

LOOKING INTO THE RUSSIAN FUTURE

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The relationship between future time and future tense forms in Russian is complex. The forms traditionally attributed to the future tense in certain cases do not refer to future time. Those cases have been previously presented as an inventory not representing a plausible cognitive model and/or attributed to the sphere of modality. In this article, we suggest a data-driven approach applied to the spectrum of meanings of Russian future tense forms. We analyzed corpus data and discovered that 44% of perfective future forms and 22% of imperfective future forms do not unambiguously express future time meaning. Among the non-future time meanings that Russian future tense forms can express are Gnomonic, Performative, Implicative, Hypothetical, Alternation, and Stable scenario. Furthermore, we propose that the meanings of the future tense constitute a radial category. Future time reference is the prototypical meaning of the future tense. The remaining meanings comprise extensions connected to the prototypical meaning. We describe the radial category with reference to Langacker's (2008) model of tense and potentiality. Additionally, we explore the interaction of future tense and modality.

Keywords: Russian, future tense, aspect, corpus, radial category

La relation entre temps réel et temps grammatical est complexe en Russe. Les formes grammaticales, traditionnellement attribuées au temps grammatical du futur, ne correspondent pas, dans certains cas, au temps réel du futur. Par le passé, ces cas ont été présentés comme attribués à la modalité. Dans cet article, nous proposons une approche basée sur l'usage, appliquée à la palette de sens des formes grammaticales du futur en Russe. Nous avons analysé des données issues d'un corpus et avons découvert que 44% des formes perfectives du futur et 22% des formes imperfectives du futur n'expriment pas le temps réel du futur avec certitude. Parmi les sens non-futurs que le temps grammatical du futur en Russe peut exprimer nous trouvons le Gnomisme, le Performatif, l'Implicatif, l'Hypothétique, l'Alternance, et le Stable. En outre, nous proposons que les sens du temps grammatical du futur constituent une catégorie de nature radiale. La référence au temps réel du futur est le sens prototypique du temps grammatical du futur. Les autres sens sont

des extensions sémantiques liées au sens prototypique. Nous décrivons la catégorie radiale en référence au modèle développé par Langacker (2008). Par ailleurs, nous explorons l'interaction du temps grammatical du futur et de la modalité.

Mots-clés: russe, futur, aspect, corpus, catégorie radiale.

1. Introduction

While the primary function of Russian future tense forms is to refer to events in future time, to a large extent (44% for perfective verbs and 22% for imperfective verbs) future tense forms are used to refer to events that are not unambiguously located in future time. Russian future tense forms can express additional or different meanings, for example, Gnostic, Hypothetical, or Performative. From the perspective of cognitive linguistics, we analyze the use of future tense forms in a database consisting of 1000 perfective and 1000 imperfective examples. We show that meanings that diverge from future time reference are not sporadic, but regular and related.

Normally, events located in future time are referred to by means of forms of the future tense. In Russian there are two forms that can be identified as future tense, differentiated by aspect. The relationship between these forms, aspect, and present tense are presented in Table 1.

Aspect \ Tense	Present Tense	Future Tense
Imperfective Aspect	<i>piš-et</i> write.IPFV-PRS.3.SG 's/he writes'	<i>bud-et pisa-t'</i> be.FUT-3.SG write.IPFV-INF 's/he will write'
Perfective Aspect	–	<i>napiš-et</i> write.PFV-FUT.3.SG 's/he will write'

Table 1. Present and future tense forms of Russian verbs.

For imperfective verbs, the future tense form consists of the verb *byt'* 'be' in the future tense combined with the infinitive of the imperfective verb. The imperfective future tense form can also be called complex, periphrastic, or analytical. In terms of inflectional morphology, the perfective future form is morphologically identical to the imperfective present: compare the inflectional endings *piš-et* 's/he writes' and *napiš-et* 's/he will write'. It is because of this morphological identity that the term "non-past" is often used to describe both the imperfective present tense and perfective future tense forms. The perfective future form is referred to as synthetic or simple.

The Russian future tense forms have other uses, in addition to reference to the future time. Moreover, as shown in (Kosheleva & Janda Ms.), there are quantitative differences. The perfective future tense forms occur in the Russian National Corpus (RNC) 14 times more often than the imperfective future tense forms. In this article, within the framework of cognitive linguistics, we will dwell in more detail on the various meanings of the future tense forms, based on data from the Russian National Corpus and show that these meanings form a radial category.

1.1. Russian future tense in Langacker's framework

We base our understanding of Russian future tense forms on Langacker's model of tense (2008: 301) that consists of Conceived Reality, Reality, Current Reality, Immediate reality, and Non-reality. Future is a projection forward in time from the perspective of Immediate reality. We propose that Russian non-future uses of the future tense can be explained by observing which of the realities and non-realities are adjacent to each other and how they relate to each other in Langacker's model.

Figure 1 (adapted from Langacker 2008: 301; 306) provides a schematic model of tense and potentiality. The various elements of Figure 1 situate future tense uses and their possible modalities. Langacker's model accounts for the relatively solid grounding of past and present in Conceived and Immediate Reality as opposed to the more tenuous grounding of future in Projected Reality. We claim that this difference in grounding motivates the polysemy of the future tense forms that we observe in Russian.

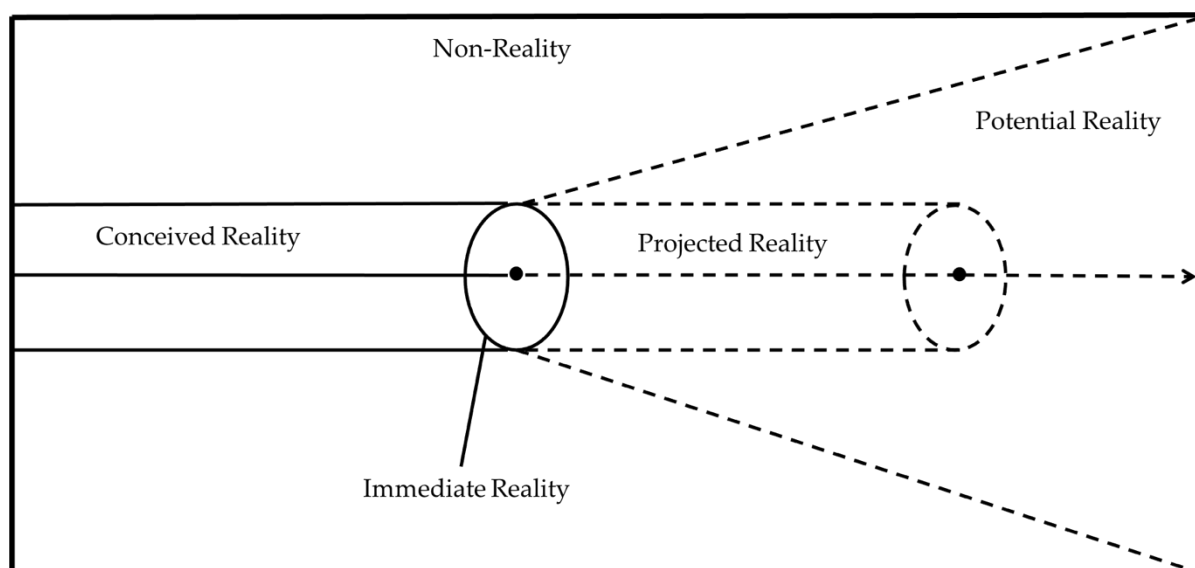


Figure 1. Model of tense and potency. Source: Adapted from (Langacker 2008).

The terms *Conceived Reality*, *Immediate Reality*, *Projected Reality* and *Non-Reality* refer to different parts of the time-space continuum that is perceived by the speaker.

In the model we see a cylinder that grows through time from past (left) through the present (middle point with a circle) to the future (with dotted lines on the right). The past is represented by *Conceived Reality*: a speaker (conceptualizer) develops a “version” or conception of reality that is stored in the speaker’s mind. The present is situated in *Immediate Reality*. The cylinder of *Projected Reality* on the right is the expected future, corresponding to the future meaning of future tense forms. In addition, on the right part of the diagram, there is a cone extending from the present to the future which represents *Potential Reality*. *Potential Reality* overlaps with the domain of *Non-reality*. The cone that expands from the present includes both the cylinder of *Projected Reality* and other potential but not necessarily expected events in the future. The part of the cone that extends beyond the cylinder represents *Potential Reality* and is expected to comprise modal meanings expressed by future forms.

Projected Reality is what is expected to happen in the future, and *Potential Reality* is what could happen in the future. Thus, in these terms, future time coexists with the area of modal influence. In other words, there is a gray zone where there is no firm boundary between the future and *Potential Reality* (and therefore modality).

In contrast to past and present time, the future is less anchored to an embodied experience. Future tense can be used to speculate about events that may or may not happen, and this speculation becomes increasingly tenuous when we shift from proximate events to ones further removed in time. This lack

of anchoring furthermore makes it possible to use future tense for statements that have no connection to time at all, being rather observations of general gnomic truths.

Four adaptations of Langacker’s model account for the various uses of future tense forms that we find in Russian, as diagrammed in Figure 2a-d. In Figure 2a Projected reality is profiled (shaded in blue), corresponding to the Future time uses of Russian future tense. Figure 2b profiles both Projected and Potential Reality (shaded in yellow), corresponding to a use of Russian future tense that we term Extended Future because reference is not limited to Projected Reality. Profiling in Figure 2c is limited to a small section of both Projected and Potential Reality (shaded in green), termed Directive because it is used for imperative commands that should be carried out in the near future (though the outcome is not guaranteed). The most comprehensive profiling is in Figure 2d, which encompasses everything except non-reality. We term this use Gnostic because it refers to eternal facts and consequences. This extension of Langacker’s theoretical model is potentially portable to languages in general.

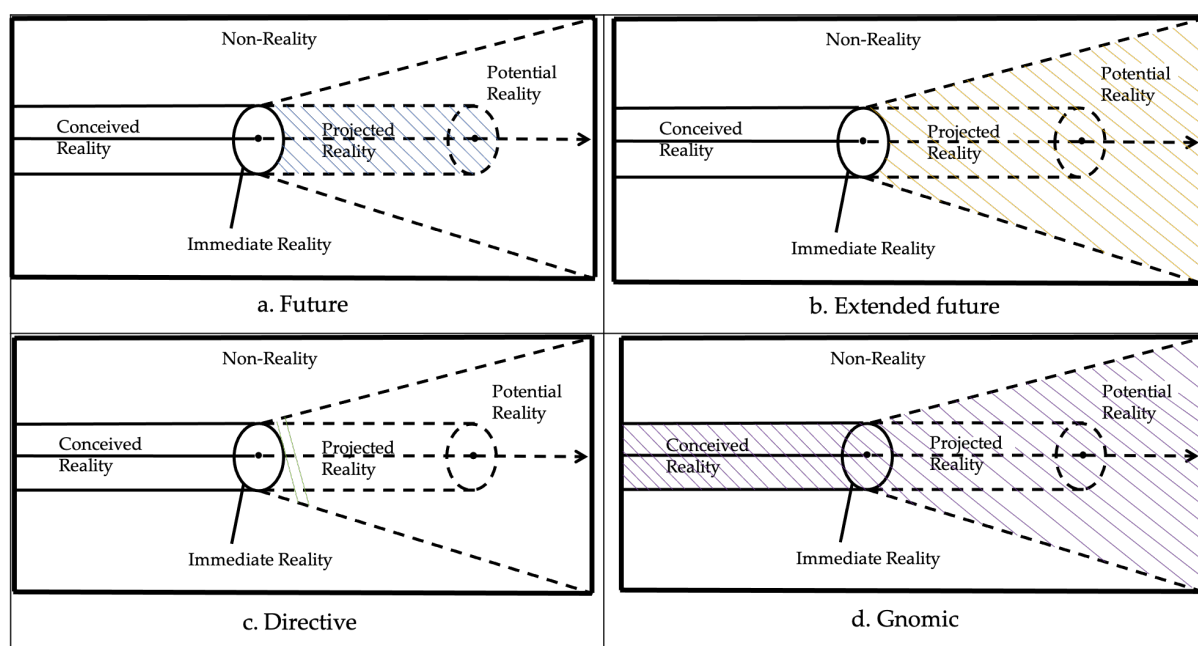


Figure 2a-d. Adaptation of Langacker’s model for Russian future tense. Source: Adapted from (Langacker 2008).

