Gøre-Support in Danish[1]

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1. Introduction

English *Do*-Support arises in a variety of contexts: in sentences with negation or polarity focus, in questions, and with Verb Phrase Topicalization (VPT) and Verb Phrase Ellipsis (VPE).[2]

(1)   Jasper **did** not wash the car.   [negation]
(2)   Jasper **DID** wash the car.   [polarity focus]
(3)   **Did** Jasper wash the car?   [polarity question]
(4)   Jasper promised he'd wash the car, and wash the car, he **did** <wash the car>.   [VPT]
(5)   Mona didn't wash the car but Jasper **did** [~~wash the car~~].   [VPE]

In contrast, Danish employs a similar process, *Gøre*-Support, with only VPT and VPE and with the related construction, Verb Phrase Pronominalization (VPP).

(1')   *Jasper **gjorde**   ikke vaske bilen.   [negation]
          J.   GØRE.PAST not   wash car.DEF
          'Jasper didn't wash the car.'

(2')   *Jasper **GJORDE**   vaske bilen   [polarity focus]
          J.   GØRE.PAST   wash car.DEF
          'Jasper DID wash the car.'

(3')   ***Gjorde**   Jasper vaske bilen?   [polarity question]
           GØRE.PAST   J.   wash car.DEF
          'Did Jasper wash the car?'

(4')   Jasper lovede   at vaske bilen   og   vaske bilen   **gjorde**   han (så sandelig).   [VPT]
          J.   promise.PAST to wash car.DEF and wash car.DEF GØRE.PAST he   so truly
          'Jasper promised to wash the car, and wash the car, he did (indeed).

(5')   Mona vaskede   ikke bilen   men Jasper **gjorde**.   [VPE]
          M.   wash.PAST not car.DEF but J.   GØRE.PAST
          'Mona didn't wash the car, but Jasper did.'

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[1] This talk is part of a larger project on VP anaphora in Danish. The data for this project come from four sources: some is drawn from corpora (DK87-90 and Korpus 2000), some is collected from newspapers and works of fiction, some is from descriptive grammars, and some is from work with four Danish speakers, Gry Mirjam Schiær Feldhütter, Peter Feldhütter, Mikael Engelstoft Hansen, and Anna Gritt Schiær-Petersen, all living in the East Bay.
[2] In our analysis, what is topicalized, elided, and pronominalized is a *v*P, but we use the term verb phrase and *v*P equivalently. Analogously, we use V-to-T as a shorthand for V-to-*v*-to-T.

(6')   Mona vaskede   ikke bilen   men det **gjorde**   Jasper.   [VPP]
        M.   wash.PAST not car.DEF but DET GØRE.PAST J.
        'Mona didn't washed the car, but Jasper did.'

Assuming that *Do*-Support and *Gøre*-Support result from an absence of a phonological host for the features in T, the lack of *Gøre*-Support in sentences with negation or polarity focus and in polarity questions is well understood given that in Danish main verbs can raise to T (and then to C) unlike in English.

(1")   Jasper **vaskede**   ikke bilen.   [negation]
        J.   wash.PAST not car.DEF
        'Jasper didn't wash the car.'

(2")   (Jo,) Jasper **vaskede**   faktisk   bilen.   [polarity focus]
         yes J.   wash.PAST actually car.DEF
        'Acually, Jasper did was the car.'

(3")   **Vaskede**   Jasper bilen?   [polarity question]
        wash.PAST J.   car.DEF
        'Did Jasper wash the car?'

Given V-to-T raising in Danish, it is a mystery why there is *Gøre*-Support at all in Danish, and specifically why there is *Gøre*-Support in just these three environments (VPT, VPE, and VPP). Note the ungrammaticality of main verb raising in these constructions.

(4")   *…[$_{vP}$ <vaskede>   bilen] **vaskede**   Jasper <vaskede bilen>.   [VPT]
                  wash.PAST car.DEF wash.PAST J.

(5")   *Mona vaskede   ikke bilen   men Jasper **vaskede** [<vaskede> bilen].   [VPE]
         M.   wash.PAST not car.DEF but J.   wash.PAST

(6")   *Mona vaskede   ikke bilen   men det **vaskede**   Jasper.   [VPP]
         M.   wash.PAST not car.DEF but   DET wash.PAST J.

Goals of this paper are

➤   to account for the distribution of *Gøre*-Support, i.e. the data in (1'-6').

➤   to describe VPT, VPE, and VPP in Danish, which have not received much attention in the literature and are not well understood.

We suggest that in these three environments a process targeting *v*P interferes with V-to-T raising. These processes are phrasal movement (VPT), ellipsis (VPE), and pronominalization (VPP).

