Manuscript title:
Subjunctive clauses as Weak NPIs in Russian

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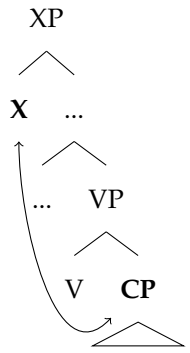
1 Introduction

It is commonly assumed that clausal selection is a local process between the matrix verb and the embedded clause, which amounts to the verb placing restrictions on the kinds of clauses it combines with. For example, the verb can restrict the syntactic category of its complement (Bresnan, 1972; Chomsky, 1973), or the semantic type of the clause (Grimshaw 1979; Pesetsky 1982, 1991, a.o.). On this view, we do not expect clausal selection to ever be sensitive to the bigger environment in which the verbal phrase occurs: e.g. in (1) we do not expect some head X higher in the structure to play a role in which kinds of clauses the verb downstairs could combine with.

(1) *Selection being sensitive to a bigger environment*



It turns out that such environment-sensitivity is actually attested in clausal embedding. For example, consider an example from English in (2):

(2) a. *Susan believes [which town was obliterated by the meteor].
(Roberts, 2019, p. 665)

b. Susan **can't** believe [which town was obliterated by the meteor].
(Roberts, 2019, p. 666)

We see that whether the verb *believe* can combine with an interrogative clause is influenced by the presence of an ability modal and negation: only when these items are present higher in the structure can *believe* select an embedded *wh*-question. Data like these raise the question: How does environment-sensitivity of clausal embedding arise, given that selection is a local process?

This paper aims to contribute to this question by investigating a case of polarity-

sensitivity of certain subjunctive complements in Russian.[1] Consider (3)–(4):

(3) Mitja pomnit čto /*čto-**by** Nastja kurila.
Mitya remembers COMP /COMP-**SUBJ** Nastya smoked
'Mitya remembers that Nastya smoked.'

(4) Mitja ne pomnit čto /čto-**by** Nastja kurila.
Mitya NEG remembers COMP /COMP-**SUBJ** Nastya smoked
'Mitya doesn't remember that Nastya smoked.'

Russian verb *pomnit'* 'remember' normally does not select subjunctive complements in Russian, (3). However, when it is embedded under certain operators, e.g. when it occurs under negation, (4), it obtains the ability to combine with a subjunctive clause. As we will see, there is a class of verbs that behave just like *pomnit'* 'remember', and the contexts in which they can combine with subjunctive clauses are the same contexts in which pronominal weak NPIs are licensed in Russian. Due to this fact, I will call subjunctive clauses that occur with verbs like *pomnit'* 'remember' **weak NPI subjunctives**.

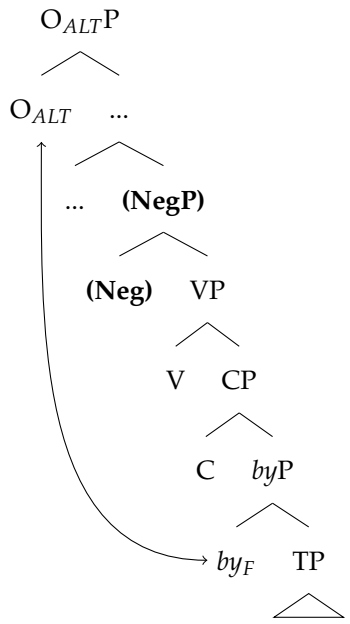
I will argue that polarity-sensitivity of these clauses in Russian arises because the subjunctive particle *by* comes with a focus feature from the lexicon, and activates subdomain alternatives of the predicate it combines with.[2] These alternatives then have to be acted upon by a focus operator (O_{ALT}) in the matrix clause, (5).

[1] Unless indicated otherwise, the data in this paper come from elicitations that the author, a native Russian speaker herself, conducted in 2019-2021 with 8 native Russian speakers from Moscow.

The examples in the paper use the following abbreviations: ACC—accusative case, COMP—complementizer, DAT—dative case, FUT—future tense, GEN—genitive case, IMP—imperative, INF—infinitive, INSTR—instrumental case, IPFV—imperfective, LIBO—Russian particle *libo*, NCI—negative concord item, NEG—negation (particle *ne*), NEG_2—Russian colloquial negation *xuj* 'dick', PFV—perfective, PST—past tense, REL—relative pronoun, SPEC—Russian particle *to* forming specific indefinites, SUBJ—subjunctive.

[2] In section 5.2 I suggest a minor amendment to this in order to extend my proposal to 'selected' subjunctives: that *by* is not itself exponing the focus feature F, but that it is a spell-out of agreement on C with F.

(5) *Environment-sensitivity due to focus association*



Because the semantics of O_{ALT} is sensitive to the entailment relations among the alternatives (cf. Lahiri 1998; Chierchia 2013; Crnič 2019, a.o.), inserting operators like negation will influence whether the meaning of O_{ALT}P is logically trivial or not (Barwise & Cooper 1981; von Fintel 1993; Gajewski 2002; Chierchia 2013, a.o.), and hence will affect whether the resulting sentence is grammatical or not. In other words, I propose that at least some cases of environment-sensitivity of clausal embedding arise because what we might have thought of as being selected (*subjunctive*) is in fact in principle freely inserted into the structure (cf. focus-marked elements in general), but such insertion in certain configurations can have semantic repercussions which cause ungrammaticality of the resulting sentence.

This paper is structured as follows. In section 2 I discuss the morphosyntactic appearance and the distribution of weak NPI subjunctives in Russian. In section 3 I compare the distribution of weak NPI subjunctives to the distribution of pronominal weak NPIs, and propose an operator-based implementation of the licensing condition for weak NPIs in Russian. In section 4 I present my proposal. I argue that clauses can be existential quantifiers with sets of situations as their restrictors, and thus they can take scope above or below different operators. I show that this analysis, together with the general mechanism for weak NPI licensing introduced in section 3, can derive the polarity-sensitivity of subjunctive clauses. I also discuss how my proposal captures the factivity alternation that we observe in environments in which both indicative and subjunctive complements are available. Section 5 discusses how the idea that subjunctive

signals activation of focus alternatives might be extended to other uses of subjunctive in Russian. Section 6 concludes the paper.

2 Subjunctive clauses as Weak NPIs

Polarity subjunctives—embedded clauses with subjunctive morphology that occur with some verbs only in certain environments—is a phenomenon that exists in many languages that have subjunctives. They have been documented at least in Bulgarian (Siegel, 2009), Catalan (Quer, 1998), French (Farkas, 1992), Italian (Brugger & D'Angelo, 1995), Modern Greek (Philippaki-Warburton, 1994; Giannakidou, 1995; Siegel, 2009), Romanian (Farkas, 1992) and Spanish (Rivero, 1971). Languages vary in which verbs polarity subjunctives can occur with, and what environments license polarity subjunctives. In this paper I will only discuss subjunctives that behave like weak NPIs in Russian.[3]

2.1 The morphosyntactic appearance

Subjunctive embedded clauses in Russian are distinguished from indicative ones in that they have a particle ***by*** attached to the complementizer *čto*, (9); indicative clauses are clauses that lack this particle. *By*, which occurs in several other contexts within the grammar, is always accompanied by *X-marking* (von Fintel & Iatridou, 2020): all finite clauses it occurs in exhibit fake past tense morphology, as is illustrated in (9).

(9) Ja ne slyšala, čto-**by** Lena **sejčas** zanimalas' boksom.
I NEG heard COMP-SUBJ Lena **now** do.PST boxing
'I haven't heard that Lena now does boxing.'

In addition to the fake past, which is shared with all the other uses of *by* in finite

[3] Russian has at least one more kind of polarity subjunctives, which we can call **strong NPI subjunctives**: these are subjunctive complements that occur with some verbs exclusively under negation. For example, verbs *dumat'* 'think' and *verit'* 'believe' take strong NPI subjunctives, (6)-(8):

(6) Ja dumaju /verju čto /*čto-**by** Nastja kurila.
I think /believe COMP /COMP-**SUBJ** Nastya smoked
'I think/believe that Nastya smoked.'

(7) Ja ne dumaju /verju čto /čto-**by** Nastja kurila.
I NEG think /believe COMP /COMP-**SUBJ** Nastya smoked
'I don't think/believe that Nastya smoked.'

(8) Tol'ko ja dumaju /verju čto /*čto-**by** Nastja kurila.
only I think /believe COMP /COMP-**SUBJ** Nastya smoked
'Only I think/believe that Nastya smoked.'

We see that *dumat'* 'think' and *verit'* 'believe' disallow subjunctive complements in upward-entailing environments, and allow them under negation. In (8) we see that they however don't allow subjunctive complements in the scope of *tol'ko*, and in fact negation is the only context in which they allow subjunctive complements. As we will see in sections 2.2 and 3, this distinguishes these verbs from verbs like *pomnit'* 'remember' and from pronominal weak NPIs. I leave the investigation of strong NPI subjunctives for future research.

clauses, weak NPI subjunctives also have fake aspect: the embedded verb must occur in the imperfective aspect no matter what its interpretation is, (10)–(11).

(10) *Tol'ko Vasja pomnit, čto-by Maša **prinesla** pizzu.
only Vasya remembers COMP-SUBJ Masha **brought.**PFV.PST pizza
'Only Vasya remembers that Masha brought pizza.'

(11) Tol'ko Vasja pomnit, [čto-by kogda my prixodili, Maša
only Vasya remembers COMP-SUBJ when we come.IPFV.PST Masha
prinosila pizzu].
brought.IPFV.PST brought pizza
a. 'Only Vasya remembers that when we came, Masha brought pizza.'
b. 'Only Vasya remembers that when we came, Masha was bringing pizza.'

