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# TAKING APART RUSSIAN *RAZ-*

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## 1. Introduction

Aspectually paired prefixed verbs like сделать 'do' and раздробить 'crumble' have the same lexical meanings as their unprefixed imperfective base verbs делать 'do' and дробить 'crumble'. This observation motivates the assumption that the prefixes in such verbs bear no meaning. We offer two sets of arguments against the existence of "empty prefixes/пустые приставки" in Russian. The first set of arguments presents data on the statistical distribution of prefixes, extracted from a database of verb pairs.[1] If the prefixes represented semantic zeroes, we would expect an arbitrary distribution. However, the data are structured in non-random ways, indicating that the prefixes have unique and non-equivalent profiles. The second set of arguments presents a case study of a single prefix, namely раз-. Two groups of uses of the prefix are compared: a) uses where the prefix does not play a "purely aspectual" role and the meaning is clearly evident, as in разослать 'distribute, send to various destinations' (cf. base verb слать 'send') or разжечь 'kindle' (cf. base verb жечь 'burn'); and b) uses where the prefix does not seem to contribute meaning, as in растаять 'melt', the perfective partner of таять 'melt'. This comparison reveals strong isomorphism between the range of meanings expressed by the prefix in the a) group uses and the range of meanings expressed by the base verbs in the b) group uses. We argue that this isomorphism creates an illusion of semantic emptiness in the b) uses where the meaning of the base verb and prefix overlap, rendering the contribution of the prefix redundant. Redundancy, however, is not the same as emptiness. The meaning of the prefix is always present and always relevant since it plays the crucial role of determining which prefix is appropriate for each base verb. This interpretation of the role of the prefix comports well with both the distributional facts and the semantic analysis of раз-. We propose that the Russian verbal prefixes serve as verb classifiers, and that this proposal can be supported by parallel studies of the remaining prefixes and by typological comparisons.

1. The authors would like to thank the members of the "Exploring Emptiness" research group at the University of Tromsø for their efforts in collecting data: Olga Lyashevskaya, Svetlana Sokolova, Julia Kuznetsova, Anastasia Makarova.

1.1 Background

The idea of "empty" prefixes, also known as "purely aspectual / чистовидовые", has a long tradition in Russian linguistics (Šaxmatov; Avilova 1959 and 1976; Tixonov 1964 and 1998; Forsyth; Vinogradov; Švedova et al.; Čertkova; Zaliznjak and Šmelev; Mironova). Some scholars have objected to the concept of "empty" prefixes, hypothesizing instead that there is conceptual overlap between prefixes and base verbs (Vey; van Schooneveld; Isačenko; Timberlake 410–11). Though this "overlap hypothesis" is an attractive solution, actually proving that the prefixes are not empty has turned out to be one of the most long-standing and intractable problems in the field; Krongauz (82) labels it a "chronic" problem lacking a satisfactory solution. The goal of this article is to present a pilot study of a single prefix, based on empirical data that has not been previously available. Whereas it is not possible to definitively solve the problem of the "empty" prefixes within the scope of this article, we offer a new type of evidence and a methodology for tackling the problem. We present a single prefix here, but the approach can in principle be extended to other, perhaps all, prefixes in Russian.

1.2 Organization of the Argument

The article begins by situating the role of verbal prefixes within the Russian aspectual system (section 2). The perfective verbs created via prefixation are not a monolithic category. Our analysis focuses on the semantic options: prefixes either provide a distinct semantic contribution to the resulting verb (2.1) or they do not (2.2), and subtypes are arranged under these two headings. This grouping of perfectives lays the foundation for the comparison of uses of раз- in our case study. Section 3 focuses on the latter group of perfectives, namely those that contain putatively "empty" prefixes. Distributional arguments applicable to all "empty" prefixes are presented, some based on new statistical data (3.1 and 3.2), and some based on more general observations (3.3 and 3.4). The case study of раз- appears in section 4, prefaced by a description of the network model of meaning (4.1), and divided into two parts: a) the network of meanings attested for раз- in its "non-empty" uses (4.2), and b) the network of meanings attested for the "empty" uses of раз- (4.3). The case study closes with a comparison of the a) and b) networks and conclusions are offered in section 5.

## 2. Various Kinds of Prefixed Perfectives in Russian

Given the fact that Russian verbs can be either perfective or imperfective,[2] and verbs are often described as existing in "aspectual pairs / видовые пары"

2. Though there are biaspectual verbs in Russian, they can be thought of as verb pairs in which the two members are syncretic since aspect is usually disambiguated in context, as asserted by Čertkova (100–9), Galton (294), and Zaliznjak and Šmelev (10).

(Švedova et al.; Čertkova; Zaliznjak and Šmelev), it is tempting to assume that each of the two aspects represents a homogeneous unit. However, scholars working in both functionalist (Janda; Janda and Korba) and formalist (Ramchand; Svenonius 2004a–b and 2008) frameworks recognize a series of distinctions among perfective verbs. Though these distinctions are motivated in part by different observations, they are largely parallel,[3] and contributions from both traditions will be used to support the arguments in this section. Because the focus in our case study will be on the comparison of a) "non-empty" uses with b) "empty" uses of prefixes, the presentation of types of perfectives here parallels that division.

2.1. Prefixes that Change the Meaning of the Verb

For three groups of perfectives, the presence of a distinct semantic contribution from the prefix is uncontroversial. Two of these groups of perfectives are relevant for our case study, but the third one is not attested for the prefix раз-. The headings for the types of perfectives in both 2.1 and 2.2 reflect Janda's classification, and equivalent labels reflecting formalist analyses are provided within the subsections. This survey is intentionally brief and therefore not comprehensive, as it is limited only to points relevant to our argument.

2.1.1. Specialized Perfectives

Janda (2007a) designates as Specialized Perfectives prefixed verbs that are semantically distinct from their imperfective base verbs and usually form derived secondary imperfectives. Развить 'develop' derived via prefixation of раз- to вить 'twist' is an example, with the secondary imperfective развивать 'develop'. A given base verb can often have several Specialized Perfectives. Вить 'twist' illustrates this fact with perfectives such as завить 'curl', навить 'wind on(to)', обвить 'wind around, entwine', взвить 'raise' and извить 'coil', all with secondary imperfectives in -вивать. The role of the prefix is to direct or focus the action in a way not inherent in the base verb. Svenonius (2004a–b and 2008) and Ramchand refer to prefixes in this role as "lexical prefixes" (cf. also Spencer and Zaretskaya 1998) and point out that such prefixes are low in the tree structure, VP-internal, and are associated with argument structure changes in the resulting verb. For example, the base verb вить 'twist' requires only a direct object, which is usually filled by something that is created by twisting, such as гнездо 'nest' or веревка 'string', as in (1).[4]

(1) ...он в полном одиночестве старательно вил веревку. [Юрий Буйда. Щина // «Знамя», 2000]

'...he was carefully twisting a string in complete isolation.'

3. There are some differences in the grouping of prefixes under functionalist vis-à-vis formalist criteria, but they are very minor and do not bear on the arguments here.

4. Examples are culled from the Russian National Corpus (<www.ruscorpora.ru>).

The Specialized Perfective обвить 'wind around, entwine' takes an entirely different range of direct objects, most frequently шея 'neck', and has a second argument in the instrumental case (руками 'arms'), as we see in (2). Neither of these options is possible in collocation with the unprefixed base verb.

(2) Она обвила его шею руками и стала покрывать лицо поцелуями. [Михаил Шишкин. Всех ожидает одна ночь (1993-2003)]

'She entwined his neck with her arms and began to cover his face with kisses.'

