

## 1 Overview

- VERB-STRANDING verb phrase ellipsis (VVPE) is a phenomenon where all of the contents of a verb phrase with the exception of the verb does not appear.
- A (main) verb is present, but all verb-phrase-internal material disappears.

See also my lecture notes from 11 September 2017.

Underlined verbs are stranded. Italicized verbs are antecedents.

- (1) Quando a Ana *pôs* os óculos na mesa, a Maria também  
 When the Ana put.PST the glasses on.the table, the Maria too  
pôs \_\_\_\_.  
 put.PST

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

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

- This phenomenon can be shown to obey the many constraints on verb phrase ellipsis (VPE) in general.
- However, the verb (seemingly the most critical part of a verb phrase) somehow escapes deletion.
- The standard view has been to assume that VVPE involves verb movement to an inflectional position out of a VPE site:

This gives VVPE the appearance of being a NON-CONSTITUENT DELETION (see below).

- (2) [TP a Maria também *pôs* [~~VP t<sub>VP</sub> os óculos na mesa~~]]
- 

I'll use ~~strike through~~ when I need to show the contents of a deleted phrase; otherwise, I will use underline to show the (hypothesized) position of an elided phrase.

- In order for a language to have VVPE, two things are necessary:
  - i. The language must be shown to have VPE.
  - ii. The language must have V<sup>o</sup> to I<sup>o</sup> movement.
- One of the stranger things about this phenomenon is what has come to be known as the VERBAL IDENTITY REQUIREMENT.
  - Verbal material extracted from the ellipsis site by head movement must match the material in the antecedent.
  - Since the identity requirement on ellipsis is thought to be calculated at LF/Semantics, this suggests that the extracted material behaves as if it is still in the VPE site at LF.
- Goldberg (2005) originally takes this to mean that verbs must obligatorily reconstruct at LF for the purposes of calculating ellipsis identity.
  - It's not totally clear why this should happen. Phrasal movement need not reconstruct in this way.

This is why English lacks VVPE. Though it has VPE, it lacks verb movement.

- If verb movement does not happen in the narrow syntax, as Chomsky (2001) proposes, and is only a PF phenomenon, then this might help us understand this behavior.

Goldberg (2005:127) raises this possibility, though she does not explicitly pursue it.

- However, as Gribanova (2013) shows us, the verbal identity requirement is not absolute, and mismatches are allowed to occur.

Today

1. VVPE vs. object drop
2. Accounting for the verbal identity constraint

## 2 Verb-stranding VPE

- Verb-stranding VPE occurs in a number of languages that are not directly related.
- There is strong evidence it exists in the following languages:

It has been argued to exist in other languages, including Finnish (Holmberg 2001), Japanese (Otani and Whitman 1991), Serbo-Croatian (Boeckx and Stjepanović 2001), and Welsh (Rouveret 2012).

- (3) Dúirt siad go *dtiocfadh* siad, ach ní tháinig ariamh \_\_\_\_.  
say.PST they C come.COND they, but NEG come.PST ever.

‘They said they would come, but they never did.’

Irish (McCloskey 2011)

- (4) A Ana não *leva* o computador para as aulas, porque  
the Ana not bring.PRES.3SG the computer to the classes, because  
os amigos também não levam \_\_\_\_.  
the friends too not bring.PRES.3PL

‘Ana does not bring her computer to the classes because her friends do not bring either.’

Portuguese  
(Cyrino and Matos 2002)

- (5) Q: Šošana yoda’at *še-hizmant* et aba šela la-mesiba?  
Shoshana know that-invite.PST ACC father of.her to.the-party  
‘(Does) Shoshana know that you invited her father to the party?’

A: Lo, hi hit’alpa lifney še-hizmanti \_\_\_\_.  
no, she faint.PST before that-invite.PST.1SG

‘No, she fainted before I did.’

