

# GRADABILITY ACROSS DOMAINS: THE SEMANTICS OF THE DEGREE MODIFIER *čut'*

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## 1 Introduction

Investigation of degree modifiers contributes to our understanding of the role of scales in natural language semantics, the range of domains in which gradability is linguistically relevant and the parallelism between these domains. In this paper I investigate the degree item *čut'* in Russian, which, under its most basic use, can be tentatively translated to English as 'slightly' or 'a bit'. Its properties are of interest in part because it can appear in a range of different domains. Below, I argue that it can be found in the AP, VP and AspP areas.

In order to appreciate the wide range of uses associated with *čut'*, consider the examples below:

- |   |                        |
|---|------------------------|
| (1) a. polotence okazalos' čut' vlažnym<br>towel appeared čut' wet<br>'The towel appeared to be slightly wet.'  | <b>adjectival čut'</b> |
| b. ...intensivnost' čut' umen'silas'...<br>intensity čut' lowered<br>'The intensity lowered a little.'  | <b>verbal čut'</b>     |
| c. čut' Alex ušel, (kak) prišlo pis'mo ot Iriny Nikolaevny<br>čut' Alex left as arrived letter from Irina Nikolaevna<br>'As soon as Alex left, a letter from Irina Nikolaevna arrived.' | <b>temporal čut'</b>   |
| d. Tom čut' ne upal<br>Tom čut' neg fell<br>'Tom almost fell (down).'   | <b>negative čut'</b>   |

A question emerges as to whether a uniform analysis can be developed that would cover the use of *čut'* in all these environments. In what follows, I concentrate on three out of the four uses

of *čut'*: adjectival, verbal and temporal. I argue that in all these cases we deal with the same item, while what varies is the environment in which it appears and the type of the constituent to which it applies. At the end of the paper, I also briefly relate to the fourth, negative, use and point to those semantic aspects that unify the negative *čut'* with the other uses of the item.

## 2 Adjectival *čut'*

This section examines the distribution and semantic contribution of *čut'* in the adjectival domain.

### 2.1 Adjectives in the Positive Form

*čut'* is perfectly compatible with minimum standard adjectives, which lexicalize lower-closed scales (scales that involve a minimal value). A search in National Corpus of Russian renders such phrases as the following: *čut' izognutyj* 'slightly bent', *čut' zametnyj* 'slightly noticeable', *čut' vypuklyj* 'a bit protruding', *čut' slyšnyj* 'slightly audible', *čut' sonnyj* 'a bit sleepy', *čut' šeršavyj* 'a bit rough', *čut' vlažnyj* 'a bit wet'. The resulting phrases denote a set of individuals that possess the property lexicalized by the adjective to a very low degree. The degree is entailed to exceed the lower boundary of the scale but, at the same time, to be very close to this boundary.

Two points should be made regarding the combination of *čut'* with minimum standard adjectives:

1.  $x$  is *čut'*  $P$  entails that  $x$  is  $P$ . This is illustrated below:

- (2) a. Polotence *čut'* vlažnoe  
towel *čut'* wet  
'The towel is a bit wet.'                      ENTAILS:
- b. Polotence vlažnoe  
towel wet  
'The towel is wet.'
- (3) a. Linija *čut'* izognuta  
line *čut'* bent  
'The line is slightly curved.'                ENTAILS:
- b. Linija izognuta  
line bent  
'The line is curved.'

2. The argument of a *čut'*-AP is entailed to possess the property lexicalized by the adjective to a very low degree. While this degree is above zero, it is very close to zero. In other words, the distance between the degree to which the argument is mapped and the minimum standard is particularly small.

We can tentatively represent the semantics of (3a) as in (4a). The meaning of (3b) is provided in (4b) for the sake of comparison. It can be seen from the formulae that the entailment relation between the two sentences indeed holds as specified above.

- (4) a.  $\exists d$  [bent(d)(the line) &  $d >_C \min(S_{\text{bent}})$ ]  
 where  $S_{\text{bent}}$  is the scale lexicalized by the predicate *bent*  
 and  $>_C$  stands for the 'higher than and very close to' relation.  
 b.  $\exists d$  [bent(d)(the line) &  $d > \min(S_{\text{bent}})$ ]

Note that for every  $d$  and  $d'$  it holds that  $d >_C d'$  entails  $d > d'$ . In prose, if  $d$  is higher than and close to  $d'$ , then  $d$  is higher than  $d'$ . It therefore follows that (4a) entails (4b).