2.1.2. Complex Act Perfectives

Whereas Specialized Perfectives are qualitatively distinct in meaning from their base verbs, in Complex Act Perfectives the prefix performs a more quantitative role, usually expressing a temporal limit on the action. Thus the action takes place for a certain period of time, as with по-prefixed delimitatives and про-prefixed perduratives, or focus is restricted to the beginning (ingressives, usually formed with за- or раз-) or end (terminatives, usually formed with от-) of the action. Because Complex Act Perfectives do not express a resultative meaning, they usually lack a secondary imperfective. The Complex Act Perfective разволноваться 'become upset' is an ingressive formed from волноваться 'be upset'; no secondary imperfective is acknowledged.[5] A given base verb can form more than one Complex Act Perfective; in addition to the ingressive just cited, the same base verb also forms the delimitative поволноваться 'be upset for a while'. Svenonius (2004a–b and 2008) and Ramchand call such prefixes "superlexical prefixes" because their contribution is more on a par with an adverbial and thus such prefixes are VP external and high in the tree. Complex Act Perfectives express what is termed in Russian способ действия (Zaliznjak and Šmelev) or совершаемость действия (Isačenko), often called Aktionsart.

2.1.3. Single Act Perfectives

Like the Complex Act Perfectives, Single Act Perfectives express a quantificational meaning and lack both a resultative meaning and a secondary imperfective. Single Act Perfectives are often understood as a subclass of Aktionsart verbs with semelfactive meaning (Townsend; Timberlake), since they express the performance of a single cycle of (usually repeatable) actions. Most Single Act Perfectives are formed via suffixation in Russian (as in чихнуть 'sneeze once' from чихать 'sneeze'). There are Single Act Perfectives formed with the prefix с-, such as сгрубить 'do one rude thing', formed

5. If a secondary imperfective did exist, we would expect it to be *разволновываться, but this verb is not listed in dictionaries (Zaliznjak 1980; Evgen'eva 1999; Ožegov and Švedova 2001), nor is it attested in the Russian National Corpus. Google and Yandex each turn up a handful (seven and five respectively) of examples, all of which are marginal.

from грубить 'act rudely',[6] but since this type of perfective cannot be formed with раз-, it is not discussed further in this article.

2.2. Prefixes that Do Not Change the Meaning of the Verb

Although there is only one group of perfectives that fall under this heading, they are particularly prominent in the language and are the only group of perfectives that are consistently represented in dictionaries.[7] Their relationship to the unprefixed base verbs is so close that there is controversy over whether prefixation for such verbs is a matter of inflectional or derivational morphology (Janda 2007b).

2.2.1. Natural Perfectives

Natural Perfectives have the same meaning as the corresponding unprefixed base verb, such as растаять 'melt' (cf. base verb таять 'melt') and распухнуть 'swell' (cf. base verb пухнуть 'swell'). Svenonius (2004a–b) and Ramchand (2004) refer to prefixes in such perfectives as "purely perfectivizing prefixes", a term that comports well with the traditional label of "чистовидовая приставка." Though the relationship between the base verb and the perfective is often straightforward, complications can arise. In some instances, a Natural Perfective is relevant only for one of the meanings of the base verb, as in the case of разъесть 'corrode', which is the Natural Perfective only for the second meaning of есть '1. eat; 2. corrode' (Ožegov and Švedova). It is also possible for a base verb to have more than one Natural Perfective. Есть '1. eat; 2. corrode' has, in addition to разъесть 'corrode', two other Natural Perfectives that relate to the first submeaning, namely поесть 'eat' (with focus on the agent), and съесть 'eat' (with focus on the patient). We call this phenomenon "prefix variation" and discuss it in more detail in 3.2.

2.3. Summary of Kinds of Prefixed Perfectives

Although there are three kinds of perfectives where the prefix has a distinct semantic contribution, only two of them are relevant for our study: the Specialized Perfectives and the Complex Act Perfectives. These "non-empty" ("a) uses") of prefixes where the semantic contribution of the prefix is uncontroversial contrast with the seemingly "empty" ("b) uses") of prefixes in the formation of Natural Perfectives. Note, of course, that one and the same prefix can appear in all three types of perfectives, as we see with раз-, which serves as a lexical prefix in the Specialized Perfective развить 'develop', as a superlexi-

6. See Dickey and Janda for more on the relationship between suffixed and prefixed Single Act Perfectives in Russian. Makarova and Janda describe a fourth type of perfective where the prefix has a distinct semantic contribution, namely the Specialized Single Act Perfective, but this type is rather marginal and can be left aside for the purposes of this article.

7. A notable exception in this connection is Zaliznjak 1980, which is perhaps the only dictionary that represents all types of perfectives equally.

cal prefix in the Complex Act Perfective разволноваться 'become upset', and as a purely perfectivizing prefix in the Natural Perfective растаять 'melt'.

Most scholarly work on Russian prefixes has focused largely or exclusively on the "non-empty" uses, setting aside the "empty" uses where there is putatively no meaning contributed by the prefix (Townsend; Janda; Krongauz; Zaliznjak and Šmelev; Svenonius 2004a–b and 2008; Ramchand). Our goal is to complement these works by using what is known about the semantics of prefixes in their "non-empty" uses as a basis for comparison with prefixes in their "empty" uses. Before undertaking this comparison in our case study in section 4, we present some general arguments against the existence of "empty" prefixes.

## 3. Distributional Arguments Against Empty Prefixes

The strategy in this section is to identify a series of expectations that ensue if we assume that the prefixes that form Natural Perfectives are semantically "empty." In other words, each argument will begin by stating "If the prefixes in Natural Perfectives are empty, we expect X to be true." We then challenge the assumption by showing that X is not true. Most of these arguments involve equating the assumption of semantic emptiness with a null hypothesis. This is a reasonable equation because a semantic zero should not yield any effect, and neither should any given zero behave differently from any other (a zero is merely a zero, there are not different versions of zero). In statistical analysis, a null hypothesis assumes that there is no effect and that the distribution does not differ from the normal distribution that would be obtained by chance variation. A skewed distribution, however, indicates that there is some factor that has introduced non-random structure into the data. In and of themselves such distributions cannot prove that the prefixes bear meaning, but they do provide compelling evidence that the prefixes do not behave like a set of equivalent zeroes.

The arguments in this section are supported by empirical facts adduced from the "Exploring Emptiness" (EE) database at the University of Tromsø. The database contains 2061 aspectual pairs, consisting of an imperfective base verb and the corresponding Natural Perfective, aggregated from two dictionaries (Evgen'eva; Ožegov and Švedova) and a list (Cubberly). The EE database indicates which prefix is used with each base verb, whether there is prefix variation, and if so, what kind. Additional information such as definitions, codes from Zaliznjak, semantic tags from the Russian National Corpus, and frequencies are also available. The search capacities of the EE database reveal facts about the distribution and behavior of the so-called "empty" prefixes that were previously inaccessible.

### 3.1. Number of Prefixes and Their Distribution

We begin by looking at the total number of prefixes that form Natural Perfectives and their distribution among base verbs.

