a nominal proform and not a verbal proform. Note, however, that the analysis of *det* as a pronoun would have to rule out illicit combinations of auxiliaries and NPs. This issue does not arise under the analysis of *det* as a verbal proform.

eller rettere Mona gjorde  $\Delta$ .  
 or rather Mona do.PAST

‘Mona and Jasper washed the car, or rather Mona did.’



#### 4.2. Verb Phrase Pronominalization.

The second environment for *gøre* involves an overt verbal proform, *det*.<sup>21</sup> The proform tends to move to clause-initial position, as in 38a. However, when SpecCP is occupied by another element, such as the sentence-level adverb in 38b *det* occurs where canonical vPs do.

(38) a. Morales spurgte en dreng på 7–8 år, om  
 Morales ask.PAST a boy on 7–8 years whether

<sup>21</sup> Verb phrase pronominalization has been noted in descriptive grammars (see, for instance, Hansen 1967:31, Diderichsen 1966:178, Allan et al. 1995:158f.), but it has received little theoretical treatment. In addition to our own work elsewhere (Houser et al. 2008), Vikner (1988:11), and Andréasson (2008) cite some examples but do not develop an analysis. Formally similar, though functionally distinct, vP anaphoric constructions can be found throughout Germanic, for example, verb phrase pronominalization with *det* in Norwegian (Lødrup 1994) and Swedish (Källgren & Prince 1989), as well as German *es* (López & Winkler 2000), short *do* replies in Dutch (van Craenenbroeck 2004:125–260), and *do it* and *do so* anaphora in English (Kehler & Ward 1999). While verb phrase pronominalization in Danish bears a surface similarity to English *do it/so* constructions, it differs from them in at least one crucial respect: the English anaphors require their antecedents to be agentive, while their Danish counterparts exhibit no such restriction as shown in 17b, 23a, 26a, 38a, and 59a. Like English *it*, *det* has individual- and proposition-denoting uses as well.

han havde [fået sine børnepenge].  
 he have.PAST receive.PART REFL.POSS child.money

Det havde han.  
 DET have.PAST he

‘Morales asked a boy who was 7 or 8 years old whether he had received his “child money.” He had.’

b. Hele fredagen på arbejdet overvejer jeg,  
 whole Friday at work consider.PRES I

om jeg skal [tage i byen],  
 whether I should.PRES take.INF in town.DEF

for det tilfælde, at hun skulle være der...  
 for the case that she should.PAST be.INF there

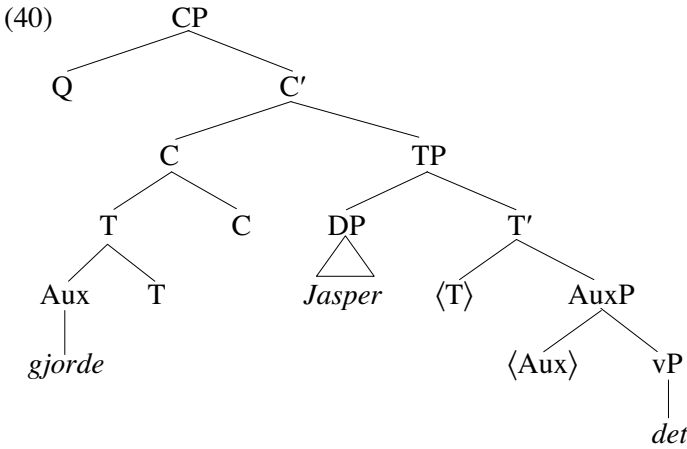
Selvfølgelig skal jeg ikke det.  
 of.course should.PRES I not DET

‘All day Friday at work I’m thinking about whether I should go out that evening, just in case she’s going to be there... Of course I shouldn’t.’

We assume that *det* originates as the sister of an auxiliary. Thus, when SpecCP is occupied by some other element, such as the null question operator of the polar question in 39b, it does not move.

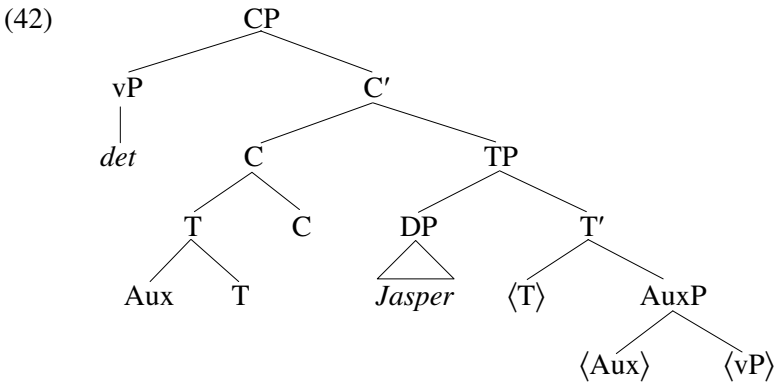
(39) a. Mona vaskede sin bil inden hun tog afsted.  
 Mona wash.PAST her car before she take.PAST off.place  
 ‘Mona washed her car before she left.’

b. Gjorde Jasper også det?  
 do.PAST Jasper also DET  
 ‘Did Jasper too?’



When there is nothing in SpecCP, *det* raises, so that the sentence in 41 has the structure in 42.<sup>22</sup>

- (41) Mona vaskede ikke bilen men det gjorde Jasper.  
 Mona wash.PAST not car.DEF but DET do.PAST Jasper  
 ‘Mona didn’t wash the car, but Jasper did.’



