The Role of Prefixation in Old Church Slavonic[*]

Jaap Kamphuis

1.   *Introduction*

General studies of grammatical aspect often devote special attention to Slavic languages because of their typical morphologically encoded derivational aspect opposition between perfective and imperfective aspect that encompasses the entire verbal paradigm (cf. Comrie 1976, Dahl 1985, Smith 1997, Croft 2012, Gvozdanović 2012). The fact that the opposition between perfective and imperfective applies to the entire verbal paradigm – what Szemerényi (1987: 7) terms 'thoroughgoing dualism' – makes it possible to speak of perfective and imperfective verbs. Both verbs have a past and present tense paradigm, an infinitive, an imperative and participles/gerunds[1]. For example, the Russian verb *sostavit′*[pf] 'compose' is a p e r f e c t i v e verb of which a lexically identical partner verb is derived by means of suffixation: *sostavljat′*[ipf] 'compose', which is an i m p e r f e c t i v e v e r b[2]. Such a pair of verbs expressing the same lexical meaning and differing only in grammatical aspect is called an a s p e c t p a i r. There are many aspect pairs and they can be seen as the basic unit in the verbal aspect system of any Slavic language.

---

[1]   The distribution of the various verb forms differs and not all forms are attested for both aspects. I will return to this when I discuss the method of grammatical profiling in Section 2.2. There are also differences in paradigm between the various Slavic languages that I will not discuss in this paper. For example, Modern Bulgarian and Macedonian have no infinitive, but they do have aorists and imperfects which are absent in, amongst others, Modern Russian.

[2]   I use the following abbreviations for aspect: pf = perfective, ipf = imperfective.

Beside suffixation, the process that is involved in the derivation of *sostavljat'*[ipf] from *sostavit'*[pf], there is another morphological process involved in aspect derivation, namely prefixation. It is almost the opposite of suffixation: while by means of suffixation an imperfective verb is derived from a perfective verb, prefixation is used to derive a perfective verb from an imperfective verb, as in the case of *pisat'*[ipf] 'write' / *napisat'*[pf] 'write (down)'[3].

To my knowledge, there are no scholars who deny that suffixation creates an aspect pair. However, as Janda, Lyashevskaya (2011: 726-727, with references) describe, scholars differ in their opinions regarding the role of prefixation. Simply put, the question is: is a pair formed by means of prefixation, like *pisat'*[ipf] / *napisat'*[pf] 'write', an aspect pair, just as *sostavit'*[pf] / *sostavljat'*[ipf]? Some scholars, like Isačenko (1960: 130-175) would answer that question in the negative. However, Janda, Lyashevskaya (*ibidem*: 734-735) show that for Modern Russian there is no difference between the behaviour of both types of aspect pairs. They use a method called grammatical profiling, which is a comparison of the relative distribution of verb forms of the various types of verbs they distinguish, and they find that the grammatical profile of perfective and imperfective verbs differs significantly, while the profiles of both imperfective and both perfective groups are very similar (*ibidem*: 732, cf. also Section 2.2).

In this paper, I strive to establish the role of prefixation in the oldest attested Slavic language, Old Church Slavonic (OCS). There are reasons to assume that the situation in OCS is different from that of Modern Russian.

First, even though scholars who study verbal aspect in modern Slavic languages might differ in opinion as to the role of prefixation in the formation of pairs, there is generally no discussion as to the aspect of individual verbs. For example, in Modern Russian we simply "know" that verbs like *est'*[ipf] 'eat', *javljat'sja*[ipf] 'appear', *kljast'sja*[ipf] 'curse' *ležat'*[ipf] 'lie', *s''edat'*[ipf] 'eat up', *vesti*[ipf] 'lead' and *videt'*[ipf] 'see' are all imperfective, while *javit'sja*[pf] 'appear', *sojti*[pf] 'descend', or *s''est'*[pf] 'eat up' are perfective[4]. And if one is not sure, the aspect can be looked up in any dictionary. However, for OCS the situation is more complicated. Compare the categorization of OCS equivalents of the above mentioned verbs in three studies that discuss the aspect of OCS verbs:

---

[3]   There are many different prefixes and also a number of different suffixes involved in aspect derivation. There is even a suffix (*nu-* in Russian) that creates perfective (semelfactive) verbs. I will not get into detail about these morphological nuances here, as they do not directly influence the subject of this paper.

[4]   I have handpicked these verbs to illustrate my point. My main criterion: the verb has a cognate in OCS which occurs in the three studies mentioned in Table 1.

Table 1.
Various categorizations of OCS verbs[5]

Author	Aspect			
Dostál (1954)	**Pf**	**Pf/Ipf**	**Ipf/Pf**	**Ipf**
	aviti sę	*klęti sę*	*vesti*	*avljati sę*
	sъněsti		*jasti*	*sъnědati*
	sъniti			*ležati*
Amse-de Jong (1974)	**Pf**	**Anaspectual**		**Ipf**
	aviti sę	*vesti*		*avljati sę*
	sъněsti	*jasti*		*sъnědati*
		klęti sę		
		ležati		
		sъniti		
Eckhoff, Janda (2014)	**Pf**			**Ipf**
	aviti sę			*avljati sę*
	sъněsti			*jasti*
	sъniti			*sъnědati*
	vesti			*klęti sę*
				ležati

As the table shows, Dostál (1954) uses four different categories, Amse-de Jong (1974) three and Eckhof, Janda (2014) only two. The relationship between the three different categorizations is also not immediately clear. For example, in the anaspectual category of Amse-de Jong there are more verbs than in both of Dostál's biaspectual categories. And the categorization by Eckhoff and Janda cannot easily be deduced from the other two either. Moreover, if one resorts to a dictionary for a definitive answer, the results differ again from all of the above. For example, the authoritative dictionary *Slovník jazyka staroslověnského* (SJS, Kurz 1958-1994) categorizes *klęti sę* 'curse' as imperfective (as opposed to Dostál), but *vesti* 'lead' as both perfective and imperfective (as opposed to Amse-de Jong and Eckhoff, Janda). And although the *Staroslavjanskij slovar'* (SS, Cejtlin 1994) categorizes the verbs in the table similarly to the SJS, in other cases the two dictionaries also differ in their understanding of the aspect of verbs[6].

---

[5]   The various authors use different terminology, which is irrelevant to the discussion in this paper. Space limitations prohibit a detailed discussion of the three studies, but I will refer to the studies when I discuss my own approach to verbal aspect in OCS.

[6]   I have not compared both dictionaries systematically, but differences could be found quite easily. For example, SJS categorizes *piti* 'drink' as ipf/?pf, while SS categorizes it as ipf/pf and SJS categorizes *sъniskati* 'acquire' as pf/ipf while SS calls it ipf. Thus, the answers offered by the various dictionaries are not conclusive either. This should not be surprising, given the fact that specialized studies do not arrive at identical conclusions either.

