

## On the Formal and Semantic Structure of Russian Dual Simplexes and Dual Perfectives

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### I. Simplexes, prefixation, and suffixation.

This paper deals with the behavior and typology of simplex verb stems in Russian—particularly dual simplexes and their derivatives. A simplex stem is an unprefixated non-derived verb stem, found in such basic infinitives as Russian *работать*, *писать*, *ставить*, *станть*, which have the simplex stems *rabotaj-*, *pisa-*, *stavi-*, *stan-*. Besides the simplex stem, I will also be interested in two more types of stems, based on two possible things you can do to the simplex: prefix it and suffix it. If we take the simplex stem (again, like *rabotaj-*, *pisa-*, *stavi-*), which is almost always imperfective, and add a prefix, we regularly derive a new perfective verb which shall be referred to as a prefixed perfective; for example, using the prefix *pere-* for consistency: *переработать*, *переписать*, *переставить*. This can be seen in Table 1, going from the first to the second line.

Table 1. One simplex and one prefixed perfective with a given prefix.

#### 1A. With a derived imperfective.

1. Simplex stem	работай-
2. Prefixed perfective	переработай-
3. Derived imperfective	перерабатывай-

#### 1B. Without derived imperfective (Aktionsart)

1. Simplex stem	работай-
2. Prefixed perfective	поработай-
3. Derived imperfective	-----

The prefixation using *pere-* changes the meaning, requiring a derived imperfective, which is formed by means of suffixation. In the case of *rabotaj-* and other *aj-* verbs, this is the suffix *ivaj-*, represented as number 3 in table 1A, giving us the new stem *перерабатывай-*, which has been both prefixed and suffixed. If step 2 adds a suffix which is lexically not sufficiently different to require a suffixed derived imperfective in step 3, this is the situation frequently referred to as **Aktionsart** or **способ действия** (e.g. *поработать*, *написать*, etc.), which results in an empty third cell in our table, as represented in table 1B.

In most cases, the derived imperfective in step 3 uses a consistent suffix (such as *ivaj-* in the previous examples), but there can be instances in which the same root has different suffixes which go with different prefixes, or even two different suffixes with the same prefix, with different lexical or stylistic meanings, as shown in table 2.

Table 2. A single simplex and prefixed perfective, but either one or two different types of imperfective suffixation.

2A. Derived imperfective in *ivaj-*.

1. Simplex stem	учи-
2. Prefixed perfective	выучи- (разучи-, заучи-)
3. Derived imperfective	выучивай- (разучивай-, заучивай-)

2B. Derived imperfective in *aj-*.

1. Simplex stem	учи-
2. Prefixed perfective	обучи- (изучи-, приучи-)
3. Derived imperfective	обучай- (изучай-, приучай-)

2C. Derived imperfective in either *aj-* or *ivaj-*.

1. Simplex stem	учи-
2. Prefixed perfective	обучи- (изучи-, приучи-)
3. Derived imperfective	подучай- (отучай-, поучай-) подучивай- (отучивай-, поучивай-)

## II. Dual simplexes and motion verbs.

Everything mentioned up to now represents a situation in which there is just a single simplex form in the first cell of tables 1 and 2. We saw that there can be an empty cell in 3 (table 1A, the derived imperfective slot), as well as dual competing derived imperfectives with the same root, also in the third cell (tables 2A and 2B).

There can also be instances of dual simplexes, in which the dual stems share the same root, but differ only in the suffix. The best known instance of Russian dual simplexes occurs in the class of verbs known as verbs of motion, in which the two simplex stems oppose the meanings determinate vs. indeterminate (also called unidirectional/non-unidirectional, etc.). Since some of the dual simplexes in the motion verb category are suppletive, it will be easiest if we first view the pattern using such non-suppletive motion verb dual simplexes as *beža-/begaj-*, *kati-/kataj-*, *lete-/letaj-*, *polz-/polzaj-*, *tašči-/taskaj-*, in which the two roots agree and any differences between them are due to expected phonological rules. (The pair *sadi-/sažaj-* might have been listed too, but semantic differences beyond determinate/indeterminate have caused Isačenko (1960: 314) and others to remove *sadi-/sažaj-* and *bred-/brodi-* from the list of motion verbs. There have been disputes about exactly which verbs to include in the motion verb list going back at least to Mazon's 1911 work on Russian morphology (see Ward 1965: 250).

In comparison with a single simplex stem, the presence of two simplexes has some important consequences for the three-level table we have been working with. Not only are there two entries on the first level, instead of one (due to the presence of two simplexes, instead of one); there are also two entries at level two, where prefixation creates a different perfective in combination with each simplex.

Furthermore, there is an obligatory syncretism of two possible types, which is marked in the tables by showing syncretic forms in boldface. One of the two types of syncretism occurs between the derived imperfective forms (i.e. both with the stem *выкатывай-*, as shown in table 3. The second type of syncretism is shown in table 4. It is found in such dual simplexes as the motion verb (with dual simplexes *лете-/летай-*). Here, the syncretism occurs between the indeterminate's prefixed perfective and the determinate's derived imperfective (the stem *облетай-* in both cases).

Table 3. Non-suppletive motion verb with syncretic derived imperfective.