*Expectation 1: If the prefixes in Natural Perfectives are empty, we expect there to be one such prefix.*

This expectation follows from the observation that we are dealing with "purely perfectivizing prefixes." In other words, if the sole purpose of a prefix is to mark a verb as perfective, why would a language need more than one such marker? Perfectivity could certainly be marked with a single morpheme, just as plurality in English is marked with *-s*. To be sure, English plural *-s* has three allomorphs ([-s], [-z], and [-əz]) and there are some exceptions (*oxen*, *fish*). There are certainly cases where languages use more markers than they truly need (the Russian dative singular marker for nouns appears as *-u*, *-i* and *-e*, for example). But usually the number of items is relatively small (cf. Carstairs' 1987 Paradigm Economy Principle, further developed in Carstairs-McCarthy). Russian has, however, at least sixteen prefixes that form Natural Perfectives. It is possible to argue about the exact number of prefixes, since there are two instances where the status of variants as allomorphs or independent prefixes is debatable. The prefix вз- and its Church Slavonic variant воз- are obviously etymologically related, but appear to be distinct in at least some uses (Gallant). More problematic are the trio о-, об- and обо-, which seem to defy a clear analysis that would unite them (Krongauz; Roberts 1976 and 1981). If these variants are recognized as separate prefixes, the total number reaches nineteen (as per Krongauz). In any case, whether there are sixteen or nineteen prefixes, their number far exceeds reasonable expectations. The sheer number of prefixes that supposedly share the "same" function suggests that there may be hidden distinctions in the system.

*Expectation 2: If the prefixes in Natural Perfectives are empty, we expect the prefixes to be distributed randomly.*

If all the prefixes are semantic zeroes and share a single function, they should have a flat distribution that does not distinguish among them. In other words, there is no reason to expect that one semantically empty marker should be preferred over any other. Figure 1 displays the distribution of 2061 combinations of base verbs with nineteen prefixes that we would expect if the distribution were random.[8]

In Figure 1 the prefixes are modeled as number one through nineteen on the x-axis and the number of base verbs is modeled on the y-axis. We see that random assignment of base verbs to prefixes would yield a rather uniform distribution where each prefix forms approximately 100–140 Natural Perfectives. Compare this hypothetical model to the actual distribution of base verbs across prefixes found in the EE database, depicted in Figure 2.

8. This plot was created using the statistical software package R (<http://cran.r-project.org>). The code for this plot is hist(runif(2061, min=1, max=19)).

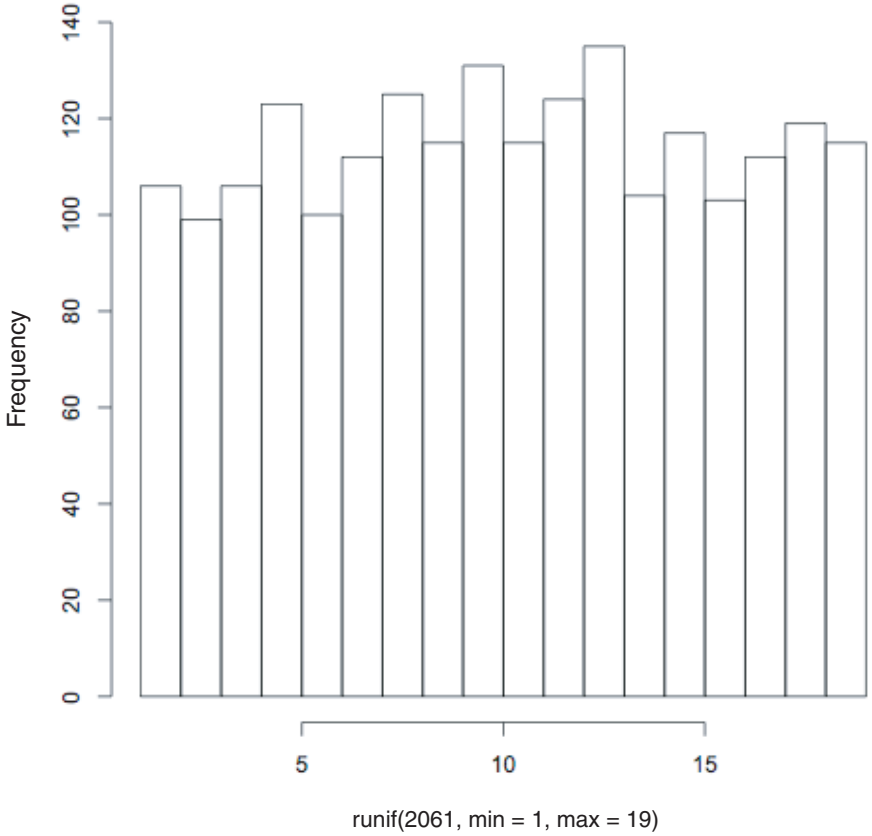


Figure 1: Expected distribution of 2061 observations (e.g., base verbs) across nineteen items (e.g., prefixes)

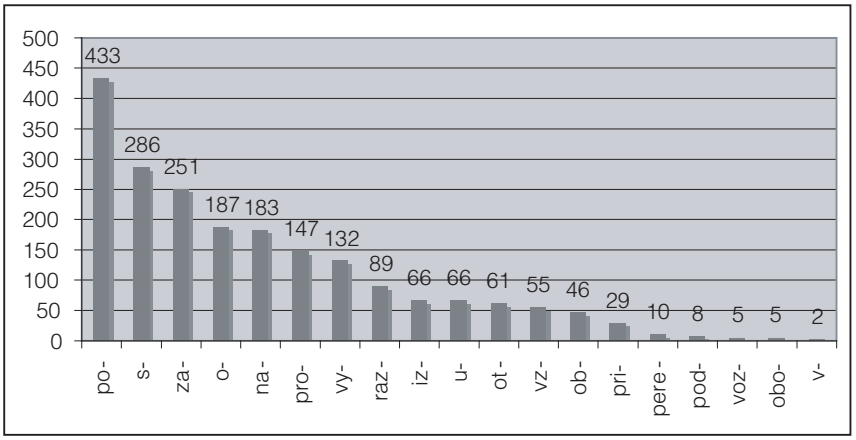


Figure 2: The number of Natural Perfectives formed by each prefix

The real distribution of the so-called "empty" prefixes is dramatically different from what we would expect under the null hypothesis. The distribution of prefixes is strongly skewed, with six prefixes (по-, с-, за-, о-, на- and про-) exceeding the maximum expected number of base verbs, only one prefix falling in that range (вы-), and the remainder below the expected range and trailing off asymptotically. The data present a structure that cannot be accounted for if the prefixes have equivalent "empty" uses.

3.2. Prefix Variation

"Prefix variation" refers to the situation that obtains when a given base verb can combine with more than one prefix to form Natural Perfectives, as in our example of поесть 'eat', съесть 'eat' and разъесть 'corrode' above (2.2.1). Often there is no immediately obvious difference in the meanings of such Natural Perfectives, as in the case of погрузить, нагрузить and загрузить, all of which serve as Natural Perfectives of грузить 'load'.[9] 28% of base verbs in the EE database show prefix variation, forming Natural Perfectives with combinations of two, three, four, five or six prefixes.

*Expectation 3: If the prefixes in Natural Perfectives are empty, we expect the distribution of prefix variation to be random.*

If the prefixes were indeed a set of equivalent zeroes, there would be no reason to expect any combinations of two or more prefixes to be preferred or dispreferred in the distribution. Table 1 shows, however, that the majority of theoretically possible prefix combinations are not realized at all.

