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### **Getting out: A preliminary analysis of *вЫ-* and *уЗ-***

This article reports on ongoing research on Russian verbal prefixes from the perspective of cognitive linguistics. We outline a contrastive analysis of the closely related prefixes *вЫ-* and *уЗ-*, addressing the following questions:

- (1) Do *вЫ-* and *уЗ-* have the same or different meanings?
- (2) Do the prefixes have the same meaning in natural and specialized perfective verbs?
- (3) How can we represent similarities and differences in the semantics of prefixes?

Although *вЫ-* and *уЗ-* have attracted some attention in recent years (Dobrušina and Paillard 2001a and b, Pozolotina 2009 and this volume, Botvinik 2009), we are not aware of any detailed comparisons of the two prefixes. We suggest that *вЫ-* and *уЗ-* have very similar meanings that occupy overlapping parts of the same category network. However, the two prefixes define different centers of gravity in the network. As for (2), the meanings attested in natural and specialized perfectives occur in the same network, but natural perfectives occupy a subset of the nodes of the specialized perfectives. With regard to (3), our analysis shows that a network approach to linguistic categories facilitates a precise analysis of the semantics of Russian verbal prefixes. After a brief presentation of the data in section 1, we discuss specialized perfectives in sections 2 and 3, before we turn to natural perfectives in sections 4 and 5. The contribution of the paper is summarized in section 6.

#### **1. Four types of verbs**

From *рвать* ‘tear’ we can form perfective verbs by prefixing *вЫ-* and *уЗ-*:<sup>1</sup>

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<sup>1</sup> All examples in this study are taken from the Russian National Corpus available at [www.ruscorpora.ru](http://www.ruscorpora.ru). Corpus searches were performed in November 2009.

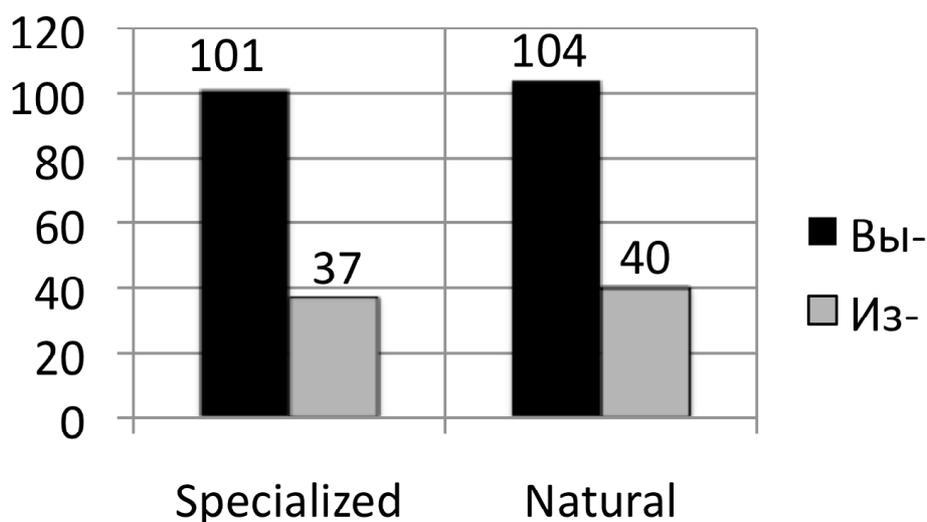
- (4) Мишке **вырвали** два зуба! (Вертинская 2004)  
 ‘Miša had two teeth pulled.’
- (5) Я просто потихоньку **изорвала** все ее моленные книжечки в мелкие клочки. (Палей 1987)  
 ‘I simply calmly tore all her prayer books to small pieces.’

Example (4) suggests that *вы-* involves movement out of a three-dimensional space, insofar as the teeth leave the mouth. The meaning of *из-* in (5) is more abstract since the prefix emphasizes the exhaustiveness of the action. The prayer book is completely torn to small pieces. Since the addition of *из-* to *рвать* results in a salient semantic shift, *изорвать* is what Janda (2007) calls a “specialized perfective”: Specialized perfectives are semantically distinct from their imperfective base verbs. *Вырвать*, on the other hand, can be analyzed as a natural perfective in Janda’s terminology. Natural perfectives form aspectual pairs with the corresponding simplex imperfective. This means that *вырвать* can be replaced by *рвать* if one wants to refer to the pulling of teeth as a repeated event or wants to describe the event in the historical present (Maslov’s criterion, see discussion in Zaliznjak and Šmelev 2000:45).

