ASPECT USE IN SLAVIC INFINITIVEs AND CORRESPONDING DA-CONSTRUCTIONS

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ABSTRACT

In Dickey (2000), the most comprehensive comparative account of aspect use in Slavic to date, ten Slavic languages are considered based on seven parameters of use, but two important verb forms are not accounted for: the imperative and the infinitive. The imperative was dealt with in Benacchio (2010), von Waldenfels (2012), and Alvestad (2013). Now it is time the infinitive receives its fair share of attention too. Thus, in a larger project I compare how aspect is used in the infinitive in Russian, Ukrainian, Belarusian, Polish, Upper Sorbian, Czech, Slovak, Serbian, Croatian and Slovene and in the corresponding da-constructions in Bulgarian and Macedonian (and Serbian, Croatian and Slovene) based on a study of several parallel-annotated novels in the ParaSol corpus. Against the background of existing literature, one hypothesis could be that (i) in the infinitive, the freedom of choice is significant as far as aspect use is concerned (see, e.g. Galton (1976)), and (ii) the East-West divide in aspect use can be observed in the infinitive too. My initial findings, however, which are from Russian and Croatian and presented in this paper, suggest that (i) must be rejected and (ii) must be modified; in East Slavic, the perfective aspect is far more widespread in the infinitive than in the other verb forms. From this starting point I outline, towards the end of the article, how we can proceed to be able to account for the findings within a formal theoretical framework. The picture of how aspect is used in the Slavic languages is not complete until infinitives, and the corresponding da-constructions, are accounted for.

[1] INTRODUCTION

The starting point of this paper is a glaring gap in comparative Slavic aspectology — namely, that represented by the infinitive verb form. In Dickey (2000), the most comprehensive comparative account of aspect use in Slavic to date, ten Slavic languages are investigated based on seven types of contexts of use, but two important verb forms are not accounted for: the imperative and the infinitive. The imperative was dealt with in Benacchio (2010), von Waldenfels (2012) and, more recently, Alvestad (2013). As far as the infinitive is concerned, there are the works of Dobrušina (2012), Fortuin (2000, 2007), Israeli (2013, 2014), and Wiemer (2001),
but they concern mostly Russian\textsuperscript{1} and only certain subsets of uses of infinitives. Thus, it is time the infinitive too receives its fair share of attention within comparative Slavic aspectology. To take a few steps towards this goal is one of the aims of this paper. In a more comprehensive project I conduct a corpus-based comparative investigation of how aspect is used in Slavic infinitives (and corresponding da-constructions), taking the following 12 modern Slavic languages into consideration: Russian (\textit{ru}), Ukrainian (\textit{uk}), Belarusian (\textit{by}), Polish (\textit{pl}), Upper Sorbian (\textit{us}), Czech (\textit{cz}), Slovak (\textit{sk}), Bulgarian (\textit{bg}), Macedonian (\textit{mk}), Serbian (\textit{sr}), Croatian (\textit{hr}), and Slovene (\textit{sn}). Consider (1) below, where, first, the Russian original is presented followed by its associated translation in the other Slavic languages.\textsuperscript{2}

\begin{enumerate}
\item \textbf{Russian}

Ты говоришь, товарищ Ермаченко, что здесь надо будет драться, а я думаю – надо утром отходить.\textsuperscript{IPF} 'Comrade Ermačenko, you are saying that we will have to fight here, but I think that it’s necessary to leave in the morning.' (ParaSol. Os
trovskij, \textit{Kak zakaljalas’ stal’}, henceforth \textit{kzs})

\item \textbf{Belarusian}

(…) тут трэба будзе біцца, а я думаю - трэба раніцай адыходзіць.\textsuperscript{IPF}

\item \textbf{Ukrainian}

(…) тут треба буде битись, а я гадаю - треба вранці відходити.\textsuperscript{IPF}

\item \textbf{Polish}

(…) że tu trzeba się będzie bić, a ja sądzę - że trzeba się będzie rano wycofać.\textsuperscript{PF}

\item \textbf{Serbian}

(…) da bi se ovde trebalo tući, a ja mislim da ujutru treba otići.\textsuperscript{PF}

