Two paths to explain:

clausal embedding with verbs of speech*

Draft: July 31st 2021

Abstract: With some verbs of speech in Russian (e.g., *objasnit'* 'explain') CPs receive two interpretations: they either describe the object undergoing the eventuality described by the verb (what was explained) or the content of the utterance (what was said as an explanation). I propose that the meanings of clauses and verbal roots are constant across the readings, but the functional elements involved in building verbal phrases are not, and argue for two paths to clausal embedding: CPs can either be part of the internal argument (Kratzer 2006, Moulton 2015), or modify the event argument of the verb (Bogal-Allbritten 2017, Elliott 2017).

Key words: clausal embedding, verbs of speech, argument structure, event structure

1 Introduction

This paper investigates the question of what roles embedded clauses can play in the argument and event structures of matrix verbs. Finite embedded clauses are standardly considered to be semantic arguments of matrix verbs. For example, on the Hintikkan (1969)

*The primary source of the data discussed in this paper is the elicitations with 5 native speakers of Russian from Moscow. I have also used the Russian National Corpus and google searches. Examples from the corpus and the internet are marked as such (with links provided), all other examples are from elicitations. Acknowledgements to be inserted later.

analysis of attitude reports an embedded clause denotes a proposition, and the verb *believe* takes it as its first argument (1).

(1) $[\![believe]\!]^w = \lambda \mathbf{p}_{st}.\lambda x_e.\ \forall w'$ [w' is compatible with x's beliefs in w $\Rightarrow$ **p(w')=1**]

Semantic arguments are obligatory: it is impossible to leave the first argument of *believe* unsaturated and successfully arrive at the truth-value for any sentence that *believe* is part of. If the verb is not ambiguous, then its semantic arguments will always be interpreted in the same way. In (1), whatever *p* will combine with *believe*, it will always be interpreted as the proposition true of the worlds compatible with the beliefs of the attitude holder. There is just no way for it to receive any other interpretation, e.g., it will never be interpreted as the proposition that the attitude holder wants us to think they believe.

Given this picture, it comes as a surprise that there are verbs with which embedded clauses can receive two distinct interpretations. This paper studies one such case: verbs of speech like *objasnit'* 'explain' in Russian. Consider the sentence in (2).

(2) 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. **CT**: Lena explained the fact that there's no bread in the cupboard.
b. **CU**: Lena said "there's no bread in the cupboard" to explain some other fact.

On the first reading, the CP describes the fact that Lena provided an explanation for: the fact is that there was no bread, and Lena explained it. We do not know what the explanation was. Lena might have said "Katya made sandwiches last night" or "It's in the fridge, so that it doesn't get moldy", or maybe just pointed at her friend eating the loaf at the table. I call this **Content-of-Theme** (henceforth, CT) reading, and the CP that is interpreted in this way a CT-CP. The intuition is that there is some abstract entity that is the Theme argument of the verb, and the CP provides the propositional Content associated with it. In (2) this entity is

a fact that is undergoing the explanation, and the CT-CP describes what this fact is.

On the second reading, the CP describes what was uttered by Lena in her attempt to explain something. For example, if someone asked Lena "Why are you sending Petya to the store?", and she replied "There is no bread in the cupboard", one can use (2) to describe Lena's utterance. Under this interpretation the sentence itself does not provide any information about what fact Lena was trying to explain.[1] I call this reading **Content-of-Utterance** (henceforth, CU) reading, and the CP that is interpreted in this way a CU-CP.

The question that examples like (2) raise is: how do embedded clauses with the same verb receive different interpretations? The answer that I argue for in this paper is that verbs never take CPs directly as their semantic arguments, and the lexical entries as in (1) are thus incorrect. I propose that the two interpretations in (2) arise from structural ambiguity: the denotations of the verbal root and of the CP are the same under both readings, but syntactic structures that correspond to the two interpretations are not the same, in particular the functional elements involved in building the verbal phrase are different.

My analysis will make use of the idea that there are abstract entities that have propositional content (Kratzer 2006, 2016, Bogal-Allbritten 2016, 2017, Moulton 2009, 2015, Elliott 2017, Moltmann 1989, 2013, 2014, 2020). For example, things like **ideas** or **rumors**, and **events of saying or thinking** have propositional content, whereas things like **apples** or **journeys**, and **events of climbing or sleeping** do not. Formally, this idea can be implemented by saying that there is a partial function CONT(ENT) from the domain of entities to the domain of propositions, and the difference between **ideas** and **apples**, for example, is that **ideas** are in the domain of CONT, but **apples** are not.[2] On this approach, finite embedded clauses are predicates (of type <e,t>) that are true of those entities whose propositional content equals the embedded proposition:

(3) $[\![\text{that it's raining}]\!]^w = \lambda x.\ \text{CONT}(x)(w) = \{w' : \text{it is raining in } w'\}$

In this paper I argue that there are two paths for embedded CPs like (3) to combine with verbs, and these two paths correspond to the two interpretations that we get with verbs like *objasnit'* 'explain' (2). Under the Content-of-Theme interpretation, the CP is part of a nominal structure: it combines with a determiner, and the resulting DP becomes the Theme argument of the result state denoted by the verbal root, which later combines with v_{CAUS} to create a causative predicate (4). Under the Content-of-Utterance interpretation, the CP combines as an event modifier of a complex verb, which is built from the verbal root denoting the result state and a phonologically null verb $\emptyset_{SAY_{intent}}$ 'say with an intention' (5).

(4) $[_{v_{CAUS}}\ v_{CAUS}\ [_{ResultP}\ \sqrt{explain}\ [_{DP}\ \emptyset_D$ CP]]]

(5) $[_{VP}\ [_{V}\ [_{V}\ \emptyset_{SAY_{intent}}]\ [_{V}\ \sqrt{explain}]]$ CP]

I will show that the two structures, (4)-(5), go hand in hand with a number of observable differences in syntactic and semantic properties of sentences with CT-CPs and CU-CPs.

This paper is structured as follows. In section 2 I motivate the decision to analyze (2) as a case of structural ambiguity (as opposed to lexical ambiguity or vagueness). In section 3 I discuss the ban on co-occurrence: the generalization that CU-CPs can never occur together with CT-CPs or Theme arguments. Section 4 shows the syntactic differences that exist between CT-CPs and CU-CPs, section 5 discusses semantic differences. In section 6 I present my proposal, and show how it captures the properties that sentences with CT-CPs and CU-CPs have. Section 7 concludes the paper by discussing some bigger questions about causality and propositional content that the current investigation brings out.

2 In favor of the structural ambiguity account

The first question about the two readings in (2) that we can ask is whether this is a case of ambiguity, as opposed to vagueness or underspecification. Consider (6):

(6) Nadja objasnila, [čto programma A ne rabotaet], a Miša — [čto
Nadya explained COMP program A NEG works and Misha COMP
programma B ne rabotaet].
program B NEG works
'Nadya explained that the program A doesn't work, and Misha ~~explained~~ that the program B doesn't work.'

a. **OK:** [$_{CT}$ that program A doesn't work] + [$_{CT}$ that program B doesn't work]

b. **OK:** [$_{CU}$ that program A doesn't work] + [$_{CU}$ that program B doesn't work]

c. ***:** [$_{CT}$ that program A doesn't work] + [$_{CU}$ that program B doesn't work]

d. ***:** [$_{CU}$ that program A doesn't work] + [$_{CT}$ that program B doesn't work]

In (6) we see a coordination with the gapped verb in the second conjunct. Given that ellipsis requires semantic identity, we expect that the interpretations of the two CPs in (6) will be independent of each other if they arise due to vagueness of underspecification, but we expect them to obligatorily match if the two readings arise due to ambiguity. As we see, the two CPs must be interpreted in the same way: either both describe the fact that the Agent explained (6a), or both describe what the Agent said in order to explain some other fact (6b), but the non-matching interpretations are not possible, (6c)-(6d). This suggests that we are dealing with ambiguity, but does not determine the type of ambiguity involved: both lexical and structural ambiguity would require the interpretations of CPs to match, cf. (7) and (8).

(7) Susi saw a bat, and Jill did too. *lexical ambiguity*

a. **OK:** Susi saw a bat (the animal), and Jill saw a bat (the animal).

b. **OK:** Susi saw a baseball bat, and Jill saw a baseball bat.

c. ***:** Susi saw a bat (the animal), and Jill saw a baseball bat.

d. ***:** Susi saw a baseball bat, and Jill saw a bat (the animal).

(8) Mary saw a boy with the binoculars, and Sue did too. *structural ambiguity*

a. **OK:** Mary saw a boy that had binoculars, and Jill saw a boy that had binoculars.

b. **OK:** Mary saw a boy using binoculars, and Jill saw a boy using binoculars.

c. ***:** Mary saw a boy that had binoculars, and Jill saw a boy using binoculars.

d. ***:** Mary saw a boy using binoculars, and Jill saw a boy that had binoculars.

I cannot conclusively exclude lexical ambiguity analysis for sentences with verbs like *objasnit'* 'explain', but I would like to suggest that it is implausible. We expect lexical ambiguity to be accidental and non-systematic in nature, e.g. *bank (of the river)* vs *bank (financial institution)*, but the ambiguity of the CPs with verbs of speech seems to be systematic.

First, in Russian it is not just *objasnit'* 'explain', but a class of verbs of speech that exhibit the two interpretations of embedded CPs: *argumentirovat'* 'argue' (CT: the position that is argued for vs. CU: what is said as the argument), *obosnovat'* 'justify' (CT: the position that is being justified vs. CU: what is said as the justification), *odobrit'* 'approve' (CT: the fact or position that is being approved vs. CU: what is said as the approval), *ocenit'* 'evaluate' (CT: the fact or opinion that is evaluated vs. CU: what is said as the evaluation), *prointerpretirovat'* 'interpret' (CT: the fact or position that is being interpreted vs. CU: what is said as the interpretation), *prokommentirovat'* 'comment' (CT: the fact or opinion that is commented on vs. CU: what is said as the comment), *utočnit'* 'clarify' (CT: the fact or position that is being clarified vs. CU: what is said as the clarification), *zametit'* 'note' (CT: the fact that is being noted vs. CU: what is said as the note).[3] Here are a few examples that illustrate that the readings of CPs with these verbs are similar to the two readings of CPs

with *objasnit'* 'explain'. Consider (9).

(9) Olja (s uspexom) argumentirovala, [čto nužno soxranit' parki].
Olya (with success) argued COMP necessary to.preserve parks
'Olya argued that it's necessary to preserve the park.'

a. **CT:** Olya (successfully) argued for the position that it's necessary to preserve the parks. (e.g., by saying how they benefit the residents of the city).

b. **CU:** Olya (# successfully) said "it's necessary to preserve the parks", e.g., as a response to a question "why should people vote in these municipal elections?".

On the CT-interpretation, the CP describes the position that Olya argued for. For example, in (9a) Olya defended the view that parks should be preserved. We don't know what her argument was: she could have said "Parks help clean the air", or "Parks provide good places for children's playgrounds", or something else—the sentence doesn't specify this. On this reading, modification *s uspexom* 'with success' is pragmatically plausible, as it specifies that Olya successfully provided an argument for the position at hand.

On the CU-interpretation, the CP describes what Olya's argument for some position was. For example, someone asked Olya what is her justification for the position that it's important for people to vote in these elections, and she said "The parks must be preserved" as her argument (implying that not all candidates will be preserving them). This can be reported by saying (9). The position which Olya is arguing for in this case needs to be inferred from the context. Modification by *s uspexom* 'with success' is pragmatically odd in an out-of-the-blue context for (9b), as it implies that speaking is challenging for Olya.

Sentences in (10) and (11) are naturally occurring examples with the verb *prokommentirovat'* 'comment', with a CT-CP and CT-CP respectively.

(10) Tatarov prokommentiroval, čto prokurory vstali na ego zaščitu: "Eto
Tatarov commented COMP prosecutors stood.up on his defense this

vam tak kažetsja.'[4]
to.you.PL so seems
'Tatarov made a comment (about the claim) that prosecutors defended him: "It (only) appears this way."'

(11) **Context:** The tour participants got interested in ZiL fridges.

... èkskursovod prokommentiroval, čto v xolodil'nikax "ZiL" teoretičeski
guide commented COMP in fridges ZiL theoretically
možno perežit' jadernyj vzryv.[5]
is.possible to.survive nuclear explosion

'The museum guide commented that in theory it's possible to survive a nuclear explosion (if you hide) in ZiL fridges.'

The CP in (10) is unambiguously describing the opinion that was commented on, because there is a direct speech afterwards describing the content of the comment. The preceding context of (11) clearly disambiguates the sentence: ZiL fridges being able to provide shelter from nuclear explosion is the new information that the guide shares with the tour participants, not a previously expressed opinion that the guide comments on.

In (12) and (13) we see sentences with the verb *obosnovat'* 'justify', that are also disambiguated by the context. The CP in (12) is normally understood as describing the position that the speaker and their group wanted to justify, since under the CU-CP reading the sentence requires a very specific context where producing an utterance requires special effort ("trying to say"). The CP in (13) receives a CU interpretation: the speaker is trying to justify their transfer to a different location by saying that they have family and a kid.

(12) My stremilis' obosnovat', čto vse èti metody vzaimosvyazanny...[6]
we tried justify.INF COMP all these methods interconnected
'We were trying to justify that all these methods are interconnected...'
= we were trying to justify the position that these methods are interconnected

(13) ...ja tože napisal raport o perevode — obosnoval, čto u menja semja
I also wrote request about tranfer justified COMP by me family
i rebënok.[7]
and child
'...I also wrote a request to be transferred, I justified that I have a family and a child.' = the speaker justified the transfer by writing "I have a family and a child"

The CT-reading of (13) is pragmatically odd: people usually know for a fact whether they have families and children, and aren't required to justify their beliefs on such matters.

Thus, we see that the ambiguity of *objasnit'* 'explain' is not an isolated phenomenon. Many verbs of speech exhibit the same alternation: their embedded clauses can either describe a fact/opinion/position that undergoes the event described by the verb, or describe what was said in the attempt to attain such an event.

Moreover, the same phenomenon exists in other languages as well. Examples (14) and (15) show that Italian *spiegare* 'explain' and French *expliquer* 'explain' show the same ambiguity that Russian *objasnit'* 'explain' does.

(14) *Italian*[8]

Maria ha spiegato che Anna ha vinto la gara di sci.
Maria has explained that Anna has won the race of ski
'Maria explained that Anna won the ski race.'

a. **CT**: Maria explained the fact that Anna won the ski race (e.g., she said "she trained more than other athletes").

b. **CU**: Maria said "Anna won the ski race" as an explanation of some other fact (e.g., of the fact that Anna is very happy).

(15) *French*[9]

Je leur ai expliqué que cet algorithme fonctionne lorsque x < 5, mais pas
I to.them have explained that this algorithm works when x < 5 but not

lorsque $x \geq 5$
when $x \geq 5$

'I have explained to them that this algorithm works when x<5, but not when x≥5.'

a. **CT**: The fact is that this algorithm works when $x < 5$ but not when $x \geq 5$, and I made it clear to them (e.g., my students), provided an explanation of it.

b. **CU**: I said "This algorithm works when< 5 but not when $x \geq 5$" as an explanation of some other fact, e.g., as an explanation for my frustration.

