Why there is no verb stranding in Mainland Scandinavian

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1   Introduction

Verb stranding occurs when a (main) verb is moved out of a domain which is affected in some other way – either by movement or deletion.

(1) $[_{TP}$ *Subj* V+T $[_{VP}$ ~~t ...~~ $]$ $]$

- Verb appears to be stranded without any verb-phrase-internal material.

- Standardly assumed that material head moves out of ellipsis sites (Goldberg 2005).

Mainland Scandinavian languages:

- Have verb movement (in matrix clauses, the verb appears in second position)

- Have verb phrase ellipsis (VPE)

- But they do not have verb-stranding verb phrase ellipsis (VVPE)

(2)   Mona <u>vaskede</u>   ikke bilen   men Jasper <u>gjorde</u> / *<u>vaskede</u> ⟨*v*P⟩.
         Mona wash.PST not car.DEF, but Jasper do.PST / wash.PST
         'Mona didn't wash the car but Jasper did.'   *Danish* (Houser et al. 2006:(5′, 5″))

- The verb for 'do' appears instead.

Facts are similar for verb phrase topicalization (VPT). The main verb does not appear in the verb-second position.

(3)   [<u>Vaskede</u> bilen]   gjorde / *<u>vaskede</u> Jasper t_{vP}.
         wash.PST car.DEF do.PST / wash.PST Jasper
         'Wash the car, Jasper did.'   *Danish*

This is not obviously expected

- Other languages, like (Brazilian) Portuguese, have both verb movement and VPE or VPT

- Portuguese displays verb stranding in both contexts.

(4) VPE:

Quando a   Ana <u>pôs</u>   os óculos na   mesa, a   Maria também <u>pôs</u>
When   the Ana put.PST the glasses on.the table, the Maria too   put.PST
⟨*v*P⟩.

'When Ana put the glasses on the table, the Maria did too.'

Portuguese (Cyrino and Matos 2002:(14a))

(5) VPT:

[<u>Lavar</u>   o   carro] o   João <u>lavou</u> t_{vP}.
wash.INF the car,   the João wash.PST.3SG

'Wash the car, João did.'   *Portuguese* (Bastos 2001:47, (2))

Without any further assumptions, we should expect Scandinavian to behave like Portuguese.

- Is there some independent reason we should expect Scandinavian to behave differently?

There is a cluster of recent work on VP ellipsis and topicalization in Scandinavian that bears on this issue:

- Platzack (2012) on support verbs in Germanic

- Houser et al. (2006, 2011) on *gøre* in Danish

- Thoms (2012) on ellipsis in Scandinavian.

- Sailor (Submitted) on lack of verb stranding in Scandinavian

I propose (as does Sailor (Submitted)) that the difference be linked to the triggers for verb movement in different languages.

- Scandinavian languages are verb-second languages (V2). Verbs are attracted to a head in the left periphery. (Westergaard 2009).

- If verbs do not move to the CP layer in Scandinavian, then they remain *in situ*; there is no independent movement to T° (Vikner 1995).

- Other languages (like Portuguese, Hebrew, and Russian) have independent movement to the inflectional layer.

This leads to a timing difference that permits T° to function as an escape hatch for head movement.

- I assume that head movement occurs in the narrow syntax (Hartman 2011; *pace* Chomsky 2001:37), and that head movement is triggered when an attractor is merged.

- Given derivational accounts of ellipsis where elided elements are frozen for further operations (Aelbrecht 2010, Baltin 2011), head movement to the left periphery is triggered too late, but movement to T° happens just in time to move to T°.

- The topicalized verb phrases are frozen due to movement (Wexler and Culicover 1980). Assuming an extended left periphery (Rizzi 1997), movement of the verb phrase to TopP will occur before Force° triggers verb movement.

This approach ties the difference in verb-stranding possibilities to independently attested facts about verb movement in Germanic versus other languages.

- It does not rest on proposed idiosyncrasies of the Scandinavian support verbs (Houser et al. 2011).

- Data seems incompatible with PF accounts of head movement. (Chomsky 2001).

Roadmap:

§2 **Verb stranding**
Why the current approach to verb stranding predicts Scandinavian should have verb stranding.

§3 **VP Ellipsis**
The derivational approach to ellipsis, and how it accounts for the lack of stranding in Scandinavian but permits it in others.

§4 **VP Topicalization**
Topicalizing the verb phrases freezes them for further extraction.

§5 **Implications**
Some implications of the proposal

§6 **Conclusion**
Final thoughts

2 Verb stranding

For verb stranding verb-phrase ellipsis/topicalization to occur, there are two requirements (Goldberg 2005).[1]

   i. The language must have verb movement out of the verb phrase.

  ii. The language must have VPE or VPT.

In this section, I briefly review verb movement, verb phrase ellipsis, and verb phrase topicalization in a number of relevant languages.

- I start with an overview of how we know verbs move and verb second.

- I then turn to some relevant properties of VPE and VPT.

- Then is show that languages with these allow verb-stranding, but not Scandinavian.

2.1 Verb movement

There are numerous ways to tell whether verbs have undergone movement.

- Position of the verb relative to adverbs and negation (Pollock 1989, Vikner 1995).

- Constituency of post-verbal material (Chung and McCloskey 1987, McCloskey 1991).

- Position of subjects relative to the verb (Depiante and Vicente 2012).

By far the most common of these is adverb/negation placement, which is sufficient for our discussion here.[2]

- The assumption is that certain adverbs sit on the left edge of vP.

- …or that negation intervenes between T° and v°.

- When verbs appear to left of these adverbs or negation, verb movement must have occurred.

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1   Other elements can be stranded – for example, auxiliaries. These do not originate inside the ellipsis site. What makes verb-stranding remarkable is that an element originating inside the ellipsis site is stranded, what Sailor (Submitted) calls X-STRANDING XP-ELLIPSIS.

