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Remarks on compositionality (with reference to Gennadij Zeldovič's article "On Russian Dative Reflexive Constructions: Accidental or Compositional")

Abstract

We address two methodological issues: 1) What is compositionality? We maintain the idea that if a linguistic unit is fully compositional, then in no place of the linguistic description do we need to refer to its existence. 2) How should the compositionality be demonstrated? We suggest that this demonstration should meet higher standards of logical rigor.

Keywords:

compositionality, semantic and pragmatic motivation, Dative reflexive construction, Russian

Streszczenie

Uwagi o kompozycyjności (w związku z artykułem Genadija Zeldowicza „O rosyjskich refleksywnych konstrukcjach celownikowych”)

W artykule odnoszę się do dwu metodologicznych kwestii: 1) Czym jest kompozycyjność? Utrzymuję, że jeśli jednostka językowa jest w pełni kompozycyjna, nie ma wówczas potrzeby, aby gdziekolwiek w opisie języka wskazywać na jej istnienie; 2) W jaki sposób kompozycyjność winna się przejawiać? Sugeruję, że owo przejawianie się winno respektować ostrzejsze niż w dyskutowanym artykule wymagania zasad logiki.

Słowa kluczowe:

kompozycyjność, motywacja semantyczna i pragmatyczna, refleksywne konstrukcje celownikowe, język rosyjski

Zeldovič's article "On Russian Dative Reflexive Constructions: Accidental or Compositional" is very interesting. It contains a good deal of insightful observations and is painstakingly argued. Its research object is the Russian dative reflexive construction (DRC) like *Ивану не работается* 'Ivan does not feel like reading'. The aim of the article is to show that the DRC is fully compositional.

Like many other works by Zeldovič, the article is written from the radical-pragmatic perspective and constitutes a very good illustration of this trend in linguistic research. The language material that it analyzes has often been investigated within more traditional frameworks, especially in Russian linguistics, which makes Zeldovič's novel approach to the old problem particularly interesting. In this short note I would like

(by way of discussion) to address two problems connected not so much with the DRC itself as with methodological issues concerning compositionality. I will dwell on two aspects: on the question of how we understand the very concept of compositionality, and what instruments we employ to demonstrate it.

1. What is compositionality?

According to the principle of compositionality, otherwise known as Frege's principle, the meaning (and other properties) of a complex expression are a function of the meaning (and other properties) of its parts and of the way they are syntactically combined. Compositional analysis is a very powerful tool allowing to reduce the inventory of language entities, which is extremely important from the methodological point of view. That is why Zeldovič's attempt to provide a compositional account of the DRC is definitely praiseworthy, the more so that the construction itself has long been considered very thorny and has raised many questions.

My point of departure is that if some linguistic entity is fully compositional, then in no place of linguistic description are we going to refer to its existence. Only in such a case is it possible to say that we have managed to reduce the inventory of language entities. It seems to me that it is this feature that is decisive in establishing the borderline between compositionality and its absence. I consider this understanding of compositionality so important as to insist that the term be used only in this sense.

We say, for instance, that the combination *большой камень* 'a big stone' is compositional as all of its properties stem from the properties of its component parts and the way they are combined, the properties being manifested independently of this combination. Hence there is no necessity to include it in the lexicon or any other part of linguistic description of Russian. If it turns out that at some point of linguistic description it will be necessary to state that a phenomenon is realised in this combination in a SPECIAL WAY, unlike in expressions such as *большой забор* 'a big fence' or *маленький камень* 'a little stone', then it will mean that a property of the combination has been revealed which is not fully determined by the properties of its component parts, and that the combination manifests a certain degree of idiomaticity. In this case we will not be able to exclude the expression *большой камень* from the description of Russian, and we will have no right to treat it as fully compositional.

From this perspective the compositionality of the DRC would mean that it is not necessary to include it among the constructions of Russian. At certain points of his article Zeldovič seems to endorse this view, e.g. when he states that a compositional account "helps to reduce the number of grammatical entities". I interpret this statement as suggesting that Zeldovič's description allows the DRC to be excluded from the inventory of Russian constructions as it does not display any specific properties.