Hebrew (Goldberg 2005)

- (6) Q: Ty *poznaomil* Mašu s Petej?  
you.NOM introduce.SG.M Maša.ACC with Peter.INSTR  
‘Did you introduce Masha to Peter?’

A: Konečno poznaomil \_\_\_\_!  
of-course introduce.SG.M

‘Of course I introduced (Masha to Peter)!’

Russian (Gribanova 2013)

- (7) Mama *a-li-wek-a* ki-kombe meza-ni na m-toto  
mother 1SU-PST-put-FV 7-cup 9table-LOC and 1-child  
a-li-wek-a pia.  
1SU-PST-put-FV too

‘The mother put the cup on the table, and the child did too.’

Swahili (Goldberg 2005)

- If we maintain the usual assumption that ellipsis deletes a constituent, then any apparent case of non-constituent deletion must involve movement out of the ellipsis site.
- Since *v*VP<sub>E</sub> appears to delete everything in the verb phrase up to but excluding the verb, it stands to reason that the verb must move out of the ellipsis site.
  - Fortunately, all of these languages have independently been claimed to have verb-movement. That is, in non-elliptical clauses, there is evidence for  $V^0$ -to- $I^0$  movement of some sort.

This is the central hypothesis underlying verb-stranding VPE.

That can be  $V^0$ -to- $T^0$ ,  $V^0$ -to- $Asp^0$ , etc.

## 2.1 Object drop

- As with any good syntactic problem, there is a complication: Many languages that appear to have *v*VP<sub>E</sub> also have OBJECT DROP. This leads to a great deal of syntactic ambiguity between the constructions:

Or null objects, or topic drop...

- (8) O João leu esse livro, e a Ana também leu \_\_\_\_.  
 the João read that book and the Ana too read.
- a. a Ana também leu [~~esse livro~~]. (*v*PE)  
 = 'Ana also did \_\_\_\_.'
- b. a Ana também leu  $\emptyset$ . (*null object*)  
 = 'Ana also read it.'

- Fortunately, distinguishing these two phenomena is possible.
  - Since object drop in most of these languages behaves like an  $A'$ -dependency (following Huang 1982), only *v*PE can occur in islands.
  - Object drop can only be responsible for the loss of a single internal argument and cannot occur in islands. When more than one argument disappears, it is typically the work of *v*PE.
  - Finally, there is a general requirement that a verb stranded by *v*PE match the verb in the antecedent; no such requirement seems to hold of object drop.
- Unfortunately, these three requirements are all interrelated, and finding clear examples that isolates each of them in action is hard to come by.
- The following chart summarizes the properties of each phenomenon.

This is sometimes called TOPIC DROP for this reason.

Not because it is hard to create, but because many authors do not always give clear, full paradigms.

- (9) The standard view:

	<i>v</i> VP <sub>E</sub>	Null Obj.
Island sensitive	No	Yes
Verbal identity	Yes	No
Targets	Everything	Objects

This breakdown is widely reported in the literature on Hebrew, Irish, Portuguese, and Russian (Cyrino and Matos 2002; Doron 1990; Goldberg 2005; Gribanova 2013; McCloskey 1991).

## 2.2 Island sensitivity

- An observation going back at least to Raposo's (1986) discussion of European Portuguese is that null objects do not appear in islands, but v VPE can.
- Doron (1990:10–13) shows the same for Hebrew.

(10) Q: *saragt et ha-sveder ha-ze?*  
you-knit ACC the sweater this?

'Did you knit this sweater?'

A: *lo, aval ha-baxura Se-sarga natna li oto be-matana.*  
no, but the girl who knit gave to-me it for present  
'No, but the girl who did gave it to me for a present.'

A: \**lo, aval ha-baxura Se-kanta natna li oto be-matana.*  
no, but the girl who bought gave to-me it for present  
'No, but the girl who bought \*(it) gave to me for a present.'

In this minimal pair, we see that when the stranded verb is in an island, the verb roots cannot be different. The mismatch would be possible if object drop were available in this condition.