One advantage of this analysis of verb phrase pronominalization is

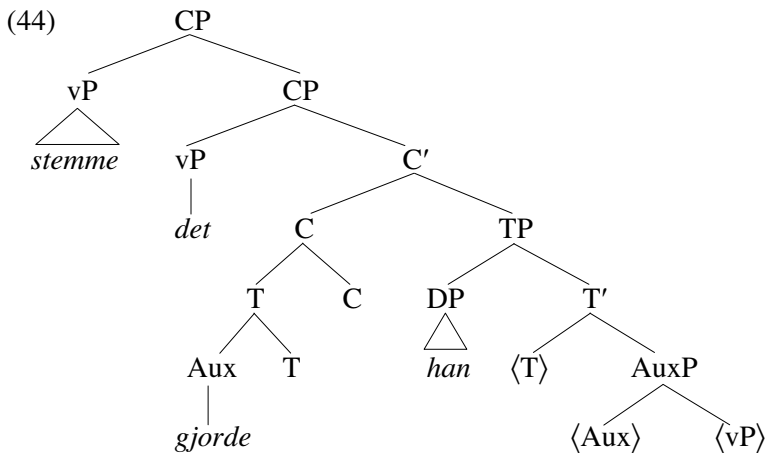
<sup>22</sup> In Houser et al. 2008, we analyze *det* as a fully articulated vP in the underlying structure. The problem is, however, that such an analysis predicts A-bar movement of internal arguments, contrary to fact.

that it also accounts straightforwardly for another construction with *gøre*, namely VERB PHRASE LEFT DISLOCATION, as shown in 43 (see Källgren & Prince 1989 for a discussion of the parallel construction in Swedish).

- (43) Dieter Wulf er stadig partiløs,  
 Dieter Wulf be.PRES still partyless  
 og han ønsker ikke at oplyse, hvad han  
 and he wish.PRES not to state.INF what he  
 stemte på ved det nylige valg til parlamentet.  
 vote.PAST on at the recent election to parliament.DEF  
 Men [stemme]—det gjorde han.  
 but vote.INF DET do.PAST he

‘Dieter Wulf is still without a party and he doesn’t want to say what party he voted for at the recent parliamentary elections. But vote he did.’

In addition to the fronted verbal proform *det*, there is a fully realized vP in a left-peripheral position. This produces verb-third word order. As shown in 44, we analyze left dislocation as verb phrase pronominalization with an overt vP adjoined to the root clause.



As a specific instance of verb phrase pronominalization, the presence of

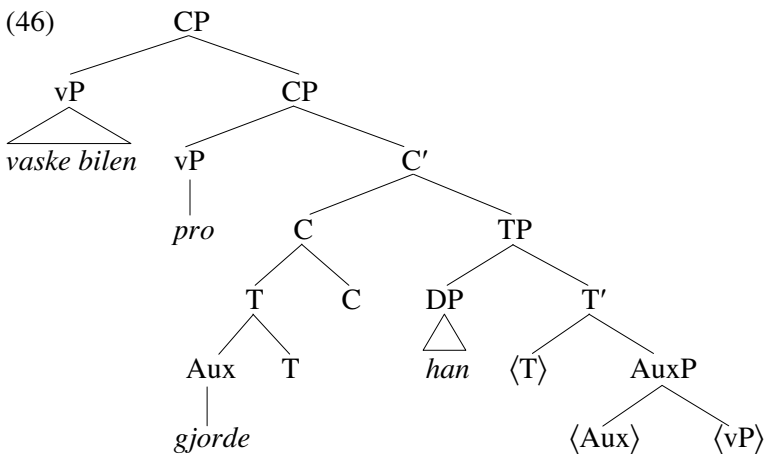
*gøre* in left dislocation contexts is licensed by the subcategorization frame in 33 since the sister of *gøre* is again a pronominal.

#### 4.3. Verb Phrase Topicalization.

Finally, much like verb phrase left dislocation, we analyze verb phrase topicalization in Danish as base-merger of a pronominal vP below an auxiliary, with the initial vP originating as an adjunct to CP. Thus, the topicalized clause in 45 has the structure in 46.

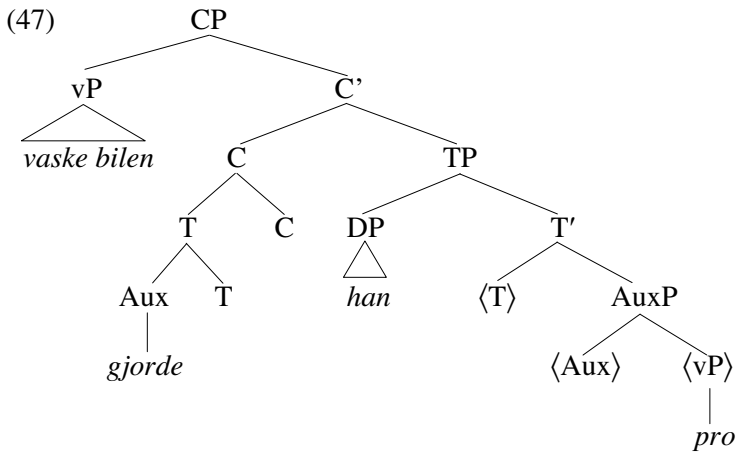
- (45) Jasper lovede at vaske bilen  
 Jasper promise.PAST to wash.INF car.DEF  
 og vaske bilen gjorde han så sandelig.  
 and wash.INF car.DEF do.PAST he so truly

‘Jasper promised to wash the car, and wash the car, he did indeed.’



