

PARASITIC GAPS DIAGNOSE CONCEALED PIED-PIPING IN RUSSIAN

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INTRODUCTION: While many Slavic languages like Russian allow A'-extraction of elements from the left edge of the nominal phrase (NP) as in (1), such *left branch extraction* (LBE) is banned in many languages, English among them, which as we see in (3-4) requires pied-piping of the entire nominal phrase.

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| <p>(1) Kakuju/etu/miluju_k ty uvidel [_{t_k} košku]
 what/this/cute_k you saw [_{t_k} cat]</p> <p>(3) a. * Which_k did you see [_{t_k} cats]?
 b. * Those/cute_k I saw [_{t_k} cats]</p> | <p>(2) [Kakuju/etu/miluju košku]_k ty uvidel t_k
 [what/this/cute cat]_k you saw t_k</p> <p>(4) a. [Which cats]_k did you see t_k?
 b. [Those/cute cats]_k I saw t_k</p> |
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The lack of LBE in languages like English is described by Ross' (1967/1986) Left Branch Condition (LBC), which appears to apply to some languages but not others, presenting a puzzle for syntactic theory.

Puzzle: How should we understand the difference between a language like Russian, in which something like the LBC doesn't appear to hold, and a language like English, where it does?

Solution: The behavior of parasitic gaps (PGs, Engdahl 1983, Nissenbaum 2000) reveals that Russian LBE involves concealed NP pied-piping, rather than true extraction from NP. This finding unites the syntax of Russian and non-LBE languages, indicating that the relevant difference only holds on the surface.

PGs IN RUSSIAN: PGs are gaps inside of islands which are licensed by A'-movement outside of the island. For instance, in the English example (5), an otherwise illicit gap in the *without* adjunct is licensed by matrix movement of *which book*. Consequently this gap takes on the interpretation of that moved constituent:

- (5) [Which article]_k did you file t_k [without reading _{--k}]?

As Russian generally permits object drop, we must rule this out when testing PGs. Ivlieva (2007) notes that perfectivity makes object drop more difficult. We observe that negation strengthens the effect, as does use of a righthand adjunct. We combine these factors, along with a predicate with which object drop is rated as independently harder, to yield (6). The object of the verb in the adjunct in (6) cannot be dropped:

- (6) Vasja voznenavidel ètot podarok_k, [ne obnaruživ **ego_k/*_{--k}** pod jolkoj]
 Vasja came.to.hate this present, not discover.PFCT.CONV it under pine.tree
 'Vasja came to hate this present, not having found it under the New Year tree.'

Example (7) below shows that A'-movement in the matrix clause licenses the otherwise bad gap identified in (6), thus presenting a PG configuration. The PG takes on the interpretation of that matrix A'-moving NP:

- (7) [**Kakoj podarok**]_k Vasja voznenavidel t_k, [ne obnaruživ **✓_{--k}** pod jolkoj]?
 what.kind present Vasja came.to.hate not discover.PFCT.CONV under pine.tree
 'What kind of present did Vasja come to hate, not having found (it) under the New Year tree?'

We can see that this PG is really 'parasitic' on movement within the matrix clause, and cannot have been formed by movement out of the adjunct and into the matrix clause, because this adjunct is an island (8):

- (8) *[Kakoj podarok]_k Vasja voznenavidel Mašu, [ne obnaruživ t_k pod jolkoj]?
 what.kind present_k Vasja came.to.hate Masha, not discover.PFCT.CONV under pine.tree
 'What present is such that Vasja came to hate Masha, not having found it under the New Year tree?'

Having identified a PG configuration in Russian, we use it to diagnose the structure of LBE derivations.

Predictions for object PGs with LBE: If LBE involves true extraction out of NP, we predict that LBE should not be able to license a PG in object position. This is because such a derivation would require interpreting the bare extracted modifier (adjective, demonstrative, quantifier, etc.) as the object of a verb, resulting in an impossible or nonsensical interpretation. However, if LBE actually covertly pied-pipes NP rather than extracting out of it, then LBE is in fact movement of a full NP. If this is so, we predict that LBE should give an object PG a licit interpretation as an NP, whose movement happened to be partially covert.

LBE COVERTLY PIED-PIPES NP: Example (9) shows a PG in an LBE derivation, where we see that the PG is in fact licensed by the NP that, on the surface, appears to have been stranded by LBE. That is, the LBE example (9) shows the same interpretation for the PG as we saw in (7), where NP was overtly pied-piped. This is what we expect, if the underlying syntax of (9) involves pied-piping of NP, just as in (7).

