

Two paths to *explain**

Tanya Bondarenko | MIT | tbond@mit.edu

BCGL13: The syntax and semantics of clausal complementation

December 16-18, 2020

1 Introduction

- It has been observed in the literature (Pietroski 2000, Pietroski 2005, Halpert & Schueler 2013, Elliott 2017) that in English CP complements of the verb *explain* in sentences like (1a) receive a different interpretation than noun phrases and pronominal objects (1b)-(1c).

- | | | | |
|-----|----|---|--------------------|
| (1) | a. | Susi explained that Fido barked. | <i>explanans</i> |
| | | ⇒ Susi said “Fido barked”. | |
| | b. | Susi explained the fact that Fido barked. | <i>explanandum</i> |
| | | ⇒ Susi said “Fido barked”. | |
| | c. | Susi explained that. | <i>explanandum</i> |
| | | ⇒ Susi said that. | |

- The two interpretations:

★ **Explanans (SAY-CP):** what is said as an explanation of some other fact (1a).

★ **Explanandum (FACT-CP):** the fact that is being explained (1b)-(1c).

- In Russian sentences like (1a) with the verb *objasnjat* ‘explain’ are ambiguous:¹

- | | | | |
|-----|---|---|-------------|
| (2) | Lena objasnila | [<i>CP</i> čto | xleba net]. |
| | Lena explained | COMP | bread no |
| | ‘Lena explained that there’s no bread.’ | | |
| | a. | SAY-CP: Lena said “there’s no bread” as an explanation for some other fact.
(e.g., for the fact that she sent Petya to the grocery store) | |
| | b. | FACT-CP: Lena explained the fact that there’s no bread.
(e.g., by saying that Katya made sandwiches last night) | |

- **Questions:**

- How do CPs combine with *objasnjat* ‘explain’ and give rise to the two interpretations?
- What does this ambiguity tell us about the status of embedded clauses as CPs vs nominals?

* Many thanks to Patrick Elliott, Sabine Iatridou, Misha Knyazev, Deniz Ozyıldız, David Pesetsky, Stanislao Zoppi, and participants of Syntax Square at MIT. All errors are my own.

¹ Russian has other verbs based on the same root that mean ‘explain’, e.g., *razjasnjat* and *pojasnjat*. While they have slightly different flavors, they behave in the same way with respect to the diagnostics presented in this handout.

- **Preview of the proposal:** *objasnjat'* can either denote a result state of something being explained ($\sqrt{\text{explain}_{result}}$) or a speech act of explaining ($\sqrt{\text{explain}_{say}}$). These two denotations correspond to two different event structures and mappings to syntax.
 - SAY-CPs combine with $\sqrt{\text{explain}_{say}}$ as event modifiers (Kratzer 2016, Bogal-Allbritten 2016; 2017, Elliott 2017) and specify the Content of the explaining speech act;
 - FACT-CPs combine with $\sqrt{\text{explain}_{result}}$ as nominal modifiers (Kratzer 2006, Moulton 2009; 2015) of its internal argument and specify the Content of the fact that is being explained.
- **Roadmap:**
 1. Differences in the argument structure & extraction
 2. Differences in the event structure
 3. The proposal
 4. Other predicates
 5. Conclusion

2 Differences in the argument structure & extraction

The syntax of sentences with *objasnjat'* 'explain' is different depending on whether the CP denotes *explanans* (SAY-CP) or *explanandum* (FACT-CP).

2.1 Proform substitution

- SAY-CPs can be referred back to by adverbial phrases *tak / takim obrazom* 'such/in such a manner', but not by the nominal pronoun *èto* 'it/this'.
 - FACT-CPs have the reverse pattern: they can be referred back to by a nominal pronoun *èto* 'it/this', but not by adverbial phrases *tak / takim obrazom* 'such/in such a manner'.
- (3) **SAY-CP:** Someone asked Lena why she sent Petja to the store.

Lena objasnila što v škafu net xleba.
Lena explained COMP in cupboard no bread

'Lena explained that there is no bread in the cupboard.'

- a. # Ona objasnila èto.
she explained it
'She explained it.'

- b. Ona objasnila èto **tak / takim obrazom**.
she explained it **so / so.INSTR manner.INSTR**
'She explained it so.'

- (4) **FACT-CP:** Someone asked Lena why there is no bread in the cupboard. Lena said that someone made open-face sandwiches last night.

Lena objasnila èto v škafu net xleba.
Lena explained COMP in cupboard no bread

'Lena explained that there is no bread in the cupboard.'

- a. Ona objasnila **èto**.
she explained **it**
'She explained it.'
- b. # Ona objasnila (èto) **tak / takim obrazom**.
she explained (it) **so / so.INSTR manner.INSTR**
'She explained it so.'

- A similar pattern occurs with wh-words: when the CP is questioned, *kak* 'how' can be used only for asking about explanans, *èto* 'what' can be used only for asking about explanandum.

- (5) **Kak** Lena objasnila èto?
how Lena explained it
'How did Lena explain it?'

- a. * Asking about FACT: what fact did Lena explain?
- b. ✓ Asking about WHAT-WAS-SAID: what did Lena say as an explanation?

- (6) **Èto** Lena objasnila (tak / takim obrazom)?
what Lena explained (so / so.INSTR manner.INSTR)
'What did Lena explain (in this way)?'

- a. ✓ Asking about FACT: what fact did Lena explain?
- b. * Asking about WHAT-WAS-SAID: what did Lena say as an explanation?

- **Complication:** while normally explanans-CP cannot co-occur with the explanandum (7), when it is substituted by an adverbial proform, an explanandum must occur in (3) and (5).

