

Theme Vowels *e* and *i* in Russian: Implementing the Cartographic Approach

Vadim Dyachkov
Institute of Linguistics, RAS, Moscow

Abstract The paper deals with the Russian theme vowels that can be regarded as derivational suffixes, in particular, with *e*- and *i*-vowels. The former derives emission verbs or inchoative verbs, whereas the latter derives causatives (both dynamic and stative), unergative behaviour-related verbs, and some others. I propose a uniform explanation of the fact that the same theme vowel can give rise to different structural types of verbs. I argue that, semantically, the best way to capture the differences between the two vowels is to implement the Ramchand's model of predicate decomposition, where *e*-vowel encodes the process sub-event and *i*-vowel the initial sub-event.

Keywords Russian. Theme vowels. Unaccusativity. Unergativity. Denominal verbs. Deadjectival verbs. Stative causatives.

Summary 1 Introduction. – 2 Structural Types of Denominal and Deadjectival Verbs. – 2.1 *e*-Verbs. – 2.2 *i*-Verbs. – 3 Formal Implementation in Ramchand's Model. – 4 Structural Types of *i*-Verbs. – 4.1 Stative Causatives. – 4.2 Predicates of Taste. – 4.3 Instrumental Verbs. – 4.4 Unergative Verbs. – 4.5 Relations Between *e*- and *i*-Verbs. – 5 Discussion. – 6 Conclusion .



Peer review

Submitted	2021-07-20
Accepted	2021-12-14
Published	2022-02-15

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Citation Dyachkov, V. (2021). "Theme Vowels *e* and *i* in Russian: Implementing the Cartographic Approach". *Balcania et Slavia*, 1(2), 181-204.

1 Introduction

The fact that some Slavic theme vowels are elements going back to derivational affixes is well-known in historical linguistics (cf. Lunt 2001; Vaillant 1966). However, the same theme vowel can give rise to several structural and/or semantic types of verbs. In this paper, I will focus on two theme vowels deriving denominal and deadjectival verbs, namely *-e* and *-i*, and explore their semantic and structural properties.

There is evidence that at least some of Slavic theme vowels are not semantically empty (see Jabłońska 2007 on Polish and Dyachkov 2019 on Russian deadjectival verbs). In favour of this claim, I will show that *e*- and *i*-vowels affect the argument structure of the derived verbs and determine their syntactic properties. The basic derivational models involving theme vowels are exhaustively described in Shvedova et al. 1980. For instance, in Russian, the theme vowel *e* derives emission verbs (*bel-e-t'* <white-E-INF> 'be white') or inchoative verbs (*krasn-e-t'* <red-E-INF> 'become white') as well as some predicates denoting transformation (*zver-e-t'* <beast-E-INF> 'become a beast [fig.]'). The theme vowel *i* is used to derive verbs from both nouns and adjectives, and this derivational model is quite productive in modern Russian. Many verbs are causative counterparts to inchoative predicates (*bel-i-t'* <white-I-INF> 'whiten [sth.]'¹). Other classes include some predicates denoting taste that have some stative properties, stative causatives, unergative behaviour-related verbs and verbs derived from names of instruments. All these classes of verbs will be discussed in detail below.

In this paper, I will propose a uniform explanation of the fact that the same theme vowel can give rise to different structural types of verbs. I propose that, semantically, the best way to capture the differences between the two theme vowels in Russian is to implement Ramchand's model (2008) of predicate decomposition. In this model, the verb can be decomposed into up to three subevents {init, proc, res} which are responsible for initial, process and resulting phases. Whereas the result sub-event in Russian is always expressed by perfectivizing lexical prefixes (Svenonius 2004b; Ramchand 2005; Tatevosov 2010), I argue that it is the process sub-event that is encoded by the *e*-vowel and that it is the initial sub-event that is encoded by *i*-vowel. Such an analysis allows to explain many properties of the denominal and deadjectival verbs in question in a uniform way. First, *e*-vowel derives only unaccusative verbs lacking the initial sub-event.

¹ In Russian, causative-inchoative alternation can be also realized by decausativization: *u-glub-i-t'* <PREF-deep-I-INF> 'make sth. deep(er)' – *u-glub-i-t'-s'a* <PREF-deep-I-MED> 'get deep(er)'. I will not consider this derivation in the present paper.

In Ramchand's model, unaccusatives are associated with the [+proc] semantic feature, and I argue that the *e*-vowel can be analysed as the procP head. In contrast, the *i*-theme vowel derives agentive and unergative verbs, and the vowel occupies the position of the initP head.

The paper is structured as follows. First, in § 2, I will describe the types of the verbs derived with *e*- and *i*-vowels. In § 3, I will show how these data can be implemented into the Ramchand's model of predicate decomposition. I argue that the verbs derived with *i*-vowel can appear in two configurations that differ in the number of sub-events they are composed of. I will describe the properties of each semantic type and discuss the question of why *e*- and *i*-vowels cannot co-occur within the same verb form. In § 4, I will discuss the structural types of the verbs derived by adding *i*-vowel to the base. In § 5, I will discuss some more issues concerning the advantages of the present proposal. Specifically, I will compare my proposal to the analysis that was proposed in Jabłońska 2007 for Polish theme vowels. § 6 concludes the paper.