\item \textbf{Croatian}

(…) da bi se ovdje imalo boriti. A ja mislim da ujutro treba otići.\textsuperscript{PF}

\item \textbf{Upper Sorbian}

(…) tule do bitwy hić, ja pak sej mysłu, zo dyrbimy jutře wottud woteńć.\textsuperscript{PF}

\item \textbf{Slovak}

(…) že sa tu bude treba biť, ale ja si myslím, že by sme ráno mali odísť.\textsuperscript{PF}

\item \textbf{Czech}

(…) že tu budeme musit bojovat, ale já myslím, že musíme zítra ráno odejít.\textsuperscript{PF}

\item \textbf{Slovene}

(…) da se bo treba tukaj udariti, jaz pa mislim, da moramo zjutraj od-

\textsuperscript{1}Dobrušina (2012), Fortuin (2000, 2007) and Israeli (2013, 2014) concern Russian only, while Wiemer (2001) includes Polish in addition to Russian.

\textsuperscript{2}This and all subsequent examples are from the ParaSol corpus, \texttt{http://www.slavist.de/}, cf. von Waldenfels (2006). In the English translation of (1), (2), (3), and (6), I have consulted Prokofeva (1959).
I have included MK and BG in the investigation and so will have to be concerned with da-constructions as well. Specifically, MK does not have infinitives, and BG only has a short form of the infinitive that has a very restricted use, cf. e.g. Mišeska-Tomić (2006, 456–7). The form both languages use instead is the da-construction — the complementizer da (cf. e.g. Mišeska-Tomić (2006), Todorović (2012)) + a present tense verb form — as seen in (2) below.

(2) a. Macedonian
   (... а јас мислам - утре треба да си одиме.\textsuperscript{PF}

b. Bulgarian
   (... а пък аз мисля, че утре сутрин трябва да отстъпим.\textsuperscript{PF}

Moreover, in some Slavic languages, the infinitive and the da-construction appear to compete for distribution. This is the case, to some extent, in SN, to a higher degree in HR, and to a significant degree in SR. Against the background of this observation and examples such as (1) and (2), three questions arise that need to be answered. First, how is aspect used in Slavic infinitives and da-constructions? Second, what are the semantic similarities and differences between infinitives and da-constructions? Third, if the infinitive and the da-construction indeed compete in certain Slavic languages, what are the decisive factors in this rivalry? In this paper I will seek to bring us closer to the answer to the first question. In the final section I will outline how we can proceed to find the answers to questions two and three.

[2] Motivation and Background

As mentioned above, infinitives are one of the very few verb forms that have so far not been accounted for in comparative Slavic aspectology. In addition, the infinitive verb form is frequently ignored and poorly understood in formal theoretical linguistics too. The question of the semantics of infinitives, for example, is far from settled. One question concerns infinitives and tense. Stowell (1982) was among the first to point out that infinitives may still encode tense syntactically or semantically at the level of logical form even though they lack tense morphology. This view has gained ground within certain schools of thought in the last three decades but it has also been challenged (see e.g. Wurmbrand (2014)). Since verbal aspect is obligatorily present in all Slavic infinitives, and based on the assumption that aspects are relations between times — specifically, between event times and their reference times, cf. Klein (1995) — a study of aspect use in Slavic infinitives will shed light on the question of infinitives, time and tense too.

Moreover, some of the da-constructions under investigation may be subjunctives, but studies of the semantics of infinitives rarely compare this verb form with the subjunctive. The only exception I am aware of is Han (1998), who also includes
the imperative. Han, however, does not take verbal aspect into account. However, as exemplified in (3) below, in one and the same context, we see that some Slavic languages use the infinitive (italicized), some use the imperative (underlined), and some use da-constructions that should be characterized as subjunctives (also underlined). The numerous examples of this kind suggest that there are semantic and/or pragmatic similarities between not only the infinitive and the subjunctive, on the one hand, but also the imperative, on the other hand. A study of Slavic infinitives such as the abovementioned larger project will shed light on this issue too.