As one can see, (11) is ambiguous between the reading according to which the event of Masha bringing pizza includes the event of us coming, (11b), and the reading according to which the event of Masha bringing pizza follows the event of us coming, (11a). Thus, there are three morphosyntactic ingredients of a weak NPI subjunctive:[4]

(12) *Ingredients of a Weak NPI Subjunctive:*
a. the particle *by*
b. fake past
c. fake imperfective

2.2 The distribution of Weak NPI subjunctives

Subjunctive clauses that behave like weak NPIs occur in Russian with verbs like *pomnit'* 'remember', *zamečat'* 'notice', *videt'* 'see', *slyšat'* 'hear', *obnaruživat'* 'discover' and potentially also with *čuvstvovat'* 'feel'.[5] As we see in (14)-(20), subjunctive clauses with these verbs cannot occur in upward-entailing contexts (14), but they become possible in many other contexts: under negation, (15), in the scope of *tol'ko* 'only', (16) and *malo* 'few',

[4] In this paper I will not be able to provide an account of why the embedded verb has to occur with the fake past and fake imperfective morphology. The hope is that once X-marking is better understood as a general phenomenon that constructions with conditionals, desire predicates, modals, etc. exhibit (see von Fintel & Iatridou (2020) for discussion of the issues involved), we will have an answer to why it occurs in weak NPI subjunctives. von Fintel & Iatridou (2020) propose that the general contribution of X-marking is domain widening. This bodes well with the proposal I make in the paper (section 4), once we adopt the idea present in the literature (Kadmon & Landman, 1993; Chierchia, 2004) that weak NPIs are existential quantifiers that widen the domain of quantification that would otherwise be assumed. I propose that weak NPI subjunctives are existential quantifiers over situations, and it is quite plausible that, just like other weak NPIs, they undergo domain widening—which is then reflected in the X-marking of the embedded verb.

[5] My consultants had mixed judgments about the possibility of subjunctives with *čuvstvovat'* 'feel'. One does however find quite a few naturally occurring examples with this verb, for example:

(13) Ja ne čuvstvovala, čto-**by** mne xot' kto-to soperežival.
I NEG feel.PST COMP-**SUBJ** I.DAT at.least who-SPEC empathize.PST
'I did not feel anyone empathizing with me.' <Link-to-source>

(17), in the restrictor of *každyj* 'every', (18), in questions, (19), and also in conditional antecedents, (20).[6]

(14) *"Positive" context*

Mitja zamečal /videl /slyšal čto / *čto-**by** Lena smotrela futbol.
Mitya noticed /saw /heard COMP / COMP-SUBJ Lena watch.PST soccer
'Mitya noticed/saw/heard that Lena watched soccer.'

(15) *Under negation*

Mitja ne zamečal /videl /slyšal čto / čto-**by** Lena smotrela futbol.
Mitya NEG noticed /saw /heard COMP / COMP-SUBJ Lena watch.PST soccer
'Mitya didn't notice/see/hear that Lena watched soccer.'

(16) *Scope of tol'ko 'only'*

Tol'ko Mitja zamečal /videl /slyšal čto / čto-**by** Lena smotrela futbol.
only Mitya noticed /saw /heard COMP / COMP-SUBJ Lena watch.PST soccer
'Only Mitya noticed/saw/heard that Lena watched soccer.'

(17) *Scope of malo 'few'*

Malo kto zamečal /videl /slyšal čto / čto-**by** Lena smotrela futbol.
few who noticed /saw /heard COMP / COMP-SUBJ Lena watch.PST soccer
'Few noticed/saw/heard that Lena watched soccer.'

(18) *Restrictor of každyj 'every'*

Každyj kto zamečal /videl /slyšal čto / čto-**by** Lena smotrela futbol,
every who noticed /saw /heard COMP / COMP-SUBJ Lena watch.PST soccer
govoril mne ob ètom.
told me about it
'Everyone who noticed/saw/heard that Lena watched soccer told me about it.'

(19) *Question*

Mitja zamečal /videl /slyšal čto / čto-**by** Lena smotrela futbol?
Mitya noticed /saw /heard COMP / COMP-SUBJ Lena watch.PST soccer
'Did Mitya notice/see/hear that Lena watched soccer?'

(20) *Antecedent of a conditional*

Esli Mitja zamečal /videl /slyšal čto / čto-**by** Lena smotrela futbol,
If Mitya noticed /saw /heard COMP / COMP-SUBJ Lena watch.PST soccer
on mne ob ètom skažet.
he me about this will.tell
'If Mitya noticed/saw/heard that Lena watched soccer, he will tell me about it.'

[6] An anonymous reviewer suggests that getting corpus statistics on the environments that subjunctive is licensed in with verbs like *pomnit'* 'remember' would be welcome. While a full-scale corpus study is outside the scope of this paper, a brief search in the Russian National Corpus (https://ruscorpora.ru/) supports the finding that subjunctive CPs with these verbs are polarity-sensitive: e.g. out of the fist 100 examples with the verb *pomnit'* 'remember' followed by *čtoby*, 95 contain negation, and in the remaining 5 cases the *čtoby*-clause is not a complement of 'remember'. Thus, we see that subjunctive clauses with 'remember' in upward-entailing environments are not attested.

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Notice that in sentences like (15)-(20), where the verb is embedded under some semantic operator, we observe optionality of clausal selection: both indicative and subjunctive complements are possible in these cases. In section 4.3 I show that, when both are available, subjunctive and indicative complements are not completely synonymous.

There is a number of environments in which cross-linguistically some weak NPIs (e.g., English *any*) can occur, but in which Russian weak NPI subjunctives are not licensed. Such environments include imperatives, (21), the scope of existential modals, (22), the scope of future tense, (23), and desire predicates like 'want' (24).[7]

(21) *Imperatives*

* Pomni /zamečaj čto-**by** Lena smotrela futbol!
remember.IMP /notice.IMP COMP-SUBJ Lena watch.PST soccer
'Remember/notice that Lena is watching soccer!'

(22) *Existential modals (e.g. 'possible')*

* Možno videt' čto-**by** Ira smešivala neskol'ko židkostej v probirke.
possible to.see COMP-SUBJ Ira mixed several fluids in test.tube
'It's possible to see that Ira mixed several fluids in a test tube.'

(23) *Future*

* Mitja budet zamečat' /videt' /slyšat' čto-**by** Lena smotrela futbol.
Mitya will notice /see /hear COMP-SUBJ Lena watch.PST soccer
'Mitya will notice/see/hear Lena watching soccer.'

(24) *Under desire predicates like 'want'*

* Ja xoču čto-by Mitja pomnil /zamečal čto-**by** Anja
I want COMP-SUBJ Mitya remember.PST /notice.PST COMP-SUBJ Anya
prixodila domoj posle polunoči.
came home after midnight
'I want Mitya to remember/notice Anya coming home after midnight.'

Thus, the distribution of the weak NPI subjunctives in Russian is summarized in table 1. They are possible only in the so-called *weak negative contexts*.

3 Pronominal Weak NPIs in Russian

Russian has several series of indefinite pronouns that are sensitive to the properties of the environment, many of which are built by attaching particles to wh-words (see Pereltsvaig (2000, 2004); Partee (2005); Paducheva (2011); Eremina (2012); Paducheva (2015, 2018) a.o.). Table 2 lists some of them.

[7] Two of my consultants said that they might allow (24) with 'remember' under the interpretation that the speaker wants Mitya to remember a requirement placed on Anya *"She must come home after midnight"*.

Context	*čtoby*-NPI (Weak NPI Subjunctives)
episodic UE context	*
clausemate negation	✓
scope of *only*	✓
scope of *few*	✓
restrictor of *every*	✓
polar questions	✓
conditional antecedents	✓
imperatives	*
modals (*may*)	*
future	*
desire predicates	*

Table 1: The distribution of weak NPI subjunctives.

Pronoun (series)	Description
ni-wh	negative concord items (NCIs)
wh-*libo*	weak NPI # 1
wh ***by*** *to ni bylo*	weak NPI # 2
wh-*nidub'*	non-specific (low scope) indefinite
ljuboj	free choice item (FCI)

Table 2: Some series of pronouns in Russian.

In section 3.1 I describe the distribution of the two weak NPIs, illustrating it with the wh-*libo* items (the distribution of wh *by to ni bylo* is identical to it, I omit the examples here due to space limitations)[8], and the Bagel Problem that arises from the existence of negative concord items (NCIs). In section 3.2 I present the licensing condition for weak NPIs (Pereltsvaig, 2000) and its operator-based implementation.

3.1 The distribution & the Bagel Problem

Weak NPIs in Russian are not possible in upward entailing environments, (25), and they are usually considered significantly degraded under clausemate negation, (26):[9]

(25) *Včera ja uvidel kogo-libo.
yesterday I saw who-LIBO
'I saw no one/someone.'

(26) *On ne ubedil kogo-libo.
he NEG convince.PST who-LIBO
'He didn't convince anyone.'
(Paducheva, 2011, 5, ex. (13b))

These indefinites are however possible in all the other weak negative contexts: they

[8]The two series seem to have stylistic differences, and some speakers have a general preference for using one or the other, but I was unable to find any systematic differences in their distribution.

[9]However, see Erschler (2021) for a recent claim that there are robustly attested examples with weak NPIs in the scope of clausemate negation.

are allowed in the scope of *only* and *few*, (27)–(28), in the restrictor of *every*, (29), in polar questions, (30), and in conditional antecedents, (31).

(27) *Scope of tol'ko 'only'*

Tol'ko Adam čital kakoj-libo žurnal.
only Adam read.PST what.kind-LIBO journal
'Only Adam has read any journal.' (Pereltsvaig, 2000, ex. (3d))

(28) *Scope of 'few'*

Malo kto čital kakoj-libo žurnal.
few who read.PST what.kind-LIBO journal
'Few read any journal.'

(29) *Restrictor of každyj 'every'*

Každyj, kto videl kakuju-libo pticu, govoril ob ètom.
every who saw what.kind-LIBO bird.ACC talked about it
'Everyone who saw any bird talked about it.'