In Section 3 we present a comprehensive analysis of the uses of Russian future tense forms that express both future time and non-future time meanings. Our analysis integrates and expands upon previous scholarship, described in Section 1.2 below.

1.2. Non-future uses of the future tense forms in Russian: previous scholarship

Scholars have previously remarked that the morphological forms associated with the future tense in Russian do not always refer to events located in future time. Here we provide an overview of relevant previous scholarship. Unfortunately, each scholar uses a different set of terms for non-future time meanings of Russian future tense forms. To achieve a coherent overview, we use a consistent terminology that we elaborate in more detail in Section 3. According to our system, Extended Future and Gnomic uses overlap with subtypes termed Alternation, Hypothetical, and Implicative. In addition, Extended Future encompasses Performative and Posterior uses (where the reference time of Immediate Reality is shifted back), and Gnomic encompasses Habitual chain and Stable Scenario uses.

Maslov (1990/2004: 515-516) mentions that the future tense (both perfective and imperfective) can be used in a figurative sense to express habitual occurrences. Isačenko (1965/2003: 451) considers separately the meanings of the analytical future and ‘simple’ future. For the ‘simple’ form, he uses the term ‘perfective present’ to highlight the nature of the non-future meanings, both Habitual and other types. As for the analytical future form, Isačenko (1965/2003: 445) says that the analytical future tense usually does not have any additional meaning except for two modal nuances: the unreality of an unfulfilled action (1) and the modal expression of will (2).

(1)	Naprasno	vy	bud-ete	iska-t'	xot'
	in.vain	you.NOM	be.FUT-2.PL	seek.IPFV-INF	even
	v	odn-om	lic-e	sled-ov	suetlivost-i.
	in	one-N.LOC.SG	person-LOC.SG	trace-GEN.PL	fussiness-GEN.SG

‘In vain you **will look** for traces of fussiness in one person.’ L. Tolstoy.

(2)	Bud-u	ja	s	nim	vozi-t'-sja!
	be.FUT-1.SG	I.NOM	with	he.INS	convey-INF-REFL

‘I **do not want to mess** with him!’

Vinogradov (1947: 463) is in solidarity with Isačenko regarding the analytical form. He notes that in rare cases the future meaning is veiled by a modal shade of indefinite duration, extending into the span of future time (3).

(3)	Nu,	voz'm-i	svo-i	tri	s
	well	take.PFV-IMP.2.SG	own-ACC.PL	three.ACC	with
	polovin- <i>oj</i> ,	čto	ty	bud-eš'	dela-t'?
	half-INS.SG	what.ACC	you.NOM	be.FUT-1.SG	do.IMPFV-INF

'Well, take your three and a half, what **can** you **do**?'

For the perfective future tense, the most striking non-future time meaning is Habitual. In Maslov's work (1990/2004: 521) habituality is manifested through indications of multiple repetition. Isačenko (1965/2003: 451) likewise presents habituality as repetitive processes and events sometimes introduced by *byvalo/byvaet* 'it happened/s' followed by a perfective future tense form. In addition, habituality expressed by perfective future tense forms can be accompanied by other meanings and constructions, including conditional, concessional with a generalized personal meaning, alternation, constructions like *net-net da i* 'from time to time' and *voz'mët da i* 'suddenly', and reduplication. Vinogradov (1947: 467) finds habituality in chains of future tense verb forms depicting present time, which can also be interpreted as what we call a Salient event (cf. 4; for the definition cf. subsection 3.4.6).

(4)	Živ-ëm	v	odn-om	gorod-e,	počti
	live.IPFV-1.PL	in	one-M.LOC.SG	city-LOC.SG	almost
	rjadom,	a	uvid-iš'-sja	raz	v nedel-ju.
	nearby	but	see.PFV-FUT.2.SG-REFL	time.ACC	in week-ACC.SG

'We live in the same city, almost nearby, but people **see** each other once a week.'

A. Ostrovsky. Groza.

Both Maslov and Isačenko recognize the type of use that we term Stable Scenarios:

(5)	Čto	pose-eš'	to	požn-eš'
	what.ACC	sow.PFV-FUT.2.SG	that.ACC	reap.PFV-FUT.2.SG

‘What you **sow**, you **reap**.’

Isačenko presents the Alternation use as a special case of Habitual used when describing a chain of events with the conjunction *to...to...* ‘sometimes X, sometimes Y’:

(6) To zajac **proskoč-et**, to **projd-et** rys'.
then hare.NOM.SG hop.by.PFV-FUT.3.SG then pass.through.PFV-FUT.3.SG lynx.NOM.SG

‘Sometimes a hare **will hop by**, sometimes a lynx **will pass through**.’

Vinogradov (1947: 469) shows Alternation in a slightly different context, as an instance of repetition in the past, though often about possible or habitual actions:

(7) On to **vojd-et**, to **vyjd-et**
he.NOM then then go.in.PFV-FUT.3.SG then go.out.PFV-FUT.3.SG
iz komnat-y (tak-oj by-l neposed-a).
from room-GEN.SG such-M.NOM.SG be-PST.M.SG fidget-NOM.SG

‘He **would go in** and **out** of the room (he was such a fidget).’

Hypothetical examples behave similarly to Alternations: Isačenko (1965/2003: 453) connects them to habituality (8), while Vinogradov (1947: 469) places them in past contexts (9).

(8) Utrom ne **kup-iš'** –
in.morning not buy.PFV-FUT.2.SG
k večer-u vse **razojd-et-sja**.
toward evening-DAT.SG everything.NOM.SG disperse.PFV-FUT.3.SG-REFL

‘(If)you **don’t buy** (it) in the morning, it **will be gone** in the evening.’

(9) Nača-l tatar pokolačiva-t': **maxn-et**

begin.PFV-PST.M.SG	tatar.ACC.PL	beat.up.IPFV-INF	INF wave.PFV-FUT.3.SG
ruk-oj —	ulic-a,	otmaxn-et	nazad — pereuloček.
hand-INS.SG	street-NOM.SG	wave.off.PFV-FUT.3.SG	behind alley.NOM.SG

‘He began beating up Tatars : if he **waved** his hand (in one direction), a street (would be beaten), if he **waved** his hand in the other direction, an alley (would be beaten).’

Gnomic use of future tense, as well as near Performative use, are mentioned only by Vinogradov (1947: 468), who defines the Gnomic use as expressing a regular permanent result without any time limits:

(10)	I	už	èto	vsegda	ub'-jut
	and	already	it	always	kill.PFV-FUT.3.PL
	t-ogo,	kto		naprašiva-et-sja.	
	that-M.ACC.SG	who.NOM		beg.IPFV-PRS.3.SG-REFL	

‘(They) **will** always **kill** the one who begs.’ L. Tolstoi.

According to Vinogradov (1947: 467), a Near-performative expresses an immediately forthcoming action:

(11)	A	ja	vam	skaz'-u,	čto...
	and	I.NOM	you.DAT	tell.PFV-FUT.1.SG	that

‘And I **tell** you that...’

Directive meaning is mentioned by both Maslov (as a substitute for the imperative mood) and Vinogradov (as categorical desire, demand, intention, or invitation): cf. examples (12) and (13) respectively.

(12)	Pojd-eš'	v	magazin	i	kup-iš'	xleb-a.
	go.PFV-FUT.2.SG	in	store.ACC.SG	and	buy.PFV-FUT.2.SG	bread-GEN.SG

‘(You **will**) **go** to the store and **buy** some bread.’

- (13) Nu, **poplyv-em.**
 well swim.PFV-FUT.1.PL
 ‘Well, let’s **swim.**’

Separately, it is worth noting the so-called potential (modal) uses found in Vinogradov and Isačenko. Vinogradov approaches potential modality as a possibility of accomplishment (1947: 467):

- (14) Ne **priduma-ju,** kak vyj-ti
 not think.up.PFV-FUT.1.SG how go.out.PFV-INF
 iz èt-ogo položeni-ja.
 from this-N.GEN.SG situation-GEN.SG
 ‘I **cannot figure out** how to get out of this situation.’

We see that previous researchers have addressed the issue of non-future uses of the future tense in Russian, but as yet no precise measurement of this phenomenon has been undertaken. The portion of non-future time reference was estimated at around 1/3 of the perfective future verb forms in the pre-corpus era (cf. Forsyth 1970: 120). A corpus-based grammar of Russian provides a detailed description of various categories (order, prohibition, instruction, permission, performative use, near-modal use, opportunity, habituals, etc.) of non-future time uses of future tense forms (cf. Stojnova 2016b). These categories mostly apply to the perfective future tense forms. According to Stojnova (2016a), the imperfective future tense has two main non-future time functions: imperatives (hortative and jussive) and non-referential uses that are not related to the future. Stojnova (2016a: 248) also points out that there are marginal non-future uses of the imperfective future that could be described in the same terms as the perfective non-future uses. Stojnova’s studies are very detailed and informative, but her comparative review is based on random samples of only 100 corpus hits for each aspect (perfective and

¹ For further discussion, we refer interested readers to additional works cited by Stojnova in 2016a and 2016b.

imperfective future tense forms). We consider this amount of data to be insufficient since it is likely that some submeanings may remain out of sight.

We bring several new perspectives to scholarship on the Russian future by measuring the occurrence of future tense forms and subjecting them to thorough semantic analysis, and by comparing the behavior of perfective as opposed to imperfective future tense forms. We show that close to half of perfective future tense forms do not unambiguously express future time, and the same is true for almost one in four imperfective future tense forms. We also give a breakdown of what other meanings are expressed by future tense forms and how this differs across perfective vs. imperfective aspect. We find connections between the Russian material and Langacker's model of tense and potency (see Figure 1). We propose that future tense meanings constitute a radial category with the prototypical meaning of Future time and various extensions related to it.

1.3. Russian future tense and modality

Another matter that arises with respect to the future tense is its relationship with modality. Can it be argued that the future tense in Russian intersects with modality? And if so, to what extent? In the Russian linguistic tradition, we find that there is no common opinion on this matter, so we must address a variety of accounts. Arutynova (2010: 10) states that the future is always interacting with modal categories because when people think about the future, they are trying to guess what will happen but do not always succeed. There are some who strongly believe that future tense is shaped by modality and can be interpreted as a manifestation of modality (Klimonow 2011). This idea corresponds to the part of Figure 1 where the future cylinder is located inside of Potential Reality. However, the rest of the cone is not in focus. By contrast, some view modality as an "independent" element in the system (Petrukhina 2009; Petrukhina & Li 2015) claiming that future tense can be used without modal meanings. In this case, the focus is on Projected Reality alone. In other words, the future is purely the extension of Langacker's cylinder absent the cone of Potential Reality.

Stojnova (2016a) suggests that it is possible to ascribe modal meaning to almost all (except for the habitual) non-prototypical uses of the future (especially perfective) tense: performatives, imperative-like constructions, generic uses. For the imperfective future, Stojnova adds that it is difficult to draw a line between the uses with and without modal connotations. Overall, according to Stojnova the following conditions facilitate modal interpretation: 1) negative context; 2) conditional context; 3) participants and/or situations with non-referential status. Stojnova's theory correlates with Langacker's model (cf. Figure 1). The future tense does not provide a very reliable connection to a specific moment of time: notice that the border of the Projected Reality is a dotted rather than a solid line. The above-

mentioned conditions weaken the grounding of the situation in a specific moment of time even more and move the situation into the domain of Potential Reality.

