Chapter 21

The Western South Slavic verbal suffix *-nV/-ne* is a diminutive affix with a theme vowel

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The paper proposes a novel analysis of the sequence *-nV/-ne* in Western South Slavic (*-nu/-ne* in BCMS and *-ni/-ne* in Slovenian) as a complex morpheme consisting of the diminutive suffix *-n* and the theme vowel *∅/e*, whereby the latter realizes the verbal category, like all other verbal themes in Slavic. We argue that the vowel in the suffix *-nV* is a floating vowel that surfaces when it helps optimize the syllable structure. While analyses of *-nV/-ne* as a complex morpheme have been proposed in the literature, the analysis in terms of diminution enables us to account for the peculiar status of the suffix *-nV* among other verbal suffixes, especially its compatibility with other suffixes, including diminutive and secondary imperfectivizing ones, which is either ignored or left unexplained in the previous accounts.

1 Introduction

In this paper, we offer a novel analysis of verbs with the suffix *-nV/-ne* in Western South Slavic, specifically in Bosnian/Croatian/Montenegrin/Serbian (BCMS) and Slovenian, illustrated in (1) and (2), respectively. Our focus is on perfective verbs, as in (1a, 2a), since only they are productive in both languages, although *-nV* is also found in a small number of imperfective degree achievements (DAs), as in (1b, 2b). We propose that *-nV/-ne* in Western South Slavic is complex and

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consists of the morpheme *-n^{u}/-n^{i}* (with a floating vowel) and the theme vowel *∅/e*. The morpheme *-n^{u}/-n^{i}* spells out a diminutive feature and the theme vowel spells out the verbal category feature, just like all other theme vowels in Slavic languages (for the latter, see also Svenonius 2004, Biskup 2019, Simonović et al. 2023, Milosavljević & Arsenijević 2022, Kovačević et al. 2024).

(1) a. trep-nu-ti
blink-nV-INF
'blink'

b. to(n)-nu-ti
sink-nV-INF
'sink'
(BCMS)

(2) a. mežik-ni-ti
blink-nV-INF
'blink'

b. to(n)-ni-ti
sink-nV-INF
'sink'
(Slovenian)

Morphological forms of *-nV/-ne-* and *∅/e*-verbs that will be relevant for our analysis are summarized in Tables 1 and 2, respectively.

Table 1: Conjugation of *-nV/-ne* verbs

Language	INF	PRS.1.PL	PASS.PTCP	Translation
BCMS	gur-nu-ti	gur-ne-mo	gur-nu-t	'push'
Slovenian	pah-ni-ti	pah-ne-mo	pah-nj-en	'push'

Table 2: Conjugation of ∅/e verbs

Language	INF	PRS.1.PL	PASS.PTCP	Translation
BCMS	ves-∅-ti	vez-e-mo	vez-∅-en	'embroider'
Slovenian	ves-∅-ti	vez-e-mo	vez-∅-en	'embroider'

The paper is organized as follows. In the remainder of this section, we overview different classes of Slavic verbs derived by *-nV/-ne* that are recognized in the literature. In Section 2, we critically assess previous accounts of *-nV/-ne*. Section 3 provides a quantitative description of this sequence in BCMS and Slovenian. In Section 4, we provide morpho-phonological arguments for our segmentation of *-nV/-ne* into the morpheme *-n^{u}/-n^{i}* and the theme vowel *∅/e*.

Our syntactic and semantic analysis of *-n^{u}/-n^{i}* as a diminutive suffix that combines with the verbal category (whose exponent is *∅/e*) is provided in Section 5. Section 6 concludes the paper.

Several verb classes derived by *-nV* have been recognized in the literature on Slavic languages. The most typical and the most productive class comprises SEMELFACTIVES, illustrated in (3a) and (4a) for BCMS and Slovenian, respectively. Semelfactives are usually definied as "instantaneous" actions in the classical sense of Smith (1997), and in most formal approaches this is the only identified class of perfective *-nV/-ne* verbs (see e.g. Łazorczyk 2010 and Kwapiszewski 2020, 2022 for Polish, Wiland 2019 for Czech and Polish, Biskup 2023a for Russian and Czech, etc.). In analyses couched in the framework of Cognitive Linguistics, this class of verbs is usually referred to as Single Act Perfectives (see e.g. Janda 2007, Dickey & Janda 2009, Makarova & Janda 2009, Kuznetsova & Makarova 2012, Nesset 2013, Sokolova 2015 for Russian, Nesset 2012 for Old Church Slavonic, Bacz 2012 for Polish).

(3) a. mah-nu-ti
wave-nV-INF
'wave once'

b. mah-a-ti (BCMS)
wave-TV-INF
'wave repeatedly'

(4) a. mah-ni-ti
wave-nV-INF
'wave once'

b. mah-a-ti (Slovenian)
wave-TV-INF
'wave repeatedly'

DEGREE ACHIEVEMENTS, illustrated for BCMS and Slovenian in (1b) and (2b) above, are a small class of imperfective verbs derived by *-nV/-ne* (see e.g. Taraldsen Medová & Wiland 2019 for a formal analysis of this class in Czech and Polish). Degree achievements derived by *-nV/-ne* are no longer a productive class across Slavic languages, which is why they will be set aside in the present paper (though we briefly return to them in Section 3.2).[1] NATURAL PERFECTIVES

[1]An anonymous reviewer raises the question of whether imperfective *-nV/-ne* verbs should be analyzed on a par with perfective *-nV/-ne* verbs. Since we focus only on perfective *-nV/-ne* verbs in the paper (as only perfectives are productive in contemporary BCMS and Slovenian), we do not delve deeper into the debate on whether *-nV/-ne* in perfectives and imperfectives should be treated as a unified item. Note, however, that once semelfactives and degree achievements are analyzed as sharing the same semantic core based on atomicity (cf. Rothstein 2008a,b), there might be a semantic justification for treating these two *-nV/-ne* classes as containing the same suffix; see also Taraldsen Medová & Wiland (2019) (presented in Section 2.2.2) for a unified syntactic analysis of this suffix within a Nanosyntactic framework.

are *-nV* verbs that function as lexicalized perfective counterparts of simplex imperfective verbs (e.g. Bacz 2012 for Polish, Sokolova 2015 for Russian). It should be immediately clear that there is no clear-cut boundary between these verbs and "proper" semelfactives, since semelfactives act as aspectual counterparts of iterative verbs, as in (3) and (4). Finally, Sokolova (2015) identifies a class of (PERFECTIVE) DELIMITATIVES in Russian, which are *-nV/-ne* verbs that can combine with durative adverbials indicating a short duration, as in (5). Similar examples are available in BCMS, as evidenced by example (6), whereas in Slovenian this use of *-nV* is not attested.

(5) Ja let-nu-l 2 časa. (Russian, from Sokolova 2015; our translation)
I fly-nV-PST 2 hours
'I flew for two hours [I took a short two-hour flight].'

(6) Drem-nu-o sam par minuta. (BCMS)
doze-nV-PST AUX.1.SG couple minutes
'I dozed for a few minutes.'

2 Previous analyses of *-nV/-ne*

In this section, we overview previous analyses of the sequence *-nV/-ne*. We first briefly comment on traditional approaches to this item in Slavic in Section 2.1, after which we provide a detailed discussion of previous formal analyses of *-nV/-ne* in Section 2.2.

2.1 Traditional approaches to *-nV* verbs in Slavic

In traditional descriptions, *-nV/-ne* is typically analyzed as a monomorphemic theme vowel (TV) defining its own conjugation class (for BCMS, see e.g. Barić et al. 1997: 235, Ivšić et al. 1970: 253, Stevanović 1986: 331, Stanojčić & Popović 2008; for Slovenian, cf. e.g. Breznik 1934: 116, 124, Toporišič 2000: 364, Vidovič Muha 2011: 64; a similar point is made for Russian in Gladney 2013 and references therein). The alternative analysis, whereby *-n* is a separate morpheme and *V/e* is a theme vowel, is usually discarded on the grounds that there is no independently motivated TV class defined by the vowels following *-n* (i.e. *i/e* in Slovenian and *u/e* in BCMS).

2.2 Previous formal approaches to *-nV* verbs in Slavic

In this subsection, we discuss previous formal approaches to *-nV/-ne*, grouping them into those that analyze this segment as a single morpheme – let us label

them MONOMORPHEMIC ANALYSES (Section 2.2.1), and those arguing that *-nV/-ne* is decomposable into a suffix and a theme vowel – BIMORPHEMIC ANALYSES (Section 2.2.2).

2.2.1 Monomorphemic analyses

Schoorlemmer (2004) analyzes *-nu/-ne* in Russian as a lexical marker of perfectivity, which is one of the two basic ways of how perfectivity arises in her approach (the other way being compositionally, through telicity, as in the case of prefixed perfective verbs; see also Schoorlemmer 1997). According to Schoorlemmer, the "lexical" (i.e. non-compositional) status of perfective verbs derived by this suffix is confirmed by the fact that (in Russian) they do not derive secondary imperfectives, unlike (prefixed) telic predicates (accomplishments and achievements). For Borer (2005a,b), *-nu/-ne*, just as prefixes, assigns quantity to a verbal predicate, hence it is generated in the domain of inner aspect (Borer analyzes Slavic perfectivity as quantity, i.e. telicity).

An open question for both Schoorlemmer and Borer is the complementary distribution of *-nV/-ne* and (other) theme vowels. In addition, the complementary distribution with the secondary imperfectivizing suffix argued for in Schoorlemmer (2004) cannot be extended to all Slavic languages, as we show in this paper. This means either that Slavic languages vary in this respect, or that this combination is blocked due to some morphological constraint (as hinted at in Borer 2005b for Russian and Kwapiszewski 2022: 236 for Polish), or some kind of semantic incompatibility of the two suffixes is at stake (e.g. Jabłońska 2007 for Polish, Biskup 2023a for Czech); see Kwapiszewski (2022: 235–236) for a recent critical assessment of both semantic and morphological constraints.

Progovac (2005) also analyzes *-nV/-ne* as an aspectual marker (in BCMS), but she claims that it is generated in the domain of grammatical (outer) aspect. More precisely, she proposes that this suffix denotes existential quantification in the outer AspP, where it encodes "a single event, or, more precisely, at least one event" (Progovac 2005: 109). For instance, according to Progovac, the verb in (7a) has the interpretation as in (7b). She substantiates her analysis of *-nV/-ne* as bearing an existential feature with the fact that verbs with *-nu/-ne* are easily modifiable with the adverbial *jedanput* 'once, one time', which she analyzes as an existential quantifier. For Progovac, further support for the analysis of *-nu/-ne* as a marker of outer aspect comes from its complementary distribution with secondary imperfectivizing suffixes (7c), which in her analysis are markers of grammatical (outer) aspect that bear the feature of universal quantification. The

incompatibility of these two suffixes follows straightforwardly if they check their quantificational features in the same projection.

(7) a. Stefan je (jedanput) kuc-nu-o na prozor.
Stefan.NOM AUX once knock-nV-PTCP on window.ACC
'Stefan knocked (at least once) on the window.'
'There was (at least) one time that Stefan knocked on the window.'

b. There was some/at least one occasion X for which it is true that Stefan knocked on the window on that occasion X.

c. * kuc-nu-va-ti
knock-SG-SI-INF

However, the compatibility with existential quantifiers such as *jedanput* 'once' can hardly be taken as evidence that *-nV/-ne* bears the existential feature, since such adverbials are also compatible with imperfective verbs, as well as other types of perfective verbs, and not only with semelfactives (see Milosavljević 2019 for an extensive corpus analysis of these adverbials). When it comes to the compatibility with secondary imperfectivizing suffixes, the reasoning outlined above regarding the proposal in Schoorlemmer (2004) applies to Progovac's analysis as well.