- Following Huang (1982), null objects are thought to be an A'-construction: Topicalization of null operator.
- Importantly, while null objects target a single element, v VPE must delete everything in the VP.
- It is typically assumed, therefore, that when multiple VP-internal elements are missing that it cannot be due to null objects.

Some other VP-internal material might be droppable in some cases, though (Costa and Duarte 2001; Santos 2009)

## 2.3 The verbal identity requirement

- With island sensitivity in mind, we can start looking for other properties that distinguish the two phenomena.
- Crucially, v VPE exhibits the VERBAL IDENTITY REQUIREMENT (VID).
- This is a lexical identity requirement. Verb roots and other material extracted from ellipsis sites must morphologically match the verbs in the antecedent.

You'll notice in other examples that inflectional morphology on the verb need not match.

Cyrino and Matos 2002:(14)

(11) *Portuguese:*

a. *Quando a Ana pôs os óculos na mesa, a Maria*  
when the Ana put.PST.3SG the glasses on.the table, the Maria  
*também pôs* \_\_\_\_.  
also put.PST.3SG

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

b. \**Quando a Ana colocou os óculos na mesa, a Maria*  
when the Ana put.PST.3SG the glasses on.the table, the Maria  
*também pôs* \_\_\_\_.  
also put.PST.3SG

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

Note that the two verbs in these examples appear to mean the same thing. This is not simply a semantic meaning requirement – the verbs must actually match. This is taken to be a problem for semantic identity constraints on ellipsis.

(12) *Hebrew:*

Goldberg 2005:160, (1)

Q: (Ha'im) Miryam *hevi'a* et Dvora la-xanut?  
 Q Miryam brought ACC Dvora to.the-store  
 'Did Miryam bring Dvora to the store?'

A: Ken, hi *hevi'a*.  
 yes, she brought.  
 'Yes, she brought [+Dvora to the store].'

A: \*Ken, hi *lakxa*.  
 yes, she took  
 'Yes, she took [+Dvora to the store].'

- Null objects do not impose such a requirement:

(13) Ela *tirou* o anel do dedo e guardou  $\emptyset$  no cofre.  
 She took.off the ring from.the finger and put it in.the safe  
 'She took off the ring from her finger and put (it) in the safe.'

Portuguese (Cyrino and Matos 2002:(15a))

(14) Sara *raxca* et kol ha-calaxot ve-xilka  $\emptyset$  la-'orexim.  
 Sara washed ACC all the-plates and-distributed to.the-guests  
 'Sara washed all (of) the plates and distributed (them) to the guests.'

Hebrew (Goldberg 2005:50, (41))

## 2.4 Complications

- It is possible to drop material other than objects in a lot of circumstances, and the sensitivity of object drop to islands is not always robust (at least in Portuguese; Costa and Duarte 2001).
- Moreover, it is distinctly possible that some verbs take null complement anaphora as a complement rather than null pronouns (Santos 2009), a possibility that is often overlooked.
- The verbal identity requirement, while apparently robust in Irish and Hebrew, has been reported to be violable in Russian (Gribanova 2013) and European Portuguese (Santos 2009). This means, at best, that verbal identity can only be used as a one-way implication (if verbal identity, then ellipsis).

NCA is familiar from English:  
*John couldn't jump rope, but he tried  $\emptyset$ .*

The conditions under which this happens in Russian are limited, though. It is unclear what the constraints are in Portuguese, if any.

## 3 Verb movement out of ellipsis sites

- Lotus Goldberg's (2005) dissertation is a long-form argument in favor of the view that vVPE is generated by moving a verb out of an ellipsis site, a view first clearly articulated by McCloskey (1991) for Irish.

