# V-stranding ellipsis and verbal identity

# The role of polarity focus

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This paper shows that the identity condition that characterizes V-stranding ellipsis is not verbal and does not only characterize syntactic heads. In some contexts, this type of ellipsis can strand phrasal material distinct from verbs that complies with the identity condition. The kind of contexts in which this can be attested are contexts in which ellipsis elides a TP licensed by a polarity focus head  $\Sigma^{\circ}$ . This finding has important theoretical consequences for the explanation of the identity condition in V-stranding ellipsis, as it cannot be captured by current theories that put down identity to the special status of head movement in grammar.

Keywords: ellipsis, V-stranding ellipsis, lexical identity condition, polarity focus, head movement

# 1. The state of the art: V-stranding ellipsis and verbal identity

Verb-stranding ellipsis is an ellipsis phenomenon that elides a VP or TP category but moves the verb out of that category prior to deletion. The phenomenon has been identified in various languages, among which Hebrew (Doron 1990; Goldberg 2005), Irish (McCloskey 1991, 2011), Swahili (Ngonyani 1996), Finnish (Holmberg 2001), Portuguese (Martins 1994; Cyrino & Matos 2002; Santos 2009; Costa to appear), Russian (Gribanova to appear). Consider for illustration the Brazilian Portuguese (1) (from Santos 2009:23) and the Finnish (2) (Holmberg 2001:1).<sup>1</sup>

(1) O João viu o desastre na televisão ontem e a Maria também the João saw the accident on the TV yesterday and the Maria also viu.

saw

'João saw the accident on TV yesterday and Maria did too.'

(2) A: Onko Liisa kotona?
is-Q Liisa at.home
'Is Liisa at home?'
B: On.
is
'He is.'

These data have been selected to illustrate the two types of syntactic configuration in which V-stranding ellipsis has hitherto been identified. In (1) the verb moves to T and the VP is subsequently deleted, as in (3).

(3) 
$$\begin{bmatrix} V_i & V_i & V_j & V_j & V_j & V_j \end{bmatrix}$$

(2) on the other hand instantiates a context of polarity emphasis, in which V moves to a left peripheral category that houses yes/no question operators like the Finnish -ko on a specialized polarity focus head, often referred to as  $\Sigma^0$  or  $C^0$  in the literature. In these contexts, the elided chunk corresponds to a category larger than just VP, arguably TP.

(4) 
$$\begin{bmatrix} V_i & V_i & \begin{bmatrix} T_D & t_i \end{bmatrix} \end{bmatrix}$$

It is important to note that V-stranding ellipsis is a process distinct from (multiple) argument drop or dropping of adjunct material (see for discussion Doron 1990; Goldberg 2005; Santos 2009; Gribanova to appear). The most striking evidence for this is that V-stranding ellipsis also shows up in languages that do not allow for adjunct or object drop, like Irish.

The theoretically most intriguing trait of V-stranding ellipsis is the so-called 'verbal identity condition', which requires that the lexical stem of the stranded V needs to be identical to that of its antecedent (Cyrino & Matos 2002; Goldberg 2005; McCloskey 2011; Gribanova to appear; Schoorlemmer & Temmerman to appear). Due to this condition, the stranded verb cannot be lexically distinct from its antecedent, even if that is identical or near-identical to it in meaning. Consider for illustration the case of Irish, which has two cognates for the verb *miss*, an Irish word and an English one. If the antecedent clause contains one of the two, the elliptical response needs to contain the same item (McCloskey 2005).<sup>2</sup>

(5) A: Ar mhiss-eáil tú é?

COMP.INTER missed you him
'Did you miss him?'

B: \*Chrothnaigh.

miss.past
'I did.'

The verbal identity condition poses a challenge for syntactic theorizing because it is not immediately obvious why identity should hold for verbs that are extracted out of ellipsis sites. Other types of extraction, such as A- and A-bar extraction out of ellipsis sites do not need to observe similar restrictions on lexical identity. Compare the case of VP ellipsis in (6) in which the subject *John* leaves the elided VP (it moves from Spec,VP to Spec,TP), and the case of sluicing in (7), in which how many dogs leaves the elided TP. In neither case is the extracted element lexically identical to its antecedent (*Bill* and *books* respectively).