(30) *Question*

Vy čitali kakoj-libo žurnal?
you read.PST what.kind-LIBO journal
'Have you read any journal?' (Pereltsvaig, 2000, ex. (3f))

(31) *Antecedent of a conditional*

Esli vy kogo-libo vstretite, pozvonite mne.
if you who.ACC-LIBO meet call.IMP I.DAT
'If you meet anyone, call me.' (Pereltsvaig, 2000, ex. (3b))

These indefinties are however ungrammatical in other environments where weak NPIs are sometimes licensed cross-linguistically: in imperatives, (32), under existential modals, (33), in future sentences, (34), and under desire predicates, (35).

(32) *Imperatives*

*Spojte nam kakuju-libo pesnju.
sing.IMP we.DAT what.kind-LIBO song.ACC
'Please sing us any/some song.' (Pereltsvaig, 2000, ex. (4a))

(33) *Existential modals*

*Vy možete vzjat' kakuju-libo knigu.
you may take.INF what.kind-LIBO book.ACC
'You may take any/some book.' (Pereltsvaig, 2000, ex. (5a))

(34) *Future*

*My vstretimsja gde-libo.
we meet.FUT where-LIBO
'We will meet anywhere/somewhere.' (Pereltsvaig, 2000, ex. (4b))

(35) *Under non-monotone predicates like 'want'*

*Ja xoču, čto-by ty kuda-libo poexal.
I want COMP-SUBJ you where-LIBO travel.PST
'I want you to travel anywhere/somewhere.'

Table 3 summarizes the distribution of pronominal weak NPIs in Russian, and compares it to the distribution of weak NPI subjunctives (*čtoby*-NPI) on the one hand, and to the distribution of other indefinites (NCIs, wh-*nibud'* items and FCIs) on the other hand.

Context	**NCI**	**Weak NPIs**	***čtoby*-NPI**	**wh-nibud'**	**FCI**
episodic UE context	*	*	*	*	*
clausemate negation	✓	*	✓	*	*
scope of *only*	*	✓	✓	?✓	*
scope of *few*	*	✓	✓	?✓	*
restrictor of *every*	*	✓	✓	?✓	*
polar questions	*	✓	✓	?✓	*
conditional antecedents	*	✓	✓	?✓	*
imperatives	*	*	*	✓	✓
modals (*may*)	*	*	*	✓	✓
future	*	*	*	✓	✓
desire predicates	*	*	*	✓	✓

Table 3: Comparison of contexts in which indefinites (Pereltsvaig 2000, 2004, Paducheva 2011, 2015) and polarity subjunctives under verbs like *pomnit'* 'remember' can appear.

As we see, the distribution of pronominal weak NPIs and subjunctive complements under verbs like *pomnit'* 'remember' is nearly identical: the only difference between the two is that the former are degraded under clausemate negation, whereas the latter are fine in that context. This raises the question of whether the semantic licensing condition for the two kinds of polarity-sensitive items is the same or not. I suggest that it is.

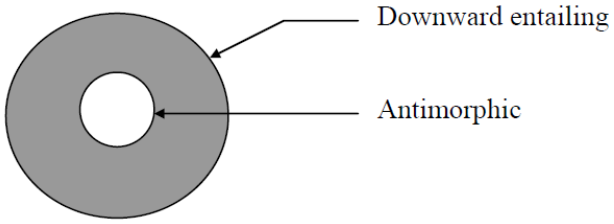
Pereltsvaig (2004) convincingly argued that a purely semantic licensing condition would be inadequate for stating the distribution of weak NPIs in Russian. One could suggest that weak NPIs in Russian are licensed in contexts that are *Downward-Entailing but not Antimorphic*, (36), thereby arriving at the "Bagel" distribution of weak NPIs, (37).

(36) *A functor is antimorphic iff:* (Pereltsvaig, 2004, ex. (13))

a. $f(X \vee Y) \Leftrightarrow f(X)$ and $f(Y)$

b. $f(X \text{ and } Y) \Rightarrow f(X) \vee f(Y)$

(37) ***The Bagel:*** *anti-morphic environments are a subset of DE environments*



(Pereltsvaig, 2004, 13)

However, that would miss the generalization that weak NPIs are ruled out only in the contexts in which NCIs are possible, and thus make some incorrect predictions. Indeed, the antimorphic context in which pronominal weak NPIs are degraded—*under clausemate negation*—is the only context in which negative concord items are allowed:

(38) On *(ne) ubedil ni-kogo.
he (NEG) convince.PST NCI-who.GEN
'He didn't convince anyone /*He convinced someone.'

It turns out that when we find antimorphic contexts in which NCIs are prohibitted, weak NPIs are accepted in them. Pereltsvaig discusses one such context: the complement of the preposition *bez* 'without'. Despite the fact that *bez* 'without' is antimorphic, NCIs are not possible in its complement, (41), whereas weak NPIs are grammatical, (42).[10] This argues against the idea that weak NPIs should be semantically banned from appearing in antimorphic environments.

(41) *Ivan opozdal na urok ni bez kakoj pričiny.
he came.late to class NCI without what.kind reason
'Ivan came to class late for no reason.' (Pereltsvaig, 2004, 14, ex. (30))

(42) Ivan opozdal na urok bez kakoj-libo pričiny.
Ivan came.late to class without what.kind-LIBO reason
'Ivan came to class late for no reason.' (Pereltsvaig, 2004, 14, ex. (30))

Another case that points to the same conclusion comes from the emphatic sentential negation *xuj* 'dick' (Erschler, 2021). Just as a regular sentential negation, *xuj* 'dick' creates an antimorphic environment. However, as observed by Erschler, *xuj* 'dick' cannot

[10] Note that when negative concord items occur in complements of prepositions, the negative particle *ni* occurs before the preposition, being separated by it from the wh-word, (39).

(39) On ne delal ètogo ni s kem.
he NEG did this NCI with who.INSTR
'He didn't do this with anybody.' (Pereltsvaig, 2004, 15, ex. (32))

The other order for (41), with *ni* being adjacent to *kakoj* 'what.kind', is ungrammatical as well:

(40) *Ivan opozdal na urok bez ni-kakoj pričiny.
he came.late to class without NCI-what.kind reason
'Ivan came to class late for no reason.'

license NCIs, but can license weak NPIs. I illustrate this with (43)–(44).[11]

(43) *Xuj Anja s"ela ni-kakoe moroženoe.
NEG$_2$ Anya ate NCI-what.kind ice-cream
'Anya didn't eat any ice-cream.'

(44) ?Xuj Anja s"ela kakoe-libo /kakoje by to ni bylo moroženoe.
NEG$_2$ Anya ate what.kind-LIBO /what.kind SUBJ SPEC NEG be.PST ice-cream
'Anya didn't eat any ice-cream.'

Thus, it seems that the apparent "Bagel"-like distribution of weak NPIs arises from competition with NCIs, and not from the semantic licensing condition banning them from occurring in antimorphic contexts. NCIs in Russian are restricted to standard clausemate negation[12], and in that context they compete with and "win" over weak NPIs. In antimorphic contexts in which NCIs are impossible, weak NPIs surface.

Thus, two series of pronouns (*wh-libo* and *wh by to ni bylo*) and subjunctive complements under verbs like *pomnit'* 'remember' have exactly the same contexts in which they are semantically licensed. This raises the question: can we have a uniform account for the polarity-sensitivity of these items? In the next sections I propose such an account.

3.2 The licensing condition & an operator-based implementation

I would like to argue that both pronominal weak NPIs and weak NPI subjunctives in Russian have the same licensing condition: they are licensed in Strawson-Downward Entailing environments (von Fintel (1999), see Fauconnier (1975, 1979); Ladusaw (1979, 1980a,b); Hoeksema (1986); Kadmon & Landman (1993), a.o., for the general proposal that downward entailingness is the right property for NPI licensing). Thus, I will be following (Pereltsvaig, 2000), who argued that a monotonicity-based approach to Russian weak NPIs fairs better compared to veridicality-based approaches (Zwarts, 1995; Giannakidou, 1997, 1998; Peres, 1998). I propose the licensing condition in (45).

(45) **Condition for licensing weak NPIs**
A weak NPI is an indefinite that's acceptable only if it is dominated by a constituent that's Strawson Downward Entailing (SDE) with respect to its restrictor.

The relevant notion of entailment that this licensing condition uses is *Strawson Entailment* (von Fintel, 1999), (46). This condition is also stated in a way that assumes that entailment properties are properties that certain constituents have with respect to their subconstituents, with the notion of Strawson Downward-Entailingness as in (47).

[11] I attribute slight degradedness of (44) that some of my consultants perceived to a register clash: while *xuj* 'dick' belongs to a very colloquial register, wh-*libo* and *wh by to ni bylo* pronouns are more formal.
[12] See for the proposals in Pereltsvaig (2004) and Erschler (2021) on how that could be achieved.

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(46) **Strawson Entailment** ($\Rightarrow_s$)
(von Fintel 1999, here via Crnič 2019: 2)

a. For any p, q of type t: p $\Rightarrow_s$ q iff p = 0 or q = 1.

b. For any f, g of type ($\sigma\tau$), f $\Rightarrow_s$ g iff for every x of type σ **such that g(x) is defined**, f(x) $\Rightarrow_s$ g(x).

(47) **Strawson Downward-Entailing (SDE)** (from Crnič 2019: 4)
A Constituent S is *Strawson Downward-Entailing* with respect to a subconstituent X iff for every X′ such that ⟦X′⟧ $\Rightarrow_s$ ⟦X⟧, it holds that ⟦S⟧ $\Rightarrow_s$ ⟦S[X/X′]⟧ (where S[X/X′] is identical to S except that X′ replaces X).

Strawson Entailment requires that when we are evaluating entailment between two functions f and g, we assume that g is defined for all objects in its domain. In other words, when we will be evaluating entailment between two sentences, P and Q, we will be asking whether P entails Q *provided the presuppositions of Q are met*.

Now let us illustrate the definition in (47) with the example in (48).