- (7) * Lena objasnila [èto]_{FACT} [èto v škafu net xleba]_{SAY-CP}.
Lena explained this COMP in cupboard no bread

Intended: 'Lena explained this by saying that there is no bread in the cupboard.'

- This will remain a puzzle, but see appendix A for some thoughts.

★ **Take-away:** FACT-CPs have nominal proforms, while SAY-CPs have adverbial proforms.

2.2 Undergoing movement

- For most speakers, CPs in the subject position in Russian require an overt nominalizer *to* ‘that’.
- FACT-CPs can be promoted to the subject position, SAY-CPs cannot:

(8) [To čto v škafu net xleba] bylo objasneno Lenoj.
that COMP in cupboard no bread was explained by.Lena
‘That there is no bread in the cupboard was explained by Lena.’

- a. * SAY-CP: “There is no bread” was said by Lena as an explanation of some other fact.
- b. ✓ FACT-CP: The fact that there is no bread was explained by Lena.

- Halpert & Schueler (2013) observe the same fact for English where a special nominalizer does not occur: subject CPs with *explain* can only have the explanandum reading (9).

(9) [That Fido barked] was explained.

- a. * SAY-CP: Someone said “Fido barked” as an explanation of some other fact.
- b. ✓ FACT-CP: The fact that Fido barked was explained by someone.

- Moreover, it seems that only FACT-CPs can undergo scrambling:

(10) [Čto xleba net]_k Lena objasnila *t_k*.
COMP bread no Lena explained
‘Lena explained that there is no bread.’

- a. * **SAY-CP:** Lena said “there’s no bread” as an explanation for some other fact.
(e.g., for the fact that she sent Petya to the grocery store)
- b. **FACT-CP:** Lena explained the fact that there’s no bread.
(e.g., by saying that Katya made sandwiches last night)

- Given the Moved Clausal Complement Generalization, this distinction between the two kinds of CPs might indicate that FACT-CPs are base-generated inside of a DP, whereas SAY-CPs aren’t.

(11) *The Moved Clausal Complement Generalization*

A clausal complement is allowed to move only if its base-generated position is one in which a DP is allowed to appear.

(Takahashi 2010, via Knyazev 2016: 16)

★ **Take-away:**

FACT-CPs can move (become subjects and undergo scrambling), while SAY-CPs cannot move.

2.3 (Absence of) the need for case

- I would like to argue that SAY-CPs do not need case, but FACT-CPs do.
- In order for the argument to work, I need to assume that oblique cases, including genitive, have to be overtly realized. This has been independently proposed for Russian by Knyazev (2016).^{2,3}
- Here is some data justifying this assumption. The verb *dobitsja* ‘obtain, achieve’ assigns genitive case and cannot take accusative arguments (12). When its complement is a clause, it has to occur with a demonstrative on top of the complementizer that realizes genitive case (13).

(12) Lena *dobilas’* *podedy* /**pobedu*.
 Lena obtained victory.GEN /victory.ACC
 ‘Lena obtained the victory.’

(13) Lena *dobilas’* **to** **čto** /**to* *čto* /**čto* *oni* *prigotovili* *obed* *vovremja*.
 Lena obtain **that**.GEN **COMP** /*that*.ACC **COMP** /*COMP* *they* *prepared* *lunch* *on.time*
 ‘Lena succeeded in ensuring that they cooked lunch on time.’

- While the verb *objasnjat’* ‘explain’ assigns accusative case, its nominalization cannot assign accusative; it can only assign genitive case, as is illustrated in (14).

(14) a. *Ja* *objasnila* *ètot* **fakt**.
 I explained this **fact**.ACC
 ‘I explained this fact.’
 b. *objasnenije* *ètogo* **fakt-a** /* *ètot* **fakt**.
 explanation this **fact**-GEN / this **fact**.ACC
 ‘explanation of this fact.’

- Thus, nominalizing *objasnjat’* ‘explain’ creates an environment in which we can observe whether the embedded clause needs case: if an embedded clause needs case, then we expect to see overt realization of genitive case with the help of the demonstrative *to* ‘that’; if an embedded clause doesn’t need case, then we expect bare CP to be grammatical.
- As we see from (15)-(16), FACT-CPs require the demonstrative in genitive case, while SAY-CPs require the absence of such demonstrative, suggesting that only FACT-CPs need case.

² There are cases where it seems that the realization of oblique case with CPs is optional:

(i) *Sereža* *xvastaestja* (*tem*) *čto* *on* *smog* *rešit’* *zadaču*.
 Serezha boasts (that.INST) COMP he could to.solve problem
 ‘Serezha boasts (about the fact) that he was able to solve the problem’

The system in (Knyazev 2016) assumes availability of a null preposition (P_{CP}) for the bare CP case in order explain the optionality like in (i). But it could also be that while oblique case must be realized, there is another way of combining CP with the verb in (i) that is not “through” the oblique argument position, and this gives rise to apparent optionality. This seems to be supported by a difference in interpretation: bare CP receives a non-factive interpretation where CP describes what Sereža is saying, while CP with a demonstrative describes the fact that Sereža is boasting about (in this case he could just be showing us the solution without saying a word).

³ See also the Recoverability principle of Pesetsky 1998.

(15) **Bare CP: explanans only**

Objasnenije [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. ✓ **SAY-CP:** The explanation (of some other fact) which was "there is no bread in the cupboard" seemed unconvincing to us.
- b. * **FACT-CP:** The explanation of the fact that there is no bread in the cupboard seemed unconvincing to us.