According to Svenonius (2004) and Biskup (2023a,b, 2024), *-nV/-ne* is a verbalizer in Slavic languages (Russian and Czech, respectively). This claim is supported by its complementary distribution with theme vowels, which are analyzed as verbalizers in these works. In addition to its verbalizing role, this suffix also has a perfectivizing effect, i.e. it bears a perfective feature. A question that arises under this family of approaches is why *-nV/-ne* is the only verbalizer with a perfective feature.

Kwapiszewski (2020), working within the framework of Distributed Morphology, analyzes *-nV/-ne* in Polish as an exponent of a complex head realizing (fused) verbal and quantity features. This analysis is based on the complementary distribution of *-nV/-ne* with both theme vowels (as verbalizers) and secondary imperfectivizing suffixes in Polish. In a more recent work, Kwapiszewski (2022: 231–237) refines his proposal of the semelfactive *-nV/-ne* in Polish by arguing that this suffix is an exponent of a complex head comprising the verbal category head (more precisely, v_{DO}, given the unergative or transitive nature of the relevant verbs), the Voice head, and an aspectual perfective head (he maintains the claim that *-nV/-ne* is in complementary distribution with both verbalizing and secondary imperfectivizing suffixes). While Kwapiszewski's approach captures the "dual" behavior of this morpheme (verbalization + quantity/perfectivity) and

explains its complementary distribution with theme vowels, his approach, being based on morphological operations specific to Polish, cannot be generalized to other Slavic languages since, as discussed above, this suffix is not in complementary distribution with secondary imperfectivizing suffixes in at least some languages.

Arsenijević (2006) proposes that *-nV/-ne* in BCMS is a diminutive suffix. Specifically, it introduces some bounded quantity to the interpretation of the eventuality, which is a relatively small part of a larger quantity of the same eventuality. In other words, *-nV/-ne* marks a division into atomic units for the relevant eventuality. Arsenijević provides examples similar in spirit to the delimitative uses of *-nu/-ne* illustrated in (5–6) above, and offers the following explanation:

> The atomic temporal interval appears as the natural interpretation when the description of an eventuality does not provide any unit of division, but division must still be applied. The natural solution is to take the atomic temporal interval as corresponding to the smallest possible quantity of the eventuality. The atomic interval also provides a partitive interpretation, when related to the mass from which it selects a unit. (Arsenijević 2006: 219)

Syntactically, according to Arsenijević, *-nV/-ne* is the head of the VP, and marks the presence of a telic template in cases where the description of the eventuality does not define one. As an argument for this position, Arsenijević lists the incompatibility of *-nV/-ne* with internal prefixes, as these morphemes also license telicity. However, *-nV/-ne* can be combined with (internal) prefixes, as will be shown in Section 3.2 for BCMS and Slovenian (see also Nordrum 2019 for such combinations in Russian, as well as Kwapiszewski 2020 for Polish).

The presented description of the diminutive semantics of the suffix *-nV* closely matches the notion of singularity. In fact, in the semantic approach of Kagan (2008, 2010), both prefixes and the semelfactive suffix *-nV/-ne* in Russian license singularity, but unlike prefixes, which bring additional meaning and/or argument structure effects, "the suffix -nu seems to introduce no further changes except for the singularity restriction. It takes an imperfective activity predicate and renders a perfective predicate whose denotation contains only the smallest instantiation of this activity, each of which has no proper part which instantiates the same type of event" (Kagan 2010: 11); see also Milosavljević (2023b) for a syntactic implementation of this idea.

Relatedly, according to Armoškaitė & Sherkina-Lieber (2008), the semelfactive suffix *-nV/-ne* and the secondary imperfectivizing suffix *-yva* in Russian are markers of number in the verbal domain, licensing singularity and pluractionality, respectively, and thus occupy the same syntactic slot. This is supported by their

complementary distribution in Russian. Armoškaitė & Sherkina-Lieber propose that these suffixes, as markers of verbal number, are modifiers, and not heads, contrary to what we find in the nominal domain. The arguments for a modifier analysis are the following. Heads are obligatory, modifiers are not: e.g., on nouns, the number markers are heads, and since they are obligatory, there are no nouns that are neutral with respect to number. Further, on nouns, number marking, as a head, applies even when the number information is redundant, e.g. in the presence of numerals. Finally, number as a head on nouns triggers agreement on dependent constituents, e.g. Subject-Verb Agreement. However, the status of number in the verbal and nominal domains can be shown not to be as different as proposed in Armoškaitė & Sherkina-Lieber (2008). On the contrary, the motivation for seeing Slavic perfectivity as singularity and imperfectivity as plurality in the verbal domain (proposed in Kagan 2008, 2010; for related approaches, see Arsenijević 2023, Milosavljević 2022, 2023a,b) is argued to rely on compelling parallels between nominal and verbal domains: plural (imperfective) is unspecified for number, while singular (perfective) is the only marked/specified category (in the sense of Sauerland 2003). In that sense, all nouns and all verbs are either unspecified for number (if plural, i.e. imperfective) or specified as singular, i.e. perfective. In other words, the absence of the suffix *-nV/-ne* does not imply the absence of singularity, as there can be another way of realizing it (e.g. via Spec–Head agreement in the case of prefixation, see Milosavljević 2023a,b), licensing a view in which it is not optional. Additionally, verbs suffixed with *-nV/-ne*, just as nouns, appear in the context of numerals, i.e. with the count adverbials like *once* (cf. Progovac 2005).[2]

Markman (2008) analyzes both the semelfactive suffix *-nV/-ne* and the secondary imperfectivizing suffix *-iv* in Russian as exponents of a single *v*P-selecting light verb *v* (in the sense of Diesing 1998), which denotes an atelic event and is merged above lexical prefixes. The light verb is spelled out as *-nV/-ne* when [+Instantaneous] and as a secondary imperfectivizing suffix when [+Progressive] or [+Habitual]. Markman follows Smith (1997) in assuming that semelfactives are perfective atelic predicates. The single-head approach to the two suffixes is based on the claim that they are in complementary distribution in Russian, whereas their status as light verbs is motivated by similar behavior to

[2]On a broader scale, there seems to be a tight cross-linguistic connection between diminutives and singulatives (cf. e.g. Rijkhoff 1991; Mathieu 2012: §4, and references therein), and more generally a link between diminutives and atomicity (see also Wiltschko 2006, De Belder 2008, 2011, Ott 2011). We contend that the link between diminution and singularity reflected through the same morphemes cross-linguistically is due to the fact that they share atomicity as a semantic core.

light verbs cross-linguistically. A potential problem for Markman (2008), apart from the issue of complementary distribution with secondary imperfectivizing suffixes discussed above for other approaches, concerns the analysis of semelfactives as atelic predicates. In this paper, we argue that semelfactives are singular telic predicates, like other traditional perfective verbs (see also Rothstein 2008a,b for an analysis of semelfactives as telic predicates in Russian).

In the next subsection, we turn to bimorphemic analyses of *-nV/-ne*.

2.2.2 Bimorphemic analyses

Łazorczyk (2010) treats *-nV/-ne* in Polish as composed of two morphemes: the suffix *-n* as a marker of semelfactivity (deriving also a small number of degree achievements), and a theme vowel, which in her approach is a reflex of verbalization through the structure (in the sense of Borer 2005b), hence inserted once the inner aspect has been projected (since the root is categorized as a verb in the context of inner aspect). Łazorczyk (2010), however, does not elaborate her approach in any detail.

Taraldsen Medová & Wiland (2019) and Wiland (2019), analyzing *-nV/-ne* in Czech within the framework of Nanosyntax (cf. Caha 2009, Starke 2009), propose that *-n* is a light verb, whereas the vocalic segment is a theme vowel. In their approach, roots, *-n* and the theme vowel can all spell out syntactic structures of different sizes (i.e. of varying syntactic complexity), with the relevant containment relations in syntax specified as in (8).

(8) a. containment of the light verbs:
GIVE > GET

b. containment of the lexical categories:
verb > noun > adjective

c. argument structure hierarchy:
unergative > accusative > unaccusative

In semelfactives, the root is nominal, *-n* spells out the light verb GIVE, and the theme vowel spells out the accusative or unergative structure. In degree achievements, the root is adjectival, *-n* spells out the light verb GET, and the theme vowel spells out unaccusative syntax. The relation between semelfactives and degree achievements (hence also *-n* and the theme vowel in semelfactives vs. degree achievements) is regulated by the Superset Principle. According to this principle, a phonological exponent of a lexical item is inserted into a syntactic node if its lexical entry has a (sub-)constituent which matches that node. Where several items

meet the conditions for insertion, the item containing fewer features unspecified in the node must be chosen (Starke 2009). Given the containment relations in (8), the light verb component in both semelfactives and degree achievements can be spelled out as *-n*.

One problem with this approach concerns the fact that it is extremely difficult to isolate nominal, adjectival, or verbal roots per se, since the same root may be categorized as a noun, verb or an adjective, depending on the categorizing morpheme and/or syntactic context. Further, this approach does not cover the full range of uses of the suffix *-nV/-ne*, which easily combines also with verbal bases, and even with other suffixes (e.g. *bol-uc-nu-ti* 'hurt a bit', where *-uc* is a diminutive suffix).

3 Quantitative description of *-nV* verbs in BCMS and Slovenian

In this section we first describe our quantitative database in Section 3.1 and then present the quantitative data on the sequence *-nV/-ne* in Section 3.2. In Section 3.3 we summarize the discussion and findings so far to prepare the ground for our morpho-phonological (Section 4) and syntactic/semantic analysis (Section 5).

3.1 Our empirical source: *WeSoSlaV*

Our proposal is informed by quantitative insights from the *Annotated Database of the Western South Slavic Verbal System* (*WeSoSlaV*, Marušič et al. 2022, Milosavljević et al. 2023, Arsenijević et al. 2024). The database consists of 5300 BCMS and 3000 Slovenian verbs retrieved from the *srWaC, hrWaC, bsWaC* and *meWaC* corpora for BCMS (Ljubešić & Klubička 2014) and from *Gigafida*, the Slovenian National Corpus for Slovenian (Logar-Berginc et al. 2012). The verbs are selected based on frequency: the top 3000 highest frequency verbs from each of the corpora are included and annotated. As *srWaC, hrWaC, bsWaC* and *meWaC* are corpora of different BCMS varieties, the BCMS database contains the union of the 3000-verb lists from the four corpora.

Each verb is annotated for a fixed set of over 40 different properties, including grammatical aspect, the characteristic morphemes (the root, prefixes, suffixes), their special properties (e.g. root allomorphy), deverbal nominalizations, prosodic prominence, TVs and others. Our analysis is mainly based on the derivation subpart of WeSoSlaV (Milosavljević et al. 2023) and an additional *-nV*-verb subpart annotated for the purposes of this paper (Štarkl et al. 2024).

3.2 *-nV* verbs: the quantitative data

In this section, we present quantitative data on the aspectual properties of verbs formed with *-nV/-ne* in both BCMS and Slovenian. We start with the correlation between (im)perfectivity and the presence of a prefix, as summarized in Table 3.