In addition, a middle ground is represented by different interpretations of the future, modality, and their (partial) interaction (Radbil 2011; Wiemer et al. 2020). Those cases at least to some extent can be viewed from the perspective of the balance between the cylinder and the cone in Langacker's model (cf. Figure 1).

Before we move to the future tense meanings and their interaction with modality, we need to define the types of modality. Here we engage the works of Kratzer (1981), van der Auwera and Plungian (1998), Klimonow (2011), Petrukhina and Li (2015), and Wiemer et al. (2020) to define epistemic, volitive, potential, and basic modality. In epistemic modality utterances, the external participant (i.e., the speaker) assesses the degree of reliability of a proposition. Volitive modality manifests the internal participant's desire (intention) to perform the action. Potential modality denotes the skills or abilities that allow the participant to perform the action. Basic modality expresses the attitude of the internal participant (i.e., the subject) to the action. By contrast, Radbil (2011) does not distinguish between types of modality; he introduces a distinction between two types of future: "future as a fact" (i.e. no modal meaning) and "future as modality" (i.e. the confidence that the event will happen).

In Section 3, we investigate the extent to which perfective and imperfective future forms express future time meaning, and what else they express when they do not unambiguously express future. In addition, in Section 4, we examine the data from the above-mentioned articles that focus on Russian (Petrukhina & Li 2015; Wiemer et al. 2020; Klimonow 2011; Radbil 2011) to determine what kinds of meanings discovered in our database from the RNC (cf. Section 2) co-occur with various types of modalities.

2. Database of Perfective and Imperfective Future

In this section we present the database that serves as the basis for our analysis. The database consists of two datasets of future tense forms of perfective and imperfective verbs in samples from the RNC.²

² All of the data and annotations described in this article can be accessed at <https://doi.org/10.18710/MHWRGE>.

The first dataset is of perfective forms. Sentences containing perfective future tense forms were extracted from the RNC and pseudorandomized. The first one thousand examples were analyzed by hand. Thirty-nine examples were flagged as “noise” because they did not illustrate the perfective non-past; these examples were misidentified as future in the RNC annotation, but they are actually examples either of imperfective verbs or of biaspectual verbs in imperfective usage. An additional thirty-nine examples were drawn from the pseudorandomized data to bring the total to one thousand.

The second dataset contains examples of imperfective future forms extracted from the RNC. The imperfective future tense forms are the future form of the verb *byť* together with the imperfective infinitive (see Table 1). In order to avoid the issues concerning periphrastic (and often non-contiguous) forms described in (Kosheleva & Janda Ms.), the corpus search was restricted to imperfective future forms consisting of ‘*budu* + infinitive’ at a distance of 1. Using the same procedure as for the perfective dataset, the downloadable sample was pseudorandomized and then analyzed by hand. Even though we restricted the conditions of the search, ninety-five examples had to be excluded as noise, in most cases because the auxiliary verb was semantically attached to an adverbial rather than to an infinitive. An additional ninety-five examples were culled to bring the total to 1000.

The data was classified into four major semantic groups and further annotated for information pertaining to semantics and modality. The four major classes are Future, Extended future, Gnomonic and Directive. The Future class describes examples that unambiguously express future time. In this case, the future tense is used to locate events in the future relative to Speech Time. The Extended future presents some uncertainty because it refers to events that can be anchored to the past and/or present. Gnomics refer to events that are not grounded in time. Directives refer to actions that are expected to be executed immediately after the utterance is pronounced. These classes are not completely autonomous: they are related to each other and to the prototype (the Future class). In addition, the examples from each class can bear additional properties (Stable scenario, Habitual chain etc.). Together they form the radial category presented in Section 5.

Figure 3 shows the distribution of examples from our sample across the four semantic classes for the perfective dataset. The biggest class is Future, then Extended future and Gnomonic are of nearly the same size. Directives are the smallest class with only 12 perfective examples.



Figure 3. Distribution of semantic classes in the perfective dataset

The distribution of the examples across classes for the imperfective dataset is shown in Figure 4, which is organized similar to Figure 3.

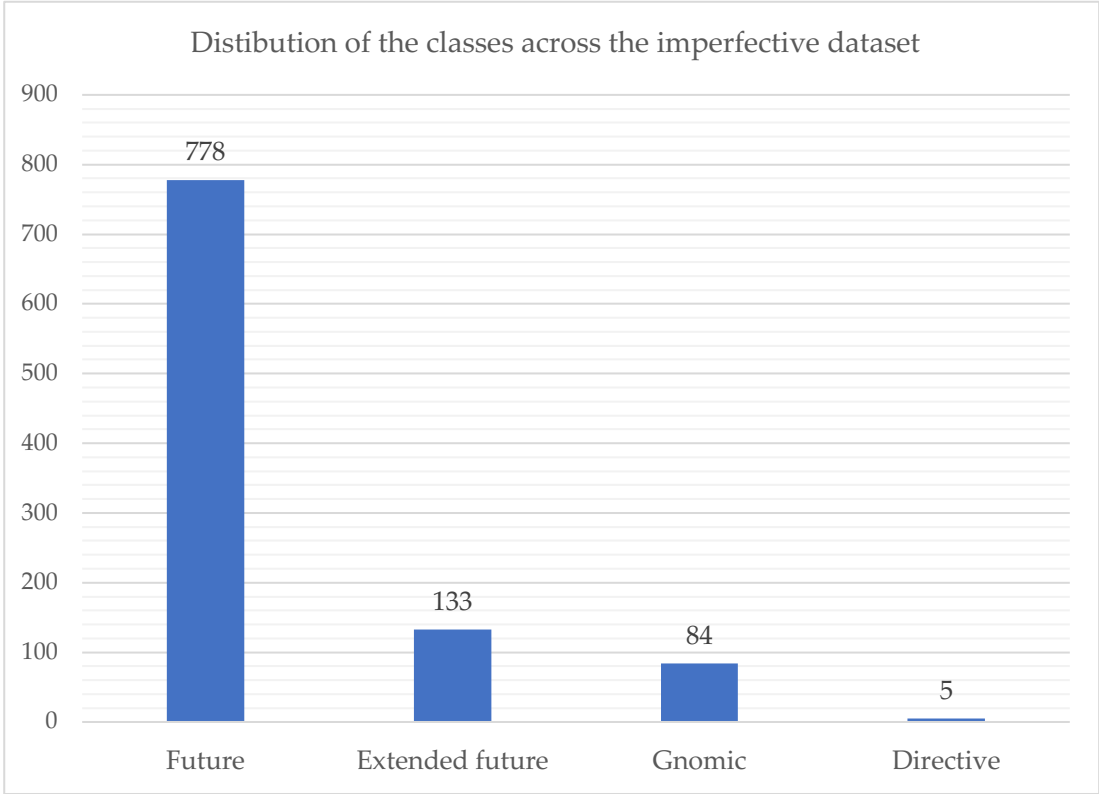


Figure 4. Distribution of semantic classes in the imperfective dataset

The Future class strongly dominates in the imperfective dataset. Extended future and the slightly smaller Gnostic classes are of comparable size. Directives constitute a minority. Each of the classes is described in more detail in Section 3.

3. Classification

In this section we examine the datasets in greater detail looking for individual clusters of examples that are similar to each other. Based on those clusters, we propose a model for the classification of future tense meanings in Russian. We propose that this classification forms a radial category. In Sections 3.1–3.5 we go through each class and describe the types of examples found in this class for both perfective and imperfective future verb forms.

3.1. Future time meaning

560 of 1000 examples of perfective future forms unambiguously express Future, as in (15).

- (15) Let čerez dvesti-trista vse sam-o
 year.GEN.PL across two.hundred-three.hundred everything.NOM.SG self-N
obrazu-et-sja, — uteša-l Čexov, i
 take.shape.PFV-FUT.3.SG-REFL console.IPFV-PST.M.SG Chekhov.NOM.SG and
 ljud-i tesni-l-i-s' k nemu tolp-oj.
 people-NOM.PL press.IPFV-PST-PL-REFL toward he.DAT crowd-INS.SG

‘In two or three hundred years everything **will sort itself out**, Chekhov consoled, and people crowded around him.’

[Aleksandr Kušner. Počemu oni ne ljubili Čexova? // «Zvezda», 2002]

One of the attestations in our perfective dataset is of a biaspectual verb, where the interpretation is clearly Future:

- (16) 8 fevral-ja v amerikansk-om Solt-Lejk-Siti
 8 February-GEN.SG in American-N.LOC.SG Salt-Lake-City.LOC.SG

startu-et	XIX	zimn-jaja	Olimpiad-a.
start.BIASP-FUT.3.SG	XIX	winter-F.NOM.SG	Olympics.NOM.SG

‘On February 8th the XIX Winter Olympics **kicks off** in Salt Lake City in America.’

[Pavel Černikov. Rossija v cifrax, 2002]

The imperfective future tense forms in our database are more consistent than the perfective ones in terms of referring to a point in the future relative to the speech time: 778 examples belong to that category. Example (17) illustrates a prediction for the events that are going to happen in the following year:

(17)	V	budušč-em	god-u	bud-et	prodolža-t’-sja	
	in	next-M.LOC.SG	year-LOC.SG	be-FUT.3.SG	continue.IPFV-INF.REFL	
	rost		vredonosn-yx	programm	dlja	Linux,
		growth.NOM.SG	harmful-GEN.PL	program.GEN.PL	for	Linux
	i	vysok-a	verojatnost’	t-ogo,		čto
	and	high-F	likelihood.NOM.SG	that-N.GEN.SG		that
	v	2002-m	pojav-jat-sja	i	poluč-at	
	in	2002-M.LOC.SG	appear.PFV-FUT.3.PL-REFL	and	receive.PFV-FUT.3.PL	
	rasprostraneni-e		virus-y	dlja	Palm,	Pocket PC,
	spread-ACC.SG		virus.NOM.PL	for	Palm.GEN.SG	Pocket PC.GEN.SG
	sotov-yx		telefon-ov.			
	cellular-GEN.PL		telephone-GEN.PL			

‘Next year, the growth of malware **will continue**, and it is highly likely that in 2002 viruses for Palm, Pocket PC and cell phones will appear and spread.’

[S. Potresov. God virusnogo bespredela, 2001]

There are three examples that refer to the future but have an additional meaning which comes not from the form but from the verb itself: *znat'* 'know'³. The main function of these examples is to threaten the hearer. The threat is accompanied by a subordinate clause that can optionally be attached by conjunctions *čto* 'what' and *kak* 'how'. The action by which the hearer is threatened has already happened at least once, hence the knowledge about it is present, not future. The threat is the repetition of this past action in the future:

- (18) Ingušsk-uju milici-ju zdes' ne ljub-jat:
 Ingush-F.ACC.SG police.ACC.SG here not love.IPFV-PRS.3.PL
 "Bud-ut zna-t', čto tak-oe čečensk-ij
 be-FUT.3.PL know.IPFV-INF what such-N.NOM.SG Chechen-M.NOM.SG
 žensk-ij batal'on!"
 female.NOM.SG battalion.NOM.SG

'The Ingush police is not popular here: "They (**will**) **know** better than to mess with a Chechen women's battalion!"'

[Elena Samojlova. «Ljubogo menta pokolotit' mogu!», 2002]

In (18) the women have already committed some kind of threatening action that inspired fear. And it is the knowledge that they are capable of this kind of action that belongs to the future.