2   The tests one uses to tell that verb movement has occurred varies from language to language due to idiosyncrasies of each language. For example, the adverb test fails for independent reasons in Irish because of a requirement that the subject occur immediately adjacent to the verb (Chung and McCloskey 1987). In languages like Spanish, adverb placement is not rigid, and negation is too high to diagnose movement (Laka 1990).

(6)   Peter [$_{vP}$ (often) <u>drinks</u> (*often) coffee].

(7)   Peter (*ofte) <u>drikker</u> [$_{vP}$ (ofte) kaffe].   *Danish* (Vikner 1995)

(8)   Dani ($^?$lif'amim) menašek [$_{vP}$ (lif'amim) et   Dina].
         Dani   kisses   sometimes ACC Dina

         'Dani often kisses Dina.'   *Hebrew* (Doron 1990)

- Verbs are to the right of vP adverbs in English: No movement.

- Verbs are to the left of vP adverbs in Hebrew and Scandinavian: Verb-movement (more on V2 below!).

The destination of verb movement may vary from language to language.

- T°: Hebrew (Doron 1983), Irish (McCloskey 1991, 2011), Portuguese (Silva 2001), Spanish (Depiante and Vicente 2012)

- Asp°: Russian (Gribanova 2013)

- C°: Germanic (*modulo* English, several Scandinavian dialects) (Vikner 1995)

This is in the absence of any intervening auxiliaries.

- Even so, verbs appear to move out of their base positions even when there are auxiliaries.

- For instance, in Spanish passives, verbs move to a position where they receive passive morphology.

- Preview: I'll assume below that this is Voi°.

(9)   [$_{vP}$ <u>Entregada</u>   al   ganador], la medalla   ha sido
             awarded.PASS.FEM to.the winner,   the medal[FEM] has been

             <u>entregada</u> t_{vP}.
             awarded.PASS.FEM

             'Awarded to the winner, the medal has been.' *Spanish* (Vicente 2009:171, (20))

> With regard to verb movement, Scandinavian patterns on the surface with verb movement languages like Hebrew (and not English).

2.2   Verb second and verb movement

In Mainland Scandinavian, placement of the verb is different depending on whether the clause is embedded.

- In matrix clauses (10), verbs show up to the left of negation and VP-adverbs.

- In embedded clauses (11), verbs (by default) show up to the right of negation and VP-adverbs.

(10)   Peter ⟨drikker⟩ ofte   kaffe   om morgenen.
       Peter drinks   often coffee in   morning.DEF
       'Peter often drinks coffee in the morning.'   *Danish* (Vikner 1995:47, (33c))

(11)   Vi ved   [_CP at   Peter ofte   ⟨drikker⟩ kaffe   om morgenen]
       we know [that Peter often drinks   coffee in   morning.DEF]
       'We know that Peter often drinks coffee in the morning'
                                           Danish (Vikner 1995:47, (33f))

In matrix clauses, the finite verb is always preceded by some phrasal element.

- The subject in (10) above.

- Some other fronted elements, like the PP *om morgonen* in (12).

(12)   Om morgonen drikker Peter ofte   kaffe.
       in morning.DEF drinks   Peter often coffee.
       'In the morning Peter often drinks coffee.'   *Danish* (Vikner 1995:47, (33e))

- The position of the verb is traditionally called SECOND POSITION.

- The the element before the verb is said to be in FIRST POSITION.

The standard account: In matrix clauses there is V°-to-C° movement, whereas verbs in embedded clauses remain *in situ* (den Besten 1983, Vikner 1995).[3]

- SpecCP is first position.

- C° is second position.

- When not in first position, subjects are in SpecTP since they are to the left of *v*P adverbs.

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3   Some authors have argued that the verb does not always make it to C° in matrix clauses (see, for instance, Mikkelsen 2010).

(13)   a.
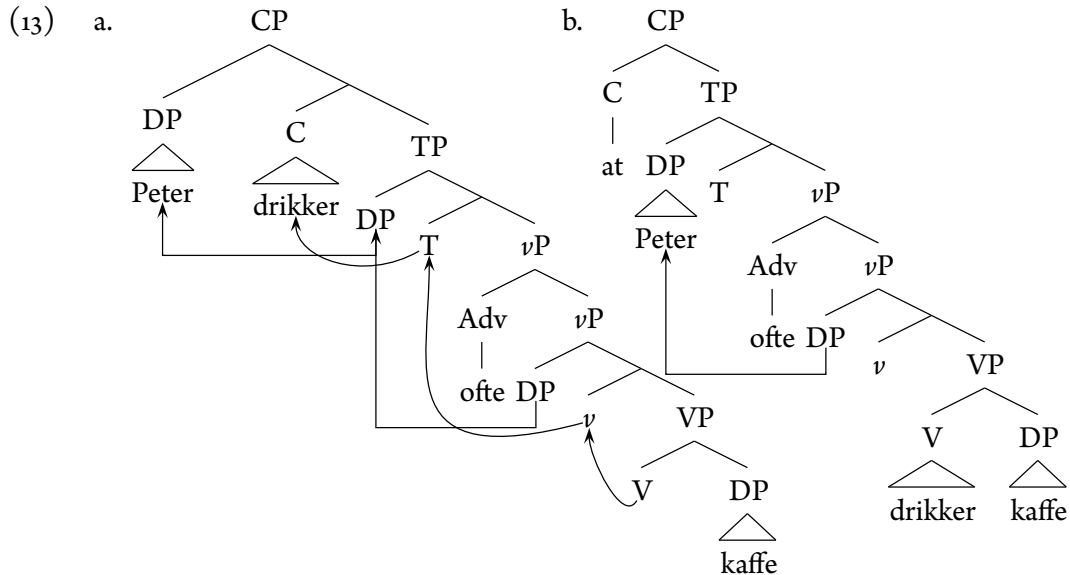
We know verbs do not move to T° independent of movement to C° through comparison to Icelandic.