This analysis is similar to the one that Zwart (1997b) proposes for topicalization in Dutch, where a (sometimes null) pronominal element raises to SpecCP, while the topicalized phrase is adjoined to the root clause.

In principle, a simpler analysis of verb phrase topicalization—one that does not involve movement—could be considered. The initial vP is simply base-merged in SpecCP, though it is coindexed with a proform merged under an auxiliary, such as *gøre*:



However, such an analysis is not tenable because Danish verb phrase topicalization shows positive traits of movement. In this respect, verb phrase topicalization is similar to verb phrase left dislocation—an important comparison since under our analysis, the two constructions are structurally identical. For instance, with regards to island constraints the initial vP in both topicalization and left-dislocation constructions cannot be interpreted as embedded in a sentential subject, as in 48, an adjunct, as in 49, an embedded interrogative clause, as in 50, or the left or right conjunct of a coordinate structure, as in 51 and 52. Throughout, the a-examples involve topicalization, and the b-examples involve left dislocation. The underscore marks the base position of the proform.

(48) Sentential Subject Constraint

- a. \*<sub>[vP]</sub> Lave mad] overrasker  
 make.INF food surprises  
 [<sub>CP</sub> at han godt kan \_\_\_] mig ikke.  
 that he well can me not
- b. \*<sub>[vP]</sub> Lave mad] det overrasker  
 make.INF food DET surprises  
 [<sub>CP</sub> at han godt kan \_\_\_] mig ikke.  
 that he well can me not

Intended: ‘That he can cook doesn’t surprise me.’



## (49) Adjunct Island

- a. \*<sub>[VP</sub> Lave mad] går de tit ud  
 make.INF food go.PRES they often out  
 og spiser [<sub>CP</sub> selvom han kan \_\_\_\_].  
 and eat.PRES even.though he can
- b. \*<sub>[VP</sub> Lave mad] det går de tit ud  
 make.INF food DET go.PRES they often out  
 og spiser [<sub>CP</sub> selvom han kan \_\_\_\_]  
 and eat.PRES even.though he can

Intended: 'They often go out to eat, even though he can cook.'

## (50) Wh-Island

- a. \*<sub>[VP</sub> Drukket kaffe] spørger de altid  
 drink.PART coffee ask.PRES they always  
 [<sub>CP</sub> hvornår man sidst har \_\_\_\_].  
 when one last have.PRES
- b. \*<sub>[VP</sub> Drukket kaffe] det spørger de altid  
 drink.PART coffee DET ask.PRES they always  
 [<sub>CP</sub> hvornår man sidst har \_\_\_\_].  
 when one last have.PRES

Intended: 'They always ask when you last had a cup of coffee.'

## (51) Coordinate Structure Constraint (extraction of left conjunct)

- a. \*<sub>[VP</sub> Lave mad] kan de \_\_\_\_ og vaske op.  
 make.INF food can they and wash.INF up
- b. \*<sub>[VP</sub> Lave mad] det kan de \_\_\_\_ og vaske op.  
 make.INF food DET can they and wash.INF up

Intended: 'They can cook and do laundry.'

(52) Coordinate Structure Constraint (extraction of right conjunct)

- a. \*<sub>[<sub>VP</sub> Vaske tøj]</sub> kan de lave mad og \_\_\_\_.  
 wash.INF clothes can they make.INF food and
- b. \*<sub>[<sub>VP</sub> Vaske tøj]</sub> det kan de lave mad og \_\_\_\_.  
 wash.INF clothes DET can they make.INF food and

Intended: ‘They can cook and do laundry.’

Under our analysis, these island violations arise because a pronoun originates inside each of these islands and then raises to the matrix SpecCP, crossing an island boundary. In the a-examples, the proform is null, and in the b-examples it is *det*.

Again, topicalization and left dislocation behave in the same way with respect to binding conditions. In both constructions, the initial vP is interpreted where ordinary vPs are base generated, under an auxiliary.

(53) Condition A

- a. [<sub>VP</sub> Forsvare sig selv<sub>i</sub> over for de store børn]  
 defend.INF REFL REFL over for the big kids  
 kan Peter<sub>i</sub> godt, selvom han ikke er ret stor.  
 can Peter well even.though he not be.PRES quite big
- b. [<sub>VP</sub> Forsvare sig selv<sub>i</sub> over for de store børn] det  
 defend.INF REFL REFL over for the big kids DET  
 kan Peter<sub>i</sub> godt, selvom han ikke er ret stor  
 can Peter well even.though he not be.PRES quite big

‘Peter<sub>i</sub> is able to defend himself<sub>i</sub> against the bigger kids, even though he’s not that big.’

(54) Condition B

- a. [<sub>VP</sub> Forsvare ham<sub>i/j</sub> over for de store børn]  
 defend.INF he over for the big kids  
 kan Peter<sub>i</sub> godt, selvom han ikke er ret stor.  
 can Peter well even.though he not be.PRES quite big

- b. [<sub>vP</sub> Forsvare ham<sub>i/j</sub> over for de store børn] det  
 defend.INF he over for the big kids DET
- kan Peter<sub>i</sub> godt, selvom han ikke er ret stor.  
 can Peter well even.though he not be.PRES quite big
- ‘Peter<sub>i</sub> is able to defend him<sub>i/j</sub> against the bigger kids, even though he’s not that big.’