(48) [$_P$ Only Anya [ate an ice-cream]]
$\Rightarrow_s$ [$_Q$ Only Anya [ate a strawberry ice-cream]].

a. ⟦strawberry ice-cream⟧ $\Rightarrow_s$ ⟦ice-cream⟧

b. ***P is true:*** Anya ate an ice-cream and no one else ate ice-cream.

c. ***Presupposition of Q is true:*** Anya ate a strawberry ice-cream.

d. $\Rightarrow$ No one else ate a strawberry ice-cream.

The sentence *Only Anya ate an ice-cream* Strawson-Entails the sentence *Only Anya ate a strawberry ice-cream*. *Only* introduces a presupposition that its prejacent is true (von Fintel, 1999), and if *Only Anya ate an ice cream*, and *Anya ate a strawberry ice-cream*, then it follows that *Only Anya ate a strawberry ice-cream*. Thus, we can say that the sentence *Only Anya ate an ice-cream* is Strawson Downward-Entailing with respect to its subconstituent *ice-cream*—with respect to its restrictor. No matter which function f that Strawson-Entails ⟦ice-cream⟧ we pick (⟦strawberry ice-cream⟧, ⟦delicious ice-cream⟧, etc.), the original sentence will Strawson-Entail any sentence that is equivalent to it except for ⟦ice-cream⟧ being substituted by f. Thus, the condition in (45) predicts that weak NPIs should be grammatical in the scope of *only*, which is the case, as we saw in (16) and (27).

The general predictions of the condition in (45) are summarized in table 4, and compared to the actual distribution of weak pronominal NPIs and weak NPI subjunctives in Russian. With the caveat that only some theories of questions and conditionals predict

them to be Strawson Downward-Entailing environments,[13] we see that the condition in (45) picks out exactly the right class of contexts in which weak NPIs should be semantically licensed: it predicts them to be possible under negation, in the scope of 'only' and 'few', in questions, in the restrictor of 'every', and in antecedents of conditionals.[14] As discussed before, pronominal weak NPIs will compete with NCIs and "lose" under clausemate negation, but semantically they are licensed in such contexts.

Context	**weak NPIs**	***čto-by* as weak NPI**	**(45)'s predictions**
episodic UE context	*	*	*
clausemate negation	*	✓	✓
scope of *only*	✓	✓	✓
scope of *few*	✓	✓	✓
polar questions	✓	✓	✓ (under certain theories)
restrictor of every	✓	✓	✓
conditional antecedent	✓	✓	✓ (under certain theories)
imperatives	*	*	*
modals (*may*)	*	*	*
future	*	*	*
desire predicates	*	*	*

Table 4: Comparison of the distribution of weak NPIs and weak NPI subjunctives in Russian to the predictions of the licensing condition in (45).

Conditions like (45) raise many questions about why they exist and "where" in the grammar they are encoded. There is a promising line of ongoing research (Lahiri (1998); Chierchia (2013); Crnič (2019), a.m.o.) that tries to derive such conditions from interaction of two independently observed factors: (i) mechanisms needed to handle expressions that make reference to alternatives; (ii) the inability of natural language to handle structures that have contradictory or trivial meanings by the virtue of their logic—*L-analyticity* (Barwise & Cooper (1981); von Fintel (1993); Gajewski (2002), a.o.).

The general mechanism to handle alternatives is schematized in (49).

[13] That questions can be treated as an SDE environment has been claimed, for example, by Nicolae (2015), who builds on observations from (Guerzoni & Sharvit, 2014) that the strength of exhaustivity in questions correlates with the acceptability of NPIs. For discussion of monotonic analyses of conditionals and NPI licensing, see (Katz 1991; Kadmon & Landman 1993; von Fintel 1999, a.o.).

[14] There are some contexts in which weak NPIs are licensed in Russian that I have not discussed in this paper. Certain comparative constructions, complement of the preposition *bez* 'without', and a degree construction involving modifier *sliškom* 'too' are among such contexts (Pereltsvaig, 2000). My hope is that these contexts could also be analyzed as having constituents that are Strawson Downward-Entailing with respect to the restrictors of weak NPIs that occur in them, but more research is needed to determine if that is indeed the case.

(49) O [$_S$ ...X_F...]

a. **Substitutions to X:**
Set of things we get by "substituting" X for values of the same type.

b. **ALT** (set of alternatives O operates on):
Set of the alternative sentences that we get from substitution.

c. **O:** the operator says something about the prejacent and the alternatives.

In a sentence S, there is a constituent X that came into the derivation with a focus feature F. This feature F means that alternatives to X will be activated: we will look at the set of things that X can be substituted for (substitutions), and then at the set of resulting sentences—the ALT(ernative) set. A focus operator O then combines with a prejacent sentence S. This operator has access to ALT in addition to S, and introduces some information about the relationship between them. This is the general set up that is needed to handle focus association, e.g. of operators like *only* (see Rooth (1992), a.m.o.).

It has been proposed that NPIs are lexical items that are inherently F-marked, and activate alternatives. Given the schema in (49), this means that there will have to be a focus operator that acts upon the alternatives activated by NPIs. Ungrammaticality of sentences containing NPIs have been argued to result from a clash between the demands of such an operator and the nature of alternatives in the ALT set that it receives (Lahiri 1998; Chierchia 2013; Crnič 2019, a.m.o.). This is schematized in (50).

(50) **Failed NPI-licensing as result of L-analyticity**

a. The structure: O [$_S$ ...X_F...]

b. The requirement of the operator O placed on ALT: P

c. The nature of the alternatives in ALT: ¬P

d. ⇒ The sentence is L-analytic, and hence ungrammatical.

I propose that for Russian, the relevant focus-operator that is present in sentences with negative polarity items has the definition in (51).

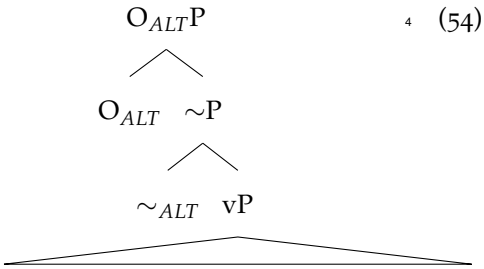
(51) $[\![O_{ALT}]\!]^{s,g} = \lambda p_{st}$: $\forall q \in g(ALT)$ [p $\Rightarrow_s$ q]. p(s)=1.

O_{ALT} takes a proposition as its argument, and whenever its definedness condition is met, returns 1 iff the proposition is true in the situation of evaluation. The definedness condition of O_{ALT} demands that the prejacent Strawson-entails all the alternatives in the alternative set. Let us now see how this operator will interact with alternatives activated by NPIs. I propose the LF in (53) for the sentence in (52).[15]

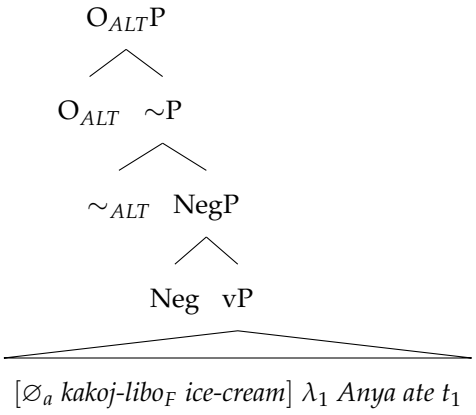
[15]Here I illustrate the proposal with a *wh-libo* pronoun *kakoj-libo* 'what.kind-LIBO', but the analysis should apply in exactly the same way to *wh by to ni bylo* pronouns.

(52) *Anja ela kakoe-libo moroženoe.
Anya ate what.kind-LIBO ice-cream
'Anya ate some ice-cream.'

(53)



(54)



I assume that the NPI *kakoj-libo* 'what.kind-LIBO' denotes a set of all individuals (type <e,t>). It comes with an F feature from the lexicon, and it is part of the restrictor of an existential quantifier. Alternatives to the set of all individuals are different subsets of the set of all individuals. After *kakoj-libo* combines with 'ice-cream', we get the set of all subsets of the set of ice-creams as the alternatives to the restrictor of the indefinite, (55).

(55) **Substitutions:**
{{x: x is an ice-cream in s},
{x: x is a strawberry ice-cream in s},
{x: x is a strawberry ice-cream with sprinkles in s},...etc.}

Now let us consider the relationship between the prejacent in (56) and at the alternative propositions in ALT that we get, (57).

(56) **Prejacent in (53):** λs. $\exists$x[ice-cream(x)$_s$ ate-Anya-x(s')$_s$]
There is an ice-cream that Anya ate.

(57) **ALT in (53):**
{{λs. $\exists$x[x $\in$ {y: ice-cream(y)$_s$} $\wedge$ ate-Anya-x(s')$_s$]},
There is an ice-cream that Anya ate.
{λs. $\exists$x[x $\in$ {y: strawberry-ice-cream(y)$_s$} $\wedge$ ate-Anya-x(s')$_s$]},
There is a strawberry ice-cream that Anya ate.
{λs.$\exists$x[x $\in$ {y: strawberry-ice-cream-with-sprinkles(y)$_s$} $\wedge$ ate-Anya-x(s')$_s$]},...etc.}
There is a strawberry ice-cream with sprinkles that Anya ate.

All of the alternatives in ALT that are not the prejacent itself are stronger than the

prejacent: e.g., if Anya ate a strawberry ice-cream, then it follows that Anya ate an ice-cream, but not vice versa. Thus, all the propositions in ALT Strawson-entail the prejacent, and the prejacent doesn't Strawson-entail its alternatives. This is true due to the nature of the alternatives that we activated: the subdomain alternatives of *an ice-cream*.

Now note that this conclusion is at odds with the presupposition of O_{ALT}, (51), which demands that the prejacent should Strawson-entail all of its alternatives. This means that the structure in (53) will always be a presupposition failure, and hence logically trivial. This L-analyticity is what leads to the ungrammaticality.

