

# Experimental evidence in favor of argument ellipsis derivation for Russian verb-stranding constructions

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FASL 34, MAY 18 2025 (CORNELL)

Classic example of ellipsis: VP ellipsis in English (see Johnson 2001)

- (1) a. Jill loves Cheetos but Jack doesn't  $\Delta$   
b. Jill will not eat this but Jack will  $\Delta$

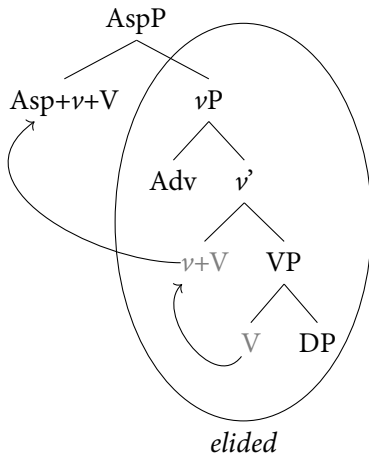
Some languages, however, have a more restricted distribution for VP ellipsis: it is only allowed in the presence of an auxiliary or a verb that embeds a non-finite clause.

Russian: has VP ellipsis with auxiliaries. In their absence, Russian exhibits a verb-stranding construction.

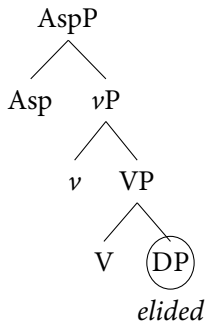
- (2) *Vasja očen' ljubit pivo, a Maša ne ljubit Δ.*  
 V. very.much loves beer but M. not loves  
 'Vasja loves beer very much, but Masha doesn't.'

# DERIVATION OF VERB-STRANDING CONSTRUCTIONS

a. VPE + head movement



b. Argument Ellipsis



For Russian, the VVPE view is argued for by Gribanova (2013; 2013) and the AE view is argued for by Bailyn (2017) and Landau (2020)

### **Common diagnostic**

Most works employ the prediction that adjuncts are present in the ellipsis site only under VVPE analysis to tell the two approaches apart.

However: recent work (Simpson 2023; Landau 2023b; Kobayashi, Tanabe & Yosuke 2024) has shown that the adjunct test (which mostly relies on entailment patterns) is faulty.

Landau (2018) presents a number of puzzling restrictions on Hebrew verb stranding, unexpected under a VVPE approach

(3) **Semantic type requirement for argument ellipsis**

Only *e*-type arguments may undergo argument ellipsis

Arg. ellipsis is illicit with argumental adverbials and predicate nominals

(4) a. Predicate nominals and English VPE

John considers Bill a fool, while Mary does not  $\Delta$ .

b. Predicate nominals and Hebrew verb stranding (Landau 2023b: ex. 55a)

*hi hafxá le-menahélet axarey še-ha-bat šela*  
she turned to-manager after that-the-daughter her  
*hafxá \*(le-menahélet)*  
turned to-manager

‘She turned into a manager after her daughter had.’

- (5) a. Argumental adverbs and English VPE

John behaves well, while Mary does not  $\Delta$ .

- b. Argumental adverbs and Hebrew verb stranding (Landau 2023b: ex. 46a)

*Yosi hitnaheg          yafe aval axiv          lo hitnaheg*

Yosi behaved.3MSG well but brother.his not behaved.3MSG

*\*(yafe)*

well

‘Yosi behaved well but his brother didn’t.’

### **Our goal**

We aim to test the contrast reported by Landau for Russian verb-stranding constructions. We do so using an online acceptability judgement study.

The dependent variable: acceptability score (Likert 1–7 scale).

The first independent variable  $\pm$ E-TYPE

(6) A +E-TYPE example

*Vasja narugal Mašu. A Petja ne narugal.*

Vasja scolded Masha but Petja not scold

Vasja scolded Masha, but Petja did not.

The dependent variable: acceptability score (Likert 1–7 scale). Our experimental lists conform to the 2:1 filler-stimulus ratio, each containing 16 fillers and 8 stimuli drawn from 24 groups of sentences.

