Secondary imperfectives are primary imperfectives: An empirical investigation of potentially imperfective verbs in Old Church Slavonic

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Abstract

This chapter discusses two groups of potentially imperfective verbs in Old Church Slavonic: 1) so-called "secondary imperfectives", i.e. prefixed suffix-derived verbs with prefixed, apparently perfective partners (*načinati, načęti* 'begin'), and 2) simplex verbs partnered by prefixed, apparently perfective verbs (*pьsati, napьsati* 'write'). The verb pairs are identified by their ability to translate single Greek verb lemmas. The question is explored by comparing the linguistic behaviour of these two groups. Both the tense-mood distribution and the semantics of the verbs are compared. The data show that there are clear distributional differences, where paired prefixed derivates overwhelmingly occur in viewpoint-imperfective and neutral tense-mood forms, while this is much less true for paired simplices, which generally seem more independent of their prefixed partners. The semantic differences between the two types of verbs are more subtle – both types are used to express both continuous and habitual semantics, but paired prefixed derivates seem more likely to be used to describe iterative (actually repeated) events. It therefore seems likely that the paired prefixed derivates were grammaticalised as imperfective first, with a full range of the usual imperfective readings.

Keywords: aspect, actionality, Old Church Slavonic, behavioural profiling

1. Introduction

To what extent did Old Church Slavonic (as the earliest attestation of Slavonic and a stand-in for Late Common Slavonic) have an aspectual pair system with perfective and imperfective verbs the way modern Slavonic languages do? This is a long-standing debate in the scholarly literature, with views ranging from claims that OCS had a fully developed verb pair system (Dostál 1954, van Schooneveld 1951) to claims that the aspect pair system was not fully established in OCS (Borodič 1953, Bermel 1997, both writing from an East Slavonic perspective), or even that the verbal affixation system in OCS did not express aspect at all, but Aktionsart (Łazorczyk 2010). A number of scholars hold an intermediate position, assuming that the aspect system was established, but that there was also a group of neutral or anaspectual verbs that did not participate in the aspect system (e.g. Amse-De Jong 1974, Forsyth 1972, Eckhoff and Haug 2015, Kamphuis 2020). Overall, there is a fair consensus that prefixed, underived verbs such as *sъ-tvoriti* 'make' are already grammaticalised as perfective by the time of OCS. There is also a reasonable consensus that prefixed, suffix-derived verbs such as *sъ-tvar-ja-ti* 'make', so-called secondary imperfective verbs, are grammaticalised as imperfective, but our understanding of simplex imperfective-looking verbs, such as *tvoriti* 'make' is much poorer. Are they all neutral or anaspectual verbs which can be used in all tense-mood combinations, or are have some of of them already specialised as imperfective? Do they have the same semantic distribution as the "secondary" imperfectives?

This chapter explores this question by comparing the linguistic behaviour of prefixed secondary imperfectives with the behaviour of simplex verbs known from Greek parallel data to have a prefixed "natural" perfective partner. Both the tense-mood distribution and the semantics of the verbs are compared. I will demonstrate that there are clear distributional differences, where paired prefixed derivates overwhelmingly occur in viewpoint-imperfective and neutral tense-mood forms, while this is much less true for paired simplices, which generally seem more

independent of their prefixed partners. The semantic differences between the two types of verbs are much more subtle – both types are used to express both continuous and habitual semantics, but paired prefixed derivates seem more likely to be used to describe iterative (actually repeated) events.

In section 2 I outline the theoretical background and methodology employed. In section 3 I discuss the possible types of aspectual pairs that can be identified in OCS. In section 4 I compare the tense-mood distributions (grammatical profiles) of the two main types. Section 5 is a semantic analysis of the two groups. Section 6 is the conclusion.

2. Theory and method

2.1 Determining aspect

Most serious approaches to OCS aspect use tense-mood distribution as prime criterion to determine the aspect of individual verbs, explicitly or tacitly (see e.g. Eckhoff and Janda 2014, Kamphuis 2020 for extensive discussion). This is based on an assumption that certain tense-mood forms are themselves perfective or imperfective. There is, again, a good deal of disagreement in the literature on the aspectual nature of aorists and past participles on the one hand and imperfects and present participles on the other. However, there is substantial evidence from Greek parallel data supporting the view that the former are inherently viewpoint-perfective and the latter viewpoint-imperfective.[1]

I will follow Eckhoff and Haug 2015 and assume that this is the case and build on the observation that at least in the Codex Marianus and Codex Zographensis, which forms the dataset of this article, most verbs specialise with one inflectional aspect or other, and these specialisations strongly correlate with expected morphological patterns. It is therefore possible to provide a rough classification on this basis alone: verbs that do not occur in the imperfect or as present participles are perfective, verbs that do not occur in the aorist or as past participles are perfective, and verbs that can occur across the board are aspectually neutral. An obvious problem with this is that a number of verbs have very low token frequencies, and that it is difficult to know whether an apparent "specialisation" is down to chance due to low attestation frequency.

In Tables 1 and 2 in section 3 this type of classification is used in the columns indicating the aspectual status of the potentially imperfective partner. This status is taken from the classification in Eckhoff and Haug (2015, 207, supplementary material D), see also Appendix 1 (which is a slightly adjusted version of Eckhoff and Haug 2015's supplementary material E).[2]

2.2 How to identify aspectual pairs in OCS

Identifying aspectual pairs is not easy under any circumstances, not even in the modern Slavonic languages. In the Russian aspectological literature, the tradition is to rely on the so-called Maslov test, where an aspectual pair can be identified by a native speaker by transposing from perfective past to historical present, where the verbs are expected to be absolutely synonymous. The method is not unproblematic, and since it crucially relies on native-speaker intuitions, it is, of course, not an option for OCS. However, as Eckhoff and Haug (2015) point out, we *can* identify synonymous aspectual pairs in OCS by looking at translations of individual Greek verbs. If a single Greek source

[1] According to Klein's time-relational definition of aspect (Klein 1994, 1995).

[2] Eckhoff and Haug 2015 comes with an online repository where all datasets, scripts and supplementary materials can be found, at https://doi.org/10.18710/3YNHO7.

verb is rendered by two same-stem verbs, and the two verbs have different aspectual preferences, we can identify those two verbs as an aspectual pair. This point is illustrated in Figure 1. We see that the Greek verb *paradidomi* 'betray' is regularly translated by two OCS verbs with the same stem and prefix, where *prědajati* is clearly suffix-derived and looks like a modern secondary imperfective. Both verbs are completely specialised when it comes to inflectional aspect: *prědajati* never occurs as an aorist or past participle. Conversely, *prědati* never occurs as an imperfect or present participle, and this holds even when the occurrence is a translation of a Greek imperfect. This pattern repeats itself with many verbs, as will be shown throughout this chapter.

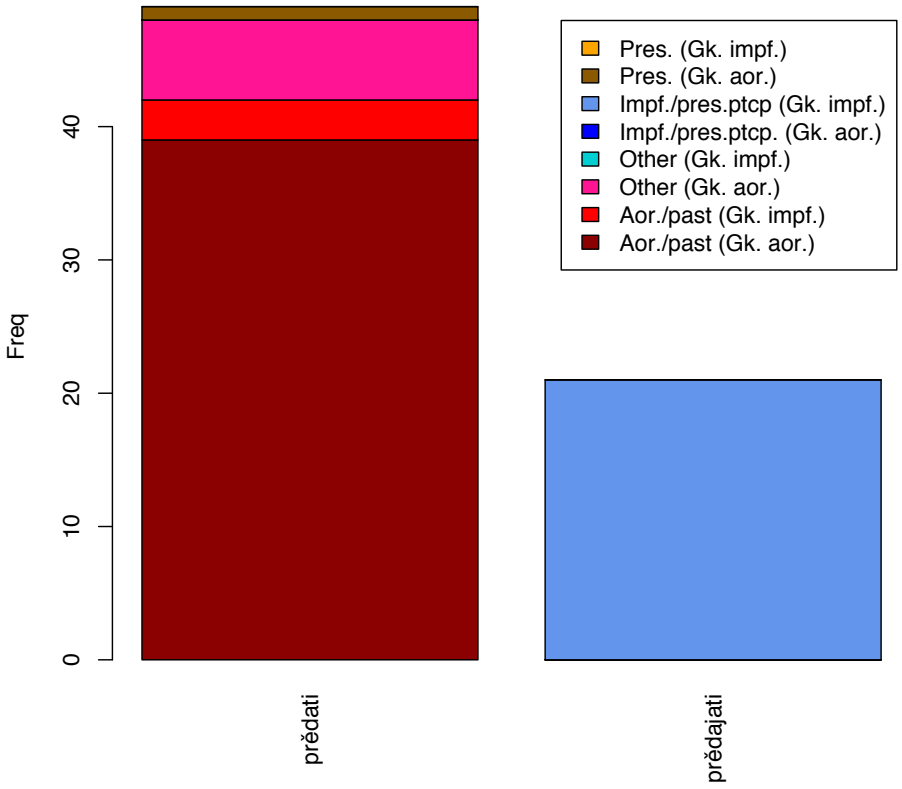

Figure 1. OCS translations of Greek paradidōmi *'betray'*

In this article this method will be used to identify a set of verb pairs in the Codex Marianus and the Codex Zographensis, using the same dataset as Eckhoff and Haug (2015), extracted from the PROIEL and TOROT treebanks (Haug and Jøhndal 2008, Eckhoff and Berdičevskis 2015).[3] The data set is relatively small: it consists of all verbs in the Codex Marianus and the Codex Zographensis that have a Greek alignment, 23,538 occurrences, belonging to 1139 verb lemmas. For the filtering process the data set was limited to translations of Greek aorist indicatives, imperfect indicatives as well as aorist and present active and passive participles, and only if the verb could be shown to occur in both imperfect (or present participle) and aorist (or aorist participle) form. Aorist

[3] Available at https://doi.org/10.18710/3YNHO7 together with an R script to process the data and various supplementary materials.