(16) **that.GEN + CP: explanandum only**⁴

Objasnenije togo [čto v škafu net xleba] pokazalos' nam neubeditel'nym.
explanation that.GEN COMP in cupboard no bread seemed to.us unconvincing

'The explanation that there is no bread in the cupboard seemed unconvincing to us.'

- a. * **SAY-CP:** The explanation (of some other fact) which was "there is no bread in the cupboard" seemed unconvincing to us.
- b. ✓ **FACT-CP:** The explanation of the fact that there is no bread in the cupboard seemed unconvincing to us.

★ **Take-away:** FACT-CPs need case, while SAY-CPs resist case.

2.4 Presuppositionality

- As expected, there is a factive presupposition associated with FACT-CPs, but not with SAY-CPs:

(17) Lena objasnila [_{CP} čto v škafu net xleba].

Lena explained COMP in cupboard no bread

'Lena explained that there's no bread in the cupboard.'

- a. **FACT-CP:** \Rightarrow there is no bread in the cupboard.
If *there is no bread* was explained, it has to be a fact.
- b. **SAY-CP:** \nRightarrow there is no bread in the cupboard.
If "there is no bread" was said as an explanation of some other fact, then it could be a false statement (Lena was mistaken, gave an incorrect explanation).

- If verbs can introduce presuppositions about their arguments, but not about their modifiers, then this could be taken as evidence that FACT-CPs are arguments, while SAY-CPs are not.

★ **Take-away:**

FACT-CPs are subject to the factive presupposition of *objasnjat* 'explain', while SAY-CPs are not.

⁴ An anonymous reviewer notes that similar facts occur in Turkish, where the explanandum interpretation requires genitive case: *geldigi aciklama-si* (she.arrived.NMN.ACC explanation-3) 'the explanation that said that she arrived', [?]*geldigi-nin aciklama-si* (she.arrived.NMN.GEN explanation-3) 'the explanation of the fact that she arrived'.

2.5 Extraction

- SAY-CPs can be extracted out of, while FACT-CPs are islands for extraction (18)-(19).⁵

(18) Kogo_k Lena objasnila, što Katja uvolila t_k?

whom Lena explained COMP Katja fired

‘Who did Lena explain that Katja fired?’

- ✓ **SAY-CP:** Who is x such that Lena explained some fact by saying “Katja fired x”?
- * **FACT-CP:** Who is x such that Lena explained the fact that Katja fired x?

(19) Vot [tot čelovek]_k, kotorogo Lena objasnila, što Katja uvolila t_k.

here that person that.REL Lena explained COMP Katya fired

‘Here’s the person that Lena explained that Katya fired.’

- ✓ **SAY-CP:** Here’s the person x such that L. explained a fact by saying “K. fired x”.
- * **FACT-CP:** Here’s the person x such that Lena explained the fact that Katya fired x.

- This is expected if FACT-CPs are embedded in a nominal structure, whereas SAY-CPs are not.⁶

★ Take-away:

SAY-CPs can be extracted out of, while FACT-CPs cannot be extracted out of.

Interim Summary:

SAY-CPs don’t behave like DP arguments:

- they are substituted by adverbial proforms;
- they can’t move;
- they don’t need case;
- they are not subject to the factive presupposition introduced by the verb.

FACT-CPs behave like DP arguments:

- they are substituted by nominal proforms;
- they can undergo movement;
- they need case;
- they are subject to the factive presupposition introduced by the verb.

Also: SAY-CP are not islands for movement, FACT-CPs are islands, which could be explained by the Complex NP Constraint provided that FACT-CPs are *inside* of a DP.

⁵ Some speakers I consulted didn’t quite like the sentence in (19). The judgement is of those who accepted the sentence.

⁶ If SAY-CPs are adjuncts, the fact that movement out of them is possible might be surprising too, because Russian generally respects the adjunct island constraint:

- * Kogo Lena objasnila (èto), skazav što Katja uvolila?
whom Lena explained (it) having.said COMP Katja fired

Intended: ‘Who is x such that Lena explained it having said that Katja fired x?’

Truswell’s (2011) proposal that movement from adjuncts is possible if they describe a single event with the main clause might be useful for resolving this puzzle: if single-event adjuncts are not islands, and SAY-CPs describe the same event as the verb, then possibility of extraction out of them is not surprising.

3 Differences in the event structure

- Whether the CP denotes explanans or explanandum correlates with differences in event structure: SAY-CPs occur in a single-event structure, while FACT-CPs occur in a telic bi-eventive structure.

3.1 *In*-adverbials

- *In*-adverbials are a diagnostic for telicity: telic predicates (like *build a house* in English) allow *in*-adverbials, while atelic ones (like *jump* in English) do not (20).

(20) Lucy read an article / * jumped in 10 minutes.

- *In*-adverbials in Russian can combine only with telic eventualities as well:

(21) Ja pročitala statju / * počitala statju / * prygala za
I read.PERF.TELIC article / read.PERF.ATELIC article / jumped.IMPERF.ATELIC in
desjat' minut.
ten minutes

'I read the article (finished) / read the article (didn't finish) / jumped in ten minutes.'

- When *objasnat'* 'explain' is modified by *za dve sekundy* 'in two seconds', the CP that occurs with it has to be interpreted as explanandum and cannot be interpreted as explanans:

(22) Lena objasnila [čto v škafu net xleba] za dve sekundy.
Lena explained COMP in cupboard no bread in two seconds
'Lena explained that there is no bread in the cupboard.'

- a. * **SAY-CP:** Lena explained some fact by saying "there is no bread in the cupboard", which took her two seconds.
- b. ✓ **FACT-CP:** Lena explained the fact that there is no bread in the cupboard in two seconds.