- In Icelandic, verbs always come to the left of adverbs, even in embedded clauses (14).

- In Danish embedded clauses, verbs come to the right of adverbs (15)

(14)   *Icelandic – V°-to-T°*:   (Vikner 1995:145)

   a.   Ég spurði af hverju Pétur ⟦hafði⟧ oft   lesið hana.
         I   asked why   Peter had   often read it.

   b.   * Ég spurði af hverju Pétur oft   ⟦hafði⟧ lesið hana.
         I   asked why   Peter often had   read it.

(15)   *Danish – V° in situ*:   (Vikner 1995:145)

   a.   * Jeg spurgte hvorfor Peter ⟦havde⟧ ofte læst den.
         I   asked   why   Peter had   often read it.

   b.   Jeg spurgte hvorfor Peter ofte ⟦havde⟧ læst den.
         I   asked   why   Peter often had   read it.

A quick aside: There is no VPT or VPE in Icelandic (Platzack 2012), so we cannot compare the way it behaves to Mainland Scandinavian.[4]

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4   Many languages lack one operation or the other; for example, while German lacks VPE (Lobeck 1995), Irish lacks VPT (McCloskey 2011). It is unclear why this should be. Many authors have attempted to answer this question (*e.g.* Doron 1990, Merchant 2001, Rouveret 2012), but it has been very hard to pin down a property that accounts for which languages will have VPE and which will not. This is a very large question that I sadly have little to say about.

In Mainland Scandinavian:

- Verbs move to the left periphery in matrix clauses.

- They remain *in situ* in embedded clauses.

- There is no independent movement to T°.

2.3   Verb phrase ellipsis

VPE targets a constituent roughly the size of a verb phrase.

- Regularly strands auxiliaries and modals.[5]

- Adjuncts to verb phrases may also escape ellipsis.

(16)   Ashley hasn't gone to Tromsø, but Lindsay has $\langle v\text{P} \rangle$.

(17)   Ele perguntou quem tinha comido o   bolo, e   ela perguntou quem não
         He asked   who had   eaten   the cake and she asked   who   not
         <u>tinha</u> $\langle v\text{P} \rangle$.
         had

         'He asked who had eaten the cake, and she asked who had not $\langle$eaten the cake$\rangle$.'
                                                          Portuguese (Cyrino and Matos 2002:(22b))

(18)   Johan har inte läst *Lolita*, men Kalle <u>har</u> $\langle v\text{P} \rangle$.
         Johan has not read *Lolita*, but   Kalle has

         'Johan has not read *Lolita*, but Kalle has $\langle$read lolita$\rangle$.'   *Swedish* (Thoms 2012)

This tells us the upper bound of the operation.

- In general, vP appears to be the target (Aelbrecht 2010, Merchant 2013).[6]

Many languages have a process like this, though many do not.

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5   It is possible to elide some auxiliaries (Lasnik 1995, Potsdam 1997, Warner 1985); in English, both auxiliary
    and passive *be* may be elided, whereas auxiliary *have* must usually be stranded.
6   There is purported variation. For example, Toosarvandani (2009) argues for an ellipsis operation in Farsi
    (Persian) that targets VP to the exclusion of v°. Rouveret (2012) argues that VPE universally targets VPE.
    Some operations, like pseudogapping, might target larger chunks of material (Merchant 2013).

VPE

- Targets constituents to the exclusion of auxiliaries.

- Appears to target *v*P in most conceptions.

2.4   Verb phrase topicalization

Verb phrase fronting happens to the exclusion of most auxiliaries

(19)   Eaten nattō, I never <u>have</u> *t*.

(20)   [<u>Gem-t</u>   den særligt   godt] tror jeg nu ikke de <u>har</u>   *t*.
         hide-PART it   particularly well   think I   now no   they have.PRES
         'I don't think they have hidden it particularly well.'

Danish (Mikkelsen 2011:(3a))

Evidence from verbal morphology strongly suggests that verb phrases undergo movement in Scandinavian and in verb-doubling languages (as opposed to a null pronoun – see below).[7]

- Verbal inflection in the fronted verb phrase must match what it would have received *in situ* in Swedish; often must in Danish and Norwegian (Lødrup 1990, Mikkelsen 2011, Platzack 2012).

- The facts about inflectional morphology fall out straightforwardly from an Agree-based approach to morphology (Adger 2003, Platzack 2012), which requires the fronted verb phrases to be in the scope of T° or Asp° earlier in the derivation.[8] This process happens before the verb phrase fronts.

(21)   * [Gemm-e / gemm-er / gem-te   den særligt   godt] tror jeg nu   ikke
         hide-INF / hide-PRES / hide-PST it   particularly well   think I   now no
         de <u>har</u>   *t*.
         they have.PRES
         Intended: 'I don't think they have hidden it particularly well.'

Danish (Mikkelsen 2011:(3b))

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7   Reconstruction effects suggest movement as well, but there is a confound in that binding conditions could be satisfied within a fronted *v*P (Huang 1993). See (Vicente 2007:84) for some discussion.

8   Mikkelsen (2011) argues first that there is no movement, by analogy to VP left dislocation, and then poses the possibility of inflectional morphology matching as a problem for the theory of verbal morphology.

