

## Gøre-Support in Danish

The Scandinavian languages prominently lack DO-Support in many of the environments where English has it, specifically polar and wh-questions and sentences with negation or polarity focus. As shown in (1) for Danish, however, DO-Support (in the form of the verb *gøre*) is triggered in a number of other environments: verb phrase topicalization (VPT) and verb phrase ellipsis (VPE), as well as verb phrase pronominalization (VPP), a little-studied type of verb phrase anaphora found in the Scandinavian languages in which a surface proform (*det* in Danish) stands in an anaphoric relation to a preceding vP (Lødrup 1990; Källgren & Prince 1989).

- (1) a. Sulte **gør** han ikke og han har endda råd til at bestikke folk. [VPT]  
starve does he not and he has even affordance to to bribe people  
'Starve, he doesn't, and he can even afford to bribe people.'
- b. Vores øjne opfatter det ikke, men biers **gør**. [VPE]  
our eyes perceive it not but bees' do  
'Our eyes don't perceive it, but bees' (eyes) do.'
- c. Jeg bor ikke i Svaneparken, men det **gør** mine børn. [VPP]  
I live not in Svaneparken, but it do my children  
'I don't live in Svaneparken, but my children do.'

Focusing on a comparison of English and Danish, with supporting data from other Scandinavian languages, we show that the occurrences of the verbal element *gøre* in these examples are indeed instances of DO-Support, i.e. the insertion of a verbal element solely to satisfy syntactic requirements. We argue that the different syntactic properties of VPT on one hand and VPE and VPP on the other require two very different analyses of *gøre*-support.

Danish *gøre*-support shares a number of properties with English *do*-support. Unlike the auxiliaries, *gøre* cannot be inserted before the verb in a basic SVO clause without resulting in ungrammaticality in Scandinavian or adding polarity focus in English (2).

- (2) a. \*Biers øjne gør opfatte det.  
bees-POSS eyes do perceive it
- b. My kids DO/\*do live in Belgium.

Second, there is no *gøre*-support in sentences with auxiliaries or modals. While there are sentences in which a *gøre*-form cooccurs with auxiliaries and modals, these are, in fact, main verbs, parallel to the *do* in English *do so* and *do it*. In these cases, *gøre* denotes the broadest class of events (Kehler & Ward 1999) and so is not fully felicitous with non-eventive verbs (3). In contrast, when *gøre* appears alone, it places no restrictions on its antecedent vP (4). These properties indicate that the *gør* that appears in the sentences in (1) is a result of *gøre*-support, similar to English.

- (3) a. ??Vi har manglet en ordentlig målmand og det har de også gjort.  
We have lacked a proper goalie and it have they also done  
Intended: 'We have been lacking a proper goalie, and they have too.'
- b. \*We have lacked a proper goalie (since last year), and they have done so too.
- (4) Vi mangler en ordentlig målmand og det gør de også.  
we lack a proper goalie and it do they also  
'We lack a proper goalie, and they do too.'

*Do*-support in English has been argued to be a Last Resort operation that takes place to save the morphological features on T when there is no other legitimate spell out (Lasnik 2000). Danish *gøre*-support also appears to be a Last Resort operation. It does not occur in polar and *wh*-questions or sentences with negation or polarity focus because in these cases, the features on T can always be spelled out on the main verb; in matrix clauses the main verb raises in the absence of any auxiliaries or modals, and in embedded clauses, where there is no verb movement, T can lower past negation onto the main verb. The Last Resort analysis of *gøre*-support straightforwardly accounts for VPT. Assuming that head movement occurs in the PF (Chomsky 2001), then movement of the  $\nu$ P to Spec-CP bleeds V-to-T movement, triggering insertion of Last Resort *gøre* to save the features on T. This analysis of Danish *gøre*-support has implications for the architecture of the grammar; phrasal movement, specifically topicalization, must precede head movement. This analysis cannot be reconciled with Erteschik-Shir's (2005:87) proposal that topicalization follows head movement in the PF.

This Last Resort analysis does not account for *gøre*-support in Danish VPE since the  $\nu$ P that goes missing does not raise to Spec-CP. The occurrence of *gøre* in this instance can be licensed by including it in the Lexicon as an overt  $\nu$ . Adopting Merchant's (2001) E feature as the PF trigger for non-pronunciation of the  $\nu$ P at PF, we derive the strict cooccurrence of *gøre* with VPE by stipulating that *gøre* only exists with an E feature (*gøre* [ $\nu$ , E] but \**gøre* [ $\nu$ ]); this contrasts with the other auxiliaries, which have forms both with and without the E feature. Note that the Base Generation analysis cannot account for VPT since no ellipsis (or pronominalization) takes place.

The Last Resort analysis cannot account for all instances of VPP either. In many instances of VPP, the anaphoric  $\nu$ P, i.e. *det*, undergoes topicalization to Spec-CP, and so *gøre*-support here can be straightforwardly accounted for under the Last Resort analysis. However, *det* appears unfronted when another element occupies Spec-CP, as in (5); in these cases, the Last Resort analysis is inadequate, as no movement of the  $\nu$ P takes place. Instead, we extend the Base Generation analysis to VPP by positing a second *gøre*-element in the Lexicon that has a P feature. This P feature is identical to Merchant's E feature, but marks its complement to be spelled out as *det* instead. Given standard assumptions about how chains are spelled out, the Base Generation analysis also account for the instances of VPP where the  $\nu$ P fronts (1c), though the Last Resort analysis is still necessary to account for VPT (1a).

- (5) Han elsker sommer og sol men hvem gør ikke **det**?  
 He loves summer and sun but who does not it  
 'He loves summer and sun, but who doesn't?'

While *gøre*-support initially appears to be a unified phenomenon, we conclude that the different properties of the constructions in which *gøre* occurs prevent a unified analysis and, in fact, demand two radically different ones. While the analysis needed to account for *gøre*-support is disjoint, the empirical generalization of when it is needed is straightforward: *gøre* occurs when the phonological realization of  $\nu$ P is altered in some way, whether by movement, non-pronunciation, or spell out as a proform.

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