Let us now turn to additional types of scales. *čut'* is incompatible with adjectives that lexicalize upper-closed scales (the ones that involve a maximal value):

- (5) a. #Eta komnata čut' čistaja  
 This room čut' clean  
 b. #Eta doroga čut' rovnaja  
 This road čut' straight

Analogously, *čut'* is generally bad with relative adjectives which lexicalize totally open scales in their positive form:

- (6) a. #Lena čut' vysokaja  
 Lena čut' tall  
 b. #Eta knjiga čut' dorogaja  
 This book čut' expensive

## 2.1 *čut'* with Modified Adjectives

The facts illustrated above do not mean that the distribution of *čut'* is limited to minimum standard adjectives. This item can also apply to adjectives of other types if the latter do not appear in their simple, positive form, but rather combine with certain degree modifiers. In other words, *čut'* can appear on top of certain degree modifying expressions. For instance, it can combine with comparative adjectives, as is illustrated in (7):

- (7) a. Miša čut' vyše Leny  
 Misha čut' taller Lena.GEN  
 'Misha is slightly taller than Lena.'  
 b. Novaja knjiga čut' bolee interesna čem staraja  
 new book čut' more interesting than old  
 'The new book is a bit more interesting than the old one.'

*čut'* applies to an adjective that has already combined with comparative morphology in (7a) and with the comparative expression *bolee...čem* 'more...than' in (7b). Here, the standard of comparison is linguistically provided by the *čem*-phrase. For instance, it corresponds to Lena's (maximal) height in (7a). Due to the comparative modification, the subject is entailed to be mapped to a degree on the scale that exceeds the standard. The presence of *čut'* further specifies that the distance between the two degrees is very small. Thus, in (7a), while Miša is entailed to

be taller than Lena, his height exceeds Lena's very slightly. The truth conditions of (7a) can be represented as in (8):

$$(8) \quad \exists d \exists d' [\text{tall}(d)(\text{misha}) \ \& \ \text{tall}(d')(\text{lena}) \ \& \ d >_c d']$$

Once again, *x is čut' P* entails that *x is P*. For instance, (7a) entails that Misha is taller than Lena:

$$(9) \quad \begin{array}{l} \text{Miša čut' vyše Leny} \\ \text{'Misha is a bit taller than Lena.'} \end{array} \quad \rightarrow \quad \begin{array}{l} \text{Miša vyše Leny} \\ \text{'Misha is taller than Lena.'}^1 \end{array}$$

### 2.3 A Uniform Analysis of Adjectival *čut'*

On the basis of the data discussed in the previous subsections, we can conclude that *čut'* is systematically associated with the following meaning components:

- (i) *čut'* specifies that the argument possesses the property denoted by the AP to a degree that exceeds the standard of comparison (the latter is independently provided by the environment). *čut'* further specifies that the distance between these two degrees is very small.
- (ii) For every P, it holds that:  $x \text{ is } \check{c}ut' P \rightarrow x \text{ is } P$ .

The entailment relation represented in (ii) has been shown to hold in all the environments mentioned above in which *čut'* is acceptable. The meaning component in (i) also systematically accompanies *čut'*. Whether the standard is the lower boundary of a scale or a linguistic standard supplied e.g. by the comparative *bolee...čěm* 'more than', the degree to which the argument is mapped is consistently entailed to be located slightly above this standard.

Further, the proposed analysis captures the incompatibility of *čut'* with maximum standard and relative adjectives in their positive form. This incompatibility essentially means that *čut'* cannot apply to the maximal degree on a scale and to a distributional, comparison-class-based, standard, associated with relative adjectives. The first observation is particularly easy to explain. *čut'* relates the argument to a degree that is higher than the standard. However, if the standard constitutes the maximal value on the scale, it is impossible to possess the property to a higher degree, not even to a *slightly* higher one. Kagan and Alexeyenko (2011a,b) argue that *-ovat* cannot apply to this kind of standard for exactly the same reason.