In English the empirical landscape is more complicated. Many speakers find only the CU-reading available for CP clauses as in (16a), and this is the most prominent judgment in the literature (Pietroski 2000, 2005, Halpert & Schueler 2013, Elliott 2016, 2017). However, Halpert & Schueler note that CP in subject positions receive CT interpretations (16b). Roelofsen & Uegaki provide an example in which the CT reading of the CP seems available (16c). Moreover, one can find many naturally occurring examples with *explain* where the CP describes the fact being explained; e.g., this commonly happens in *how*-questions (16d).

(16) a. Nora explained that Fido barked. (Pietroski 2000: p. 655)

b. That Fido barked was explained. (Halpert & Schueler 2013: p. 9)

c. Now I will explain that this algorithm works whenever $x < 5$, but not when $x \geq 5$. (Roelofsen & Uegaki 2021: 559, ft. 11)

d. How do we explain that Cameroon have won twice as many UCL golds as Nigeria? (https://www.goal.com/en-us/news/african-football-hq-mane-or-salah-win-the-champions-league/1h3qioyb5y9851mz6bs6137hxt)

Thus, it seems that CT-readings of CPs with *explain* in English is at least sometimes possible. I leave the question of why in English, unlike in other languages, the CT interpretation is

blocked in some cases to further research.

We have seen that the ambiguity of sentences with verbs like *explain* exists in several languages, and, at least in Russian, it is a property of a class of verbs of speech. I take this as tentative evidence that we are looking at a case of structural ambiguity.

3 The ban on co-occurrence

CT-CPs and CU-CPs cannot occur together in a single sentence:[10]

(17) * Lena objasnila [čto xleba net]$_{CT}$ [čto Katja delala buterbrody nočju]$_{CU}$.
Lena explained COMP bread no COMP Katya made sandwiches at.night
Intended: 'Lena explained (the fact) that there's no bread (by saying) "Katya made sandwiches last night".'

Moreover, this ban on co-occurrence seems to be more than a prohibition on having two adjacent constituents of the same type. Verbs of the class under consideration can also combine with DPs, which are always interpreted as the Theme argument—the object of explanation, interpretation, clarification:

(18) Lena objasnila /prointerpretirovala /utočnila [$_{DP}$ èto vyskazyvanije].
Lena explained /interpreted /clarified this utterance
'Lena explained /interpreted /clarified this utterance.'

a. **Theme:** Lena explained /interpreted /clarified this utterance, e.g., by suggesting what in her opinion its author meant.

b. **What-was-uttered:** *Lena explained /interpreted /clarified some fact by producing this utterance.

The ban on co-occurence extends to sentences with a Theme DP and a CU-CP (19)-(20).

(19) * Lena objasnila [ètot fakt]$_{Theme}$ [čto Katja delala buterbrody nočju]$_{CU}$.
Lena explained this fact COMP Katya made sandwiches at.night
Intended: 'Lena explained this fact (by saying) "Katya made sandwiches last night".'

(20) * Olja ocenila /obosnovala /argumentirovala [èto rešenije]$_{Theme}$ [čto
Olya evaluated /justified /argued this decision COMP
inače postupit' bylo by glupym]$_{CU}$.
differently act.INF be.PST SUBJ stupid.INSTR
Intended: 'Olya evaluated /justified /argued-for this decision (by saying) "To act differently would have been stupid".'

What is responsible for this co-occurence ban (21)? Why are Theme arguments and CPs that describe them in complementary distribution with CU-CPs?

(21) **The Ban on Co-Occurence**

Theme DP arguments and CT-CPs cannot co-occur with CU-CPs.

I would like to suggest that this ban is a consequence of the fact that the Theme argument and the CU-CP occur in different syntactic configurations, and there is no possibility for expressing a Theme argument in the structure with a CU-CP, and for expressing a CU-CP in the structure with a Theme argument.[11] DPs and CT-CPs cannot co-occur in one sentence for a different reason: CT-CPs occur in a nominalized structure that denotes the Theme argument, and, given that any event can have only one Theme, it cannot co-occur with another Theme argument expressed by a DP. In the next two sections I provide evidence that the structures of sentences with Theme arguments on the one hand and with CU-CPs on the other hand are different, and that they correlate with semantic distinctions as well.

4 Syntactic differences between CT-CPs and CU-CPs

4.1 Proform substitution

One difference between CT-CPs and CU-CPs is that only the former can be substituted by the pronoun *èto* 'this'. This is illustrated in (22)-(23).

(22) A: Maša objasnila /prokommentirovala /zametila **[čto nikto ne prišël]**$_k$?
Masha explained /commented /noted COMP no one NEG came
'Did M. explain/comment-on/note (the fact) that no one came?'

B: Da, Maša **èto**$_k$ objasnila /prokommentirovala /zametila.
yes Masha this explained /commented.on /noted
'Yes, Masha explained /commented on /noted this.'

(23) A: Maša objasnila /prokommentirovala /zametila **[čto nikto ne prišël]**$_k$?
Masha explained /commented /noted COMP no one NEG came
'Did Masha explain/comment/note (by saying) that no one came to the class?'

B: * Da, Maša **èto**$_k$ objasnila /prokommentirovala /zametila.
yes Masha this explained /commented.on /noted
'Yes, Masha explained /commented /noted this.'

C: Da, tak i skazala
yes so and said
'Yes, she said so.'

As we see in (23), if the CP in the question is interpreted as describing the content of what was said, then it's impossible to answer with the pronoun *èto* 'this' and the verb. The only felicitous answer is the one in C.[12] This raises the question of what kind of proform is *èto* 'this', and what does the distinction in (22)-(23) tell us about CT-CPs and CU-CPs.

While I will not be able to provide an adequate account of *èto*'s semantics (see Paducheva 1980 for some discussion), two things about it are worth noting: it has nominal distribution, but it cannot have noun phrases as its antecedents. *Èto*'s nominal distribution is illustrated in (24): it can occupy the subject position (unlike Russian CPs with the complementizer *čto* (Knyazev 2016)), (24a) direct and indirect object positions (24b), and be a

complement of a preposition (24c). In all of these sentences *èto* 'this' is interpreted as 'the fact that the weather is wonderful today.'

(24) Segodnja zamečatel'naja pogoda.
today wonderful weather
'The weather is wonderful today.'

a. **Èto** menja udivljajet.
this.NOM me surprises
'This surprises me.'

b. Mitja **èto** zametil. On **etomu** rad.
Mitya **this.ACC** noticed he **this.DAT** happy
'Mitya noticed this. He is happy about this.'

c. **Iz-za ètogo** ja ne mogu sosredotočitsja na rabote.
from this.GEN I NEG can concentrate on work
'Because of this I cannot concentrate on work.'

(25) shows that *èto* 'this' cannot refer back to previously mentioned NPs: a feminine pronoun *eë* 'her' has to be used to refer back to the NP *gipoteza* 'hypothesis'.

(25) A: Maša objasnila ètu **gipotezu**?
Masha explained this **hypothesis.FEM**
'Did Masha explain this hypothesis?'

B1: Da, ona **eë** objasnila.
yes she.NOM **she.ACC** explained
'Yes, she explained it (lit. 'her').'

B2: # Da, ona **èto** objasnila.
yes she.NOM **this.ACC** explained
'Yes, she explained this.'

How can these two facts be reconciled? I suggest that *èto* 'this' does denote an individual (hence its nominal distribution), and its inability to refer to NPs could be understood as a

violation of *Maximize Presupposition!* (Heim 1991): all nouns and pronouns in Russian are specified for gender, and if the presupposition of a gendered pronoun is satisfied, it must be used, which blocks the use of *èto* 'this' (25). When *èto* 'this' does not have a linguistic antecedent and is used deicticly, it has no problem referring to entities (26).

(26) *The speaker looks at the addressee's plate and sees something they want to try.*
Možno ja **èto** poprobuju?
can I **this** try
'Can I try this?'

I propose that in sentences like (22) and (24) *èto* 'this' refers back to an individual with propositional content (Kratzer 2006, 2016, Bogal-Allbritten 2016, 2017, Moulton 2009, 2015, Elliott 2017, Moltmann 1989, 2013, 2014, 2020).[13] Such an individual does not have to be a fact, as is shown by felicity of (27).

(27) A: Olja dumajet, čto London — stolica Francii.
Olya thinks COMP London capital of.France
'Olya thinks that London is the capital of France.'

B: **Èto** neverno. London ne stolica Francii
this wrong London NEG capital of.France
'**This [= Olya's belief]** is wrong. London is not the capital of France.'

I suggest that the contrast in (22)-(23) arises because only CT-CPs are nominalized and occupy an argument position, which an individual-denoting pronoun like *èto* 'this' can also occupy. The structures that correspond to the CU-readings do not have an argument position that *èto* 'this' could fill, hence the ungrammaticality of (23B).

The wh-word *čto* 'what' and indefinite pronouns, e.g. *čto-to* 'something' or *koe-čto* 'something', can also only be understood as Theme arguments with the verbs like *objas-nit'* 'explain', and are incompatible with the structure corresponding to the CU-CP reading.

This is illustrated in (28)-(29). In (28) *čto* 'what' has to be asking about the object of the explanation/interpretation/justification, and can't be asking about their content. Indefinites in (29) can also only be understood as objects of explanation, which is further corroborated by the impossibility of a continuation with a CU-CP.

(28) Čto Maša objasnila /prointerpretirovala /obosnovala?
what Masha explained /interpreted /justified
CT: 'What (fact) did Masha explain /interpret /justify?'.
CU: *'What did Masha say as an explanation /interpretation /justification?'

(29) Nadja čto-to /koe-čto objasnila. A imenno,
Nadya what-TO /KOE-what explained and concretely
'Nadya explained something. Specifically,
CT: Nadya provide an explanation for something.
CU: * Nadya said something as an explanation.

a. ... ona objasnila ètot fakt.
she explained this fact
'...she explained this fact.'

b. ... ona objasnila čto dver' byla nezaperta.
she explained COMP door was open
'...she explained that the door was unlocked.'
CT: Yes, she explained (the fact) that the door was unlocked.
CU: * Yes, she said "the door was unlocked" as an explanation.

Thus, we see that CPs describing the Content of the Utterance cannot be substituted by pro-forms with nominal distribution, whereas Content-of-Theme CPs allow such substitution.[14]

4.2 Ability to co-occur with a demonstrative

Another difference between CT-CPs and CU-CPs is that the former permit an optional demonstrative on top of the CP, whereas the latter do not:

(30) Lena objasnila /prokommentirovala /zametila **to** [$_{CP}$ čto net xleba].
Lena explained /commented /noted **that.ACC** COMP no bread
'Lena explained /commented /noted that there's no bread.'

a. **CT**: Lena explained /commented-on /noted the fact that there's no bread.

b. **CU**: *Lena said "there's no bread" as an explanation /comment /note.

Why can only CU-CPs, but not CT-CPs occur with a demonstrative? I propose that this is a consequence of the fact that CT-CPs are nominalized, but CU-CPs are not. In the structure of CT-CPs the D head combines with a CP (Kastner 2015, Knyazev 2016), and when the resulting DP receives accusative case, D may either be null, or overt as in (30) (Knyazev 2016). If, as I suggest, there is no D at all in the structure of CU-CPs, it is expected that the demonstrative cannot appear with them.

4.3 Ability to undergo movement

Yet another difference between CT-CPs and CU-CPs is that the former can undergo movement, while the latter cannot. Let us first consider A-movement, specifically, ability to promote the CP into the subject position when the verb is passivized (31).

(31) [To čto èтot algoritm ne rabotajet] bylo objasneno /prokommentirovano
that COMP this algorithm NEG works was explained /commented.on
/obosnovano Lenoj.
/justified by.Lena
'That this algorithm doesn't work was explained /commented on /justified by Lena.'

a. CT: 'The fact/claim that this algorithm does not work was explained / com-

mented on /justified by Lena.'

b. CU: *"'This algorithm doesn't work" was said by Lena as an explanation of some fact / as a comment on some claim /justification.'

CPs in Russian have to be nominalized in order to occur in the subject position (Knyazev 2016): the demonstrative *to* on top of CP is obligatory in such cases. In (31) we see that a CP in the subject position has to be interpreted as the object of explanation /comment /justification, and cannot be interpreted as the content of the utterance. English CPs in the subject position show the same behavior (Halpert & Schueler 2013): CP (32) can only be understood as describing the fact that was explained.

(32) That Fido barked was explained.

a. **CT:** The fact that Fido barked was explained.

b. **CU:** *"Fido barked" was said as the explanation of something.

Data in (31)-(32) does not necessarily tell us that CU-CPs cannot move at all: it could be that movement into the subject position requires the moving constituent to be a DP, and CU-CPs cannot be nominalized (but might be still able to move when non-nominalized). In that case, we could only conclude that CU-CPs cannot get a nominal layer on top of it. However, A-bar movement suggests that CU-CPs cannot move at all: we do not expect A-bar movement to be sensitive to the syntactic category of the constituent, and in (33) we nevertheless see that only CT-CPs can undergo scrambling.

(33) [Čto xleba net]$_k$ Lena objasnila /prokommentirovala /zametila t_k.
COMP bread no Lena explained /commented.on /noted
'Lena explained / commented on /noted that there is no bread.'

a. **CT:** Lena explained / commented on /noted the fact that there's no bread.

(e.g., by saying that Katya made sandwiches last night)

b. **CU:** *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) /comment /note.

This distinction between CT-CPs and CU-CP might fall under Takahashi's generalization (34), which states that CPs that move are generated in positions that permit DPs.

(34) *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: p. 16)

If CT-CPs are nominalized, whereas CU-CPs are verbal modifiers, then the ability of the former to move and the inability of the latter to move is not surprising.[15]

4.4 Argumenthood with nominalizations

When CPs occur in complements of verbs that assign accusative case, they can sometimes occur with a demonstrative pronoun (see section 4.2), but this pronoun is always optional. However, there are cases in which the demonstrative becomes obligatory. Complement positions of non-attitude verbs that assign oblique cases (genitive, dative, instrumental) seems to be one such case.[16] Consider (35)-(37).

(35) a. Lena dobilas' podedy /*pobedu.
Lena obtained victory**.GEN** /victory.ACC
'Lena obtained the victory.'

b. Lena dobilas' **togo**, **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 (lit. 'obtained') that they cooked lunch on time.'

(36) a. Ira sodejstvovala ix razvitiju /*razvitije.
Ira assisted their development.**DAT** /development.ACC
'Ira assisted their development.'

b. Ira sodejstvovala **tomu**, **čto** /*to, čto /*čto den'gi propadali
Ira assisted **that.DAT COMP** /that.ACC COMP /COMP money disappeared
iz kassy.
from register
'Ira assisted with the money disappearing from the register.' (E.g., someone stole money from the register, and Ira helped them in some way to do this).