	Simplex 1 (Determinate)	Simplex 2 (Indeterminate)
Simplex	кати-	катай-
Prefixed perfective	выкати-	выкатай-
Derived imperfective	<b>выкатывай-</b>	

Table 4. Non-suppletive motion verb with syncretic prefixed perfective and derived imperfective.

	Simplex 1 (Determinate)	Simplex 2 (Indeterminate)
Simplex	лете-	летай-
Prefixed perfective	облете-	<b>облетай-</b>
Derived imperfective	<b>облетай-</b>	облётывай-

I would suggest that the two patterns can be generalized by stating that dual simplexes can have a maximum of five different stems, as represented in these derivational paradigms. Three forms are never syncretic: the two simplex stems themselves and the prefixed perfective derived from the determinate (e.g. *выкати-*, *облете-*). Two cells can optionally be syncretic: the indeterminate's prefixed perfective and the indeterminate's derived imperfective. Only one must obligatorily be syncretic: the determinate's derived imperfective. This situation is shown in table 5.

Table 5. Dual simplex derivation in terms of cells which are non-syncretic, optionally syncretic, and obligatorily syncretic.

	Simplex 1 (Determinate)	Simplex 2 (Indeterminate)
Simplex	non-syncretic	non-syncretic
Prefixed perfective	non-syncretic	optionally syncretic
Derived imperfective	obligatorily syncretic	optionally syncretic

Thus, the general rule of syncretism can be stated as follows: **the determinate's derived imperfective is inevitably syncretic with one of the two derived indeterminate cells, either the indeterminate's prefixed perfective (e.g. *облетай-*) or the its derived imperfective (e.g. *выкатывай-*).** The two cells affected by syncretism can differ, but the formal situation of syncretism remains in both the *kati-/kataj-* and *lete-/letaj-* types. Although these individual coincidences of forms are extremely well known, I am not aware of attempts to establish the formal syncretisms in these

patterns, i.e. that both share the use of five out of six cells in the dual simplex paradigms found in tables 3 and 4. There is also a semantic link to this syncretic pattern, which I hope to illustrate in more detail below.

When there is a situation of suppletion, the same patterns of syncretism can occur, but the dual simplexes do not display the formal identity of roots that can be seen in tables 3 and 4. Examples shown in tables 6 and 7.

Table 6. Suppletive motion verb with syncretic derived imperfective.

	Simplex 1 (Determinate)	Simplex 2 (Indeterminate)
Simplex	ед- (~еха-)	езди-
Prefixed perfective	объед- (~объеха-)	объезди-
Derived imperfective	<b>объезжай-</b>	

Table 7. Suppletive motion verb with syncretic prefixed perfective and derived imperfective.

	Simplex 1 (Determinate)	Simplex 2 (Indeterminate)
Simplex	ид- (й/д-)	ходи-
Prefixed perfective	отойд-	<b>отходи-</b>
Derived imperfective	<b>отходи-</b>	отхаживай-

The suppletive paradigms manifest the same patterns as the non-suppletive, except for the fact that we assume that the roots are identical in meaning, but idiosyncratically different in form. The same basic principles apply as in the case of non-suppletive verbs.

Interestingly, there are also some irregular instances in which a colloquial form arises, which breaks the pattern of syncretism, by filling in all six slots. However, one of the six slots still has competing syncretic and non-syncretic forms, one more literary and one more colloquial. For example, this can apply to the root *ezd-*, as shown in table 8. Thus, if the indeterminate derived imperfective *наезживать* is selected, rather than the expected *наезжать*, we have a rare instance of no syncretism in this dual simplex paradigm.

Table 8. Motion verbs with competing syncretic and non-syncretic variants.

	Simplex 1 (Determinate)	Simplex 2 (Indeterminate)
Simplex	ед- (~еха-)	езди-
Prefixed perfective	наед- (~наеха-)	наезди-
Derived imperfective	наезжай-	наезжай- ~ наезживай-

A somewhat similar situation occurs with the root *beg-* (see table 9A). With certain prefixes (such as *о-*), a syncretic derived imperfective occurs, while with other prefixes, a colloquial derived imperfective in *-бегивать* is cited, but marked as “просторечие” (Ušakov dictionary), which would

remove syncretism and fill all six cells (see 9B). Interestingly, when syncretism apparently is removed, due to the use of the form *выбе́гивать*, there is still a segmental syncretism between the stems *выбега́й-* and *выбегай-*, which are opposed only by stress. So, perhaps it is worth investigating whether the rule of syncretism is really a rule of segmental syncretism, unaffected by stress opposition.

Table 9. Variable syncretism in the derivational paradigm of *beg-*.

9A. Regular derived imperfective syncretism with the prefix *o-*.

	Simplex 1 (Determinate)	Simplex 2 (Indeterminate)
Simplex	бежа-	бегай-
Prefixed perfective	обежа-	обегай-
Derived imperfective	обегай-	

8B. Possible loss of syncretism (but segmental syncretism is maintained).

	Simplex 1 (Determinate)	Simplex 2 (Indeterminate)
Simplex	бежа-	бегай-
Prefixed perfective	выбежа-	выбегай-
Derived imperfective	выбега́й-	выбе́гивай- (просторечие)

Thus, we can conclude that the definition of dual simplex verbs includes an opposition of simplexes both in the unprefixed simplex forms themselves (level 1), as well as of the prefixed perfectives which are derived from simplex 1 and 2 (level 2). These oppositions can minimally oppose only the verbal suffix. In addition to these two possible oppositions, there is a principle of syncretism that prevents all six cells of the dual simplex paradigm from being filled.

