

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

### 1. Introduction

#### 1.1. The topic of the paper

- We examine verbs with the suffix *nV/ne* in West South Slavic, specifically in Serbo-Croatian (SC), as in (1), and Slovenian (Slo), as in (2).
  - Our focus is on perfective verbs, as in (1a, 2a), since only they are productive in both languages;
  - *-nV* is also found in a small number of degree achievements (DAs), as in (1b, 2b).

(1)	[SC]	(2)	[Slo]
a.	trep-nu-ti blink-nV-INF 'blink'	a.	mežik-ni-ti blink-nV-INF 'sneeze'
b.	to(n)-nu-ti sink-nV-INF 'sink'	b.	to(n)-ni-ti sink-nV-INF 'sink'

#### 1.2. The main claims of the paper

- *nV/ne* in West South Slavic is a complex morpheme that consists of the morpheme *-n<sup>u</sup>/-n<sup>i</sup>* (with a floating vowel) and the theme vowel  $\emptyset/e$ .
- The morpheme *-n<sup>u</sup>/-n<sup>i</sup>* spells out a **diminutive feature** and the theme vowel spells out the **verbal category feature** (for the latter, see also Svenonius 2004, Biskup 2019, Kovačević et al. 2021, Simonović et al. 2021, Milosavljević & Arsenijević 2022).

#### 1.3. Traditional approaches to *-nV* verbs in Slavic

##### 1.3.1. *-nV* as a conjugation class marker

- In traditional descriptions, *nV/ne* is typically analyzed as a monomorphemic theme vowel (TV) defining its own conjugation class.
  - For SC, see e.g. Barić et al. (1997: 235), Ivšić (1970: 253), Stevanović (1986: 331), Stanojčić & Popović (2008).
  - For Slovenian, see e.g. Breznik (1934: 116, 124), Toporišič (1992: 49, 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 SC).

### 1.3.2. Verb classes derived by *-nV* in Slavic languages

- **Semelfactives**, i.e. ‘instantaneous’ actions in the classical sense of Smith (1997), often labeled as **Single Act Perfectives** in Cognitive Linguistics works (see e.g. Janda 2007, Dickey & Janda 2009, Makarova & Janda 2009, Kuznetsova & Makarova 2012, Nessel 2013, Sokolova 2015 for Russian, Nessel 2012 for Old-Church Slavonic, Bacz 2012 for Polish); see examples from SC and Slovenian above in (1).
- **Degree achievements** (e.g. Taraldsen Medova & Wiland 2019); see examples from SC and Slovenian in (1) and (2) above.
- **Natural Perfectives**, i.e. *-nV* verbs that function as lexicalized perfective counterparts of simple imperfective verbs (e.g. Bacz 2012 for Polish, Sokolova 2015 for Russian); there is no clear-cut boundary between these verbs and semelfactives, since semelfactives act as aspectual counterparts of iterative verbs, as in (3) from SC, (4) from Slovenian.

(3) [SC]  
 a. mah-nu-ti                      b. mah-a-ti  
 wave-nV-INF                      wave-TV-INF  
 ‘wave once’                      ‘wave repeatedly’

(4) [Slo]  
 a. mah-ni-ti                      b. mah-a-ti  
 wave-nV-INF                      wave-TV-INF  
 ‘wave once’                      ‘wave repeatedly’

- **(Perfective) Delimitatives**, indicating short duration, e.g. Sokolova 2015 for Russian, see (5); a similar example from SC is given in (6); to the best of our knowledge, this use of *-nV* is not attested in Slovenian.

(5) [Russian, from Sokolova 2015]  
 ja                      let-nu-l                      2                      časa...  
 I                      fly-nV-PST                      2                      hours  
 ‘I used (the helicopter) for two hours...’

(6) [SC]  
 Drem-nu-o                      sam                      par                      minuta.  
 doze-nV-PST                      aux                      couple                      minutes.  
 I dozed for a few minutes.

## 1.4. Previous formal approaches to *-nV* verbs in Slavic

Table 1: *The summary of the previous formal approaches to -nV verbs in Slavic*

	Analyses	Works
<b>Monomorphemic analyses</b>	<i>-nV</i> is a marker of perfectivity/Quantity	Schoorlemmer 2004, Borer 2005
	<i>-nV</i> is a verbalizer with a perfective effect/feature	Svenonius 2004, Biskup 2020, 2021
	<i>-nV</i> is a complex head realizing verbal and quantity features	Kwapiszewski 2020
	<i>-nV</i> is a diminutive suffix	Arsenijević 2006
	<i>-nV</i> is a light verb bringing atelicity	Markman 2008
	<i>-nV</i> is a singularity marker	Armoškaitė & Sherkina-Lieber 2008
<b>Bimorphemic analyses</b>	<i>-n</i> is a semelfactive/DAs marker, <i>-V</i> is a TV	Łazarczyk 2010
	<i>-n</i> is a light verb, <i>-V</i> is a TV	Taraldsen Medová & Wiland 2019, Wiland 2019