In all the examples in the Future class, we observe a prediction of an event that is to take place in the future. These are events that are excluded from baseline Reality (Langacker 2019: 5) but instead are grounded in Projected Reality according to Langacker's (2008: 306) model. While Future meaning is exactly what we would expect a future tense form to express, it is perhaps surprising that nearly half of the attestations in our perfective sample and almost one-fourth of the attestations in our imperfective

³ The potential interchangeability of the perfective and imperfective future forms goes beyond the scope of this article; see (Janda et al. 2019).

sample cannot be clearly classified as Future. Recall that Forsyth (1970: 120) made a comparable but smaller estimate of one third.

3.2. Extended future

208 of the perfective future tense forms in our dataset describe an event that cannot be unambiguously assigned to Future due to lack of certainty about its completion or the fact that future tense forms can refer to events that are actually past or present. There are 133 attestations of imperfective future tense forms that belong to the Extended future group. We find the same subgroups in both the perfective and imperfective datasets.

There are two ways in which uncertainty is introduced, namely through the use of Implicative and Hypothetical expressions, covered in Sections 3.2.1 and 3.2.2. Posterior future, addressed in Section 3.2.3 is a reference to an event that takes place after a past event, but may be situated in any subsequent portion of the timeline (past, present, or future). Performatives in Section 3.2.4 describe events contiguous with the present moment. Section 3.2.5 describes Alternation found in the imperfective dataset.

3.2.1. Implicative

The largest group of Extended future examples falls into the category we label “Implicative” (Karttunen 1971). Implicative verbs contribute an additional layer of meaning, e.g. *smoč* ‘manage to’ adds a “degree of difficulty”. In these uses, future tense forms indicate not future events, but future possibilities of events depending on the presupposition that the situation described by a future tense verb form will help to facilitate an action. Future possibilities of events operate with a greater degree of the modal component.

These uses can be interpreted according to Talmy’s (2000, vol. 1: Chapter 7) model of force dynamics. The interaction with the force includes resistance, overcoming, blockage and removal of such blockage. Examples with Implicatives can act as motivating forces (Agonists) and the removal of barriers (Antagonists).

In the perfective dataset we find seventy-two examples of verbs with Implicative meanings followed by an infinitive. Two verbs account for over half the data, with twenty-one examples of the verb *smoč* ‘manage to’, and twenty examples of the verb *prijtis* ‘have to’. Other verbs that occur more than once are *pozvolit* ‘allow’ (six examples), *stat* ‘begin/become’ (five examples), *udat’sja* ‘succeed’ (three examples), and *sumet* ‘succeed’ (two examples).

- (19) a. So vremen-em agentstv-o **smož-et**
with time-INS.SG agency-NOM.SG manage.PFV-FUT.3.SG
prevrati-t'-sja v krupn-uju prodjusersk-uju
turn.into.PFV-INF.REFL in large-F.ACC.SG production- F.ACC.SG
firm-u, raspolagajušč-uju ser'ězn-yimi sredstv-ami.
company-ACC.SG endowed.with-F.ACC.SG serious-INS.PL fund-INS.PL
'Over time, the agency **will manage to** turn into a large production company with serious funds'.

[Artur Šumkov. Kinoèkonomika ne budet èkonomnoj, 2002]

- b. Da, ma'čik-i, segodnja vam
yes boy-NOM.PL today you.DAT
prid-et-sja užina-t' s sosisk-ami...
have.to.PFV-FUT.3.SG-REFL dine.IPFV-INF with sausage-INS.PL
'Yes, boys, today you **will have to** dine on sausages...'

[Elena Pavlova. Vmeste my ètu propast' odoleem! 2004]

- c. Sobyti-e bud-et togda, kogda
event.NOM.SG be-FUT.3.SG then when
my **zastav-im** mèr-a rasskaza-t',
we.NOM force.PFV-FUT.1.PL mayor-ACC.SG tell.PFV-INF
počemu "Xard-bank-u" otda-l-i nedvižimost'
why Hard-Bank-DAT.SG give.away.PFV-PST-PL property.ACC.SG
stoimost'-ju 70 mln. za 14 mln.

value-INS.SG 70 mln for 14 mln

‘The event will happen when we **force** the mayor to tell why Hard-bank was given property worth 70 million for 14 million.’

[Sergej Nikolaev. Raz vzryv, dva zaderžanie, 2003]

The examples above contain both of the most frequent verbs from the sample: *smoč* ‘manage’ and *prijtis* ‘have to’, as well as a less frequent verb *zastavit* ‘force’, which occurs only once in the perfective dataset. These are not predictions, but rather statements of the relative confidence of the speaker that the events are likely to occur in the near future. The implicative element adds dynamics of force to the main verb expressed by an infinitive. The examples, however, vary in structure and the force is applied in various manners. In (19a) the infinitive refers to the subject in nominative case, and here that subject (Agonist) will be empowered by a future situation in which there are no barriers (Antagonist). In (19b) the logical subject (in dative case) is also the same for the implicative verb and the infinitive that it governs; an unnamed Agonist applies force to the logical subject. Example (19c) illustrates a modal verb and infinitive with different subjects: *my* ‘we’ for *zastavim* ‘(we) will force’ and *mèr* ‘mayor’ as the logical subject for *rasskazat* ‘tell’.

Two important Russian imperfective verbs with implicative meanings present paradigm gaps that prevent them from appearing in future forms: **budu moč* ‘(I) will be able’ and **budet prixodit’sja* ‘will have to’ do not exist. Given this fact, this group could not be expected to be numerous. There are only three examples. The verbs *starat’sja* and *umet* (20) are followed by infinitives:

(20)	Skoro	v	naš-ej	stran-e	každ-yj
	soon	in	our-F.LOC.SG	country-LOC.SG	each-M.NOM.SG
	bud-et	ume-t’	čita-t’	i	pisa-t’!
	be-FUT.3.SG	know.how.IPFV-INF	read.IPFV-INF	and	write.IPFV-INF

‘Soon everyone in our country **will be able to** read and write!’

[I. Grekova. Fazan, 1984]

Other elements, such as the conjunction *kak* ‘how’ can add implicative flavor:

(21)	— Kak	že	ja	bud-u	govori-t' ,
	how	EMPH	I.NOM	be-FUT.1.SG	talk.IPFV-INF
	kogda	vy	vs-e	vrem-ja	perebiva-ete...
	when	you.NOM	all-N.ACC.SG	time-ACC.SG	interrupt.IPFV- PRS.2.PL

‘How **am** I **supposed to talk** when you interrupt all the time...’ (lit. ‘how I will talk’)

[J. O. Dombrovskij. Xranitel’ drevnostej, 1964]

In the broader context, in (21) the speaker has already been talking for a while and one of the listeners has been trying to stick a word in all the time. The speaker is outraged and tries to convey the idea that he would like the hearer to stop interrupting in the nearest future. This idea is expressed in the form of a rhetorical question.

3.2.2. Hypothetical

Our perfective dataset contains fifty examples classed as Hypothetical, in forty-four of which a hypothesis is introduced by means of *esli* ‘if’, as in (22). According to Fauconnier (1985: Chapter 3), *if* is a space-builder that sets up a mental space that is relatively subjective in relation to Conceived Reality (cf. Langacker 2008: 528). *Esli* ‘if’ takes the example from the cone of Projected Reality to its border with Non-Reality.

(22)	Esli	propust-iš'	xot'	odn-o	zanjati-e	po
	if	miss.PFV-FUT.2.SG	even	one-N.ACC.SG	lesson-ACC.SG	along
	masterstv-u,	sčitaj,		čto	ty	otčislen-a.
	mastery-DAT.SG	consider.IPFV.IMP.2.SG		that	you.NOM	expelled-F

‘If you **miss** even one acting lesson, consider yourself expelled.’

[Sati Spivakova. Ne vsě, 2002]

Each of the remaining six examples classed as Hypothetical is unique in the perfective dataset, although there are some patterns, and all of them are introduced by space-builders. In four of them a hypothesis

is introduced by a phrase such as *somnevajutsja, čto* ‘they doubt that’, *pri uslovii, čto* ‘under the condition that’ (23), and *možet* as an abbreviated form of *možet byt’* ‘perhaps’.

(23)	Po	ocenk-am	Raytheon,	firm-a	mog-l-a
	along	estimate.DAT.PL	Raytheon.GEN.SG	company-NOM.SG	can.IPFV-PST-F.SG
	by	izgotavliva-t'	èt-i	raket-y	pri
	COND	manufacture.IPFV-INF	this-ACC.PL	missile-ACC.PL	at
	stoimost-i	po	400	tys.	doll.
	cost-LOC.SG	along	400	thousand	dollars
	za	každ-uju,	pri	uslovi-i,	
	for	each-ACC.SG	at	condition-LOC.SG	
	čto	armi-ja	zakaž-et	1000	raket.
	that	army-NOM.SG	order.PFV-FUT.3.SG	1000	missile.GEN.PL

‘According to Raytheon estimates, the company could manufacture these missiles at a cost of \$ 400 thousand for each, **provided that** the army **orders** 1,000 missiles.’

[Vladimir Korovin. Novosti za rubežom // «Vozdušno-kosmičeskaja oborona», 2002]

The main clause of this example belongs to Non-Reality, signaled by the conditional marker *by*. The clause introduced by *pri uslovii, čto* uses a perfective future tense form to describe a possible facilitating event. In the remaining two instantiations it appears that *esli* has been elided: cf. example (24).

(24)	Ne	progolosu-em	—	uxudš-it-sja	finansirovani-e	vs-ex
	not	vote.PFV-FUT.1.PL		deteriorate.PFV-FUT.3.SG-REFL	financing-NOM.SG	all-GEN.PL
	rashod-ov	na	social'n-ye	nužd-y,	čto	
	expense-GEN.PL	on	social-ACC.PL	need-ACC.PL	that	
	neizbežno	skaž-et-sja	na	avtoritet-e	lev-yx	

inevitably result.PFV-FUT.3.PL-REFL on authority-LOC.SG left-GEN.PL

sil i rezul'tat-ax očeredn-yx wybor-ov.

force.GEN.PL and result-LOC.PL next-GEN.PL election-GEN.PL

‘(If) we do not **vote** – the financing of all expenses for social needs will deteriorate, which will inevitably have an impact on the authority of the forces on the left and the results of the next elections.’

[Vladimir Fedotkin. *Vlast' i opozicija*, 2003]

Seven of the examples in the perfective dataset are classed as both Implicative and Hypothetical, such as (25) which contains the hypothetical space-builder *esli* ‘if’ in combination with the implicative verb *udat'sja* ‘manage’.

(25) Xorošo, **esli** stran-e **uda-st-sja** pereži-t'

good if country-DAT.SG manage.PFV-FUT.3.SG survive.PFV-INF

nynešn-juju “stabilizaci-ju” i ona ne perejd-ët

current-F.ACC.SG stabilization-ACC.SG and she.NOM not go.over.PFV-FUT.3.SG

v poln-uju i okončatel'n-uju degradaci-ju.

in full-F.ACC.SG and final-F.ACC.SG degradation-ACC.SG

‘It is good **if** the country **manages** to survive the current “stabilization” and it does not go into complete and final degradation.’

[Aleksandr Xramčixin. *Kompleks polnocennosti*, 2003]

The number of Hypothetical uses of the imperfective future is comparable to the perfective: thirty-nine (vs. fifty examples for perfectives). The space-builder *esli* ‘if’ remains the dominant means of expression in the group (thirty-one examples):

(26) **Esli** ja ne **bud-u** **protira-t'**

if I.NOM not be.FUT-1.SG wipe.IPFV-INF

zvezd-y	každ-yj	večer, —	duma-l	on, —
star-ACC.PL	each-M.ACC.SG	evening.ACC.SG	think.IPFV-PST.M	he.NOM
oni	objazatel'no	potuskne-jut.		
they.NOM	surely	fade.PFV-FUT.3.PL		

'If I don't [lit. **will** not] **wipe** the stars every night,' he thought, 'they will surely fade.'