(6) Bill bought a house. 
$$[_{TP} John_i did [_{VP} - t_i -]], too.$$

$$Bill \neq John$$

(7) Bill bought books, but I don't know [
$$_{CP}$$
 how many<sub>i</sub> [ $_{TP}$  —  $t_i$  —]] books  $\neq$  how many

The question then is, why would verb movement be different when it comes to identity? Two recent proposals (Schoorlemmer & Temmermann to appear; Gribanova to appear) put this down to the fact that head movement (unlike A-and A-bar movement) does not take place in the syntactic component, but in PF (in line with Chomsky 1995). This has as its consequence that in LF the verb is contained in the ellipsis site, the VP category.

Since the verb is found inside the elliptical VP in LF, it has to obey stringent conditions on recoverability just like material inside ellipsis sites in general. Recoverability boils down to two conditions, one semantic and one lexical. The semantic one, in the formulation of Merchant (2001), is that a constituent can only be elided if it is *e-GIVEN*, which boils down to a mutual entailment relation between the elided category and its antecedent.<sup>3</sup> The lexical condition is that the elided material has to comply with Chung's (2006) 'no new words' condition, requiring that every lexical item in the numeration of the elided XP must be identical to an item in the numeration of the antecedent XP. With these two conditions on identity of elliptical material, the verbal identity condition exhibited by stranded verbs in V-stranding ellipsis can satisfactorily be captured, provided one takes the stranded verb to be part of the ellipsis site in LF.

The above accounts (Schoorlemmer & Temmermann to appear; Gribanova to appear) thus make the prediction that the only kind of material that can escape an ellipsis site and show effects of lexical identity must be material that moves in PF.

The rest of this paper argues that this prediction is not borne out: there are cases of ellipsis that track the behaviour of V-stranding ellipsis in which stranded

material shows identity but cannot be argued to move in PF. Section 2 will undertake a case-study of Hungarian V-stranding ellipsis to support this claim. It will be shown that V-stranding ellipsis has a variant in Hungarian that is capable of stranding verb-related phrasal material, so-called 'verbal modifiers', which being phrasal in nature do not standardly receive accounts in terms of head movement or PF-movement in the literature. Section 3 will spell out the relevance of these data for the theory of the verbal identity condition and propose a refinement of the characterization of the condition that allows to distinguish between the cases that show verbal identity and those which do not.

# 2. Types of V-stranding ellipsis in Hungarian and the identity condition

#### 2.1 V-stranding ellipsis in Hungarian

Hungarian is just like Finnish in that it licenses V-stranding ellipsis in polarity focus contexts, such as yes/no question-answer pairs (cf. (9)) and confirmations to declaratives (not illustrated here), (Bánréti 1992):

(9) A: Látta János a szomszédokat? saw János the neighbours.A 'Did János see the neighbours?'

> B: Látta. saw 'He did.'

Clearly, the missing material in (9B) is missing because of ellipsis and is not due to object pro-drop. First, 3PL objects (animate and non-animate alike) cannot be dropped in the language, as the following example illustrates.

(10) János szereti a szomszédokat. Meghívta \*(őket). János loves the neighbours. A invited them 'János loves the neighbours. He invited them.'

Second, the process of reduction in (9B) has to be necessarily maximal: if one chooses not to spell out the whole clause, the only option is to reduce it all the way, leaving only the verb behind. In other words, it is not possible to leave out some constituents but not others (this has been observed in Kenesei et al. 1998).

(11) A: Látta János a szomszédokat tegnap a ház előtt? saw János the neighbours. A yesterday the house IN.FRONT 'Did János see the neighbours yesterday in front of the house?'

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B1:*Látta János.
saw János
B2:*Látta a ház előtt.
saw the house IN.FRONT
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If sentence reduction in (9B) was an instance of dropping individual constituents, this property would be left without an explanation, since the option of dropping one constituent does not impact the dropping of others. In case reduction is ellipsis of a larger constituent, this property follows immediately: everything inside the elided constituent has to be missing.

Third, just like it is impossible to repeat subparts of the missing proposition, it is also impossible to add new material to the repeated verb, unless it is added after a pause, in a new clause within which it functions as a fragment.

(12) A: Látta János a szomszédokat? saw János the neighbours. A 'Did János see the neighbours?'
B: Látta, \*(#) az udvaron. saw the courtyard.on 'He did, on the courtyard.'

This receives an explanation if we are dealing with ellipsis, but receives no explanation if there are dealing with dropped individual constituents, as non-elliptical clauses have no restrictions on whether they can contain novel material.