### 1.4.1. Monomorphemic analyses

#### ***-nV* is a marker of perfectivity/Quantity (e.g. Schoorlemmer 2004, Borer 2005a)**

- Schoorlemmer 2004 (for Russian): semelfactives in *-nV* are lexically marked for perfectivity (which distinguishes them from prefixed perfectives, where perfectivity arises compositionally through telicity)
  - Their lexical status is confirmed by the fact that (in Russian) they do not derive secondary imperfectives, unlike telic predicates (accomplishments and achievements).
- Borer 2005 (for Russian): *-nV* directly assigns Quantity to a verbal predicate, hence it is basically a perfectivizer (note that for Borer, telicity = Quantity = (Slavic) perfectivity)
- Some open questions:
  - Complementary distribution with TVs
  - Compatibility with secondary imperfectives in at least some Slavic languages

#### ***-nV* is a verbalizer with a perfective effect/feature (Svenonius 2004, Biskup 2020, 2021)**

- *-nV* in Slavic languages is a verbalizer with a perfectivizing effect/feature (Svenonius 2004, Biskup 2020, 2021): it is in complementary distribution with other TVs
- Some problems and/or open questions:
  - Why is *-nV* the only verbalizer with a perfective feature?
  - Why does it typically have an additional contribution, whether semelfactive, low intensity or even degree achievement semantics?

**-nV is a complex head realizing verbal and quantity features (Kwapiszewski 2020)**

- Coached within Distributed Morphology (DM)
- -nV in Polish is an exponent of a complex head realizing (fused) verbal and quantity features
  - This conclusion is based on complementary distribution of *nV/ne* with both TVs and secondary imprefectivizing suffixes (SIs) in Polish.
- Some open issues:
  - -nV is compatible with secondary imperfective suffixes in at least some Slavic languages (e.g. in SC: *nadah-nu-ti* ‘inspire.PFV’ *nadah-nj-iva-ti* ‘inspire.IPFV’).

**-nV is a diminutive suffix (Arsenijević 2006)**

- -nV introduces to the interpretation of the eventuality some bounded quantity, which is a relatively small part of a larger quantity of the same eventuality, that is, -nV marks a division into atomic units for the relevant eventuality (the author provides examples resembling delimitative uses of -nV illustrated above in (5-6))
  - -nV does not mark only punctual (point-like) events.
  - What counts as a small part (i.e. an atom) depends on the context.
- -nV is the head of the VP, and marks telicity in cases where the description of the eventuality does not yield it
  - “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: 218).
  - Another argument: the incompatibility with internal prefixes (since they both induce telicity).
- Some drawbacks and/or open questions:
  - -nV does combine with (internal) prefixes (see sect. 2.2 below, and Nordrum 2019 for such combinations in Russian).

**-nV is a light verb bringing atelicity (Markman 2008)**

- The semelfactive suffix *-nu* and the SI *-iv* in Russian are both exponents of a single vP-selecting light verb *v* (in the sense of Diesing 1998), which denotes an atelic event and is merged above the lexical prefixes. The light verb is realized as *-nu* when [+Inst] and as a SI when [+Prog]/[+Hab].
- 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. Their status as light verbs is motivated by the similar behavior to light verbs cross-linguistically.
- Some problems and open questions:
  - Semelfactives do not show prototypical properties of atelic predicates? (see e.g. Rothstein 2008a, b for an extensive analysis of semelfactives as telic predicates in Russian).

- o Complementary distribution of  $-nV$  and SIs is falsely predicted (for at least some Slavic languages).

#### **$-nV$ is a singularity marker (Armoškaitė & Sherkina-Lieber 2008)**

- The semelfactive  $-nV$  and the SI suffix  $-yna$  in Russian are markers of number in the verbal domain, they mark singularity and pluractionality, respectively, and occupy the same syntactic slot. This is evidenced, as in Markman (2008), by their complementary distribution in Russian.
- Verbal Number is a modifier, not a head.
  - o Heads are obligatory, modifiers are not; e.g. in Nouns, Number is a head, since it is obligatory, there are no number-neutral nouns.
  - o Number as a head with nouns applies ‘redundantly’, i.e. is also used in the presence of numerals.
  - o Number as a head (in the case of Nouns) triggers Agreement on dependent constituents, e.g. Subject-Verb agreement.
- Problems and open questions:
  - o The motivation of Slavic perfectivity as singularity in the verbal domain and imperfectivity as Plurality (e.g. Kagan 2007, 2008, 2010) is shown to rely on the compelling parallels between nominal and verbal domains: Plural is unspecified for number, while Singular is the only marked/specified category (in the sense of Sauerland 2003).
  - o The absence of  $-nV$  does not imply the absence of singularity, as there can be another way of realizing it, licensing a view in which it is not optional.
  - o  $-nV$  also appears in the context of numerals, i.e. with count adverbials like *once*.

