

Chapter 10

Simple imperfective verbs, the sequence of similar events interpretation, and Slavic aspectual composition

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The paper examines the so-called sequence of similar events (SSE) interpretation in Serbo-Croatian (SC), which emerges with telic predicates expressed by imperfective verbs in the presence of bare plural objects. I show that this is an interpretation that, just as in English, allows the use of both durative adverbials (DurAds) and time-span adverbials (TSAds) at the same time. I argue that TSAds, as standardly assumed, modify a telic event predicate, while DurAds merge once the predicate has been made homogeneous/atelic by the plural operator (contra MacDonald's 2008 claim that DurAds combine with telic predicates in such cases). The fact that the SSE interpretation is available in SC (or Slavic more generally) for imperfective verbs – including simple ones – suggests that in Slavic there is a syntactic projection responsible for telicity analogous to that in English, and telicity of a verbal predicate can be triggered by the quantity properties of its internal arguments.

Keywords: simple imperfective verbs, sequence of similar events interpretation, telicity, Serbo-Croatian, Slavic, English

1 Introduction

The temporal modification test (TMT) is one of the most standard diagnostics for (a)telicity, according to which durative adverbials (DurAds), often referred to as *for*-adverbials, modify atelic predicates, whereas time-span adverbials (TSAds),



widely known as *in*-adverbials, modify telic predicates – but not vice versa, as in (1) from English.¹

- | | | |
|-----|---|--------|
| (1) | a. John ran <i>for an hour</i> / * <i>in an hour</i> . | ATELIC |
| | b. John wrote a letter <i>in an hour</i> / * <i>for an hour</i> . | TELIC |

According to MacDonald (2008), these two adverbials can be combined in English under the so-called sequence of similar events (SSE) interpretation, illustrated in (2). The SSE interpretation, as analyzed in MacDonald (2008), emerges when a predicate is telic, with bare plurals (BPs) contributing an indefinite number of objects that can participate in each of the iterated subevents. The BP bears the feature [+q] (akin to the +SQA feature in Verkuyl 1972, 1999, standing for the specified quantity), and telicity emerges due to the so-called object-to-event mapping (OTEM) (in the sense of Verkuyl 1972). The contribution of DurAds, under such a view, amounts to assigning an indefinite number of repetitions to the telic event.

- (2) The guy drank cans of beer *in ten seconds for an hour straight*.

Given that DurAds and TSAds are expected to be in complementary distribution, as the same predicate cannot be both telic and atelic at the same time, their combination is (at least at first glance) unexpected. MacDonald (2008: 36) claims that in such cases (i.e. under the SSE reading), it is possible to combine DurAds with telic predicates,² rejecting the widely accepted generalization that DurAds require atelicity, also known as the homogeneity requirement (see Borer 2005, Csirmaz 2009, Landman & Rothstein 2010, 2012a,b, a.o).

MacDonald (2008) claims that the SSE interpretation is available in English, but not in Russian (/Slavic).³ His argumentation, based on the analysis of Russian simple imperfective verbs and (prefixed) perfective verbs, proceeds in the following way: the SSE interpretation requires telic predicates, in Russian only

¹The TMT is probably the most widely used test for telicity since it is employed regardless of the exact way telicity is approached – in terms of the event-argument homomorphism (e.g. Dowty 1991, Krifka 1992), the result state component (e.g. Pustejovsky 1995), atomicity (e.g. Rothstein 2008a,b), non-homogeneity/quantity (e.g. Borer 2005), scale features (e.g. Hay et al. 1999); for an overview of different approaches to telicity see, e.g., Arsenijević et al. (2013).

²MacDonald (2008: 33) also refers to other works arguing that DurAds are compatible with telic predicates under the iterative interpretation (Alsina 1999, Jackendoff 1996, Schmitt 1996, Tenny 1987, Vanden Wyngaerd 2001).

³MacDonald analyzes only Russian data, but many of his claims about Russian hold for Serbo-Croatian, which is why I generalize some of his claims in the present paper.

perfective verbs are telic, but perfectives are incompatible with the SSE interpretation. Imperfectives, on the other hand, are always atelic, and bare plurals, when combined with an imperfective verb, have a vague denotation associated with the mass noun interpretation (a group interpretation in which different parts of all the objects are affected at the same time), hence they never induce the SSE interpretation (MacDonald 2008: 147). He takes this (purported) difference between SSE in English and Russian as one of the main arguments for the claim that aspectual composition in these languages is radically different. Except for the SSE interpretation, aspectual composition in Russian differs from that in English in the unavailability of OTEM, i.e. in Russian an NP cannot affect the aspectual interpretation, and, consequently, this language lacks the syntactic projection responsible for inner aspect. Namely, in Russian, as stated by MacDonald, inner aspectual properties are determined through the event features, and only perfective verbs are equipped with the feature specifying the endpoint of the event, which triggers telicity. This feature is determined in the lexicon, before entering the narrow syntax, and can be either brought about by the lexical prefixes through the lexical derivational process, or lexically specified (in the case of simple perfective verbs). In English, on the other hand, there is an AspP between the ν P and the ν P⁴ with which (features of) NPs interact. An NP yielding telicity has the quantity feature [+q], while an NP that fails to induce telicity has the [-q] feature. The relation between the NP and the AspP is established via Agree, leading to telicity if the NP is [+q], or atelicity if the NP is [-q] (MacDonald 2008, 2010, 2012). The idea that in Slavic, unlike in English, internal arguments of the verb (incremental direct objects and/or goal PPs) do not contribute to telicity is a fairly standard one (see e.g. Łazarczyk 2010, Rothstein 2016, Fleischhauer & Gabrovská 2019, among many others). Instead, it is a common view that telicity is triggered by prefixation (Borer 2005, Nossalik 2007, Łazarczyk 2010, Svenonius 2004a,b, Slabakova 2005, Arsenijević 2007b, Ramchand 2008, Fleischhauer & Gabrovská 2019, a.o.).