Table 3: *-nV* verbs in *WeSoSlav*: prefixation and (im)perfectivity

-nV verbs in WeSoSlav	BCMS (258 in total, 4.87% of all the verbs in WeSoSlav)		Slovenian (143 in total, 4.77% of all the verbs in WeSoSlav)	
	Unprefixed	Prefixed	Unprefixed	Prefixed
All	91/258 (35.27%)	167/258 (64.73%)	24/143 (16.78%)	119/143 (83.22%)
Imperfective	9/258 (3.49%)	0 (0%)	3/143 (2.10%)	0 (0%)
Perfective	82/258 (31.78%)	167/258 (64.73%)	21/143 (14.69%)	119/143 (83.22%)

As is clear from the table, all prefixed verbs are perfective.[3] The very existence of prefixed *-nV/-ne* verbs is theoretically significant since it shows that *-nV/-ne* and prefixes can be combined, contrary to some approaches reviewed in Section 2 above.[4] Another important point that Table 3 makes salient is that the vast majority of unprefixed *-nV/-ne* verbs are perfective. Specifically, out of 91

[3]Out of 167 prefixed *-nV* verbs in BCMS, 95 (56.89%) combine with a perfective base, 23 (13.77%) combine with an imperfective base, while in 49 (29.34%) cases there is a bound base (i.e. a base that is not attested without a prefix). Out of the 119 prefixed *-nV* verbs in Slovenian, 43 (36.13%) combine with a perfective base, 13 (10.92%) combine with an imperfective base, while in 62 (52.1%) cases the base is bound.

[4]The majority of such prefixes are lexical/internal prefixes, e.g. in BCMS: *pod-met-nu-ti* [UNDER-put-nV-INF] 'set up, put under', *od-gur-nu-ti* [FROM-push-nV-INF] 'push away', *s-kliz-nu-ti* [OFF-glide-nV-INF] 'slip', *u-tis-nu-ti* [IN-press-nV-INF] 'press in', *iz-tis-nu-ti* [OUT-press-nV-INF] 'press out'. Although in our main database (WeSoSlaV) there are no typical examples with superlexical prefixes, such verbs are possible, especially in the presence of another prefix, which is expected given that the most typical superlexical prefixes stack on top of other prefixes. Some such examples, taken from Stojanović (2016), include: *iz-o-kre-nu-ti* [OUT-ABOUT-start-nV-INF] 'turn over all', *po-o-smeh-nu-ti* [OVER-ABOUT-laugh-nV-INF-REFL] 'laugh a little bit'. However, there are also superlexical-like prefixes, such as the attenuative *pri-*, which combine directly with *-nV* verbs, e.g. *pri-drem-nu-ti* [AT-doze-nV-INF] 'doze a little bit'. A similar picture is observed in Slovenian. An example of LP-prefixed nV-verbs is *iz-tis-ni-ti* [OUT-press-nV-INF] 'press out', whereas *po-na-tis-ni-ti* [OVER-ON-press-nV-INF] 'reprint' illustrates SLPs.

unprefixed verbs in BCMS, 82 (90.11%) are perfective, and only 9 (9.89%) are imperfective. Similarly, out of 23 unprefixed verbs in Slovenian, 18 (78.26%) are perfective, and only 3 (13.04%) are imperfective.[5] These data, together with the fact that new verbs (including the ones with borrowed bases) are always perfective in BCMS and Slovenian (for the former, see also Simonović 2015), strongly indicate that only perfective *-nV/-ne* verbs are productive in the contemporary BCMS and Slovenian. The same has been observed also for other Slavic languages, e.g. Polish (Klimek-Jankowska et al. 2018), Czech (Taraldsen Medová & Wiland 2019, Wiland 2019), Russian (Sokolova 2015). This justifies our choice to focus on perfective verbs in this paper.

We now turn to the quantitative patterns of aspectual pairs *-nV/-ne* verbs participate in. Tables 4 and 5 summarize these patterns separately for prefixed and unprefixed verbs.[6]

We consider prefixed and unprefixed verbs separately to control for the possible influence of prefixation. For instance, on the one hand, Biskup (2023a) refers to Isačenko (1962) and Townsend (1968) for the claim that prefixed semelfactive verbs are not semelfactive anymore, i.e. they behave like any other prefixed perfective verb. On the other hand, Kwapiszewski (2022) indicates that the presence of a prefix in Polish does not change the fact that in that language *-nV/-ne* verbs cannot undergo secondary imperfectization. For our purposes, two facts evident from Tables 4 and 5 are most significant. First, in the majority of cases, the imperfective aspectual counterpart is either a corresponding unsuffixed verb (i.e. a verb whose root is followed just by a theme vowel), or a verb with some kind of iterative suffix.[7] Second, there are both unprefixed and prefixed verbs that undergo secondary imperfectivization at the same time preserving the morpheme

[5]Out of 9 imperfective verbs in BCMS, 7 are degree achievements, and 2 are lexicalized states. Out of the 3 imperfective verbs in Slovenian, 1 is a degree achievement, and 2 are lexicalized states.

[6]The examples of the categories in the first column of this table are in BCMS. There are only 4 and 2 simple perfective verbs with an imperfective secondary imperfective counterpart preserving *-nV* in BCMS and Slovenian, respectively. The remaining three BCMS pairs from WeSoSlav are: *buk-nu-ti – buk-nj-iva-ti* 'erupt', *pla-nu-ti – pla-nj-ava-ti* 'burst into flames', and *ba-nu-ti – ba-nj-ava-ti* 'burst'. The Slovenian verbs and their imperfective counterparts are: *mi-ni-ti – mi-n-eva-ti* 'pass', and *ga-ni-ti – ga-nj-ati* 'move'.

[7]The suffixes *-t* and *-k* that derive diminutive-iterative verbs are traditionally listed as *-ka* and *-ta* in BCMS grammars (e.g., Stanojčić & Popović 2008). However, these suffixes can also be plausibly decomposed into the proper (diminutive-iterative) suffixes and theme vowels, specifically, *k* + TV *a/a* (e.g. *pip-k-a-ti* (INF), *pip-k-a-mo* (PRS.1.PL) 'touch'), and *t* + TV *a/je* (*trep-t-a-ti* (INF), *trep-ć-e-mo* < /trep-t-je-mo/ (PRS.1.PL) 'blink'). These two theme vowels (i.e., *a/a* and *a/je*) are two of the three most productive TVs in BCMS that are also found in secondary imperfectivizing suffixes (Simonović et al. 2023, Arsenijević et al. 2023).

Table 4: Imperfective counterparts of unprefixed perfective verbs

Simple PFV *-nV* verbs in *WeSoSlaV* with …	BCMS (N=82)		Slovenian (N=21)	
an IPFV root-TV counterpart (lup-nu-ti – lup-a-ti 'slap')	43	(52.44%)	10	(47.62%)
an IPFV *-t-* counterpart (trep-nu-ti – trep-ta-ti 'blink')	11	(13.41%)	0	(0%)
an IPFV *-k-* counterpart (tres-nu-ti – tres-ka-ti 'snap')	24	(29.27%)	0	(0%)
IPFV SI counterpart, without preserving *-nV* (crk-nu-ti – crk-ava-ti 'die')	8	(9.76%)	4	(19.05%)
an IPFV apophonical counterpart (mak-nu-ti – mit:c-a-ti 'move')	4	(4.88%)	1	(4.76%)
an IPFV SI counterpart, preserving *-nV* (sva-nu-ti – sva-nj-ava-ti 'dawn')	4	(4.88%)	2	(9.52%)

Table 5: Imperfective counterparts of prefixed perfective verbs

Prefixed PFV *-nV* verbs in *WeSoSlaV* with …	BCMS (N=167)		Slovenian (N=119)	
an IPFV *-t* counterpart	34	(20.36%)	0	(0%)
an IPFV *-k* counterpart	2	(1.20%)	7	(5.88%)
an IPFV *-p* counterpart	0	(0%)	6	(5.04%)
an IPFV SI counterpart, without preserving *-nV*	60	(35.93%)	56	(47.06%)
an IPFV apophonical counterpart	21	(12.57%)	20	(16.81%)
an IPFV SI counterpart, preserving *-nV*	55	(32.93%)	18	(15.13%)

-nV.[8] The first fact is important in the light of our analysis of verbs derived by *-nV/-ne* as diminutive counterparts of the verbal predicates denoted by the corresponding imperfective verbs, as argued in detail in Section 5. The other fact, i.e. the compatibility of *-nV/-ne* with secondary imperfectivizing suffixes in at least some verbs, corroborates our claim that the two suffixes are not in complementary distribution, contrary to much previous work (see Section 2).[9]

3.3 Towards an analysis

So far, we have overviewed previous approaches and presented our quantitative data. We have seen that existing analyses, both monomorphemic and bimorphemic, face both empirical and theoretical issues, at least when applied to Western South Slavic. On the empirical side, it was shown by our quantitative data that some central assumptions in the majority of previous approaches (e.g. complementary distribution of *nV/-ne* and secondary imperfectivizing suffixes) do not hold for all the verbs in Western South Slavic. As for the monomorphemic analyses, apart from the issues discussed in Section 2.2.1, we can add that analyzing *-nV* as a monomorphemic theme vowel leaves open the question of why, unlike all other themes, this theme vowel includes a (non-glide) consonant and is the only theme vowel across Slavic languages that performs a perfectivizing function. An analysis splitting *-nV/-ne* into *-n* as a separate morpheme and *u/e* and *i/e* as a theme vowel in BCMS and Slovenian respectively lends itself as a solution. While a similar segmentation has already been proposed (see Section 2.2.2), the approaches are either not elaborated (Łazorczyk 2010), or do not cover all the empirical data (Taraldsen Medová & Wiland 2019, Wiland 2019). In the latter case, it is assumed that *-nV* combines with the nominal bases to derive perfective semelfactive (unergative) verbs (in Czech and Polish), but the same suffix, at least in Western South Slavic, also readily combines with verbal bases, and even with other suffixes, e.g. *bol-uc-nu-ti* 'hurt a bit', where *-uc* is a verbal diminutive suffix. In the following sections, we use this compatibility with other (diminutive) suffixes to argue that *-nV* is itself a diminutive suffix *-n*^{u} (BCMS)/*-n*^{i} (Slovenian), which selects the theme vowel *∅/e*.

[8] In addition to the examples used as an illustration in Table 4, this pattern can be illustrated by the following prefixed verbs: *na-dah-nu-ti – na-dah-nj-ivati* 'inspire', *za-bezek-nu-ti – za-bezek-nj-iva-ti* 'bewilder' for BCMS; and *s-tr-ni-ti – s-tr-nj-eva-ti* 'sum up', *za-mrz-ni-ti – za-mrz-nj-eva-ti* 'freeze', *u-ki-ni-ti – u-ki-nj-a-ti* 'abolish, cancel', *raz-gr-ni-ti – raz-gri-nj-a-ti* 'unfold, spread out' for Slovenian.

[9] See also Milosavljević (2023b) for the discussion of secondary imperfective forms of semelfactive verbs in South-East Serbo-Croatian, where such forms are much more productive.