2 Structural Types of Denominal and Deadjectival Verbs

2.1 *e*-Verbs

Verbs derived with *e*-vowel are mostly deadjectival predicates (Shvedova et al. 1980, 344-5). They can be classified as inchoatives (1), but some verbs can be best described as verbs denoting colour emission (Dyachkov 2019, 81-2, 88-9). The latter differ from the former in that they do not encode transition into a state denoted by the adjectival stem. This class is exemplified in (2).

(1)

Jego	lico	bel- e -et.
3SG.POSS	face	white-E-PRES.3SG

'His face is getting white'.

(2)

Na	gorizont- e	par-u	čas-ov	bel- e -l-i	oblak-a.
on	horizon-LOC	couple-ACC	hour-gen.PL	white-E-PST-PL	cloud-PL

'The clouds were whitening on the horizon'.

Apart from deadjectival verbs, in Russian there are several *e*-verbs that are derived from nouns: *satan-e-t'* <satan-E-INF> 'get furious', *zver-e-t'* <beast-E-INF> 'lose control' (Shvedova et al. 1980, 345). However, this class is recognised as non-productive in modern Russian.

2.2 *i*-Verbs

i-vowel derives verbs from both nouns and adjectives. This derivational model is quite productive in modern Russian (Shvedova et al. 1980, 332-5). Many adjectives derive deadjectival verbs, and some of them also derive causative verbs, cf. (3) and (4). However, the theme vowels, as is well-known, do not co-occur within the same verb – that is, causative verbs do not inherit the theme vowel of their inchoative counterparts. Moreover, the event structure of the causative verb does not comprise that of the inchoative one, as I will argue in detail below.

(3)

Tovar po-dešev-e-l.
merchandise pref-cheap-E-PST.M
'The merchandize got cheaper'.

(4)

Prodavec u-dešev-i-l tovar.
salesman pref-cheap-I-PST.M merchandize.ACC
'The salesman made the merchandize cheaper'.

Other classes derived with *i*-vowel include some predicates denoting taste that have some stative properties (5),² stative causatives (6),³ unergative behaviour-related verbs (7) and verbs derived from names of instruments (8).

(5)

Jeda gorč-i-t.
food sour-I-PRES.3SG
'The food is sour'.

(6)

Et-o plat'je men'a poln-i-t.
this-N dress 1SG.ACC plump-I-PRES.3SG
'This dress is making me look plump'.

(7)

Čto ty tup-i-š?
what 2SG dumb-I-PRES.2SG
'Why are you being stupid?'

² Shvedova et al. (1980) do not separate this class from the predicates labeled here as unergatives. I distinguish these two classes because of their significant semantic difference. Below I will show that unergatives are typical eventive verbs, whereas predicates of taste are not.

³ The term "stative causative", used elsewhere in this paper, refers to causatives that, unlike their dynamic counterparts, do not have any dynamic component and denote state-to-state causal chains, cf. Kratzer 2000; Pyllkkänen 2000; Rothmayr 2009.

(8)

Vas'a	motyž-i-t	zeml'-u.
V.	hoe-I-PRES.3SG	soil-ACC

'Vasya hoes the ground'.

The semantic types listed above are the focus of the present paper, although several other types of predicates can be derived using *i*-vowel. Those are exemplified below in (9). Some of these verbs belong to the types that are quite productive, and I will consider them below in § 4.

(9)

	base	denominal/deadjectival verb (infinitive form)
a.	<i>gost'</i> 'guest'	<i>gost-i-t'</i> 'be a guest (for some time)'
	<i>partizan</i> 'partisan'	<i>partizan-i-t'</i> 'be a partisan'
	<i>bazar</i> 'market, bazaar'	<i>bazar-i-t'</i> 'behave like in a bazaar'
	<i>pudra</i> 'powder'	<i>pudr-i-t'</i> 'powder (verb), cover with powder'
	<i>kaleka</i> 'cripple'	<i>kaleč-i-t'</i> 'make sb. a cripple'
	<i>dym</i> 'smoke'	<i>dym-i-t'</i> 'smoke (verb), fume away'
b.	<i>t'oplyj</i> 'warm'	<i>u-tepl-i-t'</i> 'make sth. warm'
	<i>m'agkij</i> 'soft'	<i>s-m'agč-it'</i> 'make sth. soft'

It turns out that, superficially, the verbs listed in this section do not have any common semantic components. It is obvious that the theme vowel introduces the causative component in the case of deadjectival verbs, as can be seen from (5)-(7), but other verbs like *tup-i-t'* 'behave stupidly' or *gost-i-t'* 'be a guest' do not seem to have any causative semantics. Thus, *i*-vowel cannot be regarded as a pure causative marker. In the following section, I will propose an explanation of the fact that several different semantic types use the same theme vowel, and then I will test predictions made by my proposal.