[Sergej Kozlov. Pravda, my budem vseгда? 1969-1981]

Other ways of expressing hypotheticality include various space-builders and the elision of *esli*, replacing it with a dash. The space-builders *budto* 'as if', *koli* 'if' and *eželi* 'if' are represented once each in our data. There are five examples where the space-builder 'if' is elided, one of which is presented here:

(27)	Bud-ut	obiža-t' ,	pristava-t' —	
	be.FUT-3.PL	offend.IPFV-INF	molest.IPFV-INF	
	prihod-i	i	žaluj-sja	smelo.
	come.IPFV-IMP.2.SG	and	complain.IPFV.IMP.2.SG-REFL	bravely

'(If) they [lit. **will**] **offend, molest** (you) – come and complain without fear.'

[È. G. Kazakevič. Zvezda, 1946]

Lastly, similar to the situation in our perfective dataset, two imperfective examples fall into two categories at the same time: Hypothetical and Posterior future, as in (28). The clarification of the Posterior future element comes in Section 3.2.3.

(28)	...dvoe	iz	nix	zajavi-l-i,	čto
	two	from	they.GEN	announce.PFV-PST-PL	that
	vernu-l-i-s'		by	v	"P. O. R. T. O. S.", esli
	return.PFV-PST-PL-REFL	COND	in	P.O.R.T.O.S.	if

organizaci-ja	sнова	bud-et	dejstvova-t'
organization-NOM.SG	again	be.FUT-3.SG	operate.IPFV-INF

'...two of them said they would return to P.O.R.T.O. S. if the organization [lit. **will function**] **were to operate** again.'

[Andrej Andreev. *Budušćee prinadležit nam!* 2003]

In (28) *esli* builds a mental space where the organization that the speaker is talking about is functioning. In this mental space the people ('they') are happy to return.

3.2.3. Posterior future

We begin this section with another hybrid example, this one combining Implicative use (signaled by *smoč'* 'manage') with the Posterior future⁴, conditioned by the setting of what was said in the past:

(29)	My ...	vsegda	govori-l-i,	čto	po	finansov-ym
	we.NOM	always	say.IPFV-PST-PL	that	along	financial-DAT.PL
	pričin-am	ne	smož-em		sdela-t'	èt-o
	reason-DAT.PL	not	manage.PFV-FUT.1.PL		do.PFV-INF	this-N.ACC.SG
	vovremja	i	bez	pomošč-i	zapadn-yx	stran.
	on.time	and	without	help-GEN.SG	western-GEN.PL	country.GEN.PL

'We ... have always said that for financial reasons we **would not be able to** do this on time and without the help of Western countries.'

[Dmitrij Litovkin. *Sroki podviga perenosjatsja*, 2002]

⁴ One interpretation could be that Posterior Future is simply Future. However, since Posterior Future describes an event, where the reference time of Immediate reality is shifted to the past, we put it into the Extended future class.

There are forty-three examples of Posterior future in the perfective dataset, most of them showing the same pattern as the example above, where the main clause contains a past tense finite verb form, and the future form appears in a subordinate clause.

In addition, we present a perfective example that combines Hypothetical using *esli* 'if' with the Posterior future, occasioned by the fact that the document was sent in the past to be used in a hypothetical future scenario.

- (30) ... kajzer-om Vil'gel'm-om II, v 1914 god-u
 emperor-INS.SG Wilhelm.INS.SG II in 1914 year-LOC.SG
 prisla-vš-im v Peterburg dv-e not-y
 send.PFV-PST.ACT.PTCP-M.INS.SG in Petersburg-ACC.SG two-F.ACC note-ACC.PL
 ob ob"javleni-i vojn-y, odn-u na slučaj,
 about declaration-LOC.SG war-GEN.SG one-F.ACC.SG on case.ACC.SG
 esli Rossi-ja **otkaž-et-sja** ostanovi-t' mobilizaci-ju ...
 if Russia.NOM.SG refuse.PFV-FUT.3.SG-REFL stop.PFV-INF mobilization-ACC.SG
- '...emperor Wilhelm II in 1914 had sent to Petersburg two declarations of war, one in case that Russia **refuses** to stop its mobilization...'

[Maksim Sokolov. 21.IX – 27.IX // «Izvestija», 2002.09.27]

Example (28) in the previous section additionally illustrates Posterior future because the verb *zajavili* 'said/declared' puts the whole situation (including the mental space) into the past, as in reported speech. In the imperfective dataset, the Posterior future is the largest subgroup of Extended future: it includes seventy-three examples.

Posterior future sometimes refers to events that were supposed to happen in the past at some point after the moment of speaking but might not ever have happened at all, as in (31). In other cases, the event has not happened yet or is going to continue in the future, cf. (32). However, most examples do not clearly indicate a difference between an event that happened after another event in the past or is still expected in the future, and one can only guess this from the context: cf. example (33).

(31) On žda-l, čto ja **bud-u** **provaliva-t'-sja,**
 he.NOM wait.IPFV-PST.M that I.NOM be.FUT-1.SG fail.IPFV-INF.REFL
 i xote-l, čtoby ja provali-l-sja
 and want.IPFV-PST.M that I.NOM fail.PFV-PST.M-REFL
 kak možno medlenn-ej i interesn-ej.
 as possible slow-COMPAR and interesting-COMPAR

‘He expected [lit. that I **will fail**] me **to fail**, and wanted me to fail as slowly and interestingly as possible.’

[Fazil’ Iskander. Trinadcatyj podvig Gerakla, 1966]

In (32) the narrator describes a situation in which someone expected him to fail, and this happened when he was in school. From a broader context, it is clear that the time when he might have failed has already passed because we learn further on that he succeeded. So, the failure never took place and the time period where it could have happened is already over.

(32) Poda-l-i čt-o-to tak-oe bel-oe, ja
 serve.PFV-PST-PL something-ACC like-N.ACC.SG white-N.ACC.SG I.NOM
 prinja-l èt-o za mann-uju kaš-u, no
 take.PFV-PST.M this-N.ACC.SG for semolina-F.ACC.SG cereal-ACC.SG but
 kogda poprobova-l, to ponja-l, čto ja
 when tried.PFV-PST.M then realize.PFV-PST.M that I.NOM
bud-u **es-t'** èt-o vs-ju svo-ju žizn',
 be.FUT-1.SG eat.IPFV-INF this-N.ACC.SG all-F.ACC.SG own-F.SCC.SG life.ACC.SG
 po tri raz-a každ-yj den'.
 along three.ACC time-GEN.SG each-M.ACC.SG day.ACC.SG

‘They served something white, I took it for semolina, but when I tried it, I realized that I [lit. **will**] **would eat** it all my life, three times every day.’

[Natal’ja Skljjarova. *Esli by u medvedja bylo ruž’e*, 2002]

At the moment of producing sentence (32) the speaker was obviously alive and planning to continue to eat the food that she tasted for all the foreseeable future. So, the eating event began in the past and continues indefinitely.

(33)	Èt-o	označa-l-o,	čto	otnyne	specialist-ov
	This-N.NOM.SG	mean.IPFV-PST-N	that	from.now	specialist-ACC.PL
	po	èt-oj	disciplin-e	bud-ut	gotovi-t’
	along	this-F.DAT.SG	discipline-DAT.SG	be.FUT-3.PL	prepare.IPFV-INF
	v	gosudarstvenn-yx	vysš-ix	učebn-yx	zavedeni-jax.
	in	state-LOC.PL	high-LOC.PL	educational-LOC.PL	institution-LOC.PL

‘This meant that from that moment on specialists in this discipline [lit. **will**] **would be trained** in state higher educational institutions.’

[Marija Kozlova. «Advokat», 2004.12.01]

In (33) we do not know whether the training process has changed over time or not, so the duration of the event is unknown.

3.2.4. Performative

Our perfective dataset contains thirty-seven examples of Performative Extended future. Performatives are defined as illocutionary acts that can be executed by uttering a sentence (see Searle 1989: 536). In the Russian tradition, non-past Performatives are viewed as referring to a speech act that coincides with uttering the verb that names this act (cf. Vinogradov 1947; Zaliznjak 2015).

We also include Near-performative uses in this class. Near-performatives are not Performatives *stricto sensu*⁵. These are approximately simultaneous actions: they happen either just before (34) or just after (35) another action. The expression of Performatives and Near-performatives is mostly restricted to verbs that describe speaking (*skažu* ‘I will say’, *nazovu* ‘I will name’, *opišem* ‘we will describe’) and other actions connected to verbal argumentation such as directing the focus of the hearer (*zametim* ‘we will note’, *podčerknem* ‘we will emphasize’, *rassmotrim* ‘we will examine’). We also find verbs used metaphorically to refer to discourse actions such as *dobavim* ‘we will add’ (speaking points), *ostanovimsja* ‘we will stop’ (meaning that we will spend time discussing certain points), *privedu* ‘I will bring’ (with direct objects *primer* ‘example’ and *vyderžku* ‘excerpt’ meaning that the speaker is inserting items into a discussion). We have two examples of Performative uses that involve other types of (nonverbal) actions: *pokažu* ‘I will show’ in a frame where the speaker is offering documents to an official, and *pogljažu* ‘I will take a look’ in a frame where the speaker performs actions and describes them while talking to children.

(34)	My	že	ostanov-im-sja	na	bolee
	we.NOM	EMPH	stop.PFV-FUT.1.PL-REFL	on	more
	uporjadočenn-yx		process-ax.		
	predictable-LOC.PL		process-LOC.PL		

‘We **will focus** on the more predictable processes.’

[Sergej Dorenko. *Levye sily – perezagruzka*, 2003]

In the text preceding (34), the author of an article about political processes is describing a situation and listing possible scenarios for these processes. The speaker has already decided to write about the more predictable processes well before this sentence is actually written and read. For this reason, the action of focusing attention signaled by *ostanovimsja* ‘we will focus’ can be viewed as already completed.

(35)	O	plan-ax	skaž-u,	čto	xoč-u
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⁵ For the discussion of the verbs functioning as performatives in a public discourse see Dickey (2000, Chapter 6).

about	plan-LOC.PL	say.PFV-FUT.1.SG	that	want.IPFV-PRS.1.SG
privez-ti	domoj	medal-i—	na	pamjat’.
bring.PFV-INF	home	medal-ACC.PL	on	memory.ACC.SG

‘As for the plans, I **will say** that I want to bring the medals home, as a souvenir.’

[Oleg Lisogor: «Čto tolku mečtat’? Rabotat’ nado!», 2002]

In (35) the action of saying referred by the verb in the main clause is simultaneous with the speaker’s utterance of the content described in the subordinate clause.

Twelve examples in the imperfective dataset are marked as Performatives. Here the imperfective uses demonstrate the same pattern as the perfective ones: most of them are first person singular forms. Verbal argumentation is the primary meaning of the verbs in the Performative category, where we observe verbs like *rezjumirovat’* ‘summarize’, *obsuždat’sja* ‘discuss’, *vrat’* ‘lie’, *govorit’* ‘speak’, *pisat’* ‘write’.

(36)	Ja	ne	bud-u	rezjumirova-t’	rezul’tat-ov
	I.NOM	not	be.FUT-1.SG	summarize.IPFV-INF	result-GEN.PL
	izlož-enn-ogo			issledovani-ja	i perexož-u
	present.PFV-PST.PASS.PTCP-N.GEN.SG			research-GEN.SG	and go.over.IPFV-PRS.1.SG
	prjamo	k		vyvod-am.	
	directly	toward		conclusion-DAT.PL	

‘I **will** not **summarize** the results of the study and (I) proceed directly to the conclusions.’