Examples like (4) and (5) show that we can form natural perfectives with *вы-* and specialized perfectives with *из-*. However, there are also natural perfectives with *из-* and specialized perfectives with *вы-*. For instance, *испортить* ‘spoil’ is the natural perfective corresponding to *портить* ‘spoil’, while *выйти* ‘walk out’ is a specialized perfective based on *идти* ‘walk’.

The upshot of this is that there are four types of verbs that we need to account for: Natural and specialized perfectives with *вы-* and natural and specialized perfectives with *из-*. In order to carry out a detailed analysis we collected all the natural perfectives with the relevant prefixes attested in a large database constructed as part of the Exploring Emptiness research project at the University of Tromsø. This database contains all 2061 aspectual pairs (imperfective base verb and corresponding natural perfective), aggregated from two dictionaries (Evgen’eva 1999 and Ožegov & Švedova 2001) and a list (Cubberly 1982). Since the Exploring Emptiness database does not cover specialized perfectives, we excerpted all specialized perfectives with *вы-* and *из-* from the Russian National Corpus. In order to create a representative database of a manageable size,

we analyzed all specialized perfectives with a token frequency higher than 100 in the corpus. All in all, we have analyzed 282 verbs, which are distributed among the four types as shown in Figure 1. In the following sections we will discuss the four verb types in more detail. We start with specialized perfectives with *бы-*.



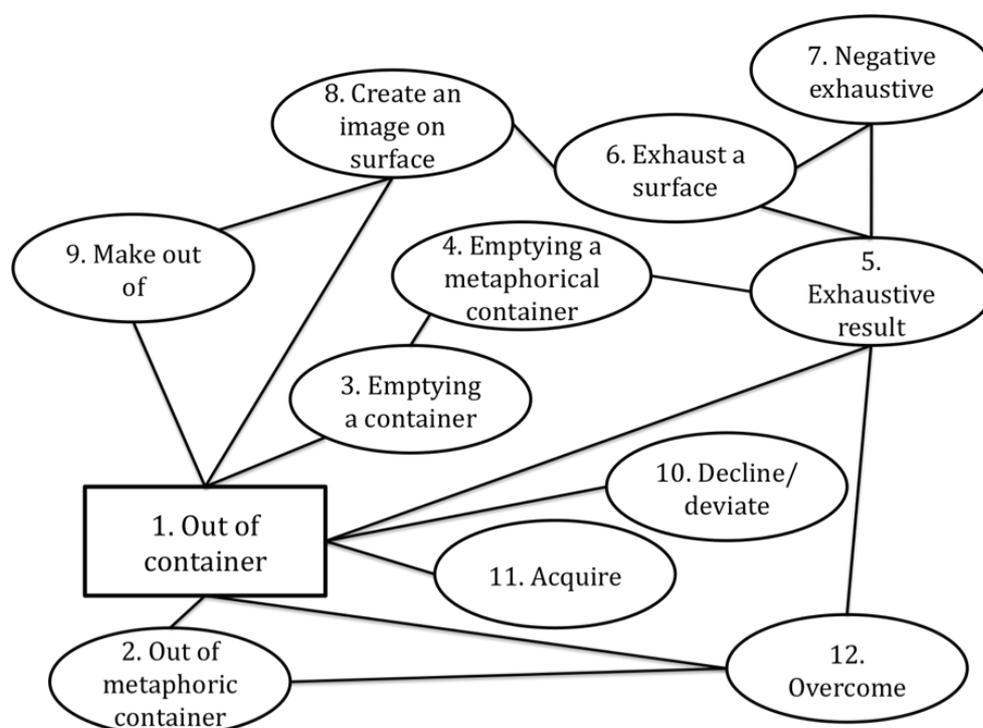
**Figure 1: Natural and Specialized Perfectives with *бы-* and *из-***

## 2. Specialized perfectives in *бы-*

Figure 1 shows that there are 101 specialized perfectives with *бы-* in our database. We suggest that they represent 12 closely related subcategories that constitute a network centered around a prototype. Categories of this type are often referred to as “radial categories” (Lakoff 1987). Notice that the nodes in a radial category network do not represent discrete subcategories, and it is also not necessarily the case that a given verb belongs to one and only one subcategory. Rather, the subcategories form a web of interrelated meanings where any given verb can be motivated by several subcategories. A radial category network for specialized perfectives in *бы-* is given in Figure 2.