(3)  

a. **Russian**  
   – Никого из зала не выпускать,\textsuperscript{IPF} поставит\textsuperscript{PF} часовых, приказал он.  
   “\textit{Do not let anyone out of the hall, call out the guards!}” he ordered.’  
   (ParaSol. Ostrovskij, \textit{kzs})  

b. **Belarusian**  
   – Никога з зала не выпускаць,\textsuperscript{IPF} наставіць\textsuperscript{PF} вартавых, загадаў ён.  

c. **Ukrainian**  
   – Нікого з зали не випускати,\textsuperscript{IPF} поставити\textsuperscript{PF} вартових!  

d. **Polish**  
   – Nikogo \textit{nie wypuszczać}\textsuperscript{IPF} z sali, \textit{postawić}\textsuperscript{PF} wartę!  

e. **Serbian**  
   – \textit{Ne puštati}\textsuperscript{IPF} nikoga iz sali, \textit{postavi}\textsuperscript{PF} stražu, naredi on.  

f. **Croatian**  
   – \textit{Ne puštati}\textsuperscript{IPF} nikoga iz dvorane, \textit{postavi}\textsuperscript{PF} stražu, naredi on.  

g. **Upper Sorbian**  
   – Nikoho ze žurle \textit{njepušćće}\textsuperscript{IPF}, \textit{nastajće}\textsuperscript{PF} straže, přikaza.  

h. **Slovak**  
   – ‘Straže ku vchodu! Nikoho \textit{ne pustiť}\textsuperscript{PF} zo sály!’ rozkázal.  

i. **Czech**  
   – Nikoho ze sálu \textit{ne pustit,}\textsuperscript{IPF} \textit{postavit}\textsuperscript{PF} stráže!’ nařídil.  

j. **Slovene**  
   – ‘Nikogar mi \textit{ne spuščajte}\textsuperscript{IPF} iz dvorane,’ je ukazal. ‘Stražo \textit{postavite!}\textsuperscript{PF}’  

k. **Bulgarian**  
   – Никой да не напуска\textsuperscript{IPF} салона, да се поставят\textsuperscript{PF} часовои – заповяда той.  

l. **Macedonian**  
   – Никој да не се пушта\textsuperscript{IPF} од салата, да се постават\textsuperscript{PF} стражари, - нареди тоj.  

In (3), as we can see, RU, BY, UK, PL, HR, SK, and CZ use infinitives, US and SN use imperatives, SR uses one infinitive and one imperative, and BG and MK use da-constructions that should be characterized as subjunctives.
STATE OF THE ART, PROBLEMS, HYPOTHESES, AND PRELIMINARY RESULTS

The first problem that has to be solved can be stated as follows. **Problem 1:** How is aspect used in Slavic infinitives? In his study from 2000, Dickey concludes that aspect use in Slavic varies geographically, in the sense that *ipf* is the most widely used aspect in East Slavic and *pf* is the most frequently used aspect in West Slavic. As far as imperatives are concerned, Benacchio’s (2010), von Waldenfels’s (2012) and Alvestad’s (2013) results corroborate the East-West divide, although with some modifications. The share of *ipf* forms as a percentage of the total number of non-negated imperatives investigated in Alvestad (2013) is as follows for each of the languages under investigation: RU (60%) > BY (59%) > UK (58%) > BG (48%) > PL (47%) > SR, HR (45%) > MK (44%) > US (43%) > SK (33%) > CZ (31%) > SN (29%). Against this background, a plausible hypothesis with regard to Problem 1 can be stated thus.

**Hypothesis 1:** The East-West divide can be observed in infinitives as well: the East Slavic languages — RU, BY, and UK — constitute an *ipf*-oriented group of languages, while the West Slavic languages — SK, CZ, and SN — make up a *pf*-oriented group.

In order to bring us closer to a solution to Problem 1 I have made use of the ParaSol corpus, cf. von Waldenfels (2006). ParaSol is the most comprehensive parallel corpus of Slavic languages to date. I took RU as my starting point, since RU is that language which is represented by the highest number of tokens: 3.64 million (as of March 2017). For reasons that will become clear below, I only take telic predicates into consideration, i.e. accomplishments and achievements, cf. Vendler (1957).