- There is a verb matching requirement in many languages and dialects that exhibit verb doubling (Bastos 2001, Landau 2006, Vicente 2007).[9]

(22)   [Comer el   pescado] Juan lo ha   comido.
        eat.INF the fish,   Juan CL has eaten

        'As for eating the fish, Juan has eaten it.'   *Spanish*

(23)   *? [Comer el   pescado] Juan lo ha   devorado.
        eat.INF the fish,   Juan CL has devoured

        Intended: 'As for eating the fish, Juan has devoured it.'   *Spanish*

- The facts about verb matching fall out naturally from the copy theory of movement (Bastos 2001, Landau 2006, Vicente 2007, 2009).

- The basic idea is that part of a head-movement chain is copied. Both the copied chain and the original chain will have a copy of the verb in them, so the verb may be pronounced in both positions.[10]

> VPT appears to involve movement of a verb phrase into the left periphery.

2.5   Putting it together

Scandinavian has verb-movement, VPE, and VPT.

- A-, A'-, and head-movement out of ellipsis sites are all generally possible (Goldberg 2005, Merchant 2001, Schuyler 2001).

- So called remnant movement is well established.

- Thus, verb stranding is a predicted to occur in situations where verb movement interacts with VPE and VPT.

Indeed, most languages with VPT or VPE and verb movement exhibit verb stranding (including, but not limited to, Hebrew, Irish, Portuguese, Russian, Spanish):[11]

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9   Languages and dialects that do not have this requirement are plausibly derived by means other than movement. See Cable 2004 and Vicente 2007.

10 Technical implementations of this vary from author to author. Landau (2006) suggests that morphophonological conditions on verbs (Lasnik's (1995) stray affix filter and requirements on intonation on topicalized elements) are responsible for forcing both copies to be pronounced. Bastos (2001) follows Nunes (1999) in assuming that material internal to heads is morphologically reanalyzed and thus becomes invisible to the chain reduction operation.

11 Hebrew: (Doron 1990, Goldberg 2005, Landau 2006); Irish: (Goldberg 2005, McCloskey 1991, 2011); Portuguese: (Bastos 2001, Cyrino and Matos 2002); Russian: (Abels 2001, Gribanova 2013); Spanish (Vicente 2009)

(24)   *Verb stranding* VPE:

    a.   Dúirt siad go   <u>dtiocfadh</u>   siad, ach ní   <u>tháinig</u>.
           say.PST they COMP come.COND they but NEG come.PST

           'They said that they would come, but they didn't.'   Irish (McCloskey 1991)

    b.   A Ana não <u>leva</u>   o computador para as aulas,   porque os
           the Ana not bring.PRES.3SG the computer   to   the classes, because the
           amigos também não <u>levam</u>   Δ.
           friends too   not bring.PRES.3PL

           'Ana does not bring her computer to the classes because her friends do not
           either.'   Portuguese (Cyrino and Matos 2002:120, (9))

(25)   *Verb doubling* VPT:

    a.   [<u>Leer</u>   el libro] Juan lo <u>leyó</u>.
           read.INF the book, Juan CL read.PST.3SG

           'As for reading the book, Juan read it.'   *Spanish* (Vicente 2007:110, (113))

    b.   [<u>Lavar</u>   o carro] o João <u>lavou</u>.
           wash.INF the car,   the João wash.PST.3SG

           'As for washing the car, John washed it.'   *Portuguese* (Bastos 2001:47, (2))

- This is predicted because verb movement out of the domain of VPE/VPT is independently known to occur.

Languages like English with no verb movement do not have verb-stranding in either VPE or VPT contexts.

(26)   Sally didn't kiss a pig, but Harvey did/*kissed.

(27)   Sally said she'd play the trombone, and play the trombone she did/*played.

- This is predicted since verb movement out of the domain of VPE/VPT does not occur.

- Default verb *do* appears instead.

However, Scandinavian patterns with English!

(28)   VPE:[12]

    a.   Mona <u>vaskede</u>   ikke bilen   men Jasper <u>gjorde</u> ⟨vP⟩.
           Mona wash.PST not car.DEF, but Jasper do.PST

           'Mona didn't wash the car but Jasper did.' *Danish* (Houser et al. 2006:(5′))

b.   Johan <u>leste</u> ikke *Lolita*, men Marie <u>gjorde</u>.
        Johan read not *Lolita*, but   Marie did.
        'Johan didn't read *Lolita*, but Marie did.'

Norwegian (Sailor Submitted:(8b))

(29)   *vpt*:

a.   …og [<u>køre</u>   bilen] <u>gjorde</u> han.
        and   drive.ɪɴꜰ car.ᴅᴇꜰ *gøre*.ᴘꜱᴛ he
        'and drive the car he did.'   *Danish* (Platzack 2012:(4b))

b.   …och [<u>körde</u>   bilen] <u>gjorde</u> han.
        and   drive.ᴘꜱᴛ car.ᴅᴇꜰ *göra*.ᴘꜱᴛ he.
        'and drive the car he did.'   *Swedish* (Platzack 2012:(5b))

c.   <u>Spiller</u>   golf <u>gjør</u>   jeg aldri.
        play.ᴘʀᴇꜱ golf *gjøre*.ᴘʀᴇꜱ I   never
        'Play golf, I never do.'   *Norwegian* (Lødrup 1990:(1))

- This is not predicted, since verb movement proceeds out of the domain of vpe/vpt.

- Default verbs appear instead: Danish *gøre*, Norwegian *gjøre*, Swedish *göra*

- I will call these g-verbs.

To be clear, *g*-verbs occur in embedded clauses, to the right of negation and adverbs.

- This means they are not inserted in T°!

- There really is no movement.

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12 Platzack (2012) reports that ellipsis with *göra* in Swedish is ungrammatical, unlike in Danish and Norwegian. Instead, speakers must use the verbal pro-form *det*:

(i)   Maria körde inte bilen,   men Johan gjorde *(det).
        Maria drove not car.ᴅᴇꜰ but Johan did   it
        'Maria didn't drive the car, but Johan did.'

