ON DERIVATION-INFLECTION CHARACTER OF BULGARIAN ASPECT

1. Introduction

The category of aspect dominates Bulgarian verb morphology in the sense that each verb in Bulgarian is either perfective or imperfective. Moreover, perfective verbs have a reduced paradigm and cannot serve as bases for the present active participle, the gerund, the negative imperative, and the -ne verbal noun. However, whereas the aspect of basic verbs (primary imperfectives, henceforth IMPFV1, and primary perfectives, henceforth PFV1) is not expressed by special morphological means, that of others (prefixed perfectives, henceforth PFV, suffixed perfectives, henceforth -n-PFV, and secondary imperfectives, henceforth IMPFV2) is, i.e. perfectivization attaches either particular prefixes or the suffix -n- to IMPFV1 verbs, while IMPFV2 verbs are built from PFV1, PFV and -n-PFV verbs by particular suffixes. In other words, verbal aspect includes the following two derivations, each based on the other: IMPFV1 → PFV & -n-PFV (i.e. perfectivization) → IMPFV2 (i.e. imperfectivization). Curiously, in the literature on derivation and inflection, the derivation of perfective versus imperfective verbs has been classified differently: perfectivization has been seen as derivation, but imperfectivization as inflection, perfectivization being the more problematic change. According to Dahl (2000, 17) perfectivization (‘perfectivity’ in his terminology) is the most characteristic feature of ‘Slavic-style aspect’, since “[Slavic-style aspect] differs from typologically more common manifestations of perfectivity (i) by being less narrowly tied up with time reference, (ii) by displaying somewhat different semantics, which seems more closely related to Aktionsart or actionality distinctions, traditionally connected with the inherent semantics of the verb as a lexical item’. Thus taking into consideration the fact that PFV and -n-PFV verbs differ semantically from IMFV1 verbs that serve as their bases, whereas perfectives and the IMPFV2 verbs formed from them do not, the category has been split into derivation and inflection and thus differs from all other morphological categories which, by rule, show a uniform status, being either inflectional or derivational.

In what follows, merging formal, functional and cognitive strategies, with emphasis on the formal ones, I will try to demonstrate that the cat-

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1 I would like to thank Pier Marco Bertineto and Wolfgang U. Dressler for useful comments and insightful suggestions on an earlier draft. All remaining errors are mine. This research was made possible by the financial support of the Jubilee Foundation of the Austrian National Bank, Grant P-10366. Their support is gratefully acknowledged.
egory of verbal aspect, though on the boundary between derivation and inflection, is best described as inflection.

The article has the following structure: section 2 gives a brief overview of Bulgarian verb inflection and illustrates the synthetic part of the paradigm of Bulgarian verbs; section 3 defines aspect; the next three sections are devoted to the formal properties of IMPFV1 and PFV1 (section 4), PFV and \(-n\)-PFV (section 5) and IMPFV2 verbs (section 6), the different types of verbs being defined in terms of prototypical forms; section 7 discusses the aspectual behavior of verbs having foreign bases; section 8 demonstrates that aspectual affixes differ from derivational affixes; in section 9, both perfectivization and imperfectivization are evaluated against a set of criteria traditionally used for demarcation of derivation and inflection (for a similar approach to Russian aspect, see Percov 1998). Among the demarcation criteria, special attention is paid to those of inflection class change and paradigmatic organization. Section 10 summarizes the discussion and draws conclusions.

2. Bulgarian verb morphology

Bulgarian verb morphology is the most complex among Slavic languages. Besides aspect, Bulgarian verbs exhibit the following morphosyntactic features: person (3), number (2), tense (9), mood (3)\(^2\), voice (2), and mode of expression (2), the latter referring to evidentiality. Moreover, in contrast to other Slavic languages, Bulgarian has no restrictions on the combination of tense and aspect, i.e. perfective verbs may be used in the imperfect tense as may imperfective verbs in the aorist (unlike Serbian and Croatian, for example) and all verbs, whether perfective or imperfective, have forms for the future tense (unlike Russian). These facts further increase the number of paradigm cells of Bulgarian verbs. Since in its diachronic development Bulgarian has lost the infinitive, the non-finite verbal forms now comprise only participles, gerunds and verbal nouns, and the 1\(^{st}\) singular present indicative has replaced the infinitive as a citation form of the verb. According to the termination of their present stems, the latter equating to 3 SG PRES IND, all verbs are distributed into three conjugation types: \(e\)-type, \(i\)-type and \(a\)-type\(^3\) (cf. table 1).

As for the paradigm of Bulgarian verbs (in the sense of Stump 2001, who equates a language’s inflectional morphology with its inflectional paradigm), the traditional criteria for inflection class assignment are based on the relation between the aorist and the present stem of the verb. Since

\(\text{footnote text}\)
\(^2\) Some linguists recognize more than three moods (cf. Kucarov 1999).
\(^3\) Conjugation type can also be determined by a practical rule involving the termination of the citation form, namely, verbs in \(-m\) are always \(a\)-type, verbs in \(-j\) are by default \(i\)-type and verbs in \(-a\) belong by default to the \(e\)-type (Manova 2006).
an inflection class is “a set of lexemes whose members each select the same set of inflectional realizations” (Aronoff 1994, 64), verbs from the same conjugation type can be allotted to different inflection classes as well. Table 1 illustrates the inflection class system of Bulgarian verbs.

As can be seen in table 1, verbal aspect (though dominating the verb paradigm, see section 1) is not taken into consideration for inflection class assignment, which can be explained by the following three facts: 1. Bulgarian represents right-hand-headedness, and prefixes that are the most usual perfectivizing device do not influence inflection class assignment; 2. all -n- perfectives enter e-type (2) class, and 3. all IMPFV2 verbs are a-type.

In sum, Bulgarian verb inflection is particularly rich. The Bulgarian grammar tradition acknowledges the central role of aspect in Bulgarian verb morphology but understands aspect as irrelevant to inflection class assignment.

Table 1: Bulgarian verbal inflection

<table>
<thead>
<tr>
<th>Conjugation</th>
<th>e-type</th>
<th>i-type</th>
<th>a-type</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRESENT 1SG</td>
<td>чет (‘I read’</td>
<td>пиная (‘I drink’</td>
<td>гружа (‘I play’</td>
</tr>
<tr>
<td>2SG</td>
<td>чите (‘you (sg) read’</td>
<td>пиная (‘you (sg) drink’</td>
<td>гружа (‘you (sg) play’</td>
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<tr>
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<td>пиная (‘he drinks’</td>
<td>гружа (‘he plays’</td>
</tr>
<tr>
<td>1PL</td>
<td>читам (‘we read’</td>
<td>пиная (‘we drink’</td>
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</tr>
<tr>
<td>2PL</td>
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<td>гружа (‘they play’</td>
</tr>
<tr>
<td>AORIST 1SG</td>
<td>читам (‘I read’</td>
<td>пиная (‘I drink’</td>
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<tr>
<td>IMPERFECT 1SG</td>
<td>читам (‘I read’</td>
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</tr>
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</tbody>
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3. Definition of aspect
Aspects are different ways of viewing the internal temporal consistency of a situation. The perfective events (1) are viewed from outside (Comrie 1976, 3), i.e. they are seen as bounded (Bybee et al. 1994, 54, 87) or attaining some limit in terms of Dahl (1985, 73-79), whereas imperfective events (2) are viewed from inside (Comrie 1976, 4). Consider the following examples from Bulgarian:

(1) *Dopisax*  
finish writing-PFV-AOR-1SG  
*pismo,* letter-DEF  
‘I finished writing the letter.’

(2) *Dopisax*  
finish writing-IMPFV-AOR-1SG  
*pismo,* *kogato toj dojde,* letter-DEF when he come-PFV-AOR-3SG  
‘I was finishing (writing) the letter when he came.’

Like the gender of the noun, verbal aspect is a classificatory category, i.e. without being morphologically marked for aspect, all basic verbs are classified as either perfective or imperfective, the greatest number of them being imperfective. We refer to basic imperfective verbs as primary imperfectives (IMPFV1). All IMPFV1 verbs can, however, unlike gender and with the help of morphological means, be perfectivized, and the derived perfective verbs then in turn can be imperfectivized. Verbs formed via perfectivization, due to their derived character and in order to be distinguished from IMPFV1 verbs, are called secondary imperfectives (IMPFV2).