## (55) Condition C

- a. [<sub>vP</sub> Forsvare Peter<sub>i</sub> over for de store børn]  
 defend.INF Peter over for the big kids
- kan han<sub>i/j</sub> godt, selvom han ikke er ret stor.  
 can he well even.though he not be.PRES quite big
- b. [<sub>vP</sub> Forsvare Peter<sub>i</sub> over for de store børn] det  
 defend.INF Peter over for the big kids DET
- kan han<sub>i/j</sub> godt, selvom han ikke er ret stor.  
 can he well even.though he not be.PRES quite big
- ‘He<sub>i/j</sub> is able to defend Peter<sub>i</sub> against the bigger kids, even though he’s not that big.’

As 53 shows, in both constructions, a reflexive pronoun in the sentence-initial vP can be bound by the subject DP. Moreover, as 54 shows, a nonreflexive pronoun in the same position cannot be coreferential with the subject DP. Finally, as 55 shows, an R-expression in the fronted vP, is not free when it is coreferential with the subject DP. The judgment patterns in 53–55 point to reconstruction effects. In each case, the binding possibilities are exactly as they would be if the vP occupied its canonical position below the matrix subject *Peter/han*. Under our analysis, the reconstruction effects cannot be due to actual reconstruction of the initial vP. Instead, these effects fall out from movement of the proform.

Two further movement diagnostics—the licensing of parasitic gaps and crossover effects—turn out to be inconclusive. The grammaticality of 56, with or without an overt proform, suggests that both fronting constructions license parasitic gaps, and hence involve movement.

- (56) [<sub>vP</sub> Lave mad] (det) gør hun ikke \_\_\_\_,  
 make.INF food DET do.PRES she not  
 selvom hun godt kan \_\_\_\_.  
 even.though she well can

‘She doesn’t cook, even though she knows how.’

However, since the gap corresponds to a vP and the initial vP provides an antecedent, it could simply be an instance of verb phrase ellipsis. Support for this claim comes from the fact that the second gap is not dependent on the first, as the grammaticality of 57 makes clear.

- (57) Hun laver ikke mad, selvom hun godt kan \_\_\_\_.  
 she make.PRES not food even.though she well can  
 ‘She doesn’t cook even though she knows how.’

Unless the possibility of ellipsis in the second clause can be eliminated, the grammaticality of examples such as 56 does not tell us anything about the derivation of topicalization and left dislocation in main clauses.

It is difficult to establish crossover effects because strong crossover requires that the element being crossed over c-command the base position of the crossing element. In the case of topicalization, this means that a configuration must be constructed in which one vP proform *det* c-commands the base position of another vP proform (which can be null or overt). The only such configuration that we have been able to identify is coordination of a vP with another vP containing a vP proform. Topicalization out of that second conjunct is indeed ungrammatical, but it is already ruled out by the Coordinate Structure Constraint in 51 and 52. Thus, it is impossible to tell whether verb phrase topicalization yields strong crossover effects.

Weak crossover configurations (where the crossed-over element does not c-command the base position of the crossing element) can be constructed, as in 58. In this example, the relative clause modifying the subject contains a vP proform *det*. This proform is coindexed with the proform, which has the initial vP as its antecedent. If the latter moves from its original position below negation in the main clause to a position before the finite auxiliary it would cross over a coindexed proform, namely *det* in the relative clause.

- (58) [<sub>vP</sub> Redde os]<sub>i</sub> (det)<sub>i</sub> vil det selskab  
 save us DET will the company  
 [<sub>CP</sub> der bedst kan redde os og før har gjort det]<sub>i</sub>  
 that best can save us and before has done DET  
 ikke den her gang.  
 not this here time

‘The company that is in the best position to save us and have done so before will not do it this time.’

Speakers find both versions of 58 with and without the proform repetitive and somewhat strained, but grammatical. On the one hand, the lack of a crossover effect in 58 could be interpreted as evidence against a movement analysis of verb phrase topicalization. On the other hand, weak crossover effects are notoriously variable and hard to identify even with nominal proforms, as noted by Wasow (1979:157–175), which suggests that it is not a very reliable diagnostic. The island and connectivity effects documented above all support the movement analysis, and this evidence seems to be conclusive enough, so that the data in 58 could be set aside.

#### 4.4. Extensions.

Our proposal predicts that *gøre* should be possible when the vP is replaced by any proform, not just the ones we have considered. This is indeed the case. In 59, the vP is replaced by the relative pronouns *hvad* ‘what’ and *hvilket* ‘which’—which raise to SpecCP—and *gøre* is acceptable in these examples.<sup>23</sup>

- (59) a. Ballademagerne i Det Konservative Folkeparti  
 troublemakers.DEF in the conservative people.party  
 burde skamme sig dybt og længe, og derefter  
 ought shame REFL deeply and long.time and thereafter  
 holde kaje, hvad de desværre nok ikke gør (hvad).  
 keep mouth which they sadly probably not do.PRES

<sup>23</sup> Platzack (to appear) and Ørsnes (to appear) make the same observation.

‘The troublemakers in the Conservative Party should be deeply ashamed for a long time and then keep quiet, which they are sadly unlikely to (do).’