Second, as is clear from Table 1, when OCS verbs are categorized, the categorization differs from that of Modern Russian. This is especially true for simplicia like *jasti* 'eat', which in OCS (and Old Russian) are often regarded as biaspectual or anaspectual (cf. Růžička 1957: 100, Bermel 1997: 9), while their Modern Russian cognates are classified as imperfective. This raises the question whether prefixation of such an aspectually ambiguous verb can result in the creation of an aspect pair in OCS. The difference in categorization is not restricted to simplicia, though. Amse-de Jong (1974: 7, 126) also regards prefixed verbs like *sъniti* 'go down', *vъzalъkati* 'become hungry' or *ubojati sę* as anaspectual. Hence, there is enough reason to suspect that the situation with regard to the verbal aspect system in OCS could be different from that in Modern Russian.

The central question in this paper is: *What is the role of prefixation in the OCS verbal aspect system?* A derived question is: *Does prefixation create aspect pairs like suffixation does?* To answer those questions I first need to answer the following question: *How can the aspect of a verb in OCS be established?*

I will approach these questions by means of a combination of methods which I discuss in Section 2. Section 3 summarizes the results of my analyses and Section 4 expounds the conclusions.

2. *Method*

2.1. *Morphological categorization*

Before I can address the role of prefixation and the formation of pairs, it is important to determine how aspect can be established in OCS. Just as Amse-de Jong (1974), I regard the morphological characteristics of the verb to be the best starting point for establishing its aspect, since these characteristics can be determined objectively and constitute the basis on which the derivational aspect system is built, not only in OCS, but in the modern Slavic languages as well. The relevant morphological characteristics are: prefixes, suffixes and the presence or absence of an aspect partner (cf. Maslov 1961)[7].

On the basis of these characteristics many different groups can be distinguished in OCS, depending on how fine grained a categorization one strives for. In this paper, I analyse only four morphologically defined groups of verbs[8].

---

[7]   It may not be immediately clear what 'the presence or absence of an aspect partner' does here. I use it to separate verbs that have a suffixed partner from verbs that do not. For example, *chvaliti* 'praise' is a simplex verb without a suffixed partner, which is why I categorize it differently from *aviti sę* 'appear', which has a derived partner *avljati sę* 'appear'.

[8]   I leave a large number of verbs and their partners out of the analysis: simplex verbs with a derived partner and their partner (e.g. *aviti sę- avljati sę* 'appear'), verbs of motion (e.g. *iti - choditi* 'go'), verbs from Leskien's class II (Leskien 1969:

The first group are the prefixed verbs of which a suffixed partner is attested (e.g. *ostaviti* 'leave'). The second group contains the suffixed partners of these prefixed verbs (e.g. *ostavljati* 'leave'). The verbs in these two groups form, at least in the modern Slavic languages, typical aspect pairs based on suffixation (cf. the Modern Russian pair *sostavit'*'pf - *sostavljat'*'ipf in Section 1). For these reasons I will, maybe somewhat prematurely, refer to these two groups as Perfective (*ostaviti*) and Imperfective (*ostavljati*).

The third group is formed by simplex verbs without a suffixed partner (e.g. *bojati sę* 'be afraid'). The fourth group contains prefixed verbs of which no suffixed partner is attested (e.g. *ubojati sę* 'be(come) afraid'). The status of these two groups in the verbal aspect system is less clear and the questions I want to answer in this paper relate mainly to their aspect and their pairedness. Since aspectual morphology is completely absent in the simplex verbs without a suffixed partner (*bojati sę*), I will refer to them as Anaspectual. It remains to be seen whether these verbs are also functionally anaspectual, a question I will return to in Section 2.3. The fourth group has no obvious categorization, so I will simply refer to the verbs in that group as Prefixed not suffixed (Pref. no suf.).

Table 2 below contains the four groups with the number of verbs falling within each group, as well as the number of individual attestations:

Table 2.
The four groups: number of verbs and attestations[9]

Group	Verbs	Attestations
Perfective (e.g. *ostaviti*)	377	15,803
Imperfective (e.g. *ostavljati*)[10]	455	3,041
Anaspectual (e.g. *bojati sę*)	521	26,683
Pref. no suf. (e.g. *ubojati sę*)	899	7,097

138-168) and their partners (e.g. *kanǫti - kapati* 'drip'), verbs that have a deviating derivational chain with an extra derived verb (e.g. *sъpověděti - sъpovědati - sъpovědovati* 'announce'), the verb *byti* 'be' and, finally, verbs with two present tense stems and only one aorist/infinitive stem (e.g. *sъkazati* 'clarify, indicate' with two present forms *sъkažǫ* and *sъkazajǫ*; cf. Kamphuis 2015). These groups are interesting with regard to the status of the verbal aspect system of OCS, but are not necessary to the analysis put forth in this paper. For a more comprehensive analysis see Kamphuis 2016.

[9]   For the data on OCS verbs I use my own database of OCS verb forms, which draws on data from Aitzetmüller (1977).

[10]   The number of imperfective verbs is higher than that of perfective verbs, because one can recognize a derived verb, even if the original verb is not attested (e.g. *uvraštati sę* 'turn away' is considered a derived verb, even though **uvratiti sę* is not attested). The category of perfective verbs contains only those verbs for which a derived verb is actually attested.

This morphological categorization by itself is not enough to reach a definite answer to the central question of this paper, though. One needs to take into account the behaviour of the verbs as well. Interestingly, for Amse-de Jong a morphological categorization seems to constitute a sufficient basis for a categorization of aspect. She considers only the perfective and imperfective verbs (hence pairs formed by means of suffixation) to express aspect, while she categorizes verbs in both the *bojati sę* group and the *ubojati sę* group as anaspectual (cf. Amse-de Jong 1974: 33-39, 126)[11]. However, as I will show in the sections below, there are considerable differences in behaviour between the two groups, which can be connected to differences in aspect. Therefore, a mechanism is needed to check whether and to which extent the morphological categorization reflects actual aspectual differences between the verbs in the groups. To this end, first of all, I will use the method employed by Janda, Lyashevskaya (2011) for Modern Russian: grammatical profiling.

2.2. Grammatical profiling

Space considerations prohibit me from discussing the method of grammatical profiling in detail. Janda, Lyashevskaya (2011: 720-724, with references) give a clear description of the method and show that the grammatical profile of verbs can indeed be used as an indicator of their aspect (ibidem: 732-735). In short, differences in aspect between verbs are reflected in differences in the relative distribution of the verb forms in the attestations. Perfective verbs in Modern Russian, for example, are attested more frequently in the past tense, while imperfective verbs are attested more frequently in the present tense (*ibidem*: 733).

