



Alternatives-based semantics for Mood:

a view from polarity subjunctives

Tanya Bondarenko (Harvard • tbondarenko@fas.harvard.edu)

Boston University

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Introduction

In many languages we see special **subjunctive** morphology on embedded verbs of certain clauses. Consider French:

- (1) a. Pierre veut que Marie **soit** heureuse.
Pierre wants COMP Marie **is.SUBJ** happy
'Pierre wants that Marie would be happy.'
- b. *Pierre veut que Marie **est** heureuse.
Pierre wants COMP Marie **is.IND** happy
Intended: 'Pierre wants that Marie would be happy.'
(Portner & Rubinstein 2020: 344)

- (2) *Jean pense
John thinks
[que Marie **ait** dessiné des montagnes].
COMP Mary **have.SUBJ** drawn of.the mountains.
Intended: 'John thinks that Mary drew mountains.'

- (3) Jean pense
John thinks
[que Marie **a** dessiné des montagnes].
COMP Mary **have.IND** drawn of.the mountains.
'John thinks that Mary drew mountains.'
(p.c. Keny Chatain and Vincent Rouillard)

“Selected” Subjunctives

obligatory subjunctive complements to verbs: verbs like French *vouloir* “select” for subjunctive—they are grammatical with subjunctive clauses but not with indicative ones

Introduction

There are also verbs that allow subjunctive complements optionally, and only in certain types of contexts:

- (4) Jean se rappelle [que Marie a
Jean REFL remembers COMP Marie **has.IND**
/*ait dessiné des montagnes].
/has.SUBJ drawn of.the mountains
'Jean remembers that Maria drew mountains.'
- (5) Jean ne se rappelle pas [que Marie
Jean NEG1 REFL remembers NEG2 COMP Marie
a **/ait** dessiné des montagnes].
has.IND **/has.SUBJ** drawn of.the mountains
'Jean doesn't remember that Maria drew mountains.'

“Polarity” Subjunctives

optional subjunctive complements to verbs that are possible only in environments with certain entailment properties:

verbs like French *rappeler* “remember” do not “select” for subjunctive, but allow it in certain environments like under negation

Questions:

1. What is the semantic contribution of mood marking?
2. How does the semantics of mood explain its distribution?

What kind of theory do we need to explain both selected subjunctives and polarity subjunctives?

Prominent Idea (with a variety of implementations):

Mood signals Comparison

“The subjunctive mood is associated with grammatical contexts which express a comparison between alternatives in which the clause is true and some other relevant alternatives”.
(Portner 2018)

Two kinds of proposals within the comparison-based approach:

Mood as Modality

subjunctive signals presence of a modal with a non-empty ordering source

(Giorgi & Pianesi 1997, Pranav & Haquard 2013, Portner & Rubinstein 2020)

Mood as Focus-sensitivity

subjunctive signals activation of (focus)-alternatives to the embedded proposition

(Villalta 2000, 2006, 2008, Bondarenko 2022, to appear)

Today's Talk: arguing for alternatives-based semantics

- **Goal#1:** Show that polarity subjunctives present a problem for the “mood as modality” approach.
- **Goal#2:** Develop an alternatives-based account of mood (Villalta 2000, 2006, 2008) that can account for both selected and polarity subjunctives.

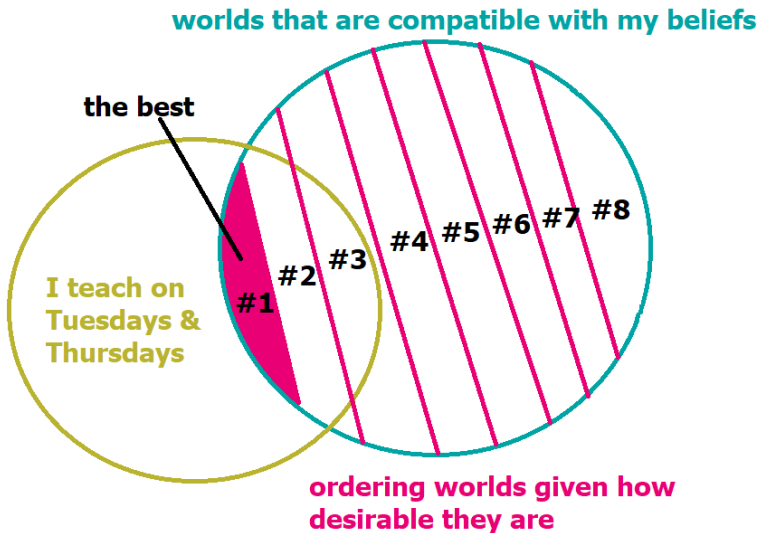
Roadmap:

1. Mood as Modality: the “proto-standard” analysis of mood.
2. The challenge: Polarity-sensitivity in Mood selection.
3. The proposal: mood signals activation of alternatives.
4. Concluding Remarks

Mood as Modality

$\llbracket \text{I want to teach on Tuesdays and Thursdays} \rrbracket^s = 1$ iff
the best worlds **according to my desires**
in **the set of worlds compatible with my beliefs** are
those where I teach on Tuesdays and Thursdays

Mood as Modality



$\llbracket \text{I want to teach on Tuesdays and Thursdays} \rrbracket^s = 1$ iff

the best worlds **according to my desires**
(bouletic ordering source)

in **the set of worlds compatible with my beliefs**
(doxastic modal base) are

those where I teach on Tuesdays and Thursdays
(prejacent = p)

Meaning of modals like *want* need two sets of worlds to evaluate the embedded proposition:

modal base $f(s)$:

the set of propositions whose intersection ($\cap f(s)$) is the set of worlds that will be the basis of evaluation of the modal

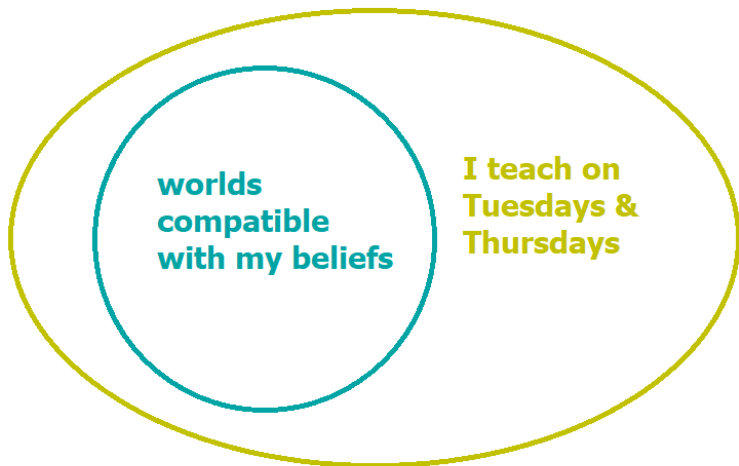
$f = dox$ in case of *want*

ordering source $g(s)$:

the set of propositions that determines a partial order over the intersection of the worlds in the modal base

$g = bul$ in case of *want*

$\llbracket \text{I believe I will teach on Tuesdays and Thursdays} \rrbracket^s = 1$ iff
all the worlds compatible with my beliefs are
those where I teach on Tuesdays and Thursdays