4 Morpho(-phono)logical analysis

In this section, we present morpho-phonological arguments for our main claim that the sequence *-nV/-ne* is composed of the suffix *-n*^{u} (BCMS)/*-n*^{i} (Slovenian), and the theme vowel *∅/e*. The theme-vowel class *∅/e* is independently attested with simple verbs in both BCMS and Slovenian (Arsenijević et al. 2024). The question remains how to treat the vowels *u* and *i* that appear next to the consonant *-n* when it is combined with the ∅-exponent of the theme vowel, but do not appear when it is combined with the *e*-exponent. We propose that the morpheme under consideration has both a consonantal and vocalic part, but that only the consonantal part is lexically affiliated with a timing slot, whereas the vocalic part is floating. This approach has already been applied to the Polish cognate of the same morpheme in Zdziebko (2017). We submit that the realization of the floating vowels is regulated by syllable structure constraints. Floating vowels surface in front of consonant-initial endings (helping to prevent consonant clusters) and they do not surface before vowel-initial endings (because realizing them would create a hiatus). This is illustrated in (9). Specifically, the floating vowel helps avoid the consonant clusters *nt* and *nl* in the infinitive and participle forms (9a, 9b). These clusters do not appear in the verbal systems of BCMS and Slovenian. On the other hand, the floating vowels are not realized before vowels *e* or *i* in the present tense and the imperative forms (9c, 9d) because in this case full (i.e. non-floating) segments already constitute optimal open syllables and the realization of the floating vowels would lead to a hiatus.

(9) a. max-n^{u}-∅-ti → maxnuti, *maxnti (BCMS)
max-n^{i}-∅-ti → maxniti, *maxnti (Slovenian)
wave-nV-TV-INF

b. max-n^{u}-∅-l-a → maxnula, *maxnla (BCMS)
max-n^{i}-∅-l-a → maxnila, *maxnla (Slovenian)
wave-nV-TV-PST-F

c. max-n^{u}-*e*-mo → maxnemo, *maxnuemo (BCMS)
max-n^{i}-*e*-mo → maxnemo, *maxniemo (Slovenian)
wave-nV-TV-PRS.1PL

d. max-n^{u}-*i*-mo → maxnimo, *maxnuimo (BCMS)
max-n^{i}-i-mo → maxnimo, *maxniimo (Slovenian)
wave-nV-TV.IMP-1.PL

An important argument for adding *-nV/-ne* verbs to the *∅/e* class lies in the fact that the forms in (9) (as well as the rest of the paradigm) feature the endings

typical of *∅/e* verbs in general. The only potential exception is constituted by passive participle forms, which we discuss below.

Before turning to the discussion of the passive participle forms, we need to address an alternative to adding floating vowels to the *n*-morpheme. The same surface result could have been achieved by assuming the *n*-morpheme just with a full consonant and adding the floating vowel to the representation of the theme vowel. In this case, the *∅/e* class would become ^{u}*/e* in BCMS and ^{i}*/e* in Slovenian. This alternative account encounters an empirical problem, as it would predict the floating vowels to surface in all forms where consonant-final bases combine with consonant-initial endings, e.g. in *pad-∅-ti* ⟶ *pasti, *paduti, *paditi* 'fall.INF' or *griz-∅-ti* ⟶ *gristi, *grizuti, *griziti* 'bite.INF'.

As mentioned above, adding *-nV/-ne* verbs to the *∅/e* class does appear to face some potential empirical issues. In both languages, the passive participle of *-nV/-ne* verbs diverges from most *∅/e* verbs. Since BCMS and Slovenian differ at this point, we take a closer look at each language in the following two subsections.

4.1 BCMS

The regular passive participle suffix in the *∅/e* conjugation in BCMS is *-en*, as illustrated in (10) by the verbs *ukrasti* 'steal' and *ugristi* 'bite'. Given the vowel-initial ending *-en*, for *-nu/-ne* verbs, we would expect the passive participle form ending in *-nen* (with non-realization of the floating vowel, just like in the present tense and in the imperative in 9c and 9d). However, the actual passive participles of these verbs end in *-nut*, as shown in (11) for the verb *dirnuti* 'touch'.

(10) a. ukra~~d~~-∅-l-a | ukrad-∅-en
steal-TV-PST-F | steal-TV-PASS.PTCP

b. ugriz-∅-l-a | ugriz-∅-en
bite-TV-PST-F | bite-TV-PASS.PTCP

(11) dir-nu-∅-l-a | dir-nu-∅-t, *dir-n~~u~~-∅-en
touch-nV-TV-PST-F | touch-nV-TV-PASS.PTCP touch-nV-TV-PASS.PTCP

As it turns out, the *∅/e* class is more heterogeneous than our initial overview reveals. If we zoom into verbs whose infinitival stems end in round vowels, we can find three roots that derive verbs with infinitives in *-uti*. These are illustrated in (12) by the forms of the verbs *obuti* 'put shoes on', *načuti* 'overhear' and *nasuti* 'pour'. As can be observed in (12), the passive participle form in such cases can end in *-t* for the first two verbs, and it obligatorily ends in *-t* for the third listed

verb. This indicates that *-nuti* verbs do not show atypical behavior with respect to other *-uti* verbs in the system. It can thus be submitted that the passive participle allomorph [-t] is conditioned by the adjacent [+round] feature (as one of its contexts of insertion).[10] Once this consonantal allomorph is selected, it comes as no surprise that [nu] surfaces as the exponent of n^u, since, as stated above, the *nt* cluster is blocked in the verbal forms in general.

(12) a. obu-∅-l-a | obuʊ-∅-en,
put.shoes.on-TV-PST-F | put.shoes.on-TV-PASS.PTCP
?obu-∅-t
put.shoes.on-TV-PASS.PTCP

b. nat͡ʃu-∅-l-a | nat͡ʃu-∅-t, nat͡ʃuʊ-∅-en
overhear-TV-PST-F | overhear-TV-PASS.PTCP overhear-TV-PASS.PTCP

c. nasu-∅-l-a | nasu-∅-t
pour-TV-PST-F | pour-TV-PASS.PTCP

Based on the facts above, it is safe to conclude that the allomorph selection in passive participle forms of *-nV/-ne* verbs does not constitute an argument for excluding these verbs from the *∅/e* theme-vowel class.

4.2 Slovenian

In Slovenian, just like in BCMS, the regular passive participle suffix in the ∅/e conjugation is *-en* (pronounced as [-ɛn] when under stress), as illustrated in (13) for the verbs *ukrasti* 'steal' and *gristi* 'bite'.[11] Here again, given the vowel-initial ending, we would expect passive participles derived from *-ni/-ne* verbs to end in *-nen*. However, the actual passive participles of these verbs end in *-njen*, as can be observed from (14).

(13) a. uˈkrad-∅-l-a | uˈkrad-∅-en
steal-TV-PST-F | steal-TV-PASS.PTCP

b. ˈgriz-∅-l-a | ˈgriz-∅-en
bite-TV-PST-F | bite-TV-PASS.PTCP

(14) napix-n^i-∅-en → naˈpixnjen, *napixn̶i̶en
inflate-nV-TV-PASS.PTCP

[10] This allomorph shows up in several other environments in the classes *∅/e* and *a/a*. As shown in Bešlin (2023), its conditioning is at least partially lexical.

[11] The contrast between open-mid vowels [ɛ, ɔ] and close-mid vowels [e, o] can only be observed in stressed syllables. In unstressed syllables, the neutralized mid vowels are traditionally transcribed as close-mid. For clarity, we mark stress in the examples in this subsection.

We suggest that the passive participle morpheme is actually *-^{j}en*, with a floating *j*. This hypothesis is supported by the fact that in the *∅/e* class there are verbs (beyond *-ni/-ne* verbs) where the passive participle suffix causes the palatalization of the preceding consonant. Such (admittedly rare) verbs are illustrated in (15). We propose that since both the *-n^{i}* morpheme and the passive participle ending *-^{j}en* have floating segments (which in addition have the same features), there is a *cumulative faithfulness effect* (Farris-Trimble 2008) strong enough to make the insertion of an additional timing slot and the realization of the [j] obligatory.[12]

(15) a. preˈnɛs-∅-l-a | preneˈʃ-∅-ɛn
transfer-TV-PST-F | transfer-TV-PASS.PTCP

b. preˈrast-∅-l-a | preˈra͡ʃt͡ʃ-∅-en
grow.overTV-PST-F | grow.over-TV-PASS.PTCP

After having provided morpho-phonological evidence for the decomposition of the sequence *-nV/-ne* into the suffix proper (*n^{V}*) and the theme vowel *∅/e*, we are now in a position to turn to our syntactic and semantic analysis of the suffix *-n* as a diminutive suffix.

5 The syntactic-semantic analysis in terms of diminution

As already previewed, our analysis of the verbal suffix *-nV/-ne* is bimorphemic. In this section, we focus on the proposed morpheme *-n^{u}* (BCMS)/*-n^{i}* (Slovenian), which we argue is a diminutive suffix. We start in Section 5.1 by showing the special status of *-nV* among suffixes: its perfective nature, its possibility to participate in suffix stacking, and the theme vowel it combines with. In Section 5.2 we sketch some similarities in the diminution of verbs and nouns that will be important for our analysis of the suffix *-nV*. Our syntactic modeling and formal semantic description are provided in Section 5.3 and Section 5.4, respectively. Section 5.5 brings a discussion on how the suffix *-nV* fits the broader picture of suffixes in Western South Slavic. Finally, in Section 5.6 we compare our analysis to the previous approaches to the suffix *-nV* and outline the advantages of our analysis.

[12]The palatalization in passive participles in *$^{(-j)}$en* is at least partially lexically determined in Slovenian. This has been discussed for the *i/i* class in Toporišič (2000). The *i/i* class features triplets like *ponuditi* 'offer', *začuditi* 'bewilder', *prisoditi* 'attribute', whose passive participles are *ponujen/ponuden*, *začuden* and *prisojen*, respectively ([j] being derived from /dj/). Note that in the *i/i* class palatalization is much more common than in the *∅/e* class. This is expected on our account because in the former class both the original theme vowel (*i*) and the morpheme *-^{j}en* favor palatalization.

5.1 Special status of *-nV* among suffixes

The first important property that sets the suffix *-nV* apart from all other verbal suffixes in BCMS and Slovenian concerns its aspectual effects. Specifically, all other verbal suffixes in BCMS and Slovenian derive verbs that pass tests for imperfectivity and atelicity. This is evidenced in (16a) and (17a) by the compatibility of BCMS *ova/uje-* and *ava*-verbs with the phasal verb *početi* 'begin', as well as by their combinability with durative adverbials (16b, 17b). The suffix *-nV*, by contrast, derives verbs that systematically fail both these tests, as illustrated in (18). In other words, the suffix *-nV* derives only perfective/telic verbs.

(16) a. Jan je počeo da štrajk-uj-e. (BCMS)
Jan AUX begun COMP strike-SUFF-PRS.3.SG
'Jan began to strike.'

b. Jan štrajk-uj-e dva sata.
Jan strike-SUFF-PRS.3.SG two hours
'Jan has been striking for two hours.'

(17) a. Ovas je počeo da stas-av-a. (BCMS)
oat AUX begun COMP grow-SUFF-PRS.3.SG
'Oat began to mature.'

b. Ovas stas-av-a dva dana.
oat grow-SUFF-PRS.3.SG two days
'Oat has been maturing for two days.'

