Illicit LBE in Russian sluicing: rescue by deletion (of linearization statements)

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1. Introducing the problem

Russian, among many other Slavic languages, is well known for allowing Left-Branch Extraction (LBE) – a process of displacement of an element originating at the left edge of an NP (Ross 1967, Bondarenko & Davis 2023). LBE, however, is impossible if an NP is a complement of a preposition.

(1) a. **LBE out of an NP is fine**

Krasnuju ja videl [$_{NP}$ ____ mašinu]
red.F.ACC.SG I saw car.ACC.SG
'I saw a RED car.'

b. **LBE that crosses a PP boundary is illicit**

*Krasnoj ja sidel [$_{PP}$ v ____ mašine]
red.F.PREP.SG I sat in car.PREP.SG
Int.: 'I sat in a RED car.'

Crucially, the ban on LBE from a PP is voided under sluicing, cf. (2). This is reminiscent of effects often grouped under the rubric of 'salvation by deletion' (Ross 1969, Mendes & Kandybowicz 2023).

(2) a. **Adjectival sluice that crosses a PP is possible**

Ja sidel v kakoj-to mašine no ja ne pomnju kakoj
I sat in some.F.PREP.SG car.PREP.SG but I not remember which.F.PREP.SG
'I sat in some car but I don't remember in which.'

b. **The elided clause cannot be pronounced**

*Ja sidel v kakoj-to mašine no ja ne pomnju kakoj ja sidel
I sat in some.F.PREP.SG car.PREP.SG but I not remember which.F.PREP.SG I sat
v ____ mašine
in car
Int.: 'I sat in some car but I don't remember in which car I sat.'

We start the discussion of the pattern by demonstrating that the example (2a) cannot be derived from a non-isomorphic source (Barros et al. 2014) – one that does not contain a preposition, and, therefore, does not have any illicit movement steps. Instead, in §3 we adopt the Cyclic Linearization framework (Fox & Pesetsky 2005) and suggest that the initial ban on movement in (1b) stems from conflicting linearization statements which, crucially, can be circumvented by ellipsis. Then, §4 suggests that Cyclic Linearization can be a general way to curb overgeneration issues raised against Scattered Deletion approaches to LBE

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(Bondarenko & Davis 2023); it is also shown that some other restrictions on extraction from NPs that do not hold in sluicing can readily be captured on our account, if these two mechanisms are combined. §5 discusses a putative generalization that emerges from the data. §6 concludes.

2. Against non-isomorphic source

In his seminal work on ellipsis, Merchant (2001) suggests that some instances of apparent island violations in sluicing involve non-pronunciation not of the island-containing structure, but rather some simple structure which does not contain an island, e.g. pseudo-sluicing (3) or short answer. Much recent work has been done on reducing all apparent cases of 'island repair' under sluicing to ellipsis with a non-isomorphic source (Vicente 2008, van Craenenbroeck 2010, Barros et al. 2014). With this, 'salvation by deletion' effects turn out to be an illusion: there is nothing special about ellipsis in ameliorating ungrammatical structures, since there are no ungrammatical structures to begin with.

(3) They hired someone who speaks a Balkan language – guess which ~~it was~~!

For our purposes, it would suffice to suggest that the non-isomorphic source simply does not include the preposition, thus circumventing the need to posit an LBE step that is illicit without ellipsis, see (4), where English words are used for convenience only.

(4) I sat in some car but I don't remember which ~~that was ____ car~~.

Such an account, however, cannot be applied to the Russian data. The first argument against a pseudo-sluicing account is case connectivity (Grebenyova 2007): if the preposition is absent in the structure, it is unclear why the moved modifier has to bear the case associated with the preposition instead of nominative, a case that is expected in copular constructions. It should additionally be noted that the remnant and the correlate need to bear the same case.

(5) Ja sidel v kakoj-to mašine no ja ne pomnju kakoj /
I sat in some.F.PREP.SG car.PREP.SG but I not remember which.F.PREP.SG
*kakaja
which.F.NOM.SG
'I sat in some car but I don't remember in which.'

Nevertheless, suppose there is some way to circumvent the case connectivity objection. Our second argument comes from the fact that a prepositionless pseudo-sluicing derivation, though sometimes available in Russian (Ionova 2019), should be readily available for the ungrammatical P-stranding sentence in (6). If the preposition can be absent from the elided portion of the clause, no preposition-related constraints on movement should be active, contrary to fact.

(6) a. On govoril mne o kakoj-to mašine no ja ne pomnju kakoj
he told me about some.F.PREP.SG car.PREP.SG but I not remember which.F.PREP.SG
'He told be about some car but I don't remember about which.'

b. *On govoril mne o čem-to no ja ne pomnju čom
he told me about something.PREP.SG but I not remember what.PREP.SG
Int.: 'He told be about something but I don't remember about what.'