Why this is the case is mysterious. For more on *det*, see Houser et al. 2007, 2011 and Bentzen et al. 2013.

(30)   Der er   en forventning om,   at   vi skal   [$_{vP}$ gå   videre], selv
        there be.PRES an expectation about that we shall.PRES   go.INF further even
        om det snarere vil være   en stor skuffelse   end katastrofalt, [$_{CP}$ hvis
        if   it rather will be.INF a big disappointment than catastrophic   if
        vi <u>ikke</u> <u>gør</u>   ⟨vP⟩].
        we no   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.'

                                                    Danish (Houser et al. 2011:(6))

2.6 Summary

- Scandinavian does not have verb stranding.

- A cross-linguistically supported theory of verb stranding predicts that it should.

In the following section, I discuss in some detail what makes verb movement in Scandinavian different from the other languages discussed here.

3   VP Ellipsis

In this section, I explain how the syntax of V2 interacts with derivational accounts of ellipsis to explain why there is no verb-stranding VPE in Scandinavian.

- Under derivational accounts, elided phrases are deleted as soon as a licensing head is merged.

- Material that can escape an elided phrase before the licensing head merges will survive ellipsis.

I will argue that V2 is triggered too late in the derivation for verbs to escape from the ellipsis site.

- Languages where verbs independently make it out of vP before ellipsis occurs will permit verb-stranding VPE.

This is essentially the same analysis proposed by Sailor (Submitted).

- He uses this approach to argue that lack of head stranding in ellipsis contexts is not an argument for lack of head movement.

3.1 Derivational ellipsis

Aelbrecht's (2010) approach to ellipsis has the following ingredients.

1. A licensing head L° and the deleted phrase need not be adjacent (cp. Lobeck 1995, Merchant 2001).

    - The [E] feature, which triggers deletion, sits on some head X°.

    - $X^\circ_{[E]}$ must enter into an Agree relation with L° for ellipsis to occur.

    - Other projections may intervene between the L° and $X^\circ_{[E]}$.

2. When L° merges, the constituent targetted for deletion is frozen immediately. No further syntactic operations are possible.

3. Any material that moves to a position between LP and $X^\circ_{[E]}$ escapes deletion.[13]

To illustrate, this permits *wh*-extraction from a VP ellipsis site in English.

- Assume a split *v*P analysis (Merchant 2007, 2013): Voice° determines clause voice, *v*° determines argument structure.[14]

- Voice° is the phase head, hosts [E]. T° is the licensing head (Lobeck 1995).

- *Wh*-movement proceeds through the specifier of VoiceP. T° licenses deletion of *v*P after this.

(31)   I don't know which puppy you will buy, but I know which one you should ⟨*v*P⟩.
   a.   [$_{vP}$ *you v°* [*buy which one*]]
   b.   [$_{VoiP}$ *you* [*which one* [Voi$^\circ_{[E]}$ [$_{vP}$ *~~you~~ v°* [*buy ~~which one~~*]]]]]
   c.   [$_{TP}$ *you* [*should*$_T$ [$_{VoiP}$ *~~you~~* [*which one* [Voi$^\circ_{[E]}$ [$_{vP}$ *~~you v°~~* [*~~buy which one~~*]]]]]]]
   d.   [$_{CP}$ *which one* [C° [$_{TP}$ *you* [*should*$_T$ [$_{VoiP}$ *~~you~~* [*~~which one~~* [Voi$^\circ_{[E]}$ ⟨*v*P⟩]]]]]]]

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13 This is under the assumption that all operations triggered by a head happen simultaneously, allowing ellipsis and head movement to happen at the same time (Aelbrecht 2010:109, n.23).

14 For recent implementations of this idea in other constructions, see Weir 2014 and LaCara, to appear.

3.2 Verb stranding VPE

Verb stranding may occur in languages with independent movement to T° or Asp° on the assumption that T° licenses VPE.

- Assume that head movement happens in Syntax (Hartman 2011).[15]

- T° or Asp° triggers movement: Heads will move to those positions when those heads merge.

- T° licenses ellipsis of *v*P, so it will attract the verb just in time.

Using Portuguese as an example, in (32) the verb *pôs*, 'put (past)' is stranded by ellipsis.

(32)   Quando a   Ana pôs   os óculos na mesa, a   Maria também p<u>ôs</u>
        When   the Ana put.PST the glasses on the   table, the   Maria   too
        ⟨*v*P⟩.
        put.PST
        'When Ana put the glasses on the table, the Maria did too.'

First there is V-to-*v* movement for the double object (Larson 1988):

(33)   [$_{v\text{P}}$ *pôr* [*os óculos* [~~*pôr*~~ *na mesa*]]]

After this the Voi° head merges, triggering movement of the subject and the verb to the VoiP phase edge.

- Recall from (9) that there is evidence verbs move at least as far as Voi°.

(34)   [$_{\text{VoiP}}$ *a Maria pôr*$_{[\text{E}]}$ [$_{v\text{P}}$ ~~*a Maria pôr*~~ [*os óculos* [~~*pôr*~~ *na mesa*]]]]

When T° merges, it triggers ellipsis and attracts the verb and the subject out of *v*P at the same time:

(35)   [$_{\text{TP}}$ *a Maria também pôs* [$_{\text{VoiP}}$ ~~*a Maria pôr*~~$_{[\text{E}]}$ [$_{v\text{P}}$ *a Maria pôr* [*os óculos* [*pôr na mesa*]]]]]

Thus, the verb escapes the ellipsis site, being stranded by the deletion of *v*P.