An overview of the subcategories with examples is given in Table 1, with numbers corresponding to the numbers in Figure 2. We will discuss each subcategory in the order mentioned in the table. Since the prototype

tends to belong to the physical domain and to be directly connected to more subcategories than any other (Lakoff 1987, Geeraerts 1995, Croft and Cruse 2004, and Lewandowska-Tomaszczyk 2007), we regard verbs involving physical movement out of a three-dimensional space (a “container”) as the prototype. Examples include verbs of motion like *выйти* ‘walk out’. We consider metaphorical extensions from the prototype as a separate subcategory (number 2 in Table 1). In *выздороветь* ‘recover’ a person metaphorically speaking moves out of the state of being ill, which can be conceptualized as a container.



**Figure 2: Radial Category Network for Specialized Perfectives in 66I-**

We refer to the third subcategory in Table 1 as “emptying a container”. This subcategory is directly related to the prototype insofar as it involves physical movement out of a container. However, unlike the prototype, verbs in subcategory 3 imply that the container is empty when the action has been carried out. In the following sentence, for instance, the expectation is that there is no hay left in the car afterwards:

- (6) Кто-то предложил **вывалить** из одной машины сено и всем закопаться в нем. (Айтматов 1970)  
 ‘Someone suggested throwing out the hay from one of the cars and burying themselves in it.’

Subcategory no. 4 is a metaphorical extension from subcategory no. 3.

Subcategory	Example
1. Out of a container	<i>выйти</i> ‘walk out’
2. Out of metaphorical container	<i>выздороветь</i> ‘recover’
3. Emptying a container	<i>вывалить</i> ‘throw out, fall out’
4. Emptying a metaphorical container	<i>выговорить</i> ‘articulate, speak’
5. Exhaustiveness of result; fulfillment, intensiveness	<i>выловить</i> ‘catch all the fish’
6. Exhaust a surface	<i>вылизать</i> ‘lick clean, lick up’
7. Negative exhaustion & Harm, Damage, Spoiling, Torturing	<i>вырезать</i> ‘slaughter, massacre’
8. Create an image on a surface	<i>вышить</i> ‘embroider a pattern on’
9. Make out of	<i>выработать</i> ‘produce, make’
10. Decline/deviate	<i>выгнуть(ся)</i> ‘bend’
11. Acquire	<i>выиграть</i> ‘win’
12. Overcome	<i>выдержать</i> ‘endure’

**Table 1: Subcategories of Specialized Perfectives in *вы-***

Subcategories 5, 6 and 7 form a continuum that has exhaustiveness as a common denominator. Therefore, they represent a natural extension from the subcategories involving emptying a container; when the container is empty, the potential of the action has been exhausted. While the actions in subcategory 5 apply to three-dimensional spaces such as the taking all the fish out of a lake, subcategory 6 involve surfaces (e.g. a dog licking out a plate completely). The verbs in subcategory 7 carry distinctly negative connotations, such as *вырезать* in the meaning ‘slaughter, massacre’.

Subcategory 8 (“create an image on a surface”) is related to subcategory 6 since both subcategories are about surfaces. At the same time, we suggest that subcategory 8 is directly related to the prototype. When a pattern is embroidered on a surface (cf. example (7)), it becomes visible in a

way that resembles how a person emerges from a closed space in examples like (8):

- (7) В тот вечер я была одета в бархатный костюмчик и блузку, которую мама очень красиво вышила розочками. (Архипова 1996)  
 ‘That night I was wearing a little velvet dress and a blouse, on which mum had nicely embroidered little roses.’
- (8) Остальные пассажиры не знали, что летят вместе с президентом, пока он не **вышел** из первого класса во второй, чтобы пожать всем руки. (Сидур 1973-1974)  
 ‘The remaining passengers did not know that they were flying together with the president until he came out from first to second class in order to shake hands with everybody.’