$\llbracket \text{I believe I will teach on Tuesdays and Thursdays} \rrbracket^s = 1$ iff

all the worlds compatible with my beliefs

(doxastic modal base) are

those where I teach on Tuesdays and Thursdays

(prejacent = p)

Meaning of modals like *believe* needs a single set of worlds to evaluate the embedded proposition:

modal base $f(s)$:

the set of propositions whose intersection ($\cap f(s)$) is the set of worlds that will be the basis of evaluation of the modal

$f = dox$ in case of *believe*

Mood as Modality

(Portner & Rubinstein 2020):

mood morphology introduces modal quantification, and the situation described by the verb is an “anchor” for the modal

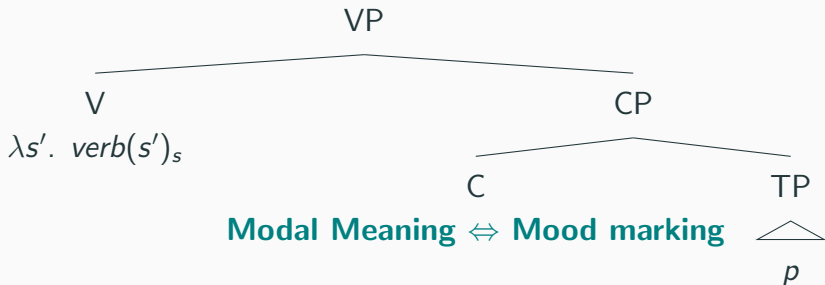
Modal Anchor Hypothesis (Kratzer 2013)

modal expressions determine their domain of quantification from particulars (events, situations, or individuals)

- (6) $\llbracket \text{want} \rrbracket^s = \lambda s'. \text{want}(s')_s$
s' is a wanting situation in s

Mood as Modality

situation **s'** is the anchor that will provide the modal with the *modal backgrounds*—the modal base and the ordering source



The modal retrieves the modal backgrounds via the function `Cont(ent)`:

Cont is a function that takes a situation/individual and returns either one or two modal backgrounds associated with it

Subjunctive Mood is a modal that requires the presence of both the modal base f and the ordering source g

$$(7) \quad \llbracket C_{SUBJ} \rrbracket^s = \\ \lambda p. \lambda s' : Cont(s') \text{ is a pair } \langle f, g \rangle. BEST(f, g, s') \subseteq p$$

where $BEST(f, g, s') =_{def}$

$$\{u : u \in \cap f(s') \wedge \neg \exists v [v \in \cap f(s) \wedge v <_{g(s')} u]\}$$

Indicative Mood

is a modal that requires the presence only of the modal base f

$$(8) \quad \llbracket C_{IND} \rrbracket^s = \lambda p. \lambda s' : \\ \text{Cont}(s') \text{ is a single background } f. ALL(f, s') \subseteq p$$

where $ALL(f, s') =_{def} \cap f(s)$

The difference between 'want' and 'believe'

For any wanting situation s' :

$$Cont(s') = \langle dox, bul \rangle$$

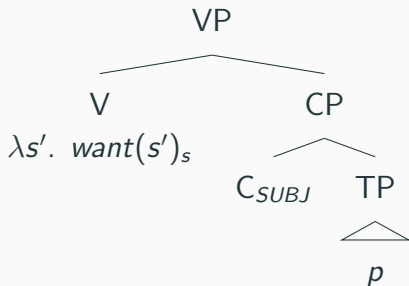
For any believing situation s' :

$$Cont(s') = dox$$

Want selects C_{SUBJ}

subjunctive mood: $\text{Cont}(s')$ is a pair of modal backgrounds

want: $\text{Cont}(s')$ is indeed a pair— $\langle \text{dox}, \text{bul} \rangle$



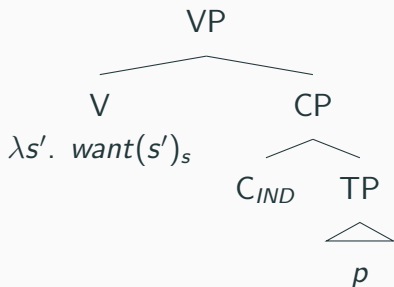
$\llbracket \text{I want to teach on Tuesdays and Thursdays} \rrbracket^s = 1$ iff
 $\exists s' [\text{want}(s')_s \wedge \text{BEST}(\text{dox}, \text{bul}, s') \subseteq p]$

Want can't combine with C_{IND}

indicative mood: $\text{Cont}(s')$ is a single modal background

want: $\text{Cont}(s')$ is a pair of modal backgrounds— $\langle \text{dox}, \text{bul} \rangle$

*

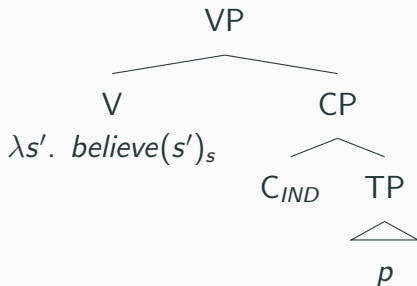


Presupposition failure!

Believe selects C_{IND}

indicative mood: $\text{Cont}(s')$ is a single modal background

believe: $\text{Cont}(s')$ is indeed a single background—*dox*



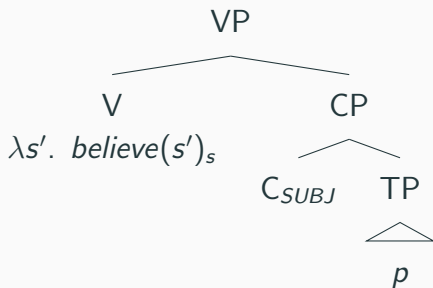
$\llbracket \text{I believe I will teach on Tuesdays and Thursdays} \rrbracket^s = 1$ iff
 $\exists s' [\text{believe}(s')_s \wedge \text{ALL}(\text{dox}, s') \subseteq p]$

Believe can't combine with C_{SUBJ}

subjunctive mood: $\text{Cont}(s')$ is a pair of modal backgrounds

believe: $\text{Cont}(s')$ is just a single background—*dox*

*



Presupposition failure!

Some features of the proposal:

- Mood is always anchored to some particular—event/individual/situation.
- That anchor determines the compatibility with the mood: the number of the backgrounds that it projects is crucial to the choice between indicative vs. subjunctive.
- No expectation that the environment “above” the anchor would play a role.
- No expectation of focus-sensitivity.

The challenge

The challenge: Polarity-sensitivity in Mood selection

...it is difficult to set up a system in which the focus marked by a subjunctive complement clause can only be interpreted by the embedding verb.

For example, why can't the subjunctive mood be interpreted in connection with a different focus-sensitive operator, like only, leaving the subjunctive-marked clause as a whole free to embed under an indicative selector?

(Portner 2018: 90)

The challenge: Polarity-sensitivity in Mood selection

Today's claim: the subjunctive mood **can** be interpreted in connection with other focus-sensitive operators.