➤   To account for why these processes trigger *Gøre*-Support, we argue that decisions about whether something is pronounced or not (and in some cases how) are made before head movement occurs. Therefore, these processes potentially bleed movement of V to T.
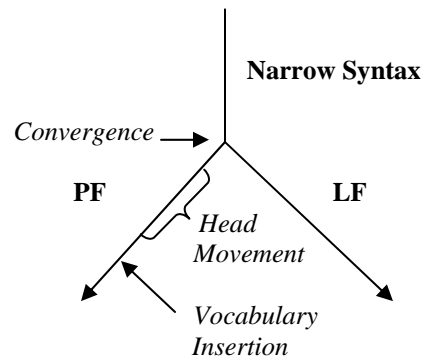
Narrow Syntax

Convergence →

PF   **LF**

} *Head Movement*

Vocabulary Insertion

Figure 1

➤ Specifically, we argue that these decisions are made at Convergence, which precedes head movement occurring in the PF (Chomsky 1995, 2001).

2. The Environments for *Gøre*-Support in Danish

2.1 Verb Phrase Topicalization (VPT)

(4') Jasper lovede   at vaske bilen   og [*v*P vaske bilen] **gjorde**   han (så sandelig).
  J.   promise.PAST to wash car.DEF and   wash car.DEF GØRE.PAST he so truly
  'Jasper promised to wash the car, and wash the car, he did (indeed).

(7a) [*v*P Sulte] **gør**   han ikke, og han har endda råd   til at bestikke folk.
  starve   GØRE.PRES he not and he has even affordance to to bribe   people
  'Starve, he doesn't, and he can even afford to bribe people.'   [Korpus 2000]

(7b) Context: *'Vibeke Ege had been my patient a couple of years earlier. I don't know what gave her the idea to contact me again. The official reason was that she had had a sprained ankle and that she thought that I would benefit from a little massage.'*

  [*v*P Trænge til det] **gjorde**   den knapt, men så   var kontakten   ganske legalt i orden.
    need   to it GØRE.PAST it hardly but then was contact.DEF perfectly legal in order
  'It (=the foot) hardly needed it (=massage), but this way the contact was perfectly justified.'
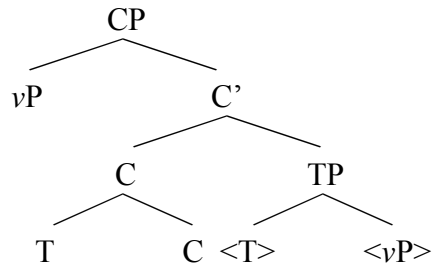
                                                    [Korpus 2000]

VPT can also strand modals and other auxiliaries.

(8a) Eet stod fast: [*v*P overgive sig]   **vilde** han ikke.
  one stood firmly   surrender SELF   would he not
  'One thing was clear: he would not surrender.'   [Hansen (1967:68)]

(8b) [*v*P Glemme] **har** han aldrig villet   eller kunnet.
    forget   has he never will.PERF or   can.PERF
  'He has never wanted to nor been able to forget.'   [Hansen (1967:68)]

(9)   VPT is the movement of a topic-marked *v*P to Spec-CP, accompanied by movement of T-to-C (Vikner 1995; Källgren & Prince 1989).

```
                    CP
                  /    \
               vP       C'
                      /    \
                    C        TP
                  /   \     /    \
                T      C  <T>   <vP>
```

2.2 Verb Phrase Ellipsis (VPE)

Danish has a productive process of VPE, countering Lobeck's (1995:158-162) claim based on French and German that VPE could not exist in a language where main verbs raise to T (and possibly on to C).

(5')   Mona vaskede   ikke bilen   men Jasper **gjorde** Δ.
       M.   wash.PAST not car.DEF but J.   GØRE.PAST
       'Mona didn't wash the car, but Jasper did.'

(10a) Enten mangler TV2 fuldstændig fornufting dømmekraft,   eller
       either lacks   TV2 completely reasonable judgement-power   or

       også går man ud fra   at   tilstrækkeligt mange mennesker i den danske befolkning **gør** Δ.
       also goes one out from that enough   many   people   in the Danish population GØRE.PRES
       'Either TV2 (a TV channel) completely lacks reasonable powers of judgment, or they assume that
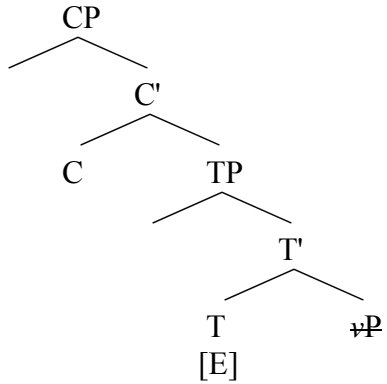   enough members of the Danish population do.'   [Korpus 2000]

(10b) Men jeg ser ingen forbindelse til den danske statsborger   Niels Lassen. **Gør**   De Δ?
       but I see no   connection til the Danish citizen   N. L.   GØRE.PRES   you
       'But I don't see any connection to the Danish citizen Niels Lassen. Do you?'
                                      [From Leif Davidsen *De gode søstre* Lindhardt og Ringhof, 2002, p. 144]

(10c) ...oversættelsen   er ikke kommet endnu, men når   den **gør**   Δ skal jeg nok   sende den med det
        translation-DEF   is not come   yet   but when   it   GØRE.PRES   shall I PART send it   with the

       samme.
       same
       '... the translation has not yet arrived, but when it does I'll send it right away.'   [Korpus 2000]

VPE is also licensed by modals and other auxiliaries.