From these facts, then, we conclude that the pattern truly instantiates 'salvation by deletion' of the otherwise illicit structure. The rest of the paper fleshes out our analysis in terms of Cyclic Linearization (CL, Fox & Pesetsky 2005).

3. Core of the analysis: Cyclic Linearization

Fox & Pesetsky (2005) propose an architecture for the mapping from syntax to PF, according to which syntactic structure is linearized cyclically. At each phase, linearization statements that contain ordering information among overt elements are issued. Crucially, derivations are order-preserving, meaning that linearization statements, once established, cannot be re-written and must be respected throughout the whole derivation. A key feature of CL following from this is that movement across domains is generally allowed, as long as it does not create a linearization statement that would provide PF with an instruction that is in conflict with a previously established ordering. Evidence for CL comes from a variety of phenomena across different languages (Ko 2014, Lee 2021, Davis 2021, Mendes & Kandybowicz 2023). As an example, consider the derivation (7), where movement is non-successive-cyclic.[1]

(7) a. A non-successive-cyclic derivation: $[_{\text{Phase}_2}\ \underset{\uparrow}{\text{Y}}\ \text{Z}\ [_{\text{Phase}_1}\ \text{X}\ t_{\text{Y}}\ ]]$

b. Linearization statements:
Phase_1: X « Y
Phase_2: Y « Z « Phase_1 → X

Once Phase_1 is sent to Spell-Out, the ordering (X « Y) is established. At some point in the derivation, Y moves across X to the left edge of Phase_2, which is then linearized as (Y « Z « X). The two linearization statements are contradictory, as Y is instructed to both precede and follow X. The conflict, however, can be avoided if Y moves successive-cyclically, as in (8).

(8) a. A successive-cyclic derivation: $[_{\text{Phase}_2}\ \underset{\uparrow}{\text{Y}}\ \text{Z}\ [_{\text{Phase}_1}\ \overset{\downarrow}{t_{\text{Y}}}\ \text{X}\ t_{\text{Y}}\ ]]$

b. Linearization statements:
Phase_1: Y « X
Phase_2: Y « Z « Phase_1 → X

Here, before moving to its final position at the left periphery of the Phase_2, Y first makes an intermediate stop at the edge of Phase_1, which is linearized as (Y « X). Given the transitivity of the precedence relation, there are no problems with this scenario: (Y « Z « X) implies (Y « X). Assuming that *v*P and CP are phases, *wh*-movement, for instance, must proceed cyclically in order to avoid providing PF with contradictory linearization statements.

(9) $\underset{\uparrow}{\text{Who}}$ did Meg $[_{v\text{P}}\ \overset{\downarrow}{t}$ think $[_{\text{CP}}\ \underset{\uparrow}{t}$ that John $[_{v\text{P}}\ \overset{\downarrow}{t}$ met $t\ ]]]$?

What is important about (7) is that, from CL point of view, it is ungrammatical not for strictly syntactic reasons, but rather due to a failure of the linearization algorithm. So, CL makes a clear prediction that such structures can be 'repaired' with the help of ellipsis, which is thought to eliminate linearization statements, see (10). In this scenario, the ordering (X « Y), established at Phase_1, is deleted in the course of the derivation, so, when Phase_2 is completed, no conflict arises and the derivation converges.

(10) a. A non-successive-cyclic derivation with ellipsis of Phase_1: $[_{\text{Phase}_2}\ \underset{\uparrow}{\text{Y}}\ \text{Z}\ [_{\text{Phase}_1}$ X $t_{\text{Y}}\ ]]$

b. Linearization statements:
Phase_1: X « Y
Phase_2: Y « Z « Phase_1 → ∅

Turning now to Russian, we claim that the ban on LBE from a PP follows from the fact that the modifier evacuates PP without making a stop at its edge, as shown in (11).

[1] It should be emphasized that CL hypothesizes Spell-Out to apply to the entire phase, not just the complement of the phase head, as is traditionally assumed. See (Ko 2014, Davis 2021) for discussion.

(11) a. *[$_{CP}$ Krasnoj ja sidel [$_{PP}$ v *t* mašine]]
red.F.PREP.SG I sat in car.PREP.SG
Int.: 'I sat in a RED car.'

b. Linearization statements:
PP: v « krasnoj « mašine
CP: krasnoj « ja « sidel « PP → v

To make this work, we need two assumptions, both of which are independently motivated in the literature (Abels 2003). First, PP is a phase, thus a Spell-Out domain. Second, PPs provide no escape hatch for successive-cyclic movement. With this, CL readily accounts for the impossibility of LBE out of a PP, since any attempt at doing so would result in contradictory linearization statements, according to which a dislocated modifier is instructed to both precede and follow the preposition. In other words, non-elliptical clauses with LBE out of a PP instantiate the unacceptable scenario (7).