(perfective) and present (imperfective) forms of other moods (subjunctive, imperative, optative, infinitive) were excluded to avoid interference from syntactically constrained choice of aspectual form, e.g. for infinitives. This yielded a set of 203 Greek verb lemmas and 8425 OCS occurrences. Note that there is no limitation on the OCS forms.

As in Eckhoff and Haug (2015), the Codices Marianus and Zographensis, two tetraevangelion translations of the Gospels, were chosen because they are commonly thought to represent the oldest layer of OCS (see e.g. Lunt, 2001, 7). In addition, they were chosen for the very practical reason that Biblical texts – the Gospels and the Psalms[4] – are the only texts in the OCS canon that can reliably be used for contrastive studies of OCS and Greek. We do not have the exact Greek originals of the OCS Gospel translations,[5] but nonetheless, the translations are so close to standard editions of the New Testament that the noise in the parallel data is negligible. This is not the case for e.g. the Codex Suprasliensis, the largest extant OCS manuscript, which is in its entirety translated from Greek, but from Greek sources that are extant in often quite remote varieties, or not at all, see e.g. Capaldo 1985.

This method naturally limits us to identifying verb pairs that exemplify meanings that are encoded by the Greek inflectional aspect opposition. This means that we will not only find "true" aspectual pairs, but also pairs of simplices and certain types of procedural verbs that correspond to possible readings of the Greek aorists: complexives (delimitatives), ingressives (for activities) and inceptives (for states).[6] It is also clear that it is a severly restricted method. While it will probably find *only* true synonymous pairs, it will certainly not find *all* of them, due to the limited material and skewed lexical representation in the Gospel texts. It is important to be aware of these limitations, but the method is nonetheless very valuable, as it gives us semantic information that is not available from a monolingual corpus.

3. OCS aspectual pairs

Using the Greek filter method, it is possible to identify five classes of verb pairs in the OCS material.

1. prefixed determinate motion verb + prefixed indeterminate motion verb (*prinesti, prinositi* 'bring'), 12 pairs
2. prefixed verb + suffix-derived prefixed verb (*ostaviti, ostavljati* 'leave'), 50 pairs
3. prefixed verb + simplex verb (*naučiti, učiti* 'teach'), 46 pairs
4. simplex verb + suffix-derived verb (*pustiti, puštati* 'let go'), 12 pairs

[4] Data from the Psalterium Sinaiticum were not included. It is currently under annotation and alignment with the Greek Septuagint text in the TOROT treebank (Eckhoff 2021a), but the work was not completed at the time of writing. The data will be very valuable in future studies.

[5] It should also be noted that the PROIEL treebank uses Tischendorf 1869–1872 as its Greek text, which is not based on the variants thought to be closest to the OCS translation.

[6] In the following I will use the term 'complexive' for events described as temporally bounded, where no telos has been reached (instead of 'delimitative', since the latter term carries an expectation of short duration in the literature on Slavonic (and especially Russian) aspect). A telos is understood as a natural endpoint to the event described, for example, the telos of *napьsati* 'write' is to finish whatever piece of writing one was working on. I will assume that telicity and perfectivity are independent of each other, so that a (presumably) imperfective verb such as *umirati* 'die' also has an inherent telos (the point of transition from life to death), and thus is telic. I will not make a distinction between 'ingressive' and 'inceptive' readings., but use 'ingressive' for any case where an event is described as a change from no X-ing to X-ing, whether X-ing be an activity or state.

5. two unrelated simplex verbs (*rešti, glagolati* 'say'), 1 pair

In this chapter only groups 2 and 3 will be discussed. Group 1 was excluded because of the special role of motion verbs in the history of Slavic aspect, and the intricacies of the interactions between determinacy and affixation in this class (see e.g. Amse-De Jong 1974, 63, Dickey 2010). It seems likely, however, that the determinacy category may well have played a part in the early development of the new derivational aspect system (see e.g. Maslov 1958), and there is clearly more to do for future research here. I will also not discuss groups 4 and 5, but group 4 is clearly a topic for further research.

Groups 2 and 3 contain the three well-known main classes of Slavonic prefixed verbs: "lexical" or "specialised" perfectives, "true" or "natural" perfectives, and procedural perfectives (see Forsyth 1970 and Janda et al. 2013 for terminology). It should be noted that procedural verbs are not clearly distinguished from the other two types of prefixed verbs in this classification.

Group 2 contains mostly "lexical" perfectives, but there are also arguably examples of procedural prefixed verbs with a derived partner, such as possibly ingressive *vъzglasiti, vъzglašati* 'cry out' from *glasiti* 'resound, shout' (see also Eckhoff 2017 for more on ingressives). All identified pairs in group 2 are found in Table 1. Since all of the pairs in group 2 by definition have a suffix-derived partner, it is tempting to assume that this means that the meaning of the prefixed verb is (considerably) different from that of the corresponding simplex. This is clearly often the case, as in the *prědati/prědajati* 'betray' example above, where it is clear that *paradidōmi* 'betray' cannot be translated by the simplex *dati* 'give'. However, we should keep in mind that so-called triplets, such as *cěliti, icěliti, icěljati* 'heal' (i.e. a simplex verb, a prefixed underived verb and a prefixed, suffix-derived verb all translating the same Greek verb), are also well attested and have long been mentioned in the literature (see e.g. Amse-de Jong 1974, 27 and more examples in Table 2). Thus the boundary between groups 2 and 3 is not clear in principle and is made even less clear by the random nature of attestation and the limitations of the filtering method.

prefix	prefixed	simplex[7]	prefixed and suffix-derived	prefixed and suffix-derived status	Greek	gloss	frequency of prefixed and suffix-derived verb
vъ	vъdvoriti	no	vъdvarjati	imperf	aulizomai	'take up abode'	1
vъ	vъprositi	prositi[8]	vъprašati	**mostly imperf**	eperōtaō, erōtaō	'ask'	64
vъz	vъzbraniti	no	vъzbranjati	imperf	kōluō	'prevent, deny'	3

[7] The corresponding simplex is only listed if it translates the Greek verb in question. The simplex sometimes comes out as perfective according to the classification method laid out in section 3.

[8] Only with *eperōtaō*.

vъz	vъzglasiti	no	vъzglašati	unknown[9]	prosphōneō	‘cry out’	3
vъz	vъzvratiti	vratiti	vъzvraštati	imperf	hupostrepsō	‘turn, return’	4
vъz	vъzložiti	no	vъzlagati	imperf	epitithēmi	‘put on’	9
vъz	vъstrъgnǫti	no	vъstrъgati	imperf	sullegō	‘pull up’	6
vъz	vъzęti	no	vъzimati	imperf	aeirō	‘lift, raise’	11
za	zaprětiti	prětiti	zaprěštati	imperf	epitimeō, diastellō	‘rebuke, prohibit'	3
iz	izbьrati	no	izbirati	imperf	eklegō	‘choose’	2
iz	isplьniti	no	isplьnjati	imperf	plēroō	‘fill, fulfill’	2
iz	ispověděti	no	ispovědati	imperf	homologeō, exomologeō	‘confess’	11
iz	icěliti	cěliti	icěljati	imperf	therapeuō, iaomai	‘heal’	7
na	napoiti	no	napajati	imperf	potizō	‘give to drink’	6
na	načęti	no	načinati	imperf	arkhō	‘begin’	6
na	narešti	no	naricati	imperf	kaleō	‘call’	80
o	opravьditi	no	opravьdati	**neutral**	dikaioō	‘justify’	4
o	ostaviti	no	ostavljati	imperf	aphiēmi	‘leave’	25
o	osěniti	no	osěnjati	imperf	episkiazō	‘overshadow’	2
ob	obrěsti	no	obrětati	imperf	heuriskō	‘find’	26
otъ	otъpustiti	pustiti[10]	otъpuštati	imperf	aphiēmi, apoluō	‘let go’	41
otъ	otrěšiti	no	otrěšati	imperf	luō	‘untie, release’	11
po	pobiti	no	pobivati	imperf	lithoboleō	‘pelt (with stones)’	4
po	pověděti	no	povědati	**neutral**	apaggellō	‘report’	13
po	pokloniti	(klanjati)[11]	poklanjati	imperf	proskuneō	‘bow’	2
po	položiti	no	polagati	imperf	tithēmi	‘put’	18
prě	prěbyti	no	prěbyvati	imperf	menō	‘remain’	33
prě	prědati	no	prědajati	imperf	paradidōmi	‘betray’	32
prěd	prědъložiti	no	prědъlagati	imperf	paratithēmi	‘lay before, offer’	3
pri	približiti	no	približati	imperf	eggizō	‘approach’	8
pri	priglasiti	no	priglašati	imperf	prosphōneō	‘summon’	2

[9] Present-tense forms only.