Before starting the discussion on aspect, I would like to introduce the notion of prototype, with the help of which I will define the formal properties of the members of the category. I understand a prototype as carrying all salient characteristics of the category it represents (cf. Langacker 1987, 371). Prototypes play a significant role within the framework of Cognitive grammar wherein they explain phenomena concerning semantics. However, since a morphological category relates meaning and form, I will use prototypes for defining the formal expression of aspect as well.

Bulgarian is the inflecting-fusional type of language, in which a clear distinction is made between derivational and inflectional suffixes (Skalička 1979). According to this typologically specific feature and the principle of constructional iconicity (cf. Dressler 2000a) postulating correspondence between addition of meaning and form, if each of the possible affixes that can participate in the structure of a Bulgarian verb shows a single realization, the verb will have slots for the following affixes:

(3) PREF-ROOT-DSUFF-ASUFF-TM-ISUFF

In this structure, the prototypical function of the PREF slot is to host perfectivizing morphemes, whereas the ASUFF slot can be occupied either by perfectivizing or by imperfectivizing morphological material. Bulgarian verbal morphology, however, exhibits very few derivational suffixes, and the derivational slot of a Bulgarian verb is empty by default.
In other words, in Bulgarian, the prototype of an IMPFV1 verb is ROOT-TM-ISUFF. As for derived IMPFV1 verbs, the vast majority of them are biaspectual (see section 7 below) and do not use the ASUFF slot. Thus, ASUFFs, since usually added to non-derived verbs, are in the derivational slot of the verb. Taking into consideration these specific characteristics of Bulgarian verb morphology in regard to derivation, I refer to the following template as a prototypical form of a Bulgarian verb:

(4) PREF-ROOT-ASUFF-TM-ISUFF

With the help of this form, the prototypical forms of the members of the aspectual triple can be established (Manova 2002):

(5) IMPFV1: ROOT-TM-ISUFF  
PFV: PREF-IMPFV1  
IMPFV2: PREF-ROOT-ASUFF-TM-ISUFF

Let us look now more closely at the semantics of the category of aspect. As already mentioned, the PREF slot hosts perfectivizing material. However, a prefix when added to a base augments the latter with additional semantics and causes not only a change in aspect, but also a semantic change. For example:

(6) IMPFV1 piša ‘(I) write’, piši → PFV pre-piša ‘(I) copy out’, pre-piši

Here the translation of prepiša by to copy out, though expressing correctly the meaning, is somewhat misleading, as in Bulgarian, piša and prepiša are connected in the way to write and to rewrite correspond to each other in English, but to rewrite does not mean prepiša. Moreover, in Bulgarian, there exists a verb kopiram ‘(I) copy’ that is the equivalent of the English to copy. However, the verbs kopiram ‘(I) copy’ and its PFV mate prekopiram ‘(I) trace’ differ from piša and prepiša semantically. Kopiram and prekopiram require the use of a copying device or a special type of paper, whereas piša and prepiša do not. In Bulgarian, kopiram : prekopiram are, like piša : prepiša, related in terms of specificity, i.e. kopiram means copying in general, whereas prekopiram denotes a specific type of copying, namely tracing. Consequently, we will define the prototypical semantics of the members of the aspectual triple in terms of specificity: an IMPFV1 verb reveals an event as general, whereas a perfective verb specifies the event expressed by an IMPFV1 verb in a particular way.

The IMPFV2 mate of the above-cited PFV pre-piša ‘(I) copy out’ is pre-pis-v-a-m. Clearly, the IMPFV2 prepisvam ‘(I) copy out’, since derived from the PFV prepiša ‘(I) copy out’, cannot define a general event but simply denies the perfective aspect of a specified event and changes the perspective from outside to inside, according to the definition of the imperfective (see above). Note that even the mates of pairs such as piša : napiša, which are sometimes claimed to be formed by empty prefixes and
therefore to have exactly the same semantics, also differ in terms of specificity, i.e. piša ‘(I) write’ is the general event, while napisišta ‘(I) write (down)’ specified the event as completed. Verbs derived by empty prefixes are of particular importance for the aspectual systems of languages such as Russian and Serbo-Croatian, as in these languages, perfectives with empty prefixes do not have IMPFV2 counterparts. According to Dickey (2000, 8) many cognitively basic verbs (e.g. to eat, to drink, to go, to call, to build, to write, etc.) form aspectual pairs of this type. Although in Bulgarian linguistics, it is assumed that primary imperfective verbs and their respective perfective verbs always differ semantically (which is obviously true), verbs corresponding to the respective Russian and Serbo-Croatian verbs with empty prefixes have a somewhat restricted syntactic behavior in Bulgarian – such verbs cannot be used in the present actual and refer to future. Thus, da na-piša-PFV pismoto i idvam and na-pisvam-IMPFV2 pismoto i idvam both mean ‘I will write down the letter and come’. Consequently, such verbs, even if IMPFV2, cannot serve as the answer to the question ‘What are you doing?’ i.e. prepisvam ‘I copy out’ is a possible answer to this question, whereas napisvam ‘I write down’ is not.

The second question posed by the semantics of perfective verbs concerns their rather idiosyncratic meaning in comparison to the basic imperfective verbs that are their formal bases. This fact has been traditionally seen as evidence for the derivational character of the opposition IMPFV1 : PFV. Pairs such as IMPFV1 bija ‘(I) beat’ and PFV ubija ‘(I) kill’ belong to the most frequently cited examples of semantic idiosyncrasy in aspect change. According to Dickey (2000, 10), since bija and ubija (he discusses the Russian bit’ and ubit’) resemble lexical differences in other languages such as English, they cannot constitute an aspectual pair. Note, however, that for a native speaker of Bulgarian, bija and ubija are connected semantically in terms of specificity (i.e. as is usual for aspect): bija is the general action, whereas ubija is more specific and expresses the final result (completion) of too much beating (cf. (34) for the semantics of the prefix ub-). This can be illustrated with idiomatic expressions such as:

\[ (7) \quad \text{ubi ga} \quad \text{go} \quad \text{ot boj} \quad \text{kill-3SG-AOR him-ACC CLITIC from beating-SG} \]

\( \text{"(S)he beat him to death."} \)

\[ ^4 \text{Note that there is not much agreement in the literature as to whether empty prefixes exist. The problem has been discussed mainly in connection with Russian, cf. Ti-} \]

\[ \text{xonov (1998), Zaliznjak & Smeljov (2000) and Dickey (2000, 8). See also Janda (2004) who, on the basis of a cognitively oriented semantic investigation of 283 Russian verb clusters, establishes that most of the primary imperfectives denoting state (gnomic situation) or activity (process+repetition) have a PFV verb with an empty prefix. She calls such PFV verbs ‘natural perfectives’}. \]
Here the noun boj ‘beating’ is derived from the verb bija ‘(I) beat’.

Thus, if both the semantics and the form of the members of the aspectual opposition are taken into consideration, verbal aspect seems to be a kind of a paradoxical category: to the binary aspectual opposition PFV : IMPFV describing the semantics of the category members⁵, corresponds a triple opposition IMPFV₁ → PFV → IMPFV₂ covering the formal relations. Moreover, the relation between IMPFV₁ and PFV is one-to-many (from a single IMPFV₁ verb, one can build up to 18 PFV verbs), whereas that between PFV and IMPFV₂ is one-to-one (a PFV verb has, by rule, a single corresponding IMPFV₂ verb). The mismatch between the form and the semantics of verbal aspect results from the way the category has been presented in the literature. As already stated, one possibility is to assume two independent oppositions, i.e. IMPFV₁ → PFV that is derivation (also called actionality or Aktionsart) and PFV → IMPFV₂ that is inflection (i.e. aspect). The second possible presentation of the aspectual opposition is based on the fact that the imperfective is the semantically unmarked member of the category (Comrie 1976, 112). Thus, imperfective verbs (IMPFV₂) are assumed to be bases of PFV ones, and all IMPFV₁ verbs (more than 3500 verbs in Bulgarian) are left without PFV mates, except the very few instances where there is a PFV verb derived with an empty prefix, i.e. piša will have a PFV mate (napiša) but igraja ‘(I) play’, mislja ‘(I) think’, etc will not:

(8) Imperfective → Perfective
IMPFV₁ → either Ø or PFV with empty prefix
IMPFV₂ → PFV

This presentation strategy is the one most frequently used in grammars written by non-native speakers of Bulgarian (see, for example, Hauge 1999 and Alexander 2000), and it is clearly influenced by the presentation of Russian aspect. Recall that in Russian, PFV verbs such as napísil’ ‘to write (down)’ do not have IMPFV₂ counterparts, whereas in Bulgarian they do, and thus two IMPFV verbs, the IMPFV₁ piša ‘(I) write’ and the IMPFV₂ napísvam, would have had the same PFV mate napíša. Moreover, the interpretation of the derivation of aspect in (8) requires the formation of PFV verbs from IMPFV₂ verbs via subtraction, i.e. we have to delete form (the imperfective suffix (ASUFF)) in order to add semantics (perfectivity): PREF-ROOT-ASUFF-TM-ISUFF → PREF-ROOT-TM-ISUFF (see the discussion above, in this section, regarding the formal expression of IMPFV₂ and PFV). However, since the extremely unnatural and cognitively complex morphological rule of sub-

⁵ Of both the perfective and the imperfective, the imperfective is the semantically unmarked member of the equipollent (in terms of the Prague Linguistic Circle) opposition (cf. Jakobson 1984).
traction is very rare and cross-linguistically dispreferred (Dressler 2000b, Manova 2003), it is not very probable that Bulgarian verb morphology could have been largely based on it.

Bulgarian ne- verbal nouns suggest an additional argument for the non-basic (derived) character of the IMPFV2 verbs, i.e. for the incorrectness of (8). As already mentioned, in Bulgarian, ne- verbal nouns can be built only from imperfective verbs (regardless whether IMPFV1 or IMPFV2). Surprising to some extent, the Bulgarian ne- verbal nouns can remain for PFV verbs as well. Consider:

\[(9a) \text{Napi\v{s}a} \ p\text{ismo} \ i \ mu \ \text{pozv\=anix.} \]
\[\text{write-PFV-AOR-1SG letter-SG-DEF} \text{ and he-DAT-CLITIC ring up-PFV-AOR-1SG} \]
\[\text{‘I wrote the letter and rang him up.’} \]

\[(9b) *\text{Napi\v{s}a} \ p\text{ismo} \ i \ mu \ \text{pozv\=anix.} \]
\[\text{write-IMPFV2-AOR-1SG letter-SG-DEF and he-DAT-CLITIC ring up-PFV-AOR-1SG} \]
\[\text{‘I wrote the letter and rang him up.’} \]

\[(9c) \text{S\=led napi\v{s}vaneto} \ \text{na pismo} \ mu \ \text{pozv\=anix.} \]
\[\text{After write-IMPFV-NOUN-DEF of letter-SG-DEF he-DAT-CLITIC ring up-PFV-AOR-1SG.} \]
\[\text{‘After the writing of the letter, I rang him up.’} \]

Such examples undoubtedly show that in order to form a ne-verbal noun, one has to change the aspect of the verb from perfective to imperfective, i.e. PFV napi\v{s}a \rightarrow IMPFV2 napisvam and not vice versa. Therefore, it is expected that the derivation of the aspect follows the same direction.

Instances where perfectivizing prefixes either augment the bases to which they are added with the meaning of reflexivity or turn intransitive bases into transitive, supply additional evidence for the non-basic character of IMPFV2 verbs. In such cases, IMPFV2 verbs also exhibit the new features (cf. Andrejčin 1978, 142). Consider:

\[(10) \text{intransitive} : \text{transitive} : \text{transitive} \]
\[\text{IMPFV1 \v{z}ivoja ‘(1) live’} \rightarrow \text{PFV prez\=ivejoa ‘(1) experience’} \rightarrow \text{IMPFV2 prez\=ivjavam} \]
\[\text{(11) non-reflexive} : \text{reflexive} : \text{reflexive} \]
\[\text{stoja ‘(1) stand’} \rightarrow \text{s\=atoja se ‘(1) take place’} \rightarrow \text{s\=atojavam se} \]

Examples such as these show first, that PFV is the base of IMPFV2 and not vice versa and second, that IMPFV1 verbs differ from IMPFV2 verbs semantically. Moreover, if the representatives of Natural Morphology (cf. Dressler et al. 1987) are correct that what is more marked semantically is supposed to be more marked formally, then the reverse statement, i.e. what is more marked formally is more marked semantically should also be true, which would mean that IMPFV1 and IMPFV2 verbs represent two different types of imperfectivity. Therefore, I assume that the category of aspect is based on the triple opposition IMPFV1 : PFV : IMPFV2 whose members are derived from each other, i.e. IMPFV1 \rightarrow PFV \rightarrow IMPFV2. Since a derived item is always semantically more specific than its base (cf. Marchand 1964), I define IMPFV1 as being the
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unmarked form with generalized (least specified) semantics (i.e. inside perspective on a general event), PFV is more specific than IMPFV1 and expresses outside perspective on a particular event, and IMPFV2 is even more specific than PFV, as it cancels the outside perspective of PFV (see above). The general character of IMPFV1 can be illustrated with examples where PFV and IMPFV2 verbs can be substituted by IMPFV1 verbs:

(12a) Da prepiša pismoto i ideam.
    copy out-PFV-PRES-1SG letter-SG-DEF and come-IMPFV-PRES-1SG
    ‘When I copy out the letter, I will come.’

(12b) Prepišam pismoto i ideam.
    copy out-IMPFV2-PRES-1SG letter-SG-DEF and come-IMPFV-PRES-1SG
    ‘When I copy out the letter, I will come.’

In the colloquial style, both can be substituted with:

(12c) Pila pismoto i ideam.
    write-IMPFV1-PRES-1SG letter-SG-DEF and come-IMPFV-PRES-1SG
    ‘When I write the letter, I will come.’

Here we should also distinguish aspect from actionality (Aktionsart). We will do this according to the Slavic grammar tradition, i.e. Aktionsarts are groups of verbs defined semantically (e.g. static, resultative, inchoative, etc.). Verbs belonging to the same Aktionsart can be paired for aspect, e.g. semelfactive PFV pijna ‘(I) drink a bit’ → IMPFV pijvam, with the same semantics.

Now I will concentrate on each member of the aspectual triple as well as on verbs formed from foreign bases, since in regard to aspect the latter show some peculiarities in comparison to verbs from indigenous bases.

4. Basic verbs (IMPFV1 & PFV1)

Basic verbs are verbs that are not derived from other verbs, i.e. all non-derived verbs as well as verbs derived from nominal and adjectival bases, whether with or without derivational suffixes (i.e. only by addition of inflectional material such as ISUFFs, TMs or/and ASUFFs’ that is by conversion, cf. Manova 2003), are basic. For example:

(13) ADJ sin ‘blue’ → IMPFV1 sin-ja ‘(I) make sth/sh blue’, sin-i-i
    ADJ sin ‘blue’ → IMPFV1 sin-e-ja ‘(I) look blue’, sin-e-e-i

As mentioned above, the basic verb lexicon consists predominantly of IMPFV1 verbs, and there are only a few perfective verbs that are basic (I refer to such verbs as primary perfectives – PFV1). Different authors point out different numbers of primary perfective verbs in Bulgarian: according to the Bulgarian Academy Grammar and Maslov (1982, 204), there are some 50 PFV1 verbs, while Stojanov (1993) speaks of about 80 PFV1 verbs. The most frequently used PFV1 verbs can be found listed in


the Bulgarian Academy Grammar (§ 360). In Bulgarian, the only case of
PFV1 verbs derived from nominal and adjectival bases is that of verbs
built by the suffix -sa- (-sa- is of Greek origin) with allomorphs -jasa, -osa-, -isa-, -disa-. For example:

(14) N var 'lime' → PFV1 var-osam 'I whitewash', var-osasi
ADJ bjal 'white' → PFV1 bel-osam 'I whiten', bel-osasi

In sum, basic verbs in Bulgarian are IMPFV1 by default. The only case of
verbalization with perfective output exhibits the suffix -sa-. Since Bulgar-
rian has a very limited number of verbalizing derivational suffixes, the
prototype of a basic verb is ROOT-TM-ISUFF.

5. Perfectivization

As already noted, perfectivization is accomplished by prefixation or suf-
fixation, prefixation being the default type of expression.