(11a) Jeg har prøvet at male det . . . men jeg **kan** ikke Δ.
       I   have tried to paint it   but I   can   not
       'I have tried to paint it… but I can't.'   [DK87-90]

(11b) Der er Kaffe, som aldrig har set   bønner. Og der   er Bohnen-Kaffe, som vel   lige   netop **har** Δ.
       there is K.   that never has seen beans   and there is B.-K.   that PART just enough has
       'There is *Kaffe*, which has never seen a coffee bean. And there is *Bohnen-Kaffe*, which barely has.'
                                      [DK87-90]

(12)   Following Merchant (2001) we take VPE to be the result of a feature [E] that causes the non-pronunciation of the sister of the head that bears it.

```
                CP
               /  \
                   C'
                  /  \
                 C    TP
                     /  \
                        T'
                       /  \
                      T    v̶P̶
                     [E]
```

2.3 Verb Phrase Pronominalization (VPP)

This phenomenon is ubiquitous in the language and noted in descriptive grammars (e.g. Hansen 1967:31; Diderichsen 1968:178; Allan et al. 1995:158–9), but has not received a theoretical treatment.[3]

(6')   Mona vaskede   ikke bilen   men det **gjorde**   Jasper.
         M.   wash.PAST not car.DEF but DET GØRE.PAST J.
         'Mona didn't washed the car, but Jasper did.'

(13a)   Hvis det viser   sig   at være nødvendigt at flytte hovedkontoret til USA, **gør**   vi måske det ...
         if   it shows REFL to be   necessary to move head-office   to USA GØRE.PRES we perhaps DET
         'If it turns out to be necessary to move the head quarters to the US, we might (do so)…'   [Korpus 2000]

(13b)   Q: Ved   I   hvor   det ligger?
             know you.PL where it   lies
              'Do you know where it is?'

         A: Selvfølgelig **gør**   vi det.
            of-course   GØRE.PRES we DET
             'Of course we do.'   [elicitation]

(13c)   En del af dem klarer   sig,   andre **gør**   det   ikke.
         a   part of them deal.with REFL   others GØRE.PRES DET   not
         'Some of them manage, others don't.'   [DK87-90]

(13d)   Jeg bor ikke i Svaneparken, men det   **gør**   mine børn.
         I   live not in Svaneparken, but DET   GØRE.PRES my   children
         'I don't live in Svaneparken, but my children do.'   [Korpus 2000]

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[3] Vikner (1988:11) cites some VPP examples in a footnote, but does not develop an analysis.

VPP can also be licensed by modals and other auxiliaries.

(14a) Han siger han kan hækle,   men det **kan** han ikke.
       he says he can crochet but DET can he not
       'He says that he can crochet, but he can't.'   [elicitation]

(14b) [Sampson]   Vi har holdt øje med hende i flere   år.
                    we have held eye with her   in several years
                    'We have kept an eye on her for several years.'

       [Toftlund]   Det **har** alle   åbenbart.
                    DET has everyone apparently
                    'It seems that everyone has.'
                                [From Leif Davidsen *De gode søstre* Lindhardt og Ringhof, 2002]

2.3.1 A Brief Aside: VPP in other Germanic languages?

There are a number of constructions in other Germanic languages that are formally similar to Danish VPP. However, from what we can tell based on the available literature, the environments for each of these constructions appear to be more restricted than in Danish.

Danish

- Characteristics
    i. Licensed by root and epistemic modals, and all auxiliaries: passive (*blive*, in 21a) and perfective (*være*, *have* in 14b).
    ii. No restrictions on the semantics of the pronominalized *v*P; compatible with eventive and stative verbs.
    iii. Allowed in matrix and embedded clauses.
    iv. Strong preference for a linguistic antecedent, independent of the type of licenser.

Norwegian

(15) A.   Har du   spist   middag?
          have you eat.PART dinner
          'Have you eaten dinner?'