In this paper, I adopt the view of telicity as computed based on the quantity properties along the lines of Borer (2005): a predicate is telic (= Quantity) if it is non-homogeneous, i.e. if it is quantized or non-cumulative. The Quantity is assigned in the projection specifying the value of inner aspect – AspQ in Borer (2005), or Q(uantification)P(hrase) in Arsenijević (2006b, 2007a, 2013). I assume that the presence of TSAds signals that a predicate is telic (non-homogeneous/bounded), i.e. that the QP is activated, following standard analyses (e.g. Krifka 1998, Borer 2005, Arsenijević 2006b, MacDonald 2008, Mittwoch 2010, 2013, 2019, among many others).

⁴The ν P hosts the external argument in MacDonald's approach.

Based primarily on data from Serbo-Croatian (SC), I show that the SSE interpretation is available in Slavic, and emerges in the presence of bare plurals when a telic predicate is expressed by an imperfective verb, as in (3).⁵ I offer an analysis according to which the QP in SC/Slavic can be triggered by the quantity properties of internal arguments, and the SSE interpretation emerges once a telic predicate has been made homogeneous/atelic by the (covert) plural operator (in the sense of van Geenhoven 2004, 2005, Arsenijević 2006a). Under such an approach, TSADs, as expected, modify the QP, while DurAds combine with a homogeneous (plural) predicate. This is in line with the standard view that DurAds always combine with atelic/homogeneous structures (e.g. Borer 2005, Csirmaz 2009, Mittwoch 2010, Landman & Rothstein 2010, 2012a,b), and contra MacDonald's claim that in the case of SSE interpretation DurAds are compatible with telic predicates. The proposed analysis also implies that both Slavic and English employ a syntactic projection responsible for telicity (contra MacDonald 2008), i.e. aspectual composition in these languages is not radically different in this regard. Within the proposed system, prefixes are argued to be specifiers of singularity which combine with telic predicates rather than introducing telicity/perfectivity by themselves, as commonly assumed.

- (3) Mika je pet minuta pio / iz-pi-ja-o
 Mika AUX five minute.GEN.PL drink.PTCP.M PREF-drink-SI-PTCP.M
 limenke piva za deset sekundi.
 can.ACC.PL beer.GEN.SG in_{za} ten second.GEN.PL
 'Mika drank cans of beer in ten seconds for an hour.'

The paper is organized as follows. In §2, I briefly introduce and discuss the relationship between (im)perfective verbs and telicity in Slavic. In §3, I analyze the SSE interpretation in SC. §4 addresses the broader picture, in particular how prefixed and biaspectual verbs fit into the proposed model of Slavic aspectual composition. §5 concludes the paper.

2 Slavic (im)perfectivity vs. telicity

The question of how telicity is assigned in Slavic is tightly related to the ongoing debate on the relationship between (im)perfectivity and telicity in this group of languages. As is well-known, in Slavic languages, verbs are traditionally divided into two classes: imperfective verbs (IVs) and perfective verbs (PVs).⁶ A typical

⁵Unless explicitly indicated otherwise, all Slavic examples in the paper are from SC.

⁶In all examples from SC the superscripts ^I and ^P stand for IVs and PVs, respectively.

way in which aspect morphology is expressed in SC is illustrated in (4). The verb in (4a) consists of just a root, a theme vowel and an inflectional ending. Most such verbs are imperfective and can be perfectivized by prefixation, as in (4b). The prefixed verb can be imperfectivized by a secondary imperfectivizing suffix, as in (4c). Finally, an imperfective verb derived in this way can be made perfective again by prefixation, as illustrated in (4d). (The same holds, *mutatis mutandis*, for other Slavic languages.)

- (4) a. *vrš-i-ti*^I
perform-TV-INF
'to perform'
- b. *iz-vrš-i-ti*^P
PREF-perform-TV-INF
'to perform/execute'
- c. *iz-vrš-ava-ti*^I
PREF-perform-SI-INF
'to perform/execute'
- d. *po-iz-vrš-ava-ti*^P
PREF-PREF-perform-SI-INF
'to perform/execute all'

According to one of the most standard tests, if a verb can be used as a complement of a phasal verb, it is imperfective; otherwise, it is perfective, as in (5); see Borik (2006), Łazarczyk (2010), Zinova (2021) for discussion of different tests. This will be the main diagnostics applied in this paper as well.

- (5) *Jovan je počeo da peva*^I / **od-peva*^P
Jovan AUX begin.TV.PTCP.M COMP sing.PRS.3SG PREF-sing.PRS.3SG
pesmu.
song.ACC.SG
'Jovan began to sing a song.'

However, the exact status of PVs and IVs is largely debated. Probably the most common view is that they are grammaticalized forms of the (perfective and imperfective) grammatical (viewpoint/outer) aspect in Slavic (cf. e.g. Pereltsvaig 2005, Borik 2006, Ramchand 2008, Rothstein 2016, Minor et al. 2022). Łazarczyk (2010) and Tatevosov (2011, 2015) argue for separating grammatical aspect from the verb, since it can only emerge once the clausal architecture is fully established (given that the viewpoint depends on the interaction between the event time and

the reference time).⁷ I adopt Łazarczyk's and Tatevosov's view on divorcing the Slavic verb (aspectual morphology included) from grammatical aspect, and in the remainder of the paper I will not go into a deeper discussion of how grammatical aspect is to be analyzed.