- Note that some verbs of speech can occur with *in two seconds* (23), SAY-CPs pattern with the verb *skazat'* 'say' in disallowing *in*-adverbials (24).⁷

(23) Lena progovorila čto predloženiye za dve sekundy.
Lena uttered.PERF.TELIC this sentence in two seconds
'Lena uttered this sentence in two seconds.'

(24) ?? Lena skazala čto v škafu net xleba za dve sekundy.
Lena said COMP in cupboard no bread in two seconds
'Lena said that there is no bread in the cupboard in two seconds.'

★ **Take-away:**

Sentences with FACT-CPs allow telic modification, while SAY-CPs don't.

⁷ Interestingly, both the verb *skazat'* 'say' and sentences with SAY-CPs also disallow adverbs like *dve sekundy* '(for) two seconds' which usually diagnose atelic predicates. This might indicate that these verbs are achievements: cf. ??*reach the summit in two minutes /for two minutes*.

3.2 Negation & *almost*

- Consider (25), where e_1 = the event of Lena talking, and e_2 = the state of the fact being explained.

(25) Lena ne objasnila [_{CP} što v škaflu net xleba].
 Lena NEG explained COMP in cupboard no bread
 ‘Lena didn’t explain that there is no bread in the cupboard.’

- a. **FACT-reading:** 2 subevents (causing + state of being explained)
 - i. ✓ $\neg(e_1 + e_2)$: Lena didn’t do anything to explain the absence of bread.
 - ii. ✓ $\neg(e_2)$ Lena said something, but that did not explain the absence of bread.
- b. **WHAT WAS SAID-reading:** 1 subevent (of saying in explaining manner)
 - i. ✓ $\neg(e_1 + e_2)$ Nothing happened: Lena didn’t say “there is no bread”.
 - ii. * $\neg(e_2)$ Lena said “there is no bread”, but that did not explain some other fact.

- Negation could potentially give rise to two readings: the one in which only the result state (the fact being explained) is being negated ($\neg(e_2)$) and the one in which the combination of the Lena talking event and the fact being explained state is negated ($\neg(e_1 + e_2)$).
- The first reading entails the second one: $\neg(e_2) \Rightarrow \neg(e_1 + e_2)$.
- Because of this entailment, in (25a) we don’t know if we actually have two distinct interpretations. But the sentence is *compatible* with the $\neg(e_2)$ interpretation.
- In contrast, SAY-CPs are not compatible with the $\neg(e_2)$ reading (25b), which would have been unexpected if there was a single “weak” interpretation of negation.
- A similar contrast is observed with *počti* ‘almost’: if Masha did some talking but didn’t succeed in explaining the fact, then the CP can only be interpreted as the explanandum.⁸

(26) Maša počti objasnila [_{CP} što v klase nikogo net].
 Lena ALMOST explained COMP in class nobody no
 ‘Masha almost explained that there is no one in the class.’

- a. **FACT-reading:** ✓ ALMOST (e_2):
 Masha did some talking in attempt to explain the fact that there is no one in the class, but didn’t succeed in explaining it.
- b. **WHAT WAS SAID-reading:** * ALMOST (e_2):
 Masha did some talking in attempt to explain some other fact by saying “there is no one in the class”, but she didn’t succeed in explaining it.

★ Take-away:

The result state of the fact being explained can be targeted by negation and by the adverb *počti* ‘almost’ in sentences with FACT-CPs, but not in sentences with SAY-CPs.

⁸ My consultants vary in whether they allow the other reading of *počti*, where it scopes above both subevents.

3.3 Repetitive adverbs

- When adverbs like *opjat* ‘again’ combine with accomplishments like *open*, they can either take scope over the whole event (the causing subevent + the result state) or over just the result state:

(27) Susi opened the door again.

a. *again*($e_1 + e_2$): Susi opened the door before, and she opened the door now.

b. *again*(e_2): The door was open before, and Susi opened the door now.

- See (von Stechow 1996, Alexiadou et al. 2014, Lechner et al. 2015, a.o.) for arguments (i) that while *again*($e_1 + e_2$) entails *again*(e_2), it can be shown that the two readings are independent; (ii) that this difference reflects two different attachments of *again* in the syntactic decomposition.
- When *objasnat* ‘explain’ combines with *opjat* ‘again’, it can have both repetitive (*again*($e_1 + e_2$)) and restitutive (*again*(e_2)) readings under the explanandum interpretation of the CP, but only the repetitive reading (*again*($e_1 + e_2$)) under the explanans interpretation of the CP (28).

(28) Lena *opjat* ‘objasnila’ [_{CP} što v škafu net xleba].

Lena AGAIN explained COMP in cupboard no bread

‘Lena explained that there is no bread in the cupboard again.’

a. **FACT-reading:** 2 subevents (causing + state of being explained)

i. *again*($e_1 + e_2$): ✓ Lena explained that there’s no bread in the cupboard before.

ii. *again*(e_2): ✓ There already existed an explanation for why there’s no bread before.
Lena caused the state of affairs that again there is an explanation of this fact.

b. **WHAT WAS SAID-reading:** 1 subevent (of saying in explaining manner)

i. *again*($e_1 + e_2$): ✓ Lena already said “there is no bread” as an explanation of some other fact (e.g., of the fact that she sent Petya to the grocery store).

ii. *again*(e_2): * There already existed an explanation of some fact. Lena said “there is no bread” and by doing so caused again there to be an explanation of this fact.

★ Take-away:

The result state of the fact being explained can be targeted by the repetitive adverb *opjat* ‘again’ in sentences with FACT-CPs, but not in sentences with SAY-CPs.

