

# GRADABILITY VERSUS COUNTERFACTUALITY: *ALMOST* IN ENGLISH AND RUSSIAN

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## 1 Introduction

The semantics of *almost* and its counterparts in other languages has attracted considerable attention in the linguistic literature (cf. e.g. Sadock 1981, Sevi 1998, Horn 2002, Rotstein and Winter 2004, Penka 2005, Nouwen 2006, Greenberg and Ronen 2013 and references therein.) A number of analyses have been proposed, but certain questions still remain unanswered. The goal of this paper is to contribute to this investigation by proposing an analysis of a certain sub-use of *almost* (specifically, the counterfactual use) and by analyzing its Russian counterparts.

A clear example of the properties of *almost* can be seen in the following sentence, in which *almost* modifies the numeral-noun construction *100 guests*:

- (1) John invited almost 100 guests to his birthday party.

Following the literature (inter alia Sevi 1998, Horn 2002), there are two prominent meaning components that *almost* contributes:

- (2) a. **Proximity**: the number of guests John invited is **close** to 100.  
b. **Polar**: almost p entails not p. John did not invite 100 guests.

Another meaning component of *almost* is the '**lower than**', i.e. in our case that the number of invited guests is **below** 100. This meaning component is argued (cf. Penka 2005) to be a by-product of the polar one, i.e. if it is false that John invited 100 guests then it must be false that John invited more (any number greater than 100 entails 100). The meaning component which is of interest to us in this paper is proximity and therefore we shall take the polar and 'lower than' components as given.

The paper proceeds as follows. Section 2 discusses the two types of analyses that have been proposed to account for the proximity component of *almost*, the scalar approach and the intensional approach. Section 3 introduces two Russian counterparts of *almost*: *počti* and *čut' ne*. We argue that the former is best accounted for in scalar terms, while the latter exhibits counterfactual properties. Section 4 provides a unified analysis in which the counterfactual properties are united with the scalar via the scale of likelihood.

## 2 Two Approaches to *Almost*

The accounts that have been proposed for the proximity meaning component of *almost* can be tentatively divided into two groups: scalar analyses and intensional analyses. Nouwen (2006) formulates the key ideas of each in the following way:

- (3) a. **The scalar alternative approach:** *almost p* is true if and only if there is a contextually salient, focus-induced or lexically motivated scalar alternative *p'* which is close to *p* on the scale of alternatives and which is true.
- b. **The intensional approach:** *almost p* is true if and only if there is a world which is not very different from the actual world in which *p* is true.

Each of these approaches has its advantages and shortcomings, which will be discussed in the following subsections.

### 2.1 The Scalar Approach

Under the scalar approach (e.g. Penka 2005, Amaral and del Prete 2010), it is assumed that there is some scale which is activated with regards to the proposition *p* to which *almost* applies (henceforth the prejacent). This scale contains alternatives to *p*, which are ordered along some axis. It is the ordering on this scale that determines which alternatives are counted as proximal ones. For instance, in (1), the relevant scale is one that orders numbers. The sentence implies that the number of guests that John invited is close on this scale to 100 (and, in fact, is lower than 100). Consequently, the proximal alternatives of (1) will be propositions of the form *John invited n guests to his birthday party*, where *n* is located close to (and lower than) 100 on the scale of numbers.

The relevant scale can change, of course. For example:

- (4) John's shirt is almost dry.
- (5) The alpinist almost reached the base camp. (from Penka 2005)

(4) depicts a sentence in which *almost* modifies an adjective. Hence, the relevant scale is ordered along the axis lexicalized by the adjective, representing the property of dryness. This is an upper-closed scale whose maximal value corresponds to absolute dryness (cf. Kennedy and McNally 2005). Due to the presence of *almost*, John's shirt is mapped to a degree that is close to, or, more precisely, slightly lower than, the top of the scale. (5) depicts a sentence in which *almost*

modifies a verb. Hence, the relevant scale here is ordered along the axis contributed by the verb, which is the path scale culminated in reaching the base camp. Again, the argument is mapped to a degree that is slightly lower than the standard (here, the location of the base camp) on the relevant scale.