(37) a. Artëm pol'zovalsja našimi dannymi /*naši dannyje.
Artyom used our.INSTR data.**INSTR** /our.ACC data.ACC
'Artyom used our data.'

b. Artëm pol'zovalsja **tem, čto** /*to, čto /*čto lektor ne
Artyom used **that.INSTR COMP** /that.ACC COMP /COMP lecturer NEG
otmečal poseščaemost'
noted attendance
'Artyom took advantage (lit. 'used') of the fact that the lecturer didn't take attendance.'

Verbs *dobit'sja* 'obtain', *sodejstvovat'* 'assist' and *pol'zovat'sja* 'use' can assign only oblique cases—genitive, dative and instrumental respectively. These verbs do not describe events that have propositional content, but they can take clausal arguments, and when they do, a demonstrative in an oblique case must appear. This suggests that argument CPs in positions in which oblique cases are assigned have to be overtly nominalized (see Knyazev 2016 for a proposal that oblique cases must be overtly realized in Russian).

This fact allows us to create a circumstance under which we will be able to clearly see that CT-CPs are arguments, but CU-CPs are not. While verbs like *objasnit'* 'explain' assign accusative case, (38), their nominalizations lose that ability—the internal arguments inside

nominalizations have to be marked genitive (39).

(38) Ja objasnila /(pro)interpretirovala /(pro)kommentirovala ètot **fakt**.
I explained /interpreted /commented.on this **fact.ACC**
'I explained /interpreted/commented on this fact.'

(39) objasnenije /interpretacija /kommentirovanije ètogo **fakt-a** /*ètot **fakt**.
explanation /interpretation /comment this **fact-GEN** /this **fact.ACC**
'explanation /interpretation /commenting of this fact.'

Given that genitive is an oblique case, if the CP occupies the position in which it is assigned—the internal argument position, it will have to surface with an overt demonstrative. If however CP is not an internal argument, we do not expect it to need to be overtly nominalized. Now consider the interpretations of CPs with and without the demonstrative:

(40) *that.GEN + CP: only Content-of-Theme interpretation*

Objasnenije /interpretacija /kommentirovanije /utočnenije [**togo čto**
explanation /interpretation /commenting /clarification **that.GEN COMP**
drugogo vyxoda net] rasstroilo/a nas.
other way not.exist upset.N/F us

'The explanation of/interpretation of/comment on /clarification of the fact/position that there is no other way upset us.'

a. **CT:** 'The explanation of/interpretation of of/commenting on/clarification of the fact/position that there's no way upset us.'

b. **CU:** *'The explanation /interpretation of/comment/clarifiaction that said "there's no other way" upset us.'

(41) *Bare CP: only Content-of-Utterance interpretation*

Objasnenije /interpretacija /kommentirovanije /utočnenije [**čto** drugogo
explanation /interpretation /commenting /clarification **COMP** other

vyxoda net] rasstroilo/a nas.
way not.exist upset.N/F us

'The explanation /interpretation /comment /clarification that there is no other way upset us.'

a. **CT:** *'The explanation of/interpretation of/comment on /clarification of the fact/position that there's no way upset us.'

b. **CU:** 'The explanation/interpretation/comment/clarification that said "there's no other way" upset us.'

The interpretation of the CP correlates with the presence of a genitive demonstrative: the demonstrative have to occur with CT-CPs, and it cannot occur with CU-CPs. This suggests that CT-CPs occupy the position of the internal argument, whereas CT-CPs do not.

4.5 Extraction asymmetry

Finally, there is an extraction asymmetry between CT-CPs and CU-CPs: the former are islands for movement, while the latter are not. This is illustrated in (42)-(43) with wh-movement and in (44) with relativization. In all of these sentences we see an extraction attempt, which is grammatical, but only if the CP is interpreted as describing the content of the utterance, not if it describes the object undergoing the action that the verb names.[17]

(42) Kogo$_k$ Lena objasnila/argumentirovala, čto Olja ljubit t_k?
whom Lena explained/argued COMP Olya loves
'Who did Lena explain /argue that Olya loves?'

a. **CT:** *'Who is x such that Lena explained the fact/argued for the position that Olya loves x?'

b. **CU:** 'Who is x such that Lena explained some fact/argued for some position by saying "Olya loves x"?'

(43) Kogo Lena utočnila, čto Vitja obidel?
whom Lena clarified COMP Vitya offended
'Who did Lena clarify that Vitya offended?'

a. **CT:** *'Who is x such that Lena clarified the claim that Vitya offended x x?'

b. **CU:** 'Who is x such that Lena clarified some claim by saying that Vitya offended x ?'

(44) Vot [tot čelovek]$_k$, kotorogo Lena objasnila /prokommentirovala, čto Olja
here that person that.REL Lena explained /commented.on COMP Olya
uvolila t_k.
fired
'Here's the person that Lena explained/commented that Olya fired.'

a. **CT:** *'Here's the person x such that L. explained/commented-on the fact that Olya fired x.'

b. **CU:** 'Here's the person x such that L. explained/commented-on some fact by saying "Olya fired x".'

Is this a surprising result? If CT-CPs are nominalized, as I propose they are, then the ban on extraction from them could be expected for several reason. There are two options regarding nominalization that we can entertain: either CT-CPs directly combine with D (Roussou 1991, Kastner 2015, Knyazev 2016), or they modify a null nominal head, which then combines with D and forms a DP (Kiparsky & Kiparsky 1970, Picallo 2002, Moulton 2020a,b, a.m.o.). Both structures have reasons to ban extraction. If CT-CPs combine with null nouns, then extracting from them would be a clear violation of the Complex NP Constraint. If there is no N in the structure of CT-CP, it would be still unsurprising that the movement from these clauses are banned: under the DP-CP analysis, CT-CPs have the same structure as headless relative clauses, and movement is banned from headless relatives in Russian (45).

(45) a. Petja čitaet to, čto ja čitala Maše.
Petya is.reading that.ACC COMP I read to.Masha
'Petya is reading what I read to Masha.'

b. *Komu$_k$ Petja čitaet to, čto ja čitala t$_k$?
to.whom Petya is.reading that.ACC COMP I read
Intended: 'Who is x such that Petya is reading what I read to x?.'

One possible way to explain this ban is to appeal to an anti-locality constraint. It has been argued in the literature that that movement from the edge of a given phrase XP to the edge of a constituent YP that immediately dominates XP is too local, and thus is banned (Bošković 2005, Brillman & Hirsch 2016, Erlewine 2016). Together with the assumptions that both DP and CP are phases, and that phrases need to move to phasal edges in order to escape phases, anti-locality predicts that it should be impossible to extract from the DP-CP structure. Any XP vacating CP will need to stop at the Spec, CP position due to CP being a phase, and then also to stop at Spec, DP position due to DP being a phase. But then it means that XP needs to move from Spec, CP to Spec, DP, however such movement violates anti-locality.

It is perhaps a more surprising result that extraction is possible from CU-CPs. Under my proposal, CU-CPs are modifiers of the event argument, and we might expect extraction from them to violate the Adjunct Island. Adjunct Island is active in Russian, and moreover, it can be arguably appealed to to explain the impossibility of extraction from optional *čto*-clauses with verbs like *vzdoxnut'* 'sigh' and *plakat'* 'cry' (46).

(46) a. Lena vzdoxnula /plakala, (čto Vitja obidel Mašu.)
Lena sighed /cried COMP Vitya offended Masha
'Lena sighed /cried (that Vitya offended Masha).'

b. *Kogo Lena vzdoxnula /plakala, čto Vitja obidel?
whom Lena sighed /cried COMP Vitya offended
'Who is x such that Lena sighed /cried that Vitya offended x?'

However, it has been observed that not all adjunct clauses are islands, e.g. in (47) we see the direct object being extracted from the adjunct *ing*-clause.

(47) What$_k$ did Mina come in [whistling t$_k$]?

So what could the difference between (42)-(44) and (46) be? Within the literature on the islandhood of adjuncts, there seem to be at least two plausible answers to this question. The first answer is to appeal to a semantic difference between the event structures involved. Truswell (2007, 2011) claims that movement from adjuncts is possible if they describe a single event with the main clause. As we will see, on my analysis of CU-CPs indeed describe a single event with the verb. It could be that in (46) we are dealing with two separate events: a crying/sighing eventuality, and a saying event (whose content is provided by the CP).

The second answer is provided by the configurational approaches to the Adjunct Island (Uriagereka 1999, Johnson 2003, Privoznov 2021)—approaches, according to which extractability out of adjunct clauses depends on the structural configuration. In particular, adjuncts become islands only if they are sisters to phrases and do not project, but not if they are sisters to heads. As we will see, on my account of CU-CPs they combine with a complex verbal head, and thus structurally can be considered complements, and thus transparent for extraction. It could be that in (46) CPs do not combine with the verbal head directly—perhaps the experiencer is combined first. If that is so, this would explain why CPs with these verbs are islands for extraction.

To sump up, there is more than one plausible explanation for why it's possible to extract out of CU-CPs. The structure that I propose for CU-CPs meets the requirements for the CP being transaprent for extraction on both modificational (Truswell 2007, 2011) and configurational (Uriagereka 1999, Johnson 2003, Privoznov 2021) theories of extraction from adjuncts. Thus, I leave the choice between these two explanations open.

5 Semantic differences between CT-CPs and CU-CPs

In addition to the syntactic differences, CT-CPs and CU-CPs also differ in presuppositionality, in the event structure of the sentences that they are part of, and in whether they can be both interrogative and declarative.

5.1 Presuppositionality

Verbs of speech like *objasnit'* 'explain' come with presuppositions, and CT-CPs are subject to them, whereas CU-CPs are not. This is illustrated in (48) with *objasnit'* 'explain'.

(48) 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. **CT:** $\Rightarrow$ there is no bread in the cupboard.
If *there is no bread* was explained, it has to be a fact.

b. **CU:** $\not\Rightarrow$ 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).

The presupposition of *objasnit'* 'explain' is factive: the thing being explained must be a fact. Because the CT-CP describes the object undergoing the explanation—*a fact*—its propositional content has to be true in the actual world: if Lena explained the fact that there is no bread in the cupboard, then it must be the case that there is no bread in the cupboard. On the other hand, CU-CP holds no relation to the object undergoing explanation, and thus it is not subject to the factive presupposition: what Lena said in her attempts to explain something does not have to be true, she could have been mistaken. Thus, we see that the fact that CT-CPs and CU-CPs are inserted into different argument structures gives rise to a factivity

alternation: CP with *objasnit'* 'explain' can be factive or not dependent on the structure that the verbal root and the CP are inserted to, and on what role the CP plays in that structure.

Most verbs of the class under consideration however do not introduce factive presuppositions, but merely require their internal arguments to exist prior to the event described by the verb. Consider, for example, *kommentirovat'* 'comment' under the CT reading:

(49) Lena ne kommentirovala čto ona spisala test.
Lena NEG commented COMP she cheated test
'Lena didn't comment on (the claim) that she cheated.'

a. **CT**, SCENARIO 1:

OK It's common ground that the accusations of Lena cheating are false.

b. **CT**, SCENARIO 2: # No one claimed that Lena cheated.

Presupposition: There is a claim/opinion that Lena cheated.

The fact that the verb in (49) is negated allows us to see whether the inferences we get project, and thus are indeed presuppositions. One can utter (49) in the context where it is common knowledge among the participants of the conversation that Lena didn't cheat on the test. This tells us that *kommentirovat'* 'comment' does not have a factive presupposition. However, it would be very odd to utter (49) in a context where no one has made a claim or that Lena cheated on the test. Thus, it seems that this verb comes with a presupposition that the object of comment has to exist.

Most of verbs of this class have the same presupposition: *argumentirovat'* 'argue', *obosnovat'* 'justify' and *utočnit'* 'clarify' require that there exist some position that one can argue for, justify or clarify; *odobrit'* 'approve', *ocenit'* 'evaluate', *prointerpretirovat'* 'interpret' and *zametit'* 'note' require that there is some thing that can be approved, evaluated, interpreted and noted respectively. Thus, with all of them CT-CPs, which describe the Theme argument, will be subject to the verb's presupposition: if an object with propo-

sitional content *p* is presupposed to exist, then someone must have thought or claimed *p* before. I have found no verb of speech that has a presupposition about the CU-CP. This is not surprising if CU-CP, as I propose, do not describe internal arguments of verbs, which verbs could place restrictions on, but are event modifiers.

5.2 Event structure

5.3 Aktionsart

Sentences with CT-CPs and CU-CPs differ in their aspectual properties: the predicates in the former are accomplishments, while the predicates in the latter are achievements. This can be illustrated with two diagnostics: the *in*-adverbial test and the *take-time* test. *In*-adverbials that describe the time within which the eventuality took place are compatible only with telic predicates that have some duration, and thus can be used with accomplishments but are odd with achievements. In (50) we see that an in-adverbial with *objasnit'* 'explain' can describe the time within which the explanation took place, but this is not a possible interpretation of the CU-CP. In this respect sentences with CU-CPs pattern with sentences with *skazat'* 'say'.

(50) 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. **CT:** Lena explained the fact that there is no bread in the cupboard in two seconds (the explanation took two seconds).

b. **CU:** ??Lena explained some fact by saying "there is no bread in the cupboard", which took her two seconds (only possible: two seconds preceded saying).

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

(only possible: two seconds preceded saying)

In both (50b) and (51) *za dve sekundy* 'in two seconds' can only be interpreted as describing the time that Lena was preparing to perform the saying event, but cannot describe the duration of the saying. This suggests that sentences with CU-CPs are achievements.

The second diagnostics is illustrated in (52). Here we again see that sentences with CT-CPs and CU-CPs are interpreted differently: in the former 5 minutes is the duration of Lena's explaining/clarifying/commenting, while in the latter 5 minutes is the time that Lena prepared to say "the process of admission to the university has changed."

(52) Lene potrebovalos' 5 minut čtoby objasnit' /utočnit'
Lena.DAT took 5 minutes in.order explain.INF /clarify.INF
/prokommentirovat' [čto process postuplenija v universitet izmenilsja].
/comment.INF COMP process of.admission in university changed
'It took 5 minutes for Lena to explain /clarify /comment (on) that the process of admission to the university has changed.'

a. **CT:** Duration of Lena explaining /clarifying/commenting on the fact that the process of admission to the university has changed was 5 minutes.

b. **CU:** The time that Lena hesitated before saying "the process of admission to the university has changed" (as an explanation/clarification of some fact/comment on some claim) was 5 minutes.

This supports the conclusion that predicates in sentences with CT-CPs are accomplishments, and predicates in sentences with CU-CPs are achievements.

5.4 Number of subevents

Sentences with CT-CPs and CU-CPs also differ in the number of subevents that their predicates describe. I illustrate this with negation and decomposition adverbs like *počti* 'almost' and *opjat'* 'again'. We could think of the verbs of speech like *objasnit'* 'explain' as complex events involving two components: a subevent of causation (perhaps, by speech) and a subevent denoting the result state of that causation (53).