The case with distributional standards is a bit more complex, but here too, a reason for incompatibility is available. In particular, a distributional standard is known to be characterized by a particularly high degree of vagueness. Where exactly does the boundary between tallness and lack of tallness lie? Even once the context is fixed and the comparison class is determined, there remains the famous problem of borderline cases: for some individuals whose tallness is close to the standard, it is still difficult to determine whether they fall under the denotation of

<sup>1</sup> *čut'* is also compatible with adjectives modified by the suffix *-ovat*, whose semantics is investigated by Kagan and Alexeyenko (2011a,b) and which, under its relevant use, contributes the meaning of excess ('slightly too P'). For reasons of space such adjectives will not be discussed here; however, the analysis proposed in this paper applies to them as well.

*tall*. (Cf. e.g. Kennedy 2007 for discussion.) The precise boundary is difficult or plausibly even impossible to determine, and speakers will disagree with one another as to where exactly it should be located. Given this kind of inherent vagueness, how can we guarantee that a degree to which an individual is mapped is higher than and at the same time very close to the standard? Since the location of the standard is unknown, it is impossible to measure a distance between this and another value with a high degree of precision, nor to guarantee that such a distance is indeed extremely small, in some sense minimal. In the linguistic literature, additional degree modifiers have been claimed to be incompatible with distributional standards for the same reason (cf. e.g. Winter and Rotstein 2004 on *almost*, Kagan and Alexeyenko 2011a on *-ovat*). I assume that *čut'* is no different in this respect.

Formally, the semantics of adjectival *čut'* is represented in (10), where the standard of comparison ( $d_s$ ) is to be provided by the environment which includes pragmatic context:

$$(10) \llbracket [\check{c}ut'] \rrbracket = \lambda P \lambda x. \exists d [P(d)(x) \ \& \ d >_C d_s]$$

The compositional semantics of (11) below is provided in (11').

(11) Eta linija *čut'* izognuta

this line *čut'* bent

'This line is slightly curved.'

(11')  $\llbracket [\check{c}ut'] \rrbracket = \lambda P \lambda x. \exists d [P(d)(x) \ \& \ d >_C d_s]$

$\llbracket [izognuta] \rrbracket = \lambda d' \lambda y. bent(d')(y)$

$\llbracket [\check{c}ut'] \rrbracket (\llbracket [izognuta] \rrbracket) = \lambda x. \exists d [bent(d)(x) \ \& \ d >_C d_s]$

The function applies to the standard of comparison associated with the stem, and we get:

$\lambda x. \exists d [bent(d)(x) \ \& \ d >_C \min(S_{bent})]$

$\llbracket [\check{c}ut' \ izognuta] \rrbracket (\llbracket [eta \ linija] \rrbracket) = \exists d [bent(d)(this-line) \ \& \ d >_C \min(S_{bent})]$

### 3 Verbal *čut'*

The modifier *čut'* can also appear within verbal projections and apply to VP semantics. This is illustrated in the following sentences from the National Corpus of Russian:

(12) a. voda k tomu vremeni uže uspela **čut' oštyt'**

water to that time already had-time *čut'* cool

'By that time the water had already cooled a bit.'

b. V etot moment ščolknul zamok, i dver' **čut' priotkrylas'**

in this moment clicked lock and door *čut'* opened

'At this moment the lock snapped, and the door opened a bit.'

c. intensivnost' **čut' umen'silas'**...

intensity *čut'* lowered

'The intensity lowered a little.'

The clauses in which *čut'* appears entail that one of the arguments, in all these examples, the subject, undergoes a certain change (in temperature, in openness and in size, respectively). *čut'*

specifies that the change is very small. In other words, it measures the change that takes place in an argument.

The most natural way to capture the semantics of verbal *čut'* is by relating to the notion of a degree of change, introduced by Kennedy and Levin (2002). They argue for the existence of a type of verbs, verbs of gradual change, that contribute scales to sentential semantics. Such verbs denote a change that takes place along these scales, i.e. a change in the degree to which an argument is characterized by the gradable property. More precisely, the argument is entailed to possess the property at the end of the event to a higher degree than at its beginning (cf. also Hay et al. 1999, Rothstein 2008). For instance, the verb *widen* denotes a change in the degree to which its argument is wide. At the beginning of the event the subject is entailed to be less wide than at the endpoint of the event. The semantics of verbs of gradual change involves a 'degree of change argument', the degree to which a participant undergoes an increase in the relevant property between the beginning point of the event and its endpoint. One way to represent the semantics of such verbs is illustrated in (13) for the verb *widen*. (14b) provides the truth conditions of (14a). The formalism is based on Kennedy and Levin (2008) and Kennedy (2010), slightly adapted in order to fit the framework assumed in this paper; the examples are based on Kennedy (2010:8-10).