In general terms, according to this approach:

- (6) a. The prejacent  $p$  is associated with a scale, either provided by linguistic material or contextually salient.
- b. According to  $p$ , there is some argument  $x$  which is mapped to a degree  $d$  on this scale.
- c. According to *almost p*, in contrast,  $x$  is **not** mapped to  $d$ , but rather to a different degree  $d'$ , which is close to (and, generally, lower than)  $d$  on the scale.

This analysis accounts successfully for a wide range of facts. However, it sometimes faces a problem when *almost* applies to a VP, since the latter cannot always be associated with a discernible scale:

- (7) I **almost** told you that I loved you.
- (8) Veteran actor DAVID SUCHET **almost** walked away from his most famous role over a disagreement about a handkerchief. (<http://goo.gl/3P0a31>)

The VPs in these sentences do not seem to be associated with any particular scales. Moreover, note that while (5) means that the alpinist has traveled most of the way toward the base camp, (7) and (8) do not have to mean that the speaker or the actor did anything at all.

Thus a question arises (Nouwen 2006, Amaral and del Prete 2010) as to how do we capture the proximity component in such cases?

In other words, in such examples the prejacent  $p$  entails that a certain eventuality  $e$  takes place. In turn, *almost p* entails that  $e$  gets close to taking place (and further implies that it does not ultimately occur). Such instances are known in the literature as exhibiting a **counterfactual** use of *almost* (cf. Dowty 1979, Rapp and von Stechow 1999, Sadock 1981, Sevi 1998, Horn 2002, Greenberg and Ronen 2013 and references therein). Unless we figure out what scale is involved in sentences with such an interpretation, they pose a problem to the scalar approach.

## 2.2 The Intensional Approach

The intensional approach (e.g. Sadock 1981, Nouwen 2006) employs possible worlds rather than scales. As is stated in Sadock (1981):

- (9) [almost  $p$ ] is true iff  $p$  is true in a world not very different from the real world; it conversationally implicates  $\sim p$ .

But what does it mean for one world to be ‘not very different’ from another? This lack of clarity with regards to the representation of world proximity is a disadvantage of the intensional

approach, as opposed the scalar one which is more straightforward representing proximity on a defined scale.

In order to mitigate this disadvantage, Nouwen (2006) makes the intensional approach more explicit. Concentrating on first-order one-place predicates, Nouwen (2006) represents distances between worlds via the extensions of predicates in these worlds. If one individual is a member of a set denoted by a certain predicate in world  $w$  but not in world  $w'$ , it follows that  $w$  is 1-removed from  $w'$  (if the worlds are identical in all other respects). Further differences in extensions will cause the worlds to be further removed from each other.

To illustrate, (1), repeated below, is true in a context in which John invited 98 guests. Indeed, consider a world  $w'$  that is identical to  $w_0$  except for the fact that in  $w'$  John invited 100 guests.  $w'$  will indeed be close to the actual world; in particular, it will be 2-removed from  $w_0$  because the set of guests invited by John to his birthday contains two more individuals in  $w'$  than in  $w_0$ .

[(1)] John invited almost 100 guests to his birthday party.

However, compare (1) to (10), in which *almost* modifies the VP:

(10) John almost invited 100 guests to his birthday party.

Imagine a situation in which John did not invite any guest at all. Rather, he was about to invite 100 guests and then for some reason cancelled this plan at the last moment. In this case, (12) would still be true.

This is problematic for Nouwen's extension-based approach, since worlds in which the prejacent is true are at least 100-removed from the actual one according to (10) and thus, they are no longer close at all. Yet, intuitively, it does seem that according to (10), the actual world should in some sense be close to a world in which John did invite 100 guests. This is an intuition we would like to preserve.

Another problem for world proximity approach, a mirror image of the former, arises in the following scenario:

Suppose that in  $w_0$  John buys a grey hat in a store. Suppose further that in  $w_1$  he buys a black hat in the same store. Finally, suppose that the two worlds are as similar as possible to one another except for this distinction.

While the previous scenario contained a felicitous *almost* utterance even though the distance between the possible worlds was large, in this scenario the distance between worlds is very small since the world in which John bought a black hat is very close to the actual one under the extension-based approach (and, in fact, under alternative approaches to world proximity, the two worlds are likely to be close, too). However, in this case it would be infelicitous to appropriately utter the sentence *John almost bought a black hat*.