5.1. The prototype of a PFV verb is PREF + IMPFV1, i.e. PREF-ROOT-
TM-ISUFF (note, however, that prefixes can be attached to PFV1 verbs as
well, e.g. PFV1 kupja '(I) buy' → PFV pod-kupja '(I) bribe'). Modern Bul-
garian possesses the following 18 perfectivizing prefixes (cf. the Bulgarian
Academy Grammar § 365):

(15) v(a)-, vâz-, do-, za-, iz-, na-, nad-, o(b)-, ot-, po-, pod-, pre-, pred-, pri-, pro-, raz-, s(a)-, u-

Perfectivizing prefixes were originally prepositions, and today only four
out of all eighteen prefixes, namely ob-, pre- pro- and raz-, are used as pre-
fixes only. As already discussed in section 2, the basic function of the pre-
fixes is to specify an action; prototypically prefixes orient an action in
time and space and correspond relatively well to their homophonous pre-
positions (Stojanov 1993, 320). The semantics of all perfectivizing pre-
fixes are listed in (16) through (34) below6. The definitions are based on
Andrejčin (1978) and Stojanov (1993). For the sake of completeness and
in order to illustrate the semantic relations between the perfectivizing
prefixes and their respective prepositions, after the definition of each pre-
fix, the definition of its respective preposition, if any, is also given.

(16) v(â)-:
  movement into (literally and figuratively), e.g. karam '(I) drive' → vkaram '(I)
  drive into'
  Cf. the meaning of vrat 'in, into' (spatially) or 'at, on' (temporally).

(17) vâz-:
  a) direction upwards (literal & figurative), e.g. xvalja '(I) praise' → vâxvalja '(I)
  elevate with praise'
  b) beginning, e.g. protivja se '(I) oppose' → vâzprotivja se '(I) be against, oppose'

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6 The translations of the semantics of prefixes, with a few exceptions, are those by
Scatton (1984, 291-6).
(18) **do-**: action to the very end, to definite limit, e.g. četa (I) read \(\rightarrow\) dočeta (I) finish reading (something)

When used as a preposition, *do* usually means ‘next to’, ‘as far as’, ‘approximately (no more than)’ or ‘before’.

(19) **za-**: a) movement or location behind, e.g. dårža (I) hold \(\rightarrow\) zadårža (I) hold back, restrain

b) beginning of action or state, e.g. peja (I) sing \(\rightarrow\) zappeja (I) begin to sing

c) result, e.g. piša (I) write \(\rightarrow\) zapija (I) note

d) change, e.g. mestja (I) move \(\rightarrow\) zamestja (I) substitute

The preposition *za* means ‘for’ (goal, use, purpose, intention of; consideration), ‘to be, as’ (selecting, appointing), ‘about’, ‘to’ (direction) or ‘by’.

(20) **iz-**: a) movement, motion out of, e.g. bjagam (I) run \(\rightarrow\) izbjagam (I) escape

b) action done to completion, exhaustion, e.g. pijja (I) drink \(\rightarrow\) izpija (I) drink up

c) complete change of state characterized by loss of some quality, e.g. krija (I) twist \(\rightarrow\) izkrija (I) twist, contort

Cf. *iz* ‘from, out of’, ‘throughout’

(21) **na-**: a) large amount or accumulation, great extent, e.g. trupam (I) pile \(\rightarrow\) natrupam (I) pile up

b) to the satiation of the subject-object (always reflexive), e.g. jam (I) eat \(\rightarrow\) najam se (I) eat to satiation

c) limited effect on object, e.g. jam (I) eat \(\rightarrow\) najam (I) eat a little

d) accomplishment of result of gradual development, e.g. debeleja (I) become fat \(\rightarrow\) nadebeleja (I) finally become fat

e) action in a specific, appropriate place, to a specific, appropriate place, e.g. mestja (I) move \(\rightarrow\) namestja (I) move, place in the appropriate spot

Cf. *na* ‘of’, ‘on, onto’ ‘to, at’

(22) **nad-**: a) action on or over, e.g. stroja (I) build \(\rightarrow\) nadstroja (I) build over

b) excess, surpassing, e.g. peja (I) sing \(\rightarrow\) nadpeja (I) out-sing

Cf. *nad* ‘over, above’

(23) **o-**: remove covering of object or quantity of something, e.g. striža (I) cut hair \(\rightarrow\) ostrža (I) shear

Cf. *o* ‘on, against’

(24) **ob-**: action touching all sides of object, e.g. vija (I) wind \(\rightarrow\) obvija (I) wrap up completely

(25) **ot-**: a) motion away from, e.g. živeja (I) live \(\rightarrow\) otživeja (I) become obsolete

b) undoing, e.g. krija (I) hide \(\rightarrow\) otkrija (I) discover

c) to the satiation of subject-object (always reflexive), the action being done with pleasure, e.g. živeja (I) live \(\rightarrow\) otživeja si (I) linger on

Cf. *ot* ‘from, of’, ‘by’, ‘of, from’, ‘than’

(26) **po-**: a) activity about surface, e.g. leja (I) pour out \(\rightarrow\) poleja (I) pour over surface; water

b) limited motion, action, e.g. peja (I) sing \(\rightarrow\) popeja (I) sing a little
c) enter new state finally, e.g. gubja ‘(I) lose’ → pogubja ‘(I) destroy’
Cf. po ‘upon’, ‘by’

(27) pod-
  a) activity under, e.g. čertaja ‘(I) draw, line’ → podčertaja ‘(I) underline’
  b) limited motion action, e.g. kanja ‘(I) invite’ → podkanja ‘(I) urge’
  c) hidden, reprehensible action, e.g. kupja ‘(I) buy’ → podkupja ‘(I) bribe’
Cf. pod ‘under’

(28) pre-
  a) through definite space, time or across boundary (literally and figuratively),
     e.g. krača ‘(I) step’ → prekrača ‘(I) step over’
  b) division in two, e.g. reča ‘(I) cut’ → prereča ‘(I) cut in two’
  c) repeated or drawn out, e.g. piša ‘(I) write’ → prepisana ‘(I) copy out’

(29) pred-: location before in time or space, e.g. pazja ‘(I) guard’ → predpazja ‘(I)
     protect, preserve’
Cf. pred ‘before, in front of’

(30) pri-
  a) direction toward definite goal, object, e.g. spija ‘(I) sleep’ → prispja ‘(I) put to
     sleep’
  b) attachment, addition, e.g. sjija ‘(I) sew’ → prišija ‘(I) sew on’
  c) limited action, e.g. bolja ‘(I) ache’ → pribolja ‘(I) ache a little’
Cf. pri ‘to’, ‘at’

(31) pro-
  a) through medium, object, e.g. bija ‘(I) beat’ → probija ‘(I) break through’
  b) thoroughness, e.g. pтуvam ‘(I) travel’ → propтуvam ‘(I) travel throughout’
  c) sudden onset, beginning (after absence), e.g. govorja ‘(I) speak’ → progovorja
     ‘(I) speak out, begin speaking (after being quiet)’

(32) raz-
  a) in various directions, places, e.g. gonja ‘(I) chase’ → razgonja ‘(I) drive in dif-
      ferent directions, disperse’
  b) to high degree, e.g. vikam ‘(I) call’ → razvikam se ‘(I) burst into loud
      screams’
  c) reverse, undo, e.g. krija ‘(I) hide’ → razkrija ‘(I) uncover’

(33) s(dj)-
  a) gathering into one place, joining, simultaneity, e.g. bera ‘(I) pick’ → səbera ‘(I)
     gather, collect’
  b) from the top or surface, e.g. tovarja ‘(I) load’ → stovarja ‘(I) unload’
     sə- is generally used before s, z, š, ž, but also in other places where s- normally
     occurs
Cf. sliš ‘with’

(34) u-:
  completion of action, e.g. sjija ‘(I) sew’ → nusija ‘(I) finish the job of sewing’
Cf. u ‘around, by, at’

It should be stressed, however, that there is hardly a verb that can combine
with all 18 prefixes. Yet, usually, there exists at least one combination
of an IMPFV1 verb and a perfectivizing prefix.