(53) **e_1 caused e_2**:

a. e_1 is an event of causation by the subject

b. e_2 is the result state that the Theme (fact /claim /opinion) finds itself in after the completion of the event (the state of being explained /justified /argued for)

This bi-eventive structure seems to be indeed what we find with sentences with CT-CPs. However, sentences with CU-CPs seem to lack any indication of the resulting state being present—it cannot be targeted by adverbs like *počti* 'almost' and *opjat'* 'again', and denying the attainment of the result state is not sufficient for the negated sentence with a CU-CP to be true. Consider the sentence containing negation in (54).

(54) Lena ne obosnovala [$_{CP}$ čto nam stoit predpočest' ètot variant].
Lena NEG justified COMP to.us is.worth prefer.INF this option
'Lena didn't justify that we should choose this option.'

a. *CT-CP reading:* 2 *subevents (causing + state of being justified)*

(i) ✓ $\neg(e_1 + e_2)$:

Lena didn't do anything to justify (the position) that we should prefer this option.

(ii) ✓ $\neg(e_2)$ Lena said something, but that did not justify (the position) that we should prefer this option.

b. *CU-CP reading: 1 subevent (of saying in order to justify)*

(i) ✓ $\neg(e_1 + e_2)$

Nothing happened: Lena didn't say "we should choose this option".

(ii) *$\neg(e_2)$ Lena said "we should choose this option", but that did not successfully justify some position.

If we fix the CT interpretation of the embedded clause, this sentence is compatible with two scenarios: it could be that Lena didn't do anything at all, or it could be that she tried to justify the claim that we should prefer this option, but failed at justifying it. The reading we get under the first scenario entails the reading we get under the second scenario: if nothing happened, then of course the result state has not been attained either. However, what is interesting is that denying the attainment of the result state is sufficient for (54) to be true under the CT-CP reading. This is expected if existence of the result state e_2 is a conjunct in the truth-conditions of the positive sentence with a CT-CP. Then negating the existence of e_2 would entail the negation of the whole sentence with a CT-CP (55).

(55) $\neg\exists e_2[\text{q}(e_2)] \Rightarrow \neg\ [\exists e_1[\text{p}(e_1)] \wedge \exists e_2[\text{q}(e_2)]]$ (for any p and q)

If, on the other hand, we consider the CU reading of the embedded clause, the sentence becomes compatible only with one scenario: it has to be the case that Lena didn't say anything. If the result state was part of the conjunctive meaning of a sentence with a CU-CP, then we would expect negating it to provide sufficient conditions for (54) to be true, however we see that this is not the case: whether Lena was successful in her justification or not is not relevant under the CU reading, only whether she uttered "we should choose this option" is. This is the first piece of evidence that predicates in sentences with CU-CPs do not have a result state as their subevent.

Other evidence comes from decomposition adverbs *počti* 'almost' and *opjat'* 'again'.

These adverbs can receive at least two readings in sentences with accomplishments like *open*. For example, in (56) it is either the whole event of Susi opening the door that was repeated, or only the result state of the door being open.

(56) 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.

The existence of such ambiguity and its sensitivity to the syntactic structure have been claimed to provide an argument for the lexical decomposition of predicates in syntax (Mc Cawley 1972, Dowty 1979, von Stechow 1995, 1996, Rapp & Von Stechow 1999, Beck 2005, 2006, Alexiadou, Anagnostopoulou & Lechner 2014, Lechner et al. 2015): verbs like *open* are decomposed into the causing subevent and the result state, and decomposition adverbs can either scope above the whole predicate, or just above the constituent denoting the result state.[18] Thus, adverbs like *počti* 'almost' and *opjat'* 'again' can tell us whether the predicates in sentences with CT-CPs and CU-CPs are decomposed into a causing subevent and the result state or not. Consider the sentence in (57).

(57) Lena opjat' objasnila [$_{CP}$ čto v škafu net xleba].
Lena AGAIN explained COMP in cupboard no bread
'Lena explained that there is no bread in the cupboard again.'

CT: 2*subevents (causing + state of being explained)*

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

(i) $again(e_1 + e_2)$:

✓ Lena explained that there's no bread before.

(ii) $again(e_2)$:

✓ There already existed an explanation for why there's no bread before.

L. caused the state of affairs that again there's an explanation of this fact.

b. *CU-CP reading: 1 subevent (saying in order to explain)*

(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 was an explanation of some fact. Lena said "there's no bread" and thus caused again there to be an explanation of this fact.

Under the CT-CP reading, there are two possible interpretations of *opjat'* 'again'. *Opjat'* 'again' can take wide scope with respect to the causing subevent: Lena explained the fact that there is no bread before, and she explained the fact that there is no bread now. The adverb can also take the scope only over the result state: Lena has never explained this fact before, but some explanation for absence of the bread existed; now Lena caused there to be an explanation of this fact again. This supports the conclusion that the predicate with CT-CPs is bi-eventive. Under the CU-CP reading however, only one reading is available: Lena said "there is no bread" in order to explain something before, and she did the same thing now. It is completely impossible to understand (57) as saying that there have been some explanation of some fact before, and now Lena is saying "there is no bread" in order to attain the same result state of this fact being explained.

The same difference between sentences with CT-CPs and CU-CPs is observed with *počti* 'almost': 3 out of 4 logically possible readings are available (58).

(58) Maša počti objasnila [$_{CP}$ čto v klasse nikogo net].
Masha ALMOST explained COMP in class nobody no
'Masha almost explained that there is noone in the class.'

a. *CT-CP reading:*

(i) *almost(e_1 + e_2)*:

✓'Masha almost started explaining the fact that there's no one in class, but changed her mind and did not do anything.'

(ii) *almost(e_2)*:

✓ 'Masha was explaining the fact that there's no one in class for a while, and almost succeeded, but did not.'

b. *CU-CP reading:*

(i) *almost(e_1 + e_2)*:

✓ 'Masha almost uttered "there's no one in class" as an explanation of some fact, but changed her mind and did not do anything.'

(ii) *almost(e_2)*:

*'Masha said "there's no one in class", which almost explained some fact, but did not.'

Under both interpretations of the CP it is possible to understand the sentence as saying that the whole event was close to occurring, but did not actually start. However, under the CT reading we also get the interpretation where the event did in fact start, and came close to culmination, but didn't culminate. This reading is absent with CU-CPs: it's not possible to understand (58) as saying that Masha said "there's no one in the class" and came close to explaining some fact, but didn't reach the state of that fact being explained.

Thus, the data from the decomposition adverbs supports our conclusion that the event structure of the predicates involved in sentences with CT-CPs and CU-CPs is not the same: predicates in sentences with CT-CPs are bi-eventive accomplishments, predicates in sentences with CU-CPs are achievements that do not have causing events and result states as their proper parts. This difference in event structure poses a problem for any account that assumes the same underlying syntactic structure for sentences with CT-CPs and CU-CPs and

attempts to derive the differences between them by appealing to a syntactic transformation.

5.5 Interrogative embedding

Not all CPs that can receive both CT and CU interpretations with verbs like *objasnit'* 'explain'. While under the CT reading the CP can be either declarative or interrogative, CU interpretation disallows interrogative embedding (59).

(59) Lena objasnila /prokommentirovala /ocenila /zametila [kto k nej prišël]
Lena explained /commented /evaluated /noted who to her came
'Lena explained /commented on /evaluated /noted who came to her.'

a. CT: ✓ Lena explained /commented on /evaluated /noted the fact that the people who came to her came to her.

b. CU: * Lena uttered "Who came to me?" in order to explain /comment on /evaluate /note something.

Note that the impossibility of interrogative embedding under the CU-interpretation is more than just a pragmatic difficulty of finding a scenario where by asking a question a person is trying to explain something or comment on something. Consider (60).

(60) **Context:** Lena is a coach of a team which is about to compete at Olympics. She is asked to comment on the readiness of her team, in particular, she is asked whether she thinks her team will win gold.

a. Lena$_k$ prokommentirovala: "Kto nam$_{k+}$ pomešaet?"
Lena commented who us will.hinder
Lena$_k$ commented: 'Who will stand in our$_{k+}$ way?'

b. Lena$_k$ prokommentirovala kto im$_{k+}$ pomešaet.
Lena commented who them will.hinder

(i) ✓ 'Lena$_k$ commented on the fact that people who will hinder them$_{k+}$ will hinder them$_{k+}$'.

(ii) *'Lena$_k$ commented (on the readiness of her team) by saying: "Who will stand in our$_{k+}$ way?"'.

The context in (60) allows one to report Lena's rhetorical question by using (60a), where we see direct speech with the verb *prokommentirovat'* 'comment'.[19] The same rhetorical question cannot be reported by using indirect speech—by having a sentence with a CU-CP (60b-ii). The only possible reading is thus that with a CT-CP, (60b-i), under which it's known who will hinder the success of Lena's team, and she is commenting on that.

So why can't CU-CPs be interrogative? One relevant thing to note is that the verb *skazat'* 'say' in Russian cannot combine with interrogatives that would provide the content of the utterance either. In (61) we see that a CP receives the same interpretation as the DP *otvet* 'answer': it describes the answer that Lena uttered by specifying which question this answer was an answer to. It cannot be reporting a question that Lena uttered.

(61) Lena$_1$ skazala mne otvet /kto k nej$_1$ prišël.
Lena said to.me the.answer /who to her came.
'Lena told me the answer /who came to her.'

a. **CT:** ✓ Lena uttered the content of the answer to the question "Who came to Lena?", e.g. 'Mitya and Nastya'.

b. **CU:** * Lena uttered "Who came to me?".

If the structure of sentences with CU-CPs involves a phonologically null verb like SAY, which is what I will propose, then under the assumption that this phonologically null verb has the same embedding restrictions as the overt verb *skazat'* 'say', the impossibility of an interrogative CU-CP with verbs of speech in (59) is expected given the impossibility of such

a CP with *skazat'* 'say' (61). In section 6.2 I will provide some more thoughts on why an interrogative CU-CP might be bad with a verb like *skazat'* 'say' in the first place. This puzzle seems to belong to a much more general cross-linguistic pattern of missing interrogative readings (see Özyıldız 2019 and Özyıldız 2021 for discussion), where an interrogative counterpart of a non-veridical declarative CP is impossible.

6 Proposal: two paths to explain

I propose that the Content-of-Theme and Content-of-Utterance interpretations that CPs can receive with verbs like *objasnit'* 'explain' are a result of a structural ambiguity. The meanings of verbal roots ($\sqrt{explain}$) and CPs are always the same, but they can be inserted into two different structural representations, and the functional make-up of the verbal phrases that they are inserted into determines their syntactic and semantic properties.

I assume that finite embedded clauses like the *čto*-clause in (2), repeated here as (62), denote predicates of entities with propositional content (Kratzer 2006, 2016, Bogal-Allbritten 2016, 2017, Moulton 2009, 2015, Elliott 2017, Moltmann 1989, 2013, 2014, 2020), (63).

(62) 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. **CT**: Lena explained the fact that there's no bread in the cupboard.
b. **CU**: Lena said "there's no bread in the cupboard" to explain some other fact.

(63) $[\![_{CP}$ čto v škafu net xleba$]\!]^{w}$ =
λy_{e}. CONT(y)(w) = λw'. there is no bread in the cupboard in w'.

I assume that both events and individuals are in the same domain D_e, and so the CP in (63) is able to modify both predicates of individuals and predicates of events.

One might wonder whether it is necessary to view CPs as predicates of entities with propositional content, as opposed to just entities with propositional content. For example, Djärv proposes that complements of verbs like *believe* are individuals with content:

(64) $[\![_{CP}$ čto v škafu net xleba$]\!]^w$ =

ιy_e(CONT(y)(w) = λw'. there is no bread in the cupboard in w')

I think there is some evidence in Russian for the predicate view. It seems that individuals of type e are not possible in the predicate position of the copular construction in Russian. This is illustrated in (65)-(66). I assume that *ètot rebënok* 'this child' picks out an individual of type e. In (65) we see an attempt to put this DP into a predicate position, and it fails: (65) cannot be interpreted as attributing to Vasja the property of being this child. The only possible interpretation seems to be the one where we are attributing to this child a property of being Vasja, but this requires a special intonation with this word order (the more natural way of saying this would be to have 'this child' before the copula, and 'Vasja' after).

(65) Vasja byl ètot rebjonok.
Vasja was this.NOM child.NOM
a. ?'This child was Vasja.'
b. *'Vasja was this child.'

(66) Vasja byl ètim rebjonkom.
Vasja was this.INSTR child.INSTR
a. *'This child was Vasja.'
b. ✓ 'Vasja was this child.'

In (66), where 'this child' surfaces with instrumental case, Vasja is unambiguously understood as the subject, of which the property of being this child holds. Note that no similar restriction holds of adjectives, which I assume are of type <e,t>: both adjectives in nominative case and in instrumental case are acceptible.[20]

(67) Vasja byl umnyj /umnym
Vasja was smart.NOM /smart.INSTR
'Vasja was smart.'

(68) Ideja byla xorošaja /xorošej
idea was good.NOM /good.INSTR
'The idea was good.'

Thus, the data seem to suggest that nominative post-copular constituents cannot be of type e, but can be of type <e,t>. Now consider the different ways to express the CP in (69).

(69) Ideja byla **čto** /**v tom** **čto** /***to,** **čto** Petja otrpavitsja v
idea was **COMP** /**in that.INSTR COMP** /**that.NOM COMP** Petya will.head.off in
Moskvu.
Moscow
'The idea was that Petya will head off to Moscow.'

The fact that a CP can be enclosed in a PP that assigns instrumental case is perhaps not surprising, because we have seen that predicates in the copular construction can be assigned instrumental case. What is interesting is that a bare CP is grammatical, whereas a nominalized CP with an overt nominative demonstrative is not. This suggests that CPs with an overt demonstrative have to be of type e, hence the ungrammaticality in (69), but bare CPs have an option of denoting something that is not of type e, hence their grammaticality in (69). The proposal that (bare) CPs are predicates of type <e,t> has a ready explanation for their acceptability in the copular construction, and thus I will adopt it.

I assume that roots of verbs like *objasnit'* 'explain' denote functions from individuals to states that hold of these individuals:

(70) a. $[\![\sqrt{explain}]\!]^w = \lambda x_e.\lambda s_e.$ be-clear(s)(w) $\wedge$ Theme(s) = x.

b. $[\![\sqrt{argue}]\!]^w = \lambda x_e.\lambda s_e.$ be-argued-for(s)(w) $\wedge$ Theme(s) = x.

c. $[\![\sqrt{interpret}]\!]^w = \lambda x_e.\lambda s_e.$ be-interpreted(s)(w) $\wedge$ Theme(s) = x.

d. $[\![\sqrt{comment.on}]\!]^w = \lambda x_e.\lambda s_e.$ be-commented-on(s)(w) $\wedge$ Theme(s) = x.

e. ...

