Why there is no verb-stranding in Scandinavian

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Problem: Current theories of verb-stranding predict that it should occur in Scandinavian matrix clauses since they contain verb movement out of ν P. Other languages with verb movement, such as the Romance languages, display verb-stranding in VP ellipsis (VPE) and VP fronting (VPF) contexts (Goldberg 2005, Vicente 2007); for example, Portuguese has verb-stranding VPE (1). A full verb is left stranded adjacent to an ellipsis site:

(1) A Maria não lavou o carro, mas o João <u>lavou</u> \$\nu P \cdot P \cdot \text{.} \text{ the Maria not wash.pst.3sG the car, but the João wash.pst.3sG 'Maria washed didn't wash the car, but John did.' ** *Portuguese**

In languages where no verb movement occurs, like English, there is no verb-stranding. Instead the default verb *do* appears:

- (2) Mary didn't wash the car, but John $\underline{\text{did}} \ \nu P$. English It is well known that Scandinavian has V-to-C movement in matrix clauses (Vikner 1995), but verb-stranding does not occur in these languages. For instance, in Danish the default verb $g \sigma r e$, 'do', appears. Verb-stranding is ungrammatical:
 - (3) * Mona vaskede ikke bilen men Jasper gjorde / *vaskede *P.

 Mona wash.pst not car.def, but Jasper do.pst / wash.pst

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

Danish

In embedded clauses, there is no verb movement, just as in English. Consequently, we do not expect verb stranding to occur in embedded clauses in Scandinavian. But why does Scandinavian pattern with English in matrix clauses and not Romance?

Hypothesis: Different positions of the trigger for verb movement in Romance and Scandinavian result in the differences in verb-stranding behavior. In Romance, T° attracts the verb, but in Scandinavian the verb is attracted to the left periphery. Since T° is lower than the left periphery, there is a timing difference between the two families that interacts with ellipsis and topicalization. **Theoretical assumptions:** I adopt the clausal architecture in (4). Following Merchant (2013), I adopt a split- ν P model. Further, I assume an articulated CP layer after Rizzi (1997).

[ForceP [TopP [FinP [TP [VoiP [VP [VP]]]]]]]]

Following Westergaard (2009:38), Force° is responsible for attracting the verb in Scandinavian matrix clauses. When not attracted into the left periphery (in embedded clauses), the verb stays in ν P. In Romance the verb is always attracted to T° (Vicente 2007). Following Hartman (2011), I assume that head movement occurs in the syntax and not at PF (as claimed in Chomsky 2000). **VPE:** Verb-stranding vpe happens when a verb moves out of a verb phrase that is deleted (Goldberg 2005). The difference between Scandinavian and Romance can be cashed out straightforwardly in Aelbrecht's (2010) derivational theory of ellipsis. Under her theory, when an ellipsislicensing head merges, it freezes the elided element for further syntactic operations. Ellipsis is licensed by Agree; the elided element need not be immediately adjacent to the licensor. Following Merchant (2013) and Aelbrecht, T° is the licensor of vpe, and the target is ν P.

Under this analysis, when an ellipsis-licensing T° merges in Scandinavian, it becomes impossible to move the verb out of ν P because it gets frozen. Thus, when Force° merges, it cannot attract a verb since ν P is already frozen. I argue that instead *gøre* is inserted to spell out features on Voi°, similar to Platzack 2012. This moves to Force°. In Romance, on the other hand, the verb is attracted to T° as soon as T° merges. Although T° freezes ν P, the verb is still permitted to escape assuming that all operations triggered by a head occur simultaneously when it is merged. **VPF:** Stranding in VPF contexts comes about in a similar way. In Spanish and Portuguese, a verb moves to T° and the ν P fronts, leaving a copy of the verb behind (Vicente 2007):

(5) [Lavar o carro] o João <u>lavou</u> $t_{\nu P}$. wash.INF the car, the João wash.PST.3SG 'Wash the car, João did.'

Portuguese

Just as in VPE, Scandinavian does not show verb-stranding in VPF contexts.