Interim Summary:

In-adverbials, negation, *počti* ‘almost’ and *opjat* ‘again’ point to the following conclusion:

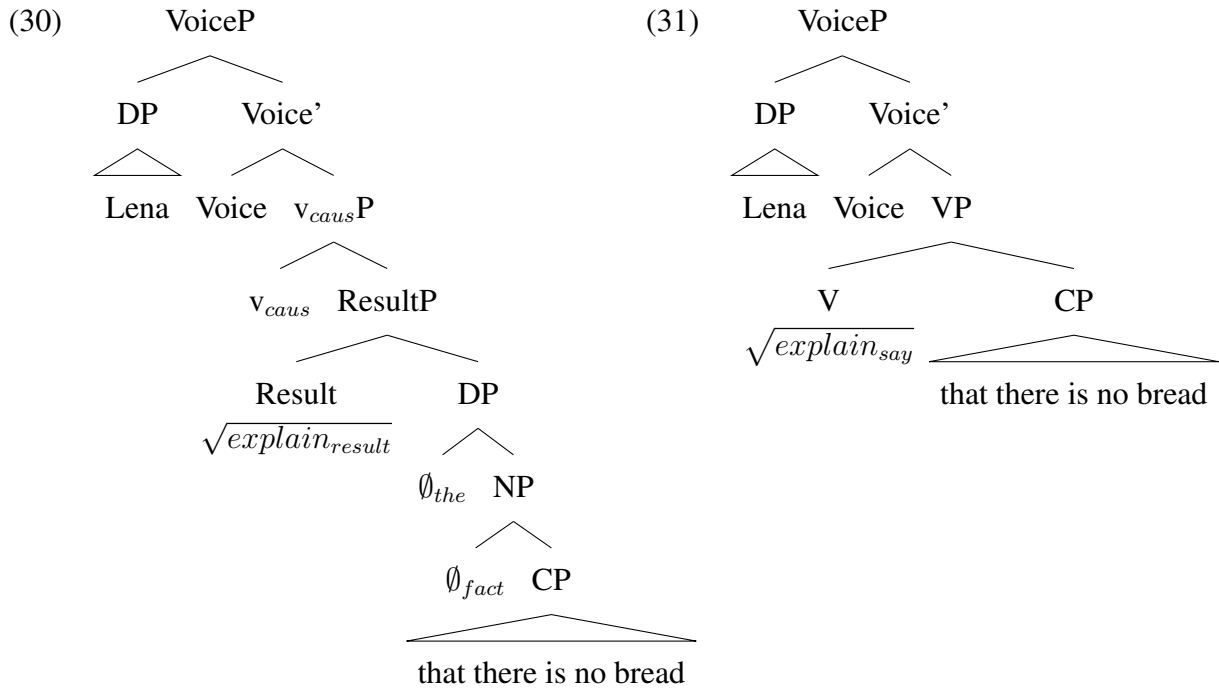
- The event structure of sentences with **FACT-CPs is bi-eventive**: it contains a causing subevent and a result state of some fact being explained.
- The event structure of sentences with **SAY-CPs has a single event**: the result state of some fact being explained is not part of the event structure of these sentences, only the event of uttering something in an explaining manner is.

4 The proposal

- I assume that CPs denote predicates of individuals with Content (Kratzer 2006; 2016, Moulton 2009; 2015, Bogal-Allbritten 2016; 2017, Elliott 2017):⁹

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

- I propose that the root of the verb *objasnit'* ($\sqrt{\text{objasnit}'}$) can be inserted into two different argument structures: as the Result head of the causative construction (30) and as the V head of an intransitive construction (31).



- Depending on its environment, the root $\sqrt{\text{objasnit}'}$ will have two distinct interpretations:

(32) **denotation of $\sqrt{\text{objasnit}'}$**

a. *As the Result head:*

$\llbracket \sqrt{\text{explain}_{\text{result}}} \rrbracket = \lambda x_e. \lambda s_e. \text{be-provided-a-reason-for}(s) \wedge \text{Theme}(s) = x.$

b. *As the V head:*

$\llbracket \sqrt{\text{explain}_{\text{say}}} \rrbracket = \lambda e_e. \text{explainingly-saying}(e)$

- When combined as Result, $\sqrt{\text{objasnit}'}$ denotes a state of some fact being explained: being provided a reason for, being made clear.

⁹ I assume that both events and individuals are in the same domain D_e , so the CP in (29) is able to modify both predicates of entities and predicates of events.

- When combined as \vee , $\sqrt{\text{objasnit}}$ denotes an eventuality of saying in an explaining manner.
- Given these two structures, there are two paths that CPs can combine with the verb *objasnit*:

- they can combine as nominal modifiers of the fact-denoting noun that Result selects for;

$$(33) \quad \text{a. } \llbracket \emptyset_{fact} \rrbracket = \lambda y_e. \text{fact}(y) \qquad \text{b. } \llbracket \emptyset_{def} \rrbracket = \lambda P_{et}. \iota y[P(y)]$$

$$\llbracket \emptyset_{def+fact} \text{ that there's no bread} \rrbracket = \iota y[\text{fact}(y) \wedge \text{Cont}(y) = \lambda w. \text{there's no bread in } w]$$

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

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

$$\exists e, s [\text{Agent}(e) = \text{Lena} \wedge \text{CAUS}(e)(s) \wedge \text{be-provided-a-reason-for}(s) \wedge \text{Theme}(s) =$$

$$\iota y [\text{fact}(y) \wedge \text{Cont}(y) = \lambda w. \text{there is no bread in } w].$$

- they can combine as event modifiers of the saying event denoted by $\sqrt{\text{explain}_{say}}$.