However, other formulations used by the author seem to testify to a certain fluctuation in his interpretation of compositionality. Asserting that reduction of volitionality occurs in a specific way in the DRC, that it is grammaticalized in the DRC, and other statements of this kind, in my opinion undermine the compositionality of the DRC if it is to be understood in the way described above and make it impossible for the

construction to be left out of linguistic description whereby “the number of grammatical entities” can be reduced.

In actual fact, what the article proves is not the compositionality of the DRC but something else. What I consider a valuable contribution is its success in demonstrating that the DRC is less idiomatic than has hitherto been assumed. Those of its properties which are discussed in the article ARE CONSISTENT WITH THE POTENTIAL OF THE ELEMENTS OF THE CONSTRUCTION. Rather than call it compositionality I would refer to this state of affairs as the semantic and pragmatic MOTIVATION of the construction. The semantics of the DRC is not arbitrary in the same sense in which the meaning of the idiom *седьмая вода на киселе* (‘very distant relative to somebody’, literally: ‘seventh water on the sweet-sour drink’) is arbitrary, but is motivated by the meaning of its components. The fact that DRC has some construction-specific grammatical elements (the marker *-ся*, the dative case of the subject) rather than others is by no means accidental. Their meaning goes hand in hand with the meaning of the construction. But it still does not mean that the DRC should be denied the status of an independent entity of the Russian language, as in the case of the combination *большой камень* ‘a big stone’. For analogies let us look into the area of lexical semantics.

It is well-known that the departure from compositionality (i.e. the degree of idiomaticity) can be more or less extensive. The more specific the behavior of a particular entity, the higher the degree of its non-compositionality. Thus, the above-mentioned idiom *седьмая вода на киселе* is highly non-compositional given that the meaning of all of its components are detached from that of ‘a distant relative’. The expression *высокая температура* ‘high temperature’ is compositional to a considerably higher, yet still non-maximal degree. Both of its components carry one of their characteristic meanings; nevertheless the combination must not be treated as completely free. The meaning of high degree with reference to the word *температура* ‘fever’ is expressed by the adjective *высокий* ‘high’, but not by other adjectives with a similar meaning (cf. *тяжелая болезнь* ‘heavy illness’, but not **тяжелая температура* ‘*heavy fever’, *глубокое отчаяние* ‘deep despair’, but not **глубокая температура* ‘*deep fever’ etc.). What is significant here is the fact that although the combinability of these words is restricted, it is often semantically motivated. The adjective *высокий* ‘high’ in its basic meaning points to some high degree of the parameter of height (*высокий дом* ‘a high house’). Thus it can naturally combine with names of parameters, e.g., *высокое давление* ‘high pressure’, *высокая цена* ‘high price’, *мощность* ‘power’, *надежность* ‘probability’, *скорость* ‘speed’, *степень* ‘degree’. At the same time, there are kinds of parameters which do not collocate with *высокий*, e.g. **высокий вес* ‘*high weight’, **высокая длина* ‘*high length’. Thus the choice of the adjective as the carrier of the meaning of high degree to go with the word *температура* appears to be highly motivated semantically, though it still does not make the combination fully compositional.

I shall draw yet another analogy, a more grammar-oriented one. As we know, the verb *прибивать* ‘to nail’ has instrumental valency, which is encoded with instrumental case: *прибивать топориком* ‘to nail with a little hatchet’. This agrees perfectly with the potential of the instrumental case, which is often used to express

