

Serbo-Croatian theme vowels carry functional features

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The notion of theme vowels (TVs) stands for the material occurring in a word between the base and the inflection, typically considered part of the stem. In spite of centuries of efforts to attribute verbal TVs semantic or functional content, no predictive theory of their realization has been offered so far, and they are standardly treated as purely ornamental (Aronoff 1994). Oltra Massuet (1999, 2020) argues that different verbal TVs may be associated with different functional projections of the verb.

We performed a corpus based research on Serbo-Croatian (SC), testing the hypothesis that the two most productive TVs in SC, the *i:i* and the *a:a* class (accounting together for about 63% of verbs and almost 70% of stems, the remaining verbs and stems being distributed across at least 6 other classes), carry different functional features. TV *a:a* carries only the category feature [v] and therefore coincides with unrestricted interpretations (imperfective, atelic), and the pair *i:i* carries the features [v] and [scale], where the latter stands for the scalar component argued to be essential in deriving telicity (Hay et al. 1999, Piñón 2008) - and it hence tends to coincide with perfectivity and telicity, or at least to prefer single event interpretations. We focus on three different dimensions of direct competition between them:

1. When the same root combines with both these classes, the *a:a* class is limited to imperfectives, the *i:i* class includes perfectives and scalar imperfectives (setting aside superlexical prefixation which applies to both). There are 57 roots among the SC verbs in the Database of SC verbs (Arsenijević et al. 2021) which combine both with the TV *i:i* and *a:a*. Of these roots, 16 derive verbs with as well as without a prefix, and in 41, at least one of the stems may only occur with a prefix. All the 16 verb pairs of the former type are such that the *i:i* verb by default denotes a singular eventuality, typically directed motion or other directed change, and the *a:a* verb is a pluractional description, typically multidirectional or non-monotonic change, as in (1). In these cases, the plural *a:a* verb is always imperfective, and the singular *i:i* verb is perfective in 6 cases, as in (1a-b), and imperfective in the remaining 10, as in (1c-d). In all the 12 cases when neither variant can exist without a prefix, the *i:i* variant is perfective, and the *a:a* variant is imperfective, as in (2a-b). When only the *i:i* variant does not exist without a prefix - the prefix is always lexical, and the verb can only be perfective; the *a:a* counterpart without a prefix then has the respective secondary imperfective interpretation, as in (2c-d), and may only take superlexical prefixes. This holds for all the 14 such pairs. In all the 15 pairs where only the *a:a* variant is impossible without a prefix, both variants are imperfective, yet for each of the prefixed *a:a* verbs, an *i:i* variant carrying the same prefix also exists, and they stand in the relation *secondary imperfective : its perfective base*, as additionally confirmed by the Ablaut in all the *a:a* variants, see (3).

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|-----|--|--|---|--|
| (1) | a. bac-i-ti
root-TV-INF
'to throw.PF' | b. bac-a-ti
root-TV-INF
'to throw.IMPF' | c. voz-i-ti
root-TV-INF
'to drive.IMPF.SG' | d. voz-a-ti
root-TV-INF
'to drive.IMPF.PL' |
| (2) | a. *(s)-prem-i-ti
PREF-root-TV-INF
'to prepare.PF' | b. *(s)-prem-a-ti
PREF-root-TV-INF
'to prepare.IMPF' | c. *(u)-hvat-i-ti
PREF-root-TV-INF
'to catch.PF' | d. hvat-a-ti
root-TV-INF
'to catch.IMPF' |
| (3) | a. lom-i-ti
root-TV-INF
'to break.IMPF' | b. s-lom-i-ti
PREF-root-TV-INF
'to break.PF' | c. *(s)-lam-a-ti
PREF-root-TV-INF
'to break.IMPF' | |

Among the 57 pairs, 53 *i:i* stems take clear lexical prefixes, against 7 dubious *a:a* stem cases. The highly restricted capacity of the *a:a* stems to form perfective verbs (only with superlexical prefixes, apart from the 7 unclear cases) and the strong tendency of *i:i* stems for telic, perfective and singular interpretations confirm our hypothesis.

2. Among the stems consisting of a root and a TV, those with the combination *a:a* are less likely to derive deverbal event-nouns than those with *i:i*. An *i:i* verb derives on average 1.24 deverbal event nouns, and an *a:a* verb 0.57 (Chi²: $p < .00001$). On the background of Svenonius's (2004) observation that verbs with superlexical prefixes do not derive deverbal event nouns, while those with lexical ones do, this is accounted for by the feature [scale] and its affinity for scalar, hence primary imperfectives and lexically prefixed perfectives.

3. Among the verbal stems consisting of an optional prefix, a base denoting a property and a TV, traditionally analyzed as verbs derived from adjectives by conversion, 28 take the TV combination *a:a* and 293 *i:i*. Almost half of the former arguably involve comparatives, while almost all of the latter plausibly involve root bases (precise quantities in preparation). Similarly, among their counterparts with bases denoting individuals, traditionally analyzed as converted from nouns, 160 belong to the class *a:a* and 468 to the class *i:i* (Chi²: $p < .00001$ for both comparisons). Almost all *i:i* verbs of these two types have the interpretation *to become more* [base]-like, compared to about a third of the *a:a* verbs (precise quantities in preparation).

Finally, of the 1710 *a:a* verbs in the database, only 2 non-prefixed *a:a* root verbs are perfective, both morphologically irregular: *dati* 'give' and *stasati* 'mature' in contrast to 29 mostly regular *i:i* root verbs. Considering that *a:a* is also the class of the productive imperfectivizing suffixes *-av*, *-j*, *-t*, *-k* and of the biaspectual loan-verb adaptation suffix *-ir* and that analyses are available where *a:a* is often not a mere TV, but simultaneously an imperfectivizing suffix (see Feinberg 1980), the strong tendency of this TV to correlate with imperfective or biaspectual aspect in competition with the class *i:i*, and the affinity of the latter for primary imperfectives and non-prefixed and lexically prefixed perfectives confirms that they carry different semantic and/or functional material, which we model in terms of the additional LF-interpretable feature [scale] on the TV *i:i* and an interplay of economy and (anti)presuppositions that this asymmetry triggers.

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