Table 1: Base verbs and their number of prefixes in Natural Perfectives

| # prefixes | # attested prefix combinations | # combinations possible from a set of 19[10] | % realized (#attested/#possible) |
|---|---|---|---|
| 2 prefixes | 61 | 171 | 35.67% |
| 3 prefixes | 61 | 969 | 6.30% |
| 4 prefixes | 18 | 3876 | 0.46% |
| 5 prefixes | 3 | 11628 | 0.03% |
| 6 prefixes | 5 | 27132 | 0.02% |

The first column in Table 1 lists the number of prefixes that participate in prefix variation in the EE database. The second column lists the number of such prefix combinations that are attested. There are sixty-one combinations of two prefixes such as по|с (as in посчитать and сосчитать, both Natural

9. The distribution of grammatical constructions associated with these Natural Perfectives do, however, betray differences among them, cf. Sokolova, Lyashevskaya and Janda in progress.

10. The formula for finding the number of possible combinations of k items from a set of n items is n!/k!(n-k)!. Here, n=19 and k ranges from 2 to 6.

Perfectives of считать ‘count’) and за|о (as in запьянеть and опьянеть, both Natural Perfectives of пьянеть ‘drink, be a drunkard’), sixty-one combinations of three prefixes (like по|на|за for грузить ‘load’, mentioned above), eighteen combinations of four prefixes, etc. The third column lists the theoretically possible combinations of prefixes from a total set of nineteen, and the fourth column calculates the value of the attested combinations as a percent of possible combinations. Thus only about 36% of possible two-prefix combinations are attested, and the numbers fall off sharply thereafter.

Let us focus just on the combinations of two prefixes. Figure 3 presents the distribution of the fifteen most frequent two-prefix combinations in the EE database.

Prefix combinations are given on the x-axis and the number of base verbs that use each combination is given on the y-axis. Figure 3 is the left-hand side of a much wider graph that contains 171 possible two-prefix combinations, 110 of which are not realized. Thus we see just the leftmost portion of a strongly right-skewed distribution. Given the number of base verbs and possible combinations involved, a random distribution would give a mean of about 1.5 base verbs for the 171 options. Instead, all of the prefix combinations in Figure 3 are strongly preferred, whereas many theoretically possible combinations, such as *из|про and *от|у do not occur. Again we see structure in the data that a null hypothesis could not account for.

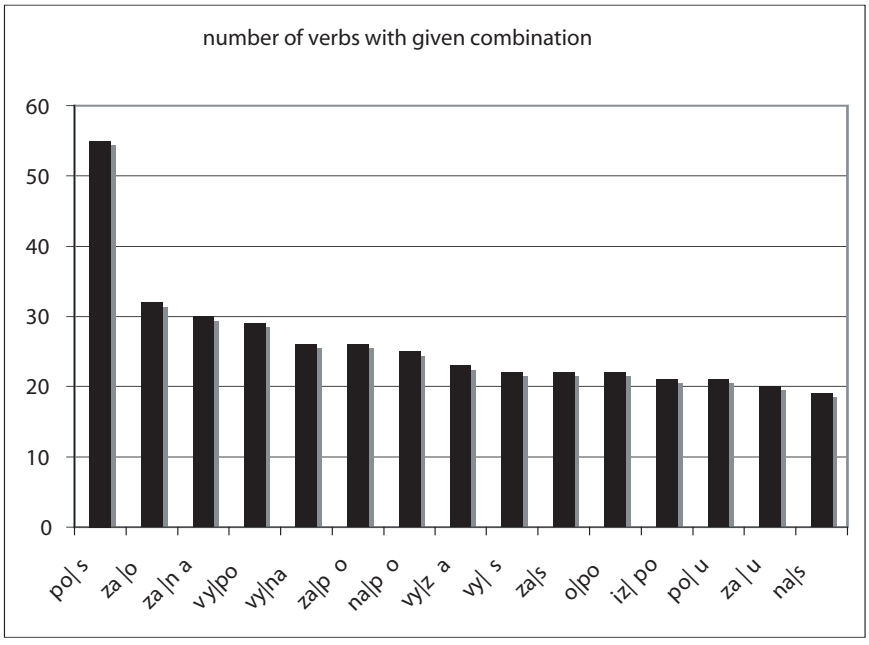


Figure 3: Top fifteen instances of two-prefix variation

3.3. Assignment of Prefixes to Borrowed Verbs

*Expectation 4: If the prefixes in Natural Perfectives are empty, we expect their assignment to borrowed verbs to be random.*

When new verbs are borrowed into Russian, approximately 40% enter the lexicon as imperfective base verbs (cf. Janda 2007c), and most of these form Natural Perfectives via prefixation. If the prefixes serve only to mark aspect, there should be no way to predict what prefix should attach to any given verb, and we could not expect native speakers to reach consensus on this issue either. However, it appears that native speakers do know which prefix to select, as in the choice of раз- for классифицировать 'classify, sort into groups', за- for асфальтировать 'pave with asphalt', and про- for фильтровать 'filter'. Furthermore agreement on this issue is at least as good as with native verbs, since prefix variation is not greater with foreign verbs than with native verbs.[11]

3.4. Semantic vs. Non-Semantic Uses for the Same Prefixes

*Expectation 5: If the prefixes in Natural Perfectives are empty, we expect them to stay empty.*

This argument is based on what is known about form-meaning relationships and polysemy in language. The problem is that all of the prefixes that are putatively "empty" also appear in clearly non-empty uses, since all prefixes that form Natural Perfectives can also form Specialized Perfectives, and some can additionally form Complex Act Perfectives. For example, раз- can form all three: растять 'melt' is a Natural Perfective, развить 'develop' is a Specialized Perfective, and разволноваться 'become upset' is a Complex Act Perfective. Whereas we know that semantic bleaching can reduce the distinctiveness of meaning (Heine et al.; Hopper and Traugott), it is still usually possible to envision a semantic network in which both bleached and non-bleached uses are related to each other. However, a polysemy that includes a category member with a zero value seems intuitively odd, and we are not aware of examples that would illustrate this phenomenon. To put it another way, why would a prefix like раз- "turn on" its meaning in collocation with some verbs, but "turn off" its meaning with others? And how would we know when its meaning should be "on" or "off"?

3.5 Summary of Distributional Arguments

A null hypothesis positing "empty" use of prefixes in Natural Perfectives yields a series of expectations that are inelegant and/or not supported by em-

11. In order to test the relationship between native vs. foreign origin and prefix variation, we sampled the first 200 verb pairs in the EE database. Twenty-nine of the pairs involve a base verb of foreign origin, and of these, only four (13.8%) show prefix variation. The remaining 171 pairs, with native Russian base verbs, yield 51 examples of prefix variation (29.8%). If anything, it seems that there is better agreement on the choice of prefixes among borrowed verbs than among native ones.

pirical facts. We suggest instead that an alternative hypothesis, that of semantic overlap between the prefix and base verb in Natural Perfectives, comports better with the data. Semantic overlap functions as a kind of camouflage making the meaning of the prefix hard to distinguish because it is included in the meaning of the verb. An analogy to color can be made. It is as if the verbs that form their Natural Perfective with раз- were of approximately the same brown color shared also by the prefix. When the brown раз- prefix is applied to the brown verbs, it is camouflaged. But when applied to verbs of other semantic "colors," the раз- prefix is easy to spot. For a general theory of semantic overlap, see Langacker.

Under the overlap hypothesis, it makes sense that there are many prefixes with a skewed distribution because the base verbs are themselves a diverse and non-random group, as the semantic tags from the Russian National Corpus reveal. Some semantic groupings are very large (such as "behavior," "change state," and "speech," with 64, 285, and 91 base verbs respectively in the EE database), while others are very small (such as "light," "weather," and "smell," with 4, 4, and 1 base verbs in the EE database). If the meanings of the prefixes overlap with the meanings of the base verbs, then we need a rather large group of prefixes that are not distributed uniformly. Furthermore, if the prefixes maintain their meanings in Natural Perfectives, we would expect asymmetries in how they combine in prefix variation, since some combinations would be more felicitous than others because some meanings can be combined better than others. If the prefixes have meaning, then it is easy for native speakers to know which prefix to use with a novel verb: their task is to choose the prefix that overlaps most with the meaning of the base verb. Finally, under the alternative hypothesis there is no need to posit networks of meanings containing both non-empty and empty members.