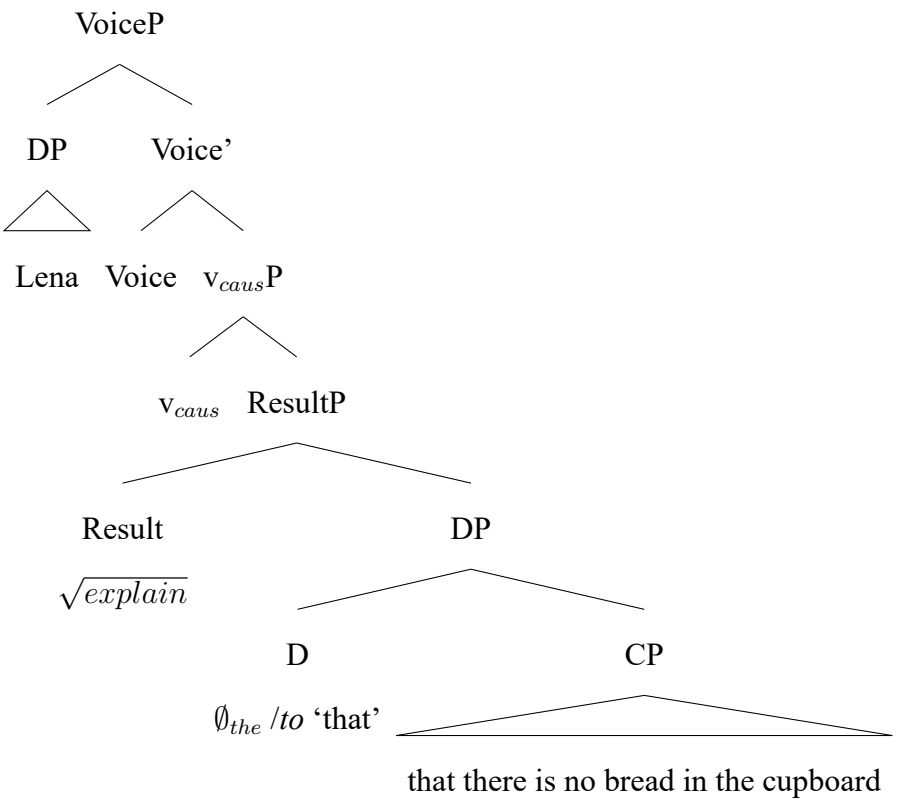
For example, once *objasnit'* combines with its internal argument, it becomes a predicate of states being clear/explained that hold of its internal argument.

With the denotations of CPs and verbal roots at hand, I now turn to the structures that they are part of in sentences with CT-CPs and CU-CPs.

6.1 CT-CPs

I propose that under the CT interpretation, sentences like (62a) have the structure in (71).

(71)



The embedded clause in this structure is nominalized: it combines with a determiner, which in some cases (for example, when the DP gets accusative case) can be phonologically null, and is expressed as the demonstrative *to* 'that' otherwise. This is exactly the structure that is proposed by Knyazev (2016) for Russian *čto*-clauses.[21]

One might wonder whether an alternative analysis is feasible, where the CP would first combine with a null noun that has some abstract meaning (like FACT or CLAIM), and only

then combine with a determiner. There is strong evidence that there are languages which make use of such abstract nouns (Moulton 2020a,b), but do we have any evidence for such null nouns in Russian? I would like to suggest a negative answer to this question.

There are two options how a null noun could combine with a CP: it could take a (nominalized) CP as its argument, or it could take a CP as a modifier. There is evidence that the former option does not exist in Russian. Arguments of nouns occupy positions in which genitive case is assigned. If a CP was to occur in such a position, it would need to appear with a genitive demonstrative. Thus, we would expect a structure like in (72), which would have to be spelled out either as *togo CP* or as *to togo CP* (for the internal argument being in the accusative position). Neither of these options is attested, and thus we can rule out a null noun taking CP as an argument analysis.

(72) $[_{DP}\ \emptyset_{the(D)}$ /*to*$_D$ 'that' $[_{NP}\ \emptyset_N$ [togo 'that.GEN' CP]]]

Could a null noun take a CP as a modifier? In principle, it could. But this would however lead to two issues. The first issue has to do with optionality. When CPs combine with nouns like *fakt* 'fact' or *ideja* 'idea', they are optional and can be omitted. So if there was an abstract null noun like that in the structure, we would expect that it should be possible to omit the CP as well. *Lena objasnila* 'Lena explained' should thus be a well-formed sentence meaning 'Lena explained the fact', however it's not a possible sentence outside of elliptical contexts. Thus, one would need an abstract null noun to have properties that similar overt nouns do not have (e.g., some mechanism of syntactically selecting a CP), which seems like an undesirable feature.

The second issue has to do with *èto* substitution. Recall that all nouns in Russian are specified for gender, and as we saw in the section 4.1, *èto* 'this' cannot refer back to nouns. I suggested that this is due to a violation of *Maximize Presupposition*: Russian has pronouns

that introduce presuppositions about the individuals that they refer to (*on* for masculine, *ona* for feminine and *ono* for neuter), and they have to be used when these presuppositions are met—when the antecedent matches the gender that the pronoun presupposes. Given that the pronouns cover all possible genders, and all nouns are assigned to some gender class, there is never a case when *èto* 'this' can refer back to a nominal phrase that has a lexical noun inside of it. In section 4.1 we however saw that *èto* 'this' can refer back to CT-CPs, and moreover it is the only possible proform for them, as (73) illustrates.

(73) A: Maša objasnila /prokommentirovala /zametila **[čto nikto ne prišël]**$_k$?
Masha explained /commented /noted COMP no one NEG came
'Did M. explain/comment-on/note (the fact) that no one came?'

B: * Da, Maša **ego**$_k$ **/eë**$_k$ objasnila /prokommentirovala /zametila.
yes Masha **he/it.ACC /she.ACC** explained /commented.on /noted
Intended: 'Yes, Masha explained /commented on /noted this.'

I suggest that this should be taken as evidence for the absence of a null noun inside of CT-CPs. If such a noun existed, it would have to be a noun that is not specified for a grammatical category—gender—for which all other nouns of Russian are specified.[22]

Thus, positing a null noun in the structure does not seem to bring any obvious gains, but raises questions about why the properties of this null noun are so different from the properties of overt nouns. Hence, I will keep the DP-CP analysis of CT-CPs. I assume that both null and overt determiners that combine with CT-CPs take a predicate of individuals as their argument and return the unique individual which this predicate holds of (74a).[23] The nominalized CP thus has the meaning in (74b).[24]

(74) a. $[\![\emptyset_{def}/to]\!]^w = \lambda P_{et}.\ \iota y[P(y)]$

b. $[\![\emptyset_{def}/to$ čto v škafu net xleba$]\!]^w =$

ιy[Cont(y)(w)=λw'. there's no bread in the cupboard in w']

Let's now consider the structure that the nominalized CP is part of. The nominalized CP combines as the argument of the verbal root (70), creating ResultP that denotes a predicate of states (e.g., states of being clear/explained) whose holder is the salient individual with the propositional content expressed by the embedded clause (75).

(75) $[\![\text{ResultP}]\!]^w = \lambda s_e.$ be-clear(s)(w) $\wedge$ Theme(s) = ιy[Cont(y)(w)=λw'. there's no bread in the cupboard in w']

ResultP combines with v_{caus}, which introduces the causing subevent and existentially closes the state argument of ResultP (76). After the Agent is introduced via the Voice head and the variable of the causing event is existentially closed, we get the truth-conditions in (77).

(76) $[\![v_{caus}]\!]^w = \lambda P_{et}.\lambda e_e.\ \exists s\ [P(s) \wedge \text{CAUS}(e)(s)(w)]$

(77) $[\![$Lena objasnila $[_{CT}\ \emptyset_{def}$/*to* čto v škafu net xleba$]\!]^w$ =
$\exists$e,s [Causer(e) = Lena $\wedge$ CAUS(e)(s)(w) $\wedge$ be-clear(s)(w) $\wedge$
Theme(s) = ιy [Cont(y)(w)=λw'. there's no bread in the cupboard in w'].

'Lena explained that there is no bread in the cupboard' is true under the CT reading iff there is an event of causing whose Causer is Lena and whose result state is the state of being clear that holds of the salient individual with the propositional content "There is no bread in the cupboard". One consequence of analyzing sentences with CT-CPs as causative constructions is that we do not necessarily expect the internal arguments to be animate. And it is indeed the case that some of the verbs in the class under consideration allow inanimate causers, for example *objasnit'* 'explain' and *utočnit'* 'clarify' do (78)-(79).

(78) [To, čto Lena ušla], (*šëpotom) objasnajet, čto Petja grustit.
that COMP Lena left (with.whisper) explains COMP Petja is.being.sad
'That Lena left explains that Petja is being sad.'

(79) Èti testy (*šëpotom) utočnjajut, čto algorithm ne rabotaet v dvux
these tests (with.whisper) clarify COMP algorithm not work in two
slučajax.
cases
'These tests clarify that the algorithm doesn't work in two cases.'

The ungrammaticality of the adverb *šëpotom* 'with whispering' confirms that there is no implicit Agent in (78)-(79). However, some other predicates in this class, e.g. *prokommentirovat'* 'comment' and *prointerpretirovat'* 'interpret', do require internal arguments to be animate. I suggest that this is an additional requirement on the Causers of events that bring about states of being commented on and interpreted, but the structure is the same.

Let's now access how my proposal accounts for the properties of CT-CPs that we observed in sections 4-5. Many of the syntactic properties of CT-CPs follow from the fact that they are nominalized. They can be substituted by proforms with a nominal distribution (*èto* 'this', *čto* 'what', *čto-to* 'something', *koe-čto* 'something') due to being nominalized. The fact that they cannot be substituted by pronouns with gender features follows from the absence of a lexical noun in the structure of CT-CPs. They can occur with the demonstrative *to* 'that' because this demonstrative is one possible spell-out of the D head that combines with the CP in the structure of CT-CPs (the other option is $\emptyset_{DEF}$, see Knyazev 2016 for discussion). The nominalized status of CT-CPs also explains their ability to undergo movement (both A-movement and A-bar movement), and the requirement to surface with a genitive demonstrative when the verb undergoes nominalization and loses its ability to assign accusative case (D in genitive cannot be $\emptyset_{DEF}$). Finally, the fact that CT CPs are islands for movement can be viewed as an anti-locality violation: if both D and C are phase heads, then extracting a constituent out of a DP-CP structure would require a movement step from Spec,CP to Spec,DP, which is a too local of a movement to take.

The presuppositionality of CT-CPs is a consequence of them combining with a definite

determiner ($\emptyset_{DEF}$/*to* 'that'). Note that that determiner on its own does not require the CP to describe a fact, which is a good prediction, as we saw that with some verbs there is no factive inference present. What the determiner does require is that there is a unique individual in the context (**rumor/thought/claim** that was previously mentioned) with the propositional content that the CP describes. This is a desired general result. For the cases when the verb's presupposition is stronger, for example for *objasnit'* 'explain' whose Theme has to be a fact, I suggest that the verbal root poses an additional presupposition on its internal argument. For example, to capture the factive presupposition of *objasnit'* 'explain' we can assume the entry as in (80), which requires that the content of Theme is true in the evaluation world.

(80) $[\![\sqrt{explain}]\!]^w = \lambda x_e$: Cont(x)(w)=1.$\lambda s_e$. be-clear(s)(w) $\wedge$ Theme(s) = x.

The event structure of predicates in sentences with CT-CPs follows from the lexical decomposition in syntax sketched in (71). The ResultP of (71) denotes just a predicate of result states, whereas VoiceP denotes a predicate of events of Lena causing a result state described by the ResultP. This corresponds to a bi-eventive achievement, and the decomposition in syntax allows adverbs like *opjat'* 'again' and *počti* 'almost' to take (at least) two scopes in the structure, resulting in different readings. The nominalized CT-CP can be viewed as an incremental theme of the achievement predicate: the closer we are to reaching the culmination of something being explained or clarified, the bigger part of the object undergoing explanation or clarifiaction has been explained or clarified. For example, if I ask my friend to explain their proof to me, and their proof consists of 10 steps, then the more steps are explained to me, the closer the culmination of the event of explaining the proof to me is.

Finally, CT-CPs can be interrogative. Let us take a closer look at what interrogative CT-CPs mean. Compare the sentences in (81a)-(81c) with *utočnit'* 'clarify':

(81) a. Marlis utočnila kto možet vyigrat' final.
Marlis clarified who can win final
'Marlis clarified who can win the final.'

b. Marlis utočnila vopros (o tom) kto možet vyigrat' final.
Marlis clarified question (about that) who can win final
'Marlis clarified the question (of) who can win the final.'

c. Marlis utočnila (naš) otvet na vopros (o tom) kto možet vyigrat' final.
Marlis clarified (our) answer on question (about that) who can win final
'Marlis clarified the/(our) answer to the question (of) who can win the final.'

The sentence in (81a) cannot mean what (81b) means, and it seems to be understood as (81c). To make our intuitions sharper, consider the two contexts in (82a)-(82b). In the context (82a), (81a) and (81c) are felicitous, but (81b) is not, because Marlis did not change the question that was posed in any way. In the context (82b), on the other hand, (81b) is felicitous, but (81a) and (81c) are not.

(82) a. We had an answer to the question of who can win the final, but we were not sure about one of the gymnasts whether they will be competing. Marlis told us that they will be competing, and thus made the answer we had more precise.

b. Marlis asked: "Who do you think can win the final?" We were not sure which event Marlis was asking about and asked her: "Which one?". She told us that she was talking about the beam final, and thus clarified her question.

While it is not surprising why (81c) is bad in this context, the unaccaptability of (81a) is more puzzling: why can't *clarify Q* mean *clarify the question Q*, only *clarify the answer to Q*? I will not be able to answer this question, but here are some consequences of this state of affairs. While it could be the case that some interrogative CPs are predicates of individuals

whose Content is a set of propositions (Elliott 2017), we cannot allow the Theme arguments of verbs like *utočnit'* 'clarify' to have a set of propositions as their Content (83).

(83) *A wrong meaning for interrogative CT-CPs*

$[\![$Lena utočnila $[_{CT}$ kto možet vyigrat' final$]\!]^w$ =

$\exists$e,s [Causer(e)=Lena $\wedge$ CAUS(e)(s)(w) $\wedge$ be-clarified(s)(w) $\wedge$ Theme(s)=

ιy [Cont(y)(w)= λp. $\exists$x [x is human in w $\wedge$ p = λw'. x can win the final in w']]].

(83) would wrongly predict that (81a) should be synonymous with (81b). One way to revise (83) is to insert an answerhood operator (e.g., Dayal 1996)[25] that would ensure that the Content of the Theme argument is a single proposition that is the answer to the question:

(84) *Interrogative CT-CPs with ANS*

$[\![$Lena utočnila $[_{CT}$ kto možet vyigrat' final$]\!]^w$ =

$\exists$e,s [Causer(e)=Lena $\wedge$ CAUS(e)(s)(w) $\wedge$ be-clarified(s)(w) $\wedge$ Theme(s)=

ιy [Cont(y)(w)= ANS(λp.$\exists$x[x is human in w $\wedge$ p=λw'. x can win the final in w'])]].