[10] Also suffix-derived *puštati* with *apoluō*

[11] Unprefixed, suffix-derived verb.

pri	priděti	no	pridějati	imperf	prospherō	'bring'	2
pri	prijęti	jęti[12]	priimati	imperf	lambanō, dekhomai	'take'	78
pri	pripasti	pasti	pripadati	imperf	prospiptō	'fall down before'	2
pri	pristǫpiti	no	pristǫpati	imperf	proserkhomai	'approach'	2
pro	propovědě ti	no	propověda ti	**mostly imperf**	kerussō	'proclaim'	41
raz	razděliti	no	razděljati	imperf	diamerizō	'divide'	3
raz	rastočiti	no	rastačati	imperf	diaskorpizō	'squander'	6
raz	razuměti	no	razuměvat i	imperf	suniēmi	'understand'	11
sъ	sъblazniti	blazniti	sъblažnjati	imperf	skandalizō	`tempt, lead astray'	19
sъ	sъbljusti	no	sъbljudati	imperf	terēō	'take care of, guard'	13
sъ	sъbьrati	no	sъbirati	imperf	sunagō	'gather'	25
sъ	sъzьdati	zьdati	sъzidati	imperf	oikodomeō	'build'	4
sъ	sъkrušiti	no	sъkrušati	imperf	suntribō	'ruin'	4
sъ	sъpasti	no	sъpasati	imperf	sōizō	'save'	2
sъ	sъtvoriti	tvoriti	sъtvarjati	imperf	poieō	'do'	2
u	ubiti	no	ubivati	imperf	apokteinō	'kill'	5
u	ubiti	no	ubijati	imperf	apokteinō	'kill'	2
u	umrěti	no	umirati	imperf	apothnēiskō	'die'	10
u	užasiti, užasnǫti	no	užasati	imperf	existēmi, thambeō[13]	'frighten'	15

Table 1. Prefixed verbs with suffix-derived partners

As we can see, even using this severely restricted method, we find a considerable number of prefixed and suffix-derived formations. We will look at the details of the tense-mood distribution of these formations in section 4, but we can already note that the overwhelming majority (46 out of 50) of these "secondary imperfectives" have no aorist or past participle attestations, and correspond to prefixed verbs that have no imperfect or present participle occurrences. They thus look like stable and well-established pairings, suggesting a productive and semantically homogeneous pattern. A caveat here is the relatively low frequency of most of these verbs: only ten of the paired prefixed derivate verb lemmas have a frequency of 20 or more, and 22 lemmas have a frequency below 5.

Turning to group 3, we find several pairs where the prefixed verb, at least in some contexts, acts as an equivalent perfective (completive) partner to the corresponding simplex, suggesting that the prefix is either "empty", or, more likely, overlaps with semantics already found

[12] Only with *lambanō*.

[13] Only with *užasnǫti*.

in the simplex verb,[14] i.e. pairs with a "natural" perfective partner. However, much more clearly than in group 2, we see that the method conflates these "natural" aspect pairs with pairs consisting of simplices and corresponding procedural prefixed verbs. In fact, the majority of pairs in this group are pairs of one prefixed procedural and one simplex. The prefixed partners are are mostly ingressive, as seen in *vъzljubiti, ljubiti* '(come to) love', but some are arguably complexive, as in *pomoliti, moliti* 'pray (for a while)' (for further discussion of complexives/delimitatives in OCS, see Eckhoff 2018).

Only 17 of the 46 pairs in group 3 can be argued to involve a "natural" perfective partner (with completive semantics) rather than a prefixed procedural partner (with ingressive or complexive semantics). These 17 pairs are listed in Table 2. In all the 17 pairs, the simplex has a prefixed partner with completive[15] semantics, such as in *sъtvoriti, tvoriti* 'make, do'. In example (1), the prefix does not make the verb ingressive or complexive, but clearly signals the completion of the event.

(1)	vy	že	**sъtvoriste**	i	vrъtъpъ	razboinikomъ
	you.NOM.PL	PTC	*s*ъ.make.*i*.AOR.2pl	it.ACC.SG	den.M.ACC.SG	robber.DAT.PL
	humeis	de	pepoiēkate	auton	spēlaion	lēistōn
	you.NOM.PL	PTC	make.PRF.2PL	it.ACC.SG	cave.ACC.SG	robber.GEN.PL

'But you have made it a den of robbers.' (Mar. Mk. 11.17)

prefix	prefixed	simplex	prefixed and suffix-derived	simplex status	Greek	gloss	simplex frequency
sъ	sъtvoriti	tvoriti	sъtvarjati	mostly imperf	poieō	`do'	302
sъ	sъnĕsti	jasti	no	neutral	esthiō	`eat'	195
sъ	sъdělati	dělati	no	neutral	ergazomai	`work, do'	22
sъ	sъpisati	pьsati	no	neutral	graphō	`write'	77
sъ	sъzьdati	zьdati	sъzidati	imperf	oikodomeō	`build'	16
sъ	sъblazniti	blazniti	sъbljažnjati	imperf	skandalizō	`tempt, lead astray'	4
na	napьsati	pьsati	no	neutral	graphō	`write'	77
na	naučiti	učiti	no	mostly imperf	didaskō	`teach'	92
vъz	vъzdrasti	rasti	no	imperf	auxanō	`grow'	12
vъ	vъsějati	sě(ja)ti	no	neutral	speirō	`sow'	63
za	zaprětiti	prětiti	zaprěštati	imperf	epitimeō	`rebuke'	22
iz	isprositi	prositi	no	neutral	aiteō	`ask for'	78
iz	icěliti	cěliti	icěljati	imperf	therapeuō	`heal'	24
u	umoliti	moliti	no	neutral	parakaleō	`implore'	157

[14] Known as the Vey-Schooneveld hypothesis.

[15] I.e. the event is described as completed, the inherent telos has been reached.

o	oženiti	ženiti	no	imperf	gameō	`marry'	15
pro	proklęti	klęti	no	neutral	kataraomai	`curse'	26
po	podaviti	daviti	no	imperf	pnigō	`choke'	1

Table 2. Possible pairs with natural perfectives

Since two of the pairs have the same simplex partner (*pьsati* 'write'), this yields 16 simplex verb lemmas known to occur in synonymous aspectual pairs. We can see immediately that they are different from the suffix-derived verbs in Table 1 in frequency and tense-mood distribution. While the apparent "secondary imperfectives" were usually low-frequency, many of these simplex verbs are quite frequent, some among the most frequent verbs in the Marianus/Zographensis dataset (*tvoriti, moliti*). They also have a clearly different tense-mood distribution than the prefixed "secondary imperfectives" do: Only seven of them come out as imperfective according to the classification method, all the rest have aorist and/or past-participle occurrences, as exemplified in Figure 2. As we see, *sъdělati* 'do' has no imperfect/present participle occurrences, whereas *dělati* 'do' occurs equally frequently in both inflectional aspects.