The challenge: Polarity-sensitivity in Mood selection

Most (all?) languages that have subjunctives have also been reported to have polarity-sensitive subjunctives:

- Bulgarian (Siegel 2009)
- Catalan (Quer 1998)
- French (Farkas 1992)
- Icelandic (p.c. Hrefna Svavarsdottir)
- Italian (Brugger & D'Angelo 1995)
- Modern Greek (Philippaki-Warburton 1994; Giannakidou 1995; Siegel 2009, a.o.)
- Romance (Farkas 1992)
- Russian (Dobrushina 2012, 2016, Bondarenko 2022)
- Spanish (Rivero 1971)

The challenge: Polarity-sensitivity in Mood selection

I'd like to focus on two subtypes of polarity subjunctives from Russian today:

- polarity subjunctives under perception verbs;
- subjunctive relative clauses.

What unites them: both have the distribution of weak NPIs.

A note on morphology

Subjunctive mood: the particle *by* attaches to the complementizer *čto*, accompanied by the so-called X-marking on the embedded verb (von Fintel & Iatridou, 2023)

- fake past tense morphology;
- fake imperfective morphology.

Indicative mood: no particle on the complementizer

The challenge: Polarity-sensitivity in Mood selection

perception verbs that take polarity subjunctives in Russian:

- *pomnit* 'remember',
- *zamečat* 'notice',
- *videt* 'see',
- *slyšat* 'hear',
- *obnaruživat* 'discover',
- *čuvstvovat* 'feel'

The challenge: Polarity-sensitivity in Mood selection

(9) *“Positive” context*

Mitja zamečal /videl /slyšal čto / *čto-**by**
Mitya noticed /saw /heard COMP / COMP-**SUBJ**

Lena smotrela futbol.

Lena watch.PST soccer

‘Mitya noticed/saw/heard that Lena watched soccer.’

(10) *Under negation*

Mitja ne zamečal /videl /slyšal čto /
Mitya NEG noticed /saw /heard COMP /
čto-**by** Lena smotrela futbol.

COMP-**SUBJ** Lena watch.PST soccer

‘Mitya didn’t notice/see/hear that Lena watched soccer.’

The challenge: Polarity-sensitivity in Mood selection

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

Tol'ko Mitja zamečal /videl /slyšal čto /
only Mitya noticed /saw /heard COMP /
čto-**by** Lena smotrela futbol.

COMP-SUBJ Lena watch.PST soccer

'Only M. noticed/saw/heard that Lena watched soccer.'

(12) *Scope of malo 'few'*

Malo kto zamečal /videl /slyšal čto /
few who noticed /saw /heard COMP /
čto-**by** Lena smotrela futbol.

COMP-SUBJ Lena watch.PST soccer

'Few noticed/saw/heard that Lena watched soccer.'

(13) *Restrictor of každýj 'every'*

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

'Everyone who noticed/saw/heard that Lena watched
soccer told me about it.'

The challenge: Polarity-sensitivity in Mood selection

(14) *Question*

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

(15) *Antecedent of a conditional*

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

The challenge: Polarity-sensitivity in Mood selection

NB: These are not the only verbs that allow for polarity subjunctives. There is a number of epistemic verbs that combine with subjunctive complements exclusively under negation. I'll set these aside for now.

- *dumat* 'think',
- *verit* 'believe',
- *predpolagat* 'suppose',
- *podozrevat* 'suspect',
- *predstavljat* 'imagine',
- *nadejat'sja* 'hope'.

The challenge: Polarity-sensitivity in Mood selection

Relative clauses also exhibit polarity-sensitivity when it comes to licensing subjunctive.

- (16) Mitja videl devušku, kotoraja (*by) zanimalas'
Mitya saw young.woman REL (SUBJ) do.PST
skalolazaniem.
rock-climbing
'Mitya saw a woman who did rock-climbing.'¹

¹The 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.

The challenge: Polarity-sensitivity in Mood selection

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

The challenge: Polarity-sensitivity in Mood selection

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

Distribution of polarity subjunctives

Polarity subjunctives with RCs (SUBJ REL) and with perception verbs (SUBJ + V_{perc}) have the same distribution as pronominal weak NPIs modulo the clausemate negation, where Negative Concord Items (NCIs) “win over” weak NPIs.

The challenge: Polarity-sensitivity in Mood selection

Context	NCI	Weak NPIs	SUBJ REL	SUBJ + V_{perc}
episodic UE context	*	*	*	*
clausemate negation	✓	*	✓	✓
scope of <i>only</i>	*	✓	✓	✓
scope of <i>few</i>	*	✓	✓	✓
restrictor of <i>every</i>	*	✓	✓	✓
polar questions	*	✓	✓	✓
conditional antecedents	*	✓	✓	✓

Table 1: Comparison of contexts in which indefinites (Pereltsvaig 2000, 2004, Paducheva 2011, 2015) and subjunctive relative clauses can appear.

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 challenge: Polarity-sensitivity in Mood selection

- (20)
- a. Mary saw a cat.
 - b. $\gamma \rightarrow$ Mary saw a gray cat.
 - c. *Mary saw any cat.
- (21)
- a. Mary didn't see a cat.
 - b. $\rightsquigarrow$ Mary didn't see a gray cat.
 - c. Mary didn't see any cat.
- (22)
- a. Every girl who saw a cat is happy.
 - b. $\rightsquigarrow$ Every girl who saw a gray cat is happy.
 - c. Every girl who saw any cat is happy.

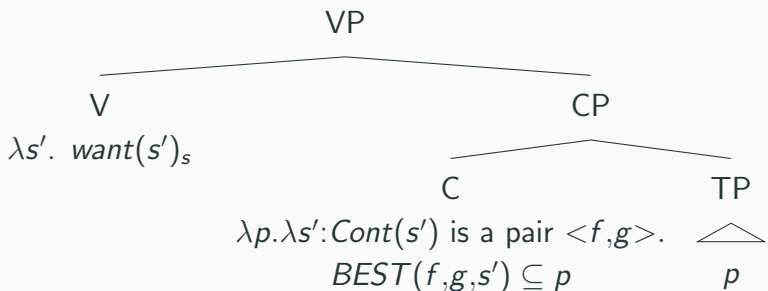
The Puzzle of Polarity Subjunctives:

Why are these subjunctive clauses in RCs and with perception verbs sensitive to the entailment properties of the environment just like pronominal expressions such as *any*?

The challenge: Polarity-sensitivity in Mood selection

The challenge for the Modality-as-Mood idea

Under this view subjunctive is a modal that is “anchored” to a predicate. Subjunctive is possible when the content retrieved from a situation is a pair of modal backgrounds.



compatible since $\text{Cont}(s') = \langle \text{dox}, \text{bul} \rangle$

The challenge: Polarity-sensitivity in Mood selection

Consider (23). The predicate *pomnit*' cannot provide a situation argument with two modal backgrounds: if it did, the sentence would be fine without negation.

- (23) Mitja *(ne) pomnit
Mitya (NEG) remembers
[čto-**by** Lena smotrela futbol].
COMP-SUBJ Lena watch.PST soccer
'Mitya doesn't remember/*remembers that Lena
watched soccer.'

But then why is subjunctive possible under negation?

The challenge: Polarity-sensitivity in Mood selection

The same issue arises with relative clauses: there is no obvious predicate in (24) that would “project” two modal backgrounds.