The relative distribution of the forms of the four OCS verb groups that I analyse in this paper can be found in Table 3 and Figure 1.

Although the differences and similarities between these grammatical profiles may be apparent from looking at the bar chart, it is not immediately clear how the profiles relate to one another. There is one test that is particularly useful for the purpose of getting a general idea of the factors behind the differences and similarities between the profiles of the various groups: the correspondence analysis (CA)[12]. The CA is an analysis that makes it possible to display the variables from a contingency table in a two-dimensional graph.

---

[11]   In defence of Amse-de Jong I must say that she discusses many examples and goes into detail in those discussions. So her analysis does not simply end with a morphological categorization. However, she still basically comes to the conclusion that all one needs to establish the aspect of OCS verbs is a sound morphological categorization.

[12]   Eckhoff, Janda (2014) also use this test to establish the aspect of OCS verbs. The main difference between their approach and mine is that they compare individual verb profiles, while I perform the test on group profiles. The differences in outcome between our analyses (cf. Table 1, cf. section 4) are also connected to this difference in

Table 3.
Grammatical profiles of the four groups[13]

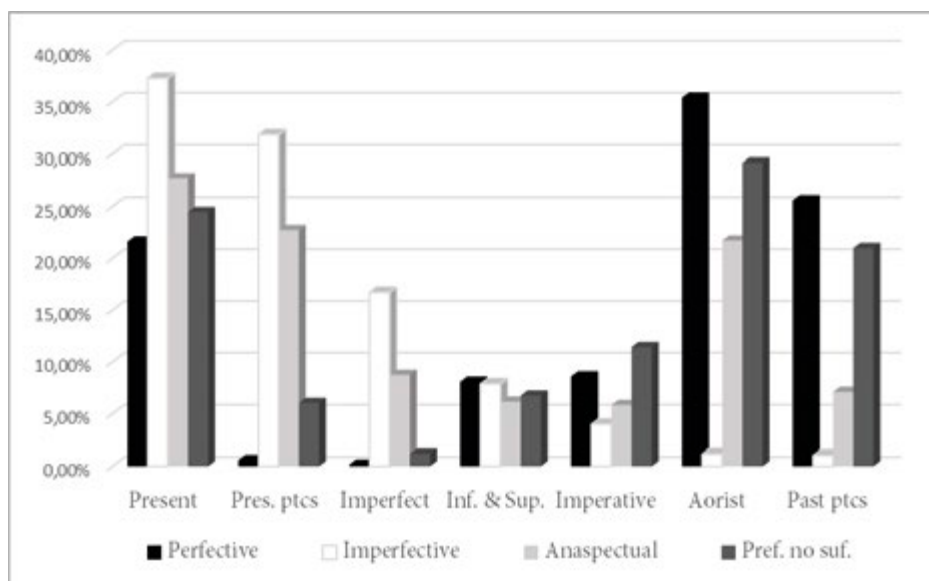| Groups:	Perfective *n = 15803*	Imperfective *n = 3014*	Anaspectual *n = 26683*	Pref. no suf. *n = 7097*
Present	21.61%	37.29%	27.71%	24.45%
Pres. ptcs	0.59%	31.86%	22.72%	6.04%
Imperfect	0.15%	16.71%	8.75%	1,17%
Inf. & Sup.	8.08%	7.89%	6.17%	6,75%
Imperative	8.59%	4.01%	5.84%	11.43%
Aorist	35.40%	1.18%	21.71%	29.18%
Past ptcs	25.58%	1.05%	7.11%	20.98%

Figure 1.
Bar chart of the grammatical profiles of the four groups

approach. My approach is similar to that of Janda, Lyashevskaya (2011), who analyse profiles of predefined groups of verbs in Modern Russian.

[13]   Pres. ptcs = present participles, Inf. & Sup. = infinitive and supine, Past ptcs = past participles. I use the same clustering of forms as Eckhoff, Janda (2014), save for the fact that they exclude past active participles II (l-participles). I also ran an analysis without those forms and did not find any significant differences with the present results.

The CA I perform on the profiles of the four groups reduces the number of factors needed to explain the differences between the groups to three[14]. Of these three factors, the largest factor accounts for 96.4% of the variance and the second largest factor accounts for only 2.5% of the variance. The final factor accounts for a mere 1.1% of the variance. The scatter plot in Figure 2 is based on the two largest dimensions; the largest on the x-axis, and the second largest on the y-axis.
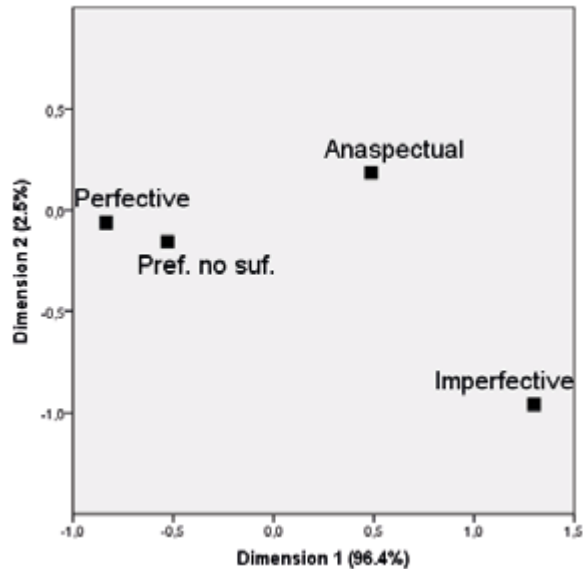

Figure 2.
Scatter plot based on the two largest factors in the CA

The largest factor, Dimension 1 on the x-axis, clearly separates the perfective (*ostaviti*) group on the left side from the imperfective (*ostavljati*) group on the right side. This is why I believe it is reasonable to call this dimension the 'aspect dimension'[15]. Right in the middle between those groups on the Aspect dimension is the anaspectual (*bojati sę*) group. It appears that the absence of aspectual morphology is a good indicator of the aspectual behaviour here: anaspectual verbs are not only neutral with regard to aspect in their morphology, but also when it

---

[14]   This is the maximum number of dimensions given that the formula for the maximum number of dimensions in a correspondence analysis is *min* (row, column)-1, which in this case is *min* (4,7) – 1 = 3 (4 is the number of groups in the analysis, 7 is the number of verb form categories; the maximum number of dimensions is one less than the smallest of those two, hence 4).