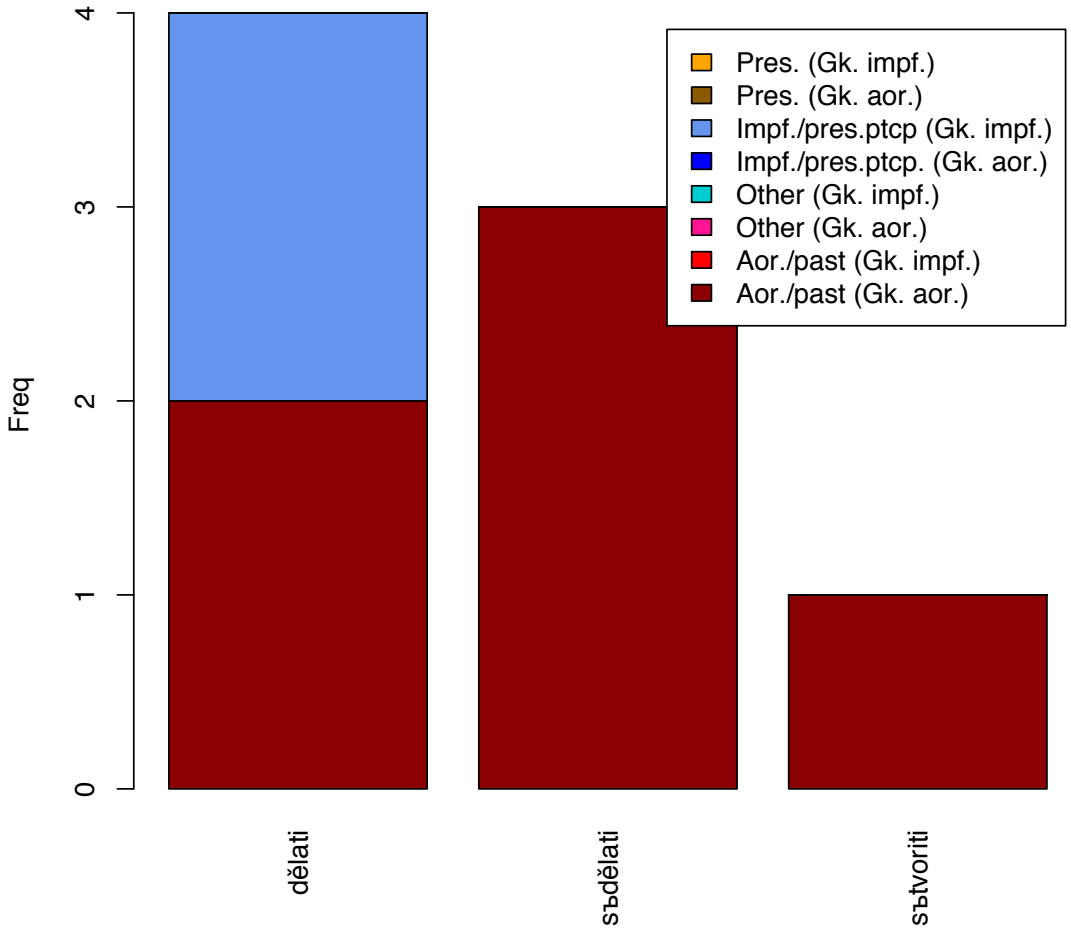

Figure 2: OCS translations of *ergazomai* 'do, work'

While a larger material would surely yield more partnerships of this type, the difference between the type of pairing found in Table 2 ("natural" perfectives with simplex partners) and the type of pairing found in Table 1 ("lexical" perfectives with suffix-derived partners) is striking. The difference in frequency between the two types would suggest that the "natural" pairs in Table 2 do not constitute a very productive pattern at this stage. The relationship between the partners also seems relatively loose: the prefixed underived partner reliably comes out as perfective, but the simplex partner is quite independent and is often attested to occur across the full run of verb subparadigms. It is also not entirely clear that the prefix merely makes the verb perfective and makes explicit a natural telos inherent in the verb. For example, *isprositi* 'ask for' consistently seems to mean 'ask for successfully, ask for and receive', adding a meaning that the simplex *prositi* 'ask, beg' does not have (2). The natural telos of *prositi* is presumably the completion of the request utterance, not to have the request granted.

(2)	sь	pristǫpь	kъ	pilatu	**isprosi**
	this.M.NOM.SG	approach.PSTPART.M.NOM.SG	to	Pilate.DAT	*iz*.ask.*i*.AOR3SG
	tělo	isvo			
	body.ACC.SG	Jesus.*ov*.NEUT.ACC.SG			
	houtos	proselthōn	tōi	Peilatōi	ēitēsato
	this.M.NOM.SG	approach.AORPART.M.NOM.SG	the	Pilate.DAT	ask.AOR3SG
	to	sōma	tou	Iēsou	
	the	body.ACC.SG.	the	Jesus.GEN	

'He went to Pilate to ask for the body of Jesus. (Then he took it down, wrapped it in a linen cloth, and placed it in a tomb cut into the rock, where no one had yet been laid.)' (Mar. Lk. 23.52)

We might therefore dismiss these simplex "partners" and conflate them with the category of "anaspectual" or "neutral" simplex verbs, as Kamphuis 2020 does.[16] However, given the further course of development in the Slavonic languages, that would be ignoring an important locus of change. We know that these verbs gradually joined the class of imperfectives. Surely this handful of attested "natural" pairs is where it all started. In the following I will therefore try to assess their status as it is attested in the Marianus and Zographensis. I will compare their tense-mood distribution both to the prefixed "secondary imperfectives" and a wider range of simplex verbs. I will also make a semantic comparison of prefixed "secondary imperfectives" and simplex "natural imperfectives".

As already pointed out, (presumably) aspectual triplets are well known to occur in the material. Even applying our strict Greek filter, five of the "pairs" in Table 2 turn out to be triplets: in each of these cases a single Greek verb is translated by a simplex, a prefixed underived verb and a prefixed suffix-derived verb, all with the same root. Amse-de Jong (1974, 27–28) argues that there is a large class of simplex verbs that can be interpreted as either telic or atelic, such as *jasti* 'eat'. Her claim is that for this class of verbs triplet formation is the natural situation, since prefixation is

[16] Note that Kamphuis 2020 accepts simplex verbs as perfective if they have a suffix-derived partner (Chapter 5).

the only way to spell out the telicity of the verb (as in *sъnĕsti, sъnĕdati*[17] 'eat (up)'), although full triplets are not attested for all of these verbs. Given the focus on imperfectives in this chapter, it is not a problem that there is no clear boundary between groups 2 and 3. The coexistence of simplex and suffix-derived partners in attested triplets lends support to the intuition that there must be some functional difference between them.[18]

4. Tense-mood distribution

In this section we will take a closer look at the tense-mood distributions of the two sets of potentially imperfective verbs.

In Table 3 the tense-mood distribution of the fifty prefixed "secondary imperfective" verbs with attested pairings in the Marianus-Zographensis dataset (as listed in Table 1, corresponding to group 2 in Appendix 1) are compared to a further 158 potential prefixed "secondary imperfectives" selected on morphological grounds (see Appendix 2 for full list and detailed selection criteria). The latter group was included for control, to be able to assess the effect of the strict pairing criterion as compared to a less restrictive morphological criterion. The table is organised according to the assumption that aorists and past participles are viewpoint-perfective forms, imperfects and present participles are viewpoint-imperfective forms, while l-forms, supines, infinitives, imperatives and present-tense forms are aspectually neutral forms.

		paired	unpaired
viewpoint-perfective forms	aorist	0.9	4.6
	past active participle	0	1.4
	past passive participle	0.7	0
subtotal		1.6	6.0
viewpoint-neutral forms	l-form	0	0.3
	supine	0.3	0.3
	infinitive	5.8	7.2
	imperative	3.9	6.4
	present	39.4	41.3
subtotal		49.4	55.5
viewpoint-imperfective forms	imperfect	18.7	15.2
	present active participle	21.5	20.4
	present passive participle	8.8	2.9
subtotal		49.0	38.5

Table 3. Tense-mood distribution of prefixed, suffix-derived verbs, paired and unpaired, sorted by the aspectual nature of the tense-mood forms. Per cent

[17] The verb is attested in both Marianus and Zographensis, but only translating Greek prefixed *katesthiō* 'devour' (Matt. 23.13, Luke 20.47), and hence it is not recognised as a part of a triplet using the strict Greek filter of this chapter.

[18] See also Janda et al. 2013, Chapter 6, for an extensive discussion of triplets in modern Russian, which concludes that the secondary imperfective partner is favoured for descriptions of repeated telic events. Curiously, Table 1 throws up several examples of "triplets" where the simplex is seemingly *perfective*. I will not discuss these further.

We see immediately that there is a strong preference for the viewpoint-imperfective forms for both groups (48.7% for the paired verbs and 38.3% for the unpaired). We also see a strong preference for the present tense. The distribution of the unpaired set is very similar to what Kamphuis (2020, 138–139) reports for this category ("Ipf prefixed" in his terms), while the paired set is closer to the expected situation with hardly any aorists or past participles. The exceptions in the paired set are all well-known and discussed repeatedly in the literature, and do not look like convincing and interpretable aspect "mismatches".

Aorists and past (passive) participle occurrences are found with only four verbs in the paired set, and interestingly, none of these look like "true" aspect mismatches ("imperfective aorists") – the meaning is not iterative-complexive (do something repeatedly for a bounded time period) as one might expect. Two of them are verbs in *-vědati*: *povědati* 'report', which has a number of aorist occurrences and comes out as neutral in the classification, and *propovědati* 'proclaim', which has three past passive participle occurrences in an otherwise imperfective-looking profile.