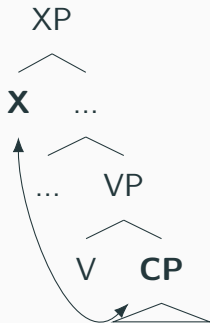
- (24) Mitja *(ne) vstrečal devušku, kotoraja
Mitya (NEG) met young.woman.ACC REL
by zanimalas' skalolazaniem.
SUBJ do.PST rock-climbing
'Mitya didn't see a woman who did rock-climbing.'

How can the presence of negation suddenly provide the two backgrounds for the modal to operate on?

The challenge: Polarity-sensitivity in Mood selection

And not just negation: all elements creating an SDE environment need to magically “equip” a lower verbal predicate with two modal backgrounds.

(25) *Environment-sensitivity*



The proposal

Main Idea:

We can provide a uniform analysis of selected and polarity subjunctives if instead of the “proto-standard” analysis of mood we pursue the idea proposed by Villalta (2000,2006,2008) that mood marking has to do with activation of focus alternatives to the embedded proposition.

Mood as Focus-sensitivity

(Villalta 2008):

mood morphology signals activation of focus alternatives to the embedded proposition, predicates like 'want' are inherently focus-sensitive—they *require* a set of alternatives

The proposal: mood signals activation of alternatives

Context: Lisa doesn't want John to be the one teaching syntax. But John will teach syntax, and given this, Lisa prefers it if he teaches on Tuesdays and Thursdays rather than on Mondays, Wednesdays and Fridays.

- (26) Lisa wants John to teach syntax *true*
[on Tuesdays and Thursdays]_F.
- (27) Lisa wants [John]_F to teach syntax *false*
on Tuesdays and Thursdays.

The proposal: mood signals activation of alternatives

Other verbs don't show the same focus-sensitivity: (28) and (29) have the same truth conditions.

(28) Lisa knows/said that John teaches syntax
[on Tuesdays and Thursdays]_F.

(29) Lisa knows/said that [John]_F teaches syntax
on Tuesdays and Thursdays.

(See Rubinstein 2012, Phillips-Brown 2018, Pasternak 2018 for criticism of Villalta's approach)

The proposal: mood signals activation of alternatives

$\llbracket \text{I want to teach on Tuesdays and Thursdays} \rrbracket^{s,g} = 1$ iff
there is a set of contextually relevant alternative
propositions $g(ALT)$, such that all the propositions there are
compatible with my beliefs, and the proposition “I teach
on Tuesdays and Thursdays” is more desirable to me
than the other propositions in $g(ALT)$

The proposal: mood signals activation of alternatives

$g(\text{ALT}) =$

$\{\lambda s'. \text{I teach on Tuesdays and Thursdays in } s',$
 $\lambda s'. \text{I teach on Mondays and Wednesdays in } s',$
 $\lambda s'. \text{I teach on Fridays in } s'\}$

The proposal: mood signals activation of alternatives

The presupposition ensures that all the propositions in the set of alternatives have non-empty intersection with the doxastic set of the attitude holder:

$$\forall q \in g(ALT)[\cap dox(s') \cap q \neq \emptyset]$$

$\rightsquigarrow$ I believe that I might teach on Tuesday & Thursday

$\rightsquigarrow$ I believe that I might teach on Monday & Wednesday

$\rightsquigarrow$ I believe that I might teach on Friday

The proposal: mood signals activation of alternatives

The assertion states that all alternatives distinct from the prejaacent p are less desirable compared to p :

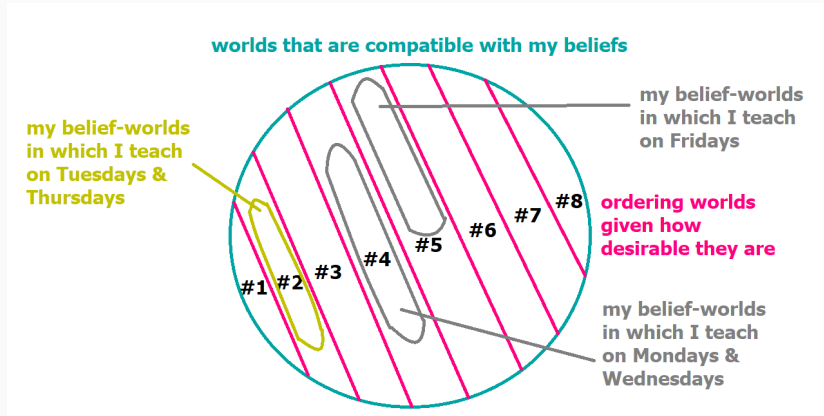
$$\forall q[q \neq p \wedge q \in g(ALT) \rightarrow p \leq_{bul(s')} q]$$

$\rightsquigarrow$ I teach on Tue & Thur $\leq_{bul(s')}$ I teach on Mon & Wed

$\rightsquigarrow$ I teach on Tue & Thur $\leq_{bul(s')}$ I teach on Fri

The proposal: mood signals activation of alternatives

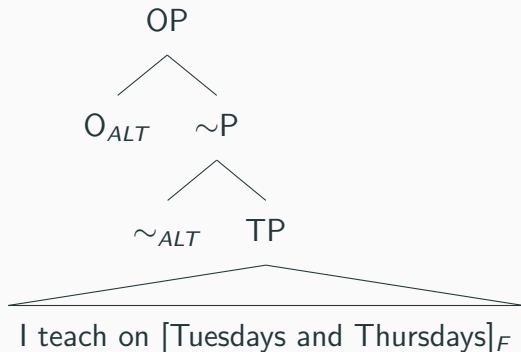
NB: Tue & Thur do not have to be *the* best worlds—they are just better than contextually salient alternatives.



The proposal: mood signals activation of alternatives

Generating focus alternatives

Three ingredients: focus feature (F), the squiggle operator ($\sim_{ALT}$), and the focus-sensitive operator (O_{ALT}).



The proposal: mood signals activation of alternatives

$\llbracket \text{TP} \rrbracket_o^{s,g} = 1$ iff I teach on Tuesdays and Thursdays

$\llbracket \text{TP} \rrbracket_f^{s,g} =$

$\{\lambda s'. \text{I teach on Tuesdays and Thursdays in } s',$
 $\lambda s'. \text{I teach on Mondays and Wednesdays in } s',$
 $\lambda s'. \text{I teach on Fridays in } s',$
 $\lambda s'. \text{I teach on Saturdays in } s' \dots\}$

The proposal: mood signals activation of alternatives

The squiggle operator demands that $g(ALT) \subseteq \llbracket TP \rrbracket_f^{s,g}$

$\llbracket \sim_{ALT} \phi \rrbracket_o^{s,g}$ is defined only iff $g(ALT) \subseteq \llbracket \phi \rrbracket_f^{s,g}$,
where defined, $\llbracket \sim_{ALT} \phi \rrbracket_o^{s,g} = \llbracket \phi \rrbracket_o^{s,g}$