### III. Dual simplexes outside the class of motion verbs.

Grammatical descriptions rarely discuss dual simplexes outside the class of motion verbs and it is a subject that is not regularly taught to students. One small group of verbs with two simplexes does not pattern like motion verbs and is not of special interest to our discussion. The other group has many formal similarities to motion verbs and will be discussed in more detail.

First of all, the group of non-motion dual simplex verbs which is not analogous to motion verbs includes the dual simplex stems *пеши-/пешай-*, *смыну-/смынай-*, *прости-/прощай-*. In these cases (see table 10), only four of the six potential cells are filled. There is no opposition of two different prefixed perfectives. Any minimal opposition of these two stems is always accompanied by the aspectual opposition of perfective vs. imperfective (e.g. both *пеши-* vs. *пешай-* and *отпешу-* vs. *отпешай-*).

Table 10. Non-motion dual simplex stems with constant aspectual opposition and one prefixed perfective.

Simplex stems	реши- (perf.)	решай- (imperf.)
Prefixed perfective	отреши-	-----
Derived imperfective	-----	отрешай-

In contrast to the *реши-/решай-* type, which always has a simple two-way aspectual opposition between the two stems, there is another type of dual simplex, which has an aspectual opposition at the simplex level, but also has an opposition between two different perfective forms on the next level. This type (shown in table 11) includes such stems as *хвати-/хватай-*, *броси-/бросай-* and *над-/надай-*.

Table 11. Non-motion dual simplex stems with aspectual opposition in the simplex form and two prefixed perfectives.

	Simplex 1	Simplex 2
Simplex	хвати- (perf.)	хватай- (imperf.)
Prefixed perfective	захвати-	захватай-
Derived imperfective	<b>захватывай-</b>	

Just as in the case of motion verbs, we have an opposition of simplexes (although it is aspectual here, rather than directional). We also have an opposition of the prefixed perfectives which are derived from each of the simplex stems. Semantically, it is quite similar to the analogous opposition among motion verbs. The prefixed perfective derived from the *i*-suffixed simplex (e.g. *захвати-*) refers to a single instance, while the prefixed perfective derived from the *aj*-suffixed simplex refers to more than one instance; in this case, *захватай-* refers to making something dirty by grabbing it, with the implication that the object has been grabbed on multiple occasions, resulting in its getting dirty (as Ušakov describes it, “Часто трогая, хватая, замарать, загрязнить.”) Note that the same syncretism applies as with some motion verbs, i.e. both prefixed perfectives share the same imperfective form.

Certain other verbs are very similar to the pattern of table 11, except for the fact that both simplex stems are imperfective. This type includes such simplex pairs as *вали-/валяй-*, *веси-/вешай-*, *вороти-/ворочай-*, *ломи-/ломай-*, *меси-/мешай-*, *сади-/сажай-*, and is shown in table 12. Thus, we can say that the dual simplex level has either a purely aspectual opposition (as in *хвати-/хватай-*) or a lexical opposition (as in *вали-/валяй-*). The lexical opposition of the dual simplexes in this category is the hardest to describe. Motion verb simplexes have the determinate or unidirectional opposition; the set of simplexes which includes *броси-* and *хвати-*, has an aspectual distinction, but *вали-*, *веси-*, *вороти-*, *ломи-*, *меси-*, etc. are harder to pin down, although they vaguely recall some features of the determinate/indeterminate opposition.

Table 12. Non-motion dual simplex stems with no aspectual opposition in the simplex form and two prefixed perfectives.

Simplex stems	вали- (imperf.)	валяй- (imperf.)
Prefixed perfective	отвали-	отваляй-
Derived imperfective	отваливай-	

Thus, tables 11 and 12 illustrate dual simplex verbs which are formally identical to the non-suppletive motion verbs (such as *кати-/катай-*), except for the fact that their simplex forms do not have the standard motion verb opposition of determinate/indeterminate. As noted, some of these non-motion simplexes oppose aspect, while others present the case of two imperfectives. A summary list of such verbs is found in table 13.

Table 13. Non-motion dual simplex stems (i.e. lacking the determinate/indeterminate feature).

Non-motion dual simplexes which oppose aspect	Non-motion dual simplexes which are both imperfective
1. броси-/бросай-	1. вали-/валяй-
2. пад-/падай-	2. веси-/вешай-
3. хвати-/хватай-	3. вороти-/ворочай-
	4. ломи-/ломай-
	5. меси-/мешай-
	6. сади-/сажай-

There are four more instances (see table 14) in which the perfective simplex is dialectal, regional, or otherwise not universally recognized as Contemporary Standard Russian (see Isačenko 1960: 309, footnote 1). Such simplexes will be placed in parentheses. They are important mainly due to the fact that Standard Russian prefixed perfectives are formed with them at level two in the derivational process described above. For example, although *стрели-* may be questionable in some styles, meaning that some speakers do not have the simplex opposition *стрели-/стреляй-*, there is still a level 2 opposition of prefixed perfectives in such cases: e.g. *пристрели-/пристреляй-*.

Table 14. Non-motion dual simplex stems with a defective or non-standard perfective form.