Note that if we negate the prejacent and the alternatives in (57), entailment relations will be reversed: negated prejacent will entail all of the negated alternatives. In this case, the presupposition of O_{ALT} will not cause any problems—it will in fact be always satisfied, due to the nature of the alternatives involved. Hence, O_{ALT}'s contribution will be vacuous, and the sentence with the NPI is predicted to be grammatical. We can see that this prediction is borne out: weak NPIs are licensed under the colloquial negation *xuj* 'dick', which can't license NCIs and thus evades the Bagel Problem:

(58) ?Xuj Anja ela kakoe-libo moroženoe.
NEG$_2$ Anya ate what.kind-LIBO ice-cream
'Anya didn't eat any ice-cream.'

4 Proposal: clauses as indefinites

Now that we have a general mechanism for NPI licensing in place, we can turn to the analysis of weak NPI subjunctives. I propose that **weak NPI subjunctives are indefinites**: the embedded CP is the restrictor of a null existential quantifier $\varnothing_a$, (60).

(59) Mitja ne pomnit, [$_{QP}$ $\varnothing_a$ [čto (by) Lena smotrela futbol]].
Mitya NEG remembers COMP (SUBJ) Lena watched soccer
'Mitya doesn't remember that Lena watched soccer.'

(60) $[\![\varnothing_a]\!]^{s,g} = \lambda f \in D_{et}.\ \lambda k \in D_{et}.\ \exists x\ [x \sqsubseteq s \wedge f(x)=1 \wedge k(x)=1]$

I assume that the domain of individuals includes the domain of situations, $D_s \subset D_e$. So when the embedded proposition, which denotes a set of situations, (61), combines with $\varnothing_a$, what we get as the meaning of the QP is a function that takes a predicate of situations k and returns 1 iff there is a situation within the situation of evaluation such that both the embedded proposition is true in it and k is true in it, (62).[16] Being QPs,

[16] Here I am treating the embedded clause as denoting a set of possible, potentially non-minimal situations. This is a simplification: e.g., see (Bondarenko, 2021) for arguments that the left periphery of embedded CPs is not semantically vacuous and that there are at least two distinct meanings that *čto*-clauses can have. Here I abstract away from these details, as all that will matter for my proposal is that clauses can be indefinites.

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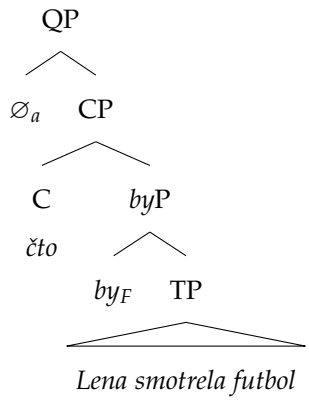
embedded clauses can take scope with respect to different operators.

(61) $[\![\textit{Lena smotrela futbol}]\!]^{s,g}$ = λs'. Lena watched soccer in s'.

(62) $[\![\text{QP}]\!]^{s,g}$ = λk $\in$ D_{st}. $\exists$s' [s' $\sqsubseteq$ s $\wedge$ Lena watched soccer in s' $\wedge$ k(s')=1]

I propose that the subjunctive particle *by* attaches to the TP within the embedded CP:

(63)



I propose that *by* is a polarity-sensitive modifier that comes focus-marked from the lexicon and thus obligatorily activates alternatives. The only way in which *by* is different from items like *kakoj-libo* 'what.kind-LIBO' is that it is a predicate of situations (<s,t>). Thus, when it combines with TP, it activates the subdomain alternatives of the embedded proposition. This is illustrated in (66) for the example in (59).[17]

(66) **Substitutions:**

{{s': Lena watched soccer in s'},

{s': Lena watched soccer in a bar in s'},

{s': Lena watched soccer in a bar with friends in s'},...etc.}

[17] An anonymous reviewer suggests an alternative idea: that subjunctive complements as in (59) should be given semantics of embedded polar questions (*'Mitya doesn't remember whether Lena watched soccer or not'*), and that then proposals such as (Mayr, 2019), which provide explanations for polarity-sensitivity of question embedding with certain verbs, might extend to weak NPI subjunctives. I would like to suggest that meanings of weak NPI subjunctives cannot be equated with polar questions, as the two lead to distinct sets of inferences. Consider (64)-(65), where the speaker explicitly asserts that they know that Anya smoked.

(64) #Ja ne pomnju kurila li Anja (ili net), xotja ja točno znaju čto ona kurila.
I NEG remember smoked Q Anya (or not) although I definitely know COMP she smoked
#'I don't remember whether Anya smoked or not, although I definitely know that she smoked.'

(65) Ja ne pomnju čto-by Anja kurila, xotja ja točno znaju čto ona kurila.
I NEG remember COMP-SUBJ Anya smoked although I definitely know COMP she smoked
'I don't remember Anya smoking, although I definitely know that she smoked.'

This context is incompatible with the speaker saying that they don't remember whether Anya smoked or not, (64). This is because they remember the true answer to the polar question if they know that Anya smoked. The sentence with a weak NPI subjunctive on the other hand is felicitous, (65). This is because all it states is that the speaker does not remember a situation of Anya smoking (they did not witness such a situation), and this is compatible with them knowing that Anya smoked. Thus, this supports my proposal that *čtoby*-CPs like in (65) describe situations (see section 5 for additional evidence from relative clauses and CPs modifying nouns).

As we see, possible substitutions for the restrictor of the indefinite QP are the subsets of the set of situations in which Lena watched soccer. I propose that the focus operator present in the sentences with the weak NPI subjunctives is exactly the same as with pronominal weak NPIs — O_{ALT}, (51). It requires that the prejacent should Strawson-entail all of its alternatives. Thus, a virtue of this proposal is that it allows us to unify two phenomena: pronominal weak NPIs and polarity-sensitive subjunctive CPs with verbs like *pomnit'* 'remember' are analyzed in a completely parallel fashion, the only difference between them being that the former are indefinite expressions ranging over individuals, whereas the latter are indefinites ranging over situations. This then immediately derives the fact that they have identical distribution.

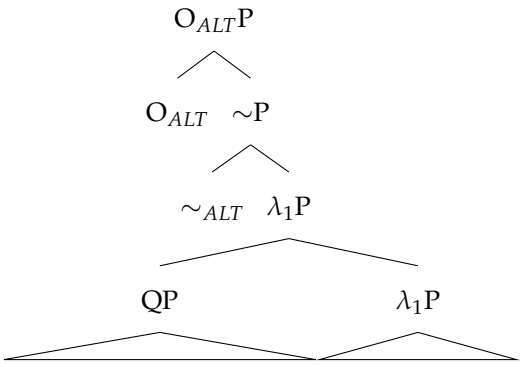
Let us now illustrate how due to the presence of O_{ALT}, licensing of weak NPI subjunctives depends on the presence of entailment-reversing operators.

4.1 UE environments & Scoping high

First, let us consider a sentence that does not contain any entailment-reversing operators, (67). I assume that it has the LF in (68).

(67) *Mitja pomnit, [$_{QP}$ $\varnothing_a$ [čto-by Lena smotrela futbol]].
Mitya remembers COMP-SUBJ Lena watched soccer
'Mitya remembers that Lena watched soccer.'

(68)



The embedded clause will undergo QR, but as there are no operators in the sentence, we won't see a scope-taking effect. The prejacent will have the meaning in (69): it will be true of s, if there is a situation of Lena watching soccer in s and Mitya remembers it.

(69) **Prejacent in (68):**

λs. $\exists$s'[s' $\sqsubseteq$ s $\wedge$ Lena watched soccer in s' $\wedge$ $\exists$s''[remembers-Mitya-s'(s'')$_s$]]

There is a situation of Lena watching soccer and Mitya remembers it.

Given the substitutions in (66), the alternative propositions in ALT will have the form *There is a situation in P' that Mitya remembers*, where *P'* is a subset of the set of situations in which Lena watches soccer, (70).

(70) **ALT in (68):**

{λs. $\exists$s'[s' $\sqsubseteq$ s $\wedge$ Lena watched soccer in s' $\wedge$ $\exists$s''[remembers-Mitya-s'(s'')$_s$]],

There is a situation of Lena watching soccer and Mitya remembers it.

λs. $\exists$s'[s' $\sqsubseteq$ s $\wedge$ Lena watched soccer in a bar in s'

$\wedge$ $\exists$s''[remembers-Mitya-s'(s'')$_s$]],

There is a situation of Lena watching soccer in a bar and Mitya remembers it.

λs. $\exists$s'[s' $\sqsubseteq$ s $\wedge$ Lena watched soccer in a bar with friends s'

$\wedge$ $\exists$s''[remembers-Mitya-s'(s'')$_s$]], ...etc.}

There is a situation of Lena watching soccer in a bar with friends and M. remembers it.

Note that by the nature of the alternatives, all of the propositions in ALT Strawson-entail the prejacent, but not vice versa: e.g., if there is a situation of Lena watching soccer in a bar that Mitya remembers, it follows that there is a situation of Lena watching soccer that Mitya remembers.[18] This means that the presupposition of O_{ALT} will never be satisfied in upward-entailing contexts, and the sentence thus will be always undefined in the virtue of its logical structure. Given the assumption that L-analyticity leads to ungrammaticality, the sentence is correctly predicted to be ungrammatical.

Note that we also predict the sentence to be ungrammatical if negation is present in the structure, but the embedded clause scopes above it. So the LF in (72) is predicted to be an impossible LF for the sentence in (71). This is because even though the prejacent contains negation, the existential quantifier scopes above it, and it still cannot be true that the prejacent, (73), Strawson-entails all of its alternatives, (74).

(71) Mitya ne pomnit, [$_{QP}$ $\varnothing_a$ [čto-by Lena smotrela futbol]].
Mitya NEG remembers COMP-SUBJ Lena watched soccer
'Mitya doesn't remember that Lena watched soccer.'

[18] Note that in this case the embedded clause does not actually describe Mitya's memories, it is a *de re* description of a situation that is part of the evaluation situation.