The proposal: mood signals activation of alternatives

So for example the following is a possible $g(\text{ALT})$ set:

$$g(\text{ALT}) = \llbracket \text{TP} \rrbracket_f^{s,g} =$$

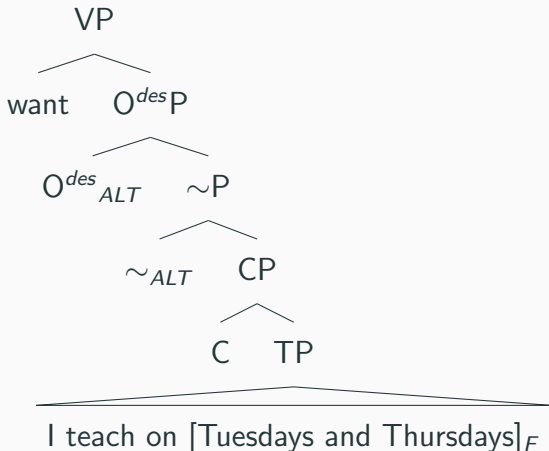
$\{\lambda s'. \text{ I teach on Tuesdays and Thursdays in } s',$
 $\lambda s'. \text{ I teach on Mondays and Wednesdays in } s',$
 $\lambda s'. \text{ I teach on Fridays in } s'\}$

The proposal: mood signals activation of alternatives

O_{ALT} is a operator that tells us how the alternatives in the $g(ALT)$ are related to the prejaacent

The proposal: mood signals activation of alternatives

We can think of the meaning of *want* as consisting of the following ingredients: lexical verb + O_{ALT}^{des} + $\sim_{ALT}$.



The proposal: mood signals activation of alternatives

We can state the meaning of O^{des}_{ALT} as follows:

$$\llbracket O^{des}_{ALT} \rrbracket^{s,g} = \lambda \mathbf{p} . \lambda s' : \text{Cont}(s') \text{ is a pair } \langle \mathbf{f}, \mathbf{g} \rangle \wedge$$

$$\forall q \in g(ALT) : \cap \mathbf{f}(s') \cap q \neq \emptyset .$$

$$\forall q [q \in g(ALT) \wedge q \neq \mathbf{p} \rightarrow BETTER_{\mathbf{g},s'}(\mathbf{p})(q)]$$

where $BETTER_{\mathbf{g},s'}(\mathbf{p})(q)$ holds iff for every accessible q -world there is an accessible $\mathbf{p}$ -world which is as least as close to the desired ideal (but not vice versa)

The proposal: mood signals activation of alternatives

In case of *want*, $f = \text{dox}$ and $g = \text{bul}$:

$$\llbracket O^{des}_{ALT} \rrbracket^{s,g} = \lambda \mathbf{p} . \lambda s' : \text{Cont}(s') \text{ is a pair } \langle \text{dox}, \text{bul} \rangle \wedge$$

$$\forall q \in g(ALT) : \cap \text{dox}(s') \cap q \neq \emptyset .$$

$$\forall q [q \in g(ALT) \wedge q \neq \mathbf{p} \rightarrow \text{BETTER}_{\text{bul},s'}(\mathbf{p})(q)]$$

NB: This proposal shares many of the same ingredients with the “proto-standard” analysis, the addition of contextual alternatives is the crucial difference.

The proposal: mood signals activation of alternatives

$\llbracket \text{I want to teach [on Thursdays and Fridays]}_F \rrbracket^{s,g}$ is defined iff **all contextually salient alternative propositions** of the form *“I want to teach on X”* are compatible with **my believes**,

where defined, it is true **the proposition “I teach on Tuesdays and Thursdays”** is **more desirable to me** than other contextually salient alternative propositions.

The proposal: mood signals activation of alternatives

This is why (30) can be true while (31) false at the same time: while “John teaches syntax on Tue & Thu” is more desirable to Lisa than John teaching on other days of the week, it is less desirable to Lisa than other people teaching on Tue & Thu.

(30) Lisa wants John to teach syntax *true*
[on Tuesdays and Thursdays]_F.

(31) Lisa wants [John]_F to teach syntax *false*
on Tuesdays and Thursdays.

What is the role of subjunctive in this semantics?

- Villalta 2008: subjunctive mood is the realization of the squiggle operator ($\sim_{ALT}$).
- So for her it is *not* the focus-sensitive modal operator itself that corresponds to subjunctive morphology.

My proposal

- **Subjunctive morphology** is agreement with the obligatorily active focus feature in the clause it embeds—we can label it $[F^*]$.
- Such features can be present in the derivation if and only if there is a focus-sensitive modal operator (lexical or functional) that will operate on them.

The proposal: mood signals activation of alternatives

Why not associate SUBJ with O_{ALT}^{des}

Russian *by* can be optionally doubled: occur to the right of focused constituents within the clause.

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

NB: This would predict unattested doubly-modal readings if SUBJ itself was the modal operator.

Why not associate SUBJ with $\sim_{ALT}$

Wrong predictions about morphology of polarity subjunctives: as we will see, $\sim_{ALT}$ will need to be higher than the matrix verb, whereas SUBJ morphology is inside the embedded CP.

The proposal: mood signals activation of alternatives

We need to distinguish [F*] from the optional focus features [F] that we can add to any sentence, which don't trigger subjunctive morphology on the complementizer:

- (33) Ja dumaju,
 I think
 [čto/*čto-by Maša prinesla [PIZZU]_F].
 COMP/COMP-SUBJ Masha brought pizza
 'I think that Masha brought [PIZZA]_F'

I would be really grateful for any feedback on how to draw the [F*] vs. [F] distinction in a more principled way!

The proposal: mood signals activation of alternatives

Obligatorily active focus features have played an important role in the analysis of NPIs (Chierchia 2013, a.o.): items like *any* obligatorily activate alternatives, leading to polarity-sensitivity:

- (34)
- a. Mary read a/ A_F book.
 - b. Mary didn't read a/ A_F book.
 - c. *Mary read any $_{F*}$ book.
 - d. Mary didn't read any $_{F*}$ book.

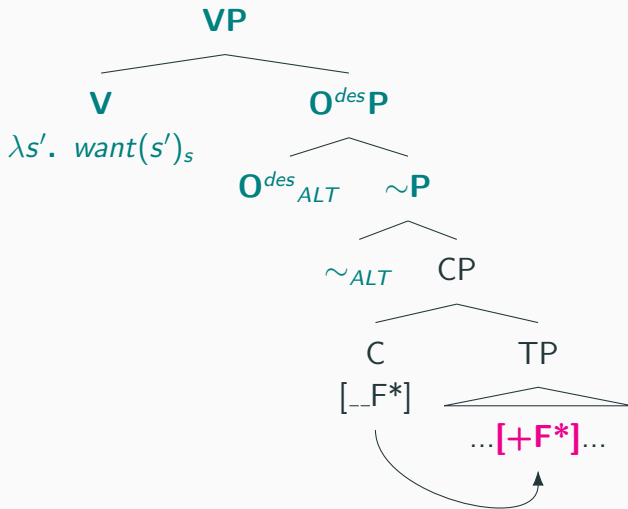
Note that an F-bearing *a* does not seem to show the same polarity-sensitivity, suggesting that it doesn't interact with focus-sensitive operators in the same way.