(84) requires that there is the context contains a unique individual whose content is the answer to the question, and says that Lena clarified it. I assume that clarifying an individual whose content is an answer amounts to clarifying the answer. The question that still remains is that of *why* ANS has to be inserted. I leave this issue for the future research.[26]

6.2 CU-CPs

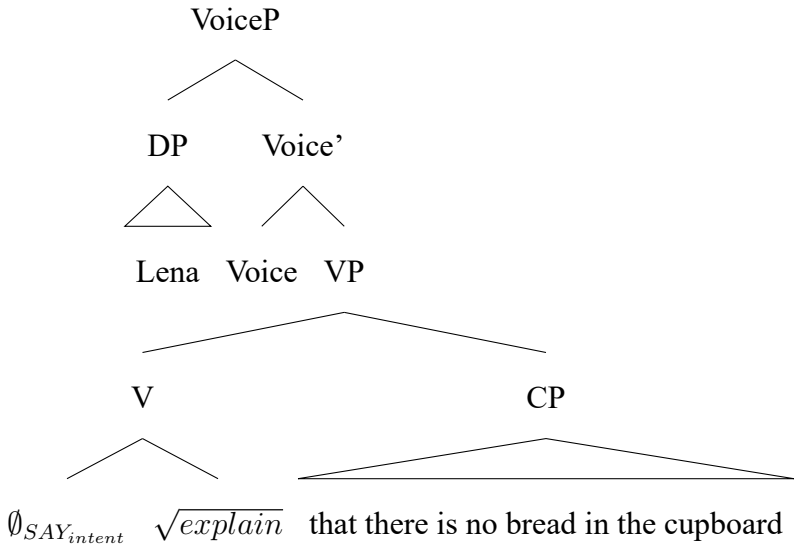
I propose that under the CU reading, sentences like (2)=(85), have the structure in (86).

(85) 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. **CT**: Lena explained the fact that there's no bread in the cupboard.

b. **CU**: Lena said "there's no bread in the cupboard" to explain some other fact.

(86)



In (86) the CP is an event modifier of an intransitive verb with a complex verbal head. This head consists of the verbal root and a null verbal head $\emptyset_{SAY_{intent}}$, the denotation for which is in (87). After this head combines with a function f from individuals to predicates, it returns a predicate of events of saying e such that in all worlds in which the Agent of e succeeds in their intentions in e, e causes an f-state that some individual is a holder of.

(87) $[\![\emptyset_{SAY_{intent}}]\!]^w = \lambda f_{eet}.\lambda e_e.$ say(e)(w) $\wedge \forall$w' [in w' Ag(e) succeeds in their intentions in e $\Rightarrow \exists$x,s[$[\![f]\!]^{w'}$(x)(s) = 1 $\wedge$ CAUS(e)(s)(w')]

When $\emptyset_{SAY_{intent}}$ combines with a verbal root (88), we get a predicate of events as in (89).

(88) $[\![\sqrt{explain}]\!]^w = \lambda x_e.\lambda s_e.$ be-clear(s)(w) $\wedge$ Theme(s) = x.

(89) $[\![\emptyset_{SAY_{intent}}\ \sqrt{explain}]\!]^w = \lambda e_e.$ say(e)(w) $\wedge \forall$w' [in w' Ag(e) succeeds in their intentions in e $\Rightarrow \exists$x,s[be-clear(s)(w') $\wedge$ Theme(s) = x $\wedge$ CAUS(e)(s)(w')]

(89) describes ***events of saying with intention to explain something***: events whose Agent is intending their saying to cause a state of the kind described by the verbal root.

This predicate then combines with a CP via Predicate Modification:

(90) $[\![\emptyset_{SAY_{intent}}\ \sqrt{explain}$ čto v škafu net xleba$]\!]^w = \lambda e_e$. say(e)(w) $\wedge$ Cont(e)(w)=λw'. there's no bread in the cupboard in w' $\wedge\ \forall$w' [in w' Ag(e) succeeds in their intentions in e $\Rightarrow\ \exists$x,s[be-clear(s)(w') $\wedge$ Theme(s) = x $\wedge$ CAUS(e)(s)(w')]

The CP describes the Content of the saying event: what was said in an attempt to explain something. Note that since the Theme argument of the result state has been existentially closed, it will not be possible for a DP or a CT-CP to combine within this structure.

After the Agent is introduced via Voice and the event argument is existentially closed, we get the truth-conditions in (50).

(91) $[\![$Lena $\emptyset_{SAY_{intent}}\ \sqrt{explain}$ čto v škafu net xleba$]\!]^w = \exists e_e$[say(e)(w) $\wedge$ Agent(e)=Lena $\wedge$ Cont(e)(w)=λw'. there's no bread in the cupboard in w' $\wedge\ \forall$w' [in w' Ag(e) succeeds in their intentions in e $\Rightarrow\ \exists$x,s[be-clear(s)(w') $\wedge$ Theme(s) = x $\wedge$ CAUS(e)(s)(w')]]

The sentence in (85) under the CT interpretation of the CP can be paraphrased as "Lena said "There is no bread in the cupboard", and by doing this she was trying to explain something.

Before we proceed to the discussion of how this structure and its interpretation account for the properties of sentences with CU-CPs, I would like to note something that does not follow from the analysis as it is presented above. It does not follow that the CU-CP is obligatory and cannot be omitted, which is the case: one cannot utter *Lena objasnila* 'Lena explained' as a full sentence with the meaning "Lena said something with an intention to explain something". One way to fix to this issue would be to assume that while $\emptyset_{SAY_{intent}}$ does not take CP semantically as its argument, it does syntactically select for it. Another way

would be to modify the lexical entry of $\emptyset_{SAY_{intent}}$ so that it does take CP as its argument g (of type <e,t>), perhaps specifying that all things that g is true of have propositional Content:

(92) $[\![\emptyset_{SAY_{intent}}]\!]^w = \lambda f_{eet}.\lambda \mathbf{g}_{et}$**:** $\forall$**e'[g(e')=1** $\Rightarrow$ **Cont(e')**$\neq$**#]**.λe_e. say(e)(w) $\wedge$ **g(e)** $\wedge$ $\forall$w' [in w' Ag(e) succeeds in their intentions in e $\Rightarrow$ $\exists$x,s[$[\![f]\!]^{w'}$(x)(s) = 1 $\wedge$ CAUS(e)(s)(w')]

I leave the concrete implementation of obligatorines of CU-CPs open, as I don't know how to differentiate different hypothesis on empirical grounds. But I would like to point out that this obligatorines might fall under the umbrella of a more general phenomenon of obligatory adjuncts. Middles seem to require adverbs, which we usually think of as adjuncts (Keyser & Roeper 1984), (93)-(94). Certain passive predicates require an adjunct to form a sentence, although they don't care what kind of adjunct that is (Grimshaw & Vikner 1993), (95)-(96).

(93) (Keyser & Roeper 1984: p. 384)

a. Bureaucrats bribe easily.

b. The wall paints easily.

(94) (Keyser & Roeper 1984: p. 385)

a. *Bureaucrats bribe.

b. *The wall paints.

(95) (Grimshaw & Vikner 1993: p. 143)

a. The best tomatoes are grown in Italy /organically /by organic farmers.

b. *The best tomatoes are grown.

(96) (Grimshaw & Vikner 1993: p. 143)

a. This house was built yesterday /only with great difficulty /by a French architect.

b. *This house was built.

Grimshaw & Vikner (1993) propose the following solution for obligatory adjuncts in passives. They claim that all subevents in the event structure must be 'identified'—have some overt material that indicates their presence. Verbs like *build* and *grow* are accomplishments with two subevents, the process and the state, and in the ungrammatical (95b) and (96b) DPs 'the best tomatoes' and 'this house' identify the result states of the predicates, but nothing

identifies the process events.

Verbs with the exact same behavior as *build* and *grow* exist in the attitudinal domain as well. For example, *obmolvit'sja* 'mention' is an intransitive verb, which is indicated morphologically by the intransitivizing suffix *-sja*[27] and syntactically by its inability to take accusative DPs (97d). However, despite being intransitive, *obmolvit'sja* 'mention' needs something to combine with: this can be an instrumental DP, a PP or a CP, (97a)-(97c).

(97) a. Maša obmolvila-s', čto v avguste ona budet v Moskve.
Masha mentioned-INTR COMP in August she will.be in Moscow
'Masha mentioned that she will be in Moscow in August.'

b. Maša obmolvilas' paroj slov /o svoix planax
Masha mentioned-INTR few.INSTR words.INSTR /about self's plans
/nasčët otjezda.
/regarding departure
'Masha spoke briefly (lit. 'with a few words')/ spoke about her plans / spoke regarding the departure.'

c. * Maša obmolvilas'
Masha mentioned-INTR
Intended: 'Masha mentioned something'

d. * Maša obmolvilas' paru slov.
Masha mentioned-INTR few.ACC of.words
Intended: 'Masha spoke a few words.'

The explanation provided by Grimshaw & Vikner could be extended to *obmolvit'sja* 'mention': the requirement that the result state is 'identified' by some overt material is what might be responsible for the ungrammaticality of (97c). It can perhaps also apply to the obligatorines of CU-CPs with verbs like *objasnit'* 'explain'. We have seen that predicates with CU-CPs are achievements, which involve an instantaneous attainment of an endpoint. It could be that this endpoint (the state of something being uttered) needs to be 'identified' by some material, and that is the role of the CU-CP and the reason for its obligatorines.

Now let us turn to how my analysis accounts for the observed properties of CU-CPs. CU-CPs cannot be substituted by proforms with a nominal distribution (*èto* 'this', *čto* 'what', *čto-to* 'something', *koe-čto* 'something') because they are not nominalized and do not occupy a position in which a DP could occur. They cannot occur with the demonstrative *to* 'that' because combining with the demonstrative would nominalize them and they would not be able to combine with the complex verbal head by Predicate Modification. They cannot undergo movement because they are adverbial clauses, which we don't necessarily expect to be able to move. When CU-CPs combine with a nominalized verb, they are still not internal arguments, but modifiers combining by Predicate Modification, and this is why we will see no genitive demonstrative surfacing. Finally, it is possible to extract from CU-CPs. In section 4.5 we saw that there are at least two equally plausible explanations of this fact. CU-CPs describe the same event as the main predicate, and thus they are predicted to fall into the class of adjuncts that are not islands according to Truswell (2007, 2011). They are also predicted to not be islands on configurational approches to adjunct islandhood (Uriagereka 1999, Johnson 2003, Privoznov 2021), as the CP is structurally the sister of a complex verbal head.

Given that $\emptyset_{SAY_{intent}}$ does not introduce any presupposition about the propositional content associated with its event argument, there are no presuppositions about the embedded propositions in sentences with CU-CPs. The verbal roots that are involved in these sentences still have presuppositions about their Theme arguments, but those arguments are existentially closed when roots combine with $\emptyset_{SAY_{intent}}$, and the CP does not describe Theme arguments of roots. The predicates in sentences with CU-CPs are single-event achievements because this is the aspectual characteristic of the saying events in the denotation of $\emptyset_{SAY_{intent}}$. The result states that verbal roots denote once their internal argument is saturated happen only in *worlds-where-intentions-are-fulfilled*. There is no syntactic constituent in the structure of sentences with CU-CPs that denotes a predicate of result states that decomposition

adverbs like *opjat'* 'again' and *počti* 'almost' could combine with and modify.

Finally, CU-CPs cannot be interrogative. In section 5.5 we saw that this seems to be a more general property of saying events: the propositional content associated with them cannot be a question. How can one model such a restriction? One way to encode such a requirement for saying events would be to enrich our notion of Content they way it is proposed in (Elliott 2017): generalize to the worst case and assume that the CONT function always returns not a proposition, but a set of propositions, which is a singleton case in case of a declarative clause (98), and then encode selectional requirements as restrictions on the set of propositions that CONT returns when applied to events that a certain attitude predicate is true of. In particular, we can follow previous work (Ciardelli, Groenendijk & Roelofsen 2018, Elliott 2017) in making use of a function info, which takes a set of propositions and returns their union (99). When Q is a singleton, ∪Q will be a member of Q. Thus, $\emptyset_{SAY_{intent}}$ can demand that the propositional content of the saying event is declarative by having a presupposition saying that info(Cont(e)(w)) is a member of Cont(e)(w), (100).[28]

(98) $[\![_{CP}$ that there is no bread$]\!]^w$ =
λy_e. CONT(y)(w) = {λw'. there is no bread in the cupboard in w'}

(99) $[\![\text{info}]\!]^w = \lambda Q_{st,t}$. ∪Q

(100) $[\![\emptyset_{SAY_{intent}}]\!]^w$ =
$\lambda f_{eet}.\lambda \mathbf{e}_e$**: info(Cont(e)(w)) ∈ Cont(e)(w)**. say(e)(w) ∧ ∀w' [in w' Ag(e) succeeds in their intentions in e ⇒ ∃x,s[$[\![f]\!]^{w'}$(x)(s) = 1 ∧ CAUS(e)(s)(w')]

Alternatively, we can encode $\emptyset_{SAY_{intent}}$'s requirement more directly:

(101) $[\![\emptyset_{SAY_{intent}}]\!]^w = \lambda f_{eet}.\lambda \mathbf{e}_e$**: Cont(e)(w) ∈ D**$_{st}$. say(e)(w) ∧ ∀w' [in w' Ag(e) succeeds in their intentions in e ⇒ ∃x,s[$[\![f]\!]^{w'}$(x)(s) = 1 ∧ CAUS(e)(s)(w')]

The entry in (101) does not require us to generalize to the worst case, but is compatible with the view that CONT is a function from individuals to the union of propositions and sets of propositions: $D_e \Rightarrow D_{st,t} \bigcup D_{st}$. In this case whether CONT returns a proposition (declarative case) or a set of propositions (interrogative case) will depend on what kind of event it is applied to. Thus, the inability of CU-CPs to be interrogative can viewed as following from the restrictions that $\emptyset_{SAY_{intent}}$ places on its event argument.

To summarize, I proposed that argument structure alternations with verbs like *objasnit'* 'explain' allow us to see that there are two paths for embedding a clause. CPs can combine via an internal argument path: they can become be nominalized, made into an individual with the propositional content described by the clause and saturate the Theme argument. CPs can also combine via the event argument path: they can modify the event argument of the verb. Moreover, the two paths might have a different first phase syntax, as is the case with the verbs of speech under consideration. The nominalized CP is the object in a verbal structure that includes v_{CAUS} combining with ResultP, and thus creating a bi-eventive achievement predicate with the individual described by the CP playing the role of an incremental Theme. The CP which modifies the event argument occurs in an intransitive structure with a complex verbal head, built from the verbal root and a silent head $\emptyset_{SAY_{intent}}$ 'say with an intention'. In this structure both the verbal root and the CP are just pieces used in creating a saying event of a certain kind, with CP describing the content of the utterance, and the verbal root describing what kind of state this saying was trying to achieve.

7 Discussion

The analysis that I proposed raises several questions which seem worth discussing. The first question has to do with substitution failures: what are the predictions that my proposal makes in the general case about the inference patterns between *V + DP* and *V + CP*? Section

7.1 addresses that question. Section 7.2 reviews the ban on the co-occurrence and raises the question of when causing subevents can have propositional content. Section 7.3 notes that my analysis of CU-CPs brings about the issue of which kinds of states can and cannot be caused by saying events, and thus which verbal roots could combine with $\emptyset_{SAY_{intent}}$.