Section 4 posits a network of meanings for раз- and reveals an isomorphic relationship between the uncontroversially non-empty uses in Specialized and Complex Act Perfectives and the putatively "empty" uses in Natural Perfectives. This case study shows in detail the mechanism of semantic overlap and how it achieves the illusion of emptiness.

## 4. Case Study: раз-

Figure 2 shows that раз- is a mid-sized prefix in terms of the number of base verbs it combines with to form Natural Perfectives, and thus a good candidate for a case study, since it presents a manageable amount of data. 1091 verbs prefixed in раз- are attested in the Russian National Corpus; of these, eighty-nine are Natural Perfectives, and the remainder are Specialized or Complex Act Perfectives. The purpose of this section is to map the meanings of both groups of verbs.

4.1. Network Model of Meaning

We model the meaning of раз- as a network of related subcategories organized around a prototype. This model, known as the radial category, has a long and well-established tradition within the framework of cognitive linguistics as a method for handling polysemy. A radial category is a structured relationship between a prototype and other subcategories that bear a family resemblance to the prototype. The radial category may possess no single overall representation. All subcategories are motivated directly or indirectly by the prototype, though it is not necessary for there to be any one characteristic that all of them share. The prototype is a semantically central subcategory that serves to motivate extensions to other subcategories via metaphor and metonymy. The prototype tends to belong to the physical domain and to be directly connected to more subcategories than any other (Lakoff; Geeraerts; Croft and Cruse; and Lewandowska-Tomaszczyk). The subcategories within a network are not necessarily discrete, nor is it the case that any given example must fit into one and only one subcategory. On the contrary, the subcategories serve as salient nodes in a web of interconnected meanings and any given item may be motivated by multiple subcategories.

Figure 4 depicts the radial category of раз-. Each subcategory is labeled with a number and a heading, plus a single example for each type of Perfective that is found in that subcategory. The first subcategory, APART is the prototype, and a heavier line is used to signal its special status in the network. The lines between subcategories indicate extension relations among subcategories.

4.2. Use of раз- with Specialized and Complex Act Perfectives

Table 2 presents раз-prefixed Specialized and Complex Act Perfectives. Because there are over 1000 such verbs, it is not feasible to present all of them in this article**.** Table 2 lists a selection from among verbs with frequencies of over 100 in the Russian National Corpus. The numbers and headings correspond to those in Figure 4. Note that each entry takes up four columns across an entire line. The first two columns list the раз-prefixed perfective followed by its gloss, while the third and fourth columns list the base verb and its gloss. All the verbs in Table 2 are Specialized Perfectives, except for those under heading 9. INGRESSIVE, which are Complex Act Perfectives.

Each subcategory, along with its relation to neighboring subcategories, is taken up in turn below. It is important to note that the base verbs in each subcategory are fairly heterogeneous and do not in and of themselves signal the meaning given in the heading. That meaning is supplied by раз-.

*Subcategory 1. APART*

Here we find the motion verbs, both intransitive, like идти ‘walk’, which with раз- denote departing from a common point in different directions, and transitive like нести ‘carry’, which with раз- denote delivery to various places,

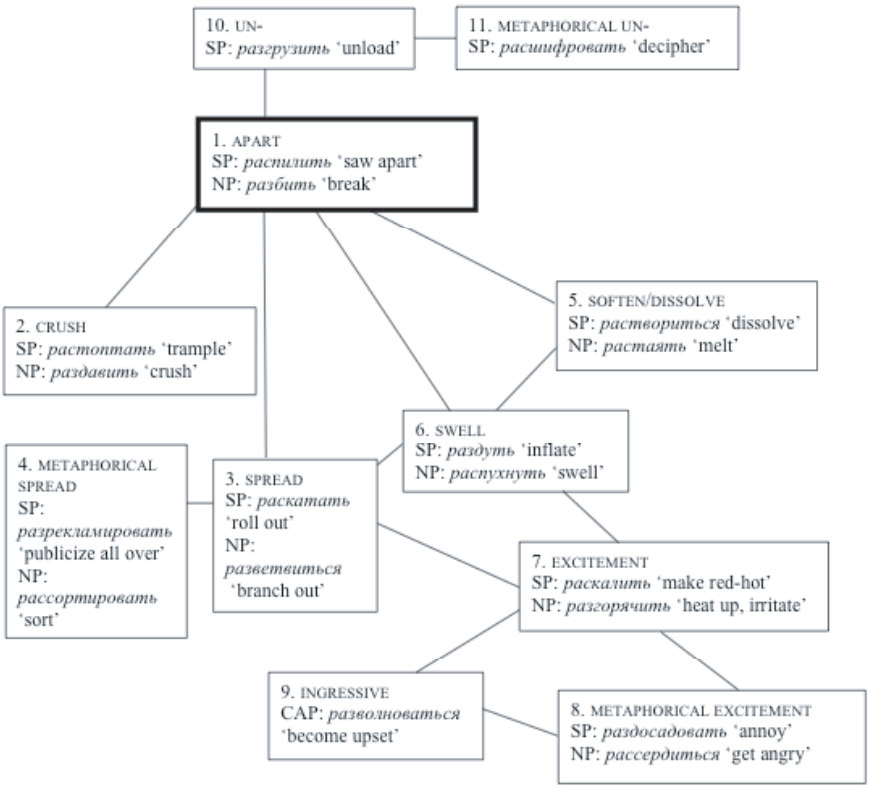


Figure 4: The semantic network раз-

in addition to the idiomatic развести(сь) 'divorce', which is also accommodated in this subcategory. Other motions that can be used for dispersal are present, such as веять 'blow' and слать 'send'. Several verbs denote actions that can disrupt the internal integrity of an item, yielding some kind of cutting or breaking event (ломать 'break', пилить 'saw'). Note that the events named in the base verbs are relatively controlled, not the type that are inherently expected to shatter the object and scatter its pieces—that part of the meaning is added by раз-. The verbs in this group correspond to the controlled end of the continuum (called "Dimension 1") between verbs that signal separation in a predictable or a non-predictable location, a continuum verified as typologically significant on the basis of twenty-eight world languages (Majid et al.). Finally, there is граничить 'border on' which receives an APART meaning in the perfective разграничить 'separate by a border'.