[15]   It is hard to interpret Dimension 2. Since it only accounts for 2.5% of the difference, I will disregard it in this paper.

comes to their grammatical profile[16]. Finally, on the left side, close to the perfective group, is the group with prefixed verbs without a suffixed partner (*ubojati sę*). Even though there is some distance from the perfective group, the position on the aspectual dimension seems to indicate that prefixation largely acts as perfectivization in OCS. Table 4 contains the scores on the aspect dimension of the various groups:

Table 4.
Scores on the aspect dimension

Group	Aspect dim. score
Perfective (*ostaviti*)	−0.834
Imperfective (*ostavljati*)	1.299
Anaspectual (*bojati sę*)	0.487
Prefixed no suffixed (*ubojati sę*)	−0.529

To determine whether the differences between the groups are significant, I used a chi-square test of independence. I tested the groups pairwise, the null hypothesis being that the profiles and the morphologically defined groups are independent (there is no significant difference between the groups) and the alternative hypotheses that profiles and the morphologically defined groups are not independent (there is a significant difference between the groups).

The tests showed significant differences between all pairs. However, given the large amount of data used in this study, the probability of a significant result is very high. This does not reveal much about the size of the difference, though. To assess the size of the effect, I also calculated the Cramér's V value for all pairwise comparisons, the results of which can be found in Table 5. The customary rule of thumb for the interpretation of the Cramér's V value, as Janda, Lyashevskaya (2011: 731, with references) use it, is: 0.1 is a small effect size, 0.3 is a medium effect size and 0.5 is a large effect size.

---

[16]   One of the anonymous reviewers remarked that when this anaspectual group would have consisted of both perfective and imperfective verbs, the profile would have been similar to what it is now, which is true (if perfective and imperfective verbs would have been present in relatively equal frequency, which is not necessarily the case, cf. Table 2). However, the verbs in this group share the feature that they are not inherently terminative (Kamphuis 2016:205-214), and terminativity is a prerequisite for perfective verbs in OCS and, more generally, in Slavic (cf. Barentsen 1995, Lindstedt 1995, Tomelleri 2010). Hence, there are no perfective verbs in this group, which could have evened out the profile. If one then would want to argue that all verbs in this group are imperfective, one would have to explain the significantly different profile compared to the derived imperfective verbs in the imperfective group. I stand by the analysis in Kamphuis (2016) that the verbs that, based on the absence of aspectual morphology, are categorized in the anaspectual group, do not express grammatical aspect at all and are therefore not restricted by their aspect when it comes to their behaviour (cf. also Section 2.3 below).

Table 5.

Cramér's V values for the pairwise chi-square tests

Group 1	Group 2	Cramér's V[17]
Perfective (*ostaviti*)	Imperfective (*ostavljati*)	0.731
Perfective (*ostaviti*)	Anaspectual (*bojati sę*)	0.472
Perfective (*ostaviti*)	Pref. no suf. (*ubojati sę*)	0.188
Imperfective (*ostavljati*)	Anaspectual (*bojati sę*)	0.380
Imperfective (*ostavljati*)	Pref. no suf. (*ubojati sę*)	0.637
Anaspectual (*bojati sę*)	Pref. no suf. (*ubojati sę*)	0.357

The Cramér's V values show that even though there are significant differences between all groups, the size of the effect differs greatly. The largest effect size of around 0.7 is, as one would expect, between the perfective and imperfective verbs. The effect sizes that emerge from the pairwise tests of the perfective and imperfective groups with the anaspectual group give an effect size of around 0.4, which in this dataset is a medium effect. The effect size in the test comparing perfective verbs with prefixed verbs without a partner is 0.188, which is the smallest difference in this dataset. The Cramér's V values correspond nicely to the differences in distance between the groups as seen in Figure 2, showing that that graphical representations is a reliable depiction of the relationship between the grammatical profiles of the five groups, especially when one only considers the aspect dimension (on the x-axis).

Even though the group profiles appear to be a reliable indicator of aspect, a semantic analysis is needed to understand how this difference emerges in the usage of these verbs. Moreover, a semantic analysis could also provide insight into what it means that the anaspectual verbs hold the middle position between the perfective and imperfective verbs and why the prefixed verbs without a suffixed partner are so close to the perfective verbs on the aspect dimension, but still somewhat more towards the imperfective side of the dimension. Finally, a semantic analysis could provide information regarding the pairedness of anaspectual verbs (*bojati sę*) and prefixed verbs without a derived partner (*ubojati sę*).

---

[17] I found that the Cramér's V value tends to be smaller with increasing differences in group size. Since in this study some of the groups differ greatly in size, I corrected for the unequal group size in a simulation where the ratio between the groups was made to be 1:1, by reducing the size of the largest group to the size of the smallest group. As long as the ratio between the groups is the same, N does not influence the Cramér's V value. Unfortunately, I have not been able to find any information in the literature regarding this specific problem of decreasing Cramér's V values with increasing differences in group sizes.

2.3. *Semantic analysis*

Dostál (1954), who relies mainly on a semantic analysis to establish the aspect of individual verbs (and even individual attestations), attaches great importance to the functions of the present tense. An important criterion for distinguishing perfective verbs is the use of the perfective present to express futurity (Dostál 1954: 45). I will use this as a starting point for the semantic analysis of the four groups[18].

To establish the frequency with which verbs in the four groups in this paper express futurity, I collected all indicative future forms in the Greek Gospel texts and compared those forms to the OCS translations to see which groups are mainly responsible for the translation of Greek future forms[19]. Table 6 contains the outcomes:

Table 6.
Frequencies of translation of Greek future forms

Group	Number of examples
Perfective (*ostaviti*)	914
Imperfective (*ostavljati*)	22
Anaspectual (*bojati sę*)	250
Prefixed no suffixed (*ubojati sę*)	417

In this table, the division of the future function between perfective and imperfective present is quite clear: the perfective present is the standard choice in the translation of Greek future forms, while the imperfective present only rarely occurs in that function. Imperfective verbs appear to be largely incompatible with the expression of futurity in OCS. However, as the table shows, anaspectual verbs, as well as the prefixed verbs without a suffixed partner, are compatible with this function.

When a perfective present is used, it often concerns a future event, like in the following example (and I could add numerous others)[20]:

---

[18]   In the present paper, I will limit myself to an analysis of some examples of the use of the present tense. Kamphuis (2016) gives more examples and includes other verb forms in the analysis, which support the analysis in the present paper.

[19]   I counted the translations of the Greek future forms in the following codices: *Zographensis, Marianus, Assemanianus, Savvina Kniga.*

[20]   The present tense form *razorjǫ* 'I will tear down' in this example could also be considered perfective, considering it is a form of the simplex *razoriti* 'tear down' which has a derived partner *razarati* 'tear down'. In this paper, however, I leave such verbs out of consideration.