3 Formal Implementation in Ramchand's Model

For my purposes, I will use the theory of verb decomposition presented in Ramchand (2008). Let us suppose that the initial verb stem can be decomposed into one to three projections - *initP*, *procP* and *resP* - where *initP* describes the initial state, *procP* the process phase of the event and *resP* the result state. The maximal possible structure of a verb is as follows:

(10)



Various structural and semantic types of predicates differ in what projections they include in their nanosyntactic representation. In Ramchand's theory, unaccusatives lack the [+init] feature, since *initP* is associated with the agent's activity and unaccusatives do not have an agent in their semantic representation. If a verb does have *initP*, there are two possibilities. The structure including *initP* but lacking *procP* is interpreted as a stative predicate. The structure having both components is interpreted as an activity. *resP* is responsible for the result state, and only verbs having a result state (that is, achievements and accomplishments) have a *resP* in their representation.

I assume that the structure presented in (10) can be used as the cartographic representation reflecting the (presumably) universal order of syntactic/semantic structure of the predicate. The Ramchandian structure can be mapped onto the traditional *vP/VP* sequence (cf. Jabłońska 2007). There is much debate on the nature of *vP* itself;⁴ many theories assume that the difference in assigning the role of external argument is determined by different 'flavours' of *v*. In such theories, transitive and intransitive verbs are derived independently with different 'flavours' of *v*. For instance, transitive verbs are modelled as structures with $v_{\text{TRANS}}P$ that project a specifier, and $v_{\text{IN-TR}}P$ that do not.

In § 2, I have shown that the class of verbs derived with *i*-vowel is heterogenous. It comprises both transitive and intransitive predicates, which belong to different semantic and structural types. In order to capture the uniformity of the morphosyntactic makeup of these types (i.e. the fact that these verbs are derived with the same theme vowel), I propose that the theme vowel occupies the same slot in the structure of the verbal form. Thus, the difference between several semantic types arises from a complex interaction of the seman-

⁴ Cf. Marantz 1997; Chomsky 1999; Alexiadou, Anagnostopoulou 2004; Folli, Harley 2007, to mention only a few.

tics of the stem, the theme vowel and the structural configuration of the predicate. Given the fact that the causative/inchoative alternation in Russian is expressed by the change of the theme vowel, I will straightforwardly hypothesise that the theme vowels occupy two different slots in the Ramchandian structure. Specifically, *e*-vowel derives two structural types of verbs, namely emission verbs and inchoative verbs. Both types involve a participant that does not control the action and undergoes the process denoted by the verb. In Ramchand's theory, such predicates cannot have an *initP* and thus have the set of features listed in (11).

(11)

e-vowel: [+proc, ±res]

The crucial generalisation is that these verbs are unaccusative, since the structure represented in (11) corresponds to unaccusative predicates. In Russian, unaccusativity can be revealed by a number of tests (to be discussed below). In contrast, causative verbs alternating with inchoatives do have an *initP* in their representation, and I hypothesise that their structure is as in (12). However, not all the verbs derived with *i*-vowel are causative verbs. Taking into consideration my previous assumption that the uniformity in marking must reflect the structural uniformity, I also hypothesise that there are other configurations where the verbs with *i*-vowel can appear. Let us recall that, for verbs having an *initP*, there is another possible configuration in Ramchand's model. Namely, the *initP* may not have a *procP* complement, and in such cases the verb is interpreted as a stative predicate (13).

(12)

i-vowel: [+init, +proc, ±res]

(13)

i-vowel: [+init]

Thus, the model sketched above makes a crucial prediction. Given the assumption that *i*-vowel is associated with *procP*, all the verbs containing it should not be unaccusative. In the sections below, I will investigate this prediction and explore the semantic properties of the predicates in more detail.

4 Structural Types of *i*-Verbs

4.1 Stative Causatives

Stative causatives in Russian can be derived from a limited number of adjectives. Their list is given in (14) but is possibly not exhaustive. Most of these causatives denote states attributed to a human holder and associated with a visual effect. An example is given in (6) and is repeated below in (15).

(14)

base		deadjectival verb (infinitive form)	
<i>poln-yj</i>	‘plump’	<i>poln-i-t’</i>	‘make sb. look plump’
<i>strojn-yj</i>	‘slim’	<i>strojn-it’</i>	‘make sb. look slim’
<i>star-yj</i>	‘old’	<i>star-i-t’</i>	‘make sb. or sth. look old’

(15)

Et-o	plat’je	men’a	poln-i-t.
this-N	dress	1SG.ACC	plump-I-PRES.3SG

‘This dress is making me look plump’.

Stative causatives have significant properties distinguishing them from true *i*-causatives. First, their core meaning can be described as ‘fake causativization’. For instance, the verb *polnit’* ‘make sb. look plump’ does not denote an event where something makes something plump. In (15), the participant marked by the accusative cannot be described as ‘plump’, because the verb only denotes the visual effect of the dress. This can be seen in the following example, where the property denoted by the verbal stem can be cancelled by the context.

(16)

Ja	xud-aja,	no	et-o	plat’je	men’a	poln-i-t.
1SG	thin-F	but	this-N	dress	1SG.ACC	plump-I-PRES.3SG

‘I am thin, but this dress is making me look plump’.

Second, stative causatives always involve non-animate subjects – for instance, in (15) it is only clothes (but not, say, a human being) that may cause the visual effect. Third, stative causatives usually have eventive counterparts that have all the range of properties of ordinary *i*-causatives. These eventive counterparts are usually prefixed telic verbs denoting enter-into-state encoded by the adjectival base. (17) and (18) are examples of such causatives involving the inanimate and the animate subject, respectively.