$$(13) \llbracket \text{widen} \rrbracket = \lambda d \lambda x \lambda e. \text{wide}_{\Delta}(d)(x)(e)$$

where  $\text{wide}_{\Delta}$  is a function that for a degree  $d$ , individual  $x$  and event  $e$  renders as the output the truth value of the proposition *x has widened to degree d in the course of e*.

(14) a. The canyon widened 30 kilometers.

b.  $\exists e \llbracket \text{wide}_{\Delta}(30\text{km})(\text{the-canyon})(e) \rrbracket$

Kennedy and Levin (2008) further propose that the degree of change can be treated as a degree on a derived scale, which is identical to the scale originally introduced by the predicate except for the fact that its lower boundary is reset to the degree associated with the beginning point of the event. This is the degree to which the argument possesses the gradable property at the time when the event begins. This degree corresponds to a zero change. Any degree that is higher than this minimal point corresponds to an increase that takes place in the course of the event.

We are now in the position to account for the contribution of *čut'* in sentences like (12). This item measures the change that an argument undergoes along a scale by imposing a restriction on the degree of change argument of the verb. In particular, it specifies that the degree of change is very low. The change does take place, and so the degree of change is higher than zero, but at the same time it is very close to zero. Naturally, this contribution is very close to the contribution of *čut'* within the adjectival domain. *čut'* applies to a predicate that lexicalizes a lower-closed scale and provides the same information about the degree argument of the predicate as it does with gradable adjectives. The degree to which the argument is mapped is entailed to be slightly higher than the standard of comparison (in this case, the lower boundary of the scale).

Formally, I propose that verbal *čut'* has essentially the same semantics as its adjectival counterpart, except for the fact that this time it combines with properties of events; therefore, an event argument is added to the degree and individual type arguments that were present in the adjectival domain. Further, the standard of comparison for verbal *čut'* is fixed as the lower boundary on the derived scale, the one along which the degree of change is measured. The compositional semantics of (12c), repeated below as (15), is provided in (15'):

- (15) Intensivnost' čut' umen'silas'  
 intensity čut' lowered  
 'The intensity lowered a little.'
- (15')  $[[\text{čut}']] = \lambda P \lambda x \lambda e. \exists d [P(d)(x)(e) \ \& \ d >_C \min(S_P)]$   
 $[[\text{umen'silas}']] = \lambda d' \lambda y \lambda e'. \text{low}_{\Delta}(d')(y)(e')$   
 $[[\text{čut}']]([\text{umen'silas}']] = \lambda x \lambda e. \exists d [\text{low}_{\Delta}(d)(x)(e) \ \& \ d >_C \min(S_{\text{low}\Delta})]$   
 $[[\text{čut' izoumen'silas}']]([\text{intensivnost'}]) = \lambda e. \exists d [\text{low}_{\Delta}(d)(\text{the-intensity})(e) \ \& \ d >_C \min(S_{\text{low}\Delta})]$   
 The event variable gets bound by existential closure:  
 $[[\text{Intensivnost' čut' umen'silas}']] = \exists e \exists d [\text{low}_{\Delta}(d)(\text{the-intensity})(e) \ \& \ d >_C \min(S_{\text{low}\Delta})]$

Note also that in both the adjectival and the verbal domain, *čut'* p entails p. For instance, (15) entails (16); the truth conditions of the two sentences are provided in (15') and (16'), respectively. Roughly, if the intensity becomes slightly lower, then it holds that the intensity becomes lower.

- (16) Intensivnost' umen'silas'  
 intensity lowered  
 (16')  $\exists e \exists d [\text{low}_{\Delta}(d)(\text{the-intensity})(e)]$

We can thus see that the properties of *čut'* contribute evidence in favor of extending scalar semantics to the verbal domain.

