

Two paths to *explain*

Tanya Bondarenko | MIT | tbond@mit.edu

INTRODUCTION Unlike CPs that combine with English *explain* (Pietroski 2000, Elliott 2017), CPs that combine with Russian *objasnit'* ‘explain’ are ambiguous: they can denote what was said as an explanation (explanans, ES) or what has been explained (explanandum, ED), (1).

- (1) Lena objasnila [*CP* čto xleba net]. ✓ **ED:** Lena explained the fact that there’s no bread.
 Lena explained COMP bread no ✓ **ES:** Lena said “there is no bread” as an
 ‘Lena explained that there’s no bread.’ explanation of some fact.

QUESTION: How do ED-denoting and ES-denoting CPs combine with *objasnit'* ‘explain’?

PREVIEW: I argue that *objasnit'* can either denote a state of something being explained ($\sqrt{\text{explain}_{state}}$) or a process of explaining ($\sqrt{\text{explain}_{process}}$). The two denotations correspond to two different event structures and two different mappings to syntax. ED-CPs have nominal structure on top of them, and combine as the object of $\sqrt{\text{explain}_{state}}$ (explanandum). ES-CPs combine with $\sqrt{\text{explain}_{process}}$ as modifiers (Kratzer 2006, Moulton 2015, Elliott 2017) and specify the Content of the explanation.

ED-CPs AND ES-CPs Differences between ED-CPs and ES-CPs are summarized in table 1.

	Explanandum	Explanans
① <i>Proforms</i>	nominal (<i>èto</i> ‘this’, <i>čto</i> ‘what’)	adverbial (<i>tak</i> ‘so’, <i>kak</i> ‘how’)
② <i>Passivization</i>	can be promoted to subject	cannot be promoted to subject
③ <i>Nominalizing ‘explain’</i>	impossible, because ED needs case	possible, ES does not need case
④ <i>In-adverbials</i>	allowed	not allowed
⑤ <i>Again</i>	scopally ambiguous \Rightarrow 2 subevents	scopally unambiguous \Rightarrow 1 subevent
⑥ <i>Negation</i>	scopally ambiguous \Rightarrow 2 subevents	scopally unambiguous \Rightarrow 1 subevent
⑦ <i>Presuppositionality</i>	presupposed to be true	not presupposed to be true
⑧ <i>Extraction</i>	impossible to extract out of	possible to extract out of

Table 1: Differences between explanandum-CPs and explanans-CPs.

ED-CPs behave like nouns, but ES-CPs do not in that the former are substituted by nominal proforms and question-words, whereas the latter are substituted by adverbial proforms and question-words ①. Only ED-CPs can be promoted to the subject position when *objasnit'* is passivized ②.

ED-CPs differ from ES-CPs in their need to receive case ③. When *objasnit'* is nominalized, it loses its ability to assign accusative case. In the caseless environment, only ES-CPs are possible:

- (2) Objasnjenije [*CP* čto v škafu net xleba] pokazalos' nam neubeditel'nym.
 explanation COMP in cupboard no bread seemed to.us unconvincing
 ‘The explanation that there is no bread in the cupboard seemed unconvincing to us.’
 a. * The explanation of the fact that there is no bread in the cupboard seemed unconvincing.
 b. ✓ The explanation which was “there is no bread in the cupboard” seemed unconvincing.

Sentences with ED-CPs and ES-CPs differ in their event structure. The former are telic and can be modified by adverbials like *in two seconds*, ④, while the latter do not allow such modification. Modification by *opjat'* ‘again’ and negation, ⑤–⑥, shows scopal ambiguity with ED-CPs but not with ES-CPs, indicating that there are two subevents in sentences with the former, but only one subevent in sentences with the latter. This is illustrated with negation in (3).

- (3) Lena ne objasnila [*CP* čto v škafu net xleba].
 Lena NEG explained COMP in cupboard no bread
 ‘Lena didn’t explain that there is no bread in the cupboard.’
 a. **Explanandum:** 2 subevents (*causing + state of being explained*)
 i. ✓ Nothing happened: Lena didn’t do anything to explain the absence of bread.
 ii. ✓ Lena said something, but that did not explain the absence of bread.