Thus, world proximity does not seem to be sufficient to license *almost*. To sum up, in order for the intensional approach to be maintained, the notion of world proximity has to be restricted and defined in an appropriate way.

### 2.3 The Scalar and Intensional Approaches Combined

An interaction of the two approaches has also been proposed (e.g. Sevi 1998, Greenberg and Ronen 2013). For instance, under Greenberg and Ronen's analysis, the intensional approach is subsumed under the scalar one. The counterfactual readings do involve scalar *almost*, but here, *almost* applies to a special scale that orders worlds. Thus, the scale itself is in some sense modal.

Specifically, the counterfactual use involves a **world proximity scale**. It measures similarity to the actual world. The actual world is identical to itself, this is the maximal similarity, which corresponds to the top of the scale. The higher the difference between a world  $w$  and  $w_0$ , the lower on the scale  $w$  will be located. In counterfactual *almost*-sentences,  $p$  is entailed to hold in a world that is located close to (but slightly lower than)  $w_0$  on this scale.

This is illustrated in the following formula (Greenberg and Ronen 2013):

$$(11) \textit{Almost}: \lambda p. \neg p_{w_0} \wedge \exists p' \in S_{ALT}(p_{w_0}) \wedge p' <_s p_{w_0} \wedge \textit{close}_s(p', p_{w_0}) \wedge p'$$

$p$  is the prejacent,  $w_0$  is the actual world,  $S_{ALT}$  is a set of alternatives,  $<_s$  is an ordering of this set, and  $\textit{close}_s$  is the proximity relation.

Thus, with regards to the following sentence:

(12) John almost invited Bill to the party.

it holds that:

- a. John didn't invite Bill to the party in  $w_0$  (i.e. in those worlds that are 0-distant from  $w_0$ ).
- b. John invited Bill to the party in some world(s) that are close to  $w_0$  (i.e. located slightly lower than  $w_0$  on the world proximity scale).

This approach nicely combines the intensional with the scalar, but it leaves open an important question – what is the nature of the proximity component  $\textit{close}_s$ ? There are many ways to order possible worlds, as two worlds can be close in one sense and far apart in others. And, since Section 2.2 has established that extension-based approach does not fare well, we are still in need for the right way to represent proximity.

## 3 The Russian Counterparts of *Almost*

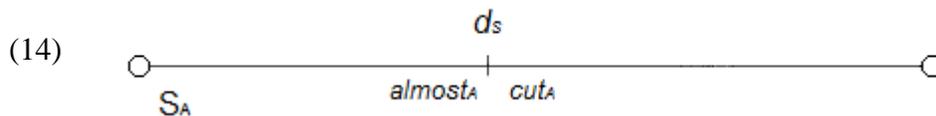
Before proposing a new approach to counterfactual *almost*, we discuss the Russian counterparts of this item, which further sharpen the contrast between scalar and counterfactual uses. It turns out that Russian has two counterparts of *almost*, whose contribution is not identical. These are *počti* and *čut'*. Interestingly, *čut'* has a contribution comparable to that of *almost* only when it appears in **negative** sentences:

- (13) a. Spartak počti obygral Barcelonu.  
Spartak počti outplayed Barcelona

- b. Spartak *čut'* ne obygral Barcelonu.  
 Spartak *čut'* neg outplayed Barcelona  
 Both: 'Spartak almost outplayed Barcelona.'

*Spartak* and *Barcelona* are both names of football teams. As revealed in (13), approximately the same meaning (*Spartak almost outplayed Barcelona*) is obtained either by using *počti* in an affirmative clause (similarly to *almost* in English) or by merging *čut'* in a negative clause. Roughly, *Spartak almost / počti outplayed Barcelona* is equivalent to *Spartak čut' didn't outplay Barcelona*.

For the purposes of this paper, we will use the combination of *čut'* with negation (*čut' ne*) as one equivalent of *almost*, without analyzing the item *čut'* independently. Such an analysis, however, is provided in Kagan and Wolf (in progress). We just note that when combined with adjectives, *čut'* receives a meaning comparable to that of *slightly*, e.g. *čut' vlažnyj* 'slightly wet'. More generally, *čut'* is a degree modifier which maps an argument to a degree that is slightly higher than the standard of comparison. Given that (scalar) *almost* typically maps an argument to a degree that is slightly lower than the standard, *čut'* can be conceptualized as a mirror image of *almost* as in the following figure:



Where *A* is the predicate,  $S_A$  is the scale to a degree on which an argument of *A* is mapped, and  $d_s$  is the standard.