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15   I will mostly remain neutral here to what theory of head movement one needs in Minimalism, though I will typically represent it as the successive cyclic variety. Chomsky (2001) suggests that head movement, in the traditional sense (Travis 1984), should be moved out of the narrow syntax or reinterpreted for a number of conceptual reasons, and several ways of handling this have been proposed; see Roberts To Appear for a comprehensive review. However, as I discuss below, it is unclear how the difference between Scandinavian and other languages could be captured if head movement is at PF.

3.3 Scandinavian

Verb stranding in VPE contexts in mainland Scandinavian fails because the verb is attracted to C° after VPE is triggered.

(36)   Mona <u>vaskede</u> ikke bilen   men Jasper <u>gjorde</u> ⟨*v*P⟩.
         Mona wash.PST not car.DEF, but   Jasper do.PST

         'Mona didn't wash the car but Jasper did.'   *Danish*

Before T° merges, everything remains *in situ*:
First, I assume there is V-to-*v* movement (assuming verbalization as in Marantz 1997; it would also move were there a double object):

(37)   [$_{vP}$ *Jasper vaske* [~~*vaske bilen*~~]]]

Here, however, Voi° only attracts the subject, and this is repeated when T° merges.

- When T° merges, it Agrees with the other heads in the spine, following Platzack (2012).

- However, there is no independent verb movement to T° in Scandinavian, and the verb remains *in situ*.

- It simultaneously triggers ellipsis of *v*P.

(38)   [$_{TP}$ *Jasper* T°$_{[PST]}$ [$_{VoiP}$ ~~*Jasper*~~ Voi°$_{[E]}$ [$_{vP}$ *Jasper vaske* [*vaske bilen*]]]]]

C° attempts to attract the verb when it merges.

- But it's too late! Ellipsis has frozen *v*P for further operations, so it cannot be extracted.

- I assume, following Platzack (2012), that a *g*-verb is inserted into Voice°, and this is attracted to C°.

(39)   [$_{CP}$ *Jasper gjorde* [$_{TP}$ ~~*Jasper gjorde*~~ [$_{VoiP}$ ~~*Jasper gjorde*~~$_{[E]}$ ⟨*v*P⟩]]]

In fact, we know a *g*-verb is inserted into Voi° (or something low), and not T° or C°.

- In embedded clauses, where the verb does not move, the *g*-verb remains *in situ*.

- Past tense morphology appears on Voice° due to Agree (Adger 2003, Platzack 2012).

(40)   …vi skal [$_{vP}$ gå videre] …[$_{CP}$ hvis vi <u>ikke gør</u> ⟨*v*P⟩].
         we shall   go further   if   we not do

         'We shall go further … if we don't ⟨go further⟩.'   = (30)

(41)   [$_{CP}$ *hvis* [$_{TP}$ *vi* [$_{ΣP}$ *ikke* [$_{VoiP}$ ~~*vi*~~ *gør*$_{[E]}$ ⟨*v*P⟩]]]]

3.4   Summary

This approach relies on two ideas:

- A derivational account of ellipsis

- Syntactic head movement

This is a timing argument:

- Presence of verb stranding tied to independent factors about about verb movement in different languages

- Verb movement happens too late in Scandinavian to escape VPE

4   VP Topicalization

In this section, I explain how the syntax of V2 interacts with VPT.

- Topicalized elements are islands for extraction – a derived island effect (Wexler and Culicover 1980).

- Material can escape an a topicalized phrase before topicalization occurs (remnant movement)

I will suggest that topicalization happens before verb movement is triggered.

- I assume, following Westergaard (2009), that Force° attracts the verb in V2.

- Given the standard view of the left periphery (Rizzi 1997), ForceP dominates TopP.

- Topicalization will therefore happen before verb movement does in Scandinavian.

- Languages where verbs make it to the inflectional layer (T° or Asp°) independently will permit verb-stranding VPT.

4.1   Derived islands

Moved elements become frozen – it is not generally possible to move out of them (Ross 1967, Wexler and Culicover 1980).

(42)   *A′-movement from* wh-*phrase*

    a.   Who$_i$ did you say Mary bought a picture of t_i?

    b. *Who$_i$ did you say [which picture of t_i]$_k$ Mary bought t_k?

(43) *A′-movement from topicalized phrase*
    a.   John said that a picture of Mary he'd never buy t_i
    b.   * Who_k did John say [a picture of t_k]$_i$ he'd never buy t_i.

(44) *A′-movement from subjects*
    a. Who_i did Mary buy a picture of t_i?
    b.   * Who_i was [a picture of t_i]$_k$ bought t_k?

However, it is possible to move out of phrases before they move, leading to remnant topicalization:

- Elements can move out of an XP before XP is topicalized.

- Once the XP topicalizes, it because frozen

German remnant topicalization (45) is a case of this.

- Here, the object *das buch* scrambles out of *v*P before *v*P topicalizes.[16]

(45)   [t_i Gelesen]$_k$ hat er das buch$_i$ nicht t_k.
           read   has he the book not
        'He has not read the book.'   *German* (den Besten and Webelhuth 1990)

- However, movement out of a scrambled object to the left periphery is blocked.

(46)   * Worüber$_k$ hat [$_{DP}$ ein Buch t_k]$_i$ keiner t_i gelesen?
        What.about has   a   book   noone   read
        'What did noone read a book about?'   *German* (Müller 1998)

The working hypothesis is that head movement should obey this constraint as well.

- That is, head movement out of a derived island should behave as *wh*-movement.

4.2 V2 and the left periphery

Since at least Vikner 1995, it has been known that a simple CP-layer is not sufficient to account for all of the observed V2 patterns.

- Under so-called bridge verbs, it is possible to topicalize material in embedded clauses (EMBEDDED V2).