$$(34) \quad \llbracket \text{Lena explained } [_{SAY-CP} \text{ that there is no bread}] \rrbracket =$$

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

- This analysis explains the differences in argument and event structure we have seen in previous sections, as well as extraction data:

	FACT-CPs	SAY-CPs	Explanation
<i>Proforms</i>	nominal	adverbial	SAY-CPs are event modifiers, FACT-CPs - nominal ones
<i>Movement</i>	possible	impossible	only FACT-CPs are part of DP, which can move
<i>Need for case</i>	yes	no	only FACT-CPs are part of DP, which needs case
<i>Presupposition</i>	yes	no	only FACT-CPs are part of DP, which is an argument
<i>Extraction</i>	impossible	possible	Complex NP Constr. applies only in case of FACT-CPs
<i>In-adverbials</i>	yes	no	structure with $\sqrt{\text{explain}_{say}}$ has no result state
<i>Negation & almost</i>	$\checkmark Op(e_2)$	$*Op(e_2)$	structure with $\sqrt{\text{explain}_{say}}$ has no result state
<i>Repetitive adverbs</i>	$\checkmark \text{again}(e_2)$	$*\text{again}(e_2)$	structure with $\sqrt{\text{explain}_{say}}$ has no result state

Table 1: Differences between SAY-CPs and FACT-CPs

- If $\sqrt{\text{objasnit}}$ can project into two different syntactic structures, the ban on co-occurrence of FACT-CPs and SAY-CPs can be explained (35).

$$(35) \quad * \text{Lena objasnila } [\checkmark \text{što net xleba}]_{FACT} [\checkmark \text{što Katya delala buterbrody}]_{SAID}.$$

$$\text{Lena explained COMP no bread} \qquad \text{COMP Katya made sandwiches}$$

$$\text{Int.: 'Lena explained the fact that there is no bread by saying "Katya made sandwiches".'}$$

- Combining CP as an explanandum (FACT-CP) requires combining it as the internal argument of the ResultP, which is absent in the structure in (31).

- The verb in (31) is incompatible with a nominal argument denoting a fact because saying events do not produce facts: cf. *skazat* ‘say’ which also can’t combine with such DPs in (36).

(36) *Lena skazala ètot fakt.

Lena said this fact

Intended: ‘Lena talked about this fact.’

- Combining CP as an explanans (SAY-CP) requires a saying event. Such an event is present in (31), but it’s not obvious that it is present in (30).

• **Q: Why can’t the causing subevent in (30) be an event with Content?**

- I don’t quite know yet, but it could be that causing events generally don’t have Content.

- Consider the causative *make clear* from English in (37):

(37) *make clear*

a. Mary made this fact clear.

b. *Mary made [this fact] clear [that John came].

Intended: ‘Mary made this fact clear by saying “John came”.’

- *Make* denotes a causing subevent, and in case of *make this fact clear* such a subevent could plausibly consist of Mary uttering something.
- However, one cannot attach a CP that would specify the Content of what Mary said in her attempt to make this fact clear (37b).
- So a possible conclusion could be that the event that CP modifies needs to *definitely have Content*, which is not true of causing subevents (many causing subevents don’t need to have Content).

• **Q: Is there a way to relate the two syntactic structures, (30) and (31), derivationally?**

- The differences in event structure make it implausible for them to be derivationally related: the causing subevent in (30) and the saying event in (31) are not the same.
- E.g., *v_{caus}* can combine with inanimate subjects (causers can be inanimate), while V of (31) requires subjects that are capable of speaking (38).

(38) Èto objasnjaet, (to) što v parke stalo bol’she ptic.

this explains (that.ACC) COMP in park became more birds.

‘This explains that there are more birds in the park.’

a. ✓ **FACT-CP Context:** To the question “why are there more birds in the park?” someone said “people started placing bird feeders in the park”.

b. * **SAY-CP Context:** To the question “why is there a group of ornitologists started visiting the park?” someone said “there are (now) more birds in the park”.

- Thus, e.g., abstract noun incorporation (Baker 1988, Davies & Dubinsky 2003) of the explanandum will not be sufficient, since there are differences between sentences with FACT-CPs and SAY-CPs that go beyond the accessibility of the result state and its argument.

5 Other predicates

- The two readings that we observed for *objasnjat'* is part of the general phenomenon: there is a class of verbs (which includes, e.g., verbs *argumentirovat'* 'argue', *obosnovat'* 'justify', *predskazat'* 'predict', *utochnit'* 'clarify, make specific') with which CPs can have two interpretations:
 - **Content-of-Utterance CP (CU-CP) ~ *explanans* (SAY-CP):** CP provides the Content of the saying event that was done in the manner specified by the root.
 - **Content-of-Theme CP (CT-CP) ~ *explanandum* (FACT-CP):** CP provides the Content of the Theme argument of an accomplishment that results in the state specified by the root.
- Here are illustrations with *argumentirovat'* 'argue' and *obosnovat'* 'justify':

(39) *argumentirovat'* 'argue'

Olja argumentirovala, [čto èto nespravedlivo].
 Olya argued COMP this unfair

'Olya argued that this is unfair.'

- CU-CP:** Olya said "this is unfair" as an argument for why we shouldn't do it.
- CT-CP:** Olya argued for the position that it is unfair (e.g., by saying why it is unfair).

(40) *obosnovat'* 'justify'

Nadya obosnovala, [čto èto ne aksioma, a teorema].
 Nadya justified COMP this not axiom but theorem

'Nadya justified that this is not an axiom, but a theorem.'