(3)	i	vъzvraštьše	sę	apli	**povědašę**
	and	return.PSTPART.M.NOM.PL	REFL	apostles.nom	*po*.tell.*aj*.AOR3PL
	emu	eliko	sъtvorišę		
	he.DAT	all-that	*sъ*.do.*i*.AOR3PL		
	kai	hupostrepsantes	hoi	apostoloi	diēgēsanto
	and	return.AORPART.M.NOM.PL	the	apostles.NOM	tell.AOR3PL
	autōi	hosa	epoiēsan		
	he.DAT	all-that.NEUT.ACC.PL	do.AOR3PL		

'On their return the apostles told him all that they had done' (Mar. Lk. 9.10)

(4)	ideže	ašte	**propovědano**	bǫdetъ	evaglie
	where	ever	proclaim.PASTPART.PASS.NEUT.NOM.SG.	be.FUT3SG	gospel.NOM
	se.	vъ	vьsemь	mirě	rečetъ
	this.NEUT.NOM.SG	in	all.M.LOC.SG	world.LOC	say.PRS3SG
	sę	i	eže	sъtvori	si
	REFL	also	which.NEUT.ACC.SG	*sъ*.do.*i*.AOR3SG	this.F.NOM.SG
	hopou	ean	kērukhthēi	to	euaggelion
	where	ever	proclaim.AOR3SG.SUBJ.PASS	the	gospel.NOM
	touto	en	holōi	tōi	kosmōi
	this.NEUT.NOM.SG	in	whole.M.DAT.SG	the	world.DAT
	lalēthēsetai	kai	ho	epoiēsen	autē
	say.FUT3SG.PASS	also	what.NEUT.ACC.SG	do.AOR3SG	she.NOM

‘wherever this gospel is proclaimed in the whole world, what she has done will also be told (in memory of her)’ (Zogr. Mt. 26.13)

As Kamphuis (2020, 257–261) points out, *-vědati* partners of prefixed *-věděti* verbs generally have deviant behaviour, as the aorist forms of both partners appear to be used indiscriminately. Even though the other two verbs of this type in Table 1, *ispovědati* and *propovědati* have no aorist occurrences in the Marianus/Zographensis material, they are both attested in the aorist in other codices, see Kamphuis’s examples (295) and (297) from Codex Assemanianus. Another known deviant verb is *vъprašati* ‘ask’, which has a single aorist occurrence in this material (5).

(5)	**vъpraša**	že	godiny	otъ	nixъ.	vъ	
	vъ.ask.aj.AOR3SG	but	time.GEN	from	they.GEN	in	
	kǫjǫ	sulěe	emu	bys			
	which.F.ACC.SG.	better	he.DAT	be.AOR3SG			
	eputheto	oun	tēn	hōran	par’	autōn	en
	ask.AOR3SG	so	the	time.ACC	from	they.GEN	in
	hēi	kompsoteron	eskhen				
	which.F.DAT.SG	better	have.AOR3SG				

‘So he asked them the hour when he began to get better’ (Mar. Jh. 4.52)

There are also six aorist occurrences of the verb in the Codex Suprasliensis, which leads Amse-de Jong (1974, 150–154) to conclude that it is not in fact a prefixed verb, instead she believes that the verb is derived from the noun *vъprosъ* ‘question’, see also Kamphuis 2020, 184–185. Finally, *opravьdati* ‘justify’ has two past passive participle occurrences (6). It also has a past passive participle occurrence in the Psalterium Sinaiticum (18.10) and a past active participle occurrence in the Euchologium Sinaiticum. All of these occurrences seem to refer to a single completed act of justification, and do not appear to be e.g. iterative-complexive (i.e. a temporally bounded set of repetitions, included in the assertion time) , as we might expect of a true “mismatch” example.[19]

(6)	sъnide	sь	**opravъdanъ**	vъ	domъ
	sъ.GO.AOR3SG	this.M.NOM.SG	*o*.justify.*aj*.PASTP.PASS.M.NOM.SG	in	house.ACC
	svoi	pače	onogo		
	own.M.ACC.SG	more	that.M.GEN.SG		
	katebē	houtos	dedikaiōmenos	eis	ton
	go-down.AOR3SG	this.M.NOM.SG	vindicate.PERFPART.M.NOM.SG	in	the
	oikon	autou	ē	gar	ekeinos
	house.ACC	he.GEN	than	hence	that.M.NOM.SG

‘(I tell you that) this man, rather than the other, went home justified before God.’ (Mar. Lk. 18.14)

[19] It is interesting to note that this verb is in fact perfective in several of the modern Slavonic languages, such as Croatian, Russian and Serbian.

Apart from these few deviant verbs, then, the attested partnerships appear to be stable, each partner sticking to the perfective[20] or the imperfective set of inflectional forms, respectively. The data from this group demonstrate that secondary imperfectivisation was well-established by the time of OCS, and not a later development, as Wiemer and Seržants (2017, 267) suggest, even though several of the more productive modern Slavic suffixation patterns were yet to be established.

Let us now compare the tense-mood distribution of the 16 confirmed paired simplex "imperfectives" (as listed in Table 2) with that of unpaired[21] simplices (such as *sъlati* 'send', which is not attested as partnered by a prefixed verb using the Greek filter method) and simplices that are paired with suffix-derived verbs (such as *dati* 'give' which is confirmed to be partnered by *dajati* 'give' by the Greek filter method), and which may therefore be expected to prefer viewpoint-perfective forms over viewpoint-imperfective ones.[22] Table 4 shows that the differences are quite striking between the three groups.

		simplex paired with prefixed verb	unpaired simplex	simplex paired with suffixed verb
viewpoint-perfective forms	aorist	6.9	29.1	27.1
	past active participle	2.1	4.7	17.8
	past passive participle	6.9	1.4	2.7
subtotal		15.9	35.2	47.6
viewpoint-neutral forms	l-form	1.4	1.4	0.4
	supine	0.5	0.4	2.7
	infinitive	13.7	4.3	11.6
	imperative	6.6	6.2	5.4
	present	29.3	28.3	26.0
subtotal		51.5	40.6	46.1
viewpoint-imperfective forms	imperfect	13.9	8.9	0.0
	present active participle	18.4	15.1	6.2
	present passive participle	0.2	0.4	0.0
subtotal		32.5	24.4	6.2

[20] The prefixed underived verbs in this group are not discussed in detail in this chapter, but as can be seen in the full classification found in Eckhoff and Haug's (2015) supplementary material D, only one of them has any occurrences in viewpoint-imperfective forms, and that is *razuměti* 'understand', which is also noted as a deviant verb by Kamphuis (2020, 219–221).

[21] I.e. not attested with a non-procedural prefixed partner according to the Greek filter in Marianus and Zographensis. The simplices were identified using the tagging available in Eckhoff and Haug's (2015) dataset.

[22] It is well known that these verbs end up as perfective in most modern Slavonic languages, but the data suggest that this may not be the case yet in OCS.

Table 4. Tense-mood distribution of simplex verbs, paired with prefixed verb, unpaired and paired with suffix-derived verb

Simplex verbs with attested prefixed partners identified by the Greek filter do appear to be the most imperfective-like of these three groups, and therefore only they will be discussed in detail here. Nevertheless, even they occur across all the inflectional subparadigms of the OCS verb system, in viewpoint-imperfective, viewpoint-perfective as well as neutral forms. When they occur in viewpoint-perfective forms they may either have completive (7), complexive (8) or ingressive (9) semantics, depending on whether the verb has been interpreted as telic or atelic. In (7), *tvori* 'did' appears to have a telic interpretation, as we know from context that David completed a single action on this occasion (he stole and ate the consecrated bread from the temple), and we can also note that the parallel passage in Marianus has prefixed *sъ-tvori* 'did'.

(7)	něste	li	čьli.	čьto	**tvori**	
	not be.PRS2PL	PTC	read.L-PART.M.PL	what.N.ACC.SG	do.*i*.AOR3SG	
	dadъ.	egda	vъzlaka	samъ.	i	
	David.NOM	when	*vъz*.hunger.*a*.AOR3SG	self.M.NOM.SG	and	
	sǫštei	sъ	nimь.			
	be.PRSPART.M.NOM.PL	with	he.M.INST.SG			
	ouk	anegnōte	ti	epoiēsen	Daueid	hote
	not	know.AOR2PL	what.N.ACC.SG	do.AOR3SG	David	when
	epeinasen	kai	hoi	met'	autou	
	hunger.AOR3SG	and	the.M.PL.NOM	with	he.GEN.SG	

'Haven't you read what David did when he and his companions were hungry?' (Zogr, Mt. 12.3)

In (8), no telic interpretation of *plakati* 'cry' is available, and the example is best interpreted as complexive 'we cried for a while', which is the expected, uncoerced outcome for a viewpoint-perfective form of an atelic verb (the whole runtime of the event is included in the assertion time), as in the Greek counterpart.

(8)	**plakaxomъ**	vamъ	i	ne	rydaste
	cry.*a*.AOR1PL	you.DAT.PL	and	not	wail.*aj*.AOR2PL
	ethrēnēsamen	kai	ouk	ekopsasthe	
	mourn.AOR1PL	and	not	wail.AOR2PL	

'We cried, but you did not wail.' (Mar. Mt. 11.17)

In (9), *plakati* 'cry' is still not telic, but appears to have been reinterpreted as ingressive (the beginning of the crying event is included in the assertion time), as in the Greek counterpart: Peter went out, and *then* he started crying bitterly.