#### **1.4.2. Bimorphemic analyses**

##### **$-n$ is a semelfactive/DAs marker, $-V$ is a TV (Łazorczyk 2010)**

- Coached within the Exo-Skeletal approach (cf. Borer 2005).
- $-n$  is responsible for semelfactivity and degree achievements in Polish.
- $-V$  is a TV, which in this approach is a reflex of verbalization through the structure (in the sense of Borer 2005), hence inserted once at least inner aspect is projected (since the root is categorized as a verb in the context of inner aspect).
- The proposed analysis is not elaborated in any detail.

##### **$-n$ is a light verb, $-V$ is a TV (Taraldsen Medová & Wiland 2019, Wiland 2019)**

- Coached in Nanosyntax (cf. Starke 2009, Caha 2009).
- $-n$  is a light verb,  $-V$  is a TV.
- Roots,  $-n$ , and TV can all spell out syntactic structures of different sizes (i.e. syntactic complexity); relevant containment relations in syntax:
  - o containment of the light verbs: GIVE > GET
  - o containment of the lexical categories: verb > noun > adjective
  - o argument structure hierarchy: unergative > accusative > unaccusative.
- In semelfactives, the root is nominal,  $-n$  spells out the light verb GIVE, and TV spells out accusative or unergative structure.

- In DAs, the root is adjectival, *-n* spells out the light verb GET, TV spells out unaccusative syntax.
- The relation between semelfactives and DAs (hence also *-n* and TV in semelfactives vs. DAs) is regulated by the Superset Principle.
  - The Superset Principle: A phonological exponent of a lexical item is inserted into a syntactic node if its lexical entry has a (sub-)constituent that 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).
- Some drawbacks:
  - Extremely difficult to isolate nominal, adjectival, or verbal roots per se.
  - This approach does not cover the full range of uses of *nV/ne*, which easily combines also with verbal bases, and even with other suffixes (e.g. SC *bol-uc-nu-ti* ‘hurt a bit’, where *-uc* is a diminutive suffix).

## 2. Quantitative description of *nV* verbs in SC and Slovenian

### 2.1. Our empirical source: WeSoSlav

- The reported research includes quantitative insights from the Annotated Database of the Western South Slavic Verbal System (**WeSoSlav**, Arsenijević et al. 2022).
- The database consists of 5300 SC and 3000 Slovenian verbs retrieved from the srWaC, hrWaC, bsWaC and meWaC corpora for SC (Ljubešić & Klubička 2014) and from Gigafida, the Slovenian National Corpus for Slovenian (<http://www.gigafida.net/>).
- 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 SC varieties, the SC database contains the union of each of the 3000 verbs from the three corpora.
- Each verb is annotated for a fixed set of over 40 different properties, including frequency, lexical and grammatical aspect as verified by the selected tests, argument structure (taking accusative, genitive, dative, PP, clausal arguments; reflexivity), the characteristic morphemes (the root, prefixes, suffixes), their special properties (e.g. root allomorphy), prosodic characteristics (position of the high tone, long syllables), TVs and others.

### 2.2. *-nV* verbs: the quantitative data

Table 2: *-nV* verbs in WeSoSlav

<i>-nV</i> verbs in WeSoSlav	BCS (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 (16.80%)	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 (12.59%)	119/143 (83.22%)

- Out of 91 unprefixated verbs in SC, 82 (90.11%) are perfective, and only 9 (9.89%) are imperfective.
- Out of 23 unprefixated verbs in Slovenian, 18 (78.26%) are perfective, and only 3 (13.04%) are imperfective.
- Out of 9 imperfective verbs in SC, 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.
- **-n in semelfactives and DAs?**
  - Semelfactives: [+atomic/minimal, +singular] *fully grammaticalized*
  - DAs: [+atomic/minimal, + scalar] *not productive anymore*
  - All new verbs (including the ones with borrowed bases) with *-nV*, are singular telic verbs in SC and Slovenian. The same holds in other Slavic languages, e.g. Polish (Klimek-Jankowska et al. 2018), Czech (Taraldsen Medová & Wiland 2019, Willand 2019), Russian (Sokolova 2015).
  - Speculation: Unlike singularity, scalarity is distributed across the structure: it may be brought about by the verbal base, an internal argument, measure phrases, which makes it less prone to grammaticalization by a single marker.
- We focus on **perfective** verbs
- A note on prefixed perfective verbs
  - As expected, all prefixed *-nV* verbs are perfective
  - Out of 167 prefixed *-nV* verbs in SC, 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.

### 2.3. Towards an analysis

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.

An analysis splitting *-nV* into *-n* as a separate morpheme and *u/e* and *i/e* as a theme vowel in SC and Slovenian respectively lends itself as a solution.