Crucially, it turns out that although the two items (*počti* and *čut' ne*) seem to have the same meaning and are translated to English as the same word *almost*, their contribution is not truly identical. Below we provide some minimal pairs that illustrate this point. It should be emphasized that native speaker intuitions vary to some extent, and the semantic contrasts are not always clear-cut, but they are definitely present as tendencies. Moreover, judgments are, in fact, clear-cut with respect to such examples as (15) and (16):

- (15) a. Uhodi! – počti prokričal on.  
 leave počti shouted he  
 'Go away!' he almost shouted.'
- b. Uhodi! – čut' ne prokričal on.  
 leave čut' neg shouted he  
 'Go away! he almost shouted.'

(15a) asserts that the subject uttered the word *Leave* loudly; this act of sound emission was close to a shout given its volume. In contrast, (15b) means that the subject was about to shout, but ultimately kept silent. Thus, (15a) receives a scalar reading. On the scale of loudness, there is a degree starting from which an utterance is considered a shout. The loudness of the subject's statement was slightly lower than this degree. In contrast, (15b) gets a counterfactual reading: the subject was close to shouting but in the end, the event did not take place.

- (16) a. On počti probežal po koridoru.  
 he počti ran on hall  
 ‘He almost ran through the hall.’
- b. On čut’ ne probežal po koridoru.  
 he čut’ neg ran on hall  
 ‘He almost ran through the hall.’

In (16), we get an analogous contrast. (16a) asserts that the subject walked very quickly, so that the speed (and maybe, more generally, the manner) of his motion was close to that of running. We can say that the event is mapped to a degree on a scale of speed that is slightly lower than the minimal value corresponding to running. In contrast, according to (16b), the subject was about to run, but in the end, did not pass through the hall (with any speed). This is a counterfactual interpretation.

A different kind of contrast is present in (17):

- (17) a. Dima počti vyučil stixotvorenje.  
 Dima počti learned poem  
 ‘Dima almost finished learning the poem.’
- b. Dima čut’ ne vyučil stixotvorenje.  
 Dima čut’ neg learned poem  
 ‘Dima almost learned the poem.’ (= almost started learning)

(17a) is most likely to be uttered in a context in which Dima was engaged in the process of memorizing the poem but did not finish it. In turn, (17b) is more likely to mean that he was very close to sitting down and starting to memorize the poem, but in the end did not.

This opposition reminds of the well-known aspectual contrast associated with *almost* (Dowty 1979). When *almost* applies to an accomplishment, the resulting sentence can mean either that the event was almost completed or that it almost started. However, examples like (15) and (16) reveal that the contrast between *počti* and *čut’ ne* is not reducible to this aspectual distinction. Rather, the following factors seem to play a crucial role in (17). According to (17a), an event of gradually memorizing the poem was taking place and stopped when the subject was close to remembering all of it but still had not obtained that result. This means that progress along a scale (e.g. the scale ordering parts of the poem from smaller to bigger ones) was taking place, but the maximal point (corresponding to the poem as a whole) failed to be reached. This is the scalar reading of *almost*. In contrast, (17b) renders the counterfactual reading: the memorizing event did not take place at all, although it was in a certain sense likely to take place at some point.

Finally, consider the contrast in (18):

- (18) a. Dima počti provalil ekzamen.  
 Dima počti failed exam  
 ‘Dima almost failed the exam.’

- b. Dima *čut'* ne provalil ekzamen.  
 Dima *čut'* neg failed exam  
 'Dima almost failed the exam.'

(18a) can be uttered if Dima got a grade that is just slightly above the border between pass and non-pass. Thus, on the scale of grades, it is very close to the non-passing grade. In turn, (18b) is more likely to be uttered in a context whereby Dima had a blackout during the exam and almost failed for this reason, but then collected himself and wrote the exam successfully, maybe even got the maximal grade. It should be noted that (18a) could be used under the latter scenario as well, so here, we deal with a tendency, rather than a clear-cut contrast.