      B.   Ja, jeg har **det**.
          yes I   have that
          'Yes I have.'   [Lødrup 1990:4 ex. 7]

- Restrictions (among others; Lødrup 1994):
    i. Licensed by both root and epistemic modals and auxiliaries
    ii. *Only allowed in matrix clauses*
    iii. *With epistemic modals and auxiliaries,* det *must have a linguistic antecedent (=surface anaphora);* det *with root modals can be pragmatically controlled (=deep anaphora).*

<u>Swedish</u>

(16) Kicki kan   svenska och **det** gör Kari också.
      K.   knows Swedish and it   does K.   also
      'Kicki knows Swedish and so does Kari.'   [Källgren & Prince 1989:49 ex. 5]

- Restrictions (Källgren & Prince 1989):
    i. Compatible with stative antecedent
    ii. *Licensed by root modals, but not epistemic modals* (Platzack 1979:46)

<u>German</u>

(17) Jan kann die Aufgabe lösen, aber ich weiß, dass Peter **es** nicht kann.
      J. can the task   solve but I   know that P.   ES not   can
      'Jan can solve the task, but I know that Peter cannot.'   [López & Winkler 2000:624 ex. 3a]

- Restrictions (López & Winkler 2000; Winkler ms.):
    i. Ocurs in matrix and embedded clauses.
    ii. *Only licensed by root modals and the copula* sein (not by auxiliaries)

<u>Dutch (Wambeek dialect)</u>

(18) A.   Pierre spelj met de kinjern.
            P.   plays with the children
            'Pierre plays with the children.'

      B.   **Da** duut n nie.
            that does he not
            'No, he doesn't.'   [van Craenenbroeck 2004:148 ex 55]

- Restrictions (van Craenenbroeck 2004):
    i. *Only occurs in non-embedded contradictions to declarative statements*
    ii. *Not licensed by modals or auxiliaries, only* doen *'do'*
    iii. Doen *cannot be in the past tense even if the antecedent clause is*

<u>English</u>

DO SO

(19) Bill signed the legislation, and Al did **so** too.   [Kehler & Ward 1999:245 ex. 30]

- Restrictions (Kehler & Ward 1999; see also Lakoff & Ross 1976; Boulton 1970):
    i. *The antecedent clause must be eventive; statives are not allowed.*
    ii. So *is not licensed by auxiliaries, only main verb* do.

(20) As they said about Ginger Rogers, "she did everything Fred Astaire did, and she did **it** backwards and in high heels".   [Kehler & Ward 2004:397]

- Restrictions (Kehler & Ward 2004):
  i. *The antecedent clause must be eventive; statives are not allowed.*
 ii. *Can be licensed by non-linguistic antecedent.*

2.3.2 Back to Danish VPP

VPP is an anaphoric process similar to ellipsis that results in a fully articulated *v*P being pronounced as the pro-form *det*.

- Meets the requirements for surface anaphora laid out in Hankamer & Sag (1976): exhibits the Missing Antecedent Phenomenon and requires syntactic parallelism with respect to transitivity (Mikkelsen 2006).

- Allows extraction of passive subjects (21a) and unaccusative subjects (21b), which originate within VP:

(21a) Det var første gang, jeg ønskede at blive   afsat,   og **det**   blev   jeg.
       it   was first time I   wanted to become dismissed   and DET   became I
       'It was the first time I had wanted **to be dismissed** and I was.'   [DK97-90]

(21b) Context: *'I wanted the damn train to break down in front of the house. It was always late when there was no use for it…'*
       Bare det ville   bryde sammen lige   nu! Men **det**   gjorde   det selvfølgelig ikke!
       just it would break together right now but DET   GØRE.PAST it of-course   not
       'If only the train would **break down** right now! But of course it didn't!'   [DK87-90]

(22)
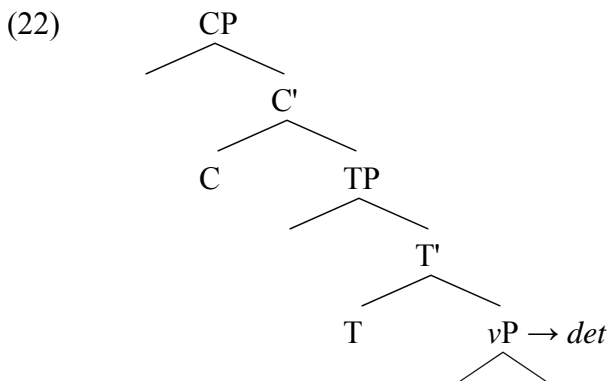
Note: The surface proform *det* may appear fronted due to the *v*P being topic-marked, as in (6'), (13d), (14a-b), (21a-b), but the appearance of another element in Spec-CP can preempt its movement, as in (13a-c).

GENERALIZATION: *Gøre*-Support appears in constructions in which the normal spell out of the verb phrase has been altered in some way, either by movement, non-pronunciation, or pro-nominalization.

QUESTION: Are these three environments unifiable theoretically?

3. Analysis

Just like English *Do*-Support (Lasnik 2000; Bobaljik 2002:210-221), we analyze *Gøre*-Support as a Last Resort operation that takes place to express the features on T when they would otherwise have no legitimate Spell Out.

Since Danish does not make a distinction between main verbs and auxiliaries for the purposes of verb raising, *Gøre*-Support is not necessary in interrogatives and under negation.