Selected Subjunctives

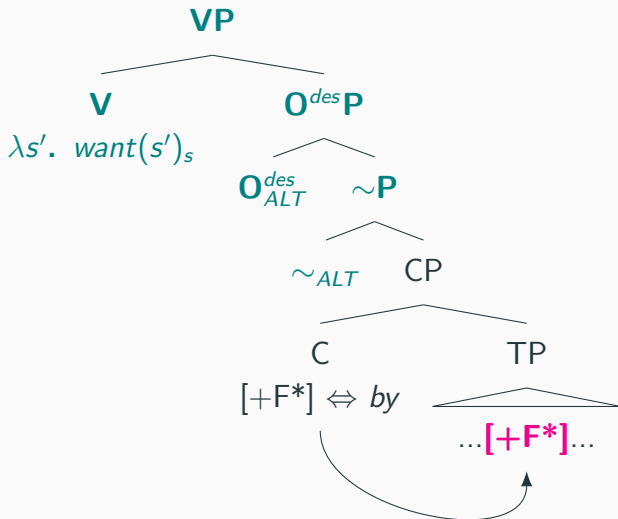
Verbs like *xotet* 'want' have focus-sensitive operators as part of their meanings, CP they embed must contain an $[F^*]$ feature, which the complementizer *čto* agrees with:

- (35) Mitja (ne) xočet,
Mitya (NEG) want
[čto-*(by) Lena smotrela [FUTBOL] $_{F^*}$].
COMP-SUBJ Lena watched soccer
'Mitya wants/doesn't want Lena to watch
[SOCCER] $_{F^*}$.'

The proposal: mood signals activation of alternatives



The proposal: mood signals activation of alternatives



The proposal: mood signals activation of alternatives

The presence of $[F^*]$ ensures that the focus value of CP is a non-empty set of propositions, which would allow this CP to compose with $\sim_{ALT}$ and then O_{ALT}^{des} .

$$(36) \quad \llbracket CP \rrbracket_o^{s,g} = \lambda s'. \text{Lena watched soccer in } s'$$

$$(37) \quad \llbracket CP \rrbracket_f^{s,g} = \\ \{ \lambda s'. \text{Lena watched soccer in } s', \\ \lambda s'. \text{Lena watched tennis in } s', \\ \lambda s'. \text{Lena watched hockey in } s', \dots \}$$

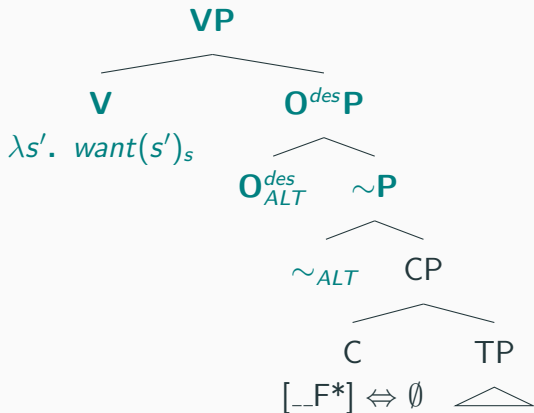
The proposal: mood signals activation of alternatives

$\llbracket \text{Mitya wants that Lena would watch [SOCCER]}_{F*} \rrbracket_o^{s,g} = 1$ iff

‘Mitya finds all contextually relevant propositions of the form
Lena watched X less desirable than the proposition
Lena watched SOCCER.’

The proposal: mood signals activation of alternatives

If there is no $[F^*]$ feature present in the CP, C's search to find $[F^*]$ will fail, leading to the absence of the subjunctive *by*.



The proposal: mood signals activation of alternatives

The absence of $[F^*]$ will mean that the focus value of CP is the empty set. With the assumption that $g(ALT)$ must be non-null, $\llbracket \sim_{ALT} CP \rrbracket_o^{s,g}$ will never be defined, (39).

$$(38) \quad \llbracket CP \rrbracket_f^{s,g} = \emptyset$$

$$(39) \quad \llbracket \sim_{ALT} CP \rrbracket_o^{s,g} \text{ is not defined because it can never be the case that } g(ALT) \subseteq \emptyset$$

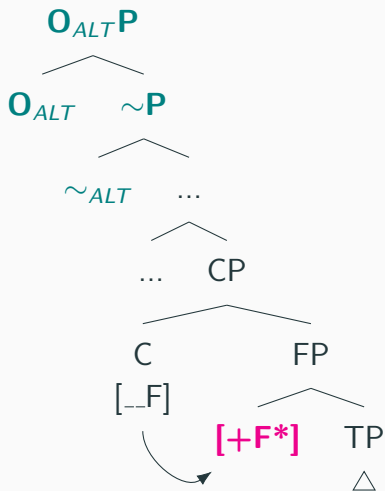
As long as predicates like *want* are blind to the non-obligatory features $[F]$, we predict that **such predicates are incompatible with indicative.**

Polarity Subjunctives

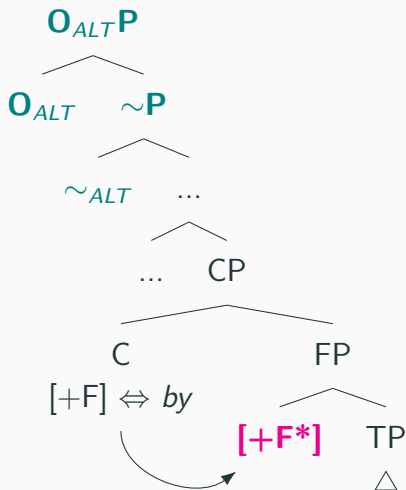
(with perception verbs and RCs)

- Embedded TP combines with an obligatorily active focus feature $[F^*]$ that activates subdomain alternatives to the embedded proposition.
- Embedded C agrees with this $[F^*]$, which spells out as *by*.
- The operator that “deals” with the alternatives is the same operator that is responsible for licensing of weak NPIs.

The proposal: mood signals activation of alternatives



The proposal: mood signals activation of alternatives



Subdomain Alternatives

Prejacent: $\lambda s'$. The woman did rock-climbing in s' .

$g(\text{ALT})$:

$\{\lambda s'$. The woman did rock-climbing in s' ,
 $\lambda s'$. The woman did rock-climbing in the gym in s' ,
 $\lambda s'$. The woman did rock-climbing in the gym today in $s'\}$

The proposal: mood signals activation of alternatives

We will use the same focus-sensitive operator O_{ALT} that we need for licensing pronominal weak NPIs: it presupposes that all the alternatives are entailed by the prejacent.

$$(40) \quad \llbracket O_{ALT} \rrbracket^{s,g} = \lambda p_{st}: \forall q \in g(ALT) [p \Rightarrow_s q]. \quad p(s)=1.$$

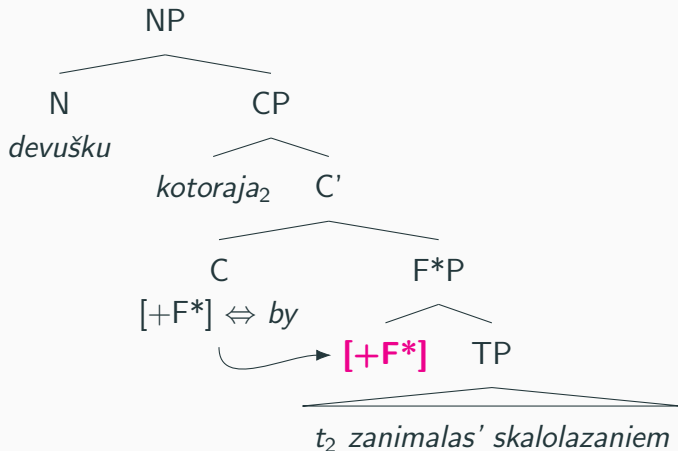
The general shape of the account:

- O_{ALT} must be present in the structure to take care of the alternatives;
- In “positive” contexts, the presence of O_{ALT} leads to a deviant (L-analytic) meaning;
- In “negative” contexts, O_{ALT} does not encounter semantic issues but is vacuous.

