

Competing secondary imperfectives in Croatian: A corpus study

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Many Croatian perfective (PFV) verbs have two competing secondary imperfectives (SIs).¹ This paper analyzes one instance of competing SIs in Croatian, illustrated by the verb *raskopati*_{pfv} and its two SIs, *raskapati*_{ipfv} (SI1) and *raskopavati*_{ipfv} (SI2) ‘dig/turn up (the ground).’ As seen in the examples, the SI1 *raskapati*_{ipfv} contains the suffix *-a-*, as does the verb *raskopati*_{pfv}, the only difference between the PFV verb and the SI1 derivative being the qualitative ablaut *o > a*. In contrast, the SI2 *raskopavati*_{ipfv} is derived from the PFV verb by the suffix *-ava-*, but with no changes to the root vowel. The former type of SIs is referred to as an **A-SI** (the suffix *-a-*, ablaut), and the latter as an **AVA-SI** (the suffix *-ava-*, no ablaut).

The two SI suffixes employed to derive this pair of SIs are associated with two distinct derivational layers common to all Slavic languages. The first layer, represented by the Croatian *-a-*, is older and unproductive, while the other, represented by the Croatian *-ava-*, is more recent and productive. The two layers are generally associated with different conjugational types (cf. Timberlake 2004: 114–116; Zaliznjak, Mikaelian & Šmelëv 2015: 78–81; Babić 2002: 518–531) and, as a rule, do not compete in the formation of SIs of a single PFV verb, as they do in the case of *raskopati*_{pfv}.

The two cited SIs are not the only pair of competing SIs of this type in Croatian. Competing SIs are found with nine other PFV verbs from the root KOP ‘dig’ (see Table 1 below) as well as with a number of PFV verbs from two other roots, MOT ‘twist, roll’ and KOPČ ‘buckle (up).’ Overall, there are about 30 PFV verbs that derive competing SIs from these three roots. Their SIs coexist in the contemporary language: all of them are attested in dictionaries and well represented in corpora. Dictionary entries do not indicate any apparent differences in the lexical meanings between the individual pairs of SIs.

In this study, we attempt to shed light on other possible factors that govern the relationship between the competing SIs from the three roots cited above. The Croatian linguistic literature (e.g., Babić 2002: 519, 526) suggests that the A-SIs of these roots are more “archaic” than AVA-SIs, but no data is cited to back up this claim. Nevertheless, it stands to reason to start out with the hypothesis that the AVA-SIs, like *raskopavati*_{ipfv}, are indeed encroaching on the territory held by the A-SIs, such as *raskapati*_{ipfv}, therefore making them less frequent over time. This hypothesis would be in line with the observation from above that AVA-SIs are generally productive in Slavic, whereas A-SIs are not. Given what we know about the nature of language change, where innovations first

¹ Competing SIs are attested in other Slavic languages as well (cf. Štícha et al. 2003: 445, Tatevosov 2013: 65–72 and references therein, Toporišič 2004: 350).

occur in the less prestigious form of language, the same trend should also be observable in non-standard varieties. Accordingly, we have formulated two research questions:

- ⇒ **RQ1:** Are A-SIs and AVA-SIs equally frequent in standard and non-standard varieties of Croatian?
- ⇒ **RQ2:** Are A-SIs more archaic than AVA-SIs, i.e., more frequent in older texts in standard language?

To address these RQs, we collected the occurrences of the competing SIs of the three roots cited above from two Croatian corpora: the *Riznica* Croatian Language Corpus (Ćavar & Brozović-Rončević 2012), which represents the 20-21st century standard language, and the *forum.hr* subcorpus of the Croatian web corpus *hrWac* (Ljubešić & Klubička 2014), serving as a proxy for the contemporary non-standard language. Here we present the results of our investigation of the competing SIs for the 10 PFV verbs derived from the root KOP ‘dig’, which are listed in Table 1. We collected 3000 tokens, 1200 of which had to be manually checked to filter out homonymous verbs derived from the root KAP ‘drip’ (e.g., *pokapati* ‘stain with a liquid; sprinkle’). After this, there were around 2700 tokens left, which were then analyzed for the purposes of this study.