- (9) **Kakoj_k** Vasja voznenavidel [*t_k podarok*]_j, [ne obnaruživ --_j pod jolkoj]?
 what.kind Vasja came.to.hate [present], not discover.PFCT.CONV under pine.tree
 ‘What kind of present did Vasja come to hate, not having found (it) under the New Year tree?’

For two reasons, we know that (9) does not involve true extraction out of NP, with short scrambling of the stranded NP licensing the PG: First, if this were possible, such NP scrambling would have been able to license the bad gap in (6). Second, LBE out of an embedded clause can license a PG interpreted in a higher clause, which makes it clear that no short movement of the stranded NP is licensing the PG:

- (10) **Kakoj_k** Vasja [xotel, [ne obnaruživ --_j pod jolkoi], [čtoby Maša vernula [*t_k podarok*]_j]]?
 which Vasja wanted NEG discover under pine.tree that Masha returned present
 ‘Which present did Vasja want that Masha would return, not having found it under the New Year tree?’ (Context: Vasja thinks Masha took the present that was supposed to be under the tree)

We show that **the full range of elements capable of LBE in Russian licenses PGs in the same way**. This is as we predict if LBE is always movement of a full NP, at least in Russian.

CONCEALED PIED-PIPING IS OBLIGATORY: If concealed NP pied-piping is merely optional, then it should be possible to truly extract from the edge of NP without pied-piping it. If such derivations are an option, the element that appears to extract from NP should be able to license a PG on its own. Most elements capable of participating in (apparent) LBE in Russian are modifiers/adjuncts, which may be independently unable to license PGs (Browning 1987). However, Rappaport (to appear) provides evidence from case phenomena and binding that, despite showing adjectival morphology, Russian pronominal possessors are in fact typical case-bearing NPs. As such, pronominal possessors might plausibly be able to license PGs.

Below we see that extraction of the pronoun *ejo* (‘her.ACC/GEN’), which is independently licit as a direct object or as a possessor, can neither license a direct object PG (11) nor a possessor PG (12). This is as expected if Russian LBE is always merely apparent, thus the possessor never really moves on its own.

- (11) Ejo₁ ona voznenavidela [*t₁ otkrytku*]₂, ne obnaruživ --_{2/*1} v komnate.
 her she came.to.hate card.ACC NEG find.PFCT.CONV in room
 ‘Hers she came to hate card, not having found (it/*her) in the room.’
 (12) Ejo₁ ona voznenavidela [*t₁ sestru*]₂, ne obnaruživ [--_{*1} otkrytku] v komnate.
 her she came.to.hate sister.ACC NEG find.PFCT.CONV card.ACC in room
 ‘Hers she came to hate sister, not having found a/*her card in the room.’

CONCEALED PIED-PIPING FEEDS LATE MERGE: If Russian LBE involves concealed NP pied-piping, the high covert NP position created by that movement should provide a site for late merge of a relative clause (Lebaux 1991, a.o.), which due to being externally merged high, should be able to avoid a potential principle C violation caused by the subject. In (13) we show that this is possible both with movement of a full NP, as well as with (apparent) LBE, as expected if the syntax underlying these configurations is the same:

- (13) Čju_j <kartinu> [kotoruju **Vasja_k** kupil] **on_k** voznenavidel *t_j* <kartinu>?
 Whose (picture) that Vasja bought he came.to.hate (picture)
 ‘Whose picture [that Vasja_k bought] did he_k come to hate?’

Complements of NP in Russian cannot avoid a violation of principle C in this way, as (14) shows.

- (14) *[Kotoruju fotografiju **Vasja_k**]_j **on_k** kupil *t_j* ?
 which photo.ACC Vasja.GEN he bought
 Intended: ‘Which photo [of Vasja_k] did he_k buy?’

This fact suggests that Russian does in general reconstruct for principle C, strengthening the necessity of a late merge analysis of (13) and hence the covert derived position of NP at which late merge applies in (13).

IMPLICATIONS: If this analysis is correct, then Russian syntax obeys the LBC under the surface. We hypothesize that the LBC (or whatever derives it) is universal, and that apparent LBE is produced by a PF mechanism like scattered deletion (Fanselow & Ćavar 2000, Pereltsvaig 2008). Future work will determine whether this result holds for LBE in other languages. Bošković (2005, a.o.) argues that LBE is constrained in languages with a D layer, a generalization which we argue can be maintained in our account, if the presence of D interacts with Cyclic Linearization (Fox & Pesetsky 2005) to constrain scattered deletion.