Łazarczyk (2010) argues that IVs and PVs in Slavic are better accounted for in terms of telicity (PVs) vs. atelicity (IVs).⁸ Typically, indeed, Slavic IVs and PVs are used as counterparts of English atelic vs. telic predicates, as shown in (6), with SC equivalents of English examples from (1) above.

- (6) a. Džon je trčao^I sat vremena / *za
 John AUX run.TV.PTCP.M hour.ACC.SG time.GEN.SG in_{za}
 sat vremena.
 hour.ACC.SG time.GEN.SG
 'John ran for an hour/ *in an hour.'
- b. Džon je na-pisao^P pismo za sat
 John AUX PREF-write.TV.PTCP.M letter.ACC.SG in_{za} hour.ACC.SG
 vremena / *sat vremena.
 time.GEN.SG hour.ACC.SG time.GEN.SG
 'John wrote a letter in an hour/ *for an hour.'

In some contexts, however, IVs are compatible with TSAds, e.g. in habitual and general-factual uses, illustrated in (7–8) from SC. There are also some PVs that combine with DurAds, e.g. those with the delimitative prefix *po-*, as in (9). Strictly relying on the TMT, IVs in (7) and (8) could be treated as telic, while PVs like those in (9) should be atelic. These types of contexts have led some researches to claim that (im)perfectivity and telicity are independent systems in Slavic (e.g. Borik 2006, Gehrke 2008a,b, Ramchand 2008, Stanojević 2012, Fleischhauer & Gabrovská 2019). In the remainder of the paper, I focus on IVs in telic environments.⁹ Some authors argue that telicity in such cases is possible only with sec-

⁷One of the classical definitions is that of Comrie (1976: 16), for whom "perfectivity indicates the view of a situation as a single whole, without distinction of the various separate phases that make up that situation; while the imperfective pays essential attention to the internal structure of the situation". According to a more formal definition, inspired by work of Reichenbach (1947), imperfective viewpoint arises when the Reference Time interval is included in the Event time interval (hence, we look at the event "from the inside"), whereas perfective viewpoint stands for the Event Time interval being contained within the Reference Time interval (hence the event is seen "from the outside") (cf. Klein 1994, Bhatt & Pancheva 2005, Łazarczyk 2010); for recent overviews, see Arche (2014a,b), Rothstein (2016).

⁸Such a view is assumed in MacDonald (2008) as well. Borer (2005) also analyzes Slavic perfectivity as Quantity/telicity and simple IVs as atelic, but she treats secondary imperfectives as species of outer aspect (in the sense of Verkuyl 1972).

⁹See Milosavljević (2022) for a detailed analysis of perfectives with the delimitative prefix *po-* as telic predicates.

ondary imperfectives, claiming that it is the prefix that is responsible for telicity of imperfective verbs (e.g. Stanojević 2012, Fleischhauer & Gabrovská 2019). Yet, examples like (8) show that telic readings emerge also in the absence of prefixes (and see Pereltsvaig 2000, Szucsich 2000, 2001, Braginsky & Rothstein 2008, Arsenijević 2023 [this volume] for similar kinds of examples).

- (7) Pera je uvek iz-pad-a-o^I iz igre za par
 Pera AUX always out-fall-SI-PTCP.M from game.GEN.SG in_{za} couple
 minuta.
 minute.GEN.PL
 ‘Pera has always been out of the game in a couple of minutes.’
- (8) Žika se već peo^I na to brdo za pola sata.
 Žika REFL already climb.PTCP.M on that hill.ACC.SG in_{za} half hour.GEN.SG
 ‘Žika (has) already climbed that hill in half an hour.’
- (9) Mika je juče po-sedeo^P kod nas par sati.
 Mika AUX yesterday DEL-sit.TV.PTCP.M at us couple hour.GEN.PL
 ‘Mika stayed at our place for two hours yesterday.’

One way to account for the diversity of readings IVs are associated with is to assume that they are unspecified for telicity, rather than atelic (as in Łazorczyk 2010). In other words, what is traditionally referred to as an imperfective verb is just a verbalized structure unspecified for both telicity and grammatical aspect. This stance is similar in spirit to the proposal of Arsenijević (2018) according to which Slavic IVs are unmarked for grammatical aspect, i.e. ambiguous between imperfective and perfective aspect. In this paper, I focus on simple forms, but the analysis can be extended to secondary imperfectives straightforwardly once secondary imperfectivizing suffixes are analyzed as re-verbalizing morphemes (Arsenijević 2018), i.e. sequences of theme vowels (Simonović et al. 2022).

3 The sequence of similar events interpretation

Having removed the obstacle presented by the view that IVs are incompatible with telicity, we are in a position to revisit the claim that the SSE interpretation is not available in Slavic. Examples with both simple (10–11) and prefixed verbs (12) show that the SSE interpretation can arise in SC as well. Just as in the case described in MacDonald (2008), in all such examples, there is an indefinite number of telic events iterated within the time interval specified by DurAds. Actually, using IVs is the only available way to express the SSE interpretation in SC in the

presence of DurAds, since perfective forms cannot be combined with DurAds in such contexts.¹⁰

- (10) Kandidat je dva sata gubio^I [partije šaha]
 candidate AUX two hour.PCL lose.TV.PTCP.M game.ACC.PL chess.GEN.SG
 od velemajistora za manje od dva minuta.
 from grandmaster.GEN.SG in_{za} less than two minute.PCL
 ‘The candidate lost [chess games] to the grandmaster in less than two minutes for two hours.’
- (11) Ana je za Luninu svadbu ceo dan
 Ana AUX for Luna.POSS wedding.ACC.SG whole day.ACC.SG
 pravila^I torte za manje od pola sata.
 make.TV.PTCP.F cake.ACC.PL in_{za} less than half hour.GEN.SG
 ‘For Luna’s wedding, Ana made cakes in less than half an hour the whole day.’
- (12) Pera je dva minuta iz-pi-ja-o^I limenke piva
 Pera AUX two minute.PCL out-drink-SI-PTCP.M can.ACC.PL beer.GEN.SG
 za deset sekundi.
 in_{za} ten second.GEN.PL
 ‘Pera drank cans of beer in ten seconds for two minutes.’