(17)

plat'je men'a sil'no u-korot-i-l-o i ras-poln-i-l-o.
 dress 1SG.ACC much PREF-short-I-PST-N and PREF-plump-I-PST-N
 'The dress made me look short and plump'. (Google)

(18)

Vas'a iskusstvenn-o so-star-i-l mebel'.
 V. artificial-ADV PREF-old-I-PST.M furniture.ACC
 'Vasya artificially aged the furniture [lit. made the furniture old]'.

A question arises whether the semantic properties of the stative causatives can be attributed to the configuration of the predicate and its arguments. For instance, if the stative causatives always involve inanimate subjects, can the stative properties be due to the inanimacy itself? The case of (17) suggests that the correct answer is no. Both stative causatives and their telic counterparts involve non-agentive subjects, and in this respect they do not differ from each other. Hence, stativity arises from some other inherent properties of the verbs.

Further investigation shows that stative causatives are predicates denoting actions that can hardly be characterised in terms of durativity – in other words, they do not refer to actions that can be localised within a certain temporal interval. For instance, activities (= predicates having both the *initP* and the *procP*) are non-punctual predicates, and they are compatible with *for*-adverbials, cf. (19). This is not so in the case of stative causatives (20).

(19)

Ja beg-a-l dv-e minut-y / dolgo.
 1SG run-A-PST two-F minute-GEN.PL for.a.long.time
 'I ran for two minutes / *for a long time'.

(20)

* Et-o plat'je men'a poln-i-l-o dv-a dn-ya / dolgo.
 this-N dress 1SG.ACC plump-I-PST-N two-M day-GEN for.a.long.time
 '*This dress was making me look plump for two days / for a long time'.

The example (20) shows that, although stative causatives are atelic predicates, they are not subject to modification by the temporal adverbials that are able to combine with any predicates denoting continuous events. Therefore, they cannot be activities and lack the [+proc] feature. This is consistent with my proposal that statives only have an *initP* in their representation.

Finally, we need to make sure that stative causatives are not unaccusative verbs. For Russian, a number of tests were proposed to

diagnose the unaccusative properties of verbs.⁵ One of the most significant features affecting the unaccusativity of a verb is the animacy of the subject. As shown in Glushan (2009), this feature is responsible for the contrast observed in (21) and (22). In both cases, the verb ‘come’ is used, but it has unaccusative properties and passes the genitive-of-negation test for unaccusativity only in the former case (Pesetsky 1982).

(21)

nikak-ix	pisem	ne	pri-xodi-l-o.
none-GEN.PL	letter.GEN.PL	NEG	PREF-go-PST-N

‘There were no letters coming’.

(22)

??	nikak-ix	l’ud-ej	ne	pri-xodi-l-o.
	none-GEN.PL	people-GEN.PL	NEG	PREF-go-PST-N

‘There were no letters coming’.

Applying some of the unaccusativity tests for Russian, one can see that stative causatives are not unaccusative predicates. The distributive test (Schoorlemmer 2004) shows this. Whereas inchoative verbs derived with *e*-vowel pass this test and can occur in distributive contexts (23), stative causatives cannot (24). This allows us to conclude that the two types of verbs have different argument structures.

(23)

V	každ-oj	korzin-e	za-červiv-e-l-o	po	jablok-u.
in	each-LOC.F	basket-LOC	PREF-wormy-E-PST-N	on	apple-DAT

‘There was an apple in each basket that became worm-eaten’.

(24)

*	Každ-yj	den’	men’a	poln-i-l-o	po	plat’-ju.
	each-M	day	1SG.ACC	plump-I-PST-N	on	dress-DAT

Int.: ‘There was a dress each day that was making me look plump’.

To sum up, I assume that stative causatives do not have a [+proc] feature in their semantic representation and can be regarded as stative predicates. They cannot refer to continuous events and therefore are different from ordinary activities. Simultaneously, they are not unaccusative predicates, which is expected if *i*-vowel is indeed located above the procP.

⁵ Cf. Babyonyshev et al. 2001; Harves 2002; Schoorlemmer 2004; Glushan 2009.

4.2 Predicates of Taste

Let us now turn to the problem of predicates of taste. This class is represented in Russian by the verbs *gorč-i-t* ‘be bitter’ and *kisl-i-t* ‘be sour’. Other basic adjectival stems denoting taste, *solěnyj* ‘salty’ and *sladkij* ‘sweet’, do not derive deadjectival verbs. Although deadjectival verbs derived from adjectives denoting taste do not constitute a productive class, I suggest that the fact that they use *i*-vowel but not another derivational marker fits well in the general picture.⁶

The key question is whether the predicates of taste belong to the class of states or not. If the answer to this question is positive, then they can be modelled as follows:

(25)

Jeda *gorč-i-t*.
 food bitter-I-PRES.3SG
 ‘The food tastes bitter’.



Let us recall that Ramchand (2008) assumes that there are two possible configurations in which the *initP* head appears. If it has a complement (= *procP*), then the structure is interpreted as an eventive predicate. If it lacks a complement, then the structure is interpreted as a stative predicate. I assume that the verbs of taste represent the latter case. The stem is conflated into the *initP* head, and *initP* does not project a *procP* complement.