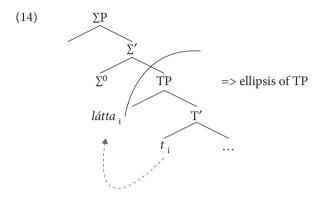
The last, fourth, argument for the elliptical nature of the above utterances comes from the phenomenon under study in this paper, the verbal identity condition. As the next example shows, the Hungarian construction does not allow the use of non-identical predicates, even if they have close enough denotations to be similar or near-identical in their semantics (like the verbs *kedvel* 'like' and *szeret* 'like').

(13) A: Kedveli János a szomszédokat?
likes János the neighbours.A
'Does János like the neighbours?'
B: \*Szereti.
likes
'He does.'

In total then, this section has listed four arguments for analyzing these data as an instance of V-stranding ellipsis in Hungarian.

The underlying structure of these elliptical clauses is captured by (14), and is based on two ingredients: (a) the study of Surányi (2009), which argues that the Hungarian verb raises to  $T^0$  in overt syntax, and (b) the assumption that polarity

contexts are characterized by an emphatic focus position  $\Sigma P$  above TP (partially following Laka 1990 and Piñon 1992 in this), whose head attracts the verb to itself.<sup>4</sup> In polarity focus contexts, like answers to yes/no questions, the verb thus raises to  $\Sigma P$  and the TP below elides.



### 2.2 A variant of V-stranding ellipsis: VM-stranding ellipsis in Hungarian

Answers to yes/no questions also allow for further reduction if the verb that escapes the ellipsis of the TP has a so-called 'verbal modifier' (VM for short) (Surányi 2009). If V-stranding in an answer to a yes/no question affects a verb that has a verbal modifier, this verbal modifier can surface either with or without the verb. Consider the following illustrative example, where the verb *hív* 'invite' combines with the perfectivizer VM *meg*. The pattern in (15B') will be referred to as VM-stranding ellipsis.

(15) A: Meg hívta János a szomszédokat? vM invited János the neighbours.A 'Did János invite the neighbours?'

> B: Meg hívta. vm invited 'He did'

B': Meg. vm 'He did.'

Verbal modifiers in Hungarian comprise various types of entities, such as different types of particles (aspectual, locative), incorporated nominals and PPs of distinct sorts. What unites this rather mixed bag of items is that they show uniform syntactic behaviour. In many syntactic environments, but not all, they occur left adjacent to the verb, and combine with the verb often resulting in an idiomatic meaning.

According to recent syntactic studies, VMs are furthermore phrasal constituents (Koopman & Szabolcsi 2000; den Dikken 2004; Surányi 2009) and they are independent of their verbs syntactically in that there are contexts in which the VM is non-adjacent to its verb.<sup>5</sup> In clauses containing negation, preverbal focus or continuous aspect, the VM follows the verb and need not be adjacent to it.

VMs are base-generated in (or move through, depending on the analysis) a specific projection that is referred to as AspP or PredP in the VP-domain (AspP is assumed by those accounts that attribute aspectual functions to VM elements, PredP by those that consider VMs to be predicative, see references cited in Surányi 2009). As for the surface position of VMs, I adopt the analysis of Surányi (2009), which takes VMs to occupy Spec,TP in overt syntax, in which position they are adjacent to the finite verb that raises to T.

(16) 
$$\begin{bmatrix} P_{TP} VM & V^0 & P_{vP} & \dots & P_{red/AspP} & \dots & P_{vP} & \dots \end{bmatrix}$$

Returning to the phenomenon of V-stranding ellipsis and the relevance of verbal modifiers, if V-stranding in an answer to a yes/no question affects a verb that has a verbal modifier, this verbal modifier can surface either with or without the verb, as we have seen above in (15). The arguments listed in the last section for V-stranding to be an ellipsis phenomenon carry over to VM-stranding as well: elision has to be maximal (cf. 17B) and new material cannot be added to the stranded VM (cf. 17B').

- (17) A: Meg hívta János a szomszédokat a házavatóra? vм invited János the neighbours. A the housewarming.onто 'Did János invite the neighbours to the housewarming?'
  - B: \*Meg János. / \*Meg a házavatóra.

    vm János vm the housewarming.onto
  - B': Meg \*(,) tegnap. vм yesterday 'He did yesterday'.