(18) a. * Jan je počeo da vik-n-e. (BCMS)
Jan AUX begun COMP shout-SUFF-PRS.3.SG
Intended: 'Jan began to shout.'

b. * Jan vik-n-e dva sata.
Jan shout-SUFF-PRS.3.SG two hours
Intended: 'Jan has been shouting for two hours.'

Another important property of the suffix *-nV* is its possibility to license the stacking of other verbal suffixes on top of it, unlike most other suffixes, as illustrated by the contrast between (19a) and (19b) on the one hand, and (19c) on the other. Except for *-nV*, the only suffixes that allow stacking of suffixes on top of them are other diminutive suffixes (with which *-nV* forms a natural class), such as *-k* in BCMS (19d), or *-lj* in Slovenian (19e) (as well as some of the suffixes which integrate borrowed verbs).

(19) a. * Jan je štrajk-ov-av-a-o. (BCMS)
Jan AUX strike-SUFF-SUFF-TV-PST.M

b. * Ovas je stas-av-av-a-o. (BCMS)
oat AUX grow-SUFF-SUFF-TV-PST.M

c. Dan je sva-n^{u}-av-a-o [sʋaŋaʋao]. (BCMS)
day AUX dawn-SUFF-SUFF-TV-PST.M
'The day was dawning.'

d. Pera je za-pit-k-iv-a-o Lazu. (BCMS)
P AUX PREF-ask-SUFF-SUFF-TV-PST.M L.
'Pera was asking Laza questions.'

e. Jan je rez-lj-av-a-l les. (Slovenian)
Jan AUX carve-SUFF-SUFF-TV-PST.M wood
'Jan was carving out wood.'

The final unique property of the suffix *-nV* concerns theme vowel selection. Specifically, all Western South Slavic verbal suffixes take a theme vowel combination which includes the theme *-a* (i.e. *a/a* or *a/je*), as illustrated in (20a–20d), whereas only *-nV* combines with the theme vowel *∅/e*, as in (20e, 20f).

(20) a. Marija je gril-ov-a-l-a povrće. (BCMS)
M AUX grill-SUFF-TV-PST-F vegetables
'Marija was grilling the vegetables.'

b. Marija je pre-poruč-iv-a-l-a povrće. (BCMS)
M AUX PREF-message-SUFF-TV-PST-F vegetables
'Marija was recommending the vegetables.'

c. Marija je gril-uc-k-a-l-a povrće. (BCMS)
M AUX grill-SUFF-SUFF-TV-PST-F vegetables
'Marija was grilling the vegetables a little bit.'

d. Marija je marin-ir-a-l-a povrće. (BCMS)
M AUX marinate-SUFF-TV-PST-F vegetables
'Marija was marinating the vegetables.'

e. Marija je gril-nu-∅-l-a povrće. (BCMS)
M AUX grill-SUFF-TV-PST-F vegetables
'Marija grilled the vegetables a little bit.'

f. Marija je ob(-)r-ni-∅-l-a kos zelenjave. (Slovenian)
M AUX (PREF)-turn-SUFF-TV-PST-F piece vegetable
'Marija turned a piece of vegetables.'

In the following sections, we argue that the special status of *-nV* among other verbal suffixes stems from its diminutive nature.

5.2 Diminution in verbs and nouns, similarities

Diminution is a cross-categorial phenomenon: nouns, verbs and adjectives all undergo this operation, in quite parallel ways. Consider the two structural positions for the diminutive suffix illustrated below for nouns (21a), adjectives (21b) and verbs (21c), respectively.

(21) a. i. lav (BCMS)
lion
'lion'

ii. lav-ić lav-č-e lav-č-ić
lion-DIM lion-DIM-INFL lion-DIM-DIM
'little lion'

b. i. smeđ-e
brown
'brown'

ii. smeđ-ast-o smeđ-(i)k-av-o
brown-DIM.ADJ-INFL brown-DIM-ADJ-INFL
smeđ-(i)k-ast-o
brown-DIM-DIM.ADJ-INFL
'somewhat brown'

c. i. greb-a-ti
scratch-TV-INF
'scratch'

ii. greb-k-a-ti greb-uc-a-ti greb-uc-k-a-ti
scratch-DIM-TV-INF scratch-DIM-TV-INF scratch-DIM-DIM-TV-INF
'scratch a little'

The illustrated patterns perfectly fit De Belder et al.'s (2014) analysis of diminution, where diminutive suffixes may be base-generated at the level of the root or at the level of the category. This is schematically represented in Figures 1–3, where the maximal structure is given for each of the three categories for the examples in (21). In all three examples, the higher diminutive is fused with the category, i.e. the diminutive suffix in this position realizes both the diminutive and the category, and can be substituted by a suffix realizing only the category. The lower diminutive, by contrast, is merged directly with the root, before the entire (extended root) structure is categorized. Diminution can be realized by either of the two options, or by a combination, without a (necessary) effect of accumulation.

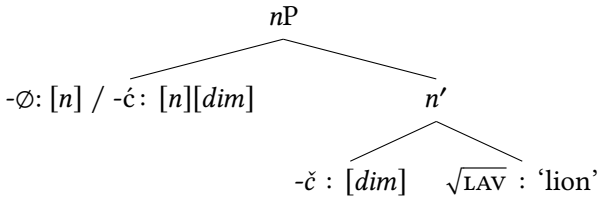

Figure 1: Syntactic representation of (double) diminutive nouns

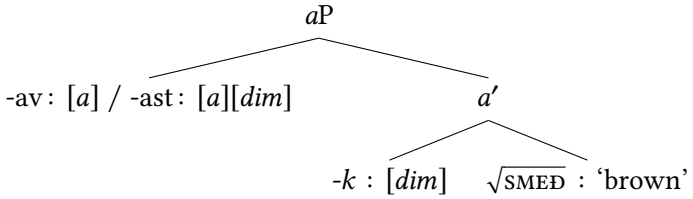

Figure 2: Syntactic representation of (double) diminutive adjectives

The suffix *-nV* is one of the suffixes used for diminution in the verbal domain. Apart from about a dozen exceptions, mostly degree achievements, as in (22), all *-nV* verbs involve the component of a small quantity, as in (23).

(22)	to-nu-ti	tru-nu-ti	bri-nu-ti	sva-nu-ti
	√SINK-nV-INF	√ROT-nV-INF	√WORRY-nV-INF	√DAWN-nV-INF
	‘sink’	‘rot’	‘worry’	‘dawn’
(23)	greb-nu-ti	spav-nu-ti	skok-nu-ti	kuc-nu-ti
	√SCRATCH-nV-INF	√SLEEP-nV-INF	√JUMP-nV-INF	√KNOCK-nV-INF
	‘scratch a little’	‘sleep a little’	‘jump a little’	‘knock a little’

The suffix *-nV* with the diminutive interpretation normally can be combined with the root-level verbal diminutive suffix *-uc* in BCMS. When this is degraded, there

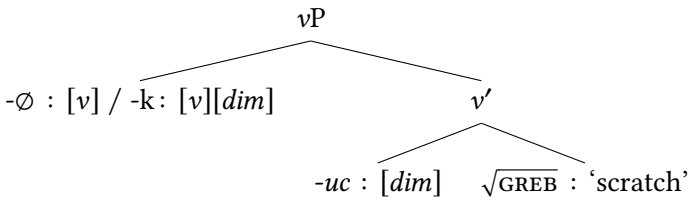

Figure 3: Syntactic representation of (double) diminutive verbs

typically is an independent reason, such as with the verb *kucnuti* in (24), where either the stem already involves the suffix *-uc* (so it is actually impossible to have *-nV* without *-uc*), or some process akin to haplology is at play. With the addition of *-uc*, the meaning is not affected, although sometimes the diminutive semantics feels somewhat stronger (which may be a pragmatic effect).

(24) (BCMS)

greb-uc-nu-ti	spav-uc-nu-ti
$\sqrt{\text{SCRATCH}}$-DIM-nV-INF	$\sqrt{\text{SLEEP}}$-DIM-nV-INF
'scratch a little'	'sleep a little'
prd-uc-nu-ti	??kuc-uc-nu-ti
$\sqrt{\text{FART}}$-DIM-nV-INF	$\sqrt{\text{KNOCK}}$-DIM-nV-INF
'fart a little'	'knock a little'

All this points in the direction of having *-nV* as a suffix combining the verbal category with the diminutive component in the category head.

Unlike in BCMS, in Slovenian, the suffix *-nV* does not combine with other diminutive suffixes productively. Judging by the dictionary and corpus data, there is only one verb combining the diminutive suffix *-ic* and *-nV* in Slovenian.

(25) (Slovenian)

stop-i-ti	stop-ic-a-ti	stop-ic-ni-∅-ti
$\sqrt{\text{STEP}}$-TV-INF	$\sqrt{\text{STEP}}$-DIM-TV-INF	$\sqrt{\text{STEP}}$-DIM-nV-TV-INF
'make a step'	'make little steps/make steps a little'	'make one little step'

However, verb diminution is common in child-directed speech. The examples in (a) in (26–28) below show diminutive verbs derived from simplex verbs with different diminutive suffixes. The examples in (b) show the grammatical combinations of diminutive suffixes in Slovenian verbs and the examples in (c) show the ungrammatical ones. Just like the suffix *-uc* in BCMS, the diminutive suffixes that combine with *-nV* in Slovenian (i.e. *-k* and *-ic*) are instances of lower diminutives and are merged with the root, i.e. before the categorizing head exponed by a theme vowel.

(26) a. (Slovenian)

čič-a-ti	čič-k-a-ti	čič-ni-∅-ti	(se)
$\sqrt{\text{SIT}}$-TV-INF	$\sqrt{\text{SIT}}$-DIM-TV-INF	$\sqrt{\text{SIT}}$-nV-TV-INF	REFL
'sit'	'sit in a small way'	'sit down'	

b.

čič-k-ni-∅-ti	(se)
$\sqrt{\text{SIT}}$-DIM-nV-TV-INF	REFL
'sit in a small way'	

c.

* čič-n(i)-k-a-ti	(se)
$\sqrt{\text{SIT}}$-nV-DIM-TV-INF	REFL

(27) a. cap-a-ti cap-k-a-ti cap-lj-a-ti (Slovenian)
$\sqrt{\text{DRIP}}$-TV-INF $\sqrt{\text{DRIP}}$-DIM-TV-INF $\sqrt{\text{DRIP}}$-DIM-TV-INF
'take steps' 'take little steps/step a little' 'take little steps/step a little'

b. cap-k-lj-a-ti
$\sqrt{\text{DRIP}}$-DIM-DIM-TV-INF
'take little steps/step a little'

c. * cap-lj-k-a-ti
$\sqrt{\text{DRIP}}$-DIM-DIM-TV-INF

(28) a. hop-a-ti (Slovenian)
$\sqrt{\text{HOP}}$-TV-INF
'hop'
hop-k-a-ti hop-lj-a-ti hop-ni-∅-ti
$\sqrt{\text{HOP}}$-DIM-TV-INF $\sqrt{\text{HOP}}$-DIM-TV-INF $\sqrt{\text{HOP}}$-nV-TV-INF
'take little hops/hop a little' 'take little hops/hop a little' 'hop once'

b. hop-k-lj-a-ti hop-k-ni-∅-ti
$\sqrt{\text{HOP}}$-DIM-DIM-TV-INF $\sqrt{\text{HOP}}$-DIM-nV-TV-INF
'take little hops/hop a little' 'take little hops/hop a little'

c. * hop-lj-ni-∅-ti *hop-n(i)-lj-(a)-ti
$\sqrt{\text{HOP}}$-nV-DIM-TV-INF $\sqrt{\text{HOP}}$-nV-DIM-TV-INF

We take the similarity of the position in the words between the diminutive suffix *-lj* and the suffix *-nV* (i.e. the fact that they both can precede another verbal suffix or follow another diminutive suffix) and their complementary distribution in Slovenian as additional evidence for *-nV* combining a diminutive and verbal component in the category head.