The first independent variable  $\pm$ E-TYPE

(7) A –E-TYPE example

*Vasja vel sebjā xorošo. A Petja ne vel.*

Vasja behaved himself well. But Petja not behaved

‘Vasja behaved well, but Petja did not.’

One possible issue with using matrix verb-stranding constructions:  
polarity ellipsis (Gribanova 2017)

$$(8) \left[ \boxed{\text{Pol} + \text{T} + \text{Asp} + \nu + \text{V}} \left\{ \text{T} + \text{Asp} + \nu + \text{V} \left[ \text{Asp} + \nu + \text{V} \left[ \text{DP} \left[ \nu + \text{V} \left[ \text{V} \text{ DP} \right] \right] \right] \right] \right\} \right]$$

As Landau (2023a) notes, polarity ellipsis is a possible parse for matrix verb-stranding constructions which necessarily involves ellipsis of a superconstituent of the verb phrase.

To take polarity ellipsis parses into account, the second independent variable is  $\pm$ EMBEDDED: we included examples with verb-stranding constructions embedded under predicative control verbs (which do not embed a clause large enough to host PolP).

(9) A (+E-TYPE; +EMBEDDED) example

*Vasja soglasiljsja narugat' Mašu, a Petja narugat' otkazalsja.*

Vasja agreed scold Masha but Petja scold refused

'Vasja agreed to scold Masha, but Petja refused to

To take polarity ellipsis parses into account, the second independent variable is  $\pm$ EMBEDDED: we included examples with verb-stranding constructions embedded under predicative control verbs (which do not embed a clause large enough to host PolP).

(10) A (+E-TYPE; -EMBEDDED) example

*Vasja narugal Mašu. A Petja ne narugal.*

Vasja scolded Masha but Petja not scold

Vasja scolded Masha, but Petja did not.

To take polarity ellipsis parses into account, the second independent variable is  $\pm$ EMBEDDED: we included examples with verb-stranding constructions embedded under predicative control verbs (which do not embed a clause large enough to host PolP).

(11) A (−E-TYPE; +EMBEDDED) example

*Vasja soglasiljsja vesti sebjja xorošo, a Petja vesti*  
 Vasja agreed behave himself well but Petja behave  
*otkazalsja.*  
 refused

‘Vasja agreed to himself well, but Petja refused to.’

To take polarity ellipsis parses into account, the second independent variable is  $\pm$ EMBEDDED: we included examples with verb-stranding constructions embedded under predicative control verbs (which do not embed a clause large enough to host PolP).

(12) A (–E-TYPE; –EMBEDDED) example

*Vasja vel            sebja    xorošo. A    Petja ne    vel.*

Vasja behaved himself well.    But Petja not behaved

‘Vasja behaved well, but Petja did not.’

### **Strong hypothesis**

The stimuli of the  $-E\text{-TYPE}$  group will receive lower acceptability scores than the stimuli of the  $+E\text{-TYPE}$  group.

Note: if polarity ellipsis is an important confound, strong hypothesis is predicted to be disconfirmed.

### **Weak hypothesis**

The stimuli of the  $(-E\text{-TYPE}; +EMBEDDED)$  group will receive lower acceptability scores than both the stimuli of the  $-E\text{-TYPE}$  group and the stimuli of the  $+EMBEDDED$  group.

The experiment was implemented via the web-based software PCIBex (Schwarz & Zehr 2021). Stimuli were presented one at a time.



Figure 1: Presentation of stimuli.

The experiment was implemented via the web-based software PCIBex (Schwarz & Zehr 2021).

- 182 participants (all native speakers of Russian)
- they were recruited online using the Yandex.Tasks platform
- 14 participants on average for each list
- all participants provided their informed written consent.