Now, importantly, VM-stranding also shows the lexical identity effect (providing another argument for ellipsis in these examples). Consider for illustration cases in which VM-verb combinations are identical in meaning but differ only in the lexical form of their VMs, like *össze tör* 'break to pieces' and *szét tör* 'break to pieces' or *fejbe vág* head.INTO hit 'hit on the head' and *kupán vág* cup.ONTO hit 'hit on the head'. Although these pairs are fully interchangable when they are used in non-elliptical utterances, their VMs cannot be exchanged in VM-stranding ellipsis:

- (19) A: Fejbe vágott János téged? head.into hit János you.A 'Did János hit you on the head?'
- B: Fejbe. / \* Kupán. head.INTO cup.ONTO 'He did.'

This shows that VM-stranding ellipsis observes the same lexical identity condition that V-stranding ellipsis does in Hungarian and can be taken to be an elliptical phenomenon similar in relevant respects to V-stranding. Even though in VM-stranding no verb is stranded, VM-stranding is the empirical spitting image of V-stranding ellipsis and it has all the properties that the PF-movement account of V-stranding ellipsis has sought to derive.

The relevance of this finding for the present study is now clear. As has been mentioned above in passing, VMs in Hungarian are phrases. There are a battery of arguments to this effect in recent works like Koopman & Szabolcsi (2000), Den Dikken (2004) and Surányi (2009). For reasons of space, I list three arguments below.

The first argument comes from the observation that VMs can freely undergo contrastive topicalization or focusing, movements that are reserved for phrasal material. The following examples illustrate a topicalized VM and a contrastively focalized one.

- (20) a. Fel $_{\rm i}$ , péter  $t_i$  ment a lépcsőn. VM(up) Péter went the stairs.on lit. 'As far as upwards is concerned, it was Péter who went upwards on the stairs.'
  - b.  $\text{FeL}_i t_i$  ment Péter a lépcsőn, nem  $\text{LE}_i t_i$  ment a lépcsőn. VM(up) went Péter the stairs.on not VM(down) went the stairs.on lit. 'It was upwards that Péter went on the stairs and not downwards.'

The second argument is that VMs can raise out of their host clause into higher clauses, a movement that would be too long distance to be covered by any syntactic head.

(21) Fel<sub>i</sub> akarja, hogy  $t_i$  vegyem a kabátot. VM(up) wants.3sG that put.suBJ.1sG the coat.A 'He/she wants me to put on the coat.'

The third argument that pertains to the phrasal nature of VMs is that some verbal modifiers evidently have a phrasal internal syntax. (22a) illustrates a verbal modifier that is a PP with a nominal constituent inside it and (22b) illustrates a VM that is an accusative marked NP:

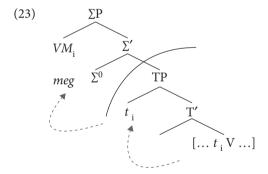
(22) a. János  $[v_{NM=PP}]$  fejbe] vágott engem. János head.into hit me 'János hit me on the head.'

János [<sub>VM=NP</sub> csillagokat] látott.
 János star.PL.ACC saw
 'János saw stars (from the pain).'

On the basis of the testimony of the above facts, it seems reasonably clear that syntactically, VMs are not heads but phrases, as they track the syntactic behaviour of phrases, and not that of syntactic heads. The data in (18) and (19) then show that the lexical identity condition also holds of ellipsis types that strand phrasal material, in this case, phrasal modifiers to verbal heads. The consequence of this finding for the analysis of the identity effect will be spelled out in the next section.

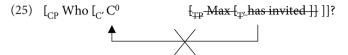
To round off the discussion of VM-stranding in this section, a final note is in order concerning the syntactic configuration in which VM-stranding is found. It is clear that VM-stranding should receive an analysis similar to cases of V-stranding ellipsis in the previous section. Not only do the two types have parallel properties, contexts in which VM-stranding are allowed also allow for both the VM and the verb to be stranded (i.e. (15B) and (15B') alternate freely). The question is, what results in non-pronunciation of the verb in (15B')?

The most straightforward explanation in line with recent theorizing, which has in fact been proposed in the recent literature on Hungarian (Surányi 2009), is that in cases of VM-stranding the verb actually never gets to leave the TP due to the fact that ellipsis applies to the TP, and this ellipsis bleeds the movement of the verb out of the TP to  $\Sigma^0$ .