5.3 Syntactic modeling

We can now lay out our full structural analysis of the sequence *-nV/-ne*. It is decomposed into two morphemes whose insertion is triggered by two features standing in the head–adjunct configuration: the diminutive feature and the verbal category feature. This is illustrated in (29) and the respective structures in Figures 4–5 on two BCMS verbs, one without and another with the additional diminutive suffix *-uc*.

(29) zev-nu-∅-ti zev-uc-nu-∅-ti (BCMS)
$\sqrt{\text{YAWN}}$-nV-TV-INF $\sqrt{\text{YAWN}}$-DIM-nV-TV-INF
'yawn a little' 'yawn a little'

Subsequent head movement derives the surface order.

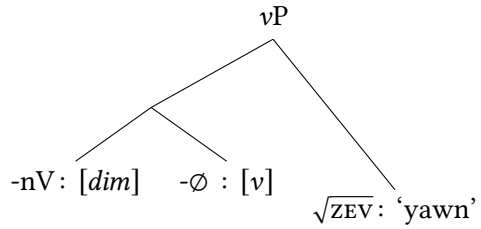

Figure 4: Syntactic representation of the verb *zevnuti* in (29)

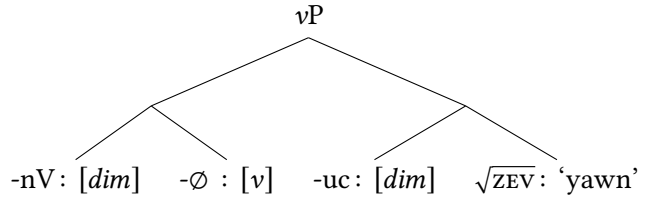

Figure 5: Syntactic representation of the verb *zevucnuti* in (29)

5.4 Formal semantic description

In line with Pietroski (2005) and Arsenijević & Hinzen (2012), we take all syntactic heads to denote predicates and to mutually combine strictly in terms of predicate modification. We follow Arsenijević (2017, 2022) in taking the semantic content of the category feature to be a restriction of the referential domain in terms of the semantic ontological class and unit of counting. The head *v* restricts reference to eventualities, and optionally specifies the quantity structure of the referent of the eventually derived expression at the level of grammatical aspect in terms of neat units, in the sense of Landman (2011), assuming that the absence of this specification, i.e. the default interpretation, matches the messy quantity structure of the eventually derived description. Formally, hence, it is ambiguous between (30a) and (30b).

(30) a. $\lambda x.\textsc{event}(x)$
b. $\lambda x.\textsc{event}(x) \wedge \textsc{neat}(x)$

In both cases, the category feature is a predicate over entities (x), such that the eventually generated expression refers in terms of units x, which are optionally x neat. For instance, a verb like *sleep* in its typical use (31a) involves a messy quantity structure as in (30a), where units are not strictly bounded and two units may share parts or be part of one another. By contrast, for a verb like the typical

use of *blink* (31b), the quantity structure of the predicate is neat, as in (30b), where units are strictly bounded and disjoint.

(31) a. John slept.
b. Mary blinked.

We analyze the diminutive feature as a specification of a low degree on some measure function, as in (32a) (where $\text{M}(x)$ stands for the measure function applied to x). This measure function as well as the standard degree are both provided from the context. In the domain of concrete individuals, the measure function typically targets size, and in the domain of events their temporal duration. In the verbal structure, the diminutive feature may occur in two positions. One is to merge with the base from which the verb derives, typically a root or a complex structure, and apply diminution to it. This typically results in the choice of the measure of intensity of action or of the fit of the description (raising the interpretation of atypical nature of the eventuality with respect to the description used). This is structurally illustrated in (32b).

The other option is that it merges with the category head, typically receiving the measure of duration interpretation, i.e. the unit event has a shorter (temporal or other) interval than the standard for the event kind, as in (32c).[13] As the relation SMALLER entails boundedness, this imposes, by presupposition, restriction to neat predicates. As a result, the suffix *-nV* combines with neat *v*'s only, i.e. it accommodates neat quantity structure in the category head. When the diminutive feature adjoins to the category head, it is hence interpreted as specifying the bounded nature and small size of the unit eventuality. This is how for instance *trk-nu-ti* '$\sqrt{run}$-TV-INF' gets the interpretation of a small (i.e. atomic) instance of running.[14]

[13]Here we assume that the category head has the nature of a count classifier: it specifies the manner of reference, by specifying reference units (see Arsenijević 2022 for an elaboration and further references). We follow Milosavljević (2023b) in assuming that the verbal structure includes further projections dedicated to atomicity and grammatical number, where the units specified by the category head are further specified and structured to restrict the description and eventually reference too, quite parallel to the way this is traditionally modeled in the nominal domain.

[14]An anonymous reviewer raises the question of whether the neatness condition as part of the semantics of the suffix *-nV* is justified, given that this suffix can combine with non-verbal bases, i.e. may be added to stems that denote uncountable nouns or onomatopoeic words (in Polish). While in Western South Slavic too the suffix *-nV* combines with bases that are attested also as nominal (e.g. *korak-nu-ti* 'step'; with the noun *korak* 'step' and the Slovenian verb *nasmeh-ni-ti* 'smile' with the noun *nasmeh* 'smile'), or onomatopoeic (e.g. *tres-nu-ti* 'snap, crack' in BCMS

(32) a. $[dim] := \lambda x[\textsc{m}(x) < \textsc{std}]$
b. $\sqrt{\textsc{trk}} := \lambda x[[\![\sqrt{\textsc{trk}}]\!](x)]$
by predicate modification:
$[[dim]\sqrt{\textsc{trk}}] := \lambda x[[\![\sqrt{\textsc{trk}}]\!](x) \wedge \textsc{m}(x) < \textsc{std}]$
c. $[v] := \lambda x[\textsc{event}(x) \wedge \textsc{neat}(x)]$
by predicate modification:
$[[dim][v]] := \lambda x[\textsc{event}(x) \wedge \textsc{neat}(x) \wedge \textsc{m}(x) < \textsc{std}]$
d. by predicate modification with the root:
$[[[dim][v]]\sqrt{\textsc{trk}}] := \lambda x[\textsc{event}(x) \wedge \textsc{neat}(x) \wedge \textsc{m}(x) < \textsc{std} \wedge [\![\sqrt{\textsc{trk}}]\!](x)]$

Considering that the suffix *-nV* realizes the diminutive adjoined to the category head and the suffix *-uc* the one composed with the root or other base, this analysis predicts that the suffix *-uc* will be ambiguous, while the suffix *-nV* will not be used with the meaning of low intensity without restriction to neat structure. Indeed, the latter is exactly what is discussed around example (29), while, as shown in (33), *-uc* may also have the pure low intensity interpretation, as all the verbs in (33) are ambiguous between the durative low intensity interpretation and that of an iteration of pointy intervals of the (low intensity or not) eventuality.

(33) (BCMS)

svetl-uc-a-ti	bel-uc-a-ti
$\sqrt{\textsc{light}}$-dim-tv-inf	$\sqrt{\textsc{white}}$-dim-tv-inf
‘emit light a little’	‘be white a little’
svir-uc-a-ti	šet-uc-a-ti
$\sqrt{\textsc{play}}$-dim-tv-inf	$\sqrt{\textsc{walk}}$-dim-tv-inf
‘play a little’	‘walk a little’

5.5 Western South Slavic verbal suffixation

The proposed analysis postulates three syntactic positions in which verbal suffixes are generated in Western South Slavic (and possibly more generally Slavic).

and *tresk-ni-ti* in Slovenian, with the respective words *tres!* and *tresk!* also used as interjections expressing a sudden or sharp sound, like the sound of something breaking or snapping), such examples do not constitute a counterargument for our analysis. Namely, in our DM implementation, the suffix *-nV* merges with the category head or with a categorized root. This means that apparent onomatopoeic or nominal bases are verbalized before *-nV* enters the structure, so that these are not counterexamples to the verbal and/or neatness presupposition. More generally, there are two possibilities for “nominal” bases: either the root is nominalized by a nominal head, and then verbalized, or the same root appears in both nominal and verbal structures. In both cases, *-nV* would attach to the verbal category head (i.e. verbalized structure).

These are, bottom up: (i) a position merging with the base, be it a root or a category, in which ambiguous diminutive suffixes are generated (suffixes *-uc*, *-uš* in BCMS, *-ic*, *-k* in Slovenian), (ii) adjunct to the category head, also reserved for the diminutive suffix, but here realized as *-nV*, and (iii) the position of the imperfective (or biaspectual) verbal suffixes, traditionally associated with some aspectual projection. The last type of suffixes has been analyzed in Simonović et al. (2023) and Arsenijević et al. (2023) as consisting purely of theme vowels, and thus realizing the bare verbal category feature. This reduces the set of possible positions to only two: that below the verbal category head and the verbal category head itself.[15]

5.6 Comparison to previous analyses

Our analysis shares some properties with several others. Like Svenonius (2004) and Biskup (2023a,b, 2024), it relates the suffix with the verbal category. As Kwapiszewski (2020), our analysis attributes to the suffix specification of properties of quantity (the unit of counting), and as Arsenijević (2006), it associates it with diminutivity. Finally, in line with Armoškaitė & Sherkina-Lieber (2008), we associate the suffix with the unit of counting, and with Łazorczyk (2010), Taraldsen Medová & Wiland (2019), and Wiland (2019), we offer a bimorphemic analysis. Here is how our analysis accounts for the specific properties of the suffix presented above.

In terms of meaning, Semelfactives present the fully compositional interpretation of the suffix *-nV*: they denote one counting unit for the respective event predicate which is smaller than the standard for such an eventuality. Natural Perfectives are a special case, emerging when the event predicate specifies a salient atom. The salience of this interpretation imposes it as a pragmaticized meaning of the diminutive feature applying to the unit of counting specified by the event predicate. The Perfective Delimitative interpretation emerges when the event predicate specifies no salient counting unit. The diminutive feature presupposes such a unit, and by default takes bounded temporal intervals as the unit of counting. The salient natural class of bounded temporal intervals are points in time (no other length or type makes a natural class), resulting in semelfactivity. The Degree Achievement interpretation is not productive anymore, indicating that the suffix no longer contributes a meaning that derives it (see Rothstein 2008b for an explanation of the source of *-nV* degree achievements).

[15]Due to space limitations, we leave aside the status of suffixes that are used for integrating borrowed verbs, such as *-ir* (*kop-ir-a-ti* [copy-ir-tv-inf] 'copy') and *-is* (*determin-is-a-ti* [determine-is-tv-inf] 'determine') in BCMS.