[A.N. Leont’ev. *Biologičeskoe i social’noe v psixike človeka*, 1981]

In Example (36)⁶, the speaker decides to skip the talk about one part of his research and this decision immediately (performatively) results in avoiding it and proceeding to the next section.

3.2.5. Alternation

In the perfective dataset all Alternations belong to Gnostic (see Section 3.4.4). In the imperfective, however, there is one example where the first part of the Alternation introduced by *čem* happens in the present while the second part beginning with *tem* is in contrast with the first and is supposed to be fulfilled in the future:

(37)	I	č-em	ničtožn-ee		mo-ja	rol'	v
	and	what-INS	insignificant-COMPAR		my-F.NOM.SG	role.NOM.SG	in
	nastojáč-ej	žizn-i,	č-em		bescvetn-ee		sam-yj
	real-F.LOC.SG	life-LOC.SG	what-INS		colorless-COMPAR		very-M.NOM.SG
	fon		mo-ego		suščestvovani-ja,		t-em
	background.NOM.SG		my-N.GEN.SG		existence-GEN.SG		that-INS
	jarč-e		bud-et		sija-t'		mo-e
	bright-COMPAR		be.FUT-3.SG		shine.IPFV-INF		my-N.NOM.SG
	sentimental'n-oe,		mo-e		ščedr-oe,		mo-e
	sentimental-N.NOM.SG		my-N.NOM.SG		generous-N.NOM.SG		my-N.NOM.SG
	velikodušn-oe		i		prekrasn-oe		solnc-e.
	benevolent-N.NOM.SG		and		beautiful-N.NOM.SG		sun-NOM.SG

⁶ We realize that the interaction of negation with imperfective aspect could play a potential role in the classification. This interaction goes beyond the scope of this article.

‘And **the** more insignificant my role in real life, **the** more colorless the very background of my existence are, **the** brighter my sentimental, my generous, my benevolent and beautiful sun **will shine**.’

[I. F. Annenskij. Vtoraja kniga otraženij, 1909]

3.3. Directive

Whereas Performatives announce an action taken by the speaker, Directives deliver instructions to immediately perform an action that should be nearly simultaneous with the utterance. Our category of Directives is represented by twelve perfective examples, all of which function similarly to imperatives (for more details on the difference between these two forms see Stojnova 2016a), though they are realized morphologically in various ways, such as by means of finite forms as in (38)⁷.

(38)	Voz'm-eš'	mikrofon.	Zakat-iš'	glaz-a
	take.PFV-FUT.2.SG	microphone.ACC.SG	roll.PFV-FUT.2.SG	eye-ACC.PL
	kartinno.	Èt-o	ty	i
	picturesquely	this-N.ACC.SG	you.NOM	and
	bez	mikrofon-a	ume-eš'.	
	without	microphone-GEN.SG	know.how.IPFV-PRS.2.SG	

‘**Take** the microphone. **Roll** your eyes picturesquely. You can even do it without a microphone.’

[Zapis' LiveJournal, 2004]

Sometimes finite forms are combined with hortative markers like *pust'* ‘let, may’ as in (39).

⁷ In order to save space and for readability reasons, we do not present here the broader context that is available in the RNC. In all cases where there is an ambiguity, we have performed a more detailed analysis of the context.

(39)	Pust'	t-a	že	učasť	
	may	this-F.NOM.SG	EMPH	fate.NOM.SG	
	postign-et	det-ej	prezident-a	Buš-a.	
	befall.PFV-FUT.3.SG	child-GEN.PL	president-GEN.SG	Bush-GEN.SG	

'**May** the same fate **be**fall the children of President Bush.'

[Aleksandr Proxanov. Prokuratura – kastet s programmym upravleniem, 2003]

There are five examples of imperfective Directives and they are a diverse group. Two Directives are used in combination with the hortative marker *davajte* 'let us' (40), which is not attested in the perfective dataset (for the use of *dajte/davajte* see Janda, Lyashevskaya 2011: 738, 741).

(40)	...a	my	davaj-te	bud-em	volnova-t'-sja,
	and	we.NOM	give.IPFV.IMP-2.PL	be.FUT-1.PL	worry.IPFV-INF-REFL
	čtoby	glupost-ej	ne	natvori-t'	
	that	stupidity-GEN.PL	no	create.PFV-INF	
	na	svo-em	učastk-e.		
	on	own-M.LOC.SG	site-LOC.SG		

'...and **let us** **worry** about not doing stupid things on our site.'

[Vasilij Grossman. *Žizn' i sud'ba*, 1960]

The broader context of (40) tells the hearer about the division of the responsibilities: one group of people is doing one specific thing and the other is instructed to worry about their own site.

3.4 Gnostic

The single biggest deviation from using both perfective and imperfective future tense forms to refer to future time are the Gnostic uses. While in Extended future the future remains the main meaning of the verb forms (that is, this class does not deviate significantly from the main meaning in terms of quality), and Directives are few in number, the class of Gnostic uses stands out in terms of quantity *and* quality.

In total, there are 210 examples with perfective verb forms and eighty-four with imperfective verb forms that belong to Gnostic. In these examples, the future tense forms refer not to a future event, but to situations that are not grounded in time.

These examples are distinct from the Future type described above (3.1 and 3.2) in that they do not describe events that can be located in Projected Reality. The Gnostic events do not derive their definiteness from a specific temporal location (for more on the comparison of definiteness and tense in terms of grounding see Langacker 2008: 78). Instead, these events may appear at one or multiple locations in reality (including Potential Reality). They derive their definiteness from Conceived Reality available to the speaker (Langacker 2008: 301). In other words, they are anchored to a generalized situation that is accessible to the speaker. We use the term Gnostic to highlight the lack of a specific temporal location. In addition to third person singular, second person references also support Gnostic readings (as we will see further on in examples 43 and 45). Example (41) is extracted from a passage on various possible useful applications of aluminum foil in everyday life:

- (41) *Žaren-aja kuric-a, zavernu-t-aja*
fried-F.NOM.SG chicken-NOM.SG wrap.PFV-PST.PASS.PTCP-F-NOM.SG
- v fol'g-u i ulož-enn-aja*
in foil-ACC.SG and place.PFV-PST.PASS.PTCP-F-NOM.SG
- v plotno zakryvaj-ušč-uju-sja*
in fully cover.IPFV-PRS.ACT.PTCP-F.ACC.SG
- kastrjul'k-u, ostan-et-sja dolgo tepl-oj.*
saucepan-ACC.SG remain.PFV-FUT.3.SG long warm-F.INS.SG

'Fried chicken wrapped in foil and placed in a tightly closed saucepan **will remain** warm for a long time.'

[M. Volodina. O fol'ge, 2002]

In (41), the situation that grounds the event is any instance of a fried chicken wrapped in foil. Given this situation, the speaker can observe that it instantiates a Gnostic potential, namely that the chicken

will stay warm. Metonymy plays a role here as well: a single event is picked out to represent a whole class of events.

(42) is an example of an imperfective Gnomonic use:

(42)	Sobak-a	ne		bud-et		es-t'
	dog.NOM.SG	not		be.FUT-3.SG		eat.IPFV-INF
	t-ogo,		č-em	ja		pita-ju-s'.
	that-N.GEN.SG		what-INS	I.NOM		feed.on.IPFV-PRS.1.SG-REFL
	'A dog will not eat what I eat.'					

[Sergej Dovatov. *Inaja žizn'*, 1984]

In (42) there is neither a specific dog, nor do we expect that there will be any dog in the future. It is just common knowledge that normally dogs eat something better than what the speaker has.

Gnomonic uses present various perspectives that connect to a variety of characteristics. These include the stability of salient features across time, modality and hypotheticality. The pattern of submeanings among Gnomonic uses with imperfective verbs partly follows but also partly deviates from the pattern observed for perfective verbs. We take up each submeaning in turn in the following subsections.

3.4.1. Stable scenarios

Some uses are Gnomonic because they are grounded in encyclopaedic knowledge about how Conceived Reality functions. This can include generalizations⁸ based on the experience of the speaker and the Gnomonic use can serve to deliver advice to a hearer.

(43)	—	Dlja	nas,	pčel,	v	skoš-enn-oj		trav-e
------	---	------	------	-------	---	-------------	--	--------

⁸ In Russian grammars, second and sometimes first-person verb forms used without a pronominal subject accompanying them usually fall under the definition of general personal sentences (see Isačenko (1965/2003: 415) and Russian Grammar 1980 §2251).

for us.GEN bee.GEN.PL in cut.PFV-PST.PASS.PTCP-F.LOC.SG grass-LOC.SG
 prok-u nikak-ogo. Nektar iz nee
 use-GEN.SG none-M.GEN.SG nectar.ACC.SG from she.GEN
 ne **voz'm-eš'**,— prodolža-l-a star-aja Pčel-a.
 not take.PFV-FUT.2.SG continue.IPFV-PST-F old-F-NOM.SG Bee-NOM.SG

'— For us bees, there's no use in cut grass. You **can't take** nectar from it — continued the old Bee.'

[Viktor Kologriv. Medovyj lug // «Murzilka», 2002]

In (43), the bee has observed on previous occasions that cut grass is useless and conveys this as a stable fact to her interlocutor, one that is potentially infinitely reproducible. Possibility or lack thereof gives a modal flavor to such statements, and the use of second person singular without a subject conveys a generic statement based on the speaker's knowledge of the world. There are fifty-two examples of perfective Stable scenarios including three examples where Stable scenario is combined with Habitual chain or Hypothetical.

Thirteen imperfective examples are marked as Stable scenarios. The speaker's experience or knowledge of the world and human nature provides the ground to generalize and give advice or instruction.

(44) Ne suščestvu-et krizis-a vozrast-a — suščestvu-et
 not exist.IPFV-PRS.3.SG crisis-GEN.SG age-GEN.SG exist.IPFV-PRS.3.SG
 strax, čto čt-o-to ne-zaplanirov-ann-oe
 fear.NOM.SG that something-N.NOM.SG not-plan.PFV-PST.PASS.PTCP-N.NOM.SG
 sluč-it-sja v tvo-ej žizn-i, i ty
 happen.PFV-FUT.3.SG-REFL in your-F.LOC.SG life-LOC.SG and you.NOM
 ne **bud-eš'** **zna-t'**, čt-o dela-t'.
 not be.FUT-3.SG know.IPFV-INF what-ACC do.IPFV-INF

‘An age crisis does not exist: there is a fear that something unplanned will happen in your life and you **will** not **know** what to do.’

[Marija Vardenga. Galina Tjunina. *Fragmenty belogo stixa*, 2002]

Taking into account the broader context available in the RNC, the example (44) is a philosophical passage not limited to specific unplanned sudden future events; it relates a common and constant situation that many people find themselves in.

3.4.2. Implicative

Five perfective Gnostic uses directly involve implicative verbs as auxiliaries to infinitive main verbs, as in (45).

(45)	Za	prevyšeni-e	limit-a	vam
	for	exceeding-ACC.SG	limit-GEN.SG	you.DAT
	prid-et-sja	doplačiva-t'	iz	rasčet-a
	have.to.PFV-FUT.3.SG-REFL	pay.up.IPFV-INF	from	accounting-GEN.SG
	15-30	cent-ov	za	každ-yj
	15-30	cent-GEN.PL	for	each-M.ACC.SG
	kilometr	probeg-a	sverx	norm-y.
	kilometer.ACC.SG	distance-GEN.SG	above	limit-GEN.SG

‘For exceeding the limit you **have to** pay extra at the rate of 15-30 cents for each excess kilometer.’