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16 For alternative approaches to partial predicate fronting, see Landau 2006, 2007 and Vicente 2007, 2009.

- When this occurs, the verb moves to the left of the subject.

- The finite complementizer is retained.

- This indicates that there is more than one projection above TP.

(47)   Vi ved [$_{CP}$ at   om morgenen   ⬚drikker⬚ [$_{TP}$ Peter <u>ofte</u>   kaffe]]
       we know [that in   morning.DEF drinks   [Peter often coffee]]
       'We know that Peter often drinks coffee in the morning'

       Danish (Vikner 1995:47, (33h))

Moreover, it is known that the availability of V2 is associated with the illocutionary force of a clause.

- Notable variation by dialect (Westergaard 2009, Westergaard and Vangsnes 2005).

- For instance, in Nordmøre Norwegian, declaratives are strictly V2; non-V2 allowed in all *wh*-questions (Westergaard and Vangsnes 2005:121–122):

(48)   a.   Hvilken bil <u>kjøpte</u> <u>du</u>?
            which   car bough you
            'Which car did you buy?'   *Standard Norwegian*

       b.   Kåles bil <u>du</u> <u>kjøpte</u>?
            which car he bought
            'Which car did he buy?'   *Nordmøre Norwegian*

These facts are accounted for by more articulated approaches to the CP.

- For today's discussion, I adopt the split CP analysis of Rizzi (1997), as in (49).

- Following Westergaard (2009), I assume Force° determines V2 possibilities.

(49)   [$_{ForceP}$ [$_{TopP}$ [$_{FocP}$ [$_{TopP}$ [$_{FinP}$ [$_{TP}$ …]]]]]]

I assume that in root declaratives, Force° attracts the verb to its head position and some phrasal element to its specifier:

(50)   [$_{ForceP}$ Peter ⬚drikker⬚ [$_{TP}$ t_{subj} <u>ofte</u> t_V kaffe   om morgenen]].
         [Peter drinks   [often   coffee in   morning.DEF
         'Peter often drinks coffee in the morning.'   =(10)

Topicalized elements must move through SpecTopP (Rizzi 1997).

- This is assumed to be the destination in other languages as well (Bastos 2001, Landau 2006, Vicente 2007).

In embedded clauses, complementizers sit in Force°:[17]

(51)   Vi ved [$_{ForceP}$ at [$_{TP}$ Peter <u>ofte</u> $\boxed{\text{drikker}}$ kaffe om morgenen]].
        we know [that [Peter often drinks   coffee in morning.DEF
        'Peter often drinks coffee in the morning.'   =(11)

4.3 VP movement and copying

Starting again with Portuguese as an example:

(52)   [<u>Lavar</u>   o   carro] o   João <u>lavou</u> t_{vP}.
        wash.INF the car,   the João wash.PST.3SG

        'Wash the car, João did.'   *Portuguese* (Bastos 2001:47, (2))

First there is V-to-*v* movement, which then proceeds through Voi°, as above:

(53)   [$_{vP}$ *o João lavar* [~~*lavar*~~ *o carro*]]

(54)   [$_{VoiP}$ *o João lavar* [$_{vP}$ ~~*o João lavar*~~ [~~*lavar*~~ *o carro*]]]

The verb then moves to T°, where it receives inflection:

(55)   [$_{TP}$ *o João lavou* [$_{VoiP}$ ~~*o João lavar*~~ [$_{vP}$ ~~*o João lavar*~~ [~~*lavar*~~ *o carro*]]]]

The *v*P topicalizes after this.

- The verb has already escaped the verb phrase, so it does not get frozen.

(56)   [$_{TopP}$ [$_{vP}$ ~~*o João*~~ *lavar* [~~*lavar*~~ *o carro*]] … [$_{TP}$ *o João lavou* [$_{VoiP}$ ~~*o João lavar*~~ [$_{vP}$ *o João lavar* [*lavar o carro*]]]] …]

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17 They may, in fact, sit in an even higher projection, such as Haegeman's (2003) Sub(ordinator)°, if the data from embedded V2 is indicative. I assume that Sub° would then select For° heads that attract the verb in embedded V2 contexts. A full analysis of this phenomenon, while relevant to the precise structure of the left periphery in Scandinavian, would take us too far afield.

4.4 Scandinavian

Now we return to Danish!

(57) [Vaskede bilen] gjorde Jasper t_{vP}.
wash.PST car.DEF do.PST Jasper
'Wash the car, Jasper did.' *Danish*

First there is V-to-v movement, but no movement to Voi°:

(58) [$_{vP}$ *Jasper vaske* [~~vaske~~ *bilen*]]

(59) [$_{VoiP}$ *Jasper* Voi° [$_{vP}$ ~~Jasper~~ *vaske* [~~vaske~~ *bilen*]]]

The subject moves to SpecTP, but again, there is no independent verb movement here.

- Unlike in Portuguese, the verb is not attracted to T°.

- Instead, tense features are valued on the verb and Voi° (Platzack 2012).

(60) [$_{TP}$ *Jasper* T° [$_{VoiP}$ ~~Jasper~~ Voi° [$_{vP}$ ~~Jasper~~ *vaskede* [~~vaske~~ *bilen*]]]]

When Top° merges, vP moves to SpecTopP.

- However, this freezes it! It becomes impossible to remove the verb from it.

(61) [$_{TopP}$ [$_{vP}$ ~~Jasper~~ *vaskede* [~~vaske~~ *bilen*]] [$_{TP}$ *Jasper* T° [$_{VoiP}$ ~~Jasper~~ Voi° [$_{vP}$ ~~Jasper~~ *vaskede* [~~vaske~~ *bilen*]]]]]

Thus, when Force° merges, it attracts vP into its specifier.

- As in the VPE case above, the closest head it can attract is Voice°.