(6) [Vaskede bilen] gjorde / *vaskede Jasper t_{vP} . wash.pst car.def do.pst / wash.pst Jasper 'Wash the car, Jasper did.'

Danish

VPF is topicalization, and so vP initially fronts to [Spec, TopP] when Top° merges. Force° merges after this, attracting the verb; however, once the vP fronts, it is impossible to move out of it since movement out of a moved phrase is impossible (Ross 1967). Consequently, Voi° is the closest thing that can satisfy the requirement on Force° and so this undergoes head movement with gore. vP then moves from [Spec, TopP] to [Spec, ForceP]:

- (7) $[F_{orceP}]$ [Vaskede bilen] $_{vP}$ gjorde $[T_{opP}]$ t_{vP} [$F_{inP}]$ [T_{P} Jasper $[T_{voiP}]$ t_{voi} t_{vP}]]]]] In Romance T° triggers verb movement. T° merges before Top°, and so verb movement happens before topicalization: The verb moves out of vP before vP moves. The verb is pronounced in both locations due to conditions on pronunciation of chains (Landau 2006).
 - (8) $[F_{orceP} [T_{opP} [Lavar o carro]_{vP} [F_{inP} [T_{P} o João lavou [V_{oiP} t_{vP}]]]]]$

Other analyses: There are other approaches to this problem. Houser et al. (2011) argue that g @re is an auxiliary that selects pronominal complements, so there are no verbs in complement of g @re to strand, and g @re is the only thing that can move. However, they must stipulate that VPE and VPF involve null pronouns. For VPF, they argue that the fronted vP adjoins to the clause and that a null operator moves from the complement of g @re. Facts about verbal morphology make this untenable, since the fronted vP may bear tense morphology (Mikkelsen 2011). This, I argue, is a connectivity effect and shows that the vP must originate as the complement to g @re. VPE, on the other hand, shows traits of deletion in Scandinavian. It is possible to A'-extract out of missing vPs (Bentzen et al. 2013). This is not compatible with a pronominal account:

(9) Hvilke kaker vil du bake, og [hvilke kaker] $_i$ vil du ikke bake t_i ? which cakes will you bake, and which cakes will you not bake

'Which cakes do you want to bake, and which cakes don't you?'

Norwegian

Other arguments for gore being a special auxiliary are thin, and I argue that Platzack's (2012) approach is more adequate, only that Voi $^{\circ}$ receives support rather than v° . A possible objection to the theory I outline above is that separate approaches to VPE and VPF are necessary. If VPE were licensed by VPF (Johnson 2001), it might be possible to collapse both analyses. However, it has been shown that VPE and VPF are only related insofar as they target similar, though slightly different, pieces of structure; VPE cannot be derived from VPF (Aelbrecht and Haegeman 2012). Selected References: Aelbrecht, L. and L. Haegeman 2012. VP ellipsis is not licensed by VP topicalization. LI 43 • Hartman, J. 2011. The semantic uniformity of traces: Evidence from ellipsis parallelism. LI 42 • Betzen, K., J. Merchant, and Svenonius, P. 2013. Deep properties of surface pronouns. J. of Comparative German Linguistics 16 • Houser, M., L. Mikkelsen, and M. Toosarvandani. 2011. A defective auxiliary in Danish. J. of Germanic Linguistics 23 • Landau, I. 2006. Chain resolution in Hebrew V(P)-fronting. Syntax 9 • Merchant, J. 2013. Voice and ellipsis. LI 44 • Mikkelsen, L. 2011. Verbal inflection at a distance. In Morphology at Santa Cruz. SlugPubs • Platzack, C. 2012. Cross Germanic variation in the realm of support verbs. In Comparative Germanic Syntax. John Benjamins • Vicente, L. 2007. The syntax of heads and phrases: A study of verb (phrase) fronting. PhD Dissertation, Universiteit Leiden • Westergaard, M. 2009. The Acquisition of Word Order. John Benjamins.

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