The idea of emerging out of something is relevant for subcategory 9 as well. In the case of *выработать* ‘produce, make’, for instance, a result is created and thus becomes visible.

Subcategories 10 through 12 are metaphorical extensions from the prototype. Verbs like *выгнуть* ‘bend’ involve a deviation from a straight line, which can be conceptualized as the metaphorical movement out of or away from a state that represents the norm. In the case of *выиграть* ‘win’ the subject acquires a prize, which moves out of its original location and becomes available to the winner. In the “overcome” subcategory, verbs like *выдержат* ‘endure’ designate the coming out of problems by resisting pressure from the outside.

Is there a schema that covers all the subcategories in Figure 2 and Table 1? We remain agnostic about this question. However, our analysis indicates that a network approach captures the relations among the various groups of specialized perfectives in *вы-*, and thus provides an insightful analysis of verbal prefixes. In the following section, we will see that the network approach also facilitates a comparison between *вы-* and *из-*.

### 3. Specialized perfectives in *из-*

The comparison of *вырвать зуб* ‘pull a tooth’ and *изорвать книжку* ‘tear a book to pieces’ in section 1 suggests that *вы-* and *из-* have distinct

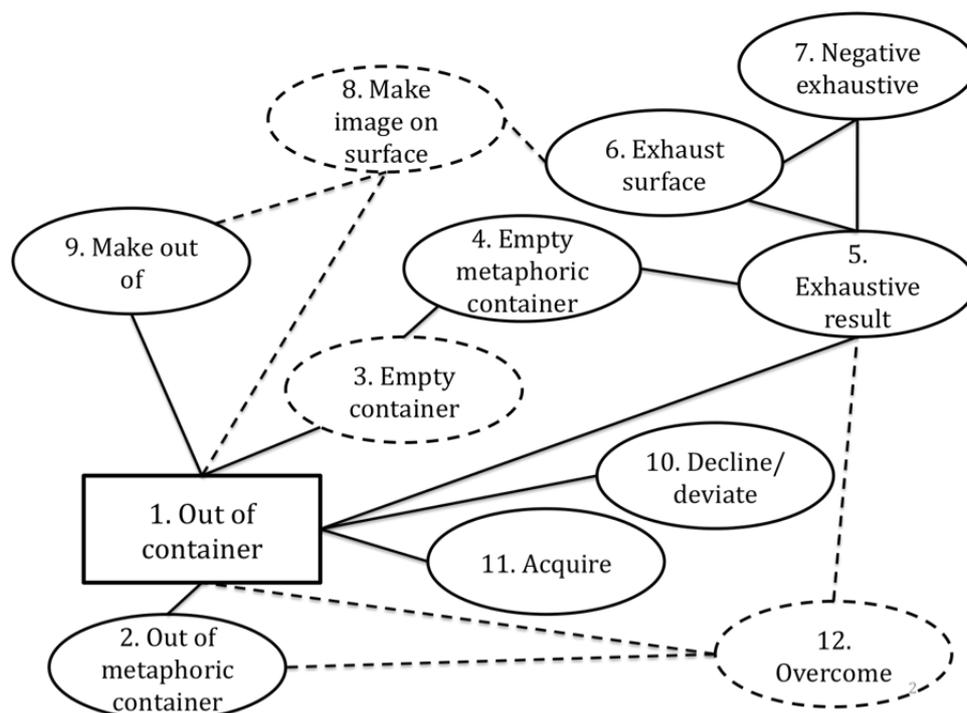
meanings, and that *уз-* is more abstract. When we consider all 37 specialized perfectives with *уз-*, we get a more nuanced picture. As can be seen from Table 2, *уз-* is attested in all but four of the subcategories relevant for *вы-*. In other words, *уз-* covers a subset of the subcategories of *вы-*. Figure 3 visualizes this. In the figure, solid lines represent the subcategories where both *вы-* and *уз-* are attested, while the subcategories where only *вы-* is found are marked with dashed lines.