- I assume that Force° will attract the nearest available XP into its specifier.

(62) [$_{ForP}$ [$_{vP}$ ~~Jasper~~ *vaskede* [~~vaske~~ *bilen*]] *gjorde* [$_{TopP}$ t_{vP} [$_{TP}$ *Jasper* ~~gjorde~~ [$_{VoiP}$ ~~Jasper~~ ~~gjorde~~ t_{vP}]]]]

4.5 Summary

The interaction of freezing effects with the derivation of the clause account for whether there is verb-copying VPT or not.

- It's impossible to move a verb out of the fronted verb phrase.

The explanation here is very similar to that of VPE.

- Differences between languages are accounted for by different head movement triggers.

5   Some implications

5.1   Head movement at PF

This analysis crucially relies on head movement occurring in the syntax and not at PF as suggested by (Chomsky 2001). It might, therefore, be taken as evidence in favor of syntactic head movement.

- Differences between languages come about due to differences between when head movement triggers merge.

- As Sailor (Submitted) notes, this sort of approach is an intrinsic ordering, determined by properties of the derivation.

If head movement happens at PF, there is no obvious reason Scandinavian behaves differently from other languages.

- That is, in order to explain verb stranding in Portuguese, Hebrew, Irish, *etc.*, head movement must be possible out of an ellipsis site at PF.

- This predicts that head movement should also be possible out of an ellipsis site at PF in Scandinavian, contrary to fact.

Houser et al. (2006) briefly suggest that head movement might happen at different times in different languages.

- Timing of head movement would vary depending on whether it happened for morphological reasons (Hebrew, Portuguese) or syntactic reasons (Scandinavian).

- This approach might be seen as an implementation of this idea: Cyclic head movement for Voice, aspect, tense morphology triggers earlier head movement in some languages, but abstract syntactic movement to C° is delayed.

- A derivational approach need not stipulate this.

5.2   *G*-verbs

Where are *g*-verbs coming from?

- We know they must originate low, to the right of adverbs.

- Platzack (2012) argues that they appear in $v°$, since, according to him, VP deletes/moves.

Some of the assumptions that his idea rest on have changed:

- Platzack (2012) bases his discussion on Merchant 2008, which argues that VP is the target of deletion.

- However, since Merchant (2013) splits *v*P into *v*P and VoiP, based on the same data, I have assumed that the target of ellipsis is *v*P.

With regard to VPT, Platzack also assumes that VP fronts, stranding *v*°.

- But double objects front with the verb, showing that something larger than just a verb and its complement front.

- If we assume a modern implementation of the VP-shell analysis of double objects (Kratzer 1996, Larson 1988), *v*P fronts.

(63) [Skicka böckerna   till Anders] ska jag *t* i dag.
      send   books.PL.DEF to Anders will I   today
      'Send the books to Anders I will today.'   *Swedish* (Teleman et al. 1999:III, 275)

(64) * [Skicka till Anders] skulle jag *t* böckerna.
      send   to Anders   would I   books.PL.DEF
      'I would send the books to Anders.'   *Swedish* (Teleman et al. 1999:III, 274)

(65) ? [Skicka böckerna]   vill   jag inte *t* till Anders.
      send   books.PL.DEF want I   not   to Anders
      'I want to send the books to Anders.'   *Swedish* (Teleman et al. 1999:III, 274)

Platzack argues that sentence adverbs do not front under VPT, suggesting that it must therefore be VP that fronts:

- However, if adverbs like *ofta*, 'often', adjoin to VoiP (or something higher like AspP), then this evidence is equivocable.

(66) a.   Vi sjunger   ofta i kyrkan.
          we sing.PRES often in church.DEF

      b.   [Sjunger] gör   vi ofta i kyrkan.
          sing.PRES do.PRES we often in church.DEF

      c.   * [Sjunger ofta] gör   vi i kyrkan.
          sing.PRES often do.PRES we in church.DEF

      d.   [Sjunger i kyrkan]   gör   vi ofta.
          sing.PRES in church.DEF do.PRES we often

          'We often sing in church.'   *Swedish* (Platzack 2012:(25a–d))

However, Landau (2006) notes that sentence adverbs in Hebrew cannot front either.

(67)   (*lo) (*tamid) le'horid et   ha-maym, Gil lo   tamid morid.
          (not) (always) to-flush ACC the-water Gil not always flushes
          'As for flushing the toilet, Gil doesn't always flush.'

Hebrew (Landau 2006:38, (25))

Landau (2006:46–50) goes on, though, to argue that the fronted material must contain at least a *v*P.

- Verbal roots in Hebrew, as in other Semitic languages, are consonantal. These consonants can be arranged in different patterns.

- The different patterns are associated with different *v*°s (following Arad 2003).

- The fronted patterns show up these patterns, so they must be included in the fronted material.

Thus, it appears that *v*P is plausibly the target of VPE and VPT, leaving Voi° to be the original position of *g*-verbs.

6   Conclusions

This analysis attempts to link differences in verb stranding with independent facts about verbal syntax.

- Derivational accounts of ellipsis freeze ellipsis sites for movement.

- Freezing effects from movement also do this.

- If head movement is in the syntax, these facts are explained.

My most recent thoughts and concerns:

- The analysis here should be compatible with a phase-based approach to ellipsis (such as Rouveret 2012 or Harwood 2013). Derivational approaches may not be necessary if phase heads (like Voi°) are stranded by ellipsis (*c.f.* Sailor, submitted).

- Movement of *v*P in VPT could start earlier, moving through the lower phase edge. This would obviate the need to move through SpecTopP to freeze little *v*P, but it might introduce other complications.[18]

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18   Thanks to Kyle Johnson for pointing out this alternative.

Acknowledgments

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