Table 2: Sample of verbs that use раз- for their Specialized Perfective (subcategories 1–8 and 10–11) or Complex Act Perfective (subcategory 9)

| **1.** APART | | **base verb** | |
|---|---|---|---|
| *разбежаться* | 'run in different directions' | *бежать* | 'run' |
| *развезти* | 'deliver to various places' | *везти* | 'carry by vehicle' |
| *развести(сь)* | 'divorce' | *вести* | 'lead' |
| *развеять(ся)* | 'disperse' | *веять* | 'blow, winnow' |
| *разграничить* | 'separate by a border' | *граничить* | 'border on, be contiguous with' |
| *разломать* | 'break in pieces' | *ломать* | 'break' |
| *разметать* | 'scatter' | *метать* | 'throw' |
| *разнести* | 'deliver, disperse' | *нести* | 'carry' |
| *разойтись* | 'walk in different directions' | *идти* | 'walk' |
| *разослать* | 'distribute' | *слать* | 'send' |
| *разрубить* | 'chop apart' | *рубить* | 'chop, fell' |
| *раскусить* | 'bite through' | *кусить* | 'bite' |
| *распилить* | 'saw apart' | *пилить* | 'saw' |
| **2.** CRUSH | | **base verb** | |
| *разбомбить* | 'bomb flat' | *бомбить* | 'bomb' |
| *развалить(ся)* | 'collapse' | *валить* | 'topple' |
| *разрушить(ся)* | 'destroy, collapse' | *рушить(ся)* | 'pull/fall down' |
| *растоптать* | 'trample, crush' | *топтать* | 'stamp feet' |
| **3.** SPREAD | | | |
| *развить(ся)* | 'expand, unwind, develop' | *вить(ся)* | 'twist, wind' |
| *размазать* | 'spread, smear' | *мазать* | 'smear, grease' |
| *разрастись* | 'grow thickly, spread' | *расти* | 'grow' |
| *разрисовать* | 'draw all over' | *рисовать* | 'draw' |
| *раскатать* | 'unroll, roll out' | *катать* | 'roll' |
| *раскрасить* | 'paint/color all over' | *красить* | 'paint' |
| **4.** METAPHORICAL SPREAD | | **base verb** | |
| *разобраться* | 'sort out, make sense of, unpack' | *браться* | 'take up, start' |
| *разработать* | 'work out, elaborate' | *работать* | 'work' |
| *разрекламировать* | 'publicize all over' | *рекламировать* | 'advertise' |
| *расписать* | 'enter figures into account book' | *писать* | 'write' |
| **5.** SOFTEN/DISSOLVE | | **base verb** | |
| *размыть* | 'erode, wash away' | *мыть* | 'wash' |
| *размяться* | 'soften up' | *мять* | 'knead' |
| *растворить(ся)* | 'dissolve' | *творить(ся)* | 'do, happen' |

| **6. SWELL** | | **base verb** | |
|---|---|---|---|
| *раздуть(ся)* | 'inflate' | *дуть* | 'blow' |
| *разжиться* | 'get rich' | *жить* | 'live' |
| *раскиснуть* | 'rise from fermentation' | *киснуть* | 'turn sour' |
| *распахать* | 'plough up' | *пахать* | 'plough' |

| **7. EXCITEMENT** | | **base verb** | |
|---|---|---|---|
| *разогреть* | 'warm up' | *греть* | 'radiate heat' |
| *раскалить* | 'make red-hot' | *калить* | 'heat, roast' |
| *распарить* | 'cause to sweat' | *парить* | 'steam' |

| **8. METAPHORICAL EXCITEMENT** | | | **base verb** |
|---|---|---|---|
| *развеселиться* | 'cheer up' | *веселиться* | 'be happy' |
| *раздосадовать* | 'annoy' | *досадовать* | 'be annoyed' |
| *разыграться* | 'get carried away with a game' | *играть* | 'play' |
| *разругаться* | 'quarrel' | *ругаться* | 'curse' |

| **9. INGRESSIVE** | | **base verb** | |
|---|---|---|---|
| *расхохотаться* | 'start guffawing' | *хохотать* | 'guffaw' |
| *разволноваться* | 'become upset, start fussing' | *волноваться* | 'worry, fuss' |
| *разговорить(ся)* | 'get to talking' | *говорить* | 'talk' |
| *разжечь* | 'kindle' | *жечь* | 'burn' |
| *расплакаться* | 'burst into tears' | *плакать* | 'cry' |
| *растрогать(ся)* | 'move/be moved to tears' | *трогать(ся)* | 'affect, be affected' |

| **10. UN-** | | **base verb** | |
|---|---|---|---|
| *развязать(ся)* | 'untie' | *вязать* | 'tie' |
| *разгрузить* | 'unload' | *грузить* | 'load' |
| *разлепить* | 'unstick' | *лепить* | 'stick' |
| *разморозить* | 'defrost' | *морозить* | 'freeze' |
| *разогнуться* | 'straighten up' | *гнуться* | 'bend' |
| *разъединить* | 'disconnect' | *единить* | 'unite' |
| *раскрыть(ся)* | 'open, uncover, reveal' | *крыть(ся)* | 'cover, be concealed' |
| *разоблачить* | 'expose, reveal' | *облачить* | 'robe' |

| **11. METAPHORICAL UN-** | | **base verb** | |
|---|---|---|---|
| *разгадать* | 'solve a puzzle' | *гадать* | 'guess, tell fortunes' |
| *раздумать* | 'change your mind' | *думать* | 'think' |
| *разлюбить* | 'stop loving' | *любить* | 'love' |
| *разочаровать(ся)* | 'make/be disappointed' | *чаровать* | 'charm' |
| *разучиться* | 'forget how to' | *учиться* | 'learn' |
| *расшифровать* | 'decipher' | *шифровать* | 'encipher' |
| *расплатиться* | 'pay off, settle ' accounts | *платить* | 'pay' |

*Subcategory 2. CRUSH*
This subcategory is metonymically related to APART in that the internal structure of an object is destroyed and in the process the edges of the object may move apart. CRUSHING can be achieved by various means, such as bombing (бомбить), toppling (валить), and stamping the feet (топтать).

*Subcategory 3. SPREAD*
Like CRUSH, SPREAD is a metonymical extension of APART, where the edges of an object move away from each other, but here there is no destruction. In some cases a substance is involved, such as paint (красить) or grease (мазать) or dough (катать), but in others the items that SPREAD are discontinuous like plants (расти 'grow'). A single object can also be expanded, as in развить, which further shows a metaphorical use with its meaning 'develop', motivating a transition to the next subcategory, METAPHORICAL SPREAD.

*Subcategory 4. METAPHORICAL SPREAD*
Some of the uses here have both physical and metaphorical dimensions, as in расписать 'enter figures into account book' and разрекламировать 'publicize all over', where the figures and the advertisements move to various destinations both physically and metaphorically (in the domain of mental representations). Разработать 'work out, elaborate' is entirely metaphorical, with a distribution of effort across parts of a plan or argument, and the same holds true for the sorting of ideas that is encoded by разобраться 'sort out, make sense of, unpack'.

*Subcategory 5. SOFTEN/DISSOLVE*
SOFTEN/DISSOLVE, like CRUSH, is a metonymical extension of APART that focuses on loss of internal structure, but in this case we are usually dealing with a substance rather than a discrete object. Sometimes the action of the base verb is concrete, as with мыть 'wash' and мять 'knead', but it can also be more abstract, as in творить(ся) 'do, happen'.

*Subcategory 6. SWELL*
SWELL is similar to both SPREAD and SOFTEN/DISSOLVE in that the boundaries move apart, but specifies a three-dimensional expansion. It has both physical exponents (раздуть 'inflate' and раскиснуть 'rise from fermentation') and abstract ones (разжить 'get rich'). In the case of пахать 'plough' the swelling is limited to the surface that expands.

*Subcategory 7. EXCITE*
EXCITE is motivated by links to both SPREAD and SWELL since excitement tends to spread and things that are excited often swell. Here we find primarily base verbs that involve heating (like калить 'heat, roast').

*Subcategory 8. Metaphorical Excite*
This subcategory is a metaphorical extension of EXCITE to the domain of emotions, usually involving joy (веселиться 'be happy') or anger (досадовать 'be annoyed').