1. (куси-)/кусай-
2. (мени-)/меняй-
3. (скочи-)/скака-
4. (стрели-)/стреляй-

(All have several examples in the *Национальный корпус русского языка* (<http://ruscorpora.ru/>). Some are cited in standard dictionaries, but this is very variable. E.g.

1. Еще, — предупредил, — стрелишь — пеняй на себя, я тоже стрелю. [Залыгин Сергей. Бабе Ане — сто лет]

2. И скочили с добрых коней с молодой женой. [К.С. Аксаков. О русских глаголах (1855)]  
 — Ране ты меня помрешь, Митрий, поздне помрешь, — спокойно сказал Анискин, — это дело не менят. [Виль Липатов. Деревенский детектив]
4. Ты, Мак, дай ему кусочек, не кусит с пальцем! [Вячеслав Рыбаков. Вода и кораблики]

It should be noted that the root *men-* is rather complex, since it can follow more than one basic model, depending on the prefix in question. For the vast majority of prefixes, *men-* verbs behave like *реши-/реши-*, in that there is only one prefixed perfective plus its imperfective pair (e.g. *замену-/заменяй-*). However, a dual perfective of the *захвати-/захватай-* type is possible when *об-* is prefixed to the root *men-*, giving us the dual perfectives *обмени-/обменяй-*, plus syncretic imperfective *обменивай-*. This has been summarized in table 15.

Table 15. Three different models with the root *men-*.

I. Only one prefixed perfective exists, either in <i>-мени-</i> or <i>-меняй-</i> .		II. Dual perfectives exist. (Similar to <i>захвати-/захватай-/захватывай-</i> type.)	
A. Perfective in <i>i-</i> , imperfective in <i>aj-</i> (except for one variant in <i>ivaj-</i> ).		B. Perfective in <i>aj-</i> , imperfective in <i>ivaj-</i> .	
<u>Perfective</u>	<u>Imperfective</u>	<u>Perfective</u>	<u>Imperfective</u>
вмени-	вменяй-	наменяй-	наменивать
замени-	заменяй-	променяй-	променивать
измени-	изменяй-	разменяй-	разменивать
отмени-	отменяй-		
подмени-	подменяй-		
	~подменивать		
примени-	применяй-		
		A. Shared imperfective in <i>ivaj-</i> .	
		<u>Perfective</u>	<u>Imperfective</u>
		обмени-/обменяй-	обменивать
		вымени-/выменяй-	выменивать
		B. Only the <i>i-</i> -suffixed form has an imperfective. The <i>aj-</i> -suffixed perf. is an Aktionsart form with no impf.	
		<u>Perf.</u>	<u>Imperfective</u>
		смени-	сменивать ~сменяй-
		сменяй-	(no impf)
		переменьть	переменяй-
		переменяй-	(no impf)

Returning to the issue of the four dual simplexes with non-standard perfective simplex stems in *i-*, if we plot one of the four verbs as a dual simplex paradigm, we still see that the opposition between two prefixed perfectives is intact (table 16).

Table 16. Non-motion virtual dual simplex stems, in which one simplex is non-standard or non-occurring, but derives a prefixed perfective.

Simplex stems	(стрели- perf.)	стреляй- (imperf.)
Prefixed perfective	отстрели-	отстреляй-
Derived imperfective	отстреливай-	

As noted, when we have dual simplexes in *i-* and *aj-* suffixes, there is a single, syncretic form of the imperfective (e.g. *забрасывай-*, *захватывай-*, *отстреливай-*). In other words, only one imperfective

form can correspond to the two dual simplex stems. However, non-dual simplex stems regularly form their derived imperfectives in two different ways—the *i*-suffix type with consonant mutation and the *aj*-suffix type without it. Thus, at first glance, it appears that many dual simplexes have an irregularly formed imperfective and this often is commented on in grammars. For example, *зброси-* does not have the expected mutation in the imperfective stem *збрасывай-*. However, I would claim that this is not a real irregularity, but a regular rule within the subsystem of dual simplex verbs, which have syncretic imperfectives for both simplex stems. In each such case, one of the simplexes serves as the base form for the formation of the single, syncretic imperfective stem. The base form can be easily identified in the simplexes themselves. If the *i*-suffixed simplex is the base, the *aj*-simplex displays consonant mutation (e.g. *вешай-*, *мешай-*, *сажай-*, *стреляй-*), and the imperfective is formed by the regular rules for *i*-suffixed bases, i.e. with mutation. Conversely, if the *aj*-simplex is the base, both simplexes plus the imperfective will have non-mutated consonants in root-final position (e.g. *броси-*, *хвати-*, *ломи-*, *-куси-*), and the imperfective is formed without consonant mutation, by the regular rules for the *aj*-suffixed stems. This can be seen in table 17:

Table 17. Choice of single derivational bases in dual simplex pairs.

Derivational Base is the <i>i</i> -suffixed form	Derivational Base is the <i>aj</i> -suffixed form
завеси-/завешай-: завешивай-	зброси-/збросай-: збрасывай-
вымеси-/вымешай-: вымешивай-	захвати-/захватай-: захватывай-
усади-/усажай-: усаживай-	долыми-/доломай-: доламывай-
пристрели-/пристреляй-: пристреливай-	закуси-/закусай-: закусывай-

Root-final dental obstruents are the most variable among dual simplexes. However, the *aj*-simplex serves as the base when the simplexes oppose aspect (*броси-/бросай-*, *хвати-/хватай-*, regional *куси-/кусай-*), but the *i*-simplex is the base when the simplexes are both imperfective (*сади-/сажай-*, *веси-/вешай-*, *меси-/мешай-*, *вороти-/ворочай-*). The dental sonorants (*l*, *n*) always use the *i*-simplex as the base (*стреляй-*, *меняй-*), while the labial sonorant uses *aj*- (*ломай-*).