Before moving on to the exact analysis of the SSE interpretation in SC, a few clarification points are in order. The availability of the SSE interpretation in examples like (10–12) does not mean that other interpretations of IVs with BPs are impossible. For instance, there are at least three possible interpretations of example (13): (i) the SSE interpretation, with the distributive interpretation of the BP

¹⁰An anonymous reviewer suggests that the SSE reading with simple IVs is only marginally acceptable in Russian (i.e. possibly admissible in some contexts), and that it slightly improves when a secondary imperfective is used. The reviewer points out that a more natural way to express the SSE interpretation in Russian is when the argument introduces distributivity and not just plurality, as in (i). (The progressive form as a translation of the IV *čitat* ‘read’ is provided by the reviewer. MacDonald 2008 consistently uses simple past forms for such readings in English.)

(i) Nedelju čital^I po vypusku za čas.
 week.ACC.SG read.PTCP.M on issue.DAT.SG in_{za} hour.ACC.SG
 ‘For a week I was reading issues in an hour.’

Crucially for the purposes of the present paper, these examples once again show that there is no ban on using simple IVs to express telic predicates. This further suggests that the differences in the degree of acceptability of bare plurals with the SSE interpretation between SC and Russian (and possibly other Slavic languages) are not to be sought in the impossibility of IVs to express telic predicates, as analyzed in MacDonald (2008).

(one song per event); (ii) the iterative interpretation in which Mika recites a set of songs repeatedly, but each set is different; (iii) the iterative interpretation in which Mika recites the same set of songs repeatedly. In both (ii) and (iii) the BP is interpreted collectively. (Later in this section, we will see how the difference between the distributive and the collective interpretation of the BP reflects its different syntactic status.) The third type of interpretation is an instance of the multiple event interpretation which MacDonald (2008: 41) labels the “sequence of identical events interpretation” (= SIE interpretation), since the same object is implicated in each of the iterated subevents (i.e. the BP is interpreted specifically/definitely). The SIE interpretation is also available with singular specific objects, as in (14).

- (13) Mika je recitovao pesme sat vremena.
 Mika AUX recite.TV.PTCP.M song.ACC.PL hour.ACC.SG time.GEN.SG
 ‘Mika recited songs for an hour.’
- (14) Mika je recitovao pesmu sat vremena.
 Mika AUX recite.TV.PTCP.M song.ACC.SG hour.ACC.SG time.GEN.SG.
 ‘Mika recited a song for an hour.’

Finally, outside of multiple event interpretations discussed above, BPs in SC, just as in English, may receive a vague denotation which MacDonald (2008: 46, 147) refers to as a M(ass)N(oun) interpretation. This is illustrated by the SC example (15) similar to those discussed for English in MacDonald (2008: 46). Under the MN interpretation of (15), it does not have to be the case that Mika made multiple dragons – actually, (15) would still be true if he worked on making only one dragon without ever finishing it. As stated in MacDonald (2008: 46), predicates in examples like (15) are interpreted as activities, with a taste of a habitual interpretation.

- (15) Mika je u slobodno vreme pravio papirne
 Mika AUX in free time.ACC.SG make.TV.PTCP.M paper.POSS
 zmajeve.
 dragon.ACC.PL
 ‘Mika made paper dragons (in his free time).’

3.1 The SSE interpretation and plural telic predicates

In this subsection, I propose an analysis of telicity in SC as computed on the basis of the quantity properties of internal arguments, which straightforwardly captures the possibility to get the SSE interpretation with simple IVs, i.e. in the

absence of prefixes. For the sake of simplicity, I focus on the derivation from the point at which the vP is instantiated. I use the vP as a verbalizing projection (i.e. devoid of external arguments, cf. Harley 2013), assuming that theme vowels in Slavic are verbalizers (with Svenonius 2004a, Biskup 2019, Kovačević et al. 2022, Milosavljević & Arsenijević 2022). I will primarily use examples with measuring-out direct objects – traditional incremental themes, since these are the most typical cases where the aspectual role of internal arguments can be observed, and they are the main kind of examples used by MacDonald (2008) to illustrate the SSE interpretation in English.

When the verb merges with an incremental theme object equipped with the $[+q]$ feature (in the sense of Verkuyl 1972, MacDonald 2008), the projected vP is culminative, i.e. it denotes a culminative predicate, as in Figure 1. Otherwise, the vP is non-culminative, see Figure 2. Examples of culminative predicates include *praviti tortu* ‘make a cake’, *gubiti meč* ‘lose the match’, *peti se na brdo* ‘climb the hill’, whereas non-culminative vPs are those without a bounded internal argument, e.g. *jesti šećer* ‘eat sugar’ (with an object interpreted as mass), or typical intransitive activities such as *trčati* ‘run’, *spavati* ‘sleep’. Many of non-culminative predicates can easily be turned into culminative ones, providing the $[+q]$ internal argument is composed with a given verb, e.g. *trčati maraton* ‘run a marathon’ or *spavati popodnevnu dremku* ‘sleep an afternoon nap’.¹¹

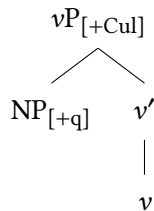


Figure 1: Culminative vP

Culminative vPs give rise to telicity (i.e. the projection of the QP) by default. This is achieved by the movement of the accusative object from its base-generated position (Spec vP) to the specifier position of the QP, where it checks the $[+q]$ feature (in the sense of Pereltsvaig 1999, 2000, see also Travis 2005), as illustrated in Figure 3. (Culminative predicates fail to trigger the projection of QP in progressive contexts, as briefly discussed in §3.2.)