- b. I hvert fald hopper Richard af toget, og Frances  
 in each case jump.PRES Richard off train.DEF and Frances  
 går grueligt meget igennem for at finde ham,  
 go.PRES terribly much through for to find.INF him  
 hvilket hun først gør (hvilket) tre år senere  
 which she first do.PRES three years later  
 på nattoget til Innsbruck.  
 on night.train.DEF to Innsbruck

‘In either case, Richard jumps the train and Frances has to endure many trials to find him, which she does only three years later on the night train to Innsbruck.’

In 59a, *gøre* is clearly not the main verb since the relative clause modifies a stative predicate, *holde kaje* ‘keep quiet’, and *gøre* does not modify this predicate’s thematic roles (see criterion iv in section 2.2).

Our proposal finds counterparts in other frameworks. Working within Lexical Functional Grammar, Lødrup (1990) treats *gjøre* in Norwegian as an auxiliary that, just like its Danish counterpart, appears when the verb phrase is topicalized or pronominalized, as shown in 60 and 61.

- (60) [Like jordbær] kjenner jeg ingen som gjør.  
 like.INF strawberries know.PRES I nobody who do.PRES  
 ‘Like strawberries, I know nobody who does.’ (Lødrup 1990:6)

- (61) a. [Liker du jordbær?] Ja, jeg gjør det.  
 like.PRES you strawberries yes I do.PRES DET  
 ‘Do you like strawberries? Yes, I do that.’ (Lødrup 1990:4)

- b. Marit [svømmer] og det gjør Jon også.  
 Marit swim.PRES and DET do.PRES Jon too  
 ‘Marit swims, and so does Jon.’ (Eide 2005:65)

To capture its distribution, Lødrup (1990:10) imposes a restriction on *gjøre* that he refers to as R: “the verbal complement of *gjøre* must enter into an unbounded dependency.” Restriction R accounts for the presence of *gjøre* in 60 and 61b, where the (pronominalized) vP has indeed been fronted. However, in order to account for sentences such as 61a, where *det* stays in situ, Lødrup proposes that the proform is exempt from R. Though he does not consider such examples, R would not derive the occurrence of *gjøre* in sentences where the vP has been elided, which is possible in Norwegian as illustrated in 62.

- (62) Du [trener da når du er på  
 you train.PRES PTCL when you be.PRES on  
 treningscenteret], gjør du ikke Δ?  
 training.center.DEF do.PRES you not  
 ‘But you work out when you go to the gym, don’t you?’<sup>24</sup>

In contrast, our treatment of *gjøre* as a defective auxiliary—that is, an auxiliary that only subcategorizes for pronominal vPs—successfully unifies all of these environments, as well as extends to other syntactic environments where the vP is replaced with an overt proform.

## 5. Conclusion.

The major analytical challenges presented by Danish auxiliary *gjøre* are its limited but regular distribution and its position relative to adverbs and other auxiliaries. We have argued that these challenges are met by an analysis that treats *gjøre* as a defective auxiliary. As an auxiliary, *gjøre* must find its place in the extended verbal projection, and given the distribution of nonfinite forms of *gjøre*, we concluded that it is located at the very bottom of the auxiliary hierarchy. This low position makes it difficult to distinguish our auxiliary analysis from Platzack’s analysis of *gjøre* as the realization of *v*. A wider range of data—that is, the distribution of *gjøre* with other auxiliaries—supports our analysis of *gjøre* as a member of the category Aux. The fact that *gjøre* cannot follow perfect *være* or passive *blive* suggests that either *være* and *blive* are not

<sup>24</sup> We thank Helge Lødrup for pointing out this example to us: [www.iform.no/pub/art.php?id=1430](http://www.iform.no/pub/art.php?id=1430), accessed November 28, 2010.

auxiliaries (a highly suspect conclusion), or that *gøre* is not the realization of *v* (as we argue). In addition, the infinitival form of auxiliary *gøre* does not license vP ellipsis. Again, this remains unexplained if *gøre* is *v*. If, instead, it is an auxiliary it falls in line with other auxiliaries, which exhibit the same restriction.

A common intuition about English *do*-support is that it is, as Grimshaw (1997:381) puts it, “possible only when it is necessary.” Within a transformational framework, *do*-support is a kind of last resort strategy—it is an operation that applies at the end of a failed derivation to save it.<sup>25</sup> Although our analysis rejects a similar characterization of auxiliary *gøre* in Danish it is worth asking what such a last-resort analysis would look like. First of all, auxiliary *gøre* would never be present in the narrow syntactic representation of a sentence. It would instead be inserted to host some inflectional material whose normal host is unavailable because of the details of a particular derivation. For example, *gøre* would appear when the verb has been manipulated through ellipsis, pronominalization, or topicalization. By contrast, in our analysis, the restricted distribution of auxiliary *gøre* follows from its defective status. Auxiliary *gøre* is part of the Danish lexicon—it is a feature bundle that can be added to the numeration, just like any other auxiliary, and it can be merged into the extended verbal projection, again, just like any other auxiliary. Unlike other auxiliaries, however, it only takes a pronominal vP complement.