- CU-CP:** Nadya said "this is not an axiom, but a theorem" (e.g., as a justification for why it shouldn't be on the list of axioms).
- CT-CP:** Nadya justified that this is not an axiom but a theorem, e.g., by deriving it from other axioms (no saying needs to happen in this case).

- In (39a) and (40a) CPs specify the Content of what was said by the Agent, and the verbal root characterizes the manner of this saying.
- In (39b) and (40b) CPs specify the Content of the internal arguments: of the position that was argued for or justified.
- ⇒ This phenomenon is broader than just the *explanans /explanandum* ambiguity, and reflects two different argument structures that can be projected into syntax by roots like $\sqrt{\textit{objasnit'}}$.

6 Conclusion

- ★ I have shown that CPs that combine with Russian *objasnjat* ‘explain’ can receive both *explanans* (= what was said as an explanation) and *explanandum* (= the fact that was explained) readings, and this difference goes hand in hand with a number of other characteristics of these sentences.
- ★ I proposed that the root $\sqrt{\textit{objasnit}}$ can be inserted into two different argument structures, and its denotation differs respectively. FACT-CPs are nominal modifiers of a fact-denoting DP that is the argument of the ResultP, which denotes the state of a fact being explained, SAY-CPs are event modifiers of the event of saying in an explaining manner.
- ★ While CPs are always modifiers of individuals with Content, many of their syntactic properties depend on what kind of individuals they modify in the argument structure of a verb: a nominal internal argument or an event argument of the verb.

7 References

- Alexiadou, Artemis, Elena Anagnostopoulou & Winfried Lechner. 2014. Variation in repetitive morphemes: Some implications for the clausal architecture. Presented at the *Workshop on the State of the Art in Comparative Syntax*, University of York, September 25, 2014.
- Baker, Mark. 1988. *Incorporation: A Theory of Grammatical Function Changing*, University of Chicago Press, Chicago.
- Bogal-Allbritten, Elizabeth. 2016. Building meaning in Navajo, Doctoral dissertation, University of Massachusetts Amherst.
- Bogal-Allbritten, Elizabeth. 2017. Basic pieces, complex meanings: Building attitudes in Navajo and beyond. Invited talk at *the Workshop on polysemy and coercion of clause embedding predicates*. 39th Annual Meeting of DGfS. Saarbrücken, Germany.
- Davies, W. D., & Dubinsky, S. 2003. On extraction from NPs. *Natural Language & Linguistic Theory*, 21(1), P. 1-37.
- Elliott, Patrick. 2017. [Elements of clausal embedding](#). Doctoral dissertation, UCL.
- Halpert, Claire and David Schueler. 2013. That sentential subjects are (linked to) DPs is explained herein. *Snippets*, 28.
- Knyazev, Mikhail. 2016. Licensing clausal complements: The case of Russian *čto*-clauses. LOT.
- Kratzer, Angelika. 2006. Decomposing Attitude Verbs, talk given in honor of Anita Mittwoch. The Hebrew University Jerusalem.
- Kratzer, Angelika. 2016. [Evidential moods in attitude and speech reports](#). Talk given at *the 1st Syncart Workshop* (University of Siena).

- Lechner, Winfried, Giorgos Spathas, Artemis Alexiadou & Elena Anagnostopoulou. 2015. On deriving the typology of repetition and restitution. Presented at the *38th Generative Linguistics in the Old World colloquium*.
- Moulton, Keir. 2009. *Natural Selection and the Syntax of Clausal Complementation*. Doctoral dissertation, University of Massachusetts Amherst.
- Moulton, Keir. 2015. *CPs: Copies and compositionality*. *Linguistic Inquiry*: 46(2). P. 305–342.
- Pesetsky, David. 1998. Some Optimality Principles of Sentence Pronunciation. In *Is the Best Good Enough?*, ed. Martha McGinnis, Paul Hagstrom, Pilar Barbosa, Danny Fox and David Pesetsky. Cambridge, MA: MIT Press.
- Pietroski, P. 2000. On explaining that. *Journal of Philosophy* 97, 655–662.
- Pietroski, P. 2005. *Events and Semantic Architecture*. Oxford: Oxford University Press.
- von Stechow, Arnim. 1996. The different readings of *wieder* ‘again’: A structural account. *Journal of semantics*, 13(2), 87–138.
- Takahashi, Shoichi. 2010. The hidden side of clausal complements. *Natural Language & Linguistic Theory* 28: 343–380.
- Truswell, Robert. 2011. *Events, phrases, and questions* (No. 33). Oxford University Press.

8 Appendix A: Co-occurrence of SAY-CPs and FACT-CPs

- In section 2.1 we have seen that using proforms for the SAY-CPs for some reason requires an overt explanandum, which normally can’t co-occur with FACT-CPs:

(41) **SAY-CP:** Someone asked Lena why she sent Petja to the store.

- a. Lena objasnila što v škafu net xleba.
Lena explained COMP in cupboard no bread
‘Lena explained that there is no bread in the cupboard.’
- b. Ona objasnila * (èto) **tak**.
she explained (it) **so**
‘She explained it so.’

- **Question:** Why should this be so? If SAY-CPs and FACT-CPs correspond to two different structures, we should expect them to *never* co-occur. And also, we should expect it to be possible to substitute SAY-CPs with a proform without switching to a different structure.
- **Possible answer:** SAY-CPs and FACT-CPs indeed never co-occur, and *tak* ‘so’ and *kak* ‘how’ are just adjuncts that can occur in sentences with FACT-CPs that refer to the manner of the causation.
- **Implication:** the proform substitution argument then doesn’t really go through.