In Section 1.4.2 we already discussed the existing bimorphemic analyses of *nV/ne*.

In the following sections we argue that *-nV* is a diminutive suffix *-n<sup>n</sup>* (SC)/*-n<sup>i</sup>* (Slovenian) which selects the theme vowel  $\emptyset/e$ .

### 3. Morpho(-phono)logical analysis

Main claim:

All  $nV/ne$  verbs belong to the theme vowel class  $\emptyset/e$ .

The theme vowel is preceded by the morpheme  $-n^u$  (SC)/ $-n^i$  (Slovenian), with a floating vowel which surfaces whenever it helps optimise the syllable structure.

(7)	max-n <sup>u</sup> - $\emptyset$ -ti	→	maxnuti, *maxnti	[SC]
	max-n <sup>i</sup> - $\emptyset$ -ti		maxniti, *maxnti	[Slo]
	wave-nV-TV-INF			
	max-n <sup>u</sup> - $\emptyset$ -l-a	→	maxnula, *maxnla	[SC]
	max-n <sup>i</sup> - $\emptyset$ -l-a		maxnila, *maxnla	[Slo]
	wave-nV-TV-PST-F			
	max-n <sup>u</sup> -e-mo	→	maxnemo, *maxnuemo	[SC]
	max-n <sup>i</sup> -e-mo		maxnemo, *maxniemo	[Slo]
	wave-nV-TV.PRS-1PL			
	max-n <sup>u</sup> -i-mo	→	maxnimo, *maxnuimo	[SC]
	max-n <sup>i</sup> -i-mo		maxnimo, *maxniimo	[Slo]
	wave-nV-TV.IMP-1PL			

The rest of the paradigm takes the same endings as  $\emptyset/e$  (with the exception of the passive participle discussed below).

Alternative:

There are no verbs in  $-nti$  in the  $\emptyset/e$  class, or anywhere else in the two languages.

It therefore seems a priori possible to add the floating feature to the representation of the theme vowel, so that  $\emptyset/e$  becomes  $^u/e$  in BSC and  $^i/e$  in Slovenian.

This alternative account begs the question why the floating vowel is not employed in other contexts where impossible consonant clusters are repaired, e.g.  $krad-\emptyset-ti \rightarrow krasti, *kraduti, *kradiit^1$  ‘steal’.

Empirical issue:

In both languages, the Passive participle of  $nV/ne$  verbs diverges from most  $\emptyset/e$  verbs. We take a closer look at each language.

<sup>1</sup> Forms like  $krad-i-t$  are a feature of some dialects of Slovenian (Central Styrian, see Štarkl 2020), so our claims here are limited to standard Slovenian.



SC

The regular ending in the  $\emptyset/e$  conjugation is *-en*:

- (8) ukrad- $\emptyset$ -l-a                      ukrad- $\emptyset$ -en  
 steal-TV-PST-F                      steal-TV-PASS.PTCP
- zaplet- $\emptyset$ -l-a                      zaplet- $\emptyset$ -en  
 entangle-TV-PST-F                  steal-TV-PASS.PTCP'

Given the vowel-initial ending, for *nu/ne* verbs, we would expect PASS.PTCP in *-nen*. However, what we get is *-nut*!

- (9) dir-nu- $\emptyset$ -l-a                      dir-nu- $\emptyset$ -t, \*dir-n~~n~~- $\emptyset$ -en  
 touch-NV-TV-PST-F                  touch-NV-TV-PASS.PTCP

Solution: Let's zoom into the specific phonological context, i.e. infinitival stems that end in round vowels. There are 3 other verbal roots which yield infinitives in *-uti* (all in the  $\emptyset/e$  class) and no infinitives in *-oti*.

- (10) obu- $\emptyset$ -l-a                      obu $\upsilon$ - $\emptyset$ -en                      <sup>?</sup>obu- $\emptyset$ -t  
 put shoes on-TV-PST-F                  put shoes on-TV-PASS.PTCP      put shoes on-TV-PASS.PTCP
- nat $\text{f}\hat{\text{u}}$ - $\emptyset$ -l-a                      nat $\text{f}\hat{\text{u}}$ - $\emptyset$ -t                      nat $\text{f}\hat{\text{u}}$  $\upsilon$ - $\emptyset$ -en  
 overhear-TV-PST-F                      overhear-TV-PASS.PTCP              overhear-TV-PASS.PTCP
- nasu- $\emptyset$ -l-a                      nasu- $\emptyset$ -t  
 pour-TV-PST-F                      pour-TV-PASS.PTCP

In sum, *nuti*-verbs do not show atypical behaviour with respect to other *-uti* verbs in the system. We submit that the PASS.PTCP allomorph [-t] is conditioned by the adjacent [+round] feature (as one of its contexts of insertion). Once this allomorph is selected, it comes as no surprise that [nu] surfaces as the exponent of n<sup>i</sup>.