Subcategory	Example
1. Out of a container	<i>изгнать</i> ‘exile, banish’
2. Out of metaphorical container	<i>изжить</i> ‘get rid of’
3. Emptying a container	(Not attested)
4. Emptying a metaphorical container	<i>излить</i> ‘pour out (metaphorically)’
5. Exhaustiveness of result; fulfillment, intensiveness	<i>изранить</i> ‘wound all over’
6. Exhaust a surface	<i>изрыть</i> ‘dig up all over’
7. Negative exhaustion & Harm, Damage, Spoiling, Torturing	<i>избить</i> ‘beat up all over’
8. Create an image on a surface	(Not attested)
9. Make out of	<i>изготовить</i> ‘produce’
10. Decline/deviate	<i>изогнуть(ся)</i> ‘bend’
11. Acquire	(Not attested)
12. Overcome	(Not attested)

**Table 2: Subcategories of Specialized Perfectives in *уз-***

In the beginning of the article, we raised the question as to whether *вы-* and *уз-* are semantically identical or distinct. We are now in a position to provide an answer. Since both prefixes cover overlapping parts of the same category network, they are at least very similar. However, since *уз-* has a somewhat more restricted distribution than *вы-*, the two prefixes are not semantically identical. A comparison of the numbers of verbs in the various subcategories corroborates this point further. For *вы-*, the prototypical subcategory 1 and the three closely related subcategories 2, 3 and 4 constitute 66 verbs, i.e. 65.3% of the 101 specialized perfectives in *вы-* in our database. The picture is quite different for *уз-*. Here, 17 out 37 specialized perfectives, i.e. 45.9%, are found in subcategories 5 through 7

with the more abstract meanings of exhaustiveness. In other words, although the two prefixes occur in the same category network, they represent different centers of gravity. While *вЫ-* is most frequently found in the lower left part of the network, *из-* is stronger in the more abstract meanings in the upper right portion of the network.



**Figure 3: Radial Category Network for Specialized Perfectives in *из-***

Interestingly, the distributional difference between the two prefixes correlates with a syntactic difference. The verbs in subcategory 1 such as *выйти* are compatible with a prepositional phrase with *из* followed by a nominal phrase in the genitive:

- (9) Но я же встал, **вышел из отеля**, пообедал ... (Юрский 1993)  
 ‘But I got up, went out of the hotel and had lunch ...’

The verbs with the exhaustiveness meanings, on the other hand, do not permit a phrase with the preposition *из*. In the expression *изорвать книжку* ‘tear a book into pieces’, for instance, it would not be possible to

add *уз* + a nominal phrase in the genitive. Once again, we see that the prefixes *вЫ-* and *уз-* are closely related, but that there are subtle differences, which can be captured in a network model.

#### 4. Natural perfectives in *вЫ-*

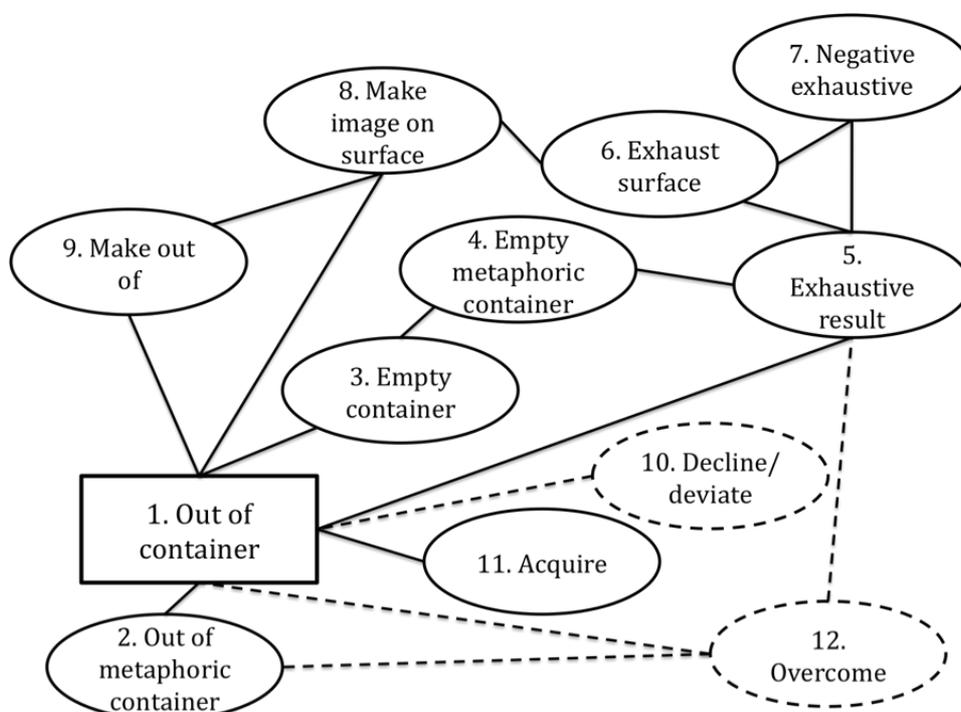
We now turn to natural perfectives in *вЫ-*, i.e. the verbs that form aspectual pairs with simplex imperfectives. As mentioned in section 1, there are 104 perfective verbs of this type in our database. Table 3 shows that natural perfectives are attested in 10 of the 12 subcategories discussed in the previous two sections. The two subcategories “decline/deviate” and “overcome” are not attested for natural perfectives. Figure 4 offers a visual comparison of the distribution of specialized and natural perfectives with *вЫ-*. Dashed lines represent the subcategories where only specialized perfectives are attested, while solid lines mark the subcategories covered by both types of *вЫ-*verbs.