[Denis Litošik. *Avtomobil' naprokat* // «Avtopilot», 2002.05.15]

Here a rental car agent is stating a fixed rule about what happens when a client drives over a set number of kilometers. Note that if perceived without the broader context, (45) could refer to a single situation in the future: there would be a specific hearer (*vy* ‘you’) getting specific instructions.

No implicative uses are attested in the imperfective dataset.

3.4.3. Hypothetical

In Hypothetical Gnostic uses, we see an ‘if...then...’ semantic structure that can be occasioned only by future tense forms, as in this example, or enhanced by words like *esli* ‘if’. Here there is no grounding in a specific time, but a prediction based on overall experience:

(46)	Tiraž	malen’k-ij,	vygon-jat	ix	iz
	edition.NOM.SG	small-M.NOM.SG	chase.away.PFV-FUT.3.PL	they.ACC	from
	odn-oj,	tipografi-i,	oni	napečata-jut-sja	v drug-oj.
	one-F.GEN.SG	printery-GEN.SG	they.NOM	print.PFV-FUT.3.PL-REFL	in other-F.LOC.SG

‘The edition is small, (if) they **get kicked out** of one publishing house, they print them in another.’

[D. Volkov, V. Sungorkin. *Kuxnja upravljajemoj demokratii*, 2003]

In (46), no one is actually going to kick the people out; however, the speaker hypothesizes that if that is to happen, it won’t be a problem because these people are able to find a different place to publish their leaflets or flyers. In total, there are nine Hypothetical examples attested in the perfective dataset.

Two imperfective examples are both Stable scenarios and Hypothetical, as (47) illustrates with the space-builder *esli* ‘if’ followed by a covert piece of advice.

(47)	Xorošo,	esli	v	vaš-em	ugolk-e
	good	if	in	your-M.LOC.SG	corner-LOC.SG
	otdyx-a	bud-et		prisutstvova-t’	tak-oj
	rest-GEN.SG	be.FUT-3.SG		be.present.IPFV-INF	such-M.NOM.SG
	tradicionn-yj	èlement,	kak	vod-a.	
	traditional-M.NOM.SG	element.NOM.SG	like	water-NOM.SG	

‘(It is/will be) good **if** there [lit. **will be**] is such traditional element like water in your garden retreat.’

[Valerija Iršenkova. Svoj ugolok ja ubrala cvetami, 2003]

According to the broader context, this speaker is addressing someone who is designing a garden and wants to remind them to include a creek or fountain in their plans. Instead of giving advice directly and overtly, the speaker uses an imperfective future tense form as a subtle way to hint at a suggested option. Here the Gnomonic meaning performs the function of a politeness strategy. There are seven more imperfective Hypothetical Gnomonic uses, two of which are introduced by the space-builder *pri uslovii*, *čto* 'provided that'.

The linking of one event to another is a common although not specific characteristic of Gnomonic uses apparent also in the next two subsections.

3.4.4. Alternation

This subtype in the Gnomonic class is represented by three examples in the perfective dataset. No Gnomonic Alternations have been found among the imperfective examples.

Pairs of events that are linked by experience can be formally linked in grammatical constructions such as 'to..., to...' and 'čem..., tem...' as in (48).

(48)	A	č-em	dol'-še	soxran-it-sja	prostranstv-o
	and	what-INS	long-COMPAR	preserve.PFV-FUT.3.SG-REFL	space-NOM.SG
	igr-y,	t-em	lučše	dlja razviti-ja	rebenk-a.
	play-GEN.SG	that-INS	better	for	development-GEN.SG
				development-GEN.SG	child-GEN.SG

'The longer an opportunity for play is **preserved**, the better it is for the child's development.'

[Anna Fen'ko. Nevroz po povedeniju// «Kommersant-Vlast'», 2002]

3.4.5. Habitual chain

The Habitual⁹ chain type has been described by Dickey (2000: 55-56) and Bondarko (1971: 197-208). Habitual chains describe the speaker's knowledge about two or more events that typically take place in a given sequence. Habitual chains are also by definition stable situations.

- (49) Byva-et, **spil-jat** v tajg-e ogromn-yj
happen.IPFV-PRS.3.SG cut.down.PFV-FUT.3.PL in taiga-LOC.SG huge-M.ACC.SG

kedr, **privez-ut** v poselok, a iz
cedar.ACC.SG bring.PFV-FUT.3.PL in village.ACC.SG and from

pust-ogo vnutri stvol-a medved' vyleza-et.
empty-M.GEN.SG inside trunk-GEN.SG bear.NOM.SG crawl.out.IPFV-PRS.3.SG

'It happens that they **cut down** a huge cedar in the taiga and **bring** it to the village, and a bear crawls out of the hollow trunk.'

[Gennadij Snegirev. Medved' // «Murzilka», 2003]

In the example (49) the two events are cutting down and bringing the tree to the village, which form a fixed sequence regardless of when they take place. *Byvaet* or *byvalo* 'it happens' indicates the potentially infinite number of times that the event can take place. The Habitual chain use of the Gnostic often appears with sequences that took place repeatedly in the past. There are twenty-seven perfective examples indicating Habitual chains, including one Habitual chain combined with Alternation and eight Habitual chains that are at the same time Stable scenarios.

Gnostic Habitual chains can sometimes contain imperfective future tense forms as well. Our dataset contains four examples of imperfective Habitual chains.

⁹ Bybee et al. (1994:141) describes Gnostic uses as timeless situations that hold forever. Some may argue that Habitual chains are not Gnostic due to their repetitive meaning. However, since the repetitive potential of Habitual chains is continuous, we argue that they can be recognized as a variant of Gnostic use.

(50)	Potom	Viktor	Pavlovič	dolgo	bud-et
	then	Viktor.NOM.SG	Pavlovich.NOM.SG	long	be.FUT-3.SG
	side-t'	nepodvižno,	potom	načn-et	kiva-t'
	sit.IPFV-INF	motionless	then	begin.PFV-FUT.3.SG	nod.IPFV-INF
	golov-oj,	kak-to	pokorno,	po-starčeski	tosklivo.
	head-INS.SG	somehow	docilely	old-fashioned.way	sadly

'Then Viktor Pavlovich **will sit** motionless for a long time, **then** he will begin to nod his head, somehow docilely, with old-fashioned melancholy.'

[Vasilij Grossman. *Žizn' i sud'ba*, 1960]

The person described in (50) has specific behavioral patterns, which are sequenced by means of *potom* 'then'.

3.4.6. Salient event

A Salient event highlights a sudden or exceptional event that stands out as a figure in contrast to the background of what is usual (cf. single events in Dickey 2000: 57; Bondarko 1971: 213). There are seven examples of perfective Salient events and two examples that combine the meanings of Salient event and Hypothetical. In our database, all Salient events belong to Gnostic.

(51)	Obyčno	tak-ie	«perebo-i	ritm-a»	
	usually	such-NOM.PL	rupture-NOM.PL	rhythm-GEN.SG	
	sluča-jut-sja,	kogda,	kak	grom	sredi
	happen.IPFV-PRS.3.PL	when	like	thunder.NOM.SG	in.middle.of
	jasn-ogo	neba,	mel'kn-et		
	clear-N.GEN.SG	sky-GEN.SG	flash.PFV-FUT.3.SG		
	zagadočn-yj	son,	kotor-yj		

mysterious-M.NOM.SG dream.NOM.SG which-M.ACC.SG
 tak i xoč-et-sja nazva-t' vešč-im.
 so and want.IPFV-PRS.3.SG-REFL name.PFV-INF prophetic-M.INS.SG

'Usually ruptures in one's rhythm take place when, like a stroke of lightning, one **gets a flash** of a mysterious dream that one feels must be prophetic.'

[Aleksandr Volkov. Miry Stivena Xoukinga // «Znanie – sila», 2003]

Here in (51) the background is the regular routines of a person's life that are suddenly interrupted by a dream. This example also illustrates the description of a Stable scenario – something that “usually” happens.

There is only one imperfective example that resembles a Salient event:

(52) Derevjann-yj ili parketn-yj pol nužno
 wooden-M.ACC.SG or parquet-M.ACC.SG floor.ACC.SG must
 objazatel'no ukrepi-t' (inače on **bud-et**
 necessarily strengthen.PFV-INF otherwise he.NOM be.FUT-3.SG
skripe-t') i pod linoleum-om),
 squeak.IPFV-INF and under linoleum-INS.SG
 zadela-t' treščin-y.
 repair.PFV-INF crack-ACC.PL

'A wooden or parquet floor must be strengthened (otherwise it **will squeak** under the linoleum), (one also) needs to repair the cracks.'

[Elena Volkova. Tot samyj linoleum, 2002]

Example (52) offers advice on how to do a good job and is interrupted by a parenthetical clause that describes an undesirable alternative.

3.4.7. Gnomonic uses restricted in the future

Many Gnomonic examples could have a potential endpoint. However, there are several examples in the imperfective dataset where the speaker chose to specify a closing boundary for the event. These examples describe generalized events lacking temporal grounding that are bounded at some point in the future.

- (53) Teper' èto tol'ko vremenn-aja razluk-a
 now this only temporary-F.NOM.SG separation-NOM.SG
 duš-i i tela, vremja, kogda
 soul-GEN.SG and body-GEN.SG time.NOM.SG when
 tel-o bud-et otdyxa-t' i rassypl-et-sja
 body-NOM.SG be.FUT-3.SG rest.IPFV-INF and crumble.PFV-FUT.3.SG-REFL
 v prax, togda kak duš-a
 in dust.ACC.SG when as soul-NOM.SG
 bud-et oživa-t' vse bolee i
 be.FUT-3.SG come.alive.IPFV-INF all more and
 bolee, kak vse razgora-jušč-ee-sja plamja,
 more as all burn.IPFV-PRS.ACT.PTCP-N.NOM.SG-REFL flame.NOM.SG
 do dn-ja, kogda bud-et vosstanovl-en-a
 to day-GEN.SG when be.FUT-3.SG restore.PFV-PST.PASS.PTCP-F
 cel'nost', kogda my voskresn-em i
 integrity.NOM.SG when we.NOM be.resurrected.PFV-FUT.1.PL and
 zaživ-em žizn'-ju Boži-ej voveki.
 begin.to.live.PFV-FUT.1.PL life-INS.SG God's-F.INS.SG forever

‘Now this is only a temporary separation of the soul and body, the time when the body **will be at rest** and **crumbling** to dust, while the soul will come to life more and more, like all the flaming fire, **until the day** when integrity is restored, when we are resurrected and live the life of God forever.’

[mitropolit Antonij (Blum). Strastnaja sedmica, 1980]

In (53) the author describes processes that are happening and will continue to happen in the future for a while until a specific event is supposed to take place (‘until the day when...’).

3.5. Ambiguous biaspectual examples

Biaspectual verbs have non-past forms that can be interpreted either as a present tense form of an imperfective verb or as a future tense form of a perfective verb. In our database we find examples of non-past forms of biaspectual verbs that can be interpreted either as perfective future tense forms with a Gnostic meaning, or as imperfective present tense forms. While no amount of context can definitively distinguish between these two options, it is usually the case that one of the interpretations is more likely.

(54)	V	èt-ot	[podrostkov-yj]	period,
	in	this-M.ACC.SG	teenage-M.ACC.SG	period.ACC.SG
	sčita-et		Vygotskij,	proisxod-it
	consider.IPFV-PRS.3.SG		Vygotsky.NOM.SG	happen.IPFV-PRS.3.SG
	glubok-oe	preobrazovani-e	voobraženi-ja:	iz
	profound-N.NOM.SG	transformation-NOM.SG	imagination-GEN.SG	from
	sub"ektivn-ogo	ono	preobrazu-et-sja	v ob"ektivn-oe.
	subjective-N.GEN.SG	it.NOM	transform.IPFV-PRS.3.SG-REFL	in objective-N.ACC.SG
			transform.PFV-FUT.3.SG-REFL	

‘In this [teenage] period, Vygotsky believes, a profound transformation of the imagination takes place: from the subjective, it **is transformed** into objective.’