(9)	i	išedъ	vonъ	**plaka**	sę	gorьko
	and	*iz*.walk.PSTP.M.NOM.SG	away	cry.*a*.AOR.3SG	REFL	bitterly
	kai	ekselthōn	eksō	eklausen	pikrōs	
	and	go-out.AORP.M.NOM.SG	out	weep.AOR.3SG	bitterly	

'And he went outside and wept bitterly.' (Mar.Mt. 26.75)

However, we saw in Table 2 that several of these simplices have no aorist or past-participle occurrences and may thus possibly have specialised with viewpoint-imperfective (and neutral) forms (*zьdati* 'build', *blazniti* 'tempt', *rasti* 'grow', *prětiti* 'rebuke', *cěliti* 'heal', *ženiti* 'marry', *daviti* 'choke'). We also see (Table 5, rightmost column) that although there are many more viewpoint-perfective forms on average in the group of simplex verbs paired with prefixed verbs than in the two groups of prefixed derivates (15.9% vs. 2% and 6%), and these are also interpretable as reasonable combinations of the verb's telicity and the aspect of the inflectional form, it is still a much smaller share than we see in the two other simplex groups (35.2% and 47.6%).

	viewpoint-imperfective forms	neutral forms	viewpoint-perfective forms
paired prefixed derivates	49.0	49.4 (39.4 present)	1.6
unpaired prefixed derivates	38.5	55.5 (41.5 present)	6.0
simplex paired with prefixed verb	32.5	51.5 (29.3 present)	15.9
unpaired simplex	24.4	40.6 (28.3 present)	35.2
simplex paired with suffix-derived verb	6.2	46.1 (26.0 present)	47.6

Table 5. Distribution of verb classes across viewpoint-imperfective, viewpoint-perfective and neutral forms, per cent (corresponding to the subtotals of the more detailed data in Table 3 and 4)

As the three bottom rows of Table 5 demonstrate, there is no reliable way of splitting the simplices into groups of imperfective, neutral and perfective verbs. The Greek filter method used here obviously misses a number of pairings, and also shows us that the pairing in itself is not enough – many simplices paired with a prefixed partner may clearly occur in the viewpoint-perfective inflectional forms, as demonstrated above, and even simplices paired with suffix-derived verbs may sometimes occur in viewpoint-imperfective inflectional forms, as in (10), which has clear telic-iterative semantics.

(10)	i	ne	**daděaše**	nikomuže	mimo nesti

and	not	give.IMPERF3SG	no one.DAT	past carry
sъsǫdъ	skvozě	crkvъ		
vessel.ACC	through	temple.ACC		
kai	ouk	ēphien	hina	tis
and	not	let.IMPERF3SG	that	anyone.M.NOM.SG
dienegkēi	skeuos	dia	tou	hierou
carry-through.AOR3SG.SUBJ	vessel.ACC	through	the	temple.GEN

'And he would not allow anyone to carry anything through the temple. '(Mar. Mk. 11.16)

On the whole, then, the attested partnerships between simplices and prefixed verbs thus seem to be less stable and less obligatory than the partnerships in group 2, and many simplices had clearly not specialised with the imperfective aspect. The results in Table 5 nonetheless suggest that this was changing and that groups of imperfective and perfective simplex verbs were emergent in the Marianus and Zographensis dataset, even though the neutral simplices still dominate.

When we compare the tense-mood distribution of prefixed derivates and paired simplices, Wiemers and Seržant 's view of the chronology of the development (2017, 267) seems unlikely. They assume that an imperfective function first arose with simplex partners of prefixed perfective verbs, and that this function was then extended to the "secondary" prefixed and suffix-derived verbs. The data from OCS suggest the opposite – in the earliest sources the prefixed derivates had a well-established and quite productive imperfective function, while the paired simplices were much rarer and had only partially specialised in an imperfective function.

5. Aspectual readings

So far we have been dealing with strictly quantitative data based on counts of fairly uncontroversial morphologically annotated data. However, if our two main groups of possibly imperfective verbs, the paired prefixed derivates (such as *prědajati* 'betray') and the simplices paired with prefixed verbs (such as *pьsati* 'write'), are functionally different, it would be of great interest to know if they also behave differently with respect to the usual subtypes of imperfective readings. This is especially important since there are somewhat competing claims in the literature. Maslov (1958, 471–473) assumes that the prefixed, suffix-derived verbs of the *izbirati* type must first have developed to express processual/progressive readings of telic (terminative) verbs. Wiemer and Seržant (2017, 270–271) stress the early need to express iterative/habitual/generic meanings, and also that the tendency to form triplets pushed the prefixed and suffix-derived formations towards specialisation with an iterative meaning. I have therefore annotated every occurrence of the lemmas in question with the set of tags outlined in Table 6. Since some of the verbs occur in viewpoint-perfective inflectional forms there are also tags for typical perfective readings.

	Tag	Definition	Example
Continuous	progressive	the event is described as dynamic and ongoing, if there	14, 15

		is a telos, it has not yet been reached	
	conative	the event is described as an attempt to reach the inherent telos, but the telos has not (yet) been reached	da sъnidetъ i **cělitъ** sna ego 'that he would come and (try to) heal his son' (Zogr. Jh. 4.48)
	stative	the event is described as changeless	i **prebyvaaše** němъ 'and he remained mute' (Zogr. Lk. 1.22)
Habitual	generic	the event is described as typical or habitual	kъto možetъ **otъpuštati** grěxy 'who is able to forgive sins' (Zogr. Lk. 5.21)
	iterative	the event is described as repeated	10
Perfective	completive	the event is described as completed, the inherent telos has been reached	7
	complexive	the event is described as temporally bounded, no telos has been reached	8
	ingressive[23]	the event is described as a change from non-activity to activity	9

Table 6. Tags for aspectual reading subtypes

Applying these tags to a text material of this type is naturally not easy, and there are many ambiguous contexts. I have therefore often suggested an alternate semantic tag for the same context.[24] The ambiguity is sometimes between two of the three main classes. In (11), the example can be interpreted as either continuous or habitual (more specifically progressive or iterative), while in (12) it could be either habitual or perfective, more specifically generic or completive – something Jesus *will* do or is *able* to do. However, ambiguities between the subtypes of each class are much more common, in particular it is difficult to make a clear distinction between generic and iterative, as there are a number of ambiguous examples such as (13), where the event is clearly repeated, but also described as typical behaviour.

(11) i zaprěštaję ne **dajaše** imъ glati

[23] It is well known that OCS imperfects can sometimes yield ingressive interpretations. I would argue that this happens only when they follow an aorist or a past participle, and that it follows from the semantics of the aorist, since it moves the assertion time ahead and therefore makes it impossible to interpret the subsequent imperfect event as contemporaneous with the aorist event. I have therefore not tagged such seemingly ingressive imperfects with the ingressive tag, but with the appropriate continuous or habitual subtag. For further discussion, see Kamphuis 2020, 180, Eckhoff 2021b, 170–171.

[24] The tagged datasets are available in full at https://doi.org/10.18710/F79PSN, as is the general dataset and the R script used for the statistical work in this chapter.

and	rebuke.PRSP.M.NOM.SG	not	give-*aj*-IMPERF3SG	they.DAT	say
kai	epitimōn	ouk	eia	auta	lalein
and	rebuke.PRSP.M.NOM.SG	not	allow.IMPERF3SG	they.ACC	speak

'But he rebuked them and would not allow them to speak' (Mar. Lk. 4.41)[25]

(12)	koe	ubo	ty	tvoriši	znamenie	da	vidimъ
	what.NEUT.ACC.SG	then	you.NOM	do.PRES2SG	sign.ACC	so-that	see.PRES1PL
	i	věrǫ	imemъ	tebě.	čto	**dělaeši**	
	and	faith.ACC	take.PRES1PL	you.DAT what.ACC	what.ACC	do.PRES2SG	
	ti	oun	poieis	su	sēmeion,	hina	
	what	then	do.PRES2SG	you.NOM	sign	so-that	
	idōmen	kai	pisteusōmen	soi;	ti	ergazēi;	
	see.AOR1PL.SUBJ	and	believe.AOR1PL.SUBJ	you.DAT	what.ACC	do.PRES2SG	

'What sign then will you give that we may see it and believe you? What will you do?/What can you do?' (Mar. Jh. 6.30)