Verbs of this type number approximately thirteen. However, Isačenko (1960: 313) has stated that some of the traditional motion verbs no longer represent pure oppositions of determinate/indeterminate (e.g. *брести/бродить*) and should not be classified as motion verbs, in which case they would also belong in this category. Since all thirteen of the above cited dual simplex stems can pattern in this way with a large number of prefixes, the total number of possible verbs is considerable. Since the number of non-motion dual simplexes is around the same as the motion verbs themselves, one can estimate that the system is just as large, which might suggest that students ought to be exposed to this important system, alongside that of the motion verbs. As a quick illustration of the potential size and importance of this system, I provide a summary of some of the dual meanings presented by the root *bros-* (table 18), including the simplex pair as well as 10 more prefixed perfective pairs, together with their glosses. A similar chart can be shown for the dozen verbs of this type, although not all roots will combine with as many prefixes.

Table 18. Dual simplex and prefixed perfective formations with the root **BROS-**.

		Stem-1	Stem-2	Approximate meaning opposition.
Simplexes		броси-	бросай-	perfective vs. imperfective
Prefixed perfectives	1	вброси-	вбросай-	‘Бросить внутрь.’
Derived imperfective		вбрасывай-		vs. ‘Вбросить в несколько приемов.’
Prefixed perfectives	2	заброси-	забросай-	‘Бросить куда-н. далеко.’
Derived imperfective		забрасывай		vs. ‘Бросая, швыряя, осыпать, покрыть.’
Prefixed perfectives	3	доброси-	добросай-	‘Бросить до какого-л. места’
Derived imperfective		добрасывай-		vs. ‘Окончить бросание.’
Prefixed perfectives	4	наброси-	набросай-	‘Бросить что-н. поверх кого-чего-н.’ vs.
Derived imperfective		набрасывай-		‘Бросить что-н. во множестве или в несколько приемов.’
Prefixed perfectives	5	отброси-	отбросай-	‘Бросить в сторону’
Derived imperfective		отбрасывай-		vs. ‘Отбросить в несколько приемов.’
Prefixed perfectives	6	переброси-	перебросай-	‘Бросить через что-л’
Derived imperfective		перебрасывай-		vs. ‘Бросая, переместить всё, многое.’
Prefixed perfectives	7	приброси-	прибросай-	‘Бросить, добавляя’
Derived imperfective		прибрасывай-		vs. ‘В несколько приемов набросать’
Prefixed perfectives	8	проброси-	пробросай-	‘Пропустить сквозь что-л’
Derived imperfective		пробрасывай-		vs. ‘Бросить всё, кидая постепенно один предмет за другим.’
Prefixed perfectives	9	разброси-	разбросай-	‘Бросить в разные места.’
Derived imperfective		разбрасывай-		vs. ‘Бросая, разметать, бросить в несколько приемов или в беспорядке.’
Prefixed perfectives	10	сброси-	сбросай-	‘Бросить вниз с чего-л.’
Derived imperfective		сбрасывай-		vs. ‘Сбросить всё или в несколько приемов.’

#### IV. Dual unprefixated series with the *nu*-suffix.

In addition to these instances of non-productive dual simplexes, there is a much larger and productive type which opposes the suffix *nu-* to *aj-*. Since unprefixated verbs with the *nu*-suffix are not considered to be simplexes, because of their derived status, let us use the neutral term “unprefixated” for the first level. The second level presents the familiar pattern of two prefixed perfectives which are opposed to each other and the third level has the very same syncretism seen above. Just as one of the simplexes must serve as the single base form for the formation of the syncretic imperfective (usually the *aj*-simplex, as in *забрасывай-*), the *aj*-simplex also serves as the unified base for the syncretic imperfectives which are shared by *nu-* and *aj-* suffixed verbs, as shown for the example *ки(о)ну-/кидай-* (table 19):

Table 19. Dual stem paradigm of verbs with *nu-/aj-* suffixation.

Unprefixated stems	кину- (perf.)	кидай- (imperf.)
Prefixated perfective	закину-	закидай-
Derived imperfective	закидывай-	

The meanings are virtually identical to those of the similar series with the root *bros-*, since both roots have the basic meaning ‘throw, toss’. Nevertheless, Isačenko separates these two instances (1960: 272) and analyzes *бросить* as a perfective simplex, but *кинуть* as a derived verb with a semelfactive suffix. As to why *бросить* cannot also qualify as a derived semelfactive, since the nearly identical *кинуть* does, Isačenko replies: “Об однократном значении можно говорить лишь в тех случаях, где такое значение выражено формально суффиксом (*боднуть*) или приставкой.” It would seem that this is confusing formal and semantic issues, in view of the similarity of meaning and general patterning. I would question the need to separate the *бросить* and *кинуть* classes. In view of the identical patterning, I will group all such non-motion verbs together as non-motion dual simplexes.

Table 20 gives several more examples of prefixated perfectives which share the same root and which are derived with the *nu-* and *aj-* suffixes.