(15) [IP I<sup>0</sup>+V<sup>0</sup> [<sub>VP</sub> V<sup>0</sup> XP YP ZP ]]

- This stands in contrast to the idea that verbs could be base-generated or merged directly in inflectional positions just in case ellipsis occurs, as was proposed by Doron (1990). The antecedent (including a verb-movement trace) would then be copied in at LF:

$$(16) \quad [IP [I^0 V^0] [_{VP} \emptyset]] \xrightarrow{LF} [IP [I^0 V^0] [_{VP} t_V \dots]]$$

- There are two main arguments:
  - i. Generating verbs outside of an ellipsis site would require some strange semantics for verbs.
  - ii. There is no clear way to account for the verbal identity requirement if verbs are generated/first merged outside the ellipsis site.

I discussed this on 11 September.

### 3.1 Generating verbs in $I^0$ is a semantic headache

- Recall that in order to generate verbs outside the verb phrase, Goldberg (2005) argues that we would need VP pro-forms of several different times, one for each possible verbal argument structure.
- If verbs can be merged directly in  $I^0$ , they must compose with VP pro-form somehow. Since verbs come with various semantic types, verb-stranding languages would need a plethora of VP pro-forms to accommodate semantic composition.
  - A pro-VP for a transitive verb would be of type  $\langle\langle e, \langle e, t \rangle \rangle, \langle e, t \rangle\rangle$ . This would compose with the verb in  $I^0$  (presumably type  $\langle e, \langle e, t \rangle \rangle$ ) and then the subject (type  $\langle e \rangle$ ).
  - A ditransitive would need a pro-form of type  $\langle\langle e, \langle e, \langle e, t \rangle \rangle \rangle, \langle e, t \rangle\rangle$ . A transitive taking a clausal complement would need as still different type.
  - It is not clear that any such “VP-minus-the-V” pronouns are attested cross-linguistically.
- A verb movement account, however, side-steps this issue straightforwardly. No special null pro-forms are necessary. Verb stranding simply falls out from verb movement and (PF) deletion.

### 3.2 The verbal identity requirement again

- Second, if verb movement leaves traces, as Doron (1990) assumes, it is not fully clear why the verbal identity should hold.
- On an LF-copying analysis, a verb should be able to bind another trace/copy of verb movement assuming that the trace is of the correct type.
- So, for instance, in (10), repeated here, assuming that ‘knit’ and ‘buy’ are both transitive verbs of type  $\langle e, t \rangle$  and leave a trace of the same type, the stranded verb *kanta* ‘bought’ should be able to bind the trace of *sarga* ‘knit’ that has been copied at LF:

Verbs of different types might leave traces of different types of course. What matters here is that even verbs of the same semantic type obey the verbal identity requirement.

This requires some form of non-movement chain formation to occur at LF; see Chung et al. 1995.

- (10) Q: *saragt* et [<sub>VP</sub> *t*<sub>saragt</sub> ha- sveder ha-ze]?  
 you-knit ACC the sweater this?  
 ‘Did you knit this sweater?’

A: \*lo, aval ha- baxura [CP Se- kanta [VP  $\emptyset$ ]] natna li oto.  
 no, but the girl who bought gave to-me it  
 ‘No, but the girl who bought \*(it) gave it to me.’

(17) [IP [I<sup>o</sup> kanta] [VP  $\emptyset$ ]]  $\xrightarrow{\text{LF}}$  [IP [I<sup>o</sup> kanta] [VP  $t_{\text{saragt}}$  ha-sveder ha-ze]]

- How would one capture this under an LF copying analysis? Could there be some sort of lexical identity requirement imposed on traces/copies?
- If such a requirement were to exist, we would have to be very careful in how we state it. LF Copying analyses need a requirement weaker than strict lexical identity, but stronger than just argument structural identity.

– It could not be construed over something like argument structure, since verbs with the same argument structure are not interchangeable:

(18) Q: Yiczak nišek et Aviva?  
 Yitzchak kissed ACC Aviva  
 ‘Did Yitzchak kiss Aviva?’

A: \*Lo, hu XIBEK.  
 no, he embraced  
 ‘No, he hugged [~~Aviva~~].’