*Subcategory 9. Ingressive*
Both excitement and metaphorical excitement can lead to a new state, and via metonymy this subcategory focuses only on initial states or beginnings, yielding ingressives. All of the prefixed verbs in this subcategory are Complex Act Perfectives and they can express physical acts such as starting to talk (разговорить(ся)) or starting a fire (разжечь) as well as abstract ones such as becoming upset (разволноваться).[12]

*Subcategory 10. Un-*
This subcategory is directly motivated by APART as an extension that focuses only on the separation. Here the base verbs often refer to an act of uniting that is then separated and thus undone by раз-, as in развязать 'untie' and разлепить 'unstick'. In some verbs раз- is less specific, ignaling only the reversal of an action, as in разгрузить 'unload'. The range of раз- is more extensive than that of English *un-*, as illustrated by разморозить 'defrost'. Data from children's acqusition of English show that the connection between UN- and APART is well-motivated, as in formations like *take it unapart* (Bowerman 1982 and 1983).

*Subcategory 11. Metaphorical Un-*
This subcategory takes UN- to metaphorical domains such as emotions (разлюбить 'stop loving') and mental activities (раздумать 'change your mind').

Though each subcategory shows a diverse range of verbs, the meaning of раз- galvanizes them into a node in the radial category of the prefix, and the nodes show a clear chain of relationships, with some subcategories directly motivated by the prototype (2. CRUSH, 3. SPREAD, 5. SOFTEN/DISSOLVE, 6. SWELL, 10. UN-) and others more peripheral (4. METAPHORICAL SPREAD, 7. EXCITE, 8. METAPHORICAL EXCITE, 9. INGRESSIVE, 11. METAPHORICAL UN-).

12. It is often claimed (cf. Townsend) that the ingressive meaning of раз- is dependent upon the co-occurence of the reflexive postfix -ся. However, our data show that ingressive meanings are found on verbs that have no -ся in either base or prefixed forms (разжечь 'kindle'), and in verbs that have -ся in both base and prefixed forms (разволноваться 'become upset'. Furthermore, we see that раз-prefixation is often accompanied by -ся in non-ingressive Specialized Perfectives, such as intransitive motion verbs in the APART subcategory (разойтись 'walk in different directions'), plus verbs like разрастись 'grow thickly, spread' and разжиться 'get rich'.

4.3. Use of раз- with Natural Perfectives

Table 3 lists the 89 verbs in the EE database that use раз- to form a Natural Perfective.[13] Table 3 is arranged differently from Table 2: since the meanings of the base verb and prefixed perfective coincide, there is no need to list them separately. Thus each entry in Table 3 occupies only half a line, listing only the раз- perfective followed by its gloss.

All of the subcategories found among the Natural Perfectives are also subcategories identified for non-empty uses of раз- in 4.2. However, there are some important differences. Whereas the base verbs in each subcategory for Specialized and Complex Act Perfectives are rather heterogeneous and do not entail APART or any of the meanings of the subcategories of the network, the base verbs of the Natural Perfectives are more homogeneous and reflect the meanings of the subcategories. Furthermore, the Specialized and Complex Act Perfectives yield three subcategories that are absent among the Natural Perfectives.

In our inventory of Natural Perfectives we do not specify the metonymic and metaphorical links between subcategories, since they are the same as those indicated above for Specialized and Complex Act Perfectives. We focus instead on the meanings of the imperfective base verbs and how they correspond to the meanings of the subcategories of раз-.

*Subcategory 1. APART*

The base verbs in this subcategory directly encode destructive acts that yield multiple pieces, such as breaking (бить), exploding (рвать(ся)) and pulverizing (толочь). The type of events involved are predominantly relatively imprecise in terms of how much control over the points of breakage the agent has, corresponding to the non-predictable end of Majid et al.'s Dimension 1. It is interesting to note that the Specialized and Natural Perfectives in the APART subcategory appear to sort verbs according to this typologically relevant dimension.

*Subcategory 2. CRUSH*

The base verbs in this subcategory all involve crushing and flattening.

*Subcategory 3. SPREAD*

This subcategory can be viewed as consisting of two versions of SPREADING, a discontinuous one resulting in scattered pieces, and a continuous one in which the edges of an object move apart. The majority of base verbs in the SPREAD category name an act of reducing something to discontinuous pieces (without requiring violence or destruction). The focus on pieces as the result

13. Where there are two identical entries that differ only in the presence/absence of the reflexive -ся postfix, the two verbs are listed together to save space, like разделить(ся) 'divide up'.

Table 3: The 89 verbs that use раз- for their Natural Perfective

| | | | |
|---|---|---|---|
| **1. APART** | | | |
| *разбить* | 'break' | *разгрызть* | 'gnaw apart' |
| *разодрать* | 'rip apart' | *раздробить(ся)* | 'crumble' |
| *расколоть* | 'chop up' | *раскроить* | 'cut up' |
| *раскромсать* | 'cut up' | *раскрошить(ся)* | 'crumble' |
| *размельчить* | 'crumble' | *размочалить* | 'break down into fibers' |
| *распотрошить* | 'disembowel, take apart' | *распороть(ся)* | 'rip apart' |
| *разорвать(ся)* | 'explode' | *разрезать* | 'cut up' |
| *растереть* | 'pulverize' | *растерзать* | 'tear apart' |
| *растолочь* | 'pulverize' | *растрепать* | 'shake up/apart' |
| *расчесать* | 'comb apart' | *расчеканить* | 'cut apart (metal)' |
| *разрыхлеть* | 'become particulate (soil, snow)' | *разрыхлить* | 'break up into particles (soil)' |
| **2. CRUSH** | | | |
| *разгромить* | 'destroy' | *раздавить* | 'crush' |
| *расплющить* | 'flatten' | *размять* | 'crush' |
| *распластать* | 'flatten' | | |
| **3. SPREAD** | | | |
| *разделить(ся)* | 'divide up' | *разменять* | 'get change from big piece of money' |
| *разрознить* | 'break up a set of' | *расфасовать* | 'pre-pack in measured quantities' |
| *расчленить(ся)* | 'break up into parts' | *разветвиться* | 'branch out' |
| *расплодить(ся)* | 'multiply' | *распялить* | 'stretch out' |
| *растопырить* | 'spread (arms, legs)' | *разровнять* | 'level, spread out' |
| **4. METAPHORICAL SPREAD** | | | |
| *разграфить* | 'make lines' | *расклассифицировать* | 'classify, sort into groups' |
| *распланировать* | 'work out a plan' | *рассортировать* | 'sort into groups' |
| *растранжирить* | 'squander money in many places' | *растрезвонить* | 'spread the word' |
| **5. SOFTEN/DISSOLVE** | | | |
| *размякнуть* | 'soften' | *расплавить(ся)* | 'make/become liquid by heating' |
| *растаять* | 'melt' | *разъесть* | 'corrode' |
| *растопить(ся)* | 'liquefy by heating' | | |

(*continues*)

Table 3 *(Continued)*

| | | | |
|---|---|---|---|
| **6.** SWELL | | | |
| *разбухнуть* | 'swell' | *разжиреть* | 'get fat' |
| *раскосматить* | 'make shaggy' | *разлохматить(ся)* | 'make/become shaggy' |
| *распухнуть* | 'swell' | *распушить* | 'make fluffy' |
| *растолстеть* | 'get fat' | *разбогатеть* | 'become rich' |
| *раздобреть* | 'become fat' | | |
| **7.** EXCITEMENT | | | |
| *разбередить* | 'irritate' | *разбудить* | 'wake up' |
| *развередить* | 'irritate' | *разгорячить* | 'heat up, irritate' |
| *разшевелить* | 'set into motion' | | |
| **8.** METAPHORICAL EXCITEMENT | | | |
| *разгневаться* | 'become angry' | *разгорячиться* | 'act irritated' |
| *развеселить* | 'make happy' | *разозлить(ся)* | 'make/bec angry' |
| *распетушиться* | 'act excited, angry' | *раскаяться* | 'repent' |
| *рассвирепеть* | 'become enraged' | *рассердить(ся)* | 'make/bec angry' |
| *рассерчать* | 'become angry' | *рассмешить* | 'make someone laugh' |
| *раскипятиться* | 'get angry' | *разрумянить(ся)* | '(make) blush' |

is evident in roots such as дел 'portion' and член 'member'. One verb requires that the patient be a substance rather than a discrete solid object: фасовать 'pre-pack in measured quantities'. One verb achieves the result of many separate pieces via procreation: плодить(ся) 'multiply'. The remaining verbs focus on continuous SPREADING, as in ветвиться 'branch out'.