Table 20. Examples of prefixated perfectives which share *nu-/aj-* suffixation, grouped by root.

черп		пих		толк	
черпнуть	черпать	пихнуть	пихать	толкнуть	толкать
вычерпнуть	вычерпать	впихнуть	впихать	втолкнуть	втолкать
дочерпнуть	дочерпать	выпихнуть	выпихать	вытолкнуть	вытолкать
зачерпнуть	зачерпать	запихнуть	запихать	затолкнуть	затолкать
отчерпнуть	отчерпать	перепихнуть	перепихать	натолкнуть	натолкать
перечерпнуть	перечерпать	подпихнуть	подпихать	оттолкнуть	оттолкать
почерпнуть	почерпать	пропихнуть	пропихать	перетолкнуть	перетолкать
счерпнуть	счерпать	распихнуть	распихать	притолкнуть	притолкать
		упихнуть	упихать	протолкнуть	протолкать
				растолкнуть	растолкать

дёрг		сов		прыг	
выдернуть	выдергать	сунуть	совать	прыгнуть	прыгать
задёрнуть	задёргать	засунуть	засовать	допрыгнуть	допрыгать
надёрнуть	надёргать	насунуть	насовать	запрыгнуть	запрыгать
обдёрнуть	обдёргать	всунуть	всовать	отпрыгнуть	отпрыгать
передёрнуть	передёргать	подсунуть	подсовать	припрыгнуть	припрыгать
подёрнуть	подёргать	пересунуть	пересовать	упрыгнуть	упрыгать
продёрнуть	продёргать				
раздёрнуть	раздёргать				
сдёрнуть	сдёргать				

Additional *nu-/aj-* stem pairs with similar properties:

*плюну-/плева-, кувыркну-/кувыркай-, стукну-/стукай-, тисну-/тискай-, тяну-/тягай-, харкну-/харкай-, швырну-/швыряй-, щипну-/щипай-, etc.*

Many analysts have commented on the irregular formation of the imperfective pair of *nu-*verbs such as *закинуть*, i.e. *закидывать*, since it is derived from *закидай-*. I would regard this as regular, following the principle of syncretism within our six-cell model. I would suggest that the most interesting semantic opposition here is that of the two prefixed perfectives, such as *закинуть/закидать*, especially since there are many other prefixes which can be opposed, e.g. *вкинуть/вкидать, выкинуть/выкидать, докинуть/докидать, накинуть/накидать, окинуть/окидать, обкинуть/обкидать, откинуть/откидать*; virtually all of the same formations as exist with *bros-* can be formed with *kid-*, including the opposition of two prefixed perfectives with a shared imperfective. The use of *nu-* raises the number of such instances far above the dozen or so cases that can be found with the older *i-* and *aj-* suffix pairs and emphasizes the importance and productivity of these verbs to the structure of Russian.

#### V. Semantic properties of dual simplexes.

Semantically, just about all of the verbs with the 6-cell paradigmatic system of dual simplexes refer to actions which can be viewed as consisting of many repetitions of the same action, such as throwing, shooting, grabbing, dumping, breaking, etc. Isačenko (1960: 307-9) has referred to such verbs as “multiphase” (“*многофазисные глаголы*”), where the *i-* or *nu-* suffixed verbs represent a single phase, and the *aj-* stems are multiphase. This tends to be more obvious with simplex perfectives such as *броси-, хвати-*. Certain imperfective pairs might be described in this way (*вали-/валяй-*), but the precise lexical differences between the simplexes *веси-/вешай-, меси-/мешай-, ломы-/ломай-* do not readily lend themselves to an interpretation of single phase vs. multiphase. On the other hand, numerous instances of the opposed prefixed perfectives of these verbs do provide clear examples of the phasal opposition, including verbs which oppose the *nu-* suffix to *aj-*.

I would suggest that the semantic subclasses of prefixed perfectives, which are derived from dual simplexes, might be described as shown in table 21, where type I refers to phasal oppositions between the two prefixed perfectives and type II includes instances when one prefixed perfective or the other is unopposed with either spatial or Aktionsart meaning.

Table 21. Basic semantic categories of dual simplexes.

I. Instances when spatial prefixes can apply to both stems (single phase and multiphase), with identical prefixal meaning in both, forming a **minimal opposition between the suffixes of the two stems**; i.e. there is identity of form and meaning of the prefixes and roots in the opposed terms.

Single phase/Determinate	Multiphase/Indeterminate
вброси-	вбросай- (Вбросить в несколько приемов.)
выброси-	выбросай- (Выбросить одно (одного) за другим.)
выкуси-	выкусай- (Выкусить что-н. в несколько приемов.)
отхвати-	отхватай- (Отхватить в несколько приемов.)
усади-	усажай- (Усадить в несколько приемов.)
подкати-	подкатай- (Подкатить подо что-н. в несколько приемов.)
растаци-	растаскай- (Унести, утащить в несколько приемов.)
протисну-	протискай- (Протиснуть в несколько приемов.)
пристукну-	пристукай- (Пристукнуть в несколько приемов.)
отчерпну-	отчерпай- (Отчерпнуть в несколько приемов.)
всуну-	всова- (В несколько приемов всунуть.)
оттолкну-	оттолкай- (Оттолкнуть в несколько приемов.)
наг/на- ~ нагони-	нагоняй- (Нагнать куда-л. в несколько приемов.)
подскочи-	подскакай- (Приблизиться вскачь (преимущ. о всаднике).)
(Сделать прыжок на месте.)	