(13)	na	vьsjakъ	že	prazdьnikъ	**otъpuštaaše**
	on	every.M.ACC.SG	PTC	feast.ACC	*otъ*.release.*aj*.IMPERF3SG
	imъ.	edinogo	sъvęzьnja	egože	prošaaxǫ
	they.DAT	one.GEN-ACC	prisoner.GEN-ACC	who.M.GEN-ACC.SG	ask.*i*.IMPERF3PL
	Kata	de	heortēn	apeluen	autois
	at	PTC	feast.ACC	release.IMPERF3SG	they.DAT
	ena	desmion	hon	parēitounto	
	one.ACC	prisoner.ACC	who.M.ACC.SG	ask.IMPERF3PL	

'Now at the feast he used to release for them one prisoner for whom they asked.' (Mar. Mk. 15.6)

I will therefore provide both coarse-grained counts including only the three main classes (Table 7, 8) and fine-grained counts including all the subtypes (Table 9).

	prefixed derivate paired with prefixed verb	simplex paired with prefixed verb
continuous	24.5	16.7

[25] It is worth noting that the Zographensis has *daděaše* (imperfect of *dati*) in the corresponding passage, forcing an iterative reading.

habitual	57.4	60.4
perfective	1.2	18.0
continuous or habitual	16.6	4.5
continuous or perfective	0	0.1
habitual or perfective	0.3	0.3

Table 7. Main semantic types of paired imperfective candidates, per cent. Paired prefixed derivates: n=685. Paired simplices: n=1106

	prefixed derivate paired with prefixed verb	simplex paired with prefixed verb
continuous	168 (25%)	185 (20.5%)
habitual	393 (58.2%)	668 (74%)
continuous or habitual	114 (16.9%)	50 (5.5%)

Table 8. Main semantic types of imperfective candidates, unambiguously imperfective readings only

Let us first look at the coarse-grained classification in Table 7. As expected, the paired simplices are much more likely to have some kind of perfective semantics than the prefixed derivates (18% vs. 1.2%), as already exemplified in (8–10). The paired prefixed derivate examples with perfective semantics are all aorist and past passive participle occurrences of *pověda*ti 'report', *vъpraša*ti 'ask' and *opravъda*ti 'justify', including examples (3), (5) and (6). As pointed out in section 4, these verbs are generally exceptional in their behaviour.

When we look at imperfective readings only (Table 8), it is perhaps somewhat unexpected to find that paired simplices are more likely to have habitual semantics than the paired prefixed derivates if we look at imperfective semantics only – 74% versus 58.2 %. We also see that continuous semantics is found frequently with both groups, 25% (185) of the imperfective occurrences of the paired derivates have unambiguously continuous semantics (14), while the same is true for 20% (168) of the imperfective occurrences of the paired simplices (15). We are thus clearly not in a situation where the paired prefixed derivates have either lost or not yet gained the potential for progressive and other continuous readings.

(14)

Sъtъniku	že	eteru	rabъ	
centurion.DAT	PTC	certain.M.DAT.SG	servant.NOM	
bolę	zъlě	**umiraaše**		
be-ill.PRSP.M.NOM.SG	badly	*u*.die.*aj*.IMPERF3SG		
Hekatontarkhou	de	tinos	doulos	kakōs
centurion.GEN	PTC	some.M.GEN.SG	servant.NOM	badly
ekhōn	ēmellen	teleutan		
have.PRSP.M.NOM.SG	be-about-to.IMPERF3SG	die		

'Now a centurion had a servant who was sick and at the point of death' (Mar. Lk. 7.2)

(15) i **jadǫštemъ** imъ priemъ

and	eat.PRSP.M.DAT.PL	they.DAT	*pri*.take.PSTP.M.NOM.SG
isъ	xlěbъ	blgslveštъ	prělomi
Jesus.NOM	bread.ACC	bless.PSTP.M.NOM.SG	*prě*.break.*i*.AOR3SG

Kai	esthiontōn	autōn	labōn
and	eat.PRSP.M.GEN.PL	they.GEN	take.AORP.M.NOM.SG
arton	eulogēsas	eklasen	
bread.ACC	bless.AORP.M.NOM.SG	break.AOR3SG	

'While they were eating, Jesus took bread, and when he had given thanks, he broke it (and gave it to his disciples)' (Mar. Mk. 14.22)

When we look at the ambiguous cases, we see that most of the ambiguity is between continuous and habitual readings.

		prefixed derivate paired with prefixed verb	simplex paired with prefixed verb
unambigous readings	progressive	20.1	16.6
	conative	0.1	0
	stative	3.9	0
	iterative	24.1	13.2
	generic	26.1	43.2
	completive	0.7	11.7
	complexive	0	1.0
	ingressive	0	0
ambiguous readings within the main subtypes	progressive or conative	0.3	0
	stative or progressive	0	0.2
	iterative or generic	7.2	4.0
	completive or complexive	0.4	3.6
	ingressive or complexive	0	0.5
	ingressive or completive	0	1.1
ambiguous readings across the main subtypes	progressive or generic	0	0
	progressive or iterative	4.7	4.0
	stative or iterative	0.9	0
	generic or progressive	0.9	0.5
	generic or stative	10.2	0
	conative or completive	0	0.1
	generic or completive	0	0.2
	iterative or complexive	0.3	0.1
	iterative or completive	0	0.1

Table 9. Detailed semantic types of paired imperfective candidates, per cent

When we look at the fine-grained classification in Table 9, we see that progressive semantics is possible and common for both types, as already exemplified in (14) and (15). Unambiguous examples of other types of continuous semantics (conative, stative) are quite rare.

Iterative and generic readings are common for both types. For example, (16) has an explicitly iterative paired simplex (*moliti*), and (17) has an explicitly iterative paired prefixed derivate (*sъbirati*).

(16)	i	**moljaše**	i	mъnogo.	da	ne	
	and	beg.IMPERF3SG	he.ACC	much	that	not	
	posъletъ	ixъ	kromě	strany			
	po-send.PRS3SG	they.GEN-ACC	outside	land.GEN			
	kai	parekalei	auton	polla	hina	mē	auta
	and	beg.IMPERF3SG	he.ACC	much	that	not	they.ACC
	aposteilēi	ekso	tēs	khōras			
	send.SUBJ.AOR3SG	outside	the	land.GEN			

'And he begged him repeatedly not to send them out of the region' (Mar. Mk. 5.10)

(17)	množicejǫ	**sъbiraše**	sę	is.	tu	sъ
	repeatedly	*sъ*-gather-*aj*.IMPERF3SG REFL	Jesus.NOM	there	with	
	učeniky	svoimi				
	disciples.INST	REFL.POSS.M.INST.PL				
	pollakis	sunēkhthē	Iēsous	ekei	meta	tōn
	often	gather.AOR3SG.PASS	Jesus.NOM	there	with	the
	mathētōn	autou				
	disciples.GEN	he.GEN				

'(Now Judas, who betrayed him, knew the place, because) Jesus had often met there with his disciples.' (Mar. Jh. 18.2)

However, in the fine-grained classification in Table 9 we see that unambiguous iterative readings are much more common for the paired prefixed derivates (24.1%) than they are for the paired simplices (13.2%), while unambiguous generic readings are much more common for paired simplices (43.2% vs. 26.1%). While this particular distinction is a prominent source of ambiguity (7.2% of all paired prefixed derivates, 4% of all simpliced paired with a prefixed verb), the difference between the unambiguous occurrences of each type is statistically significant, as demonstrated in Table 10, and thus unlikely to be due to chance. It therefore seems likely that at this stage the prefixed derivates are the preferred way of expressing explicitly repeated events.

	prefixed derivates paired with prefixed verb	simplex paired with prefixed verb
iterative	165	146
generic	179	478

Table 10. Unambiguous iterative and generic occurrences of paired imperfective candidates, p-value< 0.0001 (Fisher's exact test, two-tailed)

As we saw above, this is expected given the existence of aspectual triplets – the "secondary" imperfectives can explicitly denote repeated, telic events, while the "natural" simplex imperfectives are underspecified for this semantics.

6. Conclusions

In this chapter I have compared the inflectional and semantic distribution of prefixed and suffix-derived verbs, possible "secondary imperfectives", and possible "natural" simplex imperfectives in OCS. Since it is clear that many verbs with the required derivational morphology do not behave as we expect from imperfectives, I strictly limited the main dataset to imperfective candidates in the Codices Marianus and Zographensis that demonstrably occurred as pairs (or triplets) using the Greek parallel as a criterion: If two same-stem OCS verbs were found to translate a single Greek verb they were considered a pair.

For these two sets of verbs I found clear distributional differences. It is clear that the paired prefixed derivates are more common in terms of type frequency: more pairs are attested. They also have a much more convincing imperfective distribution, overwhelmingly occurring in viewpoint-imperfective and neutral tense-mood forms. The paired simplices, on the other hand, are less type frequent (fewer pairs can be identified). However, while some of them seem to have specialised with viewpoint-imperfective tense-mood forms, many of them freely occur with viewpoint-perfective forms too., and appear to belong to a wider pool of "neutral" or "anaspectual" verbs. This suggests that this is a less productive and less stable pattern, and it seems unlikely that it would have preceded the "secondary" imperfective pattern diachronically and helped its spread, as Wiemer and Seržant (2017) suggest.