A similar effect of ellipsis 'bleeding' verb movement has been found in other languages as well, cf. the case of matrix sluicing in English. Even though the verb has to raise to C in non-elliptical contexts, verb movement from T to C does not apply when the TP is elided (for ways to implement bleeding, see Lasnik 1999; Merchant 2001; van Craenenbroeck & Lipták 2008; among others):

- (24) A: Max has invited someone.
  - B: Who (\*has)?



If Hungarian exhibits a similar kind of bleeding in VM-stranding, the distinction between cases where both the VM and the verb are spelled out and cases where only the VM surfaces arguably boils down to whether the verb raises out of the ellipsis site or is trapped inside it.<sup>6</sup>

### 3. Consequences for the theory of the identity condition

The previous section introduced V- and VM-stranding ellipsis in Hungarian, and showed that the lexical identity condition characterizes both types. That is, lexical identity is a property of V-stranding ellipsis where the stranded verb is a syntactic head and it is also a property of VM-stranding ellipsis where the stranded element is a verb-related phrase, but not the verbal head itself. As this section spells out, no generalized account of lexical identity in terms of PF-head movement of verbs is capable of capturing both types.

First, the Hungarian data provide evidence against the generalization that the lexical identity condition is strictly speaking verbal in nature. As has been shown, verbal modifiers are verb-related but not themselves verbs. It is important to note that Hungarian is not the only language that exhibits stranding-type ellipsis in which the stranded material is not a verb. Slovenian exhibits a comparable phenomenon in answers to yes/no questions that contain a verb and a preverbal object clitic. As Dvořák (2007) shows, examples like (26) are instances of ellipsis and allow the stranding of only the clitic without the verb:

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(26) A: A ga poznaš?

Q cL(him) know.2sG

'Do you know him?'

B: Ga.

cL(him)

'I do.'
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And, even though Dvořák (2007) is not concerned with the identity condition, it seems that this condition holds of clitic-stranding as well, as clitic-stranding is impossible if the antecedent of the clitic is a DP (in these cases V-stranding is the only available option). In other words, clitic-stranding is only licensed if the antecedent contains a clitic.

(27) A: A poznaš Boruta?

Q know.2sg Boruta.A

'Do you know Boruta?'

B: Poznam. / # Ga.

know.1sg him.cl

'I do.'

Turning now to the second consequence of the Hungarian data presented in this paper, VM-stranding in the previous section presents a counter-argument to explanations of the lexical identity condition that derive the source of lexical identity from the status of verbs as heads that only move in the PF component of grammar. Verbal modifiers in Hungarian, as was shown above, comply with the identity condition, but they are unlikely to move in the PF component. Saying that VMs move in PF would run into difficulty when accounting for VM placement where VMs occupy scopal positions (such as contrastive focus, cf. (20b)) as in these cases their movement has an impact on LF representations. A PF-movement account would also run into difficulties when accounting for cases of long distance movement like (21), as long distance dependencies are not thought of as PF-driven. Importantly, VM-stranding is also possible in these long distance contexts as well, as the following discourse built on (21) illustrates:

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(28) A: Fel_{\rm i} akarja hogy t_i vegyem a kabátot. vM(up) wants.3sG that put.subj.1sG the coat.A 'He/she wants me to put on the coat.' B: Igen, fel. yes vM(up) 'Yes, she does.'
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The above discussion then provides evidence that there exists a configuration of ellipsis in which material that gets 'stranded' (in the sense of 'raised out of the ellipsis site') needs to be lexically identical to its antecedent, irrespective of its categorial status (verb vs. non-verb and head vs. phrase). The configuration that is characterized by this kind of identity is the context of polarity focus, according to the evidence of the Hungarian and Slovenian data presented above.

What we see in stranding type ellipsis in polarity focus contexts is that material moves out of the ellipsis site in order to lexicalize a polarity focus projection  $\Sigma P$ . Clearly, languages might differ in what exactly is required to raise to  $\Sigma P$  in non-elliptical clauses, and thus what kind of material can get stranded in stranding-type ellipses in this context. Finnish raises the verb (cf. (29a)), Hungarian can resort to raising something smaller: just a verbal modifier (cf. (29b)), while Slovenian can raise just the clitic (cf. (29c)). Possibly, there might be other types of material that can be moved into  $\Sigma P$  and appear as stranded under TP-ellipsis. Given this

crosslinguistically varied picture, the correct way of referring to the type of ellipsis that occurs in polarity focus configurations is in fact not 'V-stranding ellipsis' but 'X-stranding' ellipsis (where X stands for more types of categories than just verbs).