II. Instances when there is no minimal semantic opposition between the two simplex stems, since there is no constant prefixal form and meaning across the two simplexes.

a. When spatial prefixes (e.g. в-, вы-, от-, etc.) apply only to the single-phase or determinate stem.

Single-phase/Determinate	Multiphase/Indeterminate
ввали-	(*вваляй- not registered.)
вкуси-	(*вкусай- not registered.)
прикуси-	(*прикусай- not registered.)
подброси-	(*подбросай- not registered.)
войд-	(Perf. *входи- not registered.)
припад-	(*припадай- not registered.)

b. When an Aktionsart prefixes which apply only to the multiphase stem (or, more rarely, only to the single-phase or determinate stem).

Single-phase/Determinate	Multiphase/Indeterminate
No such Aktionsart with prefix.	забросай- (Начать бросать.)
No such Aktionsart with prefix.	добросай- (Окончить бросание)
No such Aktionsart with prefix.	пробросай- (Бросать, сбрасывать в течение какого-л. времени.)
No such Aktionsart with prefix.	заваляй- (Начать валять.)
No such Aktionsart with prefix.	заходи- (Начать ходить.)
No such Aktionsart with prefix.	западай- (Начать падать.)

If we attempt to differentiate prefixal usage with motion verb simplexes (*идти/ходить, бежать/бегать, лететь/летать*) from that of non-motion simplexes (*бросить/бросать, хватить/хватать, кинуть/кидать*), it turns out that the motion verbs generally are not multiphase

verbs, such that their determinate and indeterminate prefixed perfectives are not opposed. The motion verb pattern for prefixed perfectives specifies that the determinate series has exclusive rights to the spatial series of prefixes (e.g. *войти, зайти, перейти, пройти, уйти, выйти*), while the indeterminate series has an almost exclusive domain over the Aktionsart series of prefixes (with the notable exception of the single prefix *по-* (in ingressive or resultative meanings), noted by Isačenko (1960:322).

The non-motion dual simplexes can also have instances of exclusive spatial prefixal use, on the part of *i-* or *nu-* suffixed stems, just as the *aj-* suffixed stems can have exclusive Aktionsart usage. However, their major difference lies in the many examples of spatial prefixal usage which oppose spatial single-phase to spatial multiphase. A good example of this can be seen in the semantic opposition of *вброси-/вбросай-*. Ušakov's totally expected definition of the single phase type is "Бросить внутрь." If we look at the definition of the multiphase *вбросать*, we find "Вбросить в несколько приемов." Note that the definition is remarkable in that it is precisely that of the other member of the opposition, with the qualification that it occurs in several phases. In fact, this definition can be viewed as a formula, where X represents the single phase stem and the definition states that the multiphase equals X "в несколько приемов." However, the formula does not have to hold exactly, if the clear sense is one phase vs. many, since dictionaries are not compiled with such mathematical precision and many multiphase events take on additional meanings, such as the one mentioned about making something dirty by touching it over and over again (i.e. on a multiphasal basis). Using the search term "в несколько приемов," I was able to search an electronic version of the Ušakov dictionary and retrieve many verbs which contain the basic formula. Unsurprisingly, it contains a relatively large number of the multiphase verbs which have been referred to above. However, it also contains three of the traditional motion verbs: *кати-/катай-*, *тащи-/таскай-*, and *нагна-/нагоняй-*. This suggests that these two verbs are among the very few (or only) verbs which combine the determinate/indeterminate and single phase/multiphase oppositions. In most other instances, they are in complementary opposition. It is worthy of note that two of these three motion verbs (*кати-/катай-* and *тащи-/таскай-*) have the suffixal pattern (*i-* and *aj-*) which is more characteristic of the non-motion dual simplexes than of the typical motion verbs, and that their syncretism follows that of the non-motion type (in that the two derived imperfectives are syncretic). This may give us a clue towards solving the riddle of why some dual simplexes have the syncretism of the indeterminate's prefixed perfective and the determinate's derived imperfective (e.g. *заходить* in its two different syncretic uses, one perfective and one imperfective), while others have the syncretism exclusively within the derived imperfectives of both stems. The answer may lie in the possibility vs. impossibility of a pure opposition of single phase vs. multiphase (see table 21), for if *вбросить/вбросать* had the same syncretism as *заходить* (both as the imperfective pair of *зайти* and as a prefixed perfective built on the indeterminate stem *ходи-*), the multiphase opposition *вбросить/вбросать* would be ambiguous (i.e. *вбросать* would be used for both *вбросать* and *вбрасывать* in that hypothetical case), referring both to the multiphase opposition of the two perfectives as well as to the aspectual opposition. As it stands now, there are two clearcut oppositions: *вбросить/вбросать* for phase, and *вбросить/вбрасывать* for aspect. The only oppositional sacrifice is that the distinction between the two imperfectives is neutralized and thus unmarked for phase, which appears to be part of logic of the system, in any case. The situation with non-phase motion verbs is completely different. For example, here is no minimal semantic opposition of *зайти* with another perfective which preserves the meaning of the prefix. There are two hermetically sealed and separate prefixal systems: spatial and Aktionsart.