## 4 Temporal *čut'*

### 4.1 Data and Intuitions

Let us now turn to the temporal-aspectual use of *čut'*. It should be emphasized that this use is not productive in modern spoken Russian; it is found primarily in literary texts and poetry. In spoken language, temporal *čut'* is likely to be substituted by the word *tol'ko*, literally 'only'. Still, this use is present in the language and native speakers understand this type of *čut'* and have intuitions regarding its appropriateness. It is therefore worth asking whether and how temporal *čut'* is related to the phonologically identical item that is found in the adjectival and the verbal domains.

Temporal *čut'* is illustrated in the examples from National Corpus of Russian in (17):

- (17) a. čut' otkrylis' granicy, byvšie sovetskie ljudi zabyli pro bratskie Zolotyje Peski...  
 čut' opened borders former Soviet people forgot about fraternal Golden Sands  
 'As soon as the borders were opened, former Soviet people forgot about the fraternal Golden Sands.'
- b. čut' on ušel - pis'mo ot Iriny Nikolaevny...  
 čut' he left letter from Irina Nikolaevna  
 'As soon as he left, a letter from Irina Nikolaevna [arrived].'

- c. No *čut'* Ljusja popytalas' vernut'sja k rabote, muž kategoričeski vosprotivilsja.  
 but *čut'* Ljusja tried return to work husband emphatically objected  
 'But as soon as Ljusja tried to get back to work, her husband expressed his strong dissent.'

Under the temporal use, *čut'* appears to the left of the subject. The interpretation of *čut' p* intuitively seems to be close to that of 'as soon as p'.

For the sake of illustration, let us concentrate on the example in (18), a slightly modified version of (17b).

- (18) *čut'* Alex ušel, (kak) prišlo pis'mo ot Iriny Nikolaevny  
*čut'* Alex left as arrived letter from Irina Nikolaevna  
 'As soon as Alex left, a letter from Irina Nikolaevna arrived.'

The role of *čut'* is to contribute a relation of temporal ordering between the two events: the arrival of the letter and Alex leaving. The former is entailed to take place immediately or almost immediately after the latter. The contribution of *čut'* can be divided into two parts: (i) Alex' departure temporally precedes the arrival of the letter, and (ii) the temporal traces of the two events are very close. None of these meaning components is entailed by the corresponding sentence without *čut'*.

Crucially, it is easy to see that these components are very close to the meaning contributed by the other uses of *čut'*. A certain degree (this time one on a time scale) is asserted to be higher than and close to another degree (presumably the standard of evaluation). This suggests that we deal with the same item applied to a different syntactic and semantic domain. But in order to compare temporal *čut'* to the other uses, we need to consider the compositional contribution of the former in some detail.

## 4.2 Temporal *čut'* and Reference Time

How do we formalize the semantic contribution of temporal *čut'*? Let us concentrate on the meaning component of temporal precedence. *čut'* specifies that the event that falls under the denotation of the VP in its clause is followed by another event. (As a rule, temporal *čut'* appears in a past tense clause, and both events are understood to precede the time of speech). Thus, *čut'* makes sure that the temporal trace of the event is ordered not only relative to the time of speech but also relative to the time of an additional eventuality.

In this respect, the contribution of *čut'* is in part similar to the function of past perfect in English. The past perfect form indicates that the event in question does not only precede speech time but also precedes the time of another past eventuality (or at least another temporal interval in the past that is somehow made salient). For instance, in (19), past perfect makes sure that John left *before* Mary's arrival.

- (19) Mary arrived when John had left.

Since Reichenbach's (1947) important work, this kind of temporal ordering is captured using the notion of *reference time* (or topic time). This is the temporal interval relative to which the



event time is viewed or evaluated. Thus, in (19), the time of John's departure is evaluated relative to another salient temporal interval, in particular, the time of Mary's arrival. The relative configuration of event time (E), reference time (R) and speech time (S) depends on the tense and aspect of the clause. Most relevantly for our purposes, past perfect is characterized by the following configuration: E\_R\_S. Event time precedes reference time, and both precede speech time. A detailed review of linguistic analyses of tense and aspect that are based on these notions can be found in Borik (2002).

As noted above, *čut'* is partly similar to past perfect in that it, too, establishes a relation between event time and another salient temporal interval, relative to which event time is evaluated. I therefore propose that *čut'* establishes a relation between event time and reference time. (The latter overlaps with the event time of the second clause.) It specifies that reference time follows event time (E\_R), and also that the two intervals are close on the time scale.

