Parasitic gaps and covert pied-piping in Russian LBE
Tanya Bondarenko & Colin Davis

INTRODUCTION: A well-known trait of many Slavic languages is left branch extraction (LBE), the A′-movement of elements out of the left edge of the nominal phrase. While much of Slavic allows LBE, languages like English do not, requiring pied-piping of the entire nominal phrase instead. This difference presents a puzzle for syntactic theory, which we argue is clarified by the behavior of parasitic gaps (PGs, Engdahl 1983) in Russian (Ivlieva 2007). When conditions are right, PGs can be identified in Russian, and we argue that patterns of PG licensing in LBE derivations teach us that LBE involves covert pied-piping of NP, rather than true extraction out of NP. This result unites the syntax of Russian with non-LBE languages, and indicates that LBE must be derived by scattered deletion (Fanselow & Ćavar 2005, Bošković 2015).

BACKGROUND ON LBE: LBE refers to the extraction of demonstratives, adjectives, quantifiers, and other elements on the left edge of the nominal phrase. In (1-2), we see that LBE and pied-piping of the entire NP are both possible in Russian. In (3-4) we see that in English, only pied-piping is permitted:

(1) Kakuju/etu/miluju$_k$ ty uvidel [t_k košku]
    what/this/cute$_k$ you saw [t_k cat]

(2) [Kakuju/etu/miluju košku]$_k$ ty uvidel t_k
    [what/this/cute cat]$_k$ you saw t_k

(3) a. * Which$_k$ did you see [t_k cats]?
     b. * Those/cute$_k$ I saw [t_k cats]

(4) a. [Which cats]$_k$ did you see t_k?
     b. [Those/cute cats]$_k$ I saw t_k

The lack of LBE in languages like English is described by Ross' (1967/1986) Left Branch Condition (LBC), which, by assumption, applies to some languages but not others. While the movements described by the LBC are not necessarily grammaticality uniform (Grosu 1974), the LBC still points to a puzzling empirical generalization about whether or not movement of the relevant sort is available in a language or not.

Puzzle: What is 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? Is the difference syntactic, or otherwise?

Solution: We examine this puzzle using parasitic gap (PG) constructions in Russian, which we argue indicate that LBE in fact involves covert pied-piping of NP. As we will show, PGs licensing patterns the same in Russian LBE scenarios like (1), and pied-piping scenarios like (2). This unites the underlying syntax of (1) and (2) in Russian, and unites the syntax of Russian with non-LBE languages like English.

ESTABLISHING PGs IN RUSSIAN: A defining property of PGs is that they are gaps inside of islands which are licensed by A′-movement outside of the island (Nissenbaum 2000). For example, in the English (5), an otherwise illicit gap in the *without* adjunct is permitted by matrix movement of *which book*. Thus this gap displays the parasitic property, and takes on the interpretation of the moved constituent that licenses it:

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

As Russian generally permits object drop, we must be careful to 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 rightward adjunct. We combine these factors, along with a predicate with which object drop is rated as independently less acceptable, to yield (6). This example contains an adjunct whose verb strongly requires its object to not be dropped:

(6) Vasja voznenavidel etot podarok$_k$, [ne obnaruživ   ego$_k$/*$\_\_{}_k$ pod jolkoj]
    Vasja came.to.hate this present, not discover.PFCT.CONV him   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. As we saw in the English (5), in (7) the PG gains the interpretation of the element undergoing A′-movement in the matrix clause:

(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) *Čto$_k$ Vasja voznenavidel Mašu, [ne obnaruživ t_k pod   jolkoj]?
     what$_k$ Vasja came.to.hate Masha, not discover.PFCT.CONV   under pine.tree

     Expected: 'What was the object, such that Vasja came to hate Masha, not having found this object under the New Year tree?'

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

Predictions for PGs with LBE: A PG is interpreted as the moving constituent which licenses it, as expected by the syntax/semantics for PGs in Nissenbaum (2000). 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 NP movement. If this is the case, we predict that LBE should give an object PG a licit interpretation as an NP. Movement of the NP licensing the PG happens to be covert, aside from the overt modifier that it contains.

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?'

We can know that (9) does not involve true extraction out of NP, with covert scrambling of the stranded NP licensing the PG: If this were possible, such NP scrambling would have been able to license the gap in (6).

In the full version of this work, we show that examples like (9) are possible for LBE generally, not just for LBE of *wh*-elements like *kakoj* in (9). For example, see (10) below for a PG licensed by adjective LBE:

(10) **Doroguščij**$_k$ Vasja voznenavidel [t_k **podarok**]$_j$, [ne obnaruživ $_{--j}$ pod   jolkoj]?
     very.expensive Vasja came.to.hate [present],   not discover.PFCT.CONV   under pine.tree
     'Vasja came to hate the very expensive present, not having found (it) under the New Year tree.'

This is as we predict if the syntax of LBE, as a general principle, requires covert pied-piping of NP.

CONVERGENT EVIDENCE FROM SCOPE: If the underlying syntax of LBE derivations is the same as that of pied-piping ones, we expect quantifier LBE derivations, and those with QP pied-piping, to have the same scopal properties. This prediction is born out. While a QP in its base position has both narrow and wide scope relative to negation, a A′-moved QP has only wide scope in Russian (scope freezing, Antonyuk 2015) as demonstrated in (11). As we see in (12), LBE of a quantifier has the same interpretation as pied-piping movement in (12) does. This provides independent evidence that the syntax of (11) and (12) are the same.

(11) [**Rovno odnu**   **šutku**]$_k$ Vasja ne   rasskazal t_k
     exactly one.f.ACC joke.f.ACC Vasja NEG told

     'Vasja didn't tell exactly one joke.': *not>exactly one, [OK]exactly one>not

(12) [**Rovno odnu**]$_k$ Vasja ne   rasskazal [t_k **šutku**]
     exactly one.f.ACC Vasja NEG told   **joke.f.ACC**

     'Vasja didn't tell exactly one joke.': *not>exactly one, [OK]exactly one>not

LBE AS SCATTERED DELETION: Based on the above findings, we argue that the LBC in fact holds in the syntax of Russian, just as in English-type languages. Thus we argue that the difference between LBE derivations and equivalent pied-piping ones in Russian is the application of scattered deletion in the former, when information structure licenses this operation. This results in the noun being pronounced in-situ. Scattered deletion is evidently unavailable in English-type languages, where the LBC holds true on the surface.

AN INVARIANT LBC: We hypothesize that the LBC is a syntactic universal, and that the difference between LBE languages and non-LBE languages is the availability of scattered deletion at PF in the former. We leave it to future work to determine whether this can be shown for LBE in other scenarios/languages.