[E. P. Krupnik. Voprosy psixologii, 2003]

In (54) the famous psychologist is referring to what usually happens in the life of an adolescent using the biaspectual verb *preobrazuetsja* ‘transforms’. Either Vygotskij is making a Gnomic statement about what always happens, or he is making a statement about a transformation that is currently happening from the internal perspective of the adolescent period.

4. Future tense meanings and modality

This section presents a digression on how future can interact with modality. To show which future tense meanings are combined with different types of modality, we examined the examples presented in the works of Petrukhina and Li (2015), Wiemer et al. (2020), Klimonow (2011), and Radbil (2011) and compared them with our classification of future tense meanings. Here we present a brief overview of the future – modality interaction. We found examples with Future, Extended future, and various Gnomic meanings; no Directives are attested in the abovementioned articles.

Most of the examples express unextended Future. The dominant modality is the epistemic modality. Klimonow (2011) provides a rather simple example (55) of a prototypical Future which he labels as epistemic modality:

(55) Boris **pereplyv-et** Volg-u.
 Boris.NOM.SG swim.across.PFV-FUT.3.SG Volga-ACC.SG

‘Boris **will swim across** the Volga.’

In addition, Klimonow (2011) shows the interaction of Future and potential modality. Petrukhina and Li (2015) introduce the notions of volitive modality. Radbil puts the Future meanings on a scale between “future as a fact” and “future as (undifferentiated) modality”. The distribution of modal meanings across utterances with Future meaning is presented in Table 2.

	Petrukhina & Li	Wiemer et al.	Klimonow	Radbil
Epistemic	✓	✓	✓	(✓)

Volitive	✓			
Potential			✓	
Undifferentiated modality				✓

Table 2. Distribution of modality in combination with the Future meaning.

Extended Future is represented by such extensions as Hypotheticals, Posterior futures and Performatives. Hypothetical examples are presented in the works of Petrukhina and Li (2015) and Radbil (2011). Petrukhina and Li describe if-statements as potential, possible action (56).

- (56) Esli Bonapart **bud-et** **id-ti** tak, to
if Bonaparte.NOM.SG be.FUT-3.SG go.IPFV-INF so then
čerez tri, ot sil-y četyre
after three.ACC from force-GEN.SG four.ACC
nedel-i dostign-et porog-a mo-ego dom-a.
week-ACC.PL reach.PFV-FUT.3.SG doorstep-GEN.SG my-M.GEN.SG house-GEN.SG

‘If Bonaparte **continues to move forward** (lit. ‘**will go**’) like this, then in three, maybe four weeks he will reach my doorstep.’

Posterior future, mentioned only by Petrukhina and Li (2015), loses modality because technically the action in the utterance has already happened. Performatives can have a volitive modal component (Petrukhina & Li 2015), or a combination of volitive and basic modality (Klimonow 2011). Radbil (2011) finds modality in performative utterances to be bleached: future as modality transforms into future as a fact. A short summary of the relationship between various Extended futures and modality is shown in Table 3.

	Petrukhina & Li	Klimonow	Radbil
Volitive	Performative	Performative	

Potential	Hypothetical		
Basic		Performative	
No modality	Posterior		Hypothetical;
			Performative

Table 3. Distribution of modality across the Extended future.

In addition to Future and its extensions, Gnostic uses are widely presented in the discussed literature. Example (57) is a statement about the human ability to overcome difficulties; it combines Gnostic use with potential modality (Klimonow 2011).

- (57) Čelovek **vyderž-it** mnog-oe.
 person.NOM.SG withstand.PFV-FUT.3.SG much-N.ACC.SG

‘A person can withstand (lit. ‘**will withstand**’) a lot.’

As shown in Table 4, Gnostic uses of future tense forms without any additional properties are attested to have the following types of modality: potential (Klimonow 2011), deontic (Petrukhina & Li 2015), epistemic (Wiemer et al. 2020) and undifferentiated modality (Radbil 2011).

	Petrukhina & Li	Wiemer et al.	Klimonow	Radbil
Epistemic		✓		
Potential			✓	
Deontic	✓			
Undifferentiated modality				✓

Table 4. Distribution of modality in combination with Gnostic meaning.

We attested three additional specifications of Gnostic: Habitual chains, Salient events and Stable scenarios. The distribution of these Gnostic subtypes is shown in Table 5.

	Petrukhina & Li	Wiemer et al.	Klimonow
Potential		Habitual chain	Salient event; stable scenario
Circumstantial	Stable scenario	Habitual chain	

Table 5. Distribution of modality across the specialized Gnomonic uses.

Below is an example of Habitual chain with attributed circumstantial modality (Wiemer et al. 2020).

- (57) A byva-et čo ot pečal-i posle
and happen.IPFV-PRS.3.SG that from grief.GEN.SG after
poter-i xozjain-a i sobak-a **umr-et** srazu
loss-GEN.SG owner-GEN.SG and dog-NOM.SG die.PFV-FUT.3.SG immediately
‘Sometimes (lit. ‘it happens so that’) the dog **will immediately** die from grief after the
loss of the owner.’

Various types of modalities and future tense meanings can combine quite freely: e.g., utterances with potential modality can have either Gnomonic or (Extended) Future meaning. We do not attest a pattern that could explain the motivation behind various future tense meanings via modality. The uncertain nature of both future tense and modality creates the space for variation. However, this variation and overlap does not conflict with our classification presented in Section 3.

5. Radial category of meanings for future tense forms

We found attestations of the elements of the same semantic classification in both perfective and imperfective future tense forms and we used similar semantic classifications for both, in accord with Stojnova’s (2016b: 248) thesis that the perfective and imperfective future tense forms tend to express the same meanings. As we have shown in detail in Section 3, the category of future tense is polysemous. According to Lewandowska-Tomaszczyk (2007: 142), polysemous entities have a prototypical meaning and a radial category. A radial category is understood here as a network of related meanings structured around the prototypical meaning (Lakoff 1987: 91). The representation of our classification as a radial category provides a coherent account of the meanings of the future tense across aspect. To show the

differences and the similarities of the meanings exhibited by the two future tenses, we present two radial categories in Figures 5a and 5b.

Figures 5a and 5b visualize the radial categories of meanings expressed by future tense forms in Russian.

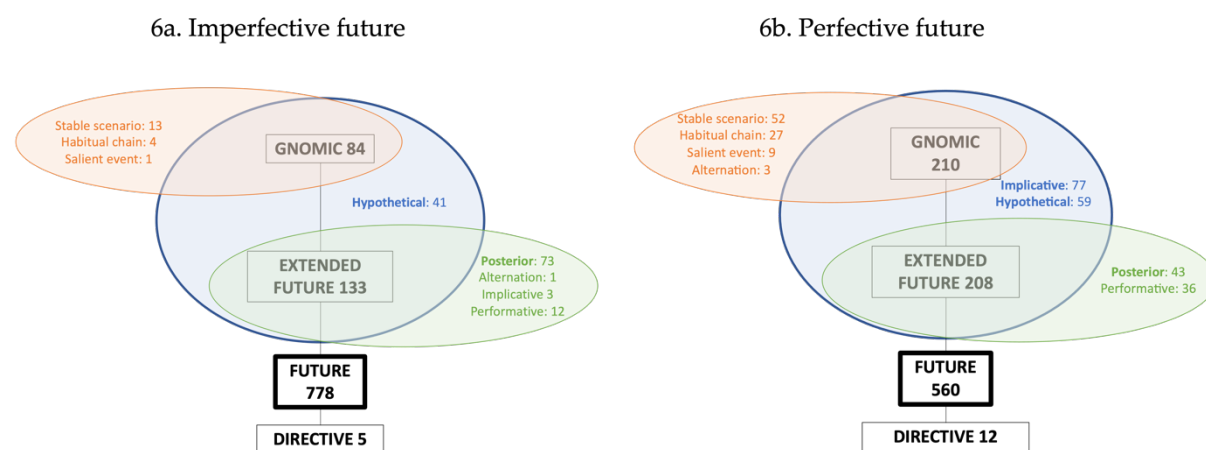


Figure 5a. Radial category of meanings expressed by imperfective Russian future forms. Figure 5b Radial category of meanings expressed by perfective Russian future forms. Major meanings are on the vertical axis, with Future as the prototype. Ovals represent submeanings, with boldface to indicate those that can overlap.

The radial categories of future tense meanings are multilayered. The first layer is represented by the four major meanings of the Russian future tense forms, which are arranged in square boxes, with a thick line around Future to indicate its status as the prototypical meaning in the network. All four of the major meanings are instantiated by both perfective and imperfective verbs. Directive is relatively marginal and therefore distant from the rest of the meanings. The remainder of the vertical axis shows relative temporal grounding of the meanings, with Future as the most grounded, followed by Extended future, which is partially grounded, and at an even further remove Gnomonic, which lacks temporal grounding. The ovals are the second layer. They represent the various submeanings presented in Section 3. The number to the right of each meaning indicates the number of examples (out of a thousand) that illustrate the use of the meaning. Note that some examples express more than one submeaning: for example, in the perfective dataset, eight examples combine Habitual chain with Stable scenario.

We find that the range of meanings is not entirely identical across the two aspects. While most of the submeanings are attested for both perfective and imperfective verbs, Salient events are found only with perfective verbs (with the exception of one example that can be potentially viewed as a Salient event).

Bold face indicates submeanings that can combine with other submeanings, multiply motivating the use of future forms. Implicative and Hypothetical are shared by the Extended future and Gnomonic meanings and can combine both with Posterior uses of the Extended future and with Stable scenario Gnomonic uses.

The layered diagrams of the Russian future forms in Figures 5a and 5b capture the schematic simplicity of the radial category along with the complex interaction of both major uses and submeanings. In addition, Figures 5a and 5b show that perfective and imperfective futures are very alike despite the minor differences expressed in the numbers of examples with the attributed meanings.

6. Conclusion

A sample of 1000 examples of perfective future forms and 1000 imperfective future forms was manually analyzed for meanings and submeanings. Only 56% of perfective future tense forms unambiguously express Future time meaning, with the remainder expressing Extended future, Gnomonic, and Directive meanings. Nearly 78% of imperfective future tense forms express Future time meaning, and the remainder follow a pattern similar to that of the perfective forms, differing in the use of some submeanings. We present a layered radial category that captures the complex interactions among the major meanings and the submeanings of the future forms. The definition of Extended future, Gnomonic, and Directive uses constitutes a theoretical extension of Langacker's (2008) model and is potentially valuable for the analysis of tense in other languages.

Overall, in relation to imperfective future forms, we find that perfective future tense forms are more varied in their expression of meaning. Gnomonic uses of future tense forms stand out as particularly important, both for a theoretical understanding of future tense forms and for language pedagogy, which should focus more on perfective forms and their Gnomonic uses.

We also demonstrate that many future tense forms can be used in modal settings. However, the various types of modality do not directly correspond to the variety of meanings of the future tense and thus are insufficient to fully motivate the radial category of Russian future tense. There is no clear pattern to the distribution of modality vs. future and non-future time meanings. We cannot explain the non-future and extended meanings entirely by recourse to modality. Modalities and (non-)future meanings can be combined freely. On the one hand, there are cases of one type of usage receiving more than one modal interpretation (by one or more researchers). For example, Future Performatives can be viewed as volitive or basic by Klimonow (2011) or have no modality according to Radbil (2011). On the other hand, the same type of modality can be represented by more than one type of use. For example,

potential modality is combined with Future Hypothetical, Future, Gnomonic Habitual chain, Gnomonic, Gnomonic Salient events, and Gnomonic Stable scenarios.

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