7.1 When substitution does (not) fail

It has been known for a while that attitude verbs that can combine both with DPs and CPs differ in their entailment patterns (Vendler 1972, Ginzburg 1995, King 2002, Moltmann 2013, Uegaki 2015, Djärv 2019, 2021): for some the entailemnt *V + DP* $\Rightarrow$ *V + CP* holds (102), for others it doesn't go through (103).

(102) a. The rumor was that Sue won.
b. Tom believes the rumor.
c. $\Rightarrow$ Tom believes that S. won.

(103) a. The rumor was that Sue won.
b. Tom knows the rumor.
c. $\not\Rightarrow$ Tom knows that Sue won.

Can my proposal about verbs of speech say anything new about such differences in entailment? Let's see what I predict for the examples in (104):

(104) a. Lena prokommentirovala ubeždenije čto zelënyj čaj polezen.
Lena commented belief COMP green tea useful
'Lena commented on the belief that green tea is good (for health).'

b. Lena prokommentirovala [$_{CT}$ (to) čto zelënyj čaj polezen].
Lena commented (that) COMP green tea useful
'Lena commented on the x: Cont(x)(w) = green tea is good (for health).'

c. Lena prokommentirovala [$_{CU}$ čto zelënyj čaj polezen].
Lena commented COMP green tea useful
'Lena commented on something by saying "Green tea is good (for health).'

Both (104a) and (104b) occur in the same syntactic structure, with DP and the nominalized

CP both being the holders of the resulting state of being commented on. The only difference between the interpretations of the two is that the DP has an additional conjunct in the nominal predicate saying that the individual in question is a belief, (105a)-(105b).

(105) a. $[\![$ubeždenije čto zelënyj čaj polezen$]\!]^w$ =
ιx(**belief(x)** $\wedge$ Cont(x)(w) = λw'. green tea is good (for health) in w')

b. $[\![$(to) čto zelënyj čaj polezen$]\!]^w$ =
ιx(Cont(x)(w) = λw'. green tea is good (for health) in w')

Thus, our semantics predicts that (104a) should entail (104b), but not vice versa, which is indeed what the judgment is about the entailment between the two sentences. Neither of the sentences (104a)-(104b) is predicted to stand in an entailment relationship with (104c), and this is empirically borne out: e.g. Lena commenting on a belief that green tea is good for health does not entail her saying 'Green tea is good for health', and her saying 'Green tea is good for health' as a comment on something does not entail that she commented on a belief that green tea is good for health. CT and CU interpretations are independent.

Thus, the entailment patterns that we observe with verbs like *prokommentirovat'* 'comment' are summarized in (106).

(106) **Entailment patterns with verbs of speech:**

a. V + DP $\Rightarrow$ V + CT-CP

b. V + CT-CP $\not\Rightarrow$ V + DP

c. V + CT-CP/DP $\not\Rightarrow$ V + CU-CP

d. V + CU-CP $\not\Rightarrow$ V + CT-CP/DP

The main takeaway point that we can extract from (106) is that entailment patterns between *V + DP* and *V + CP* are sensitive to the argument structure and to whether the (nominalized)

CP occupies the same position as the DP in it. Thus, it doesn't make sense to ask whether *V + DP* entails *V + CP* for a verb like *prokommentirovat'* 'comment', as it is dependent on which structure the CP is inserted in and which interpretation it receives.

There is one more prediction that the current proposal makes about DP/CP substitutions. It predicts that it should be possible for *V + DP* to entail *V + CP* under one circumstance where CP is not occupying the same position as DP: the entailment should go through just in case the propositional content associated with the event argument of the predicate is the same as the propositional content of the Theme of that event argument (107).

(107) $[\![\text{attitude-verb}]\!]^w = \lambda e.\ \text{Cont}(e)(w)=\text{Cont}(\text{Theme}(e))(w).\ \text{attitude-verb}(e)(w)$

Are there attitude verbs which might fall under this profile? I suggest that *verit'* 'believe' might be such a verb (see Roberts 2020 and Djärv 2021 for recent analyses of *believe*). Before discussing why DP and CP with *verit'* 'believe' might not be occupying the same position, let us illustrate that (107) indeed leads to the entailment from *V + DP* to *V + CP*:

(108) a. $\text{Cont}(\text{the-rumor})(w) = p$

b. $\exists s\ [\text{believe}(s)(w) \wedge \text{Theme}(s)=\text{the-rumor}]$

c. $\text{Cont}(s)(w)=\text{Cont}(\text{Theme}(s))(w)$

d. $\exists s\ [\text{believe}(s)(w) \wedge \text{Cont}(s)=p]$

e. (108a) $\wedge$ (108b) $\wedge$ (108c) $\Rightarrow$ (108d)

As (108) shows, when we add to the premises (108a) and (108b) the assumption in (108c), (108d) follows, which corresponds to the reading we would get with a CP.

Now, Russian *verit'* 'believe' cannot take direct objects, but can either combine with a dative NP or dative nominalized CP (109a), or with a bare CP (109b).

(109) a. Lena verit ètomu sluxu /tomu čto Mitja ženilsja.
Lena believes this.DAT rumor.DAT /that.DAT COMP Mitya got.married
'Lena believes this rumor /the claim that Mitya got married.'

if no one has previously claimed that Mitya got married

b. Lena verit čto Mitja ženilsja.
Lena believes COMP Mitya got.married
'Lena believes that Mitya got married.'

✓ if no one has previously claimed that Mitya got married

There are two reasons to believe that the CP in (109b) does not occupy the same position as the dative DP and the dative nominalized CP in (109a). The first reason is morphosyntactic. As discussed in section 4.4, determiners of nominalized CPs must be overt when they occur in oblique positions, which includes dative positions. Thus, we do not expect to see a bare CP that would be nominalized and occupy a dative position without a demonstrative, and so (109b) must have a different structure. The second reason is semantic: the CP in (109a) is subject to a presupposition that (109b) is not. (109a) is infelicitous in a context where no one has previously made a claim that Mitya got married, but (109b) is. I suggest that the reason behind this difference is that the CP in (109b) is not a dative argument, but a modifier of the event argument of the verb, and thus presuppositions associated with a dative argument do not apply to it. If this line of reasoning is correct, then we see that despite bare CPs combining via a different path than DPs, *V* + DP_{dat}/DP_{dat}-*CP* does entail *V* + *CP*. This entailment can be accounted for if *verit'* 'believe' has a presupposition as in (107).

7.2 When can causing events have Content?

Something that we haven't yet evaluated is whether the current proposal captures the ban on co-occurence (21): the ban on Theme DP arguments and CT-CPs co-occurring with CU-CPs. To assess this, we need to ask whether there is a way to insert a CT-CP or a Theme

DP into the structure with a CU-CP, and whether there is a way to insert a CU-CP into the causative structure with a Theme argument.

The answer to the first question is clearly negative. In order to insert a Theme argument, we need the individual argument of the verbal root like $\sqrt{explain}$ to be available for saturation by a DP. However recall that the first thing that the verbal root does in the structure with CU-CPs is combine with the verb $\emptyset_{SAY_{intent}}$, and $\emptyset_{SAY_{intent}}$ existentially closes both the individual and the event arguments of the root. Thus, it is impossible to insert a Theme DP or a CT-CP into the structure with a CU-CP.

Whether one could combine a CU-CP into the structure with a Theme argument is a more complicated question, because it requires us to find out whether events that are introduced by v_{CAUS} can have propositional content associated with them. If they can, then we would predict that CU-CPs could appear in the causative configuration and co-occur with Theme arguments, contra to what we have observed so far. It seems that causing events are not considered as having propositional content in the general case. Consider (110).

(110) a. Mary made this fact clear.

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

'Mary made this fact clear by saying "John came".'

(110a) is definitely compatible with Mary saying something to make the fact clear. Thus, we might have expected that we could combine a CP that would modify the causing event that *made* introduces, but that is not possible (110b). I suggest that this inability of CPs to combine with a causing event that *does not necessarily have propositional content* is what prevents CU-CPs from combining into the structure with a Theme argument.

This however raises a big question: why are CPs this picky and can modify only predicates of events that *definitely* have propositional content (e.g., predicates of saying events),

but not the ones that *potentially* have content (e.g., predicates of causing events)? I have to leave this question open. I will however note that we can view this correlation in action. While result states of verbs like *objasnit'* 'explain' can be caused by events without propositional content, verbs like *prokommentirovat'* 'comment' and *argumentirovat'* 'argue' have to be caused by contentful events.[29] Interestingly, these verbs seem to allow CU-CP to co-occur in the causative construction with Theme arguments at least in some cases. Here are two naturally occuring examples with both a DP and a CU-CP, (111)-(112), the grammaticality of which has also been confirmed with two native speakers.

(111) **Context:** The speaker was told at the hospital desk that they could see the doctor, but it turned out that the doctor doesn't admit patients. Maria is a hospital manager.

Maria [dannuju situaciju]$_{Theme}$ prokommentirovala, [čto ona tut ni pri čëm]$_{CU}$.[30]
Maria this situation commented.on COMP she here not by something

'Maria commented on this situation [that the speaker was booked an appointment for a day when a doctor doesn't admit patients] [by saying] that it's not her fault.'

(112) ...meždu pročim on [svoju poziciju]$_{Theme}$ argumentiroval — [čto komandu sozdaëm iz molodyx i perspektivnyx]$_{CU}$...[31]
between other he self's position argued COMP team are.making from young and high-potential

'...by the way, he argued for his posision that we are building team from young (players) with high potential...'

Judgement of native speakers: the position that is defended can be unrelated to the CP, e.g., the position could be that the team has good chances of winning

In both cases the DP corresponds to the Theme argument — situation that is commented on or a position that is argued for, and the CP describes what was said as a comment or an argument. Existence of such cases suggests that we shouldn't eliminate the possibility

of CPs modifying the causing event introduced by v_{CAUS} across the board, but that an independent mechanism is needed that would relate whether the causing event of a given predicate must have content with the possibility of its modification by a CP.

7.3 What kinds of states can saying events cause?

The lexical entry for $\emptyset_{SAY_{intent}}$, repeated below as (113), also raises another question of what kinds of states saying events can cause.

(113) $[\![\emptyset_{SAY_{intent}}]\!]^w = \lambda\mathbf{f}_{eet}.\lambda e_e.$ say(e)(w) $\wedge$ $\forall$w' [in w' Ag(e) succeeds in their intentions in e $\Rightarrow$ $\exists$x,s[$[\![\mathbf{f}]\!]^{w'}$**(x)(s) = 1** $\wedge$ CAUS(e)(s)(w')]

The first argument of $\emptyset_{SAY_{intent}}$ is a function from individuals to predicates of states. Would any such function be able to combine with $\emptyset_{SAY_{intent}}$? It seems that the answer is generally negative (not all functions will do), despite there being some cases of non-speech verbs like *otkryt'* 'open', which are able to combine with $\emptyset_{SAY_{intent}}$ as well as occur in the causative construction, giving rise to CT/CU ambiguity (114).

(114) Anja otkryla mne, čto štukaturka vdol' bukv byla pocarapana.
Anya opened me COMP plaster along letters was scratched
CT-CP: 'A. disclosed to me the fact that the plaster around the letters was scratched.'
CU-CP: 'Anya disclosed to me some fact (e.g., who is the criminal) by saying "the plaster around the letters was scratched."'

Perhaps $\emptyset_{SAY_{intent}}$ cannot combine with a function f if in no possible world a saying event could cause the result state described by f (that some individual is in). This raises more general questions of how causation works across the worlds, and what separates the possible result states of causing events from impossible ones, provided the latter exist.

References

Alexiadou, Artemis, Elena Anagnostopoulou & Winfried Lechner. 2014. Variation in repetitive morphemes: some implications for the clausal architecture. In *Workshop on the state of the art in comparative syntax, university of york*.

Beck, Sigrid. 2005. There and back again: a semantic analysis. *Journal of semantics* 22(1). 3–51.

Beck, Sigrid. 2006. Focus on again. *Linguistics and Philosophy* 29(3). 277–314.

Bogal-Allbritten, Elizabeth. 2016. *Building meaning in Navajo*. University of Massachusetts Amherst dissertation.

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. In 39th Annual Meeting of DFfS. Saarbrucken, Germany.

Bošković, Željko. 2005. On the locality of left branch extraction and the structure of NP. *Studia linguistica* 59(1). 1–45.

Brillman, Ruth & Aron Hirsch. 2016. An anti-locality account of english subject/non-subject asymmetries. In Ross Burkholder, Carlos Cisneros & Emily R. Coppess (eds.), *Proceedings from the 50th annual meeting of the chicago linguistic society. chicago, il*.

Ciardelli, Ivano, Jeroen Groenendijk & Floris Roelofsen. 2018. *Inquisitive semantics*. Oxford University Press.

Dayal, Veneeta. 1996. *Locality in WH-quantification*. Kluwer.

Djärv, Kajsa. 2019. *Factive and assertive attitude reports*. The University of Pennsylvania dissertation.

Djärv, Kajsa. 2021. Knowing and believing things: what DP-complements can tell us about the argument structure and composition of (factive) attitudes. manuscript. https://ling.auf.net/lingbuzz/005943.

Dowty, David R. 1979. *Word meaning and montague grammar*. Dordrecht: Reidel.

Elliott, Patrick D. 2016. Explaining DPs vs. CPs without syntax. In *Proceedings of cls*, vol. 52, 171–185.

Elliott, Patrick D. 2017. *Elements of clausal embedding*. UCL (University College London) dissertation.

Erlewine, Michael Yoshitaka. 2016. Anti-locality and optimality in Kaqchikel Agent Focus. *Natural Language & Linguistic Theory* 34(2). 429–479.

Ginzburg, Jonathan. 1995. Resolving questions. *Linguistics and Philosophy* 18(5). 459–527 (Part I), 567–609 (Part II).

Grimshaw, Jane & Sten Vikner. 1993. Obligatory adjuncts and the structure of events. In Eric Reuland & Werner Abraham (eds.), *Knowledge and language*, vol. II: Lexical and Conceptual Structure, 143–155. Kluwer Academic Publishers.

Halpert, Claire & David Schueler. 2013. That sentential subjects are (linked to) DPs is explained herein. *Snippets* 28.

Heim, Irene. 1991. Artikel und definitheit. In Arnim von Stechow & Dieter Wunderlich (eds.), *Semantik: ein internationales handbuch des zeitgenossischen forschung*, 487–535. Berlin: de Gruyter.

Hintikka, Jaakko. 1969. Semantics for propositional attitudes. In *Models for modalities*, 87–111. Springer.

Johnson, Kyle. 2003. Towards an etiology of adjunct islands. *Nordlyd* 31(1). Tromsø, Norway: University of Tromsø's Working Papers in Linguistics, 187–215.

Kastner, Itamar. 2015. Factivity mirrors interpretation: the selectional requirements of presuppositional verbs. *Lingua* 164. 156–188.

Keyser, Samuel Jay & Thomas Roeper. 1984. On the middle and ergative constructions in english. *Linguistic inquiry* 15(3). 381–416.