Examples such as (1) and (2) support Hypothesis 1: *ipf* is used in RU, BY, UK, and PL while *pf* is used in SR, HR, US, SK, CZ, and SN. Still, Problem 1 must be addressed. Based on (1) and (2) it would seem that the use of aspect in the infinitive is almost identical to that in the imperative, but my survey suggests that this is not the case. The East Slavic languages use *pf* significantly more often in infinitives than in the imperative, for example. (4) below is a representative example.\(^4\)\(^5\)

(4) a. **Russian**

Так ты думаешь, я не знаю, кто мог сделать*pf* такую подлость – ис-

\(^3\)Alvestad (2013) follows Kaufmann (2012) and takes an imperative to be a pair of a particular kind of form (second person singular or second person plural) and one out of a particular set of functions (request, command, permission, invitation, etc.). For Russian more than 350 imperatives were investigated.

\(^4\)The Polish translation of *kzs* is currently (i.e. as of end of March, 2017) unavailable in ParaSol.

\(^5\)As one of the reviewers correctly points out, the principles governing the use of aspect in the infinitives and da-constructions in cases such as (4), in which the verb forms are within the scope of a modal predicate, are not necessarily identical to the ones that govern the use in cases such as (3), in which the verb forms are independent clausal predicates. This is something that will also have to be taken into consideration in the next steps of the study. Cf. also Section [4].
'So you think I don’t know who could do such a dirty trick — spoil the dough!' (ParaSol. Ostrovskij, kzs)

- **Belarusian**
  (... я не ведаю, хто мог зрабіць такую подласць – сапсаваць цеста?

- **Ukrainian**
  (... я не знаю, хто міг вчинити таку підлоту – зіпсувати тісто!

- **Upper Sorbian**
  (... zo njewêm, štó móhl tajke njedočinštwo zwotac — mi cesto ska-zyć!

- **Slovak**
  (... že neviem, kto mohol spraviť také svinstvo, kto pokazil cesto!

- **Czech**
  (... že já nevím, kdo mohl udělat takovou ohavnost a zkazit těsto?

- **Slovene**
  (... da ne vem, kdo je bil zmožen napraviti tako malopridnost — po-kvariti testo!

In **BG, SR, HR, and MK**, a da-construction is used.

As we can see, PF is used in both cases in all the languages in question.

I started my survey of aspect use in Slavic infinitives (and da-constructions) by isolating all non-negated\(^6\) infinitives in the Russian (original) version of Ostrovskij’s *Kak zakaljalas’ stal’* in ParaSol. In the initial survey, where the infinitives investigated may refer to any one of Vendler’s (1957) situation types, the share of IPF infinitives is more than ten percentage points lower than that for imperatives: 49\%, as opposed to 60\% for imperatives. When only telic predicates are taken into account, and when instances of нельзя + infinitive are excluded (together with не + infinitive) the share is even lower: 15\%. As regards Croatian, which for imperfect-
ives finds itself in the middle continuum of languages, using IPF in 45% of the cases investigated in Alvestad (2013). PF is used in more than 85% of the non-negated infinitives. PF is also used in approximately 85% of the cases in which a RU infinitive is translated with da + a present tense form. In other words, the use of aspect in the infinitive (and the da-construction, as the case may be) thus far seems to be almost identical in the East-Slavic languages, represented by RU, and the middle continuum of languages, represented by HR: IPF is used in only 15% of the cases in both languages, when only non-negated telic predicates are taken into consideration.7

Based on these findings the following questions arise. **Problem 2:**

a. Under what circumstances is IPF used in telic predicates in the infinitive (and corresponding da-constructions) in the various Slavic languages?

b. Are the differences in aspect use between infinitives and imperatives due to the fact that infinitives can occur both with and without the modal force of necessity,8 whereas imperatives have the modal force of necessity?9

c. How is aspect used in infinitives when they do not have modal force?10

d. How is aspect used in infinitives when they do have modal force?