Like all the verbs having a *procP* but lacking a *resP*, verbs of taste are atelic. They are incompatible with *for*-adverbials (26), the test that can be used to diagnose the *procP* component with the verbs that lack the *resP*.

⁶ An anonymous reviewer points out that the predicates of taste are adjective-like items and are “reminiscent of languages formally having no adjectives”. Given these considerations as well as the fact that these verbs form a minor class, I admit that these verbs could be inherited from an earlier stage of development of the Russian language. Of course, this question needs additional investigation. However, as was shown, the model is not productive and there are no non-derived adjective-like verbs in modern Russian.

(26)

Jed-a gorč-i-l-a (*dva dn'-a).
 food-F bitter-I-PST-F two day-GEN

'The food was bitter (*for two days)'.

One can suggest that the incompatibility with *for*-adverbials might be due to other factors than the semantic/syntactic structure. Informally speaking, (26) might be infelicitous, because the state of affairs denoted by the verb does not hold for a limited period of time but is (in some sense) permanent. However, predicates of taste do not pattern with other stative verbs – for instance, with individual level predicates. Individual level predicates are also incompatible with *for*-adverbials (27), but, unlike predicates of taste, they cannot be used in contexts like those exemplified in (28), compared to (29).

(27)

* Vas'a zna-l francuzsk-ij yazyk dva god-a.
 V. know-PST.M French-ACC.M language.ACC two year-GEN

'*Vasya knew French for two years'.

(28)

* Vsyak-ij raz, kogda Vasya vy-ezža-et
 each-M time when V. PREF-go-PRES.3SG
 za granic-u, on zna-et francuzsk-ij yazyk.
 behind border-ACC 3SG know-PRES.3SG French-M language

'*Each time Vasya goes abroad, he knows French'.

(29)

Vsyak-ij raz, kogda ty gotov-iš jed-u,
 each-M time when 2SG prepare-PRES.2SG food-ACC
 on-a gorč-i-t.
 3SG-F bitter-I-PRES.3SG

'Each time you prepare food, it tastes bitter'.

In (29), the episodic interpretation of the predicates of taste is induced by the context. The sentence denotes a situation where, for each occurrence of the event denoted by the main clause, the event denoted by the main clause takes place. Since individual level predicates cannot have episodic interpretations, they cannot be used in such sentences. In contrast, predicates of taste are completely felicitous. This implies that, although predicates of taste denote states, they cannot be treated equally to states denoted by the predicates such as 'know'.

What is the formal way to clear up this discrepancy? The stative causation analysis might be the best way to capture the essential properties of the predicates of taste, which would bring together verbs like *gorčit* 'be sour' and the stative uses of causatives dis-

cussed in § 4.1. Let us assume that the predicates of taste are stative causatives. Then, in Ramchand's framework, their representation only includes the [+init] feature, and this means that these verbs are not unaccusative. Indeed, this prediction is borne out, since predicates of taste cannot occur in unaccusative contexts, cf. (30).

(30)

*	nikak-oj	jed-y	ne	gorč-i-l-o.
	none-GEN	food-GEN	NEG	bitter-I-PST-N

Int.: 'There was no food which would taste bitter'.

If the predicates of taste are indeed stative causatives, it is natural to assume that individual level predicates, such as 'know', must differ from them in their (nano)syntactic representation. Although I am not aware of any theory that would represent statives of different kinds by different syntactic structures, I hypothesise that individual level predicates have to include more layers of representations than simple statives, since they are more complex semantically. Whereas predicates like 'taste bitter' can have episodic interpretations, individual level predicates can be treated as predicates denoting abstractions over sets of episodic events. However, this question is beyond the scope of this paper and is the matter of a future research.

4.3 Instrumental Verbs

Instrumental verbs with *i*-vowel are represented by a quite large set of items. These items are atelic by default (31) but can be telicized by prefixes (32).

(31)

Vrag	bomb-i-l	gorod	(*za)	dva	čas-a.
enemy	bomb-i-PST	city	in	two	hour-GEN

'The enemy bombed the city (*in) two hours'.

(32)

Vrag	raz-bomb-i-l	gorod.
enemy	PREF-bomb-i-PST.M	city.ACC

'The enemy bombed the city (completely)'.

Thus, instrumental verbs are composed of two sub-events, one of them being the process sub-event and the second the initial sub-event. Thus, the verb is decomposed into procP and initP.⁷

⁷ Such a formal implementation may seem doubtful, since in order to properly derive an instrumental verb, one needs to assume that the stem *bomb-* is first integrated into

There is a strong semantic motivation for the fact that nominal stems denoting instruments can be combined with *i*- but not with *e*-vowel. Taking into consideration the fact that the *e*-vowel lexicalizes predicates lacking initP, I assume that such predicates derived from names of instruments would be semantically impossible. Such predicates would denote actions performed with an instrument but lacking an agent bringing about the whole event, which does not correspond to any possible state of affairs in the real world. Thus, the association of the instrumental verbs with *i*-vowel seems semantically well-motivated.

4.4 Unergative Verbs

A more interesting case is represented by the unergative *i*-verbs. These verbs can be derived both from nouns (33) and from adjectives (34), although the second type is not fully productive and represented by several items in modern Russian.