(1) *i reče se **sъtvorjǫ**[pres] . razorjǫ žitьnicǫ mojǫ . i bolьšǫ **sъziždǫ**[pres] . i **sъberǫ**[pres] tu žita moě . i dobro moe* [Z, M, A, Sk] [21]
then he said, "This is what I **will do**: I will tear down my barns and *build* larger ones, and there I **will store** all my grain and my goods" (Luke 12:18)[22]

There are very few examples of imperfective verbs translating a Greek future form, as shows Table 6. When such examples occur, there are specific reasons for the deviation from the general rule that the perfective partner is chosen in this context. For example, in some cases it concerns generalized utterances. This is also the case in the following example with a future form of *byti* 'be' and two imperfective present tense forms, one of *poimati sę* 'be taken' and one of *ostavljati sę* 'be left'[23]:

(2) *gl[agol]jǫ že vamъ . vъ tǫ noštь **bǫdete**[fut] dъva . na loži edinomь . edinъ **poemletъ**[pres] sę a drugy **ostavlěetъ**[pres]* [Z, M]
I tell you, on that night there will be two in one bed; one will be taken and the other will be left (Luke 17:34)[24]

In example (2) the theme is not one particular event, but rather a general rule of how life will be at a certain point in time, a context that is very compatible with imperfective aspect such as it is in modern Slavic languages. In this case the futurity of the events can also easily be inferred from the context. I should note, though, that it rarely happens that such a general interpretation overrules the standard way of translating a Greek future tense with a perfective present, even though the context often provides enough clues for a future interpretation.
In general, imperfective verbs are frequently used to express habituality or general truths, like in the following example:

---

[21] OCS examples are given in transliteration. Accents and titlos are omitted and abbreviations are dissolved by inserting the missing letters in parentheses, e.g. b[og]ъ 'God'. For all examples I indicate from which source they originate, immediately after the example, in square brackets. For these sources I use the following abbreviations: *Z = Zographensis*, *M = Marianus*, *A = Assemanianus*, *Sk = Savvina Kniga*. Whenever an example occurs in more than one OCS codex, the first codex mentioned is the codex from which the example is taken. The examples are almost never completely identical between codices, but I regard them as identical whenever the verb form(s) concerned is (are) similar. The verb form that is discussed is printed in boldface and is glossed: aor = aorist, fut = future, pres = present.

[22] English translations of OCS Bible quotations are from the New American Standard Bible 1995. The translations of the OCS forms at issue are printed in italics.

[23] In my interpretation, the reflexive pronoun *sę* is 'shared' by the two imperfective verbs. The forms of *byti* that I refer to as future forms (*bǫdǫ* 'I will be', *bǫdeši* 'you will be') could also be regarded as a second present tense form, which often have a future interpretation. The other present tense forms are *jesmь* 'I am'*, esi* 'you are' etc.

[24] In the following two verses there are more examples of a present tense of *ostavljati* 'leave' translating a Greek future form in a similar context.

(3) *ni **vъlivajǫtъ**^pres vina nova . vъ měchy vetъchy* [*M*]
      nor do people **put** new wine **into** old wineskins (Matthew 9:17)

Another context in which imperfective verbs are found is the actual present, a present tense used to refer to an event that is going on at the moment of speech:

(4) *otrěšajǫštema že ima žrěba . rěšę g[ospo]dьe ego kъ nima . čьto **otrěšaeta**^pres žrěba* [*Z, M*]
      as they were untying the colt, its owners said to them, "Why **are** you **untying** the colt?" (Luke 19:33)

It is interesting to see that anaspectual verbs are used in all the contexts I discussed above. Compare the following example in which two anaspectual present tenses, of the verbs *jasti* 'eat' and *piti* 'drink' respectively are used to refer to a future event, next to a perfective present tense of the verb *oděti* 'dress':

(5) *ne rъcěte sę ubo gl[agol]ǫšte . čьto **ěmъ**^pres li čьto **piemъ**^pres . li čimь **odeždemъ sę**^pres* [*Z, M, A, Sk*]
      do not worry then, saying, "What **will** we **eat**?" or "What **will** we **drink**?" or "What **will we wear** for clothing?" (Matthew 6:31)

The Greek original of example (5) has subjunctive aorist forms, which have a future meaning, something that also in OCS is clearly indicated by the use of the perfective present of *oděti*. However, there is no reason to interpret the two anaspectual present forms as perfective, simply because of the fact that they refer to a future event. In this respect I disagree with Dostál (1954: 126, 142) who regards these present tense forms as expressing perfective aspect because of their future reference[25]. Anaspectual verbs are quite frequent in the translation of Greek future forms, but they are more comparable to Modern Czech *budeme jísti*^ipf 'we will eat' or *budeme píti*^ipf 'we will drink', than they are to *najíme*^pf *se* or *napijeme*^pf *se* (cf. ibidem). Thus it appears that, even though imperfective verbs are indeed largely incompatible with the expression of futurity, the frequent usage of anaspectual verbs to refer to future events disqualifies this usage as a test of perfectivity.

A generalized context, on the other hands, is not watertight proof of imperfectivity either. Anaspectual verbs also occur in generalized contexts next to im-

---

[25]   Dostál (1954: 126, 142) translates the OCS example with Modern Czech future forms, but even though he considers this example to express typical perfective usage, he first gives a translation with imperfective forms: *Co budeme jísti*^ipf *a co budeme píti*^ipf, which seems to catch the essence of both the Greek and the OCS well. However, to account for his analysis of these verbs expressing perfective aspect in this context, he adds the following alternative translation with perfective verbs: *čeho se najíme*^pf *a napijeme*^pf, which apparently is not his preferred translation. Dostál's uncertainty about the rendering of the OCS example in Modern Czech, indicates that this approach, in which the context is used to determine the aspect of an individual attestation, is problematic.

perfective verbs, like the anaspectual present tense form *ědętъ* 'they eat' in the following example:

(6)   *po čъto učenici tvoi **prěstǫpajǫtъ**ᵖʳᵉˢ . prědaanie starьcь . ne **omyvajǫtъ**ᵖʳᵉˢ bo rǫkъ svoichъ . egda chlěbъ **ědętъ**ᵖʳᵉˢ* [*Z, M*]
      why do Your disciples **break** the tradition of the elders? For they **do** not **wash** their hands when they **eat** bread (Matthew 15:2)

In this example the present tense of *jasti* 'eat' is used in a similar generalized context as the present tense forms of the imperfective verbs *prěstǫpati* 'break' and *omyvati* 'wash'. Another comparable example is the present tense of anaspectual *slyšati* 'hear' next to the present tenses of imperfective *razuměvati* 'understand', and *vъschyštati* 'snatch away':