A way to circumvent the problem, however, is to get rid of the PP-level linearization statements (12). This is what ellipsis allows to achieve, resulting in 'salvation by deletion' – the scenario (10).

(12) ... no ja ne pomnju [$_{CP}$ kakoj ja sidel [$_{PP}$ v *t* mašine]]
'...but I don't remember in which.'

Significantly, nothing in our approach is sluicing-specific. As shown in (13) and (14), fragments and (contrastive) stripping also allow for such LBE. Moreover, unlike some other approaches to P-omission under ellipsis in non-P-stranding languages (Stjepanović 2008 for Serbo-Croatian, Ionova 2019 for Russian), our approach invents no ellipsis-specific operations, but instead appeals to independently motivated mechanisms that allow to reduce the observed pattern to the basic workings of CL.

(13) – V kakoj mašine sidel Petja? – Goluboi!
in what.F.PREP.SG car sat Petya blue.F.PREP.SG
– 'Which car Petya sat in?' – 'In a blue one!'

(14) – Petja sidel v krasnoj mašine. – Net, goluboi!
Petya sat in red.F.PREP.SG car.PREP.SG no blue.F.PREP.SG
– 'Petya sat in a red car.' – 'No, in a blue one!'

This is the core idea underlying our approach. Next section discusses our analysis in relation to accounts of LBE that appeal to partial pronunciation of copies.

4. Relation to Scattered Deletion accounts of LBE

Various work argues that LBE actually involves movement of the whole NP combined with the partial pronunciation of the copies in a chain – a process dubbed Scattered Deletion (SD; Fanselow & Ćavar 2002, Bondarenko & Davis 2023). Witness (15), which illustrates how SD percieves (1a). While it is the NP that undergoes movement, the effect of LBE – movement of the modifier – is achieved by the exclusive pronunciation of the modifier in the higher copy.

(15) a. [$_{NP}$ Krasnuju ~~mašinu~~] ja videl [$_{NP}$ ~~krasnuju~~ mašinu]
red.F.ACC.SG car.ACC.SG I saw red.F.ACC.SG car.ACC.SG
'I saw a RED car.'

Importantly, an SD analysis of discontinuous NPs in Russian has been suggested by Bondarenko & Davis (2023), who provide rich evidence from parasitic gap licensing, weak crossover effects, and Principle C connectivity. So, it is worth considering how our CL-based account of LBE interacts with SD. Shortly, we will demonstrate that CL and SD coexist harmoniously.

One of the main criticisms leveraged against the SD approach to LBE is its non-restrictiveness (Bošković 2015), i.e. the copies in a chain can be pronounced in more ways than are actually observed. The problem, however, disappears once SD is paired with CL. The prediction is as follows: if the clause-level linear order is not possible at the NP level, partial pronunciation of copies is predicted to be impossible. As (16) shows, this seems to be the case. Here, the adjective *gonočnye* 'race.ACC.PL' cannot precede the possessive anaphor *svoi* 'self.ACC.PL' NP-internally and, thus, cannot precede the possessive anaphor as the result of LBE. Assuming NPs to be phases, it is clear that (16b) is ungrammatical due to conflicting linearization statements.

(16) a. Oleg prodal {svoi gonočnye mašiny / *gonočnye svoi mašini}
Oleg sold self.ACC.PL race.ACC.PL cars race.ACC.PL self.ACC.PL cars
'Oleg sold his race cars.'

b. *Gonočnye Oleg prodal [$_{NP}$ svoi ~~gonočnye~~ mašini]
race.ACC.PL Oleg sold self.ACC.PL race.ACC.PL cars
Int.: 'Oleg sold his RACE cars.'

Moreover, not only does CL allow to curb overgeneration issues of SD, it also predicts that various other restrictions on movement from Russian NPs may be circumvented by ellipsis. This turns out to be the case, as well. For example, post-nominal genitive complements of nouns cannot be extracted (17a). However, the ban is alleviated in sluicing (17b) and fragment (17c) contexts.

(17) a. *Čego on kupil [$_{NP}$ korobku ~~čego~~]?
what.GEN he bought box what.GEN
Int: 'What did he buy a box of?'

b. On kupil korobku čego-to no ja ne pomnju čego
he bought box something.GEN but I not remember what.GEN
'He bought a box of something but I don't remember of what.'

c. Korobku čego on kupil ~~korobku~~ ~~čego~~? Konfet!
box what.GEN he bought box what.GEN candies.GEN
'What did he buy a box of? Candies!'