Do these analyses of auxiliary *gøre* yield any empirical differences? If we consider finite *gøre* alone, the answer seems to be no. Tense must be expressed, and, in the relevant contexts, it has to be expressed on *gøre* because no other verbal form is present to host the tense suffix. Whether *gøre* is present in the structure from the beginning of the derivation (as in our base-generation analysis) or recruited at a relatively late stage in the derivation (as in the last-resort analysis) appears to be a matter of analytical preference and theoretical commitment. However, the existence of nonfinite *gøre*, which is generally optional, poses a challenge for last-resort analyses. If nonfinite *gøre* is optional, as it is in many contexts, then nonfinite inflectional morphology does not necessarily

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<sup>25</sup> Alternately, as in Grimshaw’s (1997) work within an Optimality Theoretic framework, inserting *do* satisfies a high-ranked constraint that would otherwise be violated.



have to be expressed overtly. If it does not have to be expressed, then it is not clear what would motivate the insertion of nonfinite *gøre*. If there is no problem to solve, then there is no need to resort to any strategy, let alone a last-resort one. Since most dialects of English lack nonfinite forms of auxiliary *do*, this issue has not figured prominently in the literature (though, see Baltin 2007 on British English). In contrast, the pervasiveness of nonfinite *gøre* in Danish brings this issue to the forefront and suggests that a base-generation account is on the right track, at least for Danish and related languages.

## DATA SOURCES

EXAMPLE	SOURCE
3b	Verdensmester uden mestre. <i>Jyllandsposten</i> , June 8, 1998.
6, 16b	From corpus DK87-90.
16a	Paul Valley. Fremmedhadet farver Schweiz' valgkamp. <i>Information</i> , September 8–9, 2007, p. 5.
16c	Leif Davidsen. 2002. <i>De gode søstre</i> . Copenhagen: Lindhart og Ringhof, p. 149.
17a	I bakspejl og krystalkugle. <i>Magisterbladet</i> , 2000.
17b	Leif Davidsen. 2002. <i>De gode søstre</i> . Copenhagen: Lindhart og Ringhof, p. 166.
17c	Jakob Ejersbo. 2002. <i>Nordkraft</i> . Copenhagen: Gyldendal, p. 372.
20	Danmarks Radio. P1, Orientering, January 29, 2009.
21a	Henrik Winther. Istanbulekspressen. <i>Weekendavisen</i> , January 12–18, 2007, p. P8.
21b	Bo Bjørnvig. Dommedagsfesten. <i>Information</i> , Ideer, September 7–8, 2007, p. 5.
24b	Pernille Bramming. En sidste nostalgi. <i>Weekendavisen</i> , June 1–7, 2007, p. 8.
26a	Peter Holten Rude. Danmark har kapituleret. <i>Weekendavisen</i> , June 1–7, 2007, p. 10.
26b	Ruth Abildgaard in Danmarks Radio, P1, Dokumentartimen, January 18, 2009.
26c	Bo Green Jensen. Firmaets mand. <i>Weekendavisen</i> , December 8–14, 2006, p. 5.
30a	Hvad var det dog der skete med Arken? <i>Jyllandsposten</i> , May 19, 1998.
30b	Martin Selsø Sørensen. Religiøse demokrater. <i>Information</i> , April 28–29, 2007, p. 9.
30c	Peter Holten Rude. Danmark har kapituleret. <i>Weekendavisen</i> ,

- Opinion, June 1–7, 2007, p. 10.
- 33a Rune Geertsen. Den hvide mand i den røde poncho. *Information*, April 28–29, 2007, p. 9.
- 33b Jakob Ejersbo. 2002. *Nordkraft*. Copenhagen: Gyldendal, p. 258.
- 38 From Korpus 2000.
- 54a From Korpus 2000.
- 54b Lars Bonnene. Toglæsning. *Weekendavisen*, February 2–8, 2007, p. P12.

#### REFERENCES

- Abraham, Werner. 2006. Introduction: Passivization and typology. *Passivization and typology*, ed. by Werner Abraham & Larisa Leisio, 1–27. Amsterdam: John Benjamins.
- Adger, David. 2003. *Core syntax: A minimalist approach*. Oxford: Oxford University Press.
- Allan, Robin, Philip Holmes, & Tom Lundskær Nielsen. 1995. *Danish: A comprehensive grammar*. London: Routledge.
- Andréasson, Maia. 2008. Not all objects are born alike: Accessibility as a key to pronominal object shift in Swedish and Danish. *Proceedings from the 8th Lexical Functional Grammar Conference*, ed. by Miriam Butt & Tracy Holloway King, 26–45. Stanford: CSLI.
- Baker, Mark. 1988. *Incorporation: A theory of grammatical function changing*. Chicago: Chicago University Press.
- Baltin, Mark. 2007. Deletion versus pro-forms: A false dichotomy? Manuscript, New York University. Available at <http://www.nyu.edu/gsas/dept/lingu/people/faculty/baltin/papers/baltin-deletion-vs-pro-forms.pdf>.
- Bjerre, Tavs, & Anne Bjerre. 2007. Perfect and periphrastic passive constructions in Danish. *Nordic Journal of Linguistics* 30. 5–53.
- Bobaljik, Jonathan David. 1995. *Morphosyntax: The syntax of verbal inflection*. Cambridge, MA: MIT dissertation.
- Butt, Miriam. 2003. The light verb jungle. *Harvard Working Papers in Linguistics* 9. 1–49.
- Butt, Miriam, & Gillian Ramchand. 2005. Complex aspectual structure in Hindi/Urdu. *The syntax of aspect*, ed. by Nomi Erteschik-Shir & Tova Rapoport, 117–153. Oxford: Oxford University Press.
- Chomsky, Noam. 1957. *Syntactic structures*. The Hague: Mouton.
- Chomsky, Noam. 2000. Minimalist inquiries: The framework. *Step by step: Essays on minimalist syntax in honor of Howard Lasnik*, ed. by Roger Martin, David Michaels, & Juan Uriagareka, 89–153. Cambridge: MIT Press.
- Chomsky, Noam. 2001. Derivation by phase. *Ken Hale: A life in language*, ed. by Michael Kenstowicz, 1–52. Cambridge, MA: MIT Press.