Slovenian

The regular ending in the  $\emptyset/e$  conjugation is *-en*:

- (11) ukrad- $\emptyset$ -l-a                      ukrad- $\emptyset$ -en  
 steal-TV-PST-F                      steal-TV-PASS.PTCP
- zaplet- $\emptyset$ -l-a                      zaplet- $\emptyset$ - $\epsilon$ n  
 entangle-TV-PST-F                  steal-TV-PASS.PTCP'

Given the vowel-initial ending, for *ni/ne* verbs, we would expect passive participles in *-nen*. However, what we get is *-njen*.

- (12) max-n<sup>i</sup>- $\emptyset$ -en    →    maxnjen, \*maxnien (Passive participle)

Tentative solution: There are (isolated) cases indicating that the PASS.PTCP morpheme might also be -en:

- (13)     $\text{pre}\epsilon\text{s-}\emptyset\text{-l-a}$                        $\text{pre}\epsilon\text{f-}\emptyset\text{-}\epsilon\text{n}$                        $\text{pre}\epsilon\text{f-}\emptyset\text{-}\epsilon\text{n}$   
          transfer-TV-PST-F                      transfer-TV-PASS.PTCP'                      transfer-TV-PASS.PTCP'
- $\text{prerast-}\emptyset\text{-l-a}$                        $\text{prerast}\widehat{\text{f}}\text{-}\emptyset\text{-en}$   
          grow over-TV-PST-F                      grow over-TV-PASS.PTCP

If both the  $-n$  and PASS.PTCP have [+high, -back] features, these can ‘gang up’ and sponsor a [j].

#### 4. The syntactic-semantic analysis in terms of diminution

Our analysis of the verbal suffix  $nV/ne$  is bimorphemic. Up to now, we have addressed the theme vowel morpheme  $\emptyset/e$ . In this section, we focus on the proposed morpheme  $-n'$  (SC)/ $-n'$  (Slovenian), which we argue is a diminutive suffix.

##### 4.1. Special status of $-nV$ among suffixes

All WSS verbal suffixes derive verbs that pass tests for imperfectivity and atelicity, except for one: suffix  $-nV$ , which derives verbs that systematically fail both these tests.

- (14)    a. Jan je počeo da tanc-uj-e.                      Jan tanc-uj-e                      2 sata.  
          J aux begun comp dance-suff-PRS.3SG                      J dance-suff-PRS.3SG 2 hours  
          ‘Jan began to dance.’                      ‘Jan has been dancing for 2 hours.’
- b. Ovas je počeo da stas-av-a.                      Ovas stas-av-a                      2 dana.  
          oat aux begun comp grow-suff-PRS.3SG                      oat grow-suff-PRS.3SG 2 days  
          ‘Oat began to mature.’                      ‘Oat has been maturing for 2 days.’
- c. Jan je počeo da kuc-k-a.                      Jan kuc-k-a                      2 sata.  
          J aux begun comp knock-suff-PRS.3SG                      J knock-suff-PRS.3SG 2 hours  
          ‘Jan began to knock.’                      ‘Jan has been knocking for 2 hours.’
- d. \*Jan je počeo da vik-n-e.                      \*Jan vik-n-e                      2 sata.  
          J aux begun comp shout-suff-PRS.3SG                      J shout-suff-PRS.3SG 2 hours

No WSS verbal suffix, apart from the suffixes  $-ir$  and  $-is/-iz$ , which adopt borrowed verbs, licenses the stacking of another suffix on top of it, except for those associated with semelfactivity and/or diminution, with  $-nV$  as the most prominent representative.

- (15)    a. \*Jan je tanc-ov-av-a-o.                      [SC]  
          J aux dance-suff-suff-TV-PST
- b. \*Ovas je stas-av-av-a-o.                      [SC]  
          oat aux grow-suff-suff-TV-PST

- c. Dan je sva-n<sup>u</sup>-av-a-o [svaŋaʋao]. [SC]  
 day aux dawn-suff-suff-TV-PST  
 ‘The day was dawning.’
- d. Jan je iz-rez-lj-av-a-l les. [Slo]  
 J aux pref-cut-suff-suff-TV-PST wood  
 ‘Jan was carving out wood.’

All WSS verbal suffixes take a theme vowel combination that includes the theme *-a* (i.e. <*a/a*> or <*a/je*>), except for *-nV*.