I also performed a semantic classification of all occurrences of the two types. While this is a challenging task, it was still possible to see that continuous (mostly progressive) and habitual readings were common for both types of verbs. Using a more fine-grained classification it was possible to see that the paired prefixed derivates were more likely to be used to describe iterative events, here understood as actually repeated events. The paired simplices could also be used for this, but were predominantly used for descriptions of generic events, here understood as typical or habitual, rather than explicitly repeated, events.

While the prehistoric development of the Slavonic aspect system must always be a matter of speculation, these findings support an account similar to Maslov's (1958), where the so-called "secondary" imperfectives were in fact the first grammaticalised imperfectives to arise, considerably antedating the "natural" simplex imperfectives, which seem to be in an emergent state in the early OCS sources. Semantically, it also seems unlikely that habitual (iterative) readings predate continuous (progressive) readings of the "secondary" imperfectives, as such readings were equally available for both types in the Marianus and Zographensis, and the increase in iterative readings appears to be a later (and perhaps primarily East Slavonic) phenomenon. Thus it seems fair to say that the "secondary" imperfectives were in fact "primary" in the history of Slavonic aspect, in the sense that they were the first to grammaticalise as imperfective and become a stable and productive pattern.

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Appendices

1. Slightly modified version of Eckhoff and Haug 2015’s Supplement E

Group 2: Prefixed verbs partnered by derived prefixed and suffixed verbs, also listed in full in Table 1
vъdvarjati, vъdvoriti
vъzbranjati, vъzbraniti
vъzvraštati, vъzvratiti
vъzglašati, vъzglasiti
vъzimati, vъzęti
vъzlagati, vъzložiti
vъprašati, vъprositi
vъstrъgati, vъstrъgnǫti
zaprěštati, zaprětiti
izbirati, izbьrati
isplьnjati, isplьniti
ispovědati, ispověděti
icěljati, icěliti
napajati, napoiti
naricati, narešti
načinati, načęti
obrětati, obrěsti
opravьdati, opravьditi
ostavljati, ostaviti
osěnjati, osěniti
otrěšati, otrešiti
otъpuštati, otъpustiti
pobivati, pobiti
povědati, pověděti
poklanjati, pokloniti
polagati, položiti
približati, približiti
priglašati, priglasiti
pridějati, priděti
priimati, prijęti
pristǫpati, pristǫpiti

propovědati, propověděti
prěbyvati, prěbyti
prědajati, prědati
prědъlagati, prědъložiti
razděljati, razděliti
razumevati, razuměti
rastačati, rastočiti
sъbirati, sъbьrati
sъblažnjati, sъblazniti
sъbljudati, sъbljusti
sъzidati, sъzьdati
sъkrušati, sъkrušiti
sъpasati, sъpasti
sътvarjati, sътvoriti
ubivati, ubiti
ubijati, ubiti
užasati, užasiti
užasati, užasnǫti
umirati, umrěti

Group 3: Prefixed verbs partnered by unprefixed, underived verbs, as well as the automatic aspectual classification of the simplex provided in Eckhoff and Haug (2015;207). The verb pairs in Table 2 constitute a subset of the pairs in group 3 (the ones where the prefixed partner was deemed to have completive semantics)
slyšati, uslyšati : ~pfv
tvoriti, sътvoriti : ~ipfv
znati, poznati : -ipfv
iskati, vъziskati : -ipfv
xotěti, vъzxotěti : ~ipfv
učiti, naučiti : ~ipfv
jasti, sněsti : ~neut
bojati, ubojati : -ipfv
bojati, vъzbojati : -ipfv
ljubiti, vъzljubiti : -ipfv
mošti, vъzmošti : ~ipfv
vъpiti, vъzъpiti : -ipfv
zvati, vъzъvati : ~pfv
prětiti, zaprětiti : -ipfv
slaviti, proslaviti : -ipfv
drьžati, udrьžati : -ipfv
sě(ja)ti, vъsě(ja)ti : ~neut
moliti, pomoliti : ~ipfv
prositi, isprositi : ~ipfv
moliti, umoliti : ~ipfv
alъkati, vъzalъkati : -ipfv

služiti, poslužiti : -ipfv
nenaviděti, vъznenaviděti : -ipfv
pьsati, napьsati : ~pfv
pьsati, sъpisati : ~pfv
radovati, vъzdradovati : -ipfv
rǫgati, porǫgati : -ipfv
ženiti, oženiti : -ipfv
kajati, pokajati : -ipfv
xraniti, sъxraniti : -ipfv
mazati, pomazati : -ipfv
rasti, vъzdrasti : -ipfv
žędati, vъždędati : -ipfv
žiti, ožiti : -ipfv
želěti, vъždelěti : -ipfv(<4)
dělati, sъdělati : ~neut
daviti, podaviti : -ipfv(<4)
plьvati, zaplьvati : -ipfv(<4)
klęti, proklęti : ~neut
zьrěti, vъzьrěti : -ipfv
glagolati, proglagolati : ~ipfv
cěliti, icěliti : -ipfv
zьdati, sъzьdati : -ipfv
skrъběti, oskrъběti : -ipfv
blazniti, sъblazniti : -ipfv(<4)
gněvati, razgněvati : -ipfv(<4)

3b: unprefixed, underived verb partnered by prefixed, suffix-derived verb
gybati, pogybnǫti

Group 4: Unprefixed, underived verbs partnered by unprefixed derived verbs
dajati, dati
imati, jęti
krьštati, krьstiti
kupovati, kupiti
padati, pasti
plьvati, plinǫti
puštati, pustiti
saždati, saditi
svęštati, svętiti
tružďati, truditi
tlěšti, tlъknǫti

2. Potential secondary imperfectives
In addition to the paired prefixed derivates, the verb lemmas listed below were considered possible secondary imperfectives and were used for the statistics in Table 3. The lemmas are

transliterated but not glossed, and notation on the form #1, #2 indicates variant numbers in the PROIEL/TOROT lemmatisation (i.e. there are several homophonous lemmas). The verbs were chosen primarily on the basis of their morphological characteristics – they had to be prefixed and have a base verb that was clearly suffix-derived from another known base verb. A number of exclusions were then made, many of which are debatable – the list could have been longer or shorter. The main criteria for exclusion were:

- all motion verbs, гонити|гънати were taken to be motion verb pair
- verbs that were lemmatised as a single lemma ending in *-ati*, but showed evidence of both *-a-* and *-aj-* suffixation and were difficult to split
- verbs with other kinds of unclear derivation status
- some frequent verbs verbs that showed no sign of being imperfective despite their morphology, such as *otъvěštati* 'answer'

blagověštati, blagoslovljati, vъdajati, vъžagati, vъžidzati, vъzvěštati, vъzdajati, vъzdyxati, vъzlivati, vъzlijati, vъzmagati, vъlagati, vъlivati, vъmětati, vъměštati, vъnimati, vъskrěšati, vъslěpati, vъspriimati, vъstajati, vъstrьdzati, vъsxytati, vъsxyštati, dosaždati, zavěštavati, zavěštati, zavęzati, zaklinati, zapovědati, zatvarjati, izbyvati, izdajati, izdyxati, iskušati, istirati, istrěbljati, istędzati#1, isъxati, nadějati, nazirati, nakladati, napadati, nastǫpati, nedomyšljati, obimati, oblizati, obličati, oblobyzati, obujati, obrězati#2, oběštati, odějati, ozirati, okušati, omyvati, ostǫpati, osǫždati, otvrьzati, otirati, otъvěštavati, otъmetati, otъmětati, otъricati, otъtręsati, otьmati, otęgъčati, uvěštati, ugasati, ugnětati, udvarjati, ukrěpljati, umyvati, uničьžati, upivati, usramljati, utapati, utvrьždati, utěšati, utěštati, očěždati, očištati, poglъštati, pogrěbati, pogrǫžati, pogybati, podavljati, podvižati, podvidzati, podražati, podъkopavati, podъlagati, poimati, pokryvati, pokyvati, pomavati, pominati, pomyšljati, poučati, popirati, posagati, posramljati, postavljati, postilati, posylati, posěkati, počrьpati, pojadati, prizyvati, prikasati, prikryvati, pristavljati, prodajati, prozirati, prozębati, prolivati, prolijati, prosvěštati, protrьdzati, prošibati, prěgybati, prědъpolagati, prěklanjati, prělijati, prěpirati, prěrěkati, prěstajati, prěstǫpati, prětrьdzati, razarjati, razbivati, razvraštati, razvrьzati, razdajati, razlǫčati, rastrьdzati, rasǫždati, raširjati, svęštati, sramljati, sъbyvati, sъvěštavati, sъvěštati, sъgarati, sъgrěšati, sъžidzati, sъzirati, sъzyvati, sъkryvati, sъlagati, sъmirjati, sъměrjati, sъmǫštati, sъnimati, sъnědati, sътędzati, sътǫžati