¹¹Culminativity in this sense is close in spirit to telicity at the level of vP (as the locus of the telic description) in Arsenijević (2006b), the lexical aspect in the sense of Rothstein (2016), or completability in Janda (2011).

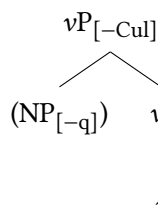


Figure 2: Non-culminative vP

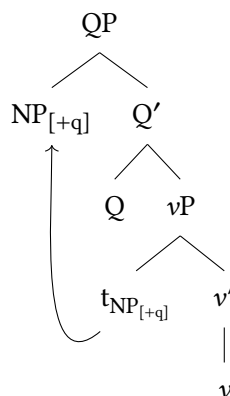


Figure 3: QP

Once the QP is projected, the derivation can proceed in two ways, both of which lead to the projection of the Num(eral)P, a phrase responsible for number in the verbal domain: the QP composes with the plural operator, yielding a plural telic predicate, or it composes with the prefix, giving rise to a singular telic predicate. The former option is how the SSE interpretation arises, and it is addressed in detail in the remainder of this subsection. The singular telicity is briefly analyzed in §4.1, since it sheds light on the overall system of the computation of telicity in Slavic.

The structure of the plural telic predicate is shown in Figure 4. Here I build on the insights of van Geenhoven (2004, 2005) and Arsenijević (2006a), who propose that distributive multiple event interpretations (referred to as SSE and SIE interpretations in this paper, following MacDonald 2008) are instances of verbal plurality, or (silent) pluractionality, which is a verbal counterpart of nominal plurality.¹² Although many languages, including English and SC, do not make use of the overt plural marking directly on the verb, there are languages with such a morphological makeup, e.g. West Greenlandic, discussed in van Geenhoven (2004).

I adopt Arsenijević's (2006a) analysis according to which in the case of the SSE interpretation the plural gets lexicalized on the noun. The relation between the plurality head and the plural marking on the noun is established via a binding relation. This is possible because the object NP, being unspecific, does not establish its referential properties outside the eventuality it is bound by, including the number specification (see Arsenijević 2006a for technical details).

¹²For related ideas, see also Landman (2000), Rothstein (2004, 2008a), and references therein.

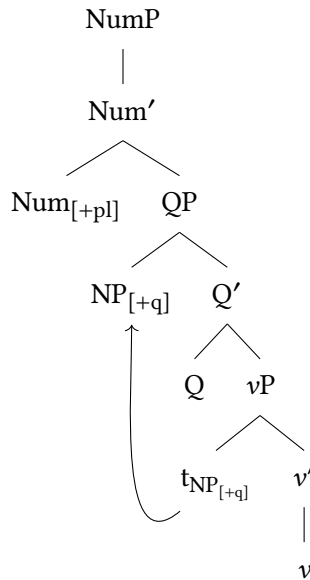


Figure 4: Plural NumP

Under this approach, the plurality is responsible for the homogenizing effects, enabling DurAds to combine with such a predicate. As also pointed out by van Geenhoven (2004: 142–143), plural (pluractional in her terminology) predicates are like mass nouns (i.e. cumulative and divisive), which makes them unbounded, i.e. non-homogeneous/atelic.

There are several advantages of the proposed analysis of the SSE interpretation. Let me start by comparing MacDonald's and the approach proposed here. According to MacDonald (2008: 50), BPs (i) must be [+q] in order to trigger telicity, and they (ii) introduce an indefinite number of objects, while DurAds (i) combine with a telic predicate, and (ii) contribute an indefinite number of repetitions of the telic event since they force the event to continue for the amount of time they specify. This division of labor between BPs and DurAds in contributing the SSE interpretation implies that this type of multiple event interpretation is not available in the absence of DurAds, contrary to the fact: DurAds only make it more prominent, i.e. pragmatically salient. In my approach, just as in MacDonald's, the internal argument contributes the [+q] feature, but it is the plural in the verbal domain that is responsible for the multiple events interpretation, bringing about the homogeneity effects in this way. DurAds then provide the time interval within which these multiple events occur. While I remain agnostic with respect

to the exact way DurAds should be represented in this case,¹³ the crucial point is that they do not compose with a telic predicate, rather – they enter the derivation once the plural homogeneous predicate has been formed. Consequently, my proposal preserves the standard analyses of both TSAds (which modify telic predicates) and DurAds (which compose with atelic predicates). In addition, the proposal preserves the view that a bounded internal argument contributes the [+q] feature and that the bare plural makes a predicate homogeneous, with the difference that in this case the plurality applies directly in the verbal domain.

The proposed analysis straightforwardly captures the difference between the distributive and collective interpretation of BPs in contexts sketched in (13) above: they are instances of the event plurality and the object plurality, respectively. Namely, under the collective interpretation, the plural is interpreted on the noun, and the plurality operator scopes over it, which delivers interpretations according to which multiple objects are affected within every counting unit of a plural event. In addition, we will see in §4.1 that only BPs which reflect the NP plurality can be used in the scope of prefixes – just as expected if prefixes, as assigners of singularity, are in complementary distribution with plural operators.