<i>iskopati</i> ‘dig up, unearth’	<i>otkopati</i> ‘dig out, excavate’	<i>potkopati</i> ‘undercut’	<i>prokopati</i> ‘dig through’	<i>ukopati</i> ‘bury, inter’
<i>okopati</i> ‘hill up’	<i>pokopati</i> ‘bury’	<i>prekopati</i> ‘turn over the ground’	<i>raskopati</i> ‘dig/turn up (the ground)’	<i>zakopati</i> ‘bury’

Table 1.

To address RQ1, we compared the frequencies of the competing SIs from the two corpora. The collected frequencies were normalized to relative frequencies since corpora are not the same in size. The preliminary results suggest that, even though individual lexemes have different A-SI vs. AVA-SI ratios, a clear trend can be observed: with all the investigated SIs, AVA-SI are in relative terms better represented in *forum.hr* than in *Riznica* (see Table 2 below for a summary: the shaded cells indicate the four verbs where one type of SI is more frequent in both corpora, although the ratios follow the observed trend). At the very least, this seems to be a preliminary confirmation of our hypothesis that AVA-SIs are becoming more frequent in non-standard language at the expense of A-SIs.

To address RQ2, we compared the frequencies of competing SIs from the *Riznica* corpus before 1970 and after 1970 (the frequencies were normalized to reflect different sizes of the two corpus segments). The results here are less clear, and no trend can be observed. The general picture is that the A-SI vs. AVA-SI ratios of individual verbs are similar in both periods to what we have seen in *Riznica* as a whole. A finer-grained analysis of the data and further statistical testing will be required to corroborate the preliminary results concerning RQ1 and tease out any possible, thus far unobserved, trends in RQ2.

Competing SIs (A-SI / AVA-SI)	More freq. in <i>Riznica</i> (standard 20-21 st c.)	More freq. in <i>forum.hr</i> (non-standard 21 st c.)
<i>iskapati /iskopavati</i>	A-SI	AVA-SI
<i>okapati / okopavati</i>	AVA-SI	AVA-SI
<i>otkupati / otkopavati</i>	AVA-SI	AVA-SI
<i>pokapati / pokopavati</i>	A-SI	A-SI
<i>potkupati / potkopavati</i>	AVA-SI	AVA-SI
<i>prekupati / prekopavati</i>	EVEN	slightly AVA-SI
<i>prokupati / prokopavati</i>	EVEN	AVA-SI
<i>raskupati / raskopavati</i>	slightly AVA-SI	AVA-SI
<i>ukapati / ukopavati</i>	slightly AVA-SI	AVA-SI
<i>zakapati / zakapavati</i>	A-SI	AVA-SI

Table 2.

References: BABIĆ, S. 2002. *Tvorba riječi u hrvatskome književnome jeziku*. Zagreb: HAZU, Globus. • ČAVAR, D., & RONČEVIĆ, D. B. 2012. Riznica: the Croatian language corpus. *Prace filologiczne* LXIII, 51-66. • LJUBEŠIĆ, N. & F. KLUBIČKA. 2014. {bs,hr,sr}WaC - Web corpora of Bosnian, Croatian and Serbian. *Proceedings of the 9th Web as Corpus Workshop (WaC-9)*, ACL. • ŠTÍCHA, F. et al. 2013. *Akademická gramatika spisovné češtiny*. Praha: Academia. • TATEVOSOV, S. 2013. Množestvennaja prefiksacija i ee sledstvija. *Voprosy jazykoznanija* 2013(3). 42–89. • TIMBERLAKE, A. 2004. *A reference grammar of Russian*. Cambridge: CUP. • TOPORIŠIČ, J. 2004. *Slovenska slovnica*. Maribor: Obzorja. • ZALIZNJAK, A., I. MIKAELIAN & A. ŠMELĚV. 2015. *Russkaja aspektologija: v zaščitu vidovoj pary*. Moskva: Jazyki slavjanskoj kul'tury.