

Does the Tolerance Principle resolve the problem of Russian paradigm gaps?

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This work aims to account for the well-known phenomenon of inflectional gaps in Russian, i.e. missing forms in the 1sg. non-past of certain verbs. All such gaps appear in verbs of the 2nd conjugation class and share some phonological resemblance: their stems end in a dental consonant /t/, /d/, /s/ or /z/, all of which normally undergo a morphophonological alternation in the 1 sg. non-past resulting in palatals [tʃ], [ʒ], [ʃ] and [ʒʲ] respectively. The most cited example is the verb *pobedit* ‘to win’: Russian speakers systematically avoid producing the 1sg. non-past of *pobedit* and replace it, for instance, by a paraphrase *oderzhu pobedu* ‘I will obtain a victory’. First discussed in Halle (1973), these verbs have received much attention in recent work (e.g., Sims 2006, 2017; Daland, Sims, Pierrehumbert 2007; Baerman 2008; Albright 2009; Yang 2016; Pertsova 2016, Gorman and Yang 2019, etc.). Some questions as to why these gaps occur, however, remain open. In this paper, I take a closer look at an explanation proposed recently by Yang (2016) and argue that his proposal does not account for the defectivity of Russian verbs.

According to Yang (2016), the inflectional gaps in Russian verbs can be explained by a formal model of productivity known as the *Tolerance Principle*. In line with this principle, productivity of a rule depends not only on a number of words sharing the same rule but also on the number of exceptions. In particular, the number of exceptions mustn't exceed a critical number, which Yang calls the threshold of productivity ($=\theta_N$): “The Tolerance principle asserts that for a rule to be productive, the number of exceptions must fall below a critical threshold” (Yang 2016:9). The Tolerance test was applied by Yang to a group of Russian defective verbs with stem-final *t* roots. According to this calculus, the consonant alternation rule [t] > [tʃ] cannot reliably apply to *t* stems because there are too many exceptions: for 66 roots there are 22 exceptions while the productivity threshold is only 16 ($\theta_{66} = 16$). As the number of exceptions exceeds the critical number, the [t]-[tʃ] alternation is considered unproductive, cannot be reliably applied by Russian speakers, and this will result in paradigm gaps. Yang's proposal seems to account for the defectivity of *t*-stem verbs, but it fails to explain other instances of inflectional gaps. If we apply the same principle to *d*-, *s*- or *z*- stems, we obtain different results: there are no so many exceptions that could influence productivity of consonant alternation rules. For example, for *d*- stems we have 77 roots to which the [d]- [ʒ] consonant alternation applies and 12 roots are exceptions, while the productivity threshold is 18 ($\theta_{77} = 18$). Thus, [d]- [ʒ] should be productive and there should not be paradigm gaps in this group of verbs, but we do observe them in known attested defective verbs (e.g., *pobedit* ‘to win’, *uchudit* ‘behave oddly’) as well as in new recent borrowings from English (*apgrejdit* ‘to upgrade’, *frendit* ‘to make friends’). To sum up, the Tolerance principle does not explain all instances of 1sg. non-past inflectional gaps in Russian.

A closer investigation of recent verb borrowings such as *frendit* and *apgrejdit* reveals that they actually follow three patterns: (1) alternation (*frenzhu*, *apgrejzhu*); (2) non-alternation (*frend'u*, *apgrejd'u*); (3) avoidance of the 1sg. non-past (e.g., *delaju apgrejd* literally ‘I do an upgrade’). In order to look at relative frequency of these usages and speakers' preferences, Google search was run for the 1 sg. non-past form of verb borrowings. According to the Internet data, speakers of Russian normally have two possibilities in production of the 1 sg. non-past forms for 2nd conjugation verbs under study and they probably have internalized two grammars: one for standard and another for colloquial Russian. In essence, it is possible that sometimes speakers

cannot choose between two possibilities, but the high number of 1 sg. non-past form productions for new verbs questions the existence of this type of paradigm defectiveness in Russian.

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