The diminutive semantic component, which is at least latently always present with *-nV* (except in the unproductive class of degree achievements) is part of the meaning of the suffix. Telicity is part of the semantic specification of the meaning of the suffix, in the form of the presupposition of a unit of counting required by the meaning of smallness operating over the verbalizer which specifies properties of quantity. Perfectivity is generally strongly associated with telicity in Slavic (Borer 2005b, Arsenijević 2006, 2023, Łazorczyk 2010, Milosavljević 2022, 2023a,b), and the same mechanisms are likely at play with *-nV*. Modeling this suffix as the only one with additional syntactic/semantic content next to that borne by the theme vowel (Simonović et al. 2023, Arsenijević et al. 2023) enables capturing its being also the only one that imposes telicity and perfectivity.

By our analysis, *-nV* selects the TV *∅/e*, i.e. the *-e* in the present stem is not part of the suffix but a TV. This fits the analysis where the diminutive feature realized as *-nV* is left-adjoined to the verbal category feature realized as the TV. Our view obviates the question about the complementary distribution of *-nV/-ne* with theme vowels, since the sequence *-nV/-ne* includes a TV.

The compatibility of the suffix *-nV* with secondary imperfectivizing suffixes in at least some Slavic languages (BCMS included), as well as the ability to stack with other imperfective suffixes, is not a problem for our approach since the suffix does not target the AspP, but a lower head (i.e. in the analysis by Arsenijević et al. 2023, *-nV* derives telic predicates, which then can be reverbalized).

Finally, unlike other analyses, ours also predicts that the suffix *-nV* combines with the root-level diminutive suffix *-uc* analogous to double diminution in nouns and adjectives.

6 Conclusion

The paper revisits the Slavic verbal suffix *-nV*, and highlights a range of new qualitative and quantitative observations and generalizations which have not yet been reported or supported by precise quantitative data in previous descriptive and theoretical accounts of this suffix. We observe a unique status of the suffix among verbal suffixes based on the properties of its use (e.g., it may combine with other verbal suffixes, which does not hold for other suffixes; it does not select the theme vowel the other suffixes do). To predict and explain the special properties of the suffix, we propose the decomposition of the suffix into two components, an actual suffix (*-nV*) and a theme vowel (*∅/e*), realizing diminution and the verbal category, respectively. We provide a formalization for the diminutive semantics, and a syntactic structure for the position of its base-generation.

Abbreviations

1	first person	NOM	nominative
3	third person	PASS	passive
ACC	accusative	PL	plural
ADJ	adjective	PREF	prefix
AUX	auxiliary	PRS	present tense
COMP	complementizer	PST	past
DIM	diminutive	PTCP	participle
F	feminine	REFL	reflexive
IMP	imperative	SG	singular
INF	infinitive	SI	secondary imperfective
INFL	inflectional ending	SUFF	suffix
M	masculine	TV	theme vowel

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References

Armoškaitė, Solveiga & Marina Sherkina-Lieber. 2008. Event number suffixes in Russian and Lithuanian. In Andrei Antonenko, John F. Bailyn & Christina Y. Bethin (eds.), *Formal Approaches to Slavic Linguistics 16: The Stony Brook Meeting 2007*, 1–15. Ann Arbor: Michigan Slavic Publications.

Arsenijević, Boban. 2006. *Inner aspect and telicity* (LOT Dissertation Series 142). Utrecht: LOT.

Arsenijević, Boban. 2017. Gender, like classifiers, specifies the type of partition: Evidence from Serbo-Croatian. In Jessica Kantarovich, Tran Truong & Orest Xherija (eds.), *Proceedings from the Annual Meeting of the Chicago Linguistic Society 52*, 21–37. Chicago: Chicago Linguistic Society.

Arsenijević, Boban. 2022. Adjectives as a lexical category: A story of striving for extension. In Phoevos Panagiotidis & Moreno Mitrović (eds.), *A°: The lexical status of adjectives*, 121–152. Amsterdam: John Benjamins. DOI: 10.1075/lfab.17.04ars.

Arsenijević, Boban. 2023. Specification of telicity in Serbo-Croatian, without null prefixes. In Olav Mueller-Reichau, Petr Biskup, Marcel Börner & Iuliia Shcherbina (eds.), *Advances in formal Slavic linguistics 2021*, 1–37. Berlin: Language Science Press. DOI: 10.5281/zenodo.10123627.

Arsenijević, Boban & Wolfram Hinzen. 2012. On the absence of X-within-X recursion in human grammar. *Linguistic Inquiry* 43(3). 423–440. DOI: 10.1162/LING_a_00095.

Arsenijević, Boban, Stefan Milosavljević & Marko Simonović. 2023. Secondary imperfectivisation is reverbalisation is addition of theme vowels. Presented at the 56th Annual Meeting of the Societas Linguistica Europaea (SLE 56), Workshop Inflection and derivation in the Slavic verb, National and Kapodistrian University of Athens, August 29–September 1, 2023.

Arsenijević, Boban, Katarina Gomboc Čeh, Franc Lanko Marušič, Stefan Milosavljević, Petra Mišmaš, Jelena Simić, Marko Simonović & Rok Žaucer. 2024. *Database of the Western South Slavic Verb HyperVerb 2.0 – WeSoSlaV*. Slovenian language resource repository CLARIN.SI. http://hdl.handle.net/11356/1846.

Bacz, Barbara. 2012. Reflections on semelfactivity in Polish. *Studies in Polish Linguistics* 7(1). 107–128.

Barić, Eugenija, Mijo Lončarić, Dragica Malić, Slavko Pavešić, Mirko Peti, Vesna Zečević & Marija Znika. 1997. *Hrvatska gramatika.* Zagreb: Školska knjiga.

Bešlin, Maša. 2023. Passive vP is not phasal in Bosnian/Croatian/Serbian. *Proceedings of the Linguistic Society of America* 8(1). 5499. DOI: 10.3765/plsa.v8i1.5499.

Biskup, Petr. 2019. *Prepositions, case and verbal prefixes: The case of Slavic* (Linguistik Aktuell/Linguistics Today 255). Amsterdam: John Benjamins. DOI: 10.1075/la.255.

Biskup, Petr. 2023a. Aspect separated from aspectual markers in Russian and Czech. In Olav Mueller-Reichau, Petr Biskup, Marcel Börner & Iuliia Shcherbina (eds.), *Advances in formal Slavic linguistics 2021*, 61–98. Berlin: Language Science Press. DOI: 10.5281/zenodo.10123631.

Biskup, Petr. 2023b. Deriving morphological aspect in Russian: A matryoshka way. In Christina Clasmeier & Julia Golbekand (eds.), *Linguistische Beiträge zur Slavistik: XXIX. JungslavistInnen-Treffen vom 09. bis 10. September 2021 an der Ruhr-Universität Bochum*, 9–30. Berlin: Peter Lang.

Biskup, Petr. 2024. An Agree analysis of the morphological aspect in Slavic. In Silke Fischer, Doreen Georgi, Fabian Heck, Johannes Hein, Anke Himmelreich, Andrew Murphy & Philipp Weisser (eds.), *Strictly cycling*, 55–74. Leipzig: Institut für Linguistik, Universität Leipzig. https://www.philol.uni-leipzig.de/fileadmin/Fakult%C3%A4t_Philo/Linguistik/Forschung/LAB/LAB_97/LAB97_04_biskup.pdf.

Borer, Hagit. 2005a. Some notes on the syntax of quantity. In Paula Kempchinsky & Roumyana Slabakova (eds.), *Aspectual inquiries* (Studies in Natural Language and Linguistic Theory 62), 41–68. Dordrecht: Springer. DOI: 10.1007/1-4020-3033-9_3.

Borer, Hagit. 2005b. *Structuring sense, vol. 2: The normal course of events*. Oxford: Oxford University Press.

Breznik, Anton. 1934. *Slovenska slovnica za srednje šole*. Celje: Založila Družba sv. Mohorja.

Caha, Pavel. 2009. *The nanosyntax of case*. Tromsø: University of Tromsø. (Doctoral dissertation).

De Belder, Marijke. 2008. Size matters: Towards a syntactic decomposition of countability. In Natasha Abner & Jason Bishop (eds.), *WCCFL 27: Proceedings of the 27th West Coast Conference on Formal Linguistics*, 116–122. Somerville: Cascadilla Proceedings Project. http://www.lingref.com/cpp/wccfl/27/paper1823.pdf.

De Belder, Marijke. 2011. A morphosyntactic decomposition of countability in Germanic. *Journal of Comparative Germanic Linguistics* 14(3). 173–202. DOI: 10.1007/s10828-011-9045-0.

De Belder, Marijke, Noam Faust & Nicola Lampitelli. 2014. On a low and a high diminutive: Evidence from Italian and Hebrew. In Artemis Alexiadou, Hagit Borer & Florian Schäfer (eds.), *The syntax of roots and the roots of syntax*, 149–163. Oxford: Oxford University Press. DOI: 10.1093/acprof:oso/9780199665266.003.0007.

Dickey, Stephen M. & Laura A. Janda. 2009. Хохомнул, схимрил: The relationship between semelfactives formed with *-nu-* and *s-* in Russian. *Russian Linguistics* 33(3). 229–248. DOI: 10.1007/s11185-009-9044-9.

Diesing, Molly. 1998. Light verbs and the syntax of aspect in Yiddish. *The Journal of Comparative Germanic Linguistics* 1. 119–156. DOI: 10.1023/A:1009751908064.

Farris-Trimble, Ashley W. 2008. *Cumulative faithfulness effects in phonology*. Indiana University. (Doctoral dissertation).

Gladney, Frank Y. 2013. On the syntax, morphology, and semantics of Russian verbal aspect. *Slavic and East European Journal* 57(4). 628–648. https://www.jstor.org/stable/24642488.

Isačenko, Aleksandr V. 1962. *Die russische Sprache der Gegenwart: Teil I: Formenlehre*. Halle (Saale): Niemeyer.

Ivšić, Stjepan, Josip Vrana & Radoslav Katičić. 1970. *Slavenska poredbena gramatika*. Zagreb: Školska knjiga.

Jabłońska, Patrycja. 2007. *Radical decomposition and argument structure*. Tromsø: University of Tromsø. (Doctoral dissertation).

Janda, Laura A. 2007. Aspectual clusters of Russian verbs. *Studies in Language* 31(3). 607–648. DOI: 10.1075/sl.31.3.04jan.

Kagan, Olga. 2008. On the semantics of aspect and number. In Andrei Antonenko, John F. Bailyn & Christina Y. Bethin (eds.), *Formal Approaches to Slavic Linguistics 16: The Stony Brook Meeting 2007*, 185–198. Ann Arbor: Michigan Slavic Publications.

Kagan, Olga. 2010. Russian aspect as number in the verbal domain. In Brenda Laca & Patricia Hofherr (eds.), *Layers of aspect*, 91–112. Stanford: CSLI Publications.

Klimek-Jankowska, Dorota, Anna Czypionka, Wojciech Witkowski & Joanna Błaszczak. 2018. The time course of processing perfective and imperfective aspect in Polish: Evidence from self-paced reading and eye-tracking experiments. *Acta Linguistica Academica* 65(2–3). 293–351. DOI: 10.1556/2062.2018.65.2-3.4.

Kovačević, Peđa, Stefan Milosavljević & Marko Simonović. 2024. Theme-vowel minimal pairs show argument structure alternations. *Journal of Linguistics*. Advance online publication, 1–30. DOI: 10.1017/S0022226723000415.

Kuznetsova, Julia & Anastasia Makarova. 2012. Distribution of two semelfactives in Russian: -nu- and -anu-. *Oslo Studies in Language* 4(1: The Russian Verb). Atle Grønn and Anna Pazelskaya (issue eds.), 155–176. DOI: 10.5617/osla.231.