The interaction plot in figure 2 (next slide)

- z-score transformation to eliminate potential scale bias.
- apparent effect of both  $\pm E\text{-TYPE}$  and  $\pm EMBEDDED$
- no cumulative effect

# RESULTS

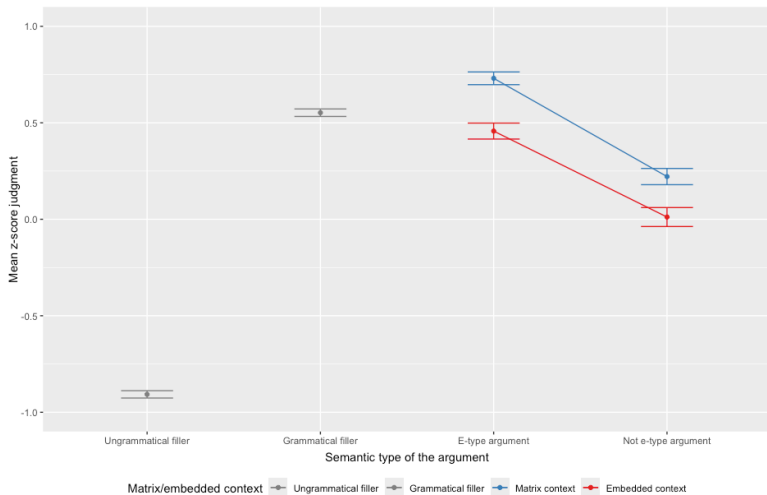


Figure 2: Interaction plot for the factors.

This conclusion is partially supported by a generalized linear mixed-effects model fitted to the data with the two factors as fixed effects and participant and sentence as random effects.

- The effect of  $\pm$ E-TYPE is significant  
(= .510, SE = .088,  $p < .001$ ).
- The effect of  $\pm$ EMBEDDED is not  
(= -.217, SE = .092,  $.01 < p < .05$ )
- The effect of the combination of  $\pm$ E-TYPE and  $\pm$ EMBEDDED is not  
(= -.057, SE = .126,  $p > 0.05$ ).

Our results show a significant effect of  $\pm$ E-TYPE on acceptability. However,

- the worst-rated stimuli have a near-zero z-score, placing them closer to grammatical fillers than ungramamtical fillers
- no effect of the possible polarity parse is observed

Our results show a significant effect of  $\pm$ E-TYPE on acceptability.

- Re: issue 1, a significant effect can be taken as evidence regardless of absolute acceptability (see Featherston 2005; Almeida 2014; Kush, Lohndal & Sprouse 2018 on island effects)
- Re: issue 1, another possibility is that overt grammatical violations lead to stronger degradation of acceptability than covert ones

Our results show a significant effect of  $\pm$ E-TYPE on acceptability.

- Re: issue 2, our results are compatible with the hypothesis that non-E-TYPE arguments in the ellipsis site lead to degraded acceptability in a non-grammatical way.
- Re: issue 2, it may be that polarity ellipsis in the sense of Gribanova (2017) is not a phenomenon.
- Rudnev (in prep.) reports on the experimental data that puts the generalizations of Gribanova (2017) into doubt.

We have conducted an acceptability judgement study to test Landau's generalization re: Hebrew verb-stranding constructions in Russian.

### **Our result**

Russian verb-stranding constructions are sensitive to the semantic type of the elided argument.

Landau's theory is the only one capable of accounting for this effect.

We are grateful to Mikhail Knyazev, Daria Sidorkina, and Natalia Slioussar for their help. This research is supported by Russian Science Foundation grant № 24-28-01873.

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The least significant difference (and the only one with  $p > .001$ ) is the one between the (–E-TYPE; –EMBEDDED) group and the (–E-TYPE; +EMBEDDED) group, which is likely to be due to the general ban on eliding non *e*-type arguments in a verb-stranding construction.

| Group 1            | Group 2            | Statistic | <i>p</i> -value  |
|--------------------|--------------------|-----------|------------------|
| –E-TYPE; –EMBEDDED | –E-TYPE; +EMBEDDED | .210      | $.001 < p < .01$ |
| –E-TYPE; –EMBEDDED | +E-TYPE; –EMBEDDED | –.509     | $p < .001$       |
| +E-TYPE; +EMBEDDED | –E-TYPE; +EMBEDDED | .446      | $p < .001$       |
| +E-TYPE; +EMBEDDED | +E-TYPE; –EMBEDDED | –.273     | $p < .001$       |

**Table 1:** Results of Tukey's HSD test applied to the four subgroups.