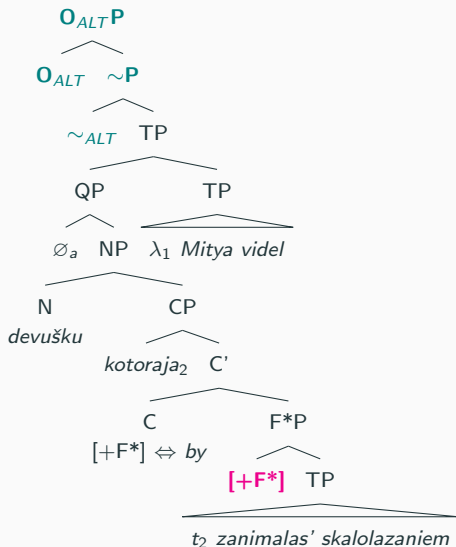
Let us first consider polarity-sensitivity of relative clauses:

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

The proposal: mood signals activation of alternatives



The proposal: mood signals activation of alternatives



The proposal: mood signals activation of alternatives

Positive Case: $\forall q \in g(\text{ALT}) [q \Rightarrow_s p]$

O_{ALT} will always lead to presupposition failure $\rightsquigarrow *$

Prejacent:

There is a woman who did rock-climbing that Mitya saw

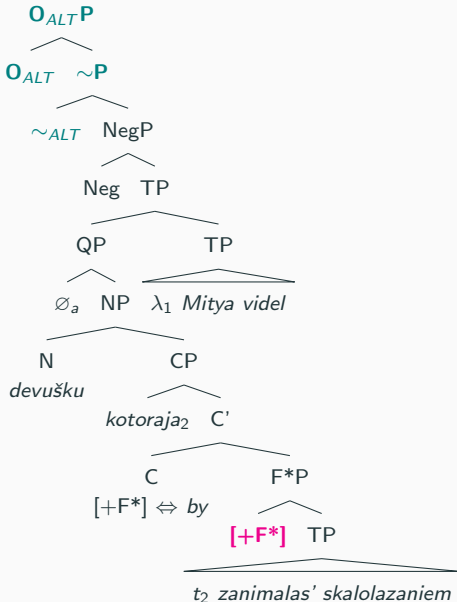
$g(\text{ALT})$:

{There is a woman who did rock-climbing
that Mitya saw,

There is a woman who did rock-climbing in the gym
that Mitya saw,

There is a woman who did rock-climbing in the gym today
that Mitya saw}

The proposal: mood signals activation of alternatives



The proposal: mood signals activation of alternatives

Negative Case: $\forall q \in g(\text{ALT}) [p \Rightarrow_s q]$

O_{ALT} 's presupposition will be satisfied $\rightsquigarrow \checkmark$

Prejacent:

$\neg(\text{There is a woman who did rock-climbing that Mitya saw})$

$g(\text{ALT})$:

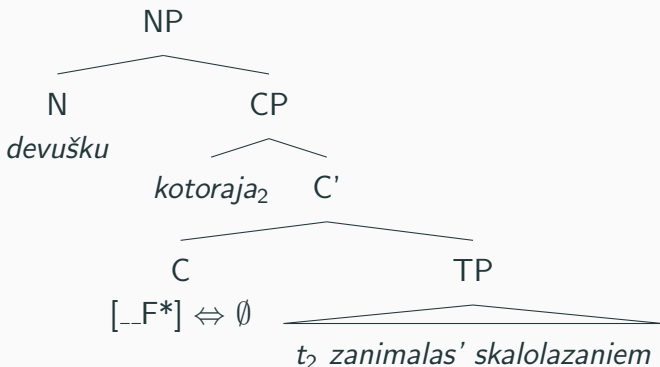
$\{\neg(\text{There is a woman who did rock-climbing that Mitya saw}),$

$\neg(\text{There is a woman who did rock-climbing in the gym that Mitya saw}),$

$\neg(\text{There is a woman who did rock-climbing in the gym today that Mitya saw})\}$

The proposal: mood signals activation of alternatives

We could have also not inserted an $[F^*]$ feature inside of the relative clause, then we would get an indicative complementizer, and there would be no O_{ALT} in the structure.



The proposal: mood signals activation of alternatives

This is of course possible: indicative is always a grammatical option in relative clauses.

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

The proposal: mood signals activation of alternatives

Let's now consider the case of verbs like *pomnit* 'remember' :

- (43) Mitja *(ne) pomnit
Mitya (NEG) remembers
čto-**by** Lena smotrela futbol.
COMP-SUBJ Lena watch.PST soccer
'Mitya doesn't remember/*remembers that Lena
watched soccer.'

The proposal: mood signals activation of alternatives

I propose that the subjunctive clauses under perception verbs are **indefinites**:

- embedded CP denotes a set of situations;
- it is a restrictor of a null existential quantifier, and so the whole clause (QP) has the meaning in (45).

$$(44) \quad \llbracket \text{Lena smotrela futbol} \rrbracket^{s,g} = \lambda s'. \text{ Lena watched soccer in } s'.$$

$$(45) \quad \llbracket [{}_{QP} \emptyset_a \text{ CP}] \rrbracket^{s,g} = \lambda k \in D_{st}. \\ \exists s' [s' \sqsubseteq s \wedge \text{Lena watched soccer in } s' \wedge k(s')=1]$$

The proposal: mood signals activation of alternatives

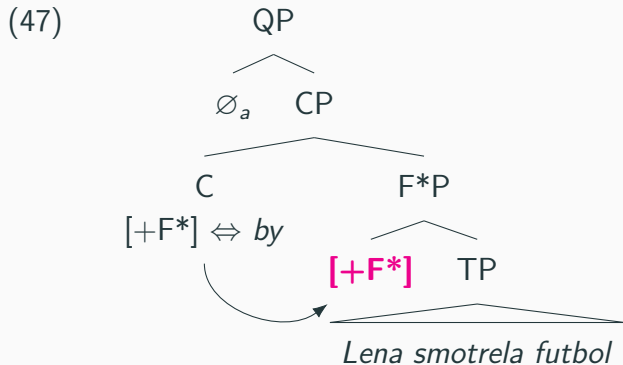
NB: The resulting meaning is *extensional*—which seems correct for the perception reading of verbs like ‘remember’.

$$(46) \quad \llbracket \text{Mitya remembers that Lena watched soccer} \rrbracket^{s,g} = \\ \exists s', s'' [s', s'' \sqsubseteq s \wedge \text{Lena watched soccer in } s' \\ \wedge \text{Mitya remembers } s' \text{ in } s'']$$

Factive inference: $\rightsquigarrow$ Lena watched soccer.