One potential problem with this approach has to do with the claim that in Russian, perfective aspect corresponds to the configuration whereby event time is included in reference time, [<sub>R</sub> E] (Borik 2002). In turn, *čut'* clauses contain precisely perfective verbs. I believe, however, that perfective aspect is compatible with different E-R configurations, which definitely do include the E\_R order. This configuration is characteristic of perfect aspect in English (cf. Reichenbach 1947), and the semantics of certain perfect constructions is indeed obtained in Russian with the use of perfective aspect. For instance, in (20), the verb *ušla* 'left' is perfective. Here, the time of Lena's departure is located relative to the time of another past event (Vasja's arrival), and we get the configuration E\_R\_S. I conclude that perfective aspect is compatible with event time preceding reference time.

- (20) Vasja prišel, kodga Lena uže ušla  
 Vasja came when Lena already left.<sub>PERF</sub>  
 'Vasja arrived when Lena had already left.'

### 4.3 Formalizing the Relation between *čut'* and Reference Time

Let us begin with the intuition behind the formal analysis that is developed in this section. The attachment of *čut'* to a clause signals that the time of the event reported in the clause (e.g. Alex leaving) is evaluated relative to the time of another event, which takes place immediately after the first one. Assuming that the latter temporal interval constitutes the reference time, *čut'* specifies that this reference time is located - on a time scale - higher than, but at the same time close to, the time of the reported event. The standard of comparison in this case is constituted by event time (the time of Alex leaving). This is a salient degree on a time scale, which is independently contributed by the sentence, since events always take place in time and, thus, come together with their temporal traces. Reference time, which constitutes a degree on the time scale as well, is entailed to be located above this standard but close to it.

I now turn to the formal, compositional semantics of *čut'*-clauses. I will largely follow the approach to the temporal-aspectual structure at the syntax-semantics interface developed by Ramchand (2004), although I will not follow her analysis of perfectivity. Ramchand takes the Asp(ect) Phrase area as the location where reference time is introduced to the semantics of a clause and a relation is imposed between reference time and event time. In turn, the TP domain is

responsible for determining the relation between reference time and the time of speech. It is AspP that is of interest for our current purposes.

$$(21) \text{ [[Asp]]} = \lambda P \lambda t. \exists e [P(e) \ \& \ t \in \tau(e)]$$

The Aspect head introduces a temporal argument (which corresponds to reference time) to the semantics of the clause and further specifies that reference time is included in event time.

As discussed above, I assume that alternative relations between R and E are possible. Specifically in *čut'*-clauses, E precedes R. This leaves open two options. We can assume that perfective Asp leaves the relation between E and R undetermined (since perfectivity is compatible with more than one such relation). Alternatively, assuming that the relation between R and E is systematically determined at the level of Asp, this could be the place where the configuration E\_R is established. Perfectivity per se does not require this particular configuration but is compatible with Asp that specifies this relation. For the purposes of presentation I will choose the second alternative; however, nothing crucial hinges on this choice, as will become clear below.

Yet another point where the semantics I assume for Asp differs from (21) is has to do with quantification over events. I assume that Asp head does not contribute an existential operator that binds the event argument; rather, the latter gets bound by an independent mechanism like existential closure.

Let us now consider the compositional semantics of the clause *čut' Alex ušel*:

$$(22) \begin{aligned} \text{[[vP]]} &= \lambda e. \text{[left(alex)(e)]} \\ \text{[[Asp]]} &= \lambda P \lambda t \lambda e. [P(e) \ \& \ t > \tau(e)] \\ \text{[[AspP]]} &= \text{[[Asp]]}(\text{[[vP]])} = \lambda t \lambda e. \text{[left(alex)(e) \ \& \ t > \tau(e)]} \end{aligned}$$

I propose the following semantics for temporal *čut'*:

$$(23) \text{ [[čut']] = } \lambda P \lambda e. \exists d [P(d)(e) \ \& \ d >_c d_s]$$

The item keeps functioning as a degree expression: it applies to a property that has a degree argument and imposes the '><sub>c</sub>' relation between this degree and a standard of comparison. The latter is provided either by the linguistic environment or by the discourse.