*Subcategory 4. METAPHORICAL SPREAD*

These base verbs denote discontinuous SPREADING of abstract items. Key examples are сортировать 'sort into groups' and классифицировать 'classify, sort into groups'. Working out a plan (планировать) entails SPREADING tasks out over people who will execute them and times when they will be executed. Making lines (графить) SPREADS marks across a paper. Both транжирить 'squander money in many locations' and трезвонить 'spread the word' require that the patient (money and information) wind up in a number of different locations.

*Subcategory 5. SOFTEN/DISSOLVE*

In this subcategory the meanings of the base verbs overlap with the heading in a straightforward fashion.

*Subcategory 6. SWELL*

In addition to swelling and fattening, this subcategory contains some verbs where the expansion takes place only on the surface: косматить 'make

shaggy', лохматить(ся) 'make/become shaggy' and пушить 'make fluffy'. One metaphorical use is attached to this subcategory: богатеть 'become rich'.

*Subcategory 7. EXCITE*
Base verbs in this subcategory refer to irritation (бередить, вередить), heating (горячить), moving (шевелить) and waking (будить).

*Subcategory 8. METAPHORICAL EXCITE*
While these verbs focus mainly on anger and joy, shame and embarassment are also relevant dimensions, as we see in раскаяться 'repent' and разрумянить(ся) '(make) blush'.

4.4. Distinct vs. Overlapping Meanings and the Illusion of Emptiness
Comparison of the subcategories in Tables 2 and 3 shows that the meanings attributable to раз- in Specialized Perfectives encompass the full range of the meanings of base verbs in Natural Perfectives. Table 2, however, has three subcategories that are absent from Table 3. We argue that those three subcategories involve meanings that *cannot* yield Natural Perfectives, so their omission is well-motivated.

No Natural Perfectives of раз- instantiate the INGRESSIVE (9) meaning found among Complex Act Perfectives. This is not surprising since the focus of an ingressive on the initiation of an action is not compatible with the resultative meaning of a Natural Perfective. The Natural Perfectives also lack the annulment meanings associated with subcategories (10) and (11). Again, this gap is motivated on semantic grounds, since verbs meaning 'do (imperfective)' and 'undo (perfective)' can hardly qualify as an aspectual pair, given that their meanings are antonymous rather than synonymous. Furthermore, if we assert that there is semantic overlap between the prefix and the base verb in Natural Perfectives, UN- is a meaning that cannot participate, since it is a negation and therefore inherently distinct from the item it negates.

The case study of раз- details the mechanism of conceptual overlap. The base verbs that form Specialized and Complex Act Perfectives have meanings that are heterogeneous and distinct from the meanings of the prefix раз-. Thus the meaning of the prefix is in relief and therefore tangible. The base verbs that form Natural Perfectives are more homogeneous and isomorphic in meaning with the meanings of раз-. The overlap in meaning between base verb and prefix renders the meaning of the prefix partially redundant and therefore invisible, creating an illusion of semantic emptiness.

**5. Conclusions**
In this article we have discussed a long-standing issue in Slavic linguistics, namely, whether aspectual prefixes may be semantically "empty." We have argued that the prefixes are not empty, but that an illusion of emptiness arises

from overlap between the meaning of a base verb and a prefix. In order to support this argument we have presented two kinds of evidence: distributional facts and a case study of the prefix раз-. If the prefixes were indeed "empty" when used to form Natural Perfectives, we would expect their distribution to be random and uniform. Five such expectations based on a "null hypothesis" are all shown to be false. Instead we find skewed distributions that clearly indicate structure in the data. Different prefixes do indeed play different roles in forming aspectual pairs. A detailed case study of a single prefix further corroborates the overlap hypothesis, by showing that the semantic network of раз- is essentially the same for both its "non-empty" and "empty" uses. There is an unmistakable isomorphism between the meanings of раз- in the formation of Specialized Perfectives and the meanings of the base verbs that use раз- to form Natural Perfectives.

Further case studies of prefixes could establish this isomorphism for other prefixes as well, providing a motive for the distribution of Russian verbal prefixes. Overall, it appears that the prefixes serve as verb classifiers, dividing up the verbal lexicon according to semantic properties. This is a speculative hypothesis that could be confirmed by typological comparisons.

The analysis we have proposed has been couched in terms of cognitive linguistics, where each prefix is represented by a radial network of related submeanings. This approach has certain advantages compared to a structuralist analysis, whereby each prefix is represented by an invariant meaning that stands in opposition to the remaining prefixes. Our analysis enables us to capture oppositions between radial category networks. For instance, in their prototypical uses в- vs. вы- and при- vs. у- represent movement in opposite directions. A similar observation may hold for раз- and с-, since the former involves centrifugal movement and the latter involves centripetal movement. However, such an opposition does not do justice to the full complexity of the data. Whereas с- is a counterpart to раз- in relation to physical movement, there are several meanings of раз- that are not opposed to с-, such as the UN-, EXCITEMENT, and INGRESSIVE meanings described in this article. The radial category analysis we propose allows us both to capture underlying oppositions between prefixes and to expose their full range of meanings. We envision the semantics of prefixation as a semantic space where the prefixes compete, engaging in numerous kinds of relationships among their radial categories.

While no single study of this scope could entirely lay the issue of the "empty" prefixes to rest, we have presented new empirical resources and a new methodology that can pave the way for fruitful research on the Russian aspectual prefixes.

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Реферат

Лора А. Янда и Туре Нессет
Анализ русской приставки РАЗ-

Данная работа посвящена семантике русских видовых приставок. В видовых парах, например *делать—сделать* и *дробить—раздробить*, бесприставочный и приставочный глаголы имеют идентичные значения, что позволило сформулировать традиционную гипотезу о семантической пустоте приставок в видовых парах данного типа. В статье выдвигается два аргумента против идеи пустых приставок. Во-первых, обсуждается статистическая дистрибуция приставок. Если бы приставки были семантически пустыми, ожидалась бы случайное распределение; однако, предлагаемый анализ выявляет систематические различия в дистрибуции. Во-вторых, предлагается анализ приставки *раз-*. Сравнивается употребление этой приставки в глаголах, составляющих видовые пары (например *растаять—таять*), с ее употреблением в глаголах, не имеющих бесприставочных видовых партнеров (например *разжечь*, *разослать*). Работа демонстрирует строгий изоморфизм значений глаголов обеих групп, в результате которого возникает иллюзия семантической пустоты приставки у глаголов, составляющих видовые пары с бесприставочными глаголами, в которых значения приставки и основы совпадают.