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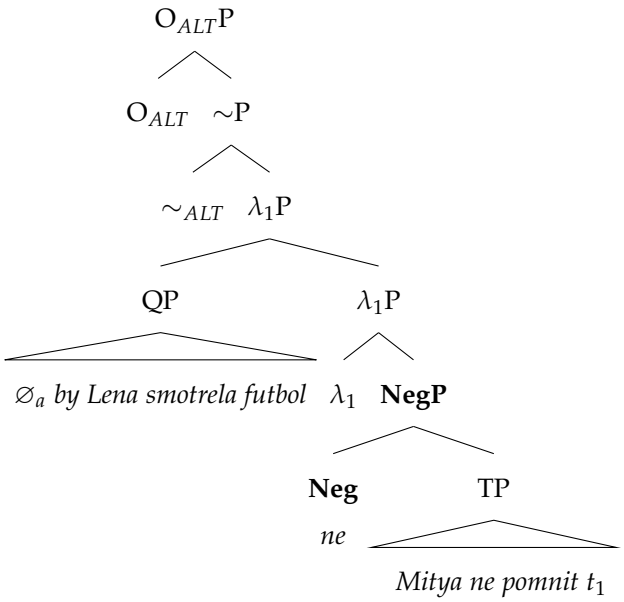
(72) **High Scope of the CP**



(73) **Prejacent in (72):**

λs. $\exists$s′[s′ $\sqsubseteq$ s $\wedge$ Lena watched soccer in s′ $\wedge$ $\neg\exists$s″[remembers-Mitya-s′(s″)$_s$]]

There is a situation of Lena watching soccer and ¬(Mitya remembers it).

(74) **ALT in (72):**

{λs. $\exists$s′[s′ $\sqsubseteq$ s $\wedge$ Lena watched soccer in s′ $\wedge$ $\neg\exists$s″[remembers-Mitya-s′(s″)$_s$]],

There is a situation of Lena watching soccer and ¬(Mitya remembers it).

λs. $\exists$s′[s′ $\sqsubseteq$ s $\wedge$ Lena watched soccer in a bar in s′
$\wedge$ $\neg\exists$s″[remembers-Mitya-s′(s″)$_s$]],

There is a situation of Lena watching soccer in a bar and ¬(Mitya remembers it).

λs. $\exists$s′[s′ $\sqsubseteq$ s $\wedge$ $\wedge$ Lena watched soccer in a bar with friends in s′
$\wedge$ $\neg\exists$s″[remembers-Mitya-s′(s″)$_s$]]}

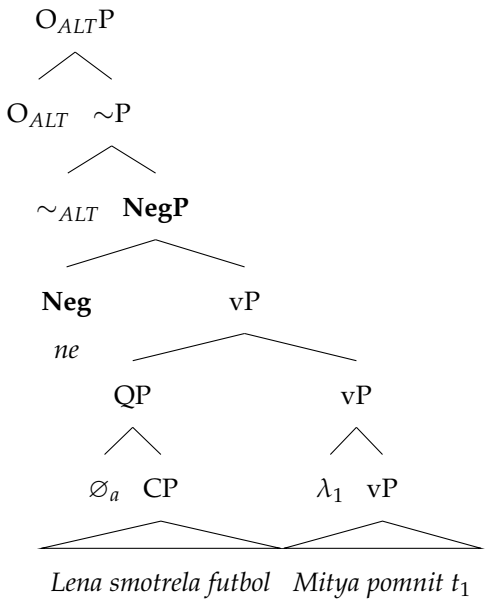
There is a situation of L. watching soccer in a bar with friends and ¬(M. remembers it).

For example, if there is a situation of Lena watching soccer that Mitya doesn't remember, it doesn't follow that there is a situation of Lena watching soccer in a bar that Mitya doesn't remember, as there just might not exist any situation of Lena watching soccer in a bar. Thus, the presupposition of O_{ALT} will never be met due to the alternatives that we activated in this configuration either, leading to L-analyticity and ungrammaticality. The same logic will derive ungrammaticality in all other instances where *by* is not dominated by a constituent that is Strawson Downward-Entailing with respect to the embedded proposition that *by* combines with.

4.2 Scoping low

Now let us consider what happens if the embedded clause scopes low, and *by* finds itself in the scope of an entailment-reversing operator like negation. For the sentence in (71), we will have the LF illustrated in (75).

(75) **Low Scope of the CP**



The prejacent in (75) will have the meaning in (76): it will be true of situations s if it's not the case that there is a situation of Lena watching soccer that Mitya remembers in s.

(76) **Prejacent in (75):**

λs. ¬∃s′,s″[s′ ⊑ s ∧ Lena watched soccer in s′ ∧ remembers-Mitya-s′(s″)$_s$]

¬*(There is a situation of Lena watching soccer that Mitya remembers).*

The alternatives to the prejacent are illustrated in (77): these will be propositions of the form *It's not the case that there is a situation in P′ that Mitya remembers*, where *P′* is a subset of the set of situations in which Lena watched soccer.

(77) **ALT in (75):**

{λs.¬∃s′,s″[s′ ⊑ s ∧ Lena watched soccer in s′ ∧ remembers-Mitya-s′(s″)$_s$],

¬*(There is a situation of Lena watching soccer that Mitya remembers)*

λs.¬∃s′,s″[s′ ⊑ s ∧ Lena watched soccer in a bar s′ ∧ remembers-Mitya-s′(s″)$_s$],

¬*(There is a situation of Lena watching soccer in a bar that Mitya remembers)*

λs.¬∃s′,s″[s′ ⊑ s ∧ Lena watched soccer in a bar with friends in s′

∧ remembers-Mitya-s′(s″)$_s$],...etc.}

¬*(There is a situation of L. watching soccer in a bar with friends that M. remembers)*

Note when the embedded clause scopes low with respect to negation, the prejacent will always Strawson-entail all of the alternatives in ALT, due to the fact that we activated subdomain alternatives of the embedded proposition. For example, if there is no situation of Lena watching soccer that Mitya remembers, then it follows that there is no situation of Lena watching soccer in a bar that Mitya remembers, or situation of Lena watching soccer in a bar with friends that Mitya remembers, and so on for any subset of the set of situations in which Lena watched soccer. Thus, the presupposition of O_{ALT} in this case will always be satisfied, its semantic contribution will be vacuous, and the particle *by* will be successfully licensed, giving rise to a grammatical sentence.

Our analysis of weak NPI subjunctives relies on the idea that in sentences like (71), the embedded clause has to take low scope with respect to negation, wide scope is predicted to be impossible. This claim receives independent support from anaphoric reference to embedded CPs. It has been observed in the literature (Karttunen (1976)) that when indefinites are in the scope of negation, pronouns cannot refer back to them. For example, cf. (78a) and (78b).

(78) a. ¬>∃: It's not the case that Mary saw [a puppy]. #It was cute.

b. ∃>¬: There is [a puppy] that Mary didn't see. It was cute.

When a sentence contains a weak NPI subjunctive clause in the context of negation, we see that the pronoun *èto* 'this' cannot refer back to this clause, (79). Compare this to (80), where an indicative clause in the same context can be referred back to by *èto*.

(79) Mitja ne pomnit [**čto-by** Lena smotrela futbol].
Mitya NEG remembers COMP-SUBJ Lena watch.PST soccer
#**Èto** bylo davno.
this was long.ago
'Mitya doesn't remember that Lena watched soccer.
This [= Lena watching soccer] happened long time ago.'

(80) Mitja ne pomnit [čto Lena smotrela futbol].
Mitya NEG remembers COMP Lena watch.PST soccer
Èto bylo davno.
this was long.ago
'Mitya doesn't remember that Lena watched soccer.
This [= Lena watching soccer] happened long time ago.'

This contrast is parallel to (78a)–(78b), and receives a ready explanation if clauses can be indefinites, and if weak NPI subjunctives are indefinites that must scope low due to the semantics of the subjunctive particle. Since weak NPI subjunctives must scope low, they will not be able to be referred back to by anaphoric expressions, just as is the

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case for other indefinites. Indicative clauses contain no elements that introduce such a restriction, and so they can take wide scope and be referred back to by *èto*.

4.3 The factivity alternation

When presented with sentences like in (81), native speakers of Russian often express an intuition that the indicative and the subjunctive versions of the sentence differ in factivity: with indicative, there is an inference that Lena did in fact watch soccer, whereas with subjunctive such an inference is absent.

(81) Mitja ne pomnit, čto / čto-**by** Lena smotrela futbol.
Mitya NEG remembers COMP / COMP-SUBJ Lena watch.PST soccer
'Mitya doesn't remember that Lena watched soccer.'
SUBJ: $\not\rightsquigarrow$ Lena watched soccer
IND: $\rightsquigarrow$ Lena watched soccer

I would like to propose that this initial impression is only partially true: i.e., the subjunctive version indeed does not have the factive inference, but the indicative version is actually ambiguous between a factive and a non-factive interpretation. Let us start with evaluating the predictions that the proposal in section 4 makes about factivity:

	INDICATIVE	SUBJUNCTIVE
High Scope	✓, factive	✗
Low Scope	✓, non-factive	✓, non-factive

Table 5: Predictions about factivity.

According to our proposal, weak NPI subjunctives have to take low scope with respect to entailment-reversing operators like negation, whereas indicative CPs should in principle be scopally unrestricted. We predict that high scope of a clause in a sentence like (81) should result in a factive inference as an entailment, (82), but that low scope of a clause should have no factive inference, (83).

(82) **High Scope:** *There is a situation of Lena watching soccer and ¬(Mitya remembers it).*
λs. $\exists$s'[s' $\sqsubseteq$ s $\wedge$ Lena watched soccer in s' $\wedge$ $\neg\exists$s''[remembers-Mitya-s'(s'')$_s$]]
$\rightsquigarrow$ Lena watched soccer

(83) **Low Scope:** *¬(There is a situation of Lena watching soccer that Mitya remembers).*
λs. $\neg\exists$s',s''[s' $\sqsubseteq$ s $\wedge$ Lena watched soccer in s' $\wedge$ remembers-Mitya-s'(s'')$_s$]
$\not\rightsquigarrow$ Lena watched soccer

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Thus, we expect weak NPI subjunctives to be non-factive, but indicative clauses in SDE contexts to generally allow for both factive and non-factive readings. First, it is indeed the case that sentences with weak NPI subjunctives do not have factive inferences:

(84) **Context:** We don't know if Anya smokes and try to find out if she does. We have been asking several people to recall whether they encountered Anya smoking.