King, Jeffrey C. 2002. Designating propositions. *The Philosophical Review* 111(3). 341–371.

Kiparsky, Paul & Carol Kiparsky. 1970. Fact. In M. Bierwisch & K. Heidolph (eds.), *Progress in linguistics*, 143–173. The Hague: Mouton.

Knyazev, Mikhail. 2016. *Licensing clausal complements: The case of Russian čto-clauses*. LOT.

Kratzer, Angelika. 2006. Decomposing attitude verbs. Talk given at the Hebrew University of Jerusalem.

Kratzer, Angelika. 2016. Evidential moods in attitude and speech reports. Talk given at the 1st Syncart Workshop.

Lechner, Winfried et al. 2015. On deriving the typology of repetition and restitution. Talk given at GLOW 38.

Mc Cawley, James D. 1972. Kac and shibatani on the grammar of killing. In *Syntax and semantics volume 1*, 139–149. Brill.

Moltmann, Friederike. 1989. Nominal and clausal event predicates. In *The 25th Annual Regional Meeting of the Chicago Linguistic Society*, vol. 25, 300–314.

Moltmann, Friederike. 2013. *Abstract objects and the semantics of natural language*. OUP Oxford.

Moltmann, Friederike. 2014. Propositions, attitudinal objects, and the distinction between actions and products. *Canadian Journal of Philosophy* 43((5-6)). 679–701.

Moltmann, Friederike. 2020. Truthmaker semantics for natural language: attitude verbs, modals, and intensional transitive verbs. *Theoretical Linguistics* 46((3-4)). 159–200.

Moulton, Keir. 2009. *Natural selection and the syntax of clausal complementation*. UMass Amherst dissertation.

Moulton, Keir. 2015. CPs: Copies and compositionality. *Linguistic Inquiry* 46(2). 305–342.

Moulton, Keir. 2020a. Remarks on propositional nominalization. In *Nominalization*, 255–276. Oxford University Press.

Moulton, Keir. 2020b. Things we embed. Talk at BCGL 13: The syntax and semantics of clausal complementation.

Özyıldız, Deniz. 2019. Potential answer readings expected, missing. In *Proceedings of the workshop on turkic and languages in contact with turkic*, vol. 4, 74–88.

Özyıldız, Deniz. 2021. *The event structure of attitudes*. UMass Amherst dissertation.

Paducheva, E.V. 1980. Značenie i sintaksičeskie funkcii slova èto [the meaning and syntactic functions of the word èto]. In *Problemy strukturnoj lingvistiki [issues in structural linguistics]*, 76–91. Moscow: Nauka.

Picallo, M. Carme. 2002. Abstract agreement and clausal arguments. *Syntax* 5(2). 116–147.

Pietroski, Paul. 2000. On explaining that. *The Journal of philosophy* 97(12). 655–662.

Pietroski, Paul. 2005. *Events and semantic architecture*. Oxford University Press.

Privoznov, Dmitry. 2021. Adjunct islands are configurational. manuscript, MIT.

Rapp, Irene & Arnim Von Stechow. 1999. Fast 'almost' and the visibility parameter for functional adverbs. *Journal of Semantics* 16(2). 149–204.

Roberts, Tom. 2020. Argument saturation and intransitive modification: The double life of embedded clauses. North East Linguistics Society (NELS) 51, November 6-8, Université du Québec à Montréal.

Roelofsen, Floris & Wataru Uegaki. 2021. Searching for a universal constraint on the possible denotations of clause-embedding predicates. In *Semantics and linguistic theory*, vol. 30, 542–561.

Roussou, Anna. 1991. Nominalized clauses in the syntax of Modern Greek. In *UCL working papers in linguistics*, vol. 3, 77–100.

Takahashi, Shoichi. 2010. The hidden side of clausal complements. *NLLT* 28(2). 343–380.

Truswell, Robert. 2007. Extraction from adjuncts and the structure of events. *Lingua* 117(8). 1355–1377.

Truswell, Robert. 2011. *Events, phrases, and questions*. Oxford University Press.

Uegaki, Wataru. 2015. Content nouns and the semantics of question-embedding. *Journal of Semantics* 33(4). 623–660.

Uriagereka, Juan. 1999. Multiple spell-out. In S. Epstein & N. Hornstein (eds.), *Working miinimalism*, 251–282. Cambridge, MA: MIT Press.

Vendler, Zeno. 1972. *Res Cogitans: An Essay in Rational Psychology*.

von Stechow, Arnim. 1995. Lexical decomposition in syntax. In U. Egli & et. al (eds.), *Lexical knowledge in the organization of language,* 81–118. Benjamins: Amsterdam.

von Stechow, Arnim. 1996. The different readings of wieder 'again': A structural account. *Journal of semantics* 13(2). 87–138.

Notes

[1]However it cannot be the absence of the bread in the cupboard that Lena is trying to explain under the CU-reading, because "There is no bread in the cupboard" is not an explanation for the absence of the bread in the cupboard; it is merely a statement of this fact.

[2]Another possible way to think about CONT(ENT) is that it is a theta-role that returns a proposition when applied to a certain event or entity.

[3]A number of other verbs could have been attributed to this class, e.g. *podtverdit'* 'confirm' (what fact was confirmed vs. what was said as a confirmation), *priznat'* 'admit' (what fact was admitted vs. what was said as admission), *proanalizirovat'* 'analyze' (what was analyzed vs. what was said as the analysis), *reklamirovat'* 'advertise' (what was advertised vs. what was said in order to advertise something), but I did not focus on them in this study because the two readings of their CPs is quite difficult to distinguish truth-conditionally.

[4]Source: http://economica.com.ua/vlast/news/77784594.html

[5]Source: https://www.circus-rostov.ru/artisty-programmy-zvezdnyj-kruiz-posetili-muzej.html.

[6]Source: http://search.ruscorpora.ru/search.xml?mycorp=&mysent=&mysize=&dpp=&spp=&spd=&text=lexgramm&mode=m

mod1=sem&sem-mod1=sem2&parent2=0&level2=0&min2=1&max2=1&lex2=%F7%F2%EE&gramm2=&sem2=&flags2=&sem mod2=sem&sem-mod2=sem2&p=2&docid=40358&sid=2661

[7]Source: https://russian.rt.com/russia/article/768565-survillo-astahov-intervyu-rt.

[8]I am grateful to Enrico Flor, Giovanni Roversi and Stanislao Zompì for the judgement.

[9]I am grateful to Keny Chatain, Adele Mortier and Vincent Rouillard for the judgement. This example was modeled after the English example in (Roelofsen & Uegaki 2021: 559, ft. 11) that allows for the explanandum reading (*Now I will explain that this algorithm works whenever $x < 5$, but not when $x \geq 5$*).

[10]There is a case which might seem as a violation of this ban: CT-CPs can co-occur with a CP preceded by a demonstrative in an instrumental case, which can receive an interpretation similar to that of a CU-CP (115).

(115) Lena objasnila [(**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].
sandwiches
'Lena explained the fact that there is no bread in the cupboard with (the claim) Katja made sandwiches.'

However, these instrumental nominalized CPs do not have much in common with CU-CPs. First, they need not describe the Content of the Utterance, e.g. in (115) Lena need not have said "Katya made sandwiches". It is sufficient for her to just draw attention of other people to a claim that Katja made sandwiches in some way. For example, she might have shown others a text message that she received which claims that Katya made sandwiches. Such a context would not provide a sufficient requirement for using a bare CP. Second, whereas CU-CPs are incompatible with CT-CPs and Theme arguments, it is ungrammatical to have an instrumental CP without a CT-CP or a Theme argument:

(116) * Lena objasnila [**tem,** čto Katja delala buterbrody].
Lena explained **that.INSTR** COMP Katja made sandwiches
Intended: 'Lena explained some fact with the claim that Katja made sandwiches.'

This suggests that instrumental CPs are adjuncts inside of the sentences with Theme arguments rather than CU-CPs. Moreover, instrumental CPs differ from CU-CPs in basically all the properties that I show CU-CPs to have. We will see that CU-CPs cannot be substituted by DPs, but instrumental CPs can be (e.g., *včerašnej večerinkoj* 'with the yesterday's party' can occur in (115) instead of a CP); CU-CPs do not have proforms, but instrumental CPs have (*čem* 'with what', *tem* 'with that'), CU-CPs cannot move and do not constitute islands

for movement, but instrumental CPs can move and are islands for movement, etc. Based on this total lack of common properties, I conclude that the two kinds of clauses are not related derivationally in any way.

[11]In section 7.2 I will discuss some naturally occurring sentences that present counterexamples to the second part of this generalization, i.e., that seem to involve structures with Theme DP arguments, in which a CU-CP is possible as well. The conclusion that I will suggest is that CU-CPs should not be banned from occuring in sentences with Theme arguments across the board, but that there is a more complex connection between the properties of the predicate and whether CU-CPs can occur in the structure involving a Theme.

[12]It is curious that switching *skazala* 'said' in (23C) to *objasnila* 'explained' degrades the response. Under my analysis, this will be due to the fact that the main predicate that is created in sentences with CU-CPs by the combination of the verbal root, a null element SAY_{intent} and the clause denotes a predicate of saying events.

[13]This raises the question of how individuals with propositional content are introduced into the discourse. Examples like (24) suggest that making an assertion *p* is enough to create an individual with content *p* which can be then referred back to, but what requirements for introducing such individuals are in the general case remains to be investigated. See (Moulton 2020a,b) for recent discussion.

[14]One might wonder whether there is any proform at all that can substitute for the Content-of-Utterance CPs. I suspect that the answer is negative. The only plausible candidates are *kak* 'how' and *tak* 'so', because in sentences like (117)-(118) they can be asking about or pointing to the content of the explanation.

(117) **Kak** Lena objasnila *(èto?)
how Lena explained this
'How did Lena explain it?'

(118) Lena objasnila *(èto) **tak**.
Lena explained (it) **so**
'Lena explained it so.'

However, note that in sentences like (117)-(118) expression of the Theme argument is obligatory, whereas CU-CPs are incompatible with Theme arguments. Moreover, *kak* 'how' and *tak* 'so' do not have to ask about or point to the content of the explanation, e.g. *bystro* 'quickly' could be a response to (117). Thus, I conclude that *kak* 'how' and *tak* 'so' are manner adjuncts in a CT-CP structure rather than CU-CP proforms.

Is it surprising that there are no proforms that can substitute for CU-CPs? Natural languages seem to have verbal modifiers that form a very tight connection with the verb and cannot be substitued by proforms or questioned. Particles in many English phrasal verbs are an example of such modifiers:

(119) Jill asked Susi out.

a. *How did Jill ask Susi? — Out.

b. Did Jill ask Susi out? — * Yes, she asked her so.

So it could be that CU-CPs are similar to particles in phrasal VPs in being a modifier that contributes to the formation of the predicate and that cannot be independently referred to.

[15]There are of course verbal modifiers that can undergo A-bar movement. E.g., in (120) the *in*-adverbial moves from the VP to the left periphery of the clause. However, it seems that not all modifiers can do that, e.g., particles of phrasal verbs seems to be unable to undergo topicalization (120b).

(120) a. In 10 seconds, the peanutbutter pie was gone.

b. *Out, I would like Susi to ask me.

Again, I would like to suggest that CU-CPs are more like particles of phrasal verbs than like more independent verbal modifiers, and thus lack the ability to move on their own.

[16]This generalization is not true of attitude verbs, which allow bare CPs when they assign oblique cases:

(121) Adrej gordilsja tem čto /čto u nego ličnyj offis.
Andrej was.proud that.INST COMP /COMP by him personal office
'Andrej was proud of the fact that he has a personal office.'

However, non-attitude verbs are more informative with respect to the question of whether oblique positions require nominal structure, as the structure with a CU-CP is excluded for them because they do not describe events with propositional content. The bare CP in (121) could be a CU-CP.

[17]There are speakers for whom extraction from *čto*-clauses is degraded across the board, but even they seem to perceive extraction from CT-CPs as being worse than extraction from CU-CPs.

[18]The two subevents are glued together by a principle of semantic composition (Principle R, see (von Stechow 1996, Beck 2005)) that "inserts" the CAUSE and BECOME components and links with their help two predicates of events (one true of the causing event, one true of the result state).

[19]In (60a)-(60b) I am using the pronouns in the embedded clauses to distinguish indirect speech from direct speech: in (60a) 1st person plural pronoun includes Lena, whereas in (60b) 3rd person pronoun includes Lena (indicated with $_{k+}$). Thus, (60b) cannot be direct speech under the intended interpretation.

[20]There is however a difference in the interpretation between them. Intuitively, nominative adjectives seem to describe an individual level property, whereas instrumental asjectives seem to describe a stage-level property, but the difference is rather delicate for many adjectives.

[21]See (Knyazev 2016: section 2.2) for the arguments that the demonstrative *to* 'that' is indeed in D.

Knyazev's dissertation also provides a detailed discussion of the issue of the distribution of D's allomorphs and its dependence on the syntactic position of the nominalized clause.

[22]Note that the abstract noun, if posited, could not be said just to have *default gender*, it would need to have *no gender* at all. Neuter gender seems to be the default gender in Russian: this is the gender that the demonstrative *to* 'that', which combines with CPs, has. But if a null abstract noun was in the structure of CT-CPs and had the default gender, (73) would have been grammatical, contra to the fact.

[23]The uniqueness of the individual has to be relativized to the context in which the sentence is uttered, because generally there could of course be separate individuals with the same propositional content (e.g., two separate rumors spread by different people with the exact same content).

[24]This is the same meaning that Djärv proposes for CPs that combine with verbs like *believe*.

[25]Definition of ANS, adopted from (Dayal 1996: p. 116):

(122) $[\![\text{ANS}(Q)]\!]^w = \iota p[p \in Q \wedge p(w) \wedge \forall p' \in Q[p'(w) \Rightarrow p \subseteq p']]$

[26]Note that we cannot encode this obligatorines of ANS by saying that verbal roots introduce presuppositions that holders of the states that they describe must have propositions as their propositional Content, not sets thereof: λx: *Cont(x)* $\in D_{st}$. We can't say this because *utočnit'* 'clarify' can combine with the noun *vopros* 'question', which presumably does not meet this presupposition, and has a set of propositions as its Content.

[27]The corresponding transitive version however does not exist for this verb.

[28]Other verbs could have presuppositions that would ensure that they take only interrogative complements. When Q is interrogative, (123), the union of all the propositions in Q is the set of all possible worlds W. Thus, *ask* for example could have a presupposition associated with its event argument e that requires that info(Cont(e)(w))=W (124). This will ban *ask* from combining with declarative clauses.

(123) $[\![\text{who can win}]\!]^w = \lambda y_e$. CONT(y)(w) = {p: $\exists$x[x is human in w $\wedge$ p=λw'. x can win in w']}

(124) $[\![\text{ask}]\!]^w = \lambda e_e$: info(Cont(e)(w))=W. ask(e)(w)

[29]This also correlates with them being unable to combine with inanimate causers.

[30]http://www.imk-clinic.ru/talking.php?id=31

[31]http://www.kc-camapa.ru/cgi-bin/gbp.cgi?901414