(29) Types of stranded material in X-stranding ellipsis in polarity focus contexts

a.	$\left[_{\Sigma \mathrm{P}}\right]$	$v_{i}$	$[_{\mathrm{TP}} - t_{\mathrm{i}} - ]]$	Finnish verb-stranding
b.	$\left[_{\Sigma \mathrm{P}} ight]$	$v_{M_i}$	$[_{\mathrm{TP}} - t_{\mathrm{i}} - ]]$	Hungarian vм-stranding
c.	$\left[_{\Sigma \mathrm{P}}\right]$	${\operatorname{CL}}_{\mathrm{i}}$	$[_{\mathrm{TP}} \overline{} t_{\mathrm{i}} \overline{}]]$	Slovenian clitic-stranding

Why the lexical identity condition holds for whatever material moves to  $\Sigma P$  in X-stranding ellipsis, is a question that this short paper is not suited to address. It seems clear however, that in order to answer this question, one might have to take into account properties of polarity focus itself.

## 4. Summary

This paper demonstrated that polarity focus contexts, which in some languages give rise to V-stranding TP ellipsis, are earmarked by a type of lexical identity that is most presumably different from the lexical identity found in V-stranding VP ellipsis contexts. While lexical identity in V-stranding VP-ellipsis has so far been found to only affect verbs, a case study of Hungarian shows that it can also affect lexical material other than just verbs. This suggests that the lexical identity condition is not strictly speaking verbal in polarity focus contexts, and cannot be explained with reference to PF-movement of the stranded material. Ultimately, lexical identity in stranding-type ellipses licensed by a polarity head ( $\Sigma^0$ ) might need an account different from the type of stranding-type ellipsis licensed by tense ( $\Sigma^0$ ).

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#### **Notes**

1. Glosses used in this paper are the following: A = accusative, CL = clitic, Q = yes/no question particle, VM = verbal modifier. # stands for a pause.

- 2. The verbal identity effect is ameliorated when the stranded verb is focused in some languages but not others. Portuguese and dialects of Russian allow for non-identity under focus (Santos 2009; Gribanova to appear), Hebrew and Irish on the other hand do not (Goldberg 2005; Galit Sassoon p.c; Michael O'Flaithearta p.c.). This variation is left outside the scope of the present article.
- 3. The precise definition of e-givenness is as follows:
- (a) A constituent  $\alpha$  can be deleted only if  $\alpha$  is e-given.
- (b) An expression E counts as e-given iff E has a salient antecedent A and, modulo ∃-type shifting, (i) A entails the F-closure of E and (ii) E entails the F(ocus)-closure of A.
- (c) The F-closure of  $\alpha$  is the result of replacing F-marked parts of  $\alpha$  with  $\exists$ -bound variables of the appropriate type (modulo  $\exists$ -type shifting).
- (d) ∃-type shifting is a type-shifting operation that raises expressions to type <t> and existentially binds unfilled arguments.
- 4. Deviating from the original proposal in Laka (1990), in this paper I consider  $\Sigma P$  to be a projection that in some languages houses positive polarity only (negative polarity being housed elsewhere). See Lipták (submitted) for a discussion of this choice as well as references cited there.
- **5.** To reflect this, VM V combinations will be spelled as separate words when the VM preceeds the verb, contrary to rules of Hungarian ortography.
- **6.** Notice that there is a difference between the English and the Hungarian pattern in that the bleeding of verb movement in Hungarian VM-stranding is optional, while in English it is obligatory. I leave the source of this difference for further investigation.
- 7. I base myself on the assumption that the clitic is actually raised out of the TP in these contexts in Slovenian, following the gist of the proposal by Bošković (2001) who argues that clitics move in the syntax.
- **8.** Yet another type of stranded material in polarity focus contexts might be adverbs of tense as in the following Capeverdean Portuguese example (Costa et al. to appear), if *dja* can be argued to move out of the ellipsis site (Costa et al. does not take it to move though).
  - (i) A: Dj-e kunpra livru? already-he buy book 'Did he buy the book already?'B: Dja.
    - B: Dja. already 'Yes.'

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