Mitja ne pomnit [**čto-by** Anja kurila]. $\not\rightsquigarrow$ Anya smoked
Mitya NEG remembers COMP-SUBJ Anya smoke.PST
'Mitya doesn't remember that Anya smoked.'

Second, factive inferences are very often observed with indicative clauses, (85).

(85) **Context:** We all know that Anya smoked, and wonder if Mitya remembers this.

Mitja ne pomnit [**čto** Anja kurila (včera)]. $\rightsquigarrow$ Anya smoked
Mitya NEG remembers COMP Anya smoke.PST (yesterday)
'Anya smoked (yesterday), and Mitya doesn't remember it.'

Out-of-the blue, without a special context, non-factive readings of indicative sentences in SDE contexts are difficult to get. My hypothesis is that this is so because of the competition with the subjunctive clause: it is always possible in such cases and it unambiguously picks out the right LF, unlike the indicative version. However, it is possible to bring our the non-factive reading. First, the CP modifier *takoe* 'such' always seems to force embedded clauses to take low scope, and indicative clauses with this modifier are acceptable in non-factive contexts, (86).

(86) **Context:** We don't know if Anya smokes and are trying to find out if she does. We're asking people to recall whether they encountered Anya smoking.

Mitja ne pomnit **takogo** [**čto** Anja kurila].
Mitya NEG remembers **such** COMP Anya smoke.PST
'Mitya doesn't remember a situation of Anya smoking.

Second, quantifier binding can be used to enforce low scope of indicative CPs:[19]

(87) **Context:** The speaker is a social worker who is interviewing residents about potential cases of their cars being illegally evacuated. The speaker has just interviewed a building with 10 residents and reports:

Ni odin iz desjati žitelej ne pomnit, čto ego mašinu
not one from ten residents NEG remembers COMP his car
èvakuirovali.
was.evacuated
'None of the 10 residents$_i$ remembers that their$_i$ car was evacuated.'
= "It's not the case that there is a resident that has a car and recalls it being evacuated." (no inference that there were any evacuations)

[19] I am grateful to Patrick Elliott and Filipe Kobayashi for suggesting this diagnostic to me.

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In (87) *cars* must vary with *residents*, and the embedded CP thus has to be interpreted below the quantificational subject, which is interpreted below negation. If indicative clauses were presupposed to be true, we would expect this presupposition to project, and the sentence as a whole to presuppose that all of the residents have cars and all those cars were evacuated. However, this sentence can be true even if there have been no car evacuations whatsoever, which means it does not bear a factive presupposition.

Thus, on my account, the factivity alternation that we observe is a side-effect of scope-taking: the factive inference is an entailment that we get when the existential quantifier over situations is taking high scope with respect to other operators. If clauses are indefinites, our expectation is that just like other indefinites, they also might be able to take exceptionally wide scope. For example, in sentences like (88) we can interpret *some friend* as scoping outside of the conditional: there is some friend of mine, such that if they come on time this time, I will be happy. I would like to suggest that the same kinds of readings are possible for clauses (89): there was a situation of Lena cooking dinner yesterday, and if Mitya remembers it, the speaker will be surprised.

(88) If some friend of mine is on time this time, I will be happy. ✓ *if>some*, ✓ *some>if*

(89) Esli Mitja pomnit, [čto Lena včera gotovila užin], to ja udivljus'.
if Mitya remembers COMP Lena yesterday cooked dinner then I surprise
'If M. remembers that L. cooked the dinner yesterday, I will be surprised.'

Thus, according to my proposal factive inferences that "project" outside of contexts like conditional antecedents arise due to exceptional scope of indefinite clauses like in (89).

5 Subjunctive clauses in other environments

According to my analysis, subjunctive morphology in clauses that behave like weak NPIs signals activation of focus alternatives: the subdomain alternatives of the embedded proposition. An immediate question that arises is whether this idea can be extended to other uses of subjunctive.[20] Whereas a detailed investigation of this issue is outside the scope of this paper, I would like to tentatively suggest that it can: subjunctive morphology always signals activation of focus alternatives, but which alternatives are activated and what kind of item acts upon them can differ. In section 5.1 I show that my proposal correctly predicts polarity-sensitivity of subjunctive relative clauses. In section 5.2 I discuss how verbs that require subjunctive complements and verbs that can never combine with subjunctive complements might be dealt with.

[20] I thank anonymous reviewers for calling my attention to this question.

5.1 Subjunctive relative clauses

According to my proposal, *by* can appear inside of an embedded clause as long as the sentence is Strawson-Downward Entailing with respect to the proposition it attaches to. This makes a prediction that we should see polarity-sensitivity of relative subjunctive clauses when they modify objects of extensional verbs like 'see'.[21] This is borne out:

(90) Mitja videl devušku, kotoraja (*by) zanimalas' skalolazaniem.
Mitya saw young.woman REL (SUBJ) do.PST rock-climbing
'Mitya saw a woman who did rock-climbing.'[22]

(91) Mitja ne videl devušku, kotoraja (by) zanimalas' skalolazaniem.
Mitya NEG saw young.woman.ACC REL (SUBJ) do.PST rock-climbing
'Mitya didn't see a woman who did rock-climbing.'

(92) Esli Mitja videl devušku, kotoraja (by) zanimalas' skalolazaniem, to
if Mitya saw young.woman REL (SUBJ) do.PST rock-climbing then
on mne o nej rasskažet.
he me about her will.tell
'If Mitya saw a woman who did rock-climbing, he will tell me about her.'

This polarity-sensitivity of relative clauses is expected if *by* attaches to the embedded TP inside the relative clause, and the alternatives it generates are acted upon by the same operator O_{ALT} that we have seen in sentences with pronominal weak NPIs and polarity-sensitive subjunctive complement clauses. Thus, (91) will have the LF in (95).

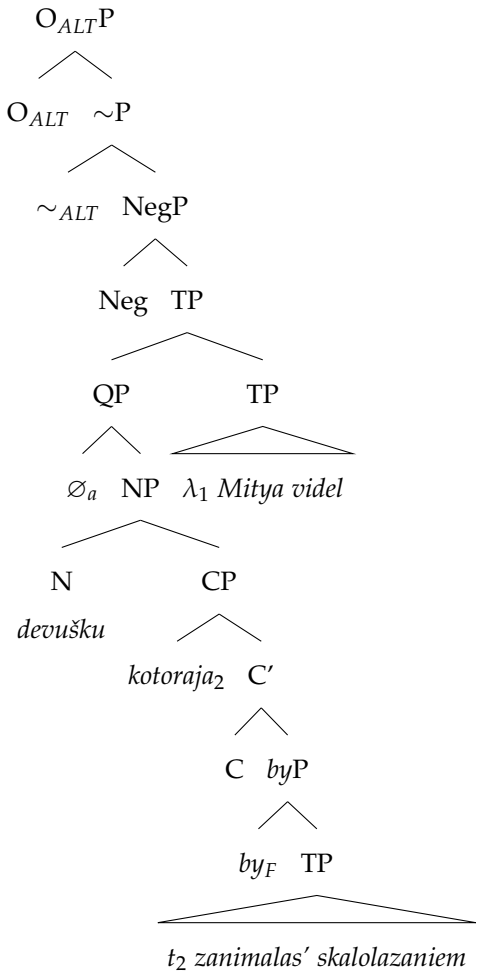
(93) **Prejacent in (95):**
$\lambda s.\neg\exists x[\text{young.woman}(x)_s \wedge \exists s''[\text{rock-climbing-x}(s'')_s] \wedge \exists s'[\text{saw-Mitya-x}(s')_s]]$
¬(There is a young woman who did rock-climbing that Mitya saw.)

(94) **ALT in (95):**
$\{\lambda s.\neg\exists x[\text{young.woman}(x)_s \wedge \exists s''[\text{rock-climbing-x}(s'')_s] \wedge$
$\exists s'[\text{saw-Mitya-x}(s')_s]],$
¬(There is a young woman who did rock-climbing that Mitya saw.)
$\lambda s.\neg\exists x[\text{young.woman}(x)_s \wedge \exists s''[\text{rock-climbing-x}(s'')_s \wedge \text{at-our-gym}(s'')_s]$
$\wedge \exists s'[\text{saw-Mitya-x}(s')_s]],$
¬(There is a young woman who did rock-climbing at our gym that Mitya saw.)
$\lambda s.\neg\exists x[\text{young.woman}(x)_s \wedge \exists s''[\text{rock-climbing-x}(s'')_s \wedge \text{at-our-gym}(s'')_s$
$\wedge \text{today}(s'')_s] \wedge \exists s'[\text{saw-Mitya-x}(s')_s]],...\}$
¬(There is a young woman who did rock-climbing at our gym today that Mitya saw.)

[21] There are intensional verbs like 'search for', with which relative clauses modifying direct objects can be subjunctive even in the absence of any additional entailment-reversing operators, presumably because the verb itself can act as an operator in such cases. See (Beghelli, 1998; Quer, 1998; Alonso-Ovalle et al., 2022) for discussion of subjunctive relative clauses in other languages.

[22] The sentence with subjunctive is grammatical under an irrelevant conditional reading: *Mitya saw a woman who (if some condition held) would do rock-climbing*, as *by* can mark consequents of conditionals.