- Chung, Sandra, William A. Ladusaw, & James McCloskey. 1995. Sluicing and logical form. *Natural Language Semantics* 3. 239–282.
- Cornips, Leonie. 1998. Habitual *doen* in Heerlen Dutch. *DO in English, Dutch, and German: History and present-day variation*, ed. by Ingrid Tieken-Boon van Ostade, Marijke van der Wal, & Arjan van Leuvensteijn, 83–101. Amsterdam: Nodus.
- Craenenbroeck, Jeroen van. 2004. *Ellipsis in Dutch dialects*. Leiden: Leiden University dissertation.
- Culicover, Peter, & Ray Jackendoff. 2005. *Simpler syntax*. Oxford: Oxford University Press.
- Dalrymple, Mary, Stuart M. Shieber, & Fernando C. N. Pereira. 1991. Ellipsis and higher-order unification. *Linguistics and Philosophy* 14. 399–452.
- Diderichsen, Paul. 1966. *Elementær dansk grammatik*. 3rd edn. Copenhagen: Gyldendal.
- Diesing, Molly. 1998. Light verbs and the syntax of aspect in Yiddish. *Journal of Comparative Germanic Linguistics* 1. 119–156.
- Eide, Kristin Melum. 2005. *Norwegian modals*. Berlin: Mouton de Gruyter.
- Erteschik-Shir, Nomi. 1973. On the nature of island constraints. Cambridge, MA: MIT dissertation.
- Folli, Raffaella, & Heidi Harley. 2007. Causation, obligation, and argument structure: On the nature of little *v*. *Linguistic Inquiry* 38. 197–238.
- Folli, Raffaella, Heidi Harley, & Simin Karimi. 2005. Determinants of event type in Persian complex predicates. *Lingua* 115. 1365–1401.
- Grimshaw, Jane. 1997. Projections, heads, and optimality. *Linguistic Inquiry* 28. 373–422.
- Hale, Kenneth, & Samuel Jay Keyser (eds.). 1993a. *The view from Building 20: Essays in linguistics in honor of Sylvain Bromberger*. Cambridge, MA: MIT Press.
- Hale, Kenneth, & Samuel Jay Keyser. 1993b. On argument structure and the lexical expression of syntactic relations. Hale & Keyser 1993a. 53–109.
- Halle, Morris, & Alec Marantz. 1993. Distributed morphology and the pieces of inflection. Hale & Keyser 1993a. 111–176.
- Hansen, Aage. 1967. *Moderne dansk*, vol. II. København: Det Danske Sprog-og Litteraturselskab/Grafisk Forlag.
- Hardt, Daniel. 1993. *Verb phrase ellipsis: Form, meaning, and processing*. Philadelphia, PA: University of Pennsylvania dissertation.
- Houser, Michael J., Line Mikkelsen, & Maziar Toosarvandani. 2008. Verb phrase pronominalization in Danish: Deep or surface anaphora. *Proceedings from the 34th Western Conference on Linguistics*, ed. by Erin Brainbridge & Brian Agbayani, 183–195. Fresno, CA: Department of Linguistics, California State University.
- Houser, Michael J., Line Mikkelsen, Ange Strom-Weber, & Maziar

- Toosarvandani. 2006. *Gøre* support in Danish. Paper presented at the 21st Comparative Germanic Syntax Workshop, Santa Cruz.
- Iatridou, Sabine, & Anthony Kroch. 1992. The licensing of CP-recursion and its relevance to the Germanic verb-second phenomena. *Working Papers in Scandinavian Syntax* 50. 1–24.
- Jäger, Andreas. 2006. *Typology of periphrastic “do”-constructions*. Bochum: Universitätsverlag Dr. N. Brockmeyer.
- Jakobsen, Lisbeth Falster. 1996. Sentence intertwining in Danish, seen from a functional grammar perspective. *Complex structures: A functionalist perspective*, ed. by Betty Devriendt, Louis Goossens, & Johan van der Auwera, 61–92. Berlin: Mouton de Gruyter.
- Jespersen, Otto. 1931. *A Modern English grammar on historical principles*, vol. 4. London: Allen and Unwin.
- Jespersen, Otto. 1946. *A Modern English grammar on historical principles*, vol. 5. London: Allen and Unwin.
- Källgren, Gunnel, & Ellen F. Prince. 1989. Swedish VP-topicalization and Yiddish verb-topicalization. *Nordic Journal of Linguistics* 12. 47–58.
- Kehler, Andrew, & Gregory Ward. 1999. On the semantics and pragmatics of identifier “so.” *The semantics/pragmatics interface from different points of view*, ed. by Ken P. Turner, 233–256. Amsterdam: Elsevier.
- Kennedy, Christopher. 2002. Deletion and optimality in syntax. *Natural Language and Linguistic Theory* 20. 553–621.
- Kratzer, Angelika. 1996. Severing the external argument from its verb. *Phrase structure and the lexicon*, ed. by Johan Rooryck & Laurie Zaring, 109–137. Dordrecht: Kluwer.
- Langer, Nils. 2000. Zur Verbreitung der *tun*-Periphrase in Frühneuhochdeutschen. *Zeitschrift für Dialektologie und Linguistik* 67. 573–587.
- Lobeck, Anne. 1995. *Ellipsis: Functional heads, licensing, and identification*. Oxford: Oxford University Press.
- Lødrup, Helge. 1990. VP-topicalization and the verb *gjøre* in Norwegian. *Working Papers in Scandinavian Syntax* 45. 3–12.
- Lødrup, Helge. 1994. “Surface proforms” in Norwegian and the definiteness effect. *Proceedings from the 24th Meeting of the North East Linguistics Society*, ed. by Merce González, 303–315. Amherst, MA: Graduate Student Linguistics Association.
- Lødrup, Helge. 1996. Properties of Norwegian auxiliaries. *Proceedings from the 9th International Conference of Nordic and General Linguistics*, ed. by Kjartan G. Ottòson, Ruth Vatvedt Fjeld, & Arne Torp, 216–228. Oslo: Novus Press.
- López, Luis, & Susanne Winkler. 2000. Focus and topic in VP-anaphora. *Linguistics* 38. 623–664.
- Megerdooomian, Karin. 2002. *Beyond words and phrases: A unified theory of*