- (16) a. Marija je gril-ov-a-l-a povrće. [SC]  
 M aux grill-suff-TV-PST-F vegetables  
 ‘Marija was grilling the vegetables.’
- b. Marija je pre-poruč-iv-a-l-a povrće. [SC]  
 M aux pref-message-suff-TV-PST-F vegetables  
 ‘Marija was recommending the vegetables.’
- c. Marija je gril-uc-k-a-l-a povrće. [SC]  
 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. [SC]  
 M aux marinate-suff-TV-PST-F vegetables  
 ‘Marija was marinating the vegetables.’
- e. Marija je gril-nu-∅-l-a povrće. [SC]  
 M aux grill-suff-TV-PST-F vegetables  
 ‘Marija grilled the vegetables a little bit.’
- f. Marija je ob(-)r-ni-∅-la kos zelenjave. [Slo]  
 M aux turn-suff-TV-PST-F a piece of vegetables.  
 ‘Marija turned a piece of vegetables.’

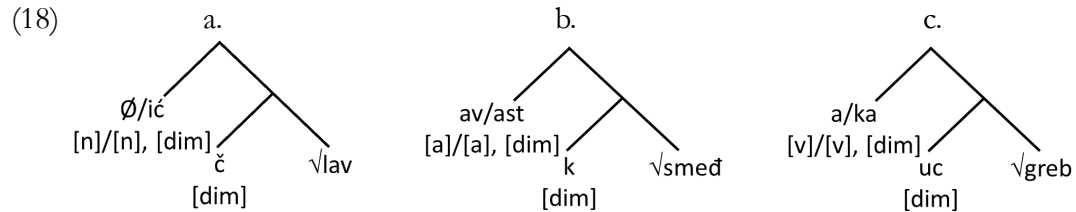
#### 4.2. Diminution in verbs and nouns, similarities

Diminution is a cross-categorical phenomenon: nouns, verbs and adjectives all undergo this operation, in quite parallel ways. Consider the two structural positions for the diminutive suffix illustrated in (17) for nouns, adjectives and verbs, respectively.

- (17) [SC]
- |    |        |               |               |               |
|----|--------|---------------|---------------|---------------|
| a. | lav    | lav-ić        | lav-će        | lav-č-ić      |
|    | lion   | lion-DIM      | lion-DIM      | lion-DIM-DIM  |
|    | ‘lion’ | ‘little lion’ | ‘little lion’ | ‘little lion’ |

b.	smeđ-e brown-INFL 'brown'	smeđ-ast-o brown-DIM;ADJ-INFL 'somewhat brown'
	smeđ-(i)k-av-o brown-DIM-ADJ-INFL 'somewhat brown'	smeđ-k-ast-o brown-DIM-DIM;ADJ-INFL 'somewhat brown'
c.	greb-a-ti scratch-TV-INF 'scratch'	greb-k-a-ti scratch-DIM-TV-INF 'scratch a little (ipfv)'
	greb-uc-a-ti scratch-DIM-TV-INF 'scratch a little (ipfv)'	greb-uc-k-a-ti scratch-DIM-DIM-TV-INF 'scratch a little (ipfv)'

The illustrated patterns perfectly fit de Belder et al. (2015)'s 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 (18), where the maximal structure is given for each of the three categories for the examples in (17). 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. Diminution can be realized by either of the two options, or by a combination, without a (necessary) effect of accumulation.



Suffix  $-nV$  is one of the suffixes used for diminution in the verbal domain. Apart from about a dozen of exceptions, mostly degree achievements, as in (19a), all  $-nV$  verbs involve the component of a small quantity, as in (19b).

(19)

	[SC]			
a.	to-nu-ti √nV-INF 'sink'	tru-nu-ti √nV-INF 'rot'	bri-nu-ti √nV-INF 'worry'	sva-nu-ti √nV-INF 'dawn'
b.	greb-nu-ti √nV-INF 'scratch a little'	spav-nu-ti √nV-INF 'sleep a little'	skok-nu-ti √nV-INF 'jump a little'	kuc-nu-ti √nV-INF 'knock a little'

The suffix  $-nV$  with the diminutive interpretation normally can be combined with the root-level verbal diminutive suffix  $-uc$ . When this is degraded, there typically is an independent reason, such as with the verb *kućnuti* in (20), where either the stem already involves the suffix  $-uc$  (so it is actually

impossible to have  $-nV$  without  $-uc$ ), or some process akin to hapology is at play. With the addition of  $-uc$ , the meaning is not affected, although sometimes the diminutive semantics feels somewhat stronger (but this can be a pragmatic effect).

- (20) [SC]
- |                    |                  |                 |                  |
|--------------------|------------------|-----------------|------------------|
| greb-uc-nu-ti      | spav-uc-nu-ti    | prd-uc-nu-ti    | ??kuc-uc-nu-ti   |
| √-DIM-nV-INF       | √-DIM-nV-INF     | √-DIM-nV-INF    | √-DIM-nV-INF     |
| ‘scratch a little’ | ‘sleep a little’ | ‘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.

Judging by the dictionary and corpus data,<sup>2</sup> there is only one verb combining  $-ic$  and  $-nV$  in Slovenian.