(7)   *vsěkъ iže **slyšitъ**ᵖʳᵉˢ slovesa c[ěsa]r[ьstvi]ě . i ne **razuměvaetъ**ᵖʳᵉˢ . prichoditъ*²⁶ *nepriěznь . i **vъschyštaetъ**ᵖʳᵉˢ sěanoe vъ srъdьci ego* [*Z, M*]
      when anyone **hears** the word of the kingdom and **does** not **understand** it, the evil one **comes** and **snatches** away what has been sown in his heart (Matthew 13:19)

Anaspectual verbs are also quite frequent in the actual present (cf. example 4), as in the following example:

(8)   *i gl[agol]aste ei ona . ženo čto **plačeši**ᵖʳᵉˢ sę* [*M, A*]
      and they said to her, "Woman, why **are** you **weeping**?" (John 20:13)

And while perfective verbs do occur from time to time in generalized context (Kamphuis 2016: 171-172), they never do in the actual present (*ibidem*: 174-176), which is a context which is exclusively share between imperfective and anaspectual verbs. Similarly, perfective verbs are never used with phase verbs, unlike imperfective and anaspectual verbs²⁷. The examples above show that anaspectual verbs are compatible with both typical perfective and typical imperfective functions and contexts. This must have to do with the fact that these verbs do not express aspect. In other words: the morphologically anaspectual verbs turn out to be functionally anaspectual as well. Verbs that do express aspect (be it perfective or imperfective) become apparently more strongly compatible with some contexts, while they become less compatible, or probably even incompatible with other contexts. According to Lehmann (1999: 227) the development of aspect pairs in Russian can be described in terms of *Expansion*, the development of aspect pairs which almost doubles the verb inventory, and *Reduktion*, the redistribution of syntactic

---

²⁶   I leave the present tense of *prichoditi* (*prichoditъ*) in this example out of consideration (cf. fn. 8).
²⁷   There is one exception to that rule, cf. Kamphuis (2016:139). In *Zographensis* and *Marianus* we find perfective *lišiti sę* 'be impoverished' after *načętъ* 'began' in Luke 15:14, while *Assemanianus* and *Savvina Kniga* have the imperfective partner *lišati sę*.

environments and functions over the expanded verb inventory. This redistribution is exactly what the OCS examples show as well, not only with regard to usage, but also in the grammatical profiles. Anaspectual verbs, on the other hand, do not suffer from these restrictions and are therefore, in principle, compatible with all contexts and show the most equally distributed grammatical profile[28].

Prefixed verbs without an attested suffixed partner are, again, a different story. Even though Amse-de Jong categorizes these verbs as anaspectual, they behave like verbs from the perfective group for the largest part. The grammatical profile in section 2.2 already indicates similarity with perfective verbs and the semantic analysis confirms this: a present tense form from a verb in this group normally has future reference, like in the following example with a present tense of *vъsplakati* 'cry, start crying':

(9)   *i tъgda **vъsplačǫtъ**[pres] **sę** vъsě kolěna zemlъskaě* [M, A, Sk]
      and then all the tribes of the earth **will mourn** (Matthew 24:30)

However, a closer examination of the group reveals that not all verbs in this group behave in a similar fashion. For example, the present tense of prefixed *vъzležati* 'lie at the table' in the following example is used to refer to an ongoing event:

(10) *i se žena vъ gradě . ěže bě grěšьnica . i uvěděvъši ěko **vъzležitъ**[pres] vъ chramině fariseově . prinesъši alavastrъ m'üra* […] *načętъ močiti nozě ego* [Z, M, A]
      and there was a woman in the city who was a sinner; and when she learned that He **was reclining** at the table in the Pharisee's house, she brought an alabaster vial of perfume […] and began to wet his feet (Luke 7:37-38)

The profile of the verb *vъzležati* is also not typically perfective with only attestations of present tense, imperfect and present active participles (and no aorists or past participles which are so common in perfective verbs, cf. Table 3 and Figure 1). And there are other verbs with similar behaviour and profiles as *vъzležati*: *poslušati* 'listen, obey', *odrъžati* 'contain, surround' and *prědъležati* 'lie in front of, be in front of'. Analysis of the deviating profiles in this group shows that there is a number of simplicia that appear to never result in perfective compounds when they are prefixed: *dějati* 'do', *drъžati* 'hold', *ležati* 'lie', *slušati* 'hear', *stojati* 'stand' and *viděti* 'see'[29]. When the profiles of these verbs are left out of the analysis (leaving a group of 858 verbs with 6,249 attestations),

---

28   The lexical content of an anaspectual verb may have an influence on the forms and functions it occurs in, but that is on a different level. In general, the fact that a verb is anaspectual does not result in any restrictions.

29   There may be other families like the prefixed formation of *ristati* 'run' and *pъvati* 'hope', but these are the clearest cases with more than one prefixed formation per simplex and a relatively large number of attestations, making it possible to judge the profile.

a comparison of the grammatical profile with that of the perfective verbs still results in a significant difference. However, Cramér's V is now only 0.100, which is a small effect size, strongly reduced compared to the effect size of 0.188 (cf. Table 5) with the profiles of the deviating verbs included.

Finally, prefixed verbs like *vъzplakati* 'cry, start crying' and *ubojati sę* 'be(come) afraid' do not form aspect pairs with the simplicia that are their basis. The simplicia remain anaspectual and occur in both typical perfective and imperfective contexts, as I have demonstrated above. In a number of cases this results in the anaspectual verb competing with the prefixed verb in the same context[30]. Instances of such competition can be found when comparing the various OCS Gospel codices, which are based on the same Greek original, but from time to time show variation in their choice of verb, like in the following example:

(11) *slyšavъ že jako archilai c[ěsar]rъstvuetъ vъ ijudei . vъ iroda město o[tь]ca svoego . **boja sę**[aor] tamo iti* [*Sk*]

*slyšavъ že . ěko archilai c[ěsar]rъstvuetъ vъ ijudei . vъ iroda město o[tь]ca svoego . **uboja sę**[aor] tamo iti* [*A*]

but when he heard that Archelaus was reigning over Judea in place of his father Herod, he **was** [**became**, my translation] **afraid** to go there (Matthew 2:22)[31]

Incidentally, similar examples of competition can also be found between anaspectual verbs and perfective verbs, hence verbs that have a suffixed partner, like *vъzmošti* 'be able' which has a derived partner *vъzmagati* 'be able', or *osǫditi* 'judge', which has a derived partner *osǫždati* 'judge' in the following examples:

(12) *eiže ne **vъzmogǫtъ**[pres] protiviti sę i otъvěštati . vsi protivljějǫštei sę vamъ.* [*Z, M, A*]

*eiže ne **mogǫtъ**[pres] protiviti sę i otъvěštati . vsi protivljějǫštei sę vamъ.* [*Sk*]

which none of your opponents **will be able** to resist or refute (Luke 21:15)

---

[30]   There are examples of competition with imperfective verbs as well, however, they are less relevant for the present discussion.