instrumental meaning. However, although the general tendency of verbs of action is to appear in instrumental constructions, and although the instrumental case is typically employed in them, we cannot manage without specifying the instrumental valency in the dictionary entry *прибивать* and without indicating the instrumental case as its encoding. The problem is that not all action verbs have instrumental valency, and it is not always encoded with instrumental case¹. For instance, the verb *приклеивать* ‘to glue’, which belongs to the same class of verbs of attachment, does not go with an instrument (as noted by Апресян, who distinguishes the role of the tool/instrument, i.e., the object which is used in the performance of the action and which is durable, as in *прибивать топориком / камнем* ‘to nail with a little hatchet / with a stone’ **приклеивать кисточкой* *‘to glue with a brush’, from the role of the means which represent expendable resources, as in *прибивать маленькими гвоздями* ‘to nail with small nails’, *приклеивать синтетическим клеем / клейкой лентой* ‘to glue with a synthetic glue / with a scotch’). On the other hand, in the expressions of the type *писать на компьютере* ‘to type on a computer’, *считать на счетах* ‘to count with an abacus’, *стрелять из винтовки* ‘fire a rifle’ etc. the instrument is not expressed by the instrumental case, but by the preposition *на* or *из*. Thus, if the properties of the instrumental case unequivocally pointed to its capacity to express instrumental valency with the verb *прибивать* ‘to nail’, but not with the verb *приклеивать* ‘to glue’ and many other similar verbs, it would be possible to state that the construction VERB + INSTRUMENT_{INSTRUMENTAL} is fully compositional. As it is difficult to expect the properties of the instrumental case to be described in this way, it has to be concluded that the construction does not appear to be fully compositional, even though its properties match the properties of its components quite well.

2. On ways to demonstrate compositionality

Whether we call Zeldovič’s account a demonstration of compositionality or of semantic-pragmatic motivation, its essence does not alter. It is claimed that the meaning of a DRC is fully derivable from the meaning of its parts. Here we will comment on the way in which this derivability is demonstrated.

Let us draw one more analogy between grammatical and lexical semantics. In the area of lexical semantics we often encounter a clash of two approaches – pragmatic and semantico-lexicographic. The supporters of the former strive to derive the observable differences in lexical meanings from contextual and pragmatic factors and thus to remove the necessity of postulating separate word meanings as autonomous entities. The supporters of the latter approach acknowledge the undesirability of postulating entities that could be done without, but nevertheless insist that in describing the object of analysis linguistic investigation should account for the full gamut of its diverse properties. If ALL relevant properties of the analyzed object can be DEDUCED from

¹ Ю.Д. Апресян, Трехуровневая теория управления: лексикографический аспект. В кн.: Ю.Д.Апресян, И.М.Богуславский, Л.Л.Июмдин, В.З.Санников. Теоретические проблемы русского синтаксиса. Взаимодействие грамматики и словаря. «Языки славянской культуры», М., 2010, с. 328–329.

some circumstances external to this object (e.g. from the properties of the context or pragmatic principles), then, obviously, such an object should not be postulated. However, the snag is that, as far as we know, this does not actually happen all that often. Researchers who maintain that some meanings of a relatively complex word could be reduced to one meaning often commit one of two errors (or both at once): they either ignore some relevant properties of lexemes which seem to defy explanation, or they do not take the very concept of deduction rigorously enough.

With reference to Zeldovič's article I will leave aside the question of the completeness of the described properties: the author is right in saying that it is impossible to present all the properties in detail in a short article and refers the reader to his more comprehensive work. I shall focus on the second issue – the extent to which the considerations on derivability are convincing.

Generally speaking, deliberations presented in linguistic studies are not always expected to comply with the requirements of logical rigor (which is perhaps to be regretted). However, in an article which sets out to demonstrate that the properties of an entity CAN BE FULLY DEDUCED from the properties of other entities, such requirements are particularly relevant.

The logic of the argumentation provided by Zeldovič to demonstrate this derivability appears to me to be insufficiently rigorous. I shall try to show this using only one example, but of key importance.

In section 6 (*Why an irrational external force?*) the author explains the emergence of the component 'under the influence of an irrational external force' in the meaning of the construction. After showing in sections 4 and 5 that the reflexive marker is responsible for the reduction of the volitionality of the subject, the author says that what remains to be tackled is "the main issue: why should the reduction of volitionality in DRC be tantamount to the appearance of an irrational external force". I shall reconstruct the logic of this reasoning, as I understand it, in four steps (A), (B), (C) and (D):

- (A) A priori there are two possibilities. I quote: "First, the fact that our desires and resources are gradable could be exploited, and the decrease of volitionality could mean that the subject has less desire and/or inner resources necessary for the action to be performed. Second, we can think of the desires and inner resources of the subject as if they were dependent on some external circumstances, i.e. their existence were caused by some irrational external force." Afterwards these alternatives are compared from the point of view of the extent to which it is natural (probable) for such a complex of senses to be grammaticalized, i.e. to constitute the meaning of the grammatical construction DRC.
- (B) Alternative (1) is juxtaposed with Alternative (2): in the former the meaning of the DRC differs from the meaning of the corresponding non-reflexive construction only in quantitative terms: what it added is the meaning 'less desire and/or inner resources than necessary', while in the latter the nature of the difference is qualitative.
- (C) Languages tend to grammaticalize qualitative meanings, not quantitative ones.
- (D) Therefore grammaticalization of the "quantitative meaning" (Alternative (1)) would be highly improbable. Alternative (2) lends itself far better to grammaticalization

and consequently, it is this alternative that determines part of the meaning of the DRC.