An anonymous reviewer raises the question of how the proposed analysis of the verb plurality as lexicalized on the noun under the SSE interpretation captures the fact that there are plurality interpretations dissociated from plural morphology on the noun, e.g. the SIE interpretation in the sense of MacDonald (2008: 41); recall that this is a multiple events interpretation in which the same object is implicated in each of the iterated subevents, illustrated in (16) from SC.

- (16) Mika je recitovao pesmu sat vremena (za
 Mika AUX recite.TV.PTCP.M song.ACC.SG hour.ACC.SG time.GEN.SG in_{za}
 pet minuta).
 five minute.GEN.PL
 ‘Mika recited a song for an hour (in five minutes).’

I propose that in this case the aspectual composition proceeds in the same way as under the SSE interpretation: telicity is triggered by the specified quantity brought about by the internal argument, and the telic vP (= QP) is then pluralized by the (covert) plural operator. Unlike in the case of SSE interpretation, in the SIE contexts the plural fails to be lexicalized on the noun since in this case the object NP is specific, i.e. it establishes referential properties independently of the eventuality, including its own number specification (cf. Arsenijević 2006a).

¹³ A plausible candidate would be an aspectual projection responsible for repetitiveness immediately above the NumP, i.e. the AspP_{repetitive} in the sense of Cinque (1999).

3.2 Culminative vPs and “failed” telicity

The default pattern sketched in Figure 3 – culminative vPs yielding telicity – fails to be established only if the progressive-like kind of operator intervenes, yielding a stative interpretation in the sense of Ramchand (2018) (see also Parsons 1990). Ramchand (2018: 58–59) proposes an *ingP* projection above the vP, still within the first phase (i.e. within the domain of event description) for English progressive constructions, thus moving away from the standard analyses of the progressive as an instantiation of grammatical aspect (see also Ramchand & Svenonius 2014, Ramchand 2017). In analogy with this proposal, examples with culminative vPs that have the interpretation analogous to the English progressive (as in (17)) can be accounted for by assuming a (null) progressive operator immediately above the vP, as in Figure 5, which blocks the projection of the QP.

- (17) Maja je juče dva sata (*za dva sata) pravila^I
 Maja AUX yesterday two hour.PCL in_{za} two hour.PCL make.TV.PTCP.F
 sneška, kad je sneg odjednom počeo^P da se
 snowman.ACC.SG when AUX snow suddenly begin.TV.PTCP.M COMP REFL
 topi^I i prekinuo^P njen poduhvat.
 melt.PRS.3SG and interrupt.TV.PTCP.M her endeavor.ACC.SG
 ‘Yesterday, Maja had been making a snowman for two hours when the
 snow suddenly began to melt and interrupted her endeavor.’

Hence, vPs like *praviti sneška* ‘make a snowman’ in the progressive contexts are culminative, but they are not telic, since the projection of the QP fails. I assume with Ramchand (2018: 58) that for every event description P, the progressive (operator) introduces an Identifying State as “a stative eventuality that manifests sufficient cognitive/perceptual identifiers of the event property P”, which is why I label such a projection StateP in Figure 5. The proposed view straightforwardly explains why culminative predicates in SC in examples like (17) can be used with DurAds, but cannot be modified by TSAds: TSAds require the projection of the QP, which fails in this case. DurAds, on the other hand, are felicitous, since in progressive contexts they can be analyzed as scoping over the progressive operator, modifying the Identifying State of a snowman building event, as also pointed out by an anonymous reviewer.

4 Broadening the picture: Singular telic predicates

The analysis presented in §3 enables accounting for telicity in Slavic and Germanic languages in a unified way: telicity *can* be triggered by the properties of

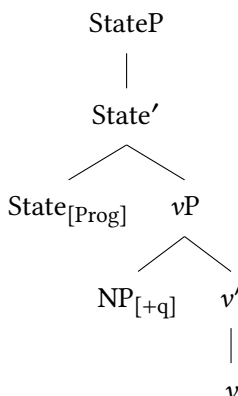


Figure 5: StateP

internal arguments. In other words, it is not the case that in Germanic languages properties of internal arguments are crucial in computing telicity, whereas in Slavic they have no effect whatsoever, as standardly assumed (see e.g. MacDonald 2008, Łazarczyk 2010, Rothstein 2016). It should be emphasized, however, that the proposed analysis does not imply that internal arguments with a specified quantity are the only way to assign telicity: e.g. it can be triggered by some measure adverbials (cf. e.g. Pereltsvaig 2000 for Russian, Milosavljević 2022 for SC). This again is similar with what we find in Germanic languages, where various types of adverbials can trigger the projection of QP (see e.g. Borer 2005). However, the role of internal arguments in affecting telicity in SC described in the previous section was constrained only to plural contexts, which, at first glance, contrasts with the state of affairs we find in English.¹⁴ I propose that internal arguments retain their role in aspectual composition in Slavic in singular contexts as well. This is achieved by analyzing Slavic prefixes as scoping over the QP triggered by internal arguments, as proposed in §4.1. Another context where singular telicity emerges in the absence of prefixes productively is with biaspectual verbs, which will be briefly discussed in §4.2.