– It could not be strict morphological identity either because inflectional morphology need not match:

(19) Q: Tazmini et Dvora la-mesiba?  
 invite.FUT.2F.SG ACC Dvora to.the-party  
 ‘Will you invite Dvora to the party?’

A: Kvar hizmanti.  
 already invited.1SG  
 ‘I already invited [~~Dvora to the party~~].’

- Rather, we might want to say that the VID is a property of the traces and that they must be bound by the elements that left them.

– Thus, a trace left by  $V^o$  must be bound by the same (lexical)  $V^o$  that left the trace, and a trace of  $v^o$  must be bound by the same  $v^o$  that left the trace.

- The real problem with this is that phrasal material is not subject to a matching requirement.

(20) ‘Mikael’ can bind copies of ‘Joey’:

PF: Joey was accepted to the conference, and Mikael will be \_\_ too.

LF: Joey was [VP ~~Joey~~ [VP accepted ~~Joey~~ to the conference]], and  
 Mikael will be [VP ~~Joey~~ [VP accepted ~~Joey~~ to the conference]] too.

$\underbrace{\hspace{15em}}_{\text{LF copy}}$

- This is the bizarre fact: The matching requirement does not hold of phrasal material, only head-moved material.
- We would have to stipulate that traces of head movement are subject to an identity requirement that the traces of phrasal movement are not.

### 3.3 Accounting for verbal identity

#### 3.3.1 Reconstruction

- Goldberg's takes the position that verbs move to  $I^0$  as normal and that VPE deletes  $vP$  at PF.
- To account for the verbal identity requirement, she proposes that verbs must obligatorily reconstruct into their base position.

Alternatively, obligatorily interpret the lower copy.

$$(21) \quad \begin{array}{ll} \text{a.} & \text{PF: [ } V^0 + I^0 \text{ [}_{VP} t_V \dots \text{] ]} \\ \text{b.} & \text{LF: [ } \underline{\quad} + I^0 \text{ [}_{VP} V^0 \dots \text{] ]} \\ & \quad \quad \quad \uparrow \\ & \quad \quad \quad \text{-----} \end{array}$$

- This will cause the verb to be interpreted in the elided verb phrase at LF.
- The verbal identity requirement should then fall out from a strict LF identity requirement on ellipsis.
- Thus, the verbal identity requirement falls out the same mechanisms as the (general) identity requirement on ellipsis.
- Languages vary based on where verbs are pronounced but not where they are interpreted.

This is not compatible with the notion of semantic identity introduced by Merchant (2001)

#### 3.3.2 PF head movement

- As Goldberg (2005:180–182) discusses, however, this observation is compatible with the view that head movement is not a syntactic phenomenon at all.
- If heads move only at PF (or, at least, do not move in the narrow syntax), they will be in their base positions at LF, and reconstruction is rendered unnecessary.

Schoorlemmer and Temmerman (2012) pursue this proposal in more detail.

$$(22) \quad \begin{array}{ll} \text{a.} & \text{PF: [ } V^0 + I^0 \text{ [}_{VP} \overline{V^0} \dots \text{] ]} \\ & \quad \quad \quad \uparrow \\ & \quad \quad \quad \text{-----} \\ \text{b.} & \text{LF: [ } I^0 \text{ [}_{VP} V^0 \dots \text{] ]} \end{array}$$

- This has the same consequences as above, except we don't need to posit obligatory reconstruction.
- To the extent that there is independent evidence against narrow syntactic movement of heads, this may therefore be a more appealing analysis.



#### 4 Lingering issues

- As mentioned above the robustness of the verbal identity requirement has been challenged in recent years.
  - Gribanova (2013) and Santos (2009) have shown that it appears to be violable in Russian and European Portuguese, respectively.
  - Understanding what makes it violable is important for understanding what it is.
- If *wh*-elements reconstruct, they should affect the identity requirement.

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