(95) **Subjunctive RC under Neg**



In the presence of negation, the prejacent will entail all of its alternatives: if there is no woman seen by Mitya who did rock-climbing, then it follows that there is no woman seen by Mitya who did rock-climbing at our gym, or who did rock-climbing at our gym today, and so on. Thus, the requirements introduced by O$_{ALT}$ are met, and subjunctive is correctly predicted to be licensed. In the absence of negation, the entailment relations between the propositions in ALT would have been reversed, and the demands of O$_{ALT}$ would have been never met, which explains the impossibility of subjunctive relative clauses in sentences like (90). Thus, we see that my proposal, with no further assumptions, provides an explanation for polarity-sensitivity of subjunctive relative clauses.

5.2 Subjunctives with other verbs

If the proposal outlined above is on the right track, it raises the question of why subjunctive complement clauses do not *always* exhibit polarity-sensitivity: for example, why predicates like *xotet'* 'want' require subjunctive complements even in 'positive'

contexts, (96), whereas predicates like *oprovergnut'* 'refute' cannot combine with subjunctive clauses even in environments like under negation, (97)?

(96) Mitja (ne) xočet, čto-*(by) Lena smotrela futbol.
Mitya (NEG) want COMP-SUBJ Lena watched soccer
'Mitya wants/doesn't want Lena to watch soccer.'

(97) Mitja (ne) oproverg, čto-(*by) Lena smotrela futbol.
Mitya (NEG) refuted COMP-SUBJ Lena watched soccer
'Mitya refuted/didn't refute that Lena watched soccer.'

I would like to suggest that in cases of selected subjunctives like in (96), the verb itself acts like a focus-sensitive operator. This kind of analysis for selected subjunctives has been proposed before for Spanish by Villalta (2000, 2008). According to Villalta, meanings of predicates like 'want' are focus-sensitive: they require a salient set of alternatives in addition to the prejacent, and state that all alternatives not equivalent to the prejacent are less desirable to the attitude holder compared to the prejacent. In (98) I adopt this semantics (with minor adjustments[23]) for the Russian verb *xotet'* 'want':

(98) $[\![xotet'_{ALT}]\!]^s = \lambda p_{st}.\lambda x.\lambda s'.\ \forall q\ [q \neq p \wedge q \in g(\text{ALT}) \rightarrow p >_{DES_{s',x}} q]$.

The LF that I assume for sentences like (96) is exactly the same as proposed by Villalta, (99), and the only difference will have to do with the contribution of the subjunctive morphology. For Villalta, subjunctive mood contributes the squiggle operator into the structure: it introduces the presupposition that the alternative set g(ALT) is a subset of the focus semantic value of the embedded TP. In the previous sections, I assumed a different contribution of the subjunctive morpheme: that it expones an inherent focus feature F on a syntactic head that combines with the TP and activates focus alternatives.

[23] Since I am assuming situation semantics, the desire measure in (98) is relativized to an individual x and a situation s'—the situation of wanting that x finds themselves in.

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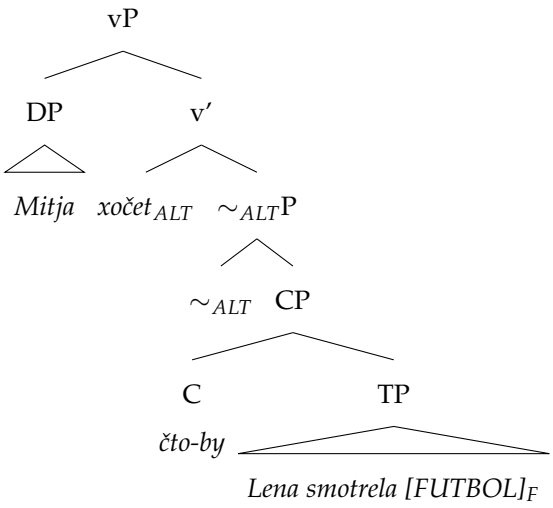
(99) **Selected Subjunctives (96)**

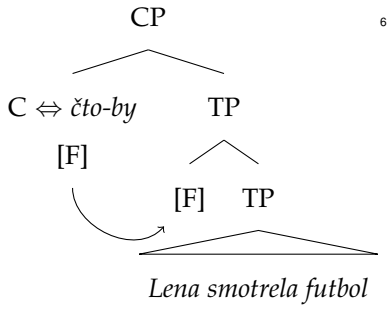


Note that if we want to unify polarity-sensitive subjunctives and selected subjunctives, neither option can be quite right. If the subjunctive mood corresponded to $\sim_{ALT}$, we would expect subjunctive morphology to appear in the matrix clause in sentences with polarity-sensitive subjunctives. If the subjunctive mood was exponence of a focus feature, then in selected subjunctives we would predict *by* to occur only directly adjacent to the focused constituent inside of the embedded clause (which does not have to be a TP). I would like to suggest that sentences like (100) reveal how to reconcile the two cases.

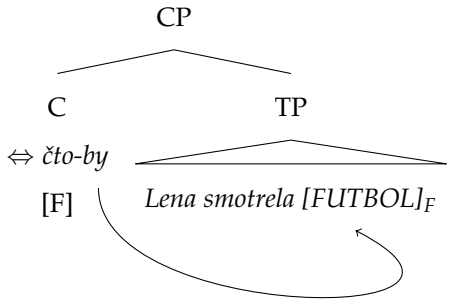
(100) Ja xoču, čto-by Lena [FUTBOL]$_F$ by smotrela, a ne figurnoe katanie.
I want COMP-SUBJ Lena soccer SUBJ watched and not ice-skating
'I want Lena to watch [SOCCER]$_F$, not ice-skating!'

In (100) we see that it is possible to insert an additional instance of *by* next to the focused constituent inside of the complement of *xotet'* 'want'. Note that this does not lead to a double-focus reading, which suggests that only one instance of *by* is interpreted. This points to the conclusion that a concord or agreement mechanism of some sort is behind at least some cases of *by*'s occurrence. One plausible hypothesis then is that *by* inside *čto-by* is spelling out a feature [F] that the complementizer received by agreeing with some focus feature [F] inside of its complement. When this feature [F] is directly combined with the TP, (101), the subdomain alternatives to the embedded proposition will be activated. When [F] combines with some other constituent, other alternatives will be activated: e.g., if it combines with the object DP, (102), we will consider other individuals in place of the one denoted by that DP. But in both cases the agreement/concord between C and the focus feature [F] will lead to C's exponence as *čto-by*.

(101) *[F] attaches to TP: Subdomain Alternatives*



(102) *[F] attaches to DP: Alternative Individuals*



Thus, the meaning of a sentence with a selected subjunctive in (99) will be (103): when applied to a situation *s'*, the sentence will be true if all salient propositions of the form *'Lena watched x'* that are not equivalent to *'Lena watched soccer'* are less desirable to Mitya in *s'* compared to *'Lena watched soccer'*.

(103) $[\![(99)]\!]^s = \lambda s'.\ \forall q\ [q \neq \lambda s.$*Lena watched soccer in s* $\wedge\ q \in \{\lambda s.$*Lena watched soccer in s,* $\lambda s.$*Lena watched tennis in s,* $\lambda s.$*Lena watched hockey in s,...*$\}$
$\rightarrow \lambda s.$*Lena watched soccer in s* $>_{DES_{s',Mitya}} q]$.

Thus, we see that the idea that subjunctive mood signals activation of focus alternatives can be maintained even when we are dealing with selected subjunctives: it is just that in that case, the verb itself is the focus-sensitive operator, and the focus feature present in the sentence can be present on different constituents within the embedded clause.

As for the verbs like *oprovergnut'* 'refute', I would like to suggest that they can never combine with subjunctive complements because the CPs they combine with do not denote sets of situations. The significance of the meaning of the embedded clause is illustrated in (104)-(105): CPs that combine with nouns like 'situation' or 'occurrence' can be weak NPI subjunctives, but CPs that combine with nouns like 'claim' or 'rumor' cannot.

(104) Mitja ne pomnit situacii, /slučaja čto-(by) grabitel' pytalsja
Mitya NEG remembers situation /event COMP-(SUBJ) robber tried
proniknut' na sklad.
get.in.INF on warehouse
'Mitya doesn't remember a situation/event of the robber trying to get into the warehouse.'

(105) Mitja ne pomnit utverždenija /sluxa, čto-(*by) grabitel' pytalsja
Mitya NEG remembers claim /rumor COMP-(SUBJ) robber tried
proniknut' na sklad.
get.in.INF on warehouse
'Mitya doesn't remember a claim/rumor that the robber tried to get into the warehouse.'

This suggests that it is important that the clause is a predicate of situations in order for it to behave like a weak NPI subjunctive, clauses with other meanings (see Bondarenko (2021) for a proposal of how clauses in (104) and (105) differ in meaning) cannot behave in the same way. Now note that the verb *oprovergnut'* 'refute' cannot combine with nouns like 'situation': one can only refute individuals with propositional content (rumors, claims, hypotheses, etc.), but not things like situations or events. Thus, I suggest that clauses that combine with verbs like 'refute' cannot be weak NPI subjunctives because they do not describe situations. I leave the question of why meanings of clauses that these verbs take are incompatible with the subjunctive mood for future research.

(106) Mitja oproverg ètot slux /*ètu situaciju.
Mitya refuted this rumor /this situation
'Mitya refuted this rumor/*this situation.'

6 Concluding remarks

In this paper I have shown that with some Russian verbs, embedded subjunctive clauses are possible in exactly the same contexts in which pronominal weak NPIs are licensed in the language. I proposed that this identical behavior arises because both kinds of expressions are indefinites: pronominal weak NPIs are existential quantifiers over individuals, weak NPI subjunctives are existential quantifiers over situations. Restrictors of these quantifiers contain inherently focus-marked elements (*-libo*, *-by to ni bylo*, *by*) that activate the subdomain alternatives. These alternatives are later operated on by the focus operator O_{ALT}, which demands that the prejacent should Strawson-entail all of its alternatives. The polarity-sensitivity arises because entailment-affecting operators can intervene between the focus-marked elements and O_{ALT}, changing how the prejacent and its alternatives relate to one another, and thereby affecting whether O_{ALT}'s contribution will lead to L-analyticity and ungrammaticality.

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