5.2. Suffixed perfectives are derived by the suffix -n-. The prototype of a
-\textit{n}-PFV verb is ROOT-\textit{n}-TM-ISUFF. Such perfective verbs have an addi-
tional semelfactive (instantaneous) meaning, e.g. IMPFV1 kapja ‘(I)
drop’, kapei → PFV SEMELFACTIVE kapna ‘(I) drop a bit’, kapneš; PFV1
Derivation-Inflection Character of Bulgarian Aspect

5. It should also be noted that usually more than one prefix can be added to a single verb base. The result of such multiple prefixation is a PFV verb. For example:

(35) IMPFV1 níča '(I) learn' → PFV iz-níča '(I) learn' → PFV do-iz-níča '(I) learn till the end'.
IMPFV1 znaja '(I) know' → PFV po-znaja '(I) recognize' → PFV raz-po-znaja '(I) recognize'.

Polyprefixation is typical for the colloquial style and affects mainly e- and i-type verbs. Some such verbs, however, also are accepted in the literary style, e.g.: PFV predrazpoloža '(I) predispose', PFV prerazpredelja '(I) redistribute'.

6. Imperfectivization

A specific feature of Bulgarian aspect concerns the formation of IMPFV2 (Andrejčin 1976). In Bulgarian, almost every perfective verb can be subject to imperfectivization. Imperfective forms are constructed by adding the suffixes -a/-ja-, -va- and -ava/-java-, -ava- to perfective verbs. In other words, all verbs that are the product of imperfectivization belong to the a-conjugation. Of all imperfectivizing suffixes only -va- and -java- are productive. The prototype of an IMPFV2 verb is thus PREF-ROOT-v-a-m.

The following is an account of how the different types of perfective verbs (PFV1, PFV and -n- perfectives) imperfectivize:

6. 1. PFV1 verbs imperfectivize after the addition of the aspecural suffix -(V)va- by default:

(36) PFV1 dam '(I) give', dadeš – IMPFV davam, dašaš, PFV1 reiš '(I) decide', reišš – IMPFV relašam, relašaš, etc.

Rarely, imperfectivization of PFV1 verbs follows less transparent patterns that change the TM of the verb only, sometimes with a concomitant morphological alternation, as in the following examples:

(37) PFV1 pratja '(I) send', pratiš → IMPFV praitam, praitaš

Note, however, that in Bulgarian, in contrast to other Slavic languages, imperfectivizing suffixes cannot be attached to IMPFV1 verbs (cf. R.

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7 Synchronously, the two verbs are not actually morphologically analyzable, since in modern Bulgarian, there is neither a verb *loža nor a verb *predela.
6.2. Imperfectivization of prefixed PFV verbs takes place either according to the productive rule in (38b) or according to the unproductive rule in (38c):

(38a) \[
\text{PREF-ROOT-TM-ISUFF} \rightarrow \text{PREF-ROOT-ASUFF. TM- ISUFF}
\]

(38b) \[
\text{raz-grom-o-ja} \rightarrow \text{raz- grom-}
\]

(38c) \[
\text{pre-misil-o-ja} \rightarrow \text{pre- misil-}
\]

If a PFV verb of the e- or i-conjugation type imperfectivizes according to (38c), imperfectivization is often accompanied by vowel mutations or/and de-palatalization of the last consonant of the root. Since vowel mutation (e/i to a) and insertion (ø to V) usually take place if imperfectivization is marked by the change of the TM only, it thus seems that the mutation/insertion of the root vowel serves as an imperfectivization marker. For example:

(39) \[
\text{IMPFV1 četa 'I read', četëi} \rightarrow \text{PFV pročeta 'I read (through)', pročeti} \rightarrow \text{IMPFV2 pročitam, pročitai}
\]

\[
\text{IMPFV1 vra 'thrust', vre} \rightarrow \text{PFV zavra, zavre} \rightarrow \text{IMPFV2 zaviram, zavirai}
\]

\[
\text{IMPFV1 govorja 'I speak', govori} \rightarrow \text{PFV otgovorja 'I answer', otgovori} \rightarrow \text{IMPFV2 otgovarjam, otgovarja}
\]

Verbs that imperfectivize with a change of the TM only often have doublets, as can be seen from the following examples:

(40) \[
\text{IMPFV1 lepja 'I stick', lepîi} \rightarrow \text{PFV zalepja 'I stick on', zalepîi} \rightarrow \text{IMPFV2 zalepjam, zalepjai vs. IMPFV2 zalepjam, zalepvaî}
\]

\[
\text{IMPFV1 glasja 'I prepare', glasii} \rightarrow \text{PFV naglasja 'I fix', naglasii} \rightarrow \text{IMPFV2 naglasjam, naglasijaî vs. naglasjavam, naglasjavai}.
\]

According to the Bulgarian Academy Grammar (§ 368), doublet IMPFV2 forms exist for about 340 verbs. Such examples show that imperfectivization tends to have a uniform marker of its own and prefers the transparent addition of ASUFFs to the less transparent change of a TM only, that is the default realization rule for tense changes (PRES brăsneî 'you shave' \(\rightarrow\) AOR brăsna 'you shaved').

6.3. Suffixed perfectives always select the suffix -\(v\)- (TM -a-), which replaces the perfectivizing suffix -\(n\)- in the aspectual slot of the verb, thus:

(41) \[
\text{ROOT-\(v\)-ISUFF} \rightarrow \text{ROOT-\(v\)-\(a\)-m}
\]

\[
\text{PFV vikna 'I cry out', IMPFV2 vik-\(n\)-e-i} \rightarrow \text{vik-\(v\)-a-m, vik-\(v\)-a-i}
\]

6.4. For the sake of completeness, it should be further perfectivization (42) and imperfectivization (43) of IMPFV2 verbs might also occur:
7. Verbs from foreign bases

In Bulgarian, as in the other Slavic languages, verbs of foreign origin derived with the suffix -ira- (about 500 verbs in Bulgarian) are biaspectral and, depending on the context, can be used as either perfective or imperfective. According to the Bulgarian academy grammar, biaspectral verbs show aspect only semantically, but not formally. Note that biaspectuality is very rare with indigenous verbs.

Verbs from foreign origin combine predominantly with the perfectivizing prefixes za-, pro-, iž-, oř- and very rarely select na-, s-, oř-, pro-, uř- (Bulgarian Academy Grammar § 372). In other words, in Bulgarian, all verbs of foreign origin are a-type verbs and show more restricted combinability with prefixes in comparison to e-type and i-type verbs (cf. Pašov 1966, 65-69).

It should be mentioned that in the colloquial style, biaspectral verbs derived with the suffix -ira- can undergo imperfectivization with the suffix -va-, e.g. organiziram ‘(I) organize’ → organiziram. For the expression of aspect, some -ira- verbs use both prefixation and suffixation and thus demonstrate a full integration into the aspectual system of Bulgarian, e.g. graviram ‘(I) engrave’ → izgraviram ‘(I) engrave’ → izgravirvam.

8. Aspectual affixes differ from derivational affixes

The aim of this section is to demonstrate that aspectual prefixes and suffixes behave differently from derivational affixes. Two facts will be stressed: 1. perfectivizing prefixes are a closed set and cause a semantic change and an aspectual change, whereas derivational prefixes give rise to semantic change only; and 2. aspectual affixes have homophonous derivational affixes.

Prefixation does not automatically mean perfectivity. Perfectivizing prefixes are a closed set, and derivational prefixes that do not belong to this set contribute lexical meaning but do not perfectivize, e.g. IMPFV1 bezdelniča ‘(I) loaf’ (← N bezdelnik ‘loafer’ ← delnik ‘week day’), IMPFV1 bezobrazniča ‘(I) behave outrageously’ (← N bezobraznik ‘blackgard’), etc. Even verbs such as IMPFV1 sážitelstam ‘(I) live together’ (← N sážitel ‘room-mate’), IMPFV1 izobilstvam ‘(I) abound’ (← N iz-obilie ‘abundance’), etc. that exhibit perfectivizing prefixes, since derived from prefixed nouns, are imperfective. In these examples, we have word-formation pre-
fixes forming nouns from other nouns and homophonous to perfectivizing prefixes.