However, the fact that main verbs normally raise to T prompts the question: Why should Danish have *Gøre*-Support at all?
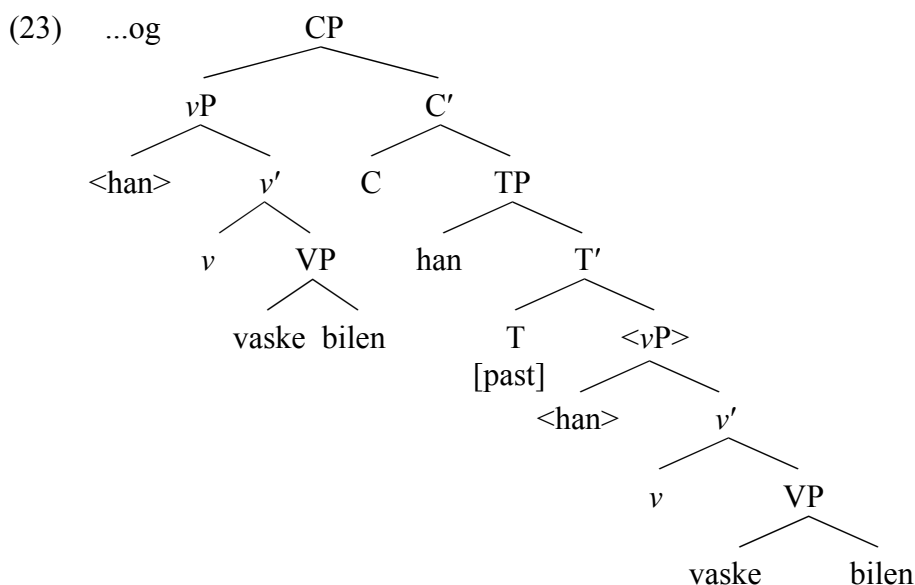
➢ We propose that in VPT, VPE, and VPP, something interferes with V-to-T raising.

3.1 Verb Phrase Topicalization

Capitalizing on recent proposals that head movement happens in the PF (Chomsky 1995:368; Chomsky 2001:37-38), we have a straightforward account of why *Gøre*-Support occurs with VPT: Movement of *v*P to Spec-CP bleeds head movement of V to T. (We will discuss the implications of this assumption further in §3.4.)
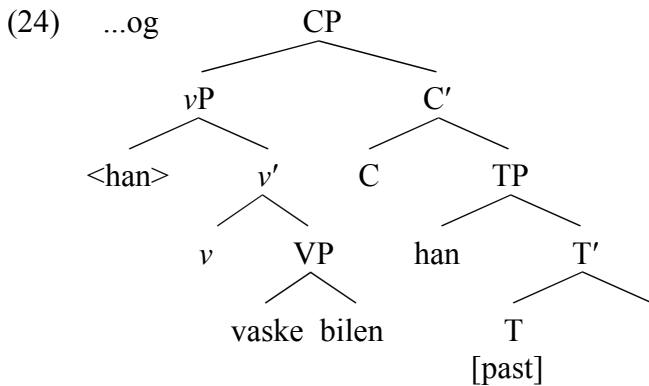
Derivation of (4') immediately before Convergence:

(4') Jasper lovede   at vaske bilen   og [*v*P vaske bilen] **gjorde**   han (så sandelig).
     J.   promise.PAST to wash car.DEF and   wash car.DEF GØRE.PAST he   so truly
     'Jasper promised to wash the car, and wash the car, he did (indeed).'

(23)   ...og   CP
          ╱   ╲
        *v*P   C′
      ╱   ╲   ╱   ╲
  <han>   *v*′   C   TP
         ╱   ╲   ╱   ╲
        v   VP   han   T′
             ╱   ╲   ╱   ╲
        vaske bilen   T   <*v*P>
                         [past]   ╱   ╲
                              <han>   *v*′
                                        ╱   ╲
                                       v   VP
                                           ╱   ╲
                                        vaske   bilen

9

Given the derivation in (23), how can the features on T be realized?