I take it that the meaning of the Slavic PF is the inclusion of the event time in the reference time (e ⊆ t), cf. e.g. Klein (1995). The meaning of the Slavic IPF is an underspecified temporal overlap relation between the event time and the reference time (e ◦ t). I ascribe the differences in aspect use to differences in how the individual languages resolve cases of aspectual competition. In cases of aspectual competition, both aspects can be used without significant changes in meaning. This can only occur in telic predicates, which is why I exclude states and activities from the study. When the unmarked IPF is aspectually neutralized, IPF has a perfective meaning. This use of IPF, in past tense indicatives in particular, is referred to in the literature as **general-factual.** Grønn (2004) refers to two main types of this interpretation as the **existential** and the **presuppositional.** Since imperatives are not

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7 As far as the share of infinitives versus da-constructions (i.e. da + a present tense verb form) in HR is concerned, the numbers based on Ostrovskij's *Kak zakaljalas’ stal’* in the ParaSol corpus are as follows. When a RU infinitive is translated into HR with either an infinitive or a da-construction, it is translated with an infinitive in just approximately 36% of the cases. (Occasionally, RU infinitives are translated into HR with nouns, or past or present tense verb forms without da.)

8 In (1), (2) and (3) the infinitives have the modal force of necessity, while in (4) they have the modal force of possibility. The matrix predicates in (1) and (2) are надо ‘it is necessary’ and its equivalents and in (3) the infinitives function as imperatives. In (4), on the other hand, the matrix predicates are мог ‘could’ and its equivalents.

9 Following Kaufmann (2012), imperatives are taken to have the modal force of necessity.

10 The two occurrences of поджигать ‘set fire to’ in (6) are both examples in which the infinitive does not have modal force.
associated with facts, Alvestad (2013) follows Iatridou (2000) and Grønn (2008) in referring to IPF in such cases as fake.\textsuperscript{11,12} This term will be applied in the present account of infinitives too.

As far as imperatives are concerned, Alvestad (2013) follows Kaufmann’s (2012) analysis and assumes that they are modals. Then, according to standard assumptions about the accessibility of antecedents, in Discourse Representation Theory (DRT) (Kamp 1981), for example, the event referent of one imperative VP is inaccessible to the event referent of another imperative VP. Alvestad (2013) therefore argues that in imperatives, we typically do not have event \textit{token} anaphora, but event \textit{type} anaphora, and that event type anaphora is sufficient to trigger the presuppositional type fake IPF in Slavic. The discourse referents of event types — predicates — are not subject to the same constraints as eventive discourse referents. This is an issue that will have to be considered if the presuppositional type fake IPF occurs in the infinitive and if infinitives are modal, as claimed by, for example, Wurmbrand (2014).

Now two questions arise. First, do we find fake IPFS in the infinitive? The answer to this question is, probably, yes. Consider the Russian example (6) below.

\begin{enumerate}
\item Оставлять немцам этот склад, конечно, нельзя ... Я считаю, нужно его сжечь. И сейчас же, чтобы к утру все было готово. Только поджига́ть — опасно: сарай стоит на краю города среди бедняцких дворов. (...) Стружков шевельнулся: — За... за... чем... поджига́ть?
\item “We are not going to leave the shed to the Germans; in my opinion we ought to burn it down, and at once, so as to have it over and done with by morning. To just \textit{set fire to} it is dangerous: the fire might spread to the surrounding cottages. (...)” Stružkov stirred in his chair. “Why... why... why \textit{set fire to} it?”’ (ParaSol. Ostrovskij, kzs)
\end{enumerate}

In the literature the existential type fake IPF is also referred to as the \textit{naming of the action} function of IPF, cf. e.g. Forsyth (1970). I therefore suggest that in (6), the first occurrence of IPF \textit{podžigat’} ‘set fire to’ is existential, and that the second occurrence of IPF \textit{podžigat’} is a presuppositional fake IPF, anaphoric to the first, existential type.\textsuperscript{13} (The underlining in the example signifies presupposition/anaphora.) The next problem I will seek to solve is the following. Problem 2 — continued: (e) What type of fake IPF is most widespread in the infinitive — the existential type,