[31]   The variation in the OCS manuscripts is, in this case, not due to variants in the Greek original, so it can be contributed to language internal competition. According to the *The Center for New Testament Textual Studies New Testament Critical Apparatus* as consulted in the Bible software program *Bibleworks* 9, in Matthew 2:22, almost all Greek manuscripts have the indicative aorist ἐφοβήθη, with no serious variants except for one scribal error. The same is true for the Greek original in examples (12) and (13). In (12) Greek manuscripts have the indicative future δυνήσονται, with one manuscript replacing the word for another lexical item, and one with vowel confusion. Finally, in (13) the Greek manuscripts have the indicative future κρινῶ, with one manuscript showing minor orthographical confusion. This is not to say that variation between OCS manuscripts can never be explained by, or at least coincides with, the Greek original. An interesting examples can be found in Matthew 9:2, where a difference between an imperfective and a perfective present tense coincides with, and might be explained by, variant readings in Greek with an indicative present tense in Codex Sinaiticus and Codex Vaticanus, while the majority of texts have an indicative perfect (Kamphuis 2016: 174).

(13) *otъ ustъ tvoichъ* **sǫ̑ždǫ**^{pres} *tę* [M, A]
    otъ ustъ tvoichъ **osǫ̑ždǫ**^{pres} *tę* [Z]
    by your own words I **will judge** you (Luke 19:22)

Even though there are likely to be subtle differences in meaning between the prefixed and simplex verbs in these examples, the fact that they compete in the translation of the same Greek forms (both futures and aorists) indicates their functional similarity. This shows that a redistribution of contexts and functions between anaspectual verbs and prefixed formations does not take place, or is in any case different from that between imperfective and perfective verbs.

3. *Summary*

In this paper I combined various approaches to determining verbal aspect in order to reach a conclusion regarding the aspect of four groups of OCS verbs and the role of prefixation in the language. I started out by categorizing groups of verbs on the basis of aspect morphology. This is similar to what Amse-de Jong (1974) does, and results in a categorization of all OCS verbs into various large groups of verbs. Of these groups, I picked four groups of verbs to be analysed more closely in this paper: perfective, imperfective, anaspectual and prefixed verbs with no attested suffixed partner.

The next step was to determine whether the morphological characteristics of these groups of verbs indicate something about aspectual differences. I did this by means of grammatical profiling. Eckhoff, Janda (2014) also use this method for OCS, however they skip the step of categorizing groups and start out comparing individual profiles, which for a large part explains the differences between their results and the results in the present study. I followed Janda, Lyashevskaya (2011) in comparing the grammatical profiles of morphologically predefined groups of verbs. From the correspondence analysis, a clear aspect dimension emerged. This dimension nicely separated the perfective (*ostaviti*) and imperfective verbs (*ostavljati*) on opposite sides, with the anaspectual verbs (*bojati sę*) in the middle and the prefixed verbs with no suffixed partner (*ubojati sę*) close to the perfective verbs.

Finally, a semantic analysis of individual examples, like Dostál (1954) uses, was necessary to establish whether the differences found by comparing the profiles of the morphologically categorized groups are reflected in the actual usage of individual verb forms. For this semantic analysis I concentrated mainly on the use of present tense forms and found that perfective present forms are by far the preferred form when it comes to future reference, while imperfective present tense forms are almost never used in that function. Imperfective present tense forms are often used in a generalized function and also occur in the actual present. Anaspectual present tense forms, again, hold a middle position, just as

with the grammatical profiling; they appear in both typical perfective and typical imperfective contexts.

The prefixed verbs with no suffixed partner show a profile that is very comparable to the perfective group's profile. Functionally they show the same characteristics as well: present tense forms generally express futurity in this group. However, it turned out that the group contains a sub-group of verbs of which the present tense is not used to refer to future events. A closer analysis of individual profiles revealed that these verbs also have a deviating profile when compared to the other verbs in this group. I therefore excluded them from the group and reran the chi-square test for this group and the perfective group, which resulted in an even smaller effect size compared to the relatively small effect size found in the first analysis.

Interestingly, the fact that these prefixed verbs with no suffixed partner behave as perfective verbs does not automatically result in their simplex counterparts becoming incompatible with the contexts in which the prefixed verbs occur, as show the examples (11) through (13), where simplex verbs compete with their prefixed counterparts. This sets these 'pairs' of anaspectual verbs and their prefixed formations apart from the perfective and imperfective aspect pairs where there is a distribution of forms, contexts and functions between the two partners.

4. *Conclusions*

The first question in the paper that needed an answer was: *How can the aspect of a verb in OCS be established?* I have shown that a combination of methods, starting with a morphological categorization, followed by the comparison of the grammatical profiles of the thus defined groups and a semantic analysis of individual examples (and when necessary also individual verb profiles), provides reliable results. The perfective (*ostaviti*) and imperfective (*ostavljati*) verbs emerge as prototypical aspect groups, making it possible to categorize other groups, like the anaspectual verbs (*bojati sę*) and the prefixed verbs with no suffixed partner (*ubojati sę*) based on their (dis)similarity with the grammatical profiles and usage patterns of the perfective and imperfective groups.

The central question that I posed at the beginning of this paper was: *What is the role of prefixation in the OCS verbal aspect system*? In the light of the results of the various analyses, it is safe to say that prefixation in OCS generally equals perfectivization. More research is needed to explain why in certain verbs this perfectivization does not occur.

Finally, I posed the following question: *Does prefixation create aspect pairs like suffixation does?* In other words: is a pair like *ostaviti - ostavljati* 'leave' equal to a pair like *bojati sę - ubojati sę*? In the light of what I have demonstrated for the anaspectual verbs (their position on the aspect dimension, their compatibility with typical perfective and imperfective contexts and their competition with perfective verbs), it appears that these verbs are truly anaspectual and not imperfec-

tive. In that sense prefixation does not create aspect pairs like suffixation does, because, although it creates a perfective verb, the original verb stays anaspectual. In this regard OCS differs from Modern Russian for which Janda, Lyashevskaya (2011) demonstrate that the profiles of the simplicia with a prefixed partner do not differ significantly from those of imperfective verbs that are formed by means of suffixation. In the light of the above, I can give my own categorization of OCS verbs as an alternative to the categorizations given in Table 1:

Table 7.

My categorization of OCS verbs (cf. Table 1)

Perfective	Anaspectual	Imperfective
aviti sę	*vesti*	*avljati sę*
sъněsti	*jasti*	*sъnědati*
sъniti	*klęti sę*	
	ležati	

The only difference with the categorization by Amse-de Jong is the verb *sъniti*, which in my categorization is perfective, while it is anaspectual in Amse-de Jong's. This is, however, no trivial difference. First of all it concerns almost 900 verbs, with over 7000 attestations. Moreover, the principle difference with the analysis by Amse-de Jong is that even though the aspect pairs in which the imperfective partner is derived from a perfective verb are the prototypical perfective and imperfective verbs, other groups of verbs, which have not been included in the analysis for this paper, can be analysed as perfective and imperfective as well based on their behaviour and are not automatically anaspectual (cf. Kamphuis 2016: 315).