- The occurrence of the main verb that has already moved to Spec-CP as part of Topicalization cannot lower to T due to Travis's Head Movement Constraint (1984).
- Furthermore, head movement cannot occur out of the lower occurrence of the *v*P because at Convergence, the lower occurrence is deleted, see (24).[4]
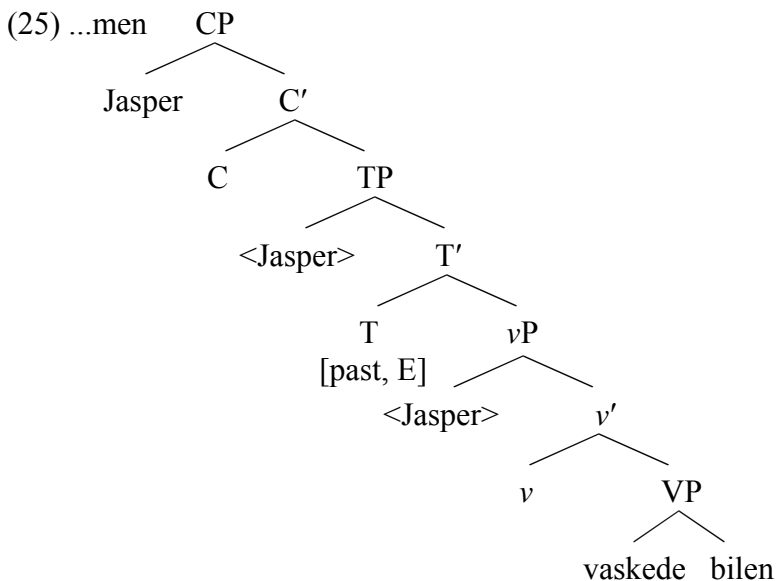
(24) ...og

```
                    CP
           ┌────────┴────────┐
          vP                 C′
      ┌────┴────┐       ┌─────┴─────┐
   <han>        v′      C           TP
           ┌────┴───┐         ┌─────┴─────┐
           v        VP       han          T′
               ┌────┴────┐         ┌──────┴──────┐
            vaske      bilen        T
                                  [past]
```

Since neither the higher nor the lower occurrence of the *v* can move to T, the only way to save the features on T is to insert *gøre*.

3.2 Verb Phrase Ellipsis

This analysis does not extend straightforwardly to *Gøre*-Support in VPE. This is because VPE does not involve phrasal movement. Rather, it involves the non-pronunciation of *v*P as a result of the [E] feature that requires its sister to go unpronounced, schematically illustrated in (25).

(5') Mona vaskede   ikke bilen   men Jasper **gjorde**   Δ.
      M.   wash.PAST not car.DEF but J.   GØRE.PAST
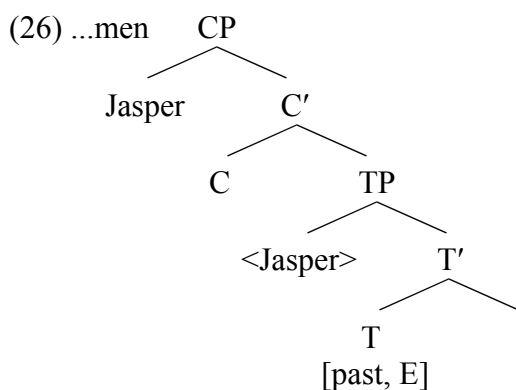   'Mona didn't wash the car, but Jasper did.'

(25) ...men

```
        CP
    ┌────┴────┐
 Jasper       C′
          ┌───┴───┐
          C       TP
              ┌────┴────┐
          <Jasper>      T′
                    ┌────┴────┐
                    T         vP
                [past, E]  ┌───┴───┐
                       <Jasper>    v′
                               ┌────┴────┐
                               v         VP
                                     ┌────┴────┐
                                  vaskede    bilen
```

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[4] The can be achieved using Fox & Pesetsky's (2005) linearization algorithm or a formal feature deletion account along the lines of Baltin (2006). We will not attempt to choose between them here.

However, we can understand the occurrence of *Gøre*-Support in VPE in the same terms as VPT if we assume that ellipsis happens before head movement.

Merchant (2001) leaves open the question of where in the PF ellipsis takes place. Two possibilities emerge:

- At VI: Ellipsis cannot simply be the non-insertion of vocabulary items. Since head movement precedes VI (for the reasons laid out in Embick and Noyer 2001:§7.2), non-insertion of phonological material would not bleed head movement.
- At Convergence: If ellipsis happens at Convergence, the correct bleeding relationship between ellipsis and head movement obtains. Once the verb phrase has been elided, V-to-T cannot take place, and *gøre* is inserted as a Last Resort.

Derivation of (5') at Convergence:

(26) ...men

```
              CP
            /    \
      Jasper      C′
                /    \
              C        TP
                     /    \
             <Jasper>      T′
                          /  \
                        T
                    [past, E]
```

We remain agnostic about the precise mechanism by which ellipsis occurs, whether it be by deletion of formal features, deletion of syntactic structure, or marking for later non-pronunciation (see fn. 4 for references).
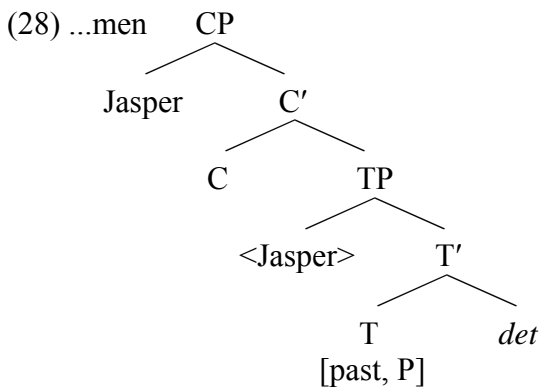
3.3 Verb Phrase Pronominalization

We pursue an entirely parallel analysis for VPP. The only difference is in the pronunciation of *v*P.