(33)

base		denominal verb (infinitive form)	
<i>gost'</i>	'guest'	<i>gost-i-t'</i>	'be a guest (for some time)'
<i>rybak</i>	'fisherman'	<i>rybač-i-t'</i>	'be fishing'
<i>batrak</i>	'(farm) labourer'	<i>batrač-i-t'</i>	'work as a farm labourer'

(34)

base		deadjectival verb (infinitive form)	
<i>xitr-yj</i>	'cunning'	<i>xitr-i-t'</i>	'cheat, be cunning'
<i>tup-oj</i>	'stupid'	<i>tup-i-t'</i>	'behave stupidly'
<i>mudr-yj</i>	'wise'	<i>mudr-i-t'</i>	'do something which is too wise'

This class of verbs is not homogenous. Some of the items listed in (33) have properties of activities. For instance, the verb *rybačit'* 'go fishing' is felicitous in atelic contexts describing the agent's activity within a certain period of time (35). In contrast, the activity interpretation of some other items is not available, possibly for pragmatic reasons (36).

a zero procP head and then, for some reasons, moves to initP and combines with *i*-vowel. However, the framework used in this work does not allow to substantiate the movement operations, and I will leave this question open.

(35)

Segodn'a ja rybač-i-l dv-a čas-a.
 today 1SG fisherman-I-PST two-M hour-GEN
 'Today, I was fishing two hours'.

(36)

* Segodn'a on xitr-i-l dv-a čas-a.
 today 3SG cunning-I-PST two-M hour-GEN
 Int.: 'Today, he was being cunning for two hours'.

Another test that can be used to demonstrate that at least some of these verbs belong to the class of activities is their compatibility with the attenuative prefix *po-*. When used with activity verbs, this prefix induces the regular interpretation 'do V for some time'. Crucially, the prefix is compatible with the verbs derived both from nouns and adjectives. This is exemplified below in (37)-(39).

(37)

My nemnogo po-gost-i-l-i u nix.
 1PL a.little ATT-guest-I-PST-PL at 3PL
 'We stayed at their place for a while'.

(38)

My nemnogo po-tup-i-l-i i vz'a-l-i-s' za rabot-u.
 1PL a.little ATT-guest-I-PST-PL and take-PST-PL-MED behind work-ACC
 'We were hanging around (= behaved stupidly) for a while and then got ourselves to work'.

(39)

Molodoj Trezini nemnogo po-xitr-i-l v intervju.
 young T. a.little ATT-cunning-I-PST.M in interview.LOC
 'Young Trezini was being a little cunning in his interview'. (Google)

At the same time, none of the unergative *i*-verbs can appear in unaccusative configurations. All of these verbs include an agentive participant in their representation, which disallows them from appearing in typical unaccusative structures, as shown in § 3. As a consequence, they cannot appear in negation contexts (40).

(40)

?? u nas ni-kogo ne gost-i-l-o.
 at 1PL.GEN NEG-who.GEN NEG guest-I-PST-N
 Int.: 'Nobody stayed at our place'.

These facts allow us to conclude that *i*-verbs can be decomposed into two components, *initP* and *procP*. These verbs are not unaccusative, and there is no evidence that they include only *initP*, like predicates of taste or stative causatives.

The fact that behaviour-related verbs may pattern together with causative verbs was discussed for French by Martin and Piñon (2020). This pattern is shared by Russian unergative verbs, since the same morphological makeup is used to derive both causative deadjectival verbs (see § 3) and unergative predicates. However, there is a significant difference between the Russian and French derivational models. Martin and Piñon show that French unergatives preserve some properties of causative verbs – for instance, they can attach direct objects (41), have anticausative uses etc., which is conditioned by their causative morphosyntax. In contrast, Russian unergative verbs cannot attach direct objects, and the only way to transitivity is to add a prefix licensing the direct object, cf. (42).

(41)

Sarkozy diplomat-is-e le Hezbollah.
S. diplomat-VBZ-PRES.3SG DEF H.

'Sarkozy causes Hezbollah to get typical properties of diplomatic organizations'
(Martin, Piñon 2020, 3)

(42)

On pere-xitr-i-l / *xitr-i-l det-ej.
3SG.M PREF-cunning-I-PST.M cunning-I-PST.M child.PL-ACC

'He cheated on the children'.

To sum up, unergative verbs in Russian share the morphological makeup with causatives but differ in ability to be used in transitive clauses. Whereas deadjectival causatives are obligatorily transitive, unergatives cannot be transitivity. This property distinguishes them from unergative verbs in some related languages, where these verbs have the causative morphology. However, direct objects can be introduced by some prefixes.

4.5 Relations Between *e*- and *i*-Verbs

In § 3, I showed that the *e*- and *i*-theme vowels do not co-occur within the same verb form. This fact makes some strong predictions, which are in fact borne out by the Russian data. If the structure of the causative verb does not contain that of its inchoative *e*-counterpart, one would expect that the propositions contained in these sentences cannot be reduced to each other. This is true, which can be shown by the following pair, where (43) does not entail (44):

(43)

Vas'a po-bel-i-l sten-u.
 V. PREF-white-I-PST.M wall-ACC
 'Vasya painted the wall white'.