On the basis of the facts discussed above, we can make the following generalizations:

- A. *Počti* systematically applies to a scale that is contributed by the environment in which it appears, most typically, the constituent to which it attaches. This could be, for instance, a property scale contributed by the verb, as in (14) and (15), or a volume/extent scale associated with the object, as in (16). Further, this may be a scale along which an event develops (e.g. 16a), but this is not necessary. Thus, in (14a, 15a, 17a), there is no homomorphism between the development of the event and progress along the relevant scale.
- B. In contrast, *čut'* systematically renders the so-called counterfactual readings. Its acceptability is independent from the presence of a scale associated with the VP. *čut'*-sentences assert that the event in question did not take place but, in some intuitive sense, the situation was close to such an event being instantiated. In other words, **the probability of the event taking place was very high at some point. The event was very likely to occur.**

Consider an additional contrast that supports this view. Suppose that a comet moves very close to the Earth. The trajectory of its movement is known in advance. It is known that it will pass near the Earth, but it is also known that there is **absolutely no chance** it would collide with the planet. In this context, (19a) is appropriate but (19b) is not:

- (19) a. Kometa *počti* stolknullas' s Zemljoj.  
 Comet *počti* collided with Earth  
 'The comet almost collided with the Earth.'
- b. Kometa *čut'* ne stolknullas' s Zemljoj.  
 Comet *čut'* neg collided with Earth  
 'The comet was about to collide with the Earth.'

*Počti* is appropriate, given the close distance between the comet and the Earth. Spatially, the distance is close to one of collision. We thus deal with a proximity relation on a path scale. *Čut'* is inappropriate, however, since the probability of collision is very low (in fact, under the proposed scenario, zero probability).

On the basis of the above discussion, we propose that for *počti*, the scalar approach to *almost* should be adopted. The analysis, based on Nouwen's (2006) formulation of the scalar alternative approach to *almost*, is provided in (20):

- (20) *počti p* is true if and only if there is a contextually salient, focus-induced or lexically motivated scalar alternative *p'* which is close to *p* on the scale of alternatives and which is true.

But how do we capture the semantics of *čut' ne* and counterfactual *almost*?

## 4 Counterfactual *Almost*: The Scale of Likelihood

In order to capture the semantics of *čut-neg* we need to first expand a little about the nature of counterfactuality. Counterfactuality is, of course, the property of being 'counter to fact'. Thus, counterfactual *almost* utterances depict events that do not manifest in the actual world. But don't all types of *almost* utterances depict such events? The polar component inherent in *almost* seems to ensure that this is the case. For example, repeating the minimal pair in (15):

- [(15)] a. Uhodi! – počti prokričal on.  
 leave počti shouted he  
 'Go away! he almost shouted.'
- b. Uhodi! – čut' ne prokričal on.  
 leave čut' neg shouted he  
 'Go away! he almost shouted.'

As recalled, the difference between these two utterances is that in the first (*počti*) the speaker uttered the word loudly in a manner which was close to a shout and in the second (*čut' ne*) the speaker was about to shout, but ultimately kept silent. Thus, in both cases the prejacent, i.e. shouting, did not occur and therefore was counter to fact.

In order to clarify and reiterate the difference between the two types of *almost*, note that in the first utterance a shout was not manifested to *its full extent* but was manifested to some degree. That is, we can look at the depicted eventuality as an event in progress in which sound is emitted with a certain volume level that comes very close to the level required for shouting. The second utterance, on the other hand, depicts a *potential* event of shouting that did not come to pass in the actual world, i.e. did not even begin to manifest its potential.

This distinguishing property of counterfactual *almost* provides us with both the difference and the similarity between the two *almost* types. The difference lies in the manifestation of the event, i.e. with counterfactual *almost* as opposed to scalar *almost*, the event is not manifested. The similarity is that, roughly speaking, in both cases, the world is close to one in which an event that falls under the denotation of the predicate takes place. In scalar terms, this means that in both cases, there is a degree associated with an instantiation of such an event, and both types of *almost* select a degree that is close to (but slightly lower than) this standard. For scalar *almost* this degree characterizes the manifestation of the event, e.g. in (15), this is a degree on the scale of volume with which the utterance was actually made. For counterfactual *almost* the degree

characterizes the *potentiality* of the event, i.e. how likely the event is to occur or in other words how close the event is to the point in which it *begins* to manifest in the actual world.