(6')   Mona vaskede   ikke bilen   men det **gjorde**   Jasper.
        M.   wash.PAST not car.DEF but DET GØRE.PAST J.
        'Mona didn't washed the car, but Jasper did.'

(27) ...men

```
          CP
        /    \
    Jasper    C′
            /    \
           C      TP
                /    \
         <Jasper>     T′
                    /    \
                   T      vP
              [past, P]  /  \
                 <Jasper>    v′
                           /    \
                          v      VP
                                /   \
                           vaskede  bilen
```
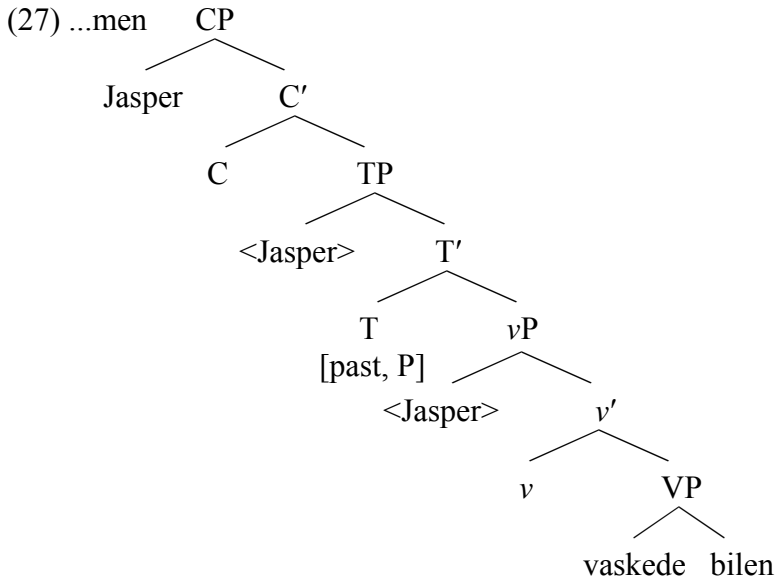
As with VPE, T bears a feature, that we call [P], which causes its sister to be pronounced as the proform, *det*.

Like the [E] feature, the effects of [P] take place at Convergence.

(28) ...men

```
          CP
        /    \
    Jasper    C′
            /    \
           C      TP
                /    \
         <Jasper>     T′
                    /    \
                   T      det
              [past, P]
```

At Convergence, the internal structure of *v*P is deleted and it is either marked so that *det* is inserted at VI (or if you prefer, no marking takes place, and *det* is inserted by secondary exponence (Harley & Noyer 2000)).

Since the internal structure of *v*P is deleted, no V-to-T raising can take place. Just like in the previous two cases, *gøre* must be inserted to rescue T's features.

SUMMARY: VPT, VPE, and VPP all involve processes that target the *v*P at Convergence, preventing the later movement of V-to-T. This triggers *Gøre*-Support. In sentences with negation and polarity focus and in polarity questions, no process affecting *v*P takes place, and V-to-T movement proceeds unimpeded, correctly accounting for the lack of *Gøre*-Support in these constructions.

3.4 Implications for the theory of head movement

Our analysis supports the proposal by Chomsky (1995, 2001) that head movement takes place in the PF.

Contra Chomsky, Zwart (2001) and Matushansky (2006) argue explicitly for head movement being an operation that applies in the narrow syntax, though both derive some of the properties of head movement by positing some PF operation. Zwart relies on the variable Spell Out of copies in a chain and Matushansky on an operation she calls m-merger.

We remain agnostic as to whether head movement is *completely* a PF operation. What is important for our proposal is that *some* component of head movement be in the PF and that it have the potential to be affected by non-pronunciation of copies or ellipsis. More work is needed to determine whether the proposal of Zwart or that of Matushansky is compatible with our account.

4. Conclusion and Further Considerations

We have argued that decisions about whether something is pronounced (in the case of movement copies and ellipsis) or how (in the case of pronominalization) are made at Convergence, and not at some later stage in the derivation.

➢ This allows us to explain the occurrence of *Gøre*-Support in VPT, VPE, and VPP in Danish. The processes that target the *v*P in these constructions bleed head movement out of *v*P. Since V-to-T cannot occur, *gøre* is inserted to express the features on T.

➢ This analysis allows for a unified account of *Do*-Support in English and *Gøre*-Support in Danish as a Last Resort operation. In both, phonological material is inserted to save features on T that must be pronounced. The different distributions of *do* and *gøre* follow from independent properties of the two languages. For Danish, in sentences with negation or polarity focus and in polarity questions, there is no need for *Gøre*-Support, since V-to-T movement occurs unimpeded.