It would be interesting to apply the methods used in the paper to modern Slavic languages, to see whether the tripartition of perfective, imperfective and anaspectual is present there as well.

Bibliography

Aitzetmüller 1977:   R. Aitzetmüller, *Belegstellenverzeichnis der altkirchenslavischen Verbalformen*, Würzburg 1977.

Amse-de Jong 1974:   Tine H. Amse-de Jong, *The Meaning of the Finite Verb Forms in the Old Church Slavonic Codex Suprasliensis: A Synchronic Study*, The Hague 1974.

Barentsen 1995:   A. A. Barentsen, *Trechstupenčataja model' invarianta soveršennogo vida v russkom jazyke*, in: St. Karolak (pod red.), *Semantika i struktura slavjanskogo glagol'nogo vida*, 1, Kraków 1995, 1-26.

Bermel 1997:   N. Bermel, *Context and the Lexicon in the Development of Russian Aspect,* Berkeley, Los Angeles-London 1997.

SS: R.M. Cejtlin, R. Večerka, E. Blagova (eds.), *Staroslavjanskij slovar' (po rukopisjam X-XI vekov)*, Moskva 1994.

Comrie 1976:   B. Comrie, *Aspect: An Introduction to the Study of Verbal Aspect and Related Problems*, Cambridge 1976.

Croft 2012:   W. Croft, *Verbs: Aspect and Causal Structure*, Oxford 2012.

Dahl 1985:   Ö. Dahl, *Tense and Aspect Systems*, Oxford 1985.

Dostál 1954:   A. Dostál, *Studie o vidovém systému v staroslověnštině: Z prací Slovanského ústavu Československé akademie věd*, Praha 1954.

Eckhoff, Janda 2014:   H. M. Eckhoff, L. A. Janda, *Grammatical profiles and aspect in Old Church Slavonic*, "Transactions of the Philological Society", 112 (2), 2014, 231-258.

Gvozdanović 2012:   J. Gvozdanović, *Perfective and imperfective aspect* in: R. I. Binnick, (ed.), *The Oxford Handbook of Tense and Aspect*, Oxford 2012, 781-802.

Isačenko 1960:   A.V. Isačenko, *Grammatičeskij stroj russkogo jazyka v sopostavlenii s slovackim. Čast' vtoraja: Morfologija*, Bratislava 1960.

Janda, Lyashevskaya 2011: L. A. Janda, O. Lyashevskaya, *Grammatical profiles and the interaction of the lexicon with aspect, tense and mood in Russian*, "Cognitive Linguistics", 22 (4), 2011, 719-763.

Kamphuis 2015:   J. Kamphuis, *Exploring verbal aspect in Old Church Slavonic*, in: R. Benacchio (ed.), *Glagol'nyj vid: grammatičeskoe značenie i kontekst* [Die Welt der Slaven, Sammelbände, 56], München 2015, 283-296.

Kamphuis 2016:   J. Kamphuis, *Verbal Aspect in Old Church Slavonic*, Unpublished PhD dissertation, Leiden University, 2016.

Kurz 1958-1994:   J. Kurz (ed.), *Slovník jazyka staroslověnského/Lexicon linguae palaeoslovenicae*, Praha 1958-1994.

Lehmann 1999:   V. Lehmann, *Sprachliche Entwicklung als Expansion und Reduktion*, in: T. Anstatt (Hrsg.), *Entwicklungen in slavischen Sprachen*, München 1999, 169-254.

Leskien 1969:	A. Leskien, *Handbuch der altbulgarischen Sprache: Grammatik – Texte – Glossar*, Heidelberg 1969[9].
Maslov 1961:	Ju.S. Maslov, *Rol' tak nazyvaemoj perfektivacii i imperfektivacii v processe vozniknovenija slavjanskogo glagol'nogo vida*, in: V.V. Vinogradov (pod red.), *Issledovanija po slavjanskomu jazykoznaniju*, Moskva 1961, 165-195.
Růžička 1957:	R. Růžička, *Der Verbalaspekt in der altrussischen Nestorchronik* [Veröffentlichungen des Instituts für Slawistik, 14], Berlin 1957.
Smith, 1997:	C. S. Smith, *The Parameter of Aspect*, Dordrecht 1997.
Sreznevskij 1893-1906:	Izmail I. Sreznevskij, *Materialy dlja slovarja drevnerusskovo jazyka po pis'mennym pamjatnikam*, Sankt-Peterburg 1893-1906 (Reprint Graz 1971).
Szemerényi 1987:	O. Szemerényi, *The Origin of Aspect in the Indo-European Languages*, "Glotta", 65, 1987, 1-18.
Tomelleri 2010:	V. S. Tomelleri, *Slavic-style aspect in the Caucasus*, "Suvremena Lingvistika", 69, 2010, 65-97.

OCS editions used

Jagić 1879:	V. Jagić (ed.), *Quattuor Evangeliorum Codex Glagoliticus olim Zographensis nunc Petropolianus*, Berlin 1879 (Reprint Graz 1954).
Jagić 1883:	V. Jagić (ed.), *Quattuor Evangeliorum Codex Marianus Glagoliticus*, Berlin 1883 (Reprint Graz 1960).
Kurz 1955:	J. Kurz (ed.), *Evangeliarium Assemani: Codex Vaticanus 3 Slavicus Glagoliticus*, Tomus II, Praha 1955.
Ščepkin 1903:	V. Ščepkin (ed.), *Savvina kniga*, Sankt-Peterburg 1903 (Reprint Graz 1959).

Abstract

Jaap Kamphuis
The Role of Prefixation in Old Church Slavonic

In this paper, I analyse the role of prefixation in the Old Church Slavonic (OCS) verbal aspect system. More specifically, I ask the question whether prefixation has a similar

role as suffixation in the creation of the so-called aspect pairs. To be able to answer these questions, I first need to establish how the aspect of OCS verbs can be determined. For that purpose, I use a combination of methods: morphological categorization, grammatical profiling and semantic analysis. With this approach I am able to establish various characteristics of prototypical perfective and imperfective verbs and subsequently compare them with other verbs. I conclude that although prefixation in most cases equals perfectivization in OCS, it does not create aspect pairs like suffixation does. This is mainly because of the fact that many simplex verbs, which in modern Slavic languages are mostly regarded as imperfective, in OCS are anaspectual, even when prefixed formations exist.