I will explain why the logic of this reasoning does not appear flawless to me (provided I have reconstructed it correctly).

Step (A) equates the influence exerted on the subject by external circumstances with the influence exerted on him by some irrational external force. But on what grounds? Why should external influence on inner human resources necessarily take on the form of some irrational force of indeterminate nature? I can be deprived of the inner resources necessary to fall asleep through the influence of an external force of indefinite nature as well as by noisy neighbours who prevent me from falling asleep. However, it is only in the former case that it is possible to use the DRC and say *Мне не спится* 'I do not feel like sleeping'. Consequently, the irrationality of the external force and the impossibility of personifying it undoubtedly enter into the meaning of the DRC but it is not clear how this fact follows from the subject's being influenced by external circumstances.

For Step (B) the fundamental issue is the quantitative character of meaning in the case of (1) and the qualitative character in (2). To put it more precisely, what is at issue is whether the component that is introduced into the meaning of a non-reflexive construction in (1) and (2) is quantitative or qualitative in character.

What is understood by quantitative meaning is the component 'less desire and/or inner resources' ('reduction of volitionality'), which is present in (1) but not in (2). However, the presentation of the alternatives quoted in (A) is not entirely correct. Here, the first alternative retains the indicated quantitative component, and the second does not while in fact, to my mind, the alternatives exhibit far greater parallelism. If we compare alternatives which aspire to account for the meaning of the grammatical construction, we need to present them in a more comprehensive way so as to make the comparison viable. For instance, we can compare (1a) with (2a), or (1b) with (2b):

- (1a) desire and inner resources of the subject depend only on himself
- (2a) desire and inner resources of the subject depend on external circumstances
- (1b) the subject has less than necessary desire and/or inner resources due to factors intrinsic to himself
- (2b) the subject has less than necessary desire and/or inner resources due to the influence of external circumstances.

However, (1b) should not be compared with (2a), as is actually done by the author. In any case, as we see, either (1) and (2) both contain the component of reduction of volitionality or neither of them does. It is not this component that differentiates them but the source of the decrease: it may be localized within the subject or be external to him. Thus further deliberations founded on the distinction between the quantitative (1) and the qualitative (2) do not have a solid basis.

Step (B) discusses the tendency to grammaticalize qualitative rather than quantitative meanings. To support this view a number of examples are given. They demonstrate that even those grammatical categories which at first glance carry purely quantitative

meanings, e.g. number and grammatical aspect, in actual fact also contain qualitative meanings. The justification of the qualitative character of the difference between singular and plural does not seem convincing to me, but this is not the issue at hand. I am ready to accept the claim that even if there is a quantitative component in the meaning of a grammatical category, there is most probably also something else there. One could, however, object to this by mentioning the category of comparative degree of adjectives and adverbs, the meaning of which, it seems, is restricted to 'more than', e.g., *Иван умнее Петра* 'Ivan is wiser (more wise) than Peter'. In any event, the author does not claim that there are no exceptions to this tendency. I have no criticism to make about the logic of Step (B).

The final Step (D) is based on the distinction between the quantitative (1) and the qualitative (2) but on account of the dubiousness of the distinction, it falls short of going through.

To conclude I will reiterate that in spite of the critical remarks made above, I find Zeldovič's article particularly interesting and informative. It constitutes a bold attempt to derive the meaning of a complex syntactic construction (which has perplexed many linguists before him) from the properties of its components and from the relations that hold between them, interpreted in a broad pragmatic context. This perspective is undoubtedly very fruitful and certainly more challenging than an attempt to simply fix the meaning of the construction without pondering on its theoretical status.