¹⁴I assume that other syntactic contexts in which IVs are used in telic environments (e.g. habitual and general-factual uses) include a (potential) repetition of the same (telic) event type/kind (see Milosavljević 2019), hence they are also based on the plurality of telic vPs (but see Arsenijević 2023 [this volume] for a different view). However, the exact analysis of these cases goes beyond the scope of the present paper. For a unified treatment of habitual and general-factual readings of imperfectives in Russian, see Minor (2019). For accounts of the general-factual meaning that employ the notion of event kind, see Mehlig (2013), Mueller-Reichau (2013, 2015).

4.1 Prefixes and singular telic predicates

Prefixless incremental theme verbs discussed in previous subsections usually have prefixed variants, and such pairs are typically referred to as aspectual pairs, which have the same meaning and differ only with respect to the aspectual value. Some aspectual pairs from SC are provided in (18).

- (18) a. graditi^I kuću / sa-graditi^P kuću
 build.TV.INF house.ACC.SG with-build.TV.INF house.ACC.SG
 ‘build a house’
- b. praviti^I tortu / na-praviti^P tortu
 make.TV.INF cake.ACC.SG on-make.TV.INF cake.ACC.SG
 ‘make a cake’
- c. gubiti^I meč / iz-gubiti^P meč
 lose.TV.INF match.ACC.SG out-lose.TV.INF match.ACC.SG
 ‘lose a match’
- d. čitati^I knjigu / pro-čitati^P knjigu
 read.TV.INF book.ACC.SG through-read.TV.INF book.ACC.SG
 ‘read a book’

These prefixes are often labeled as purely perfectivizing prefixes (PPPs) and are typically analyzed as semantically empty.¹⁵ In this subsection, I propose that PPPs compose with telic predicates, and that they are specifiers of the projection responsible for number in the verbal domain, where they specify a telic verbal predicate for singularity (via specifier-head agreement in the sense of Borer 2005), as shown in Figure 6. I opt for an analysis of prefixes as specifiers rather than heads building on Milosavljević’s (2023) proposal that the semelfactive suffix *-nu* is an exponent of the head of this projection, and the two morphemes can be combined (e.g. *od-gur-nu-ti* [PREF-push-SEM-INF] ‘push away’).¹⁶

Let me situate this proposal against some common analyses in the literature. As is well known, the object of PVs gets an obligatorily bounded interpretation. On the common view, such an interpretation is usually analyzed as brought about either by the prefix or the perfective aspect, a process inverse to what we see in English: instead of the object determining the interpretation of the verbal predicate, the verbal predicate determines the properties of the object (see Szucsich 2001, 2002, Łazorczyk 2010, MacDonald 2008, Rothstein 2016). IVs, on

¹⁵I use the term PPPs descriptively here – it does not necessarily mean that these prefixes are devoid of meaning; for detailed semantic analyses of prefixes traditionally claimed to be semantically empty, see e.g. Endresen et al. (2012), Janda & Lyashevskaya (2013), Miljković (2021).

¹⁶See Svenonius (2008) for additional arguments in favor of the analysis of prefixes as specifiers.

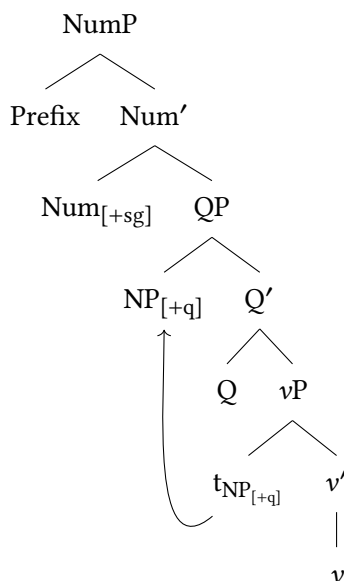


Figure 6: Singular NumP

the other hand, do not impose restrictions on the interpretation of the direct object, i.e. it may be both unbounded and bounded and can be optional with some verbs, e.g. *pisati (pismo)* ‘to write (a letter)’ or *čitati (knjigu)* ‘to read (a book)’. To account for this difference in the status of objects of PVs and IVs, Basilico (2008), for instance, proposes that they are introduced by different heads at different points in the syntactic derivation: the direct object of PVs is introduced by the (affixed) Root, while the direct object of IVs is introduced by the *v* categorizing head.

My approach to prefixation is closer to an alternative view, suggested in Krifka (1992: 50) and Verkuyl (1999: 102). For these authors, prefixes, as perfective operators, require the *vP* they combine with to be quantized/terminative (which is possible only if the object NP is bounded). According to Verkuyl (1999: 126–127), until the ASP-node, which hosts a prefix, merges, the derivation of the verb has not yet been completed, and the bounded object, though necessary, is not itself sufficient to bring about the terminative/bounded *vP*. Only after the perfective prefix is added, the perfective terminative (= telic) *vP* arises. Hence, in this approach, although the prefix merges with a terminative/quantized/telic *vP*, such a *vP* is always realized only in perfective contexts, after the prefix has been merged.

The view according to which prefixes scope over bounded/telic predicates has several advantages. First, it recognizes the role of internal arguments in affecting telicity in both English and Slavic, without a need for specifying the inverse operation for the latter group of languages. Second, the object NP of IVs and PVs need not to be analyzed as generated in different ways (as in Basilico 2008), since, as we have seen, its obligatory nature with PVs follows from the fact that the prefix picks out the *vP* with a bounded NP object. In this way, PVs are actually aspectual counterparts of IVs with a bounded object.¹⁷ Finally, if the QP has its telic aspectual status independently prior to merging with the prefix, we expect to find it in some other syntactic contexts as well. The SSE interpretation, analyzed in §3, provides exactly the kind of context that employs the QP divorced from prefixes. Hence, while I share with Krifka (1992) and Verkuyl (1999) the view that prefixes scope above complex (telic) *vPs*, in my approach prefixation is not the only syntactic context that enables telic predicates to show up. Prefixes are specifiers of singularity, and as such they are in complementary distribution with plural telic predicates presented in §3. For instance, BPs with prefixes in SC cannot give rise to the SSE interpretation, rather – they always receive a collective interpretation. This is expected if the BP giving rise to the SSE interpretation reflects the plurality of events, while under the collective interpretation it reflects the plurality of objects. As expected, in the latter case the prefix is able to compose with a predicate whose object is expressed by a BP when the BP is bounded (which is usually contextually provided), as in (19).