Verbs expressing states or processes of inherent long duration are another case where the morphological structure of the verb does not correspond to its aspect. Such verbs, though prefixed, are imperfective, e.g.: prinadleža ‘(I) belong’, sədərəzəm ‘(I) contain’, ostəjoa ‘(I) am at a distance’, predəstoja ‘(I) am forthcoming’, səstoja se ‘(I) consist of’, podležə ‘(I) am subject to’, zavİsja ‘(I) depend on’. Here the blocking of perfectivization is due to semantic reasons, and homophonous verbs with semantics different from ‘state’ or ‘process of inherent long duration’ are perfective. Consider:

(44) IMPFV1 stoja ‘I stand’ → IMPFV ostəjoa ‘(I) am at distance’, ostəi, but IMPFV1 stoja ‘(I) stand’ → PFV ostəjoa ‘(I) defend’, ostəi, and IMPFV1 stoja ‘(I) stand’ → IMPFV səstoja se ‘(I) consist of’, səstoı se, but IMPFV1 stoja ‘(I) stand’ → PFV səstoja se ‘(I) take place’, səstoı se.

In sum, prefixation does not automatically mean perfectivity. In order to establish the aspect of a prefixed verb, we have to know about the morphological structure and the semantics of its base: verbs from prefixed nominal bases, as well as verbs expressing states or processes of inherent long duration are always imperfective (even if the prefix is homophonous with a perfectivizing prefix). Thus, aspectual prefixes differ from derivational affixes, as the latter, whether a part of the base or not (i.e. regardless of the order of application), always contribute the same semantics. Consider: V znaja ‘I know’ → V ne znaja ‘I do not know’ → N neznanie ‘ignorance’ and V znaja → N znanie ‘knowledge’ → N neznanie ‘ignorance’.

Similarly to prefixation, not all verbs derived by the suffix -n- are perfective. If a verb suffixed by -n- has a nominal or adjectival base, it is imperfective, e.g.: IMPFV1 tātna ‘(I) rumble’ from the noun tāten ‘rumble’ and IMPFV1 jakna ‘(I) get strong’ from the adjective jak ‘strong’, i.e. we have two homophonous suffixes -n-, one derivational that verbalizes nouns and adjectives and one aspectual. Of the two, only the latter triggers perfective meaning.

Verbs of foreign origin suggest further evidence for the non-derivational character of aspectual affixes. Such verbs, if prefixed by foreign (derivational) prefixes, remain biaspectual, e.g. dez-informiram, de-kodiram, re-organiziram, etc. However, when prefixed with native perfectivizing prefixes, the output of the rule is a perfective verb, e.g.: za-planiram ‘(I) plan’, pro-kontroliram ‘(I) control’, iz-deklamiram ‘(I) recite’, s-formiram ‘(I) found’, o-xarakteriziram ‘(I) characterize’, u-reguliram ‘(I) regulate’.
9. Perfectivization, imperfectivization and the derivation-inflection continuum

As already mentioned, in the literature on aspect, it is usually assumed that imperfectivization is inflection whereas perfectivization represents derivation. On the other hand, sources discussing inflection in general do not distinguish between perfectivization and imperfectivization and speak of aspect as non-prototypical inflection (Dressler 1989), inherent inflection in Booij (1996). Therefore based on the criteria demarcating derivation and inflection in general morphology (sets in Dressler 1989, Plank 1994, Booij 2000), the present paper will question the morphological status of Bulgarian aspect. Note that the application of demarcation criteria does not mean that derivation and inflection are split. On the contrary, it rests on the understanding that derivation and inflection constitute a continuum, situated between the poles of prototypical inflection and prototypical derivation, and allows for categories showing derivational and inflectional features at the same time. Demarcation criteria, without being absolute, define derivation and inflection as prototypes (cf. Dressler 1989). Of the various criteria suggested in the literature, I chose the following ten that seem to be the most frequently cited: 1. change of word class; 2. obligatoriness and syntactic relevance; 3. productivity; 4. transparency; 5. recursive application; 6. morpheme order; 7. psycholinguistic status; 8. semantics; 9. inflection class assignment, and 10. paradigmatic organization.

9.1. Change of word class

This criterion postulates that:

Derivation is word-class-changing whereas inflection is word-class-preserving.

Due to the fact that both perfectivization and imperfectivization apply to verbs in order to change their aspect and thus produce other verbs, they are word-class-preserving by rule. However, imperfectivizing suffixes can, in addition, be word-class-changing, e.g.: pät → IMPFV pät-uv-am, sāvet → IMPFV sāvet-v-am, whereas as discussed in section 8, perfectivizing prefixes and the suffix -n- tend to differ from derivational affixes, i.e. they tend to be word-class preserving, and instances such as the following, based on the noun kļūtict ‘key’, are rather exceptional:

(45) PFV vēljuca ‘(I) switch on’.
PFV zāljuca ‘(I) lock’.
PFV izēljuca ‘(I) switch off’.
PFV oēljuca ‘(I) unlock’.
PFV priēljuca ‘(I) end’.
PFV skēljuca ‘(I) conclude’.
PFV uēljuca ‘(I) lock’ (colloq.).
Since a verb *ključa does not exist (if it were to exist, it would be IMPFV1 meaning ‘(I) lock’), we have the sequence: N ključ → IMPFV1 *ključa → PFV PREF-ključa, with a non-existing intermediate step of derivation. The *IMPFV1 is due to analogical leveling to examples such as krāv ‘blood’ → IMPFV1 kārva ‘(I) bleed’ → pro-kārva ‘(I) start bleeding’, which defines the word-class change in (45) as superficial.

Thus, according to the criterion for word class change, imperfectivization behaves as derivation, whereas perfectivization seems to be inflection.

9.2. Obligatoriness and syntactic relevance

Inflection is relevant for syntax and therefore obligatory, whereas derivation is not required by syntax and thus is optional.

According to this criterion, verbal aspect has a somewhat controversial behavior: it can be obligatory in some contexts, though its obligatoriness is not required by syntax but rather is lexical. Consider the following examples:

(46a) da započina-PFV da podpisam-IMPFV2 ‘I begin to sign’
    započivam-IMPFV da podpisam-IMPFV2 ‘I begin to sign’

but not

(46b) *da započina-PFV da podpiša-PFV ‘I begin to sign’
    *započivam-IMPFV da podpiša-PFV ‘I begin to sign’

Irrespective of aspect, phase verbs such as to begin, to continue and to end combine only with imperfective verbs, i.e. the imperfective aspect is not required by the aspect of the introductory verb, but by its semantics. Obligatoriness is due to the nature of the perfective aspect, which views an activity from outside (i.e. as a whole) and is thus incompatible with the focus on the beginning/end or the development, whereas the imperfective is. Thus, the obligatory use of imperfective verbs in the above constructions is not syntactically motivated. Moreover, we cannot speak of obligatory perfectivization here, since primary imperfectives also occur in such constructions, e.g. započivam-IMPFV2 da piša-IMPFV1 / da započina-PFV da piša-IMPFV1 ‘I begin to write’.

9.3. Productivity

Inflectional rules are more productive than derivational rules.

Perfectivizing prefixes show an extreme degree of productivity and can be attached to nearly every verb. If a perfectivizing prefix is attached to a verb, whether perfective or imperfective, the output is always a perfective verb. In contrast, Bulgarian imperfective suffixes combine only with per-
fective verbs and cannot be added to IMPFV1 verbs, as is possible in Russian and Serbo-Croatian, for example, where IMPFV1 verbs when affixed with imperfectivizing suffixes, as already mentioned, express iterativity. Further evidence for the lower productivity of imperfectivization comes from blocking. The blocking of imperfectivization is always for phonological reasons. Consider:

(47) IMPFV1 polzvam ‘(I) use’, polzvai \(\rightarrow\) PFV izpolzvam ‘(I) use’, izpolzvai = IMPFV2
IMPFV1 bintovam ‘(I) bandage’, bintovai \(\rightarrow\) PFV razbintovam ‘(I) remove the bandage from’, razbintovai = IMPFV2

As can be seen from these examples, bases that already terminate in -va-, which is the most productive imperfectivizing suffix in Bulgarian, cannot be imperfectivized. This type of blocking is not usual for inflection where a lexeme, irrespective of its termination, must be inflected. (47) speaks for the more restricted productivity of imperfectivization in comparison to perfectivization but does not mean that imperfectivization is unproductive.

According to this criterion, both perfectivization by prefixes and imperfectivization are productive, whereas -n-perfectivization is derivation, since -n- attaches to a very restricted number of verbal bases.