Thus, the *зайти* will only enter into a minimal opposition, based on aspect, with the imperfect *заходить*. The Aktionsart *заходить* is from another semantic sphere entirely. In this way, each of the two types of dual simplex syncretism support one the two major subcomponents of the dual simplex system: the motion system and the phasal system. Table 22 summarizes this situation.

Table 22. Suggested reason for imperfective syncretism in simplexes with the multiphase opposition.

	Simplex 1	Simplex 2
Simplex	броси-	бросай-
Prefixed perfective	вброси-	вбросай-
Derived imperfective	<b>вбрасывай-</b>	

In other words, if *вброси-/вбросай-* had the other type of syncretism, *вбросай-* would be both the imperfective of *вброси-* and its multiphase partner. This syncretism **does** occur in motion verbs (e.g. *идти/ходить*), where there is no multiphase partner and *входи-* cannot occur as a multiphase perfective of this type.

The perfective pair *нагнать/нагонять*, specifically marked as colloquial (*разговорный*), is a rare exception to this principle, since the meaning of perfective *нагонять* corresponds to our typical multiphase formula (defined as “*Нагнать куда-н. в несколько приемов (разг.)*.”), which indicates a pure phase opposition with the spatial prefix *на-*, yet it has the syncretism of the indeterminate prefixed perfective and the determinate derived imperfective, rather than of the two imperfective forms. In terms of our examples and tables, this would mean that verbs listed in part I of table 19 should conform to the syncretic pattern of shared imperfectives, which true of all those listed, except for *нагоняй-*. The irregular morphology of the stem *гна-* may account for this, since the present tense of *гна-* uses a suppletive *i*-suffix formation, as will be shown in more detail below.

Upon closer inspection, it turns out that the difference between verbs which admit a pure phasal opposition (e.g. the type *вбросить/вбросать*) has more of a morphological correlation than a correlation with “motion” and “non-motion.” There are a few clues that lead to this conclusion. Firstly, one of the “non-motion” dual simplex stems, *пасть/падай-*, stands out as **both** having different suffixes than all the others as well as lacking the pure phasal opposition, having only spatial meanings with one simplex and Aktionsart with the other, i.e. type II, rather than type I in table 21. Secondly, two of the “motion” dual simplexes, *катить/катать* and *тащить/таскать*, stand out for precisely the opposite reason—they are the only motion verbs with the *i-/aj-* dual simplex pair of suffixes, and they do admit phasal oppositions of type I. Of course, the suffixal pair *ну-/aj-* also admits the phasal opposition. Therefore, we might assume that the possibility of the phasal opposition depends on a dual simplex pair with an obligatory *i-* or *ну-* suffix in either the determinate or single-phase simplex. The indeterminate or multiphase *aj-* suffix cannot be the invariant, since some simplex pairs have the *i-* or *ну-*, but lack the *aj-* per se (e.g. *плюну-/плева-*, *суну-/сова-*, *-скоочи-/скака-*); however, we can say that the simplex suffix alongside *i-* or *ну-* must be either *aj-* or *a-* (*a* must be its initial and only vowel). The ostensible exception to this pattern—*нагнать/нагонят*—looks like it lacks the *i*-suffix, but is actually conjugated as an *i*-suffix verb in the present tense, and does have the *aj*-suffix as its other simplex.

If we summarize all of this information, the basic pattern can then be presented as follows:

Table 23. Summary table of formal and semantic properties of dual simplexes and their aspectual derivatives.

<b>The Two Major Types of Dual Simplexes</b>			
<b>Type I.</b> Formal properties: 1. Dual simplexes with the suffix <i>i-</i> or <i>nu-</i> in the single-phase or determinate form. 2. Syncretism of dual imperfectives.  Semantic properties: 1. Admit pure phasal opposition. 2. Unmarked for determinate/indeterminate opposition.		<b>Type II.</b> Formal properties: 1. Never uses the suffix <i>i-</i> or <i>nu-</i> in the determinate form. 2. Absence of syncretism across the two imperfectives (with rare exceptions).  Semantic properties: 1. No pure phasal opposition. 2. Marked for determinate /indeterminate opposition (all are motion verbs).	
Non-motion (Lacks determinate/indeterminate opposition)		Motion (Has determinate /indeterminate opposition)	
i-/aj dual simplexes	nu-/aj- or nu-/ (ov)a- dual simplexes		
броси-/бросай- хвати-/хватай (куси-)/кусай- (мени-)/меняй- (скочи-)/скака- (стрели-)/стреляй  вали-/валяй- веси-/вешай- вороти-/ворочай- ломи-/ломай- меси-/мешай- сади-/сажай-	дёрну-/дёргай- кину-/кидай- ковырну-/ковырай- кувыркну-/кувыркай- пихну-/пихай- плюну-/плева- прыгну-/прыгай- стукну-/стукай- суну-/сова- тисну-/тискай- толкну-/толкай- тяну-/тягай- черпну-/черпай- швырну-/швырай- щипну-/щипай-, etc.	тащи-/таскай- кати-/катай- гони-(~гна-) /гоняй-	бежа-/бегай- вёз-/вози- вёд-/води- ед-(~еха-)/езди- ид-(й/д-)/ходи- лез-/лази- лете-/летай- нёс-/носи- плыв-/плавай- полз-/ползай- (бред-/броди-)

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