(44)

Stena po-bel-e-l-a.
 wall PREF-white-E-PST-F
 'The wall whitened'.

The example (44) is infelicitous because the unaccusative verb *po-bel-e-t'* <PREF-white-E-INF> 'become white(r)' can only be understood as a spontaneous action that cannot have an implicit initiator. Since the 'wall' usually cannot 'whiten' itself, the state of affairs described in (44) seems awkward. In contrast, other uses of the same verb that do not imply any initiator are completely acceptable, cf. (45).

(45)

Jego lico **po**-bel-**e**-l-o ot strax-a.
 3SG.POSS face PREF-white-E-PST-N from fear-GEN
 'His face whitened from fear in two seconds'.

There is also a significant difference in the semantics of the causative and inchoative counterparts in (43) and (44). Whereas the event described by the verb *pobelet'* 'whiten (intr.)' describes an action of becoming white, the verb *pobelit'* has a more specific sense and usually refers to an action of *painting* something white but not an action of causing the state of affairs, 'the wall whitened'. So, strictly speaking, the two verbs are not direct counterparts to each other.

Moreover, in the case discussed here, the two verbs have the same prefix *po-*, but this is rather an exception than a general rule. In most cases, the inchoative and the causative verb derived from the same adjectival base have different prefixes. This can be illustrated by the following pairs:

(46)

po -dešev-e-t'	u -dešev-i-t'
PREF-cheap-E-INF	PREF-cheap-I-INF
'get cheap(er)'	'make sth. cheap(er)'

(47)

po -star-e-t'	so -star-i-t'
PREF-old-E-INF	PREF-old-I-INF
'get old(er)'	'make sth. old(er)'

(48)

po- tepl- <i>e-t'</i>	u- tepl- <i>i-t'</i>
PREF-warm-E-INF	PREF-warm-I-INF
'get warm(er)'	'make sth. warm(er)'

In each of this pairs, the prefix of the inchoative and the prefix of the causative do not coincide. It is also noteworthy that causative-inchoative alternation is not productive in Russian. Many of the *e*-verbs do not have *i*-counterparts, and vice versa, compare *lys-e-t'* <bald-E-INF> 'get bald' - **lys-i-t*, *tolst-e-t'* <fat-E-INF> 'get fat' - **tolst-i-t'*, *u-lučš-i-t'* <PREF-good.CMPR-I-INF> - **u-lučš-e-t'*, etc.

To sum up, causative and inchoative structural types in Russian cannot be reduced to each other. This is confirmed not only by the fact that *e*-vowel is absent in causatives, but also by semantic tests showing that the structure encoded by causatives is not included into that encoded by inchoatives. We have seen as well that the same (adjectival) base can be merged with different prefixes before they attach a theme vowel. Therefore, predicates of the two types are derived independently of each other.

5 Discussion

Summarising the facts discussed in this paper, I conclude that the verbs derived with *i*-vowel can be subdivided into stative and eventive predicates. The information on the types of verbs that were discussed in this work is given below in (49).

(49)

	stative {init}	eventive {init, proc}
deadjectival causatives		+
stative causatives	+	
predicates of taste	+	
unergative verbs		+
instrumental verbs		+

The problem of syntactic representation of different structural types of verbs is also one of the key topics discussed by Jabłońska (2007), which is the most significant work concerning Slavic theme vowels. Throughout the paper, I modelled the stative verbs as having initP (=vP), while eventive predicates also having procP (=VP). Contrary to this, Jabłońska (2007, 11-12) assumes that the process phase of an event is always located in vP and not in VP. Under her approach, all the dynamic predicates, including unaccusatives, have a preceding state in their semantic representation. Thus, the preceding state (=

vP = initP) has to be postulated not only for causatives, but also for unaccusatives, whereas the latter lack it in Ramchand's model. In order to avoid this mismatch, Jabłońska claims that vP denotes a process or a state. Thus, two different "flavours" of vP, namely vP_{stative} and vP_{Process}, are postulated.

Jabłońska shows that some Polish object experiencer verbs (*dziw-i-ć* 'surprise', *złość-i-ć* 'irritate') are also derived with *i*-vowel. She argues that those can be represented as in (50). This structure is identical to the structure of causative verbs (51), with the exception that vP represents a state rather than a process.

(50)

[vP_{stative} VP_{Become} RP]

(51)

[vP_{Process} VP_{Become} RP]

However, there are some challenges facing the parallelism of the two structures. Indeed, Polish object experiencer verbs encode enter-into-states, but the cases of stative causatives and predicates of taste seem more complicated. Although Jabłońska does not consider in detail the properties of experiencer verbs, it seems that they are subject to the same processes as causative verbs. For instance, the fact that the experiencer is the holder of the result state can be confirmed by some language-specific tests. For instance, any holder of the state in Slavic languages can appear as the subject of the passive construction (cf. English *his behaviour surprised Mary* vs. *Mary was surprised by his behaviour*). This can be seen in (52) and (53) presenting the Russian experiencer verb *udivit* 'surprise', where (53) is the passive counterpart of (52).

(52)

Jego	povedenije	u-div-i-l-o	men'a.
3SG.POSS	behaviour	PREF-surprise-I-PST-N	1SG.ACC

'His behaviour surprised me'.