9.4. Transparency

**Inflectional morphology is more transparent than derivational morphology.**

Where morphotactic transparency is concerned, perfectivization is more transparent than imperfectivization, since the latter can cause morphological changes (see (37) and (39) above). However, in regard to morphosemantic transparency, imperfectivization is more transparent than perfectivization. Perfectivization operates with a rich set of polysemous prefixes. Nevertheless, if we speak of perfectivization in terms of prototypical semantics, i.e. as an operation specifying a general action or limiting a general situation expressed by an IMPFV1 verb, perfectivization also can be seen as semantically transparent. According to this criterion, -n-PFV verbs are morphotactically (-n- causes morphological changes only occasionally) and morphosemantically (-n- contributes the same semelfactive semantics) transparent.

9.5. Recursivity

*Since each derivational step may add some additional meaning, derivation is easier to reapply recursively than inflection.*

As is usual for derivation, perfectivizing prefixes, since they add some lexical semantics to the base, can apply more than once, although the recursive usage of the same prefix is very rare and verbs such as prepredavam ‘(I) retransmit’ are rather exceptional. Imperfectivizing suffixes and
the suffix -n- that are in the ASUFF slot cannot apply recursively (obviously the slot allows for a single morpheme only). Forms such as pivvam ‘I would drink if…’ do not express aspect but rather, the emphatic conditional.

9.6. Order of morphemes

Inflectional affixes have a more peripheral position in the word form than derivational affixes.

Prefixes, by rule, have a peripheral position in the word-form. However, instances with one aspectual prefix and one derivational prefix, such as PFV po-bezdelniča ‘(I) idle a bit’, with the aspectual suffix po- and the derivational suffix bez-, from IMPFV1 bezdelniča ‘(I) idle’ (cf. delnik ‘working day’ → bezdelnik ‘idler’ → bezdelniča ‘(I) idle’), can serve as evidence that perfectivizing prefixes have a terminal position in a word form. Thus according to this criterion, perfectivization appears to be inflection, whereas imperfectivizing suffixes and the suffix -n-, being at all times internal\(^8\) (recall the prototypical forms of IMPFV2 verbs), seem to be derivational.

9.7. Psycholinguistic status

Derived words are likely to be stored as wholes in the mental lexicon, while inflected word forms are unlikely to be so.

Clearly, as a consequence of the criterion of morphosemantic transparency, most of the perfective verbs formed by prefixation should be listed in the lexicon. Therefore according to this criterion, imperfectivization appears to be inflection whereas perfectivization behaves as derivation. The suffix -n-, which combines with a restricted number of verbs (cf. table 3), requires listing as well.

9.8. Meaning

The meanings of inflection are more abstract than those of derivation.

According to this criterion, both perfectivization and imperfectivization, having highly abstract meanings, represent inflection. The semelfactive meaning of -n-PFV verbs, however, appears derivational.

9.9. Inflection class change/assignment

This criterion elaborates on the claim that inflection is inflection-class-preserving, whereas derivation is inflection-class-changing (Scalise 1984, 110). Of course, the latter claim is true of prototypical inflection and derivation but cannot distinguish between their non-prototypical realizations. Therefore, Manova (2005) after an investigation of inflection class

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\(^8\) Note that IMPFV2 suffixes also occur after the DSUFF in the word structure.
changes caused by non-prototypical categories such as verbal aspect, noun gender and nominal diminutivization puts forward the following claim:

If a category is inflection-class-changing but its output always enters the same inflection class, it can be identified inflectionally and therefore represents inflection. On the other hand, if the output of a category change disperses within the inflectional system of a language, the category is derivational.

In order to demonstrate the correctness of the criterion, Manova compares, among others, imperfectivization with verbalization, assuming that the latter, as it involves word-class change, is derivational. Consider for example, the following adjective-to-verb derivations, all from the base bjal 'white': bjal → belja, beliš (i-type), bjal → beleja, beleš (e-type), bjal → belosam, belosai (a-type). These derivations show that in Bulgarian, verbalizations can be inflected according to each of the three conjugations. Imperfectivization, like verbalization, can use more than one suffix with a single base. The output of imperfectivization, however, unlike verbalization, always belongs to the same inflection class, e.g. PFV zalepja ‘(I) stick, glue', zalepiš → IMPFV2 zalepjam, zalepjaš & IMPFV2 zalepjam, zalepvaš. Thus, according to the criterion of inflection class assignment, verbal aspect, though not of the type of inflectional categories such as person, number or tense, does represent inflection. It should be added here that perfectivization, since expressed via prefixation, does not cause inflection class change and, according to the criterion under consideration, appears to be even more inflectional than IMPFV2 and -n-PFV verbs. Recall, however, that perfectivization can change the valency of the verb, cf. (10) and (11). IMPFV2 and -n-PFV verbs are inflection class changing, but, since connected with particular inflection classes (all -n-PFV verbs are e-type (2) whereas all IMPFV2 verbs are a-type), represent non-prototypical inflection.

Table 2 summarizes the behavior of perfectivization and imperfectivization according to the nine demarcation criteria applied so far.

<table>
<thead>
<tr>
<th>Criterion / Behavior</th>
<th>Inflection-like</th>
<th>Derivation-like</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Word-class change</td>
<td>PFV, -n-PFV</td>
<td>IMPFV</td>
</tr>
<tr>
<td>2. Obligatoriness and syntactic agreement</td>
<td>PFV, -n-PFV, IMPFV</td>
<td>IMPFV, -n-PFV, IMPFV</td>
</tr>
<tr>
<td>3. Productivity</td>
<td>PFV, IMPFV</td>
<td>-n-PFV</td>
</tr>
<tr>
<td>4. Transparency</td>
<td>PFV, IMPFV</td>
<td>-n-PFV</td>
</tr>
<tr>
<td>4a. morphotactic</td>
<td>IMPFV, -n-PFV</td>
<td>IMPFV, -n-PFV</td>
</tr>
<tr>
<td>4b. morphosemantic</td>
<td>IMPFV, -n-PFV</td>
<td>IMPFV, -n-PFV</td>
</tr>
<tr>
<td>5. Recursivity</td>
<td>IMPFV, -n-PFV</td>
<td>PFV (rarely)</td>
</tr>
<tr>
<td>6. Order of morphemes</td>
<td>PFV, IMPFV</td>
<td>IMPFV, -n-PFV</td>
</tr>
<tr>
<td>7. Psycholinguistic status</td>
<td>IMPFV</td>
<td>PFV, -n-PFV</td>
</tr>
<tr>
<td>8. Meaning</td>
<td>PFV, IMPFV</td>
<td>-n-PFV</td>
</tr>
<tr>
<td>9. Inflection class assignment</td>
<td>PFV, -n-PFV, IMPFV</td>
<td>IMPFV, -n-PFV</td>
</tr>
</tbody>
</table>
Surprisingly, there is no significant difference between the derivation-inflection behavior of perfectivization by prefixation and imperfectivization, both appearing to be derivation by three of the criteria and inflection by the other six, i.e. both perfectivization by prefixation and imperfectivization appear to be inflection rather than derivation. The -n-PFV verbs behave as derivation according to five criteria and thus are more derivation-like than PFV and IMPFV2 verbs.

9.10. Paradigmatic organization

*Inflection is organized in paradigms whereas derivation is much less so.*

As already mentioned, the category of aspect dominates the Bulgarian verb paradigm in the sense that each verb has aspect and, depending on whether the verb is perfective or imperfective, its paradigm lacks some forms.

Although imperfectivization has always been defined as inflection, in traditional frameworks no real attempt has been made to incorporate it into the paradigm of Bulgarian verbs (but see Popova 2004). As for perfectivization, even authors such as Maslov (1982) and Stojanov (1993) who discuss aspect in terms of triples do not hesitate on the derivational character of perfectivization, and clearly, the latter has been excluded from the verb paradigm. In what follows, I will try to see whether it is possible to integrate the perfective and the imperfective into the Bulgarian verb paradigm.