- (21) [Slo]
- |               |                       |                          |
|---------------|-----------------------|--------------------------|
| stop-i-ti     | stop- <u>ic</u> -a-ti | stop- <u>ic-ni</u> -∅-ti |
| step-TV-INF   | step-DIM-TV-INF       | step-DIM-nV-TV-INF       |
| ‘make a step’ | ‘make little steps’   | ‘make one little step’   |
|               | ‘make steps a little’ |                          |

However, verb diminution is common in child speech. The examples in (a) 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.

- (22) [child speech Slovenian]
- |    |                               |                      |                           |
|----|-------------------------------|----------------------|---------------------------|
| a. | čič-a-ti                      | čič- <u>k</u> -a-ti  | čič- <u>ni</u> -∅-ti (se) |
|    | sit-TV-INF                    | sit-DIM-TV-INF       | sit-nV-TV-INF (reflexive) |
|    | ‘sit’                         | ‘sit in a small way’ | ‘sit down’                |
| b. | čič- <u>k-ni</u> -∅-ti (se)   |                      |                           |
|    | sit-DIM-nV-TV-INF (reflexive) |                      |                           |
|    | ‘sit down in a small way’     |                      |                           |
| c. | *čič- <u>ni-k</u> -TV-ti      |                      |                           |

- (23) [child speech Slovenian]
- |    |                       |                       |                      |
|----|-----------------------|-----------------------|----------------------|
| a. | cap-a-ti              | cap- <u>k</u> -a-ti   | cap- <u>lj</u> -a-ti |
|    | step-TV-INF           | step-DIM-TV-INF       | step-DIM-TV-INF      |
|    | ‘take steps’          | ‘take little steps’   | ‘take little steps’  |
|    | ‘take steps a little’ | ‘take steps a little’ |                      |

<sup>2</sup> *Dictionary of standard Slovenian* available at *fran.si*, and *Corpus of Written Standard Slovene Gigafida 2.0* hosted by CLARIN.SI.



predicate as neat 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 predicate. Formally, hence, it is ambiguous between (26a and b).

- (26) a.  $\lambda w \lambda x \lambda u \lambda P \text{ unit}(x, u) \wedge \text{event}(u) \wedge P(w, x)$   
 b.  $\lambda w \lambda x \lambda u \lambda P \text{ unit}(x, u) \wedge \text{event}(u) \wedge \text{neat}(u, P) \wedge P(w, x)$

In both cases, the category feature is a predicate over predicates (P), units (u), entities (x) and worlds (w), such that x is referred to in terms of units u, P (denoted by the base from which the verb is derived, be it a root or a category, in combination with the verbal arguments, hence at the level of the VP) holds of x, and optionally P specifies neat quantity structure relative to u. For instance, a verb like *sleep* involves a messy eventuality unit (as the default interpretation in the absence of specification of neatness) as in (26a), where units are not strictly bounded and two units may share parts or be part of one another, while for a verb like *blink*, the quantity structure of the predicate is neat as in (26b), where units are strictly bounded and disjoint.

We analyze the diminutive feature as a specification of small size, as in (27a). When it combines with the root or a complex structure, it allows two options. One is to take the referential argument of the structure it combines with, and apply diminution to it. In verbs, this typically results in the meaning of a low intensity of action as in (27b). The other is that it takes the unit argument of the category projection, resulting in the interpretation where the unit of reference is smaller than the standard for that unit, as in (27c). As size entails boundedness, we add, as a presupposition, restriction to neat predicates. In result, it 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 bound to the latter interpretation, as, due to locality, it directly predicates over the specification of the quantity structure.

- (27) a.  $[\text{dim}] := \lambda x x < \text{std}_x$   
 b.  $\sqrt{\text{spav}} := \lambda x \sqrt{\text{spav}(x)}$   
 $[[\text{dim}] \sqrt{\text{spav}}] := \lambda x \sqrt{\text{spav}(x)} < \text{std}_{\sqrt{\text{spav}}}$   
 c.  $[[\text{dim}] [v]] := \lambda w \lambda x \lambda u \lambda P \text{ unit}(x, u) \wedge \text{event}(u) \wedge \text{neat}(u, P) \wedge \underline{u} < \text{std}_u \wedge P(w, x)$

Considering that suffix *-nV* realizes the diminutive adjoined to the category head and suffix *-uc* the one composed with the root or other base, this analysis predicts that suffix *-uc* will be ambiguous, while 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 (19), while, as shown in (28), *-uc* indeed may also have the pure low intensity interpretation, as all the verbs in (28) are ambiguous between the durative low intensity interpretation and that of an iteration of pointy intervals of the (low intensity or not) eventuality.