On the basis of Table 3 and Figure 4 we can address the question as to whether *вЫ-* has the same or different meanings in specialized and natural perfectives. It is interesting to notice that the relationship between specialized and natural perfectives with *вЫ-* resembles the relationship between *вЫ-* and *уз-*. In both cases we are dealing with the same category network, where one type of verb occupies a subset of the nodes attested for the other. Since *вЫ-* has a slightly more restricted distribution in natural perfectives, we suggest that its meaning is closely related, but not identical to the meaning of *вЫ-* in specialized perfectives.

Subcategory	Example
1. Out of a container	<i>выкорчевать</i> ‘root out’
2. Out of metaphorical container	<i>вылечить</i> ‘cure’
3. Emptying a container	<i>вылить</i> ‘pour out’
4. Emptying a metaphorical container	<i>выругаться</i> ‘curse’
5. Exhaustiveness of result; fulfillment, intensiveness	<i>высушить</i> ‘dry’
6. Exhaust a surface	<i>выгладить</i> ‘iron’

7. Negative exhaustion & Harm, Damage, Spoiling, Torturing	<i>выморить</i> ‘poison’
8. Create an image on a surface	<i>вытатуировать</i> ‘tattoo’
9. Make out of	<i>вылепить</i> ‘model, mould’
10. Decline/deviate	(Not attested)
11. Acquire	<i>выклянчить</i> ‘beg’
12. Overcome	(Not attested)

**Table 3: Subcategories of Natural Perfectives in *вы-***



**Figure 4: Radial Category Network for Natural Perfectives in *вы-***

In the previous section, we saw that *вы-* and *из-* define different centers of gravity in the network. Is there a similar difference between *вы-* in specialized and natural perfectives? Our data indicate that *вы-* in natural perfectives is in an intermediate position between *вы-* and *из-* in specialized perfectives. While *вы-* in specialized perfectives has its center of gravity in subcategories 1 through 4 (65.3% of the relevant verbs in our database), the center of gravity of *из-* is the exhaustiveness subcategories

5, 6 and 7, which represent 45.9% of the relevant verbs. In the case of *вЫ-* in natural perfectives, we have 42 verbs in subcategories 1 through 4 (about 40.4%) and 43 verbs in subcategories 5 through 7 (about 41,3%). In other words, although *вЫ-* in natural perfectives is quite strong in subcategories 1, 2 and 3, it is at the same time also fairly strong in the exhaustiveness subcategories 5, 6 and 7.