Since Bulgarian has 18 perfectivizing prefixes, for each primary verb, we have to reserve 18 cells for perfective forms, i.e. according to the triple opposition IMPFV1 → PFV<sub>x</sub> → IMPFV2<sub>x</sub>, a basic verb (IMPFV1 & PFV1) has to have an aspectual paradigm consisting of <i>x</i> perfective + <i>x</i> secondary imperfective cells, where <i>x</i> varies from 1 to 18, and every verb, whether IMPFV1, PFV1, PFV, -n-PFV or IMPFV2, has forms of its own for tense, mood and participles. Language-specific realization rules, lexical by character, govern the combination of IMPFV1 and PFV1 with the perfectivizing prefixes, e.g. pravja ‘(l) do’ → napravja ‘(l) do’ in Bulgarian, but delat’ ‘to do’ → sdelat’ in Russian. It should be noted here that lexically governed inflection rules are not unusual for inflectional morphology. For example, morphosyntactic property, such as the plural, also applies, depending on the semantics of the base (whether countable or not).

Table 3 represents the paradigm of the proposed inflectional organization of verbal aspect, illustrated with three verbs, each from a different conjugation.

Of course, one can argue that the paradigmatic organization of perfectivization resembles, to a great extent, derivation, in the sense that derivational affixes carrying a particular meaning (e.g. *nomina agentis*) are also
limited in number and could be attached productively, for example, to verbal bases. However, there is one significant distinction between perfectivization and the derivation of *nomina agentis*. Perfectivization means at least one possible combination between any basic verb and one of the 18 perfectivizing prefixes, which is not true of derivational affixes for *nomina agentis* and any verb. For example in Bulgarian, one cannot derive *nomina agentis* from verbs denoting sounds produced by animals, such as laja ‘(I) bark’, žuža ‘(I) buzz’, etc. (though in English, there are barker (informal) and buzzer).

Table 3: The paradigm of Bulgarian aspect

<table>
<thead>
<tr>
<th>e-type</th>
<th>a-type</th>
<th>i-type</th>
<th>a-type</th>
<th>a-type</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMPFV1</td>
<td>PFV</td>
<td>IMPFV2</td>
<td>IMPFV1</td>
<td>PFV</td>
</tr>
<tr>
<td></td>
<td>IMPFV2</td>
<td></td>
<td>IMPFV2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Biaspec-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>tual</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>v(a)-</td>
<td>1. v(a)-</td>
<td>2. v-</td>
<td>3. do-</td>
<td>4. za-</td>
</tr>
<tr>
<td>v-</td>
<td>doigravam</td>
<td>v-</td>
<td>domislja</td>
<td>zamilam</td>
</tr>
<tr>
<td>za-</td>
<td>zaigravam</td>
<td>za-</td>
<td>zamislja</td>
<td>zaplanir-</td>
</tr>
<tr>
<td>iz-</td>
<td>izigravam</td>
<td>iz-</td>
<td>izmisla</td>
<td>izplanir</td>
</tr>
<tr>
<td>na-</td>
<td>naitgravam</td>
<td>na-</td>
<td>namislja</td>
<td>namisja</td>
</tr>
<tr>
<td>igraja</td>
<td>nadigravam</td>
<td>misija</td>
<td>nad-</td>
<td>planiram</td>
</tr>
<tr>
<td>'play'</td>
<td>'think'</td>
<td>'plan'</td>
<td>'report'</td>
<td>'plan'</td>
</tr>
<tr>
<td>7. nad-</td>
<td>8. o(b)-misja</td>
<td>9. o(b)-</td>
<td>10. po-</td>
<td>11. pod-</td>
</tr>
<tr>
<td>8. ob-</td>
<td>obigravam</td>
<td>9. ot-</td>
<td>10. pe-</td>
<td>11. pod-</td>
</tr>
<tr>
<td>9. ot-</td>
<td>otigravam</td>
<td>10. po-</td>
<td>11. pod-</td>
<td>12. pre-</td>
</tr>
<tr>
<td>10. po-</td>
<td>poigravam</td>
<td>11. pod-</td>
<td>12. pre-</td>
<td>13. pred-</td>
</tr>
<tr>
<td>11. pod-</td>
<td>predigravam</td>
<td>12. pre-</td>
<td>13. pred-</td>
<td>14. pri</td>
</tr>
<tr>
<td>12. pre-</td>
<td>preigravam</td>
<td>13. pred-</td>
<td>14. pri</td>
<td>15. pro-</td>
</tr>
<tr>
<td>13. pred-</td>
<td>predigravam</td>
<td>14. pri</td>
<td>15. pro-</td>
<td>16. raz-</td>
</tr>
<tr>
<td>14. pri</td>
<td>razigravam</td>
<td>15. pro-</td>
<td>16. raz-</td>
<td>17. s(b)-</td>
</tr>
<tr>
<td>15. pro-</td>
<td>razigravam</td>
<td>16. raz-misla</td>
<td>17. s(b)-</td>
<td>18. u-</td>
</tr>
<tr>
<td>16. raz-</td>
<td>razigravam</td>
<td>17. s(b)-</td>
<td>18. u-</td>
<td>Sufixed</td>
</tr>
<tr>
<td>17. s(b)-</td>
<td>razigravam</td>
<td>18. u-</td>
<td>Sufixed</td>
<td></td>
</tr>
<tr>
<td>18. u-</td>
<td>Sufixed PFV</td>
<td>Sufixed PFV</td>
<td>Sufixed PFV</td>
<td>Sufixed PFV</td>
</tr>
<tr>
<td></td>
<td>e-type</td>
<td>e-type</td>
<td>e-type</td>
<td>e-type</td>
</tr>
</tbody>
</table>

The change of the conjugation type in imperfectivization (recall that all IMPFV2 verbs are *a-type*) and perfectivization with -n- (all -n- PFV verbs are *e-type*) also constitutes a problem for a purely inflectional treatment of aspect. Nevertheless, these conjugation class changes can be seen as inflection class neutralization. For example, imagine a system that distinguishes inflectional classes in the singular but not in the plural (cf. the description of the Russian declension by Aronoff (1994, 72) who as-
sumes three inflection classes in the singular and assigns to the plural the status of the fourth inflection class).

The integration of aspect into the paradigm of Bulgarian verbs is a kind of a preparational step at which a derived (by aspctual affix) verb receives an aspctual value and ‘finds’ its inflectional class, but it does not cause any change in the inflection class organization of the verb morphology (table 1). The aspctual value then determines whether the paradigm of the respective verb is full (if the verb is imperfective) or reduced (if the verb is perfective). Finally, the paradigmatic analysis of aspect better ‘organizes’ the Bulgarian verb morphology (every verb can be paired for aspect) in comparison to non-paradigmatic accounts with a great number of aspctual gaps (recall the discussion in section 3). Consequently, paradigmatic organization has also the psycholinguistic advantage to stimulate production while non-paradigmatic organization means listing/memorizing.

10. Conclusions

This paper has concentrated on verbal aspect in Bulgarian comparing the two types of aspctual change it involves, perfectivization and imperfectivization. The traditional assumption that only verbs related to one another by suffixation with an imperfectivizing suffix represent inflection whereas perfectivization which either adds different (up to 18) prefixes or the suffix -n- is derivation has been challenged according to the criteria delineating derivation and inflection in the literature. It has been demonstrated that aspctual affixes differ from derivational affixes in the sense that perfectivizing prefixes are a closed set and always cause a semantic and aspctual change, whereas derivational affixes contribute only semantic meaning to the base; as well as many aspctual affixes have homophonous derivational affixes. According to the demarcation criteria used in general linguistics for the distinction of derivation and inflection, it has been established that in regard to their derivation-inflection properties, perfectivization and imperfectivization are relatively similar and tend to be inflection, the -n-PFV verbs being more derivation-like than PFV and IMPFV2 verbs. In accordance with the criterion of paradigmatic organization, which is a prototypical feature of inflection, an attempt to integrate perfectivization and imperfectivization into the inflectional paradigm of Bulgarian verbs has been made. Both aspctual changes exhibit characteristics problematic for a purely inflectional account: perfectivization means one-to-many relation between base and output and, if not seen as prototypical semantics, is lexically governed; imperfectivization and -n-perfectivization are semantically transparent but yield inflection class change, though IMPFV2 verbs and -n-perfectives can be identified
with particular inflectional classes. A paradigmatic analysis of aspect, however, better organizes the Bulgarian verb morphology since it leaves very few aspctual gaps (primarily due to -n- perfectivization). Parallels to other non-prototypical inflection categories also seem to support the inflection-like status of aspect changes.

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