Finally, if we consider the patterns of split PPs in Russian (18), the 'P-First Generalization' of Sekerina (1997) falls out of CL naturally, given our earlier assumption that movement to [Spec, PP] is unavailable. As before, nothing can be linearized to the left of the preposition PP-internally and, thus, split PPs always have the preposition pronounced in the higher copy.

(18) a. [$_{PP}$ Pered pervym ~~vagonom~~] on stoit [$_{PP}$ ~~pered~~ ~~pervym~~ vagonom]
before first carriage he stands before first carriage
'He stands before the FIRST carriage.'

b. *[$_{PP}$ ~~Pered~~ pervym vagonom] on stoit [$_{PP}$ pered ~~pervym~~ ~~vagonom~~]
before first carriage he stands before first carriage
Int.: 'He stands before the FIRST carriage.'

c. *[$_{PP}$ Pervym pered ~~vagonom~~] on stoit [$_{PP}$ ~~pered~~ ~~pervym~~ vagonom]
first before carriage he stands before first carriage
Int.: 'He stands before the FIRST carriage.'

Additionaly, example (18a) is illuminating in that it can be used to argue in favor of the SD approach to discontinuous PPs, in addition to NPs. This is because otherwise it would be extremely difficult to dislocate a preposition and an adjective separately: additional assumptions about movement are required and the landing sites must be elaborated on. See (Goncharov 2015) for discussion of a related phenomenon of preposition doubling in split PPs.

From this data, we conclude that SD approaches to LBE are a good addition to our CL-based analysis. The two complement each other: CL addresses overgeneration issues of SD, while SD provides an elegant way to approach discontinuous PPs. Moreover, taken together, SD and CL correctly predict an additional case of 'salvation by deletion' in Russian.

5. Generalizing a problem for our approach

The proposal presented in this paper covers a number of non-trivial observations but still seems to overgenerate. This final section addresses the overgeneration problem and suggests a tentative generalization that needs to be active in addition to our analysis.

The first issue comes from multiple *wh*-questions. Insofar as pronunciation of P in the lower copy is possible if the lower copy gets elided, we predict the prepositionless sluices to be available in multiple sluicing. Contrary to expectations, however, they are not. As evident from (19), regardless of the order of sluices, both must be with a preposition.

(19) a. On menja vstretil togda u kakogo-to vokzala s kakoj-to damoj,
He me met then near some.M.GEN.SG terminal with some.F.INSTR.SG dame
no ja zabyl *(u) kakogo s kakoj
but I forgot near which.M.GEN.SG with which.F.INSTR.SG

b. On menja vstretil togda u kakogo-to vokzala s kakoj-to damoj,
He me met then near some.M.GEN.SG terminal with some.F.INSTR.SG dame
no ja zabyl u kakogo *(s) kakoj
but I forgot near which.M.GEN.SG with which.F.INSTR.SG
'He met me near some terminal with some dame but I forgot near which terminal and with what dame.'

The second issue has to do with some other types of ellipsis that involve non-pronunciation of the lower PP copy. In our current account, both VP ellipsis and TP ellipsis associated with polarity particles (Kramer & Rawlins 2011, Gribanova 2017) should allow prepositionless remnants, contrary to what we actually observe (20).

(20) Ya na gumanitarnuyu programmy postupatj budu, a *(na) inženernuju {net /
I on humanities programm apply AUX.FUT.1SG but on engineer not
ne budu}
not AUX.FUT.1SG
'I will be applying to a humanities program but I will not be applying to an engineering program.'

Laying ground for future work, we suggest that the generalization that arises is that nothing that is pronounced can share a clause with a prepositionless remnant.

(21) **The sole remnant generalization for prepositionless remnants**
A prepositionless remnant must be the only pronounced material in the clause.

For the purposes of space, we do not offer a fleshed out account here.

6. Conclusion

This paper showed that Russian allows LBE from a PP but only in the context of ellipsis and argued that it constitutes a case of 'salvation by deletion'. We provided an account of this pattern in terms of Cyclic Linearization (Fox & Pesetsky 2005) and further demonstrated that the analysis, once coupled with the Scattered Deletion approach to LBE (Bondarenko & Davis 2023), makes the correct prediction that a variety of restrictions on extraction from Russian NPs and PPs can be circumvented with the help of ellipsis. Finally, we pointed out an overgeneration problem of the current account, which is subsumed

by the sole remnant generalization for prepositionless remnants. We expect the generalization to follow from a more fleshed out linearization mechanism but leave the matter for further work.

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