(53)

Ja	by-l	u-divl-ën	jego	povedeni-jem.
1SG	be-PST	PREF-surprise-PTCP.PASS	3SG.POSS	behaviour-INST

'I was surprised by his behaviour'.

The situation is different with predicates of taste and stative causatives. The former are intransitive predicates and thus cannot be passivized. Stative causatives are transitive (54), but transforming them into passives results in an ungrammatical structure (55).

(54)

plat'je	men'a	ras-poln-i-l-o.
dress	1SG.ACC	PREF-plump-I-PST-N

'The dress made me look short and plump'.

(55)

* Ja	by-l-a	ras-poln-en-a	plat'-jem.
1SG	be-PST-F	PREF-plump-PTCP.PASS-F	dress-INST

'*I was made look plump by the dress'.

However, with some stative causatives, passivization is possible. This is the case of the verb *starit'* 'make smth. old'. It can be used as a stative causative, but its prefixed counterpart can appear in passive constructions (56). Nevertheless, there is a subtle semantic difference between the two verbs – the prefixed verb cannot be used as a counterpart to the stative causative. Therefore, it cannot have the meaning 'make sb. look old' (57).

(56)

Mebel'	by-l-a	iskusstvenn-o	so-star-en-a.
furniture	be-PST-F	artificial-ADV	PREF-old-PTCP.PASS-F

'The furniture was artificially aged'.

(57)

* Ja	by-l-a	so-star-en-a	plat'-jem.
1SG	be-PST-F	PREF-old-PTCP.PASS-F	dress-INST

'*I was made look old by the dress'.

If the passivization test is indeed the test sensitive to the presence/absence of the result state in the structure of the predicate, then the event structure of stative predicates needs to be reconsidered. At the same time, Polish experiencer verbs and stative causatives explored in this paper belong to classes with different semantic properties, and no direct parallels can be drawn between them. However, if stative causatives constitute a separate class on their own, then their properties must be properly integrated into the model. I suggest that the assumption that they only have an *initP* in their structure is the best way to do this. This structure implies that stative causatives do not have a result state. Apart from the passivization test, there are other empirical arguments in favour of this claim. Specifically, stative causatives do not assign the property denoted by the adjectival base to the subject – that is, if a dress makes somebody look plump, it does not mean that somebody *is* plump, cf. (16). Consequently, there is even less evidence that such predicates encode result states.

Alternatively, Jabłońska (2007) claims that theme vowels can be subdivided into “high” and “low” themes. Low themes spell out no more than up until VP_{Become} projection and correspond to the unaccusative type, whereas high themes lexicalise the vP-VP_{Become} functional sequence. In other words, *i*-vowel encodes both the process phase and the BECOME component (“transition” in Jabłońska’s terms). The representations for both types are given in (58) and (59).

(58)

e-vowel: [+VP]

(59)

i-vowel: [+vP, +VP]

This proposal would allow us to account for the fact that the theme vowel merges directly with the verbal root and escape the necessity to postulate movement operations for instrumental verbs. In Ramchand’s model there is no formal mechanism that would allow to ‘skip’ the procP component and to attach the adjectival stem (possibly combined with the prefix) directly to the theme vowel. However, Jabłońska makes an additional assumption that in unergative structures, *i*-vowel does not include the VP level in its representation. This assumption may resolve the problem of predicates of taste – if they are regarded as unergative verbs, they do not include the VP level in their structure. The drawback of this proposal is that stative causatives are not unergative, and thus they have to include the VP level (= transition phase) in their structure, which is not consistent with the facts discussed in this section.

The last question that remains open both in Jabłońska’s and in my proposal is the way the stative vs. eventive interpretation is induced. We have seen that some verbs (namely, predicates of taste) are always stative, whereas some causatives can be both stative and eventive. Although these facts can be formalised via feature underspecification ({+init} vs. {+init, +proc}), the exact mechanism of this process is yet to be studied and remains beyond the scope of this paper.

6 Conclusion

In this paper, I have considered the properties of two Russian theme vowels that are used to derive denominal and deadjectival verbs. I have shown that there are structural factors determining the syntactic properties of these predicates. In particular, *e*-vowel derives only unaccusative predicates, whereas *i*-vowel derives predicates that can only be non-unaccusative. I explored the properties of several types of *i*-verbs, namely true causatives, stative causatives expressing fake

causativization, unergatives, predicates denoting taste properties, and denominal instrumental verbs, and showed that they can be divided into two major subtypes. Some of these predicates are eventive, whereas others are stative. I assumed that this is due to the fact that the theme vowel occupies the same position in the structure of a verbal form but appears in two different syntactic configurations, which can be implemented into Ramchand's theory of predicate decomposition as {+init} and {+init, +proc} structures.

Abbreviations

1, 2, 3	1 st , 2 nd , 3 rd person
a, e, i	theme vowels
ACC	accusative
ADV	adverbializer
ATT	attenuative
CMPR	comparative
AT	dative
DEF	definite
F	female
GEN	genitive
INF	infinitive
INST	instrumental
LOC	locative
M	male
MED	middle voice
N	neuter
NEG	negation
PASS	passive
PL	plural
POSS	possessive
PREF	(telicizing) prefix
PRES	present
PST	past
PTCP	participle
SG	singular

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