- If this answer is on the right track though, then we need to figure out *why SAY-CPs cannot be substituted for a proform or questioned*.
- One potentially relevant observation is that SAY-CPs (42), unlike FACT-CPs (43), cannot constitute a fragment answer to a question too.

(42) SAY-CPs can't constitute a fragment answer

- Kak** Lena objasnila èto?
how Lena explained this
'How did Lena explain it?'
- * Čto v škafu net xleba.
COMP in cupboard no bread
'That there is no bread in the cupboard.'
- Ona skazala / ?objasnila čto v škafu net xleba.
she said / explained COMP in cupboard no bread
'She said / explained that there is no bread in the cupboard.'

(43) FACT-CPs can constitute a fragment answer

- Čto** Lena objasnila tak?
what Lena explained so
'What did Lena explain in such a way?'
- Čto v škafu net xleba.
COMP in cupboard no bread
'That there is no bread in the cupboard.'

- This inability to stand on its own is reminiscent of two kinds of modifiers: particles in particle-verb constructions and predicates like *whistling*:

- (44)
- How did you clean the dishes? — * Up.
(Cf.: I cleaned up the dishes.)
 - How did she cut the melon? — * Open.
(Cf.: She cut the melon open.)
 - How did John come into the room? — * Whistling.
(Cf.: John came into the room whistling.)

- I am also unaware of any proforms (like *so*) that could substitute for the particles and for whistling in declarative versions of the examples in (44).
- So maybe SAY-CPs are like particles and like *whistling*:
 - They are event modifiers that are construed as describing a single event with the verb.
 - This close relationship with the verb doesn't allow independent access to the CP, so they can't be targeted by proform substitution.

9 Appendix B: Instrumental Explanans

- There is an option to express something like an explanans in sentences with FACT-CPs: to use a noun phrase in the instrumental case (45).

(45) Lena objasnia [čto v škafu net xleba] [včerašnej večerinkoj].

Lena explained COMP in cupboard no bread **yesterday's party**.INST

‘Lena explained the fact that there is no bread in the cupboard with the last night’s party.’

- In (45) we don’t know what exactly Lena said, but she provided a reason for the fact that there is no bread in the cupboard — and that reason is the party that happened last night.
- This instrumental DP can contain a CP in its structure: in this case we will see a demonstrative in the instrumental case preceding the CP. There can be a demonstrative before the explanandum CP as well, in accusative case:

(46) Lena objasnia [**to**, čto v škafu net xleba], [**tem**, čto Katja delala
Lena explained **that**.ACC COMP in cupboard no bread **that**.INSTR COMP Katja made
buterbrody].

open-face.sandwiches

‘Lena explained the fact that there is no bread in the cupboard with the claim Katja made open-faced sandwiches.’

- The two nominalized CPs cannot be reversed: the accusative one must be explanandum, the instrumental one must be explanans (47).

(47) # Lena objasnia [**to**, čto Katja delala buterbrody], [**tem**, čto
Lena explained **that**.ACC COMP Katja made open-face.sandwiches **that**.INSTR COMP
v škafu net xleba].
in cupboard no bread

Intended: ‘Lena explained the fact that there is no bread in the cupboard with the claim that Katja made open-faced sandwiches.’

- One asymmetry that we see in this construction is that explanandum could be bare CP when explanans is nominalized CP, but explanans cannot be a bare CP when explanandum is present in any form:

(48) Lena objasnia [čto v škafu net xleba], [**tem**, čto Katja delala
Lena explained COMP in cupboard no bread **that**.INSTR COMP Katja made
buterbrody].

open-face.sandwiches

‘Lena explained the fact that there is no bread in the cupboard with the claim that Katja made open-faced sandwiches.’

(49) * Lena objasnia [to, što v škafu net xleba], [što Katja delala
Lena explained **that.ACC** COMP in cupboard no bread COMP Katja made
buterbrody].
open-face.sandwiches
Intended: ‘Lena explained the fact that there is no bread in the cupboard with the claim
that Katja made open-faced sandwiches.’

- This asymmetry follows from Knyazev’s (2016) proposal that accusative case doesn’t have to be overtly realized, while oblique cases like instrumental have to be overtly realized.
- Another asymmetry is that *tem*-CP requires some explanandum to be present in the sentence, *to*-CP does not require an explanans (50).

(50) a. * Lena objasnia [**tem**, što Katja delala buterbrody].
Lena explained **that.INSTR** COMP Katja made open-face.sandwiches
Intended: ‘Lena explained some fact with the claim that Katja made open-faced sandwiches.’
b. Lena objasnia [to, što v škafu net xleba]
Lena explained **that.ACC** COMP in cupboard no bread
‘Lena explained the fact that there is no bread in the cupboard.’

- This asymmetry follows if the instrumental DP is an adjunct in this structure, whereas FACT-CP is part of an argument that must be expressed.
- While instrumental SAY-CPs seem to express explanans, they differ significantly in their properties compared to bare SAY-CPs. For example, they can constitute fragment answers (51) and they can’t be extracted out of (52).

(51) *Instrumental SAY-CPs can constitute a fragment answer*

a. **Čem** Lena objasnila èto?
what.INST Lena explained this
‘How (lit. ‘with what’) did Lena explain it?’
b. **Tem** što v škafu net xleba.
that.INST COMP in cupboard no bread
‘With (the claim) there is no bread in the cupboard.’

(52) * Kogo Lena objasnila èto **tem**, što Katja uvolila?
whom Lena explained it **that.INSTR** COMP Katja fired
‘Who is x such that Lena explained it with the claim that Katja fired x?’

- The properties of instrumental explanans is so different from the bare SAY-CPs that I doubt that it is derivationally related to the bare CPs.