Kwapiszewski, Arkadiusz. 2020. Aspect and verbalising morphology in Polish nominalisations. In Astrid van Alem, Mirella De Sisto, Elisabeth J. Kerr & Joanna Wall (eds.), *Proceedings of ConSOLE XXVIII*, 75–99. Leiden: Leiden University Centre for Linguistics.

Kwapiszewski, Arkadiusz. 2022. *Aspect and event structure: The morphosyntax of Polish verbs from a cross-linguistic perspective*. Oxford: University of Oxford. (Doctoral dissertation).

Landman, Fred. 2011. Count nouns, mass nouns, neat nouns, mess nouns. *Baltic International Yearbook of Cognition, Logic and Communication* 6(1). 1–67. DOI: 10.4148/biyclc.v6i0.1579.

Łazorczyk, Agnieszka A. 2010. *Decomposing Slavic aspect: The role of aspectual morphology in Polish and other Slavic languages*. Los Angeles: University of Southern California. (Doctoral dissertation).

Ljubešić, Nikola & Filip Klubička. 2014. bs,hr,srWaC - web corpora of Bosnian, Croatian and Serbian. In Felix Bildhauer & Roland Schäfer (eds.), *Proceedings of the 9th Web as Corpus Workshop (WaC-9)*, 29–35. Gothenburg: Association for Computational Linguistics. DOI: 10.3115/v1/W14-0405.

Logar-Berginc, Nataša, Simon Krek, Tomaž Erjavec, Miha Grčar, Peter Halozan & Simon Šuster. 2012. Referenčni korpusi slovenskega jezika (cc)Gigafida in (cc)KRES. In *Zbornik Osme konference jezikovne tehnologije, 8. do 12. oktober*

2012: Zbornik 15. mednarodne multikonference Informacijska družba, vol. C, 57–62. https://nl.ijs.si/isjt12/proceedings/isjt2012_11.pdf.

Makarova, Anastasia & Laura A. Janda. 2009. Do it once: A case study of the Russian *-nu-* semelfactives. *Scando-Slavica* 55(1). 78–99. DOI: 10.1080/00806760903175417.

Markman, Vita G. 2008. On Slavic semelfactives and secondary imperfectives: Implications for the split 'AspP'. In *Proceedings of the 31st Annual Penn Linguistics Colloquium* (University of Pennsylvania Working Papers in Linguistics 14(1)), 255–268. Philadelphia: Penn Graduate Linguistics Society. https://repository.upenn.edu/handle/20.500.14332/44670.

Marušič, Franc Lanko, Rok Žaucer, Petra Mišmaš, Boban Arsenijević, Marko Simonović, Stefan Milosavljević, Katarina Gomboc Čeh & Jelena Simić. 2022. *Database of the Western South Slavic verb HyperVerb 1.0*. Slovenian language resource repository CLARIN.SI. http://hdl.handle.net/11356/1683.

Mathieu, Éric. 2012. Flavors of division. *Linguistic Inquiry* 43(4). 650–679. DOI: 10.1162/ling_a_00110.

Milosavljević, Stefan. 2019. O upotrebi iterativnih glagola u perfektu za označavanje izbrojivog mnoštva radnji i njihovoj konkurenciji sa svršenim glagolima (na primerima iz novinarskog stila srpskog jezika). *Naučni sastanak slavista u Vukove dane* 48(3). 149–191. DOI: 10.18485/msc.2019.48.3.ch8.

Milosavljević, Stefan. 2022. The delimitative prefix *po-*, durative adverbials, and Slavic aspectual composition. In Annie Holtz, Iva Kovač & Rasmus Puggaard-Rode (eds.), *Proceedings of ConSOLE XXX*, 17–42. Leiden: Leiden University Centre for Linguistics.

Milosavljević, Stefan. 2023a. Simple imperfective verbs, the sequence of similar events interpretation, and Slavic aspectual composition. In Olav Mueller-Reichau, Petr Biskup, Marcel Börner & Iuliia Shcherbina (eds.), *Advances in formal Slavic linguistics 2021*, 265–292. Berlin: Language Science Press. DOI: 10.5281/zenodo.10123645.

Milosavljević, Stefan. 2023b. *Specification of event duration and aspectual composition in Slavic*. Graz: University of Graz. (Doctoral dissertation).

Milosavljević, Stefan & Boban Arsenijević. 2022. What differentiates Serbo-Croatian verbal theme vowels: Content or markedness? *Glossa: a journal of general linguistics* 7(1). 1–36. DOI: 10.16995/glossa.8535.

Milosavljević, Stefan, Petra Mišmaš, Marko Simonović, Boban Arsenijević, Katarina Gomboc Čeh, Franc Lanko Marušič, Jelena Simić & Rok Žaucer. 2023. *Database of the Western South Slavic Verb HyperVerb – derivation*. Slovenian language resource repository CLARIN.SI. http://hdl.handle.net/11356/1855.

Nesset, Tore. 2012. One or several categories? The Old Church Slavonic *nǫ*-verbs and linguistic profiling. *Russian Linguistics* 36(3). 285–303. DOI: 10.1007/s11185-012-9093-3.

Nesset, Tore. 2013. The history of the Russian semelfactive: The development of a radial category. *Journal of Slavic Linguistics* 21(1). 123–169. https://www.jstor.org/stable/24600451.

Nordrum, Maria. 2019. *Together and apart: Perfective verbs with a prefix and the semelfactive suffix* -nu- *in Contemporary Standard Russian*. Tromsø: UiT The Arctic University of Norway. (Doctoral dissertation). https://hdl.handle.net/10037/17718.

Ott, Dennis. 2011. Diminutive-formation in German: Spelling out the classifier analysis. *Journal of Comparative Germanic Linguistics* 14(1). 1–46. DOI: 10.1007/s10828-010-9040-x.

Pietroski, Paul M. 2005. *Events and semantic architecture*. Oxford: Oxford University Press.

Progovac, Ljiljana. 2005. *A syntax of Serbian: Clausal architecture*. Bloomington: Slavica Publishers.

Rijkhoff, Jan N.M. 1991. Nominal aspect. *Journal of Semantics* 8(4). 291–309. DOI: 10.1093/jos/8.4.291.

Rothstein, Susan. 2008a. Telicity, atomicity and the Vendler classification of verbs. In Susan Rothstein (ed.), *Theoretical and crosslinguistic approaches to the semantics of aspect* (Linguistik Aktuell/Linguistics Today 110), 43–77. Amsterdam: John Benjamins. DOI: 10.1075/la.110.04rot.

Rothstein, Susan. 2008b. Two puzzles for a theory of lexical aspect: Semelfactives and degree achievements. In Johannes Dölling, Tatjana Heyde-Zybatow & Martin Schäfer (eds.), *Event structures in linguistic form and interpretation*, 175–198. Berlin: Walter de Gruyter. DOI: 10.1515/9783110925449.175.

Sauerland, Uli. 2003. A new semantics for number. In Robert B. Young & Yuping Zhou (eds.), *SALT 13: Proceedings of the 13th Semantics and Linguistic Theory Conference*, 258–275. Ithaca: CLC Publications. DOI: 10.3765/salt.v13i0.2898.

Schoorlemmer, Maaike. 1997. The role of the internal argument in the Russian aspectual system. In Uwe Junghanns & Gerhild Zybatow (eds.), *Formale Slavistik*, 229–238. Frankfurt am Main: Vervuert Verlag.

Schoorlemmer, Maaike. 2004. Syntactic unaccusativity in Russian. In Artemis Alexiadou, Elena Anagnostopoulou & Martin Everaert (eds.), *The unaccusativity puzzle: Explorations of the syntax–lexicon interface*. Oxford: Oxford University Press.

Simonović, Marko. 2015. *Lexicon immigration service: Prolegomena to a theory of loanword integration* (LOT Dissertation Series 393). Utrecht: LOT.

Simonović, Marko, Stefan Milosavljević & Boban Arsenijević. 2023. Serbo-Croatian secondary imperfectivisers consist of theme vowels. *Journal of Slavic linguistics* 31(FASL 30 issue). 1–27. http://ojs.ung.si/index.php/JSL/article/view/178.

Smith, Carlota S. 1997. *The parameter of aspect*. 2nd edn. Dordrecht: Kluwer.

Sokolova, Svetlana. 2015. Rabotnul na slavu-gul'ni smelo!: -NU- as a universal aspectual marker in non-standard Russian. In Misushi Kitajo (ed.), *Aspektual'naja semantičeskaja zona: Tipologija sistem i scenarii diaxroničeskogo razvitija. Sbornik statej V Meždunarodnoj konferencii Komissii po aspektologii meždunarodnogo komiteta slavistov*, 271–277. Kyoto: Tanaka Print.

Stanojčić, Živojin & Ljubomir Popović. 2008. *Gramatika srpskog jezika (za gimnazije i srednje škole)*. Beograd: Zavod za Udžbenike.

Starke, Michal. 2009. Nanosyntax: A short primer to a new approach to language. *Nordlyd* 36(1: Special issue on Nanosyntax). 1–6. DOI: 10.7557/12.213.

Štarkl, Ema, Stefan Milosavljević, Marko Simonović & Boban Arsenijević. 2024. *The Western South Slavic verbal suffix -nv/-ne*. Database. DOI: 10.5281/zenodo.13912034.

Stevanović, Mihailo. 1986. *Savremeni srpskohrvatski jezik i*. Beograd: Naučna knjiga.

Stojanović, Milica. 2016. *Poliprefigirani glagoli u srpskom jeziku*. Belgrade: University of Belgrade. (Doctoral dissertation). https://hdl.handle.net/21.15107/rcub_nardus_8566.

Svenonius, Peter. 2004. Slavic prefixes and morphology: An introduction to the Nordlyd volume. *Nordlyd* 32(2). 177–204. DOI: 10.7557/12.67.

Taraldsen Medová, Lucie & Bartosz Wiland. 2019. Semelfactives are bigger than degree achievements: The nanosyntax of Czech and Polish semelfactive and degree achievement verb stems. *Natural Language & Linguistic Theory* 37(4). 1463–1513. DOI: 10.1007/s11049-018-9434-z.

Toporišič, Jože. 2000. *Slovenska slovnica*. Maribor: Založba Obzorja.

Townsend, Charles E. 1968. *Russian word-formation*. New York: McGraw-Hill.

Vidovič Muha, Ada. 2011. *Slovensko skladenjsko besedotvorje*. Ljubljana: Znanstvena založba Filozofske fakultete Univerze v Ljubljani.

Wiland, Bartosz. 2019. *The spell-out algorithm and lexicalization patterns: Slavic verbs and complementizers* (Open Slavic Linguistics 2). Berlin: Language Science Press. DOI: 10.5281/zenodo.2636394.

Wiltschko, Martina. 2006. Why should diminutives count? In Hans Broekhuis, Norbert Corver, Riny Huybregts, Ursula Kleinhenz & Jan Koster (eds.), *Organizing grammar: Linguistic studies in honor of Henk van Riemsdijk*, 669–678. Berlin: Mouton de Gruyter. DOI: 10.1515/9783110892994.669.

Zdziebko, Sławomir. 2017. On the structure and interpretation of Polish passives. *Acta Linguistica Academica* 64(4). 563–617. DOI: 10.1556/2062.2017.64.4.4.