4.1 Non-finite occurrences of *gøre*

In this paper, we have concentrated on unambiguous cases of *Gøre*-Support. There are, however, also instances of *gøre* cooccurring with another (preceding) auxiliary in contexts that look very similar to VPT, VPE and VPP.

(29a) … og lytte **vil** de   **gøre**.   [VPT]
        ... and listen will they GØRE.INF
        `... and listen they will!'   [Korpus 2000]

(29b)   Færger over Femer-bælt bruger væsentlig   mere energi   for at tilbagelægge
        ferries over F.-Strait   use   significantly more energy for to cover

        de   ca.   20 km,   end tog og biler **vil gøre**.   [VPE]
        they approximately 20 km   than train and cars will GØRE.INF
        `Ferries crossing Femer Strait use significantly more energy to traverse the 20 or so kms. than trains and
        cars would.'   [Korpus 2000]

(29c)   Regnen   pisker ned. Det **har** den **gjort**   hele   måneden.   [VPP]
        Rain.DEF whips down DET has   it   GØRE.PERF whole month.DEF
        'The rain is pouring down. It has been all month.'   [DK87-90]

We see two possible analyses for these instances of *gøre*:

A) They are completely different from support-*gøre* and are possibly main verbs, exhibiting semantic
   restrictions on its antecedent (analogous to *do* in English *do so*).

B) They are also support verbs, but occur in a lower position than the *gøre* in *Gøre*-Support. This posi-
   tion might be some generic *v* or Aux position.[5] It is there not to express the features on T (as the
   higher auxiliary does), but to provide a host for the non-finite inflectional morphology governed by
   the higher auxiliary.

The choice between these two possibilities awaits further empirical investigation, but we can make some tenta-
tive observations:

- Sensitivity to aspectual parallelism between the antecedent and the target clause: If real, it would favor
  B.
- Sensitivity to the semantics of the antecedent verb: If real, this would favor A, though it is not necessar-
  ily incompatible with B since situation aspect (Aktionsart) and viewpoint aspect interact.
- Other auxiliaries appear in non-finite forms under a higher finite auxiliary in VPT, VPE, and VPP
  (see ex. 8b).
- In embedded clauses with finite *Gøre*-Support, *gøre* appears below negation indicating that there is an
  available position below negation.

4.2 Head movement in Sluicing (Merchant 2001)

Our account of *Gøre*-Support in Danish is consistent with a suggestion by Merchant (2001:72-74) to account for
why there is no T-to-C raising in Sluicing across Germanic languages. If Sluicing is *wh*-movement accompa-
nied by deletion of TP, then we expect it to be accompanied by auxiliary inversion, but this is ungrammatical,
e.g. (30b).

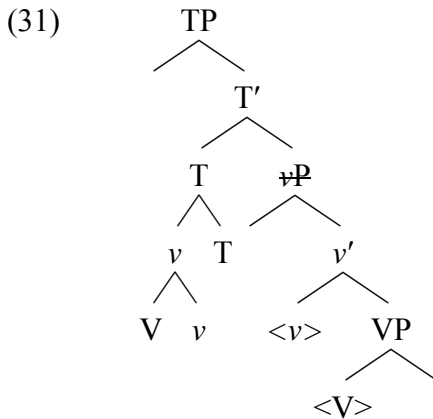(30a)   Jasper was talking to someone but I don't know [CP who [~~Jasper was talking to <who>~~]].
(30b)   *Jasper was talking to someone but I don't know [CP who was [~~Jasper <was> talking to <who>~~]].

The absence of T-to-C movement in Sluicing falls out from our proposal: if head movement is preceded by el-
lipsis of TP, then the auxiliary cannot escape deletion.

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[5] The second author of this paper is happy to speculate that this may not even be a syntactic head position.

4.3 V-Stranding VPE (Goldberg 2005)

Our account of *Gøre*-Support has important implications for the analysis of V-Stranding VPE in Hebrew, Irish, and Swahili (see Doron (1999) for Hebrew, McCloskey (1991) for Irish, and Ngonyani (1996) for Swahili). Recently, this type of ellipsis has been analyzed as V-raising out of the phrase that is later deleted (see Goldberg (2005)).

(31)
```
            TP
             |
             T′
           /    \
          T      v̶P̶
         / \    /   \
        v   T  <v>   v′
       / \        /    \
      V   v    <v>      VP
                       /  \
                     <V>
```

An analysis of V-Stranding VPE consistent with our proposal for Danish has to be worked out. We predict that V-Stranding VPE shouldn't exist, since the main verb should not be able to escape ellipsis.

One possibility is that there are two types of head movement: one in the PF and one in the narrow syntax. It might be possible to appeal to the different motivation for verb raising in each of the types of language in order to justify such an assumption. In Hebrew-style languages, verb raising is movement to T for morphological reasons. In Danish, V-to-*v*-to-T only happens as part of T-to-C, which takes place for non-morphological reasons (for specific proposals see Brandner 2004 and Zwart 2005).

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