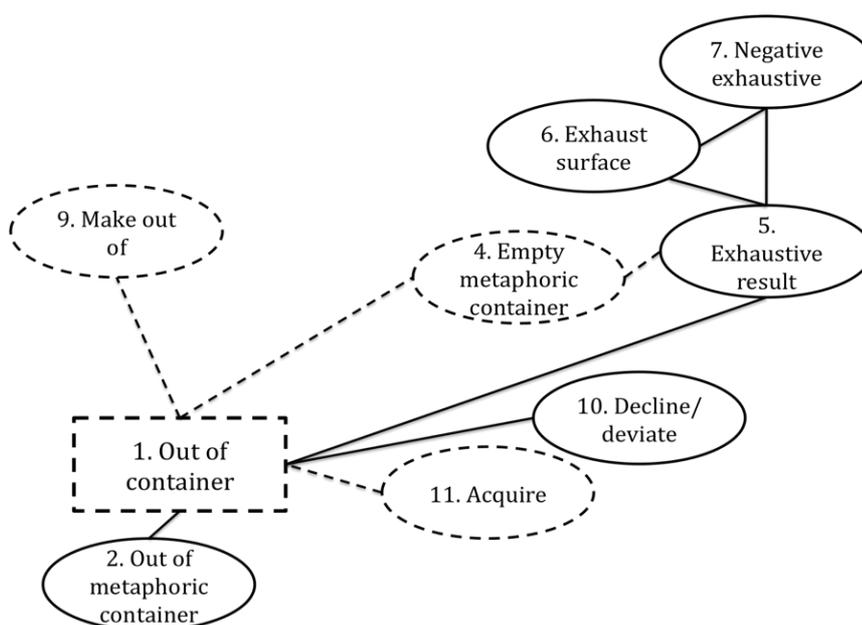
### 5. Natural perfectives in *уЗ-*

We now turn to the fourth and last verb type under scrutiny in this article: natural perfectives with *уЗ-*. As can be seen from Table 4 and Figure 5, verbs of this type have a more restricted distribution than those explored in the previous sections; we find natural perfectives with *уЗ-* in 5 of 12 subcategories. In Figure 5, solid lines mark the subcategories attested for *уЗ-* in natural perfectives. Dashed lines represent the additional subcategories where *уЗ-* is found only in specialized perfectives. In section 3, we saw that *уЗ-* in specialized perfectives has a center of gravity in subcategories 5 through 7, which involve exhaustiveness. This center of gravity is even more pronounced for natural perfectives. While for specialized perfectives the exhaustiveness subcategories account for 45.9% of the verbs, these categories are attested in 35 out of 40 verbs (i.e. 87.5%) for natural perfectives. In other words, while the meaning of *уЗ-* in natural perfectives resembles its meaning in specialized perfectives, the focus on the abstract exhaustiveness subcategories is stronger in natural perfectives.

Subcategory	Example
1. Out of a container	(not attested)
2. Out of metaphorical container	<i>излечить</i> ‘cure’
3. Emptying a container	(not attested)
4. Emptying a metaphorical container	(not attested)
5. Exhaustiveness of result; fulfillment, intensiveness	<i>израсходовать</i> ‘spend’
6. Exhaust a surface	<i>измазать</i> ‘smear all over’
7. Negative exhaustion & Harm, Damage, Spoiling, Torturing	<i>испортить</i> ‘spoil’
8. Create an image on a surface	(Not attested)

9. Make out of	(Not attested)
10. Decline/deviate	<i>искривить</i> ‘bend, distort’
11. Acquire	(Not attested)
12. Overcome	(Not attested)

**Table 4: Subcategories of Natural Perfectives in *u3-***



**Figure 5: Radial Category Network for Natural Perfectives in *u3-***

## 6. Conclusions

In this article we have offered a preliminary comparative analysis of the two prefixes *66l-* and *u3-*. First, we asked whether *66l-* and *u3-* have the same or different meanings. We have seen that they have very similar meanings, insofar as they occupy overlapping parts of the same category of network. However, *u3-* has a somewhat more restricted distribution and a different center of gravity in the network (the abstract exhaustiveness subcategories 5 through 7). A second question concerns the relationship between specialized and natural perfectives. Both prefixes under scrutiny show that natural perfectives have a more restricted distribution than specialized perfectives. In other words, the meanings of the prefixes in the two

types of perfectives are not identical, but very close. The third question addressed in this study is how to represent the semantic similarities and differences we observe in specialized and natural perfectives with *бЫ-* and *У3-*. Our analysis has demonstrated that radial category networks accommodate both similarities and differences. This approach therefore deserves to be tested out further on a more extensive material involving more Russian verbal prefixes.

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