The proposal: mood signals activation of alternatives

[F*] attaches to the TP within the embedded CP, triggers agreement on C, and activates the subdomain alternatives of the embedded proposition—just like it does with relative clauses:



The proposal: mood signals activation of alternatives

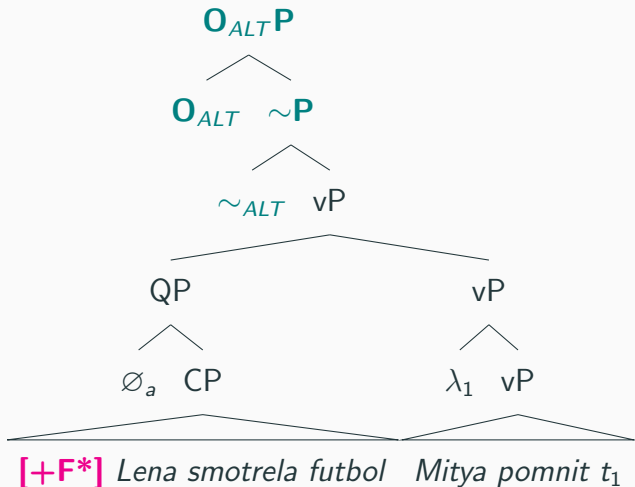
The alternatives to the embedded proposition will be more specific situations of Lena watching soccer:

$$(48) \quad \llbracket F^*P \rrbracket_o^{s,g} = \\ \lambda s'. \text{Lena watched soccer in } s'$$

$$(49) \quad \llbracket F^*P \rrbracket_f^{s,g} = \\ \{ \lambda s'. \text{Lena watched soccer in } s', \\ \lambda s'. \text{Lena watched soccer in a bar in } s', \\ \lambda s'. \text{Lena watched soccer in a bar with friends in } s', \dots \}$$

The proposal: mood signals activation of alternatives

*



The proposal: mood signals activation of alternatives

Positive Case: $\forall q \in g(\text{ALT}) [q \Rightarrow_s p]$

O_{ALT} will always lead to presupposition failure $\rightsquigarrow *$

Prejacent: There is a situation of Lena watching soccer that Mitya remembers

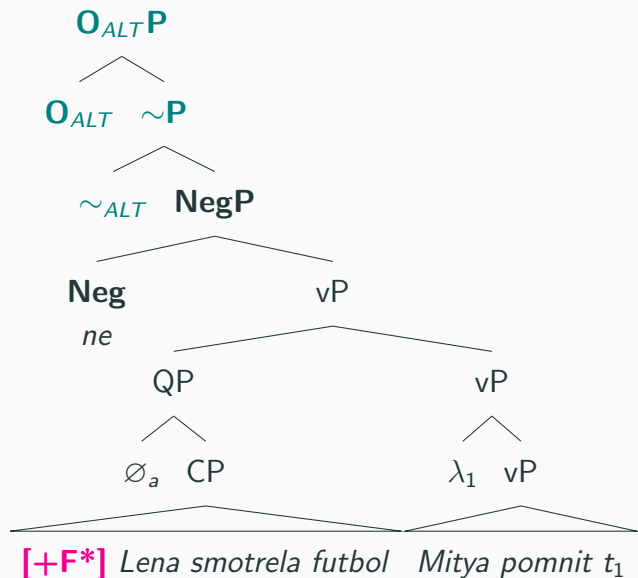
$g(\text{ALT})$:

{There is a situation of Lena watching soccer
that Mitya remembers,

There is a situation of Lena watching soccer in a bar
that Mitya remembers,

There is a situation of Lena watching soccer in a bar with
friends that Mitya remembers}

The proposal: mood signals activation of alternatives



The proposal: mood signals activation of alternatives

Negative Case: $\forall q \in g(\text{ALT}) [p \Rightarrow_s q]$

O_{ALT} 's presupposition will be satisfied $\rightsquigarrow \checkmark$

Prejacent: $\neg(\text{There is a situation of Lena watching soccer that Mitya remembers})$

$g(\text{ALT})$:

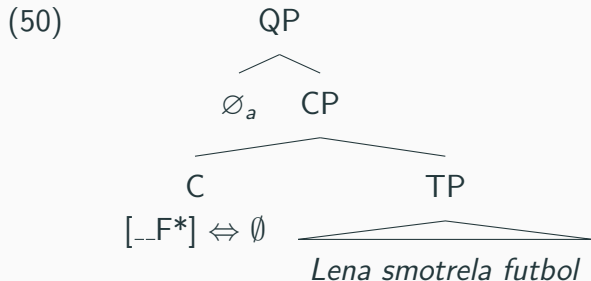
$\{\neg(\text{There is a situation of Lena watching soccer that Mitya remembers}),$

$\neg(\text{There is a situation of Lena watching soccer in a bar that Mitya remembers}),$

$\neg(\text{There is a situation of Lena watching soccer in a bar with friends that Mitya remembers})\}$

The proposal: mood signals activation of alternatives

We could also just not insert $[F^*]$ into the structure, which would lead to the absence of O_{ALT} and subjunctive agreement.



The proposal: mood signals activation of alternatives

This leads to grammatical sentences with the indicative complementizer:

- (51) Mitja (ne) pomnit
Mitya (NEG) remembers
[čto Lena smotrela futbol].
COMP Lena watch.PST soccer
'Mitya doesn't remember/remembers that Lena
watched soccer.'

Summary:

- **Subjunctive mood** reflects the presence of obligatorily active focus alternatives ($[F^*]$) in the clause.
- **Selected subjunctives** $\Leftrightarrow$ overt verb/adjective has alternatives-based semantics
- **Polarity subjunctives** $\Leftrightarrow$ covert exhaustivity operator has alternatives-based semantics

Polarity-Sensitivity

is derived completely parallel to polarity-sensitivity of pronominal weak NPIs

- Exhaustivity operator O_{ALT} is inserted, which presupposes that the prejacent entails its alternatives.
- Due to this presupposition, non-trivial meanings, and thus grammatical sentences, are possible only in Strawson-Downward Entailing contexts.

Concluding Remarks

- In this talk I have argued that we need alternatives-based semantics for verbal mood.
- Semantics that relies *just* on modal semantics involving an ordering source will have a difficult time dealing with *polarity-sensitivity*—an incredibly common feature of subjunctive clauses.

Lots and lots of open questions!

- polarity subjunctives that do not behave like weak NPIs;
 - factivity inferences;
 - other subjunctive environments—matrix subjunctives, conditionals, causatives, purpose clauses etc.;
 - interaction with pronominal NPIs
- ...

One prediction:

If the presence of an obligatory $[F^*]$ feature triggers agreement on the complementizer, overt pronominal weak NPIs might trigger *by* as well, since they are also $[F^*]$ -marked.

While I bet we will find many exceptions, we do find cases where SUBJ must be used in the presence of an NPI:

- (52) Ja ne pomnju,
 I NEG remember
 [čto-*(by) Lena smotrela kakoj-libo film].
 COMP-(SUBJ) Lena watched what.kind-NPI film
 ‘I do not remember Lena watching any film.’

Thank you!

I thank the members of WOLF-lab at Harvard, the audiences at FASL31 and MECORE kick-off workshop, Patrick Elliott, Kai von Fintel, Danny Fox, Sabine Iatridou, Roger Schwarzschild for valuable feedback. I am grateful to all my Russian consultants, and especially to Mitya Privoznov and Anton Kukhto.

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