It may seem that *čut'* cannot successfully apply to AspP due to type mismatch: the AspP does not involve a degree argument. However, we should remember that temporal intervals constitute degrees on time scales; thus, the denotation of AspP does contain a certain type of degree argument. For the sake of uniformity, and since temporal *čut'* applies specifically to scales with the temporal dimension, we can substitute the degree variable *d* in the semantics of *čut'* by the variable over temporal intervals *t*. But in order to keep the semantics of temporal *čut'* as close as possible to the semantics of its other uses, I will instead substitute *t* by *d* in the denotation of AspP (with the implicit assumption that the degrees involved in its semantics are specifically on a time scale). We get the following:

$$(24) \text{ [[AspP]]} = \lambda d \lambda e. \text{[left(alex)(e) \ \& \ d > \tau(e)]}$$

Temporal *čut'* (unlike the other uses of this item) applies to AspP. The result is the following:

$$(25) [[\check{c}ut']][[AspP]] = \lambda e. \exists d [left(Alex)(e) \ \& \ d > \tau(e) \ \& \ d >_C ds]$$

The standard of comparison is a degree on a time scale, and such a standard is linguistically contributed by AspP. This is the temporal interval of the event, represented above as  $\tau(e)$ . We get:

$$(26) [[\check{c}ut' AspP]] = \lambda e. \exists d [left(Alex)(e) \ \& \ d > \tau(e) \ \& \ d >_C \tau(e)]$$

Since  $d >_C \tau(e)$  entails that  $d > \tau(e)$ , the representation of the denotation of  $\check{c}ut' AspP$  is reducible to:

$$(27) [[\check{c}ut' AspP]] = \lambda e. \exists d [left(Alex)(e) \ \& \ d >_C \tau(e)]$$

The resulting meaning after  $\check{c}ut'$  applies to AspP is that the reference time appears slightly higher on the time scale (i.e. comes slightly later) than the time of the event of Alex leaving.

## 5 Conclusion and Future Research

To sum up, in this paper, I have proposed that  $\check{c}ut'$  is a degree modifier that can apply at different levels, including AP, VP and AspP.  $\check{c}ut' p$  sentences with adjectival, verbal and temporal  $\check{c}ut'$  entail that  $p$  is true and that the degree to which the argument is mapped is higher than and very close to the independently contributed standard. The relevant scale is the one induced by the constituent to which  $\check{c}ut'$  applies.

The next step is to investigate the fourth, negative, use of  $\check{c}ut'$ , illustrated in (28) below:

- (28) a. Tom  $\check{c}ut'$  ne upal  
 Tom  $\check{c}ut'$  neg fell  
 'Tom almost fell (down).'  
 b. Mark  $\check{c}ut'$  ne zakričal  
 Mark  $\check{c}ut'$  neg shouted  
 'Mark almost shouted / cried.'

As can be seen from these examples,  $\check{c}ut'$  under its negative use is very close to *almost*. But in order for the meaning of almost P to be achieved,  $\check{c}ut'$  has to combine with the negation of P; in other words, the meaning of *almost P* is close to that of  $\check{c}ut'$  not P<sup>2</sup>.

Negative  $\check{c}ut'$  is compatible with expressions that do not lexicalize scales, which raises a question as to whether this use should be unified with the other three. However, there are meaning components that clearly unify all the four uses, including the negative one. Specifically:

- (i) Negative  $\check{c}ut'$  contributes the proximity meaning component.
- (ii) Under the negative use,  $\check{c}ut' p$  entails  $p$ .

<sup>2</sup> A comparison between negative  $\check{c}ut'$  and *počti*, another Russian item whose meaning is close to that of *almost*, can be found in Kagan and Wolf (2013).

It is thus plausible that the semantics of negative *čut'* is very close to that of the other uses. The difference has to do with the environment in which the item appears (this time, it combines with NegP) and the kind of scale to which it applies. Following Greenberg and Ronen's (2013) analysis of VP-level *almost*, I hypothesize that negative *čut'* applies to a world proximity scale, which measures distances between worlds. The scale is contextually contributed. Roughly, (28a) entails that Tom did not fall but the actual world is very close (along the world proximity scale) to a world in which the falling event did take place. I leave a detailed development of an analysis along this line to future research.

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