- |      |                       |                     |                       |                 |
|------|-----------------------|---------------------|-----------------------|-----------------|
| (28) | svetl-uc-a-ti         | bel-uc-a-ti         | svir-uc-a-ti          | šet-uc-a-ti     |
|      | light-DIM-TV-INF      | white-DIM-TV-INF    | play-DIM-TV-INF       | walk-DIM-TV-INF |
|      | 'emit a little light' | 'be a little white' | 'play music a little' | 'walk a little' |

#### 4.5. How does *-nV*, analyzed in this way, fit the broader picture of suffixes in SC/Slo?

The proposed analysis postulates three syntactic positions in which verbal suffixes are generated in WSS (and possibly more generally Slavic). These are, bottom up: 1) a position merging with the base,

be it a root or a category, in which ambiguous diminutive suffixes are generated (suffixes *-uc*, *-uš* in SC, *-ič*, *-ek* in Slovenian), 2) adjunct to the category head, also reserved for the diminutive suffix, but here realized as *-nV*, and 3) 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. 2021, Arsenijević et al. 2022b as consisting purely of TVs, and as realizing the bare verbal category feature, thus reducing the set of possible positions to only two: that below the verbal category head and the verbal category head itself.

## 5. Conclusion

Our analysis shares some properties similar to several others. Together with Svenonius (2004) and Biskup (2020, 2021), it relates (but does not identify as they do) the suffix with the verbal category. With Kwapiszewski (2020), it attributes the suffix specification of properties of quantity (the unit of counting), and with Arsenijević (2006), it associates it with diminutivity. Finally, with Armoškaitė & Sherkina-Lieber (2008), we associate the suffix with the unit of counting, and with Łazorczyk (2010), Taraldsen Medová & Wiland (2019), Wiland (2019), we offer a bimorphemic analysis. Here is how our analysis accounts for the specific properties of the suffix presented above.

### • Meanings

- **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.
  - **Perfective Delimitatives** 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.
  - **Degree achievements**: this 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).
- **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 2005, Arsenijević 2006, 2022b, Łazorczyk 2010, Milosavljević 2022, in prep.), and the same mechanisms are likely at play with *-nV*. Since only this suffix has additional content next to theme vowels



(Simonović et al. 2021, Arsenijević et al. 2022b) it fits well with its being also the only one that imposes telicity and perfectivity.

- **Complementary distribution with TVs:** on our analysis,  $-nV$  selects the TV  $\langle \emptyset/e \rangle$ , 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.
- **Compatibility with S-imperfectives** in at least some Slavic languages, as well as the ability to stack with imperfective suffixes is not a problem since the suffix does not target the AspP, but a lower head (i.e. on the analysis by Arsenijević et al. 2022b,  $-nV$  derives telic predicates, which then can be reverbalized).
- 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.

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## Appendix

### Unprefixed perfective verbs

*Table 3: Imperfective counterparts of unprefixed perfective verbs*

Simple perfective <i>-nV</i> verbs in WeSoSlaV	SC (N=82)	Slovenian (N=21)
<i>-nV</i> verbs with an imperf. root-TV counterpart (e.g. lup-nu-ti – lup-a-ti)	42 (51.22%)	10 (47.62%)
<i>-nV</i> verbs with an imperf. -t- counterpart (e.g. trep-nu-ti – trep-ta-ti)	11 (13.41%)	0 (0%)
<i>-nV</i> verbs with an imperf. -k- counterpart (e.g. tres-nu-ti – tres-ka-ti)	24 (29.27%)	0 (0%)
<i>-nV</i> verbs with an imperf. SI counterpart, without preserving <i>-nV</i> (e.g. crk-nu-ti – crk-ava-ti)	7 (8.54%)	5 (23.81%)
<i>-nV</i> verbs with an imperf. apophonical counterpart (e.g. mak-nu-ti – mi:c-a-ti)	4 (4.88%)	1 (4.76%)
<i>-nV</i> verbs with an imperf. SI counterpart, preserving <i>-nV</i> (e.g. -sva-nu-ti – sva-nj-ava-ti)	4 (4.88%)	2 (9.52%)

### Prefixed perfective verbs

*Table 4: Imperfective counterparts of prefixed perfective verbs*

Prefixed perfective <i>-nV</i> verbs in WeSoSlaV	SC (N=166)	Slovenian (N=119)
<i>-nV</i> verbs with an imperf. -t- counterpart	34 (20.36%)	0 (0%)
<i>-nV</i> verbs with an imperf. -k- counterpart	2 (1.20%)	7 (5.88%)
nV-Vs with an imperf. -p- counterpart	0 (0%)	6 (5.04%)
<i>-nV</i> verbs with an imperf. SI counterpart, without preserving <i>-nV</i>	53 (31.74%)	75 (63.03%)
<i>-nV</i> verbs with an imperf. SI counterpart, preserving <i>-nV</i>	44 (26.35%)	29 (24.37%)
<i>-nV</i> verbs with imperf. an apophonical counterpart	19 (11.38%)	21 (17.65%)