\textsuperscript{11}For further details and examples the reader is referred to Grønn (2004) and Alvestad (2013).
\textsuperscript{12}The IPF is \textit{fake} in such cases in the sense that it is semantically perfective — it signifies that the event time is included in the reference time, (e \subseteq t) — even though it is morphologically IPF.
\textsuperscript{13}One of the reviewers suggests another possible interpretation—namely, that the first occurrence of IPF \textit{podžigat’} ‘set fire to’ is anaphoric to the preceding \textit{pf} \textit{сжечь} ‘burn down’. Even though Alvestad (2013) shows that the anaphor and the antecedent may belong to distinct aspectual pairs, in this case the semantic difference may be a bit too big for us to argue that \textit{podžigat’} and \textit{сжечь} refer to the same event type. I therefore maintain the claim that the first occurrence of IPF \textit{podžigat’} in (6) is a representative of the existential type fake IPF.
the presuppositional type, or some other type? In past tense indicatives, the existential type is most frequent, cf. Grønn (2004). In imperatives, the presuppositional type is by far the most frequent type, cf. Alvestad (2013). Given the above, hypotheses with respect to Problem 2 are as follows. Hypothesis 2: (b) The differences in aspect use between the infinitive and the imperative are due to the fact that infinitives can, but need not, be embedded under modal predicates, whereas imperatives are necessity modals. (c) When an infinitive is embedded under a non-modal predicate, aspect is used as in past tense indicatives. (d) When an infinitive is embedded under a modal predicate, aspect is used as in the imperative. (e) When an infinitive is embedded under a non-modal predicate, the existential type fake \textit{ipf} is most widespread. When an infinitive is embedded under a modal predicate, the presuppositional type fake \textit{ipf} is most widespread.

The first occurrence of \textit{ipf} \textit{podžigat’} ‘set fire to’ in (6), which is an existential \textit{ipf}, supports Hypothesis 2. The second occurrence of \textit{ipf} \textit{podžigat’}, however, is a presuppositional \textit{ipf}. In order to test the hypotheses in 2, we need to look into more examples such as the one given in (6), which is part of what I will do in the abovementioned larger project. Hopefully, that work will give us the answer to at least some of the questions that have been raised throughout this paper.

[4] Conclusion and Outlook

I set out by raising the question of how aspect is used in the Slavic infinitive (and the corresponding \textit{da}-constructions). I hypothesized that the East-West divide that has been observed for other verb forms and contexts of use can be observed in infinitives as well. Even though the present study is work in progress, we have seen that this may not be the case: Russian, which uses \textit{ipf} in 60% of imperatives (cf. Alvestad (2013)), uses \textit{ipf} in 15% of infinitives, and the latter is also the case for Croatian, which uses \textit{ipf} in 45% of imperatives. A larger database is needed to arrive at any firm conclusions regarding this question, but these initial results are all the same intriguing. These results and various examples led me to raise further questions, such as under what circumstances \textit{ipf} is used in the infinitive (and the corresponding \textit{da}-constructions), and whether the fake \textit{ipf} does occur in the infinitive (and the corresponding \textit{da}-constructions) and, if so, what type is most frequent — the existential, the presuppositional, or some other type. The next steps in the project will involve extending the database and deciding on how to classify the various matrix predicates involved, so as to see whether the kind of matrix has any impact on the use of aspect.\textsuperscript{14} Hopefully, these steps will eventu-

\textsuperscript{14} As one of the reviewers correctly points out, the principles behind the use of aspect in these various constructions may not be uniform. This needs to be taken into consideration in a study of aspect use in infinitives in Slavic, alongside the possibility of cases in which a Slavic language A has construction x while Slavic language B does not have this construction, and one of the aspects is compulsory in that particular construction. The latter point is particularly important when statistics are being used.
ally give us a clear answer to Problem 1 and shed light on the questions comprising Problem 2. The project should shed some light on the long unresolved issue of infinitives, tense and time too.

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ABBREVIATIONS

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<td>BG</td>
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