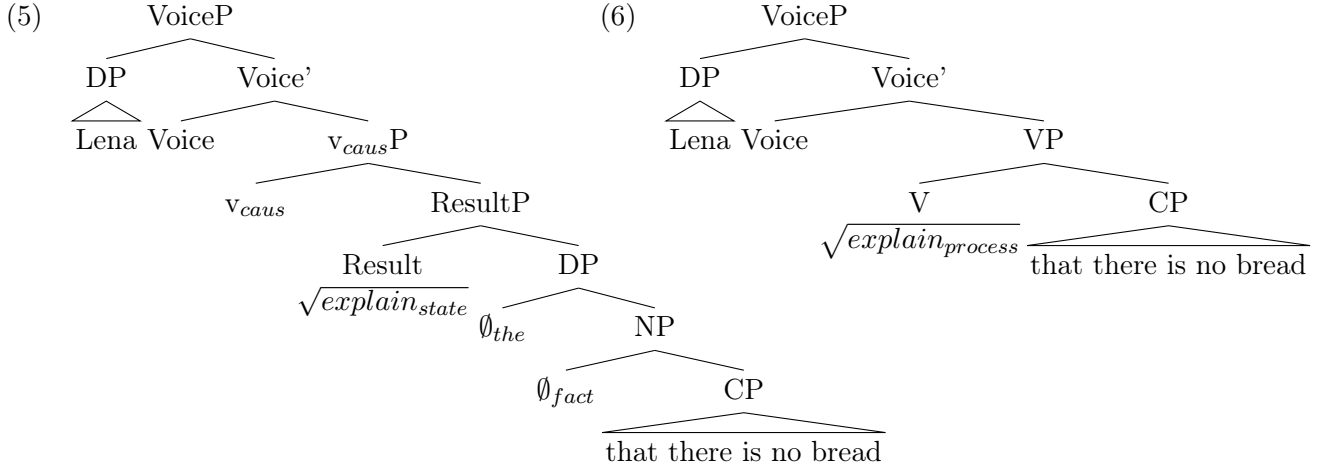
b. **Explanans:** 1 *subevent* (process of explaining)

- i. ✓ Nothing happened: Lena didn't say "there is no bread".
- ii. * Lena said "there is no bread", but that did not explain some fact.

Finally, ED-CPs are presupposed to be true (what is explained is a fact), while ES-CPs do not have to be true (the explanation can be wrong) (7), and ED-CPs, but not ES-CPs are islands (8).

ANALYSIS I assume that CPs denote predicates of individuals with Content (Kratzer 2006, Moulton 2015, Elliott 2017), (4), and argue that the two paths for CPs combining with *objasniti'*, (5)-(6), follow from the two interpretations of $\sqrt{objasniti'}$: a stative one (7a) and an eventive one (8a).

(4) \llbracket_{CP} that there is no bread $\rrbracket = \lambda y_e. \text{Cont}(y) = \lambda w. \text{there is no bread in } w.$



(7) a. $\llbracket \sqrt{\text{explain}_{state}} \rrbracket = \lambda x_e. \lambda s_e. \text{explained}(s) \wedge \text{Theme}(s) = x.$

b. $\llbracket v_{caus} \rrbracket = \lambda P_{et}. \lambda e_e. \exists s [P(s) \wedge \text{CAUS}(e)(s)]$

c. $\llbracket \emptyset_{fact} \rrbracket = \lambda y_e. \text{fact}(y)$

d. $\llbracket \emptyset_{def} \rrbracket = \lambda P_{et}. \iota y [P(y)]$

e. $\llbracket \text{Lena explained } [ED-CP \text{ that there is no bread}] \rrbracket = \exists e, s [\text{Agent}(e) = \text{Lena} \wedge \text{CAUS}(e)(s) \wedge \text{explained}(s) \wedge \text{Theme}(s) = \iota y [\text{fact}(y) \wedge \text{Cont}(y) = \lambda w. \text{there is no bread in } w].$

(8) a. $\llbracket \sqrt{\text{explain}_{process}} \rrbracket = \lambda e_e. \text{explaining}(e)$

b. $\llbracket \text{Lena explained } [ES-CP \text{ that there is no bread}] \rrbracket =$

$\exists e [\text{Agent}(e) = \text{Lena} \wedge \text{explaining}(e) \wedge \text{Cont}(e) = \lambda w. \text{there is no bread in } w].$

In (5) the clause is bi-eventive: the causing subevent is introduced by v_{caus} (7b), the state of the explanandum being explained is denoted by ResultP, headed by $\sqrt{\text{explain}_{state}}$. This structure allows modification by *in*-adverbials and accounts for scopal ambiguities with *again* and *negation*. CP in this case is nominalized under a silent 'the fact' and combines as the object of $\sqrt{\text{explain}_{state}}$, which accounts for its nominal distribution, its need for case, presuppositionality and islandhood.

In (6) the clause has a single event: the process of explaining introduced by $\sqrt{\text{explain}_{process}}$. Absence of the result state explains impossibility of *in*-adverbials and the lack of scopal ambiguities with *again* and *negation*. CP in this case combines as a modifier of the explaining event and specifies its Content, which accounts for its adverbial-like syntactic distribution, lack of need for case, absence of presuppositionality, and possibility of extraction given that the verb and the CP describe the same event (see the single event condition for extraction from adjuncts in Truswell 2011).

BAN ON CO-OCCURENCE My analysis correctly predicts the fact that ED-CPs and ES-CPS cannot co-occur in one sentence: ED-CP is impossible in (6) because there is no ResultP, ES-CP is impossible in (5) because there is no explaining event that it could provide the content of.

IMPLICATION I show that there are other verbs that show a similar alternation (e.g., *utočnit'* 'clarify', *predskazat'* 'predict'), which suggests that the nominal path and the modifier path are two general ways of introducing CPs, the choice between which is determined by the argument structure.