Recall that scalar *almost p* pertains to some lexically contributed or context-dependent scale applicable to *p* and *p* manifests some degree on that scale, which is below the standard. Our proposal, which provides a unified account for both types of *almost*, is that there is a scale applicable to counterfactual *almost* as well. In this respect we follow Greenberg and Ronen (2013). However, the scale that we propose is not modal. Following the characterization of counterfactual *almost* above, this scale is the scale of likelihood, represented in terms of probability.

The scale of likelihood corresponds to the intuition that the meaning of counterfactual *almost* pertains to the potential or disposition of the prejacent to occur. In other words, that although the prejacent did not occur there was a high likelihood for it to occur. We can treat this likelihood as the *propensity* of the event (cf. Popper, 1959), i.e. a property that the event has which describes its potential to occur. This potential can be measured on a scale of real numbers ranging from 0 to 1 (a probability scale) when 0 means that the event has no potential to occur, i.e. an impossibility, and 1 means that the event has a full potential to occur, i.e. a certainty.

Once we have this scale in place, we can see the connection between scalar and counterfactual *almost* – both employ scales and the meaning of both is that the degree on the scale to which some element in the sentence is mapped is slightly lower than the standard.

Formally, both types of *almost* are represented in the same manner:

$$(21) \lambda P \lambda x . \exists d [P(d)(x) \ \& \ d <_C d_s]$$

Keeping matters fully explicit and compositional, we assume following many (inter alia Alonso-Ovalle and Menendez-Benito, 2010; Chierchia, 2006; Hacquard, 2010; Meyer, 2013) that all unmodified utterances (i.e. prejacent of *almost*) contain an implicit necessity operator.

Hence, default assertions have the following representation:

$$(22) \lambda P \lambda x . \exists d [P(d)(x) \ \& \ d = 1]$$

Since a probability of 1 indicates a certainty, this is equivalent to the standard representation of propositions as the set of worlds in which the event depicted in the proposition is true.

The standard of *almost*,  $d_s$ , is a context-dependent variable. In the case of default assertions this variable is a maximum standard (cf. Kennedy and McNally 2005) property i.e. the standard is the top of the scale, which is 1. Hence, a counterfactual *almost* utterance means that the likelihood of the prejacent to be true is slightly lower than certainty.

Another aspect in which counterfactual and scalar *almost* differ is in their relation to the polar component i.e. that the prejacent is false. An assertion of an objective likelihood which is slightly lower than certainty coupled with objective falsehood results in a contradiction. The speaker cannot assert that there is a very high potential for an event to occur if this event is false since in that case there is no possibility for it to occur. Therefore, the only possible reading for counterfactual *almost* under this account can be attained if the probability of the prejacent is the likelihood *prior* to the event, at the time when its (non-) instantiation was not yet objectively determined in the world. In other words, a sentence with counterfactual *almost* implies that the prejacent is false but at the same time links it to a very high (almost maximal) degree on the probability scale. The only way to interpret this as non-contradictory is by concluding that the

high probability characterizes the prejacent at an earlier time, before the non-instantiation of the event was actually determined. The event had a high potential to occur prior to the time of its potential instantiation. We are now in a position to supply a definition of counterfactual *almost* along the lines of scalar *almost*:

- (23) *cut neg p* is true if and only if there is a scalar degree  $d'$  which is close to the standard on the scale of likelihood, that holds with regards to  $p$ .

Crucially, we can see that counterfactual *almost* makes the same contribution as scalar *almost* (in other words, it *is* scalar *almost*) while applying to the special scale of propensity.

## 5 Conclusion

This paper discusses two aspects of *almost*, the scalar and the counterfactual, and two approaches to *almost*, the scalar and the intensional. Both approaches capture important meaning components in the semantics of *almost* sentences but ultimately cannot account for both the scalar and the counterfactual aspects together. We therefore propose a novel account which draws insights from Russian. The data from Russian show how two distinct lexical items, *počti* and *čut'*, function as counterparts of *almost*. The former corresponds mainly to the scalar use of *almost* and the latter, to the counterfactual one. We proceed to show how the counterfactual aspect can be unified with the scalar one via the scale of likelihood which represents the propensity of the event depicted by the prejacent to occur, thus providing an account which captures the various aspects of *almost* and its uses in a uniform manner.

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