- predicate composition*. Los Angeles, CA: University of Southern California dissertation.
- Merchant, Jason. 2001. *The syntax of silence: Sluicing, islands, and the theory of ellipsis*. Oxford: Oxford University Press.
- Mikkelsen, Line. 2009. Constraints on anaphor movement. Poster at Linguistic Society of America Annual Meeting, San Francisco, January 9, 2009.
- Mohammad, Jan, & Simin Karimi. 1992. "Light" verbs are taking over: Complex verbs in Persian. *Proceedings from the 5th Western Conference on Linguistics*, ed. by Joel Ashmore Nevins & Vida Samiiian, 195–215. Fresno, CA: California State University, Department of Linguistics.
- Payne, Thomas E. 1997. *Describing morphosyntax: A guide for field linguists*. Cambridge: Cambridge University Press.
- Platzack, Christer. To appear. Cross linguistic variation in the realm of support verbs. *Advances in comparative Germanic syntax*, ed. by Peter Ackerman & Caroline Heycock. Amsterdam: John Benjamins.
- Pollock, Jean-Yves. 1989. Verb movement, universal grammar, and the structure of IP. *Linguistic Inquiry* 20, 365–424.
- Ross, John R. 1969. Auxiliaries as main verbs. *Studies in philosophical linguistics*, ed. by William Todd, 77–102. Evanston, IL: Great Expectations Booksellers and Publishers.
- Russ, Charles V. J. (ed.). 1990. *The dialects of Modern German*. London: Routledge.
- Schachter, Paul. 1985. Part-of-speech systems. *Language typology and syntactic description*, vol. 1, ed. by Timothy Shopen, 3–61. Cambridge: Cambridge University Press.
- Schwartz, Bonnie D., & Sten Vikner. 1996. The verb always leaves IP in V2 clauses. *Parameters and functional heads*, ed. by Adriana Belletti & Luigi Rizzi, 11–62. Oxford: Oxford University Press.
- Schwarz, Christian. 2004. *Die tun-Periphrase im Deutschen*. Munich: Ludwig-Maximilians-Universität München MA thesis.
- Toosarvandani, Maziar. 2009. Ellipsis in Farsi complex predicates. *Syntax* 12, 60–92.
- Travis, Lisa. 1984. *Parameters and effects of word order variation*. Cambridge, MA: MIT dissertation.
- Vikner, Sten. 1988. Modals in Danish and event expression. *Working Papers in Scandinavian Syntax* 39, 1–33.
- Vikner, Sten. 1989. Object shift and double objects in Danish. *Working Papers in Scandinavian Syntax* 44, 141–155.
- Vikner, Sten. 1995. *Verb movement and expletive subjects in the Germanic languages*. Oxford: Oxford University Press.
- Vikner, Sten. 2001.  $V^0$ -to- $I^0$  movement and *do*-insertion in optimality theory. *Optimality-theoretic syntax*, ed. by Géraldine Legendre, Jane Grimshaw, &

- Sten Vikner, 427–464. Cambridge, MA: MIT Press.
- Vikner, Sten, & Rex A. Sprouse. 1988. *Have/be*-selection as an A-chain membership requirement. *Working Papers in Scandinavian Syntax* 38. 1–48.
- Wasow, Thomas. 1979. *Anaphora in generative grammar*. Ghent: E. Story-Scientia.
- Zwart, C. Jan-Wouter. 1997a. *Morphosyntax of verb movement: A minimalist approach to the syntax of Dutch*. Dordrecht: Kluwer.
- Zwart, C. Jan-Wouter. 1997b. Where is syntax? Syntactic aspects of left dislocation in Dutch and English. *The limits of syntax*, ed. by Peter W. Culicover & Louise McNally (*Syntax and Semantics* 29), 353–393. New York: Academic Press.
- Ørsnes, Bjarne. To appear. Nonfinite *do*-support in Danish. *Empirical issues in syntax and semantics* 8, ed. by Olivier Bonami & Patricia Cabredo Hofherr. Paris: CNRS.

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