- (19) Pera je na-pravio^P torte.
 Pera aux PREF-make.TV.PTCP.M cake.ACC.PL
 ‘Pera made the cakes.’

Except for their complementary distribution with plural predicates, I prefer the analysis of prefixes as markers of singularity rather than markers of perfectivity, as in Krifka (1992) and Verkuyl (1999) (see also Slabakova 2005), because the prefix does not guarantee perfectivity. Namely, in many cases, the prefixed QP can undergo secondary imperfectivization (and the prefixed QP is realized as perfective only upon the inclusion of the reference time). Moreover, the view of prefixes as singulative morphemes also accords well with some recent approaches to prefixes as (morphemes of the same kind as) numeral classifiers (see Dickey & Janda 2015).¹⁸

¹⁷E.g. it is not the case that the verbs *pisati*^I and *na-pisati*^P ‘to write’ are themselves aspectual pairs, rather *na-pisati*^P + NP_[+q] is a counterpart of *pisati*^I + NP_[+q].

¹⁸In this section, I focused on PPPs with incremental theme verbs. In Milosavljević (2022, 2023),

4.2 Biaspectual verbs and telicity

Biaspectual verbs (BVs) are traditionally analyzed as verbs that can be either perfective or imperfective, depending on the syntactic context (see Janda 2007, Kolaković 2018, Zinova 2021, Starý 2017, a.o.). In terms of the system presented in this paper, BVs can be used in both singular and plural telic environments, as in (20) and (21) from SC. Since they are simple, i.e. unprefixed forms, BVs can be taken as additional evidence that telicity in Slavic can emerge in the absence of prefixes. Some extensive corpus-based studies show that BVs are based on culminative *v*Ps (see Grickat 1957/1958, Janda 2007, Kolaković 2018), which also supports the view that telicity is based on culminativity, which is in turn based on the contribution of internal arguments, as proposed in §3.

- (20) Pera je malopre downloadovao film za 15
 Pera AUX just.now download.TV.PTCP.M movieACC.SG in_{za} 15
 minuta.
 minute.GEN.PL
 ‘Pera just downloaded a movie in 15 minutes.’
- (21) Pera je ceo dan downloadovao filmove za 15
 Pera AUX whole day.ACC.SG download.TV.PTCP.M movie.ACC.PL in_{za} 15
 minuta.
 minute.GEN.PL
 ‘Pera downloaded movies in 15 minutes the whole day.’

While the plural telicity emerges when the QP is combined with the plural operator, it remains an open question how the singular reading emerges in the absence of prefixes (or the semelfactive suffix). A possible solution is to assume that singularity is triggered by a variable-like anaphoric element – following the argumentation in Stanley (2000), Stanley & Szabo (2000), a.o., that all effects of extra-linguistic context on the truth-condition are represented at LF.¹⁹

I argue that Slavic prefixes generally compose with telic predicates. In short, just as internal arguments are not the only way to trigger telicity, the proposal that prefixes combine with telic predicates does not mean that they must combine with telic predicates whose telicity is triggered by internal arguments. For instance, in Milosavljević (2022, 2023) an analysis of the delimitative prefix *po-* in Slavic is proposed according to which this prefix combines with the QP triggered by *DurAds* or some contextually provided quantity.

¹⁹An alternative option would be to assume a null prefix to account for singular telic uses or “perfective” uses of bi-aspectuals, as suggested in Grickat (1957/1958, 1966/1967), Łazarczyk (2010).

5 Conclusion

In this paper, I examined the so-called sequence of similar events interpretation in Serbo-Croatian, which emerges in the presence of bare plural objects when a telic predicate is expressed by an imperfective verb. I showed that this is an interpretation that, just as in English, allows the use of both durative adverbials and time-span adverbials at the same time. I proposed that, as standardly assumed, TSAds modify a telic event predicate, while DurAds in such cases merge once the predicate has been made homogeneous/atelic by the plural operator (contra MacDonald's 2008 claim that DurAds combine with telic predicates in such cases). The fact that the SSE interpretation is possible in Serbo-Croatian (and at least some other Slavic languages), and is realized by employing imperfective verbs – including simple ones (i.e. those without prefixes) – suggests that in Slavic there is a syntactic domain responsible for telicity analogous to that in English (contra MacDonald 2008).

Abbreviations

ACC	accusative	POSS	possessive
AUX	auxiliary	PTCP	participle
BP	bare plural	PREF	prefix
BV	biaspectual verb	PV	perfective verb
COMP	complementizer	REFL	reflexive
DAT	dative	SC	Serbo-Croatian
DEL	delimitative (prefix)	SG	singular
DURADS	durative adverbials	SEM	semelfactive
GEN	genitive	SI	secondary imperfectivizing (suffix)
F	feminine	SIE	sequence of identical events
IV	imperfective verb	SSE	sequence of similar events
LOC	locative	TSADS	time-span adverbials
M	masculine	TV	theme vowel
OTEM	object-to-event mapping		
PL	plural		
PCL	paucal		

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