



Temporal and Propositional *De Se*: Evidence from Romanian Subjunctive Mood.

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1. Introduction.

The goal of this presentation is

to account for the interpretation of the Romanian **subjunctive B** mood when it is embedded under the propositional attitude verb *crede* (believe).

Subjunctive B (traditionally labeled 'conditional-optative') is one of the two subjunctive (i.e. non-indicative finite) moods in Romanian.



1. Introduction.

(1) Maria crede că...
Mary believe.ind.pres.3s that...
Mary believes that...

ar fi în pericol.
subjB.3s be in danger.
she is in danger.



1. Introduction.

I analyze **subjunctive B** as a bundle of **three distinct presuppositions**:

- **temporal *de se***
- **dissociation** (basically, the speaker dissociates herself from the reported belief)
- **iterated belief** (which can be thought of as **propositional *de se***)



1. De Se and De Re Belief in The Individual Domain.

Consider the Kaplanian sentence:

(2) Neo believes that his pants are on fire.

De Se: Neo says to himself: "MY pants are on fire".

Non De Se (but de re): Neo says to himself: "That guy's pants are on fire", where "that guy" is in fact Neo himself, but he doesn't realize that.



1. De Se and De Re Belief in The Individual Domain.

- *acquaintance relations*
- *centered worlds*

the individual **neo** is **self-ascribing** in the actual world **w*** a set of centered worlds **(x^{self}, w)**

x^{self} (the center of world **w**) is the unique individual that **neo** takes himself to be in **w**

(Lewis (1979), Cresswell & von Stechow (1982) a.o.)



2. Subjunctive B vs. Indicative.

DE SE:

- (3) a. Neo hopes that he will win. (✓**HE**)
b. Neo hopes to win. (✓**PRO**)

NON DE SE:

- (3) a. Neo hopes that he will win. (✓**HE**)
b. #Neo hopes to win. (#**PRO**)

(Chierchia (1989), Schlenker (2003))



2. Subjunctive B vs. Indicative.

SubjB is the temporal analogue of **PRO**, since it requires a *de se* interpretation...

in contrast to the Romanian **indicative** temporal forms, which can but do not have to receive a *de se* interpretation, (i.e. the indicative forms are parallel to overt pronouns).

(Lewis (1979): 527 already observes that there is such a thing as **temporal de se**)



2. SubjB: Mistaken Temporal Identity.

Scenario: John is a very gullible tabloid reader.
Whatever a tabloid says, he believes.

A Monday tabloid said that the Martians were going to invade Bucharest on Thursday, i.e. three days later.

On Thursday (the D-Day of the invasion) John and I met and talked about the whole Martian invasion issue.

But John was confused: he thought it was Wednesday when, in fact, it was Thursday.



2. SubjB: Mistaken Temporal Identity.

(4) Când m-am întâlnit cu el,

When I met him,

Ion (de fapt) credea că...

John (in fact) believed that...

a. ?marțienii invadează Bucureștiul în ziua aceea.
the Martians invade.**IND.PRES** Bucharest that day.
the Martians were invading Bucharest that day.

b. #marțienii ar invada Bucureștiul în ziua aceea.
the Martians **SUBJB** invade Bucharest that day.
the Martians were invading Bucharest that day.



2. SubjB: Mistaken Temporal Identity.

The above scenario is parallel to the individual *de se* mistaken identity scenarios because:

- just as Neo hopes that he'll win without realizing that his hopes are about himself – in which case the overt pronoun **HE** is acceptable, but **PRO** isn't...
- John believes that the Martian invasion happens the very day of the conversation, without actually realizing the imminence of the alien takeover – in which case **IND** is (more or less) acceptable, while **SUBJB** isn't.



2. Analyzing De Se and De Re Belief in The Temporal Domain.

Just as in Abusch (1997), we extend centered worlds with a variable for time:

the individual ***john*** is **self-ascribing** in world **w^*** at time **t^*** a set of centered worlds **(x^{self}, t^{now}, w)** ,

where **t^{now}** is the unique time that ***john*** takes his internal 'now' to be in **w** .



2. Temporal De Re.

Non De Se (De Re) – $\sqrt{\text{IND}}$ (4a)

John's centered belief worlds (x^{self}, t^{now}, w) are such that ...

... given the unique day t that the tabloid specified in w ,
the Martians are invading Bucharest at t in w .

THE _{t} $\{t: t \text{ is the day the tabloid specified in } w \}$
 $\{t: \text{the Martians are invading Bucharest at } t \text{ in } w\}$



2. Temporal De Se.

De Se – #SUBJB (4b)

John's centered belief worlds (x^{self}, t^{now}, w) are such that ...

... given the unique day t that is the day of t^{now} in w ,
the Martians are invading Bucharest at t in w .

THE _{t} $\{t: t \text{ is the day of } t^{now} \text{ in } w\}$
 $\{t: \text{the Martians are invading Bucharest at } t \text{ in } w\}$



3. SubjB: Dissociation.

The second meaning component of subjB is **dissociation** (first noticed in Farkas (1992):82),

i.e. in a **subjB** report, over and above the belief report itself,

we express the speaker's attitude towards the reported belief.

The speaker's attitude is one of **dissociation**:
i.e. she does not necessarily agree with the attitude holder.



3. SubjB: Dissociation.

- (5) Ion își scrie lucrarea de licență.
John is writing his undergrad thesis.
Maria crede că
Mary believe.**IND.PRES** that
Mary believes that

- a. Ion scrie o capodoperă. ✓**IND**
John write.**IND.PRES** a masterpiece.
John is writing a masterpiece.

- b. Ion ar scrie o capodoperă. ✓**SUBJB**
John **SUBJB** write a masterpiece.
John is writing a masterpiece.



3. SubjB: Dissociation.

The **ind** report in (5a) is neutral with respect to the speaker's attitude,

while the **subjB** report in (5b) expresses, in addition to what (5a) does, that the speaker does not also believe John's thesis to be a masterpiece.

i.e. as far as the speaker is concerned, **it could be a piece of junk** (although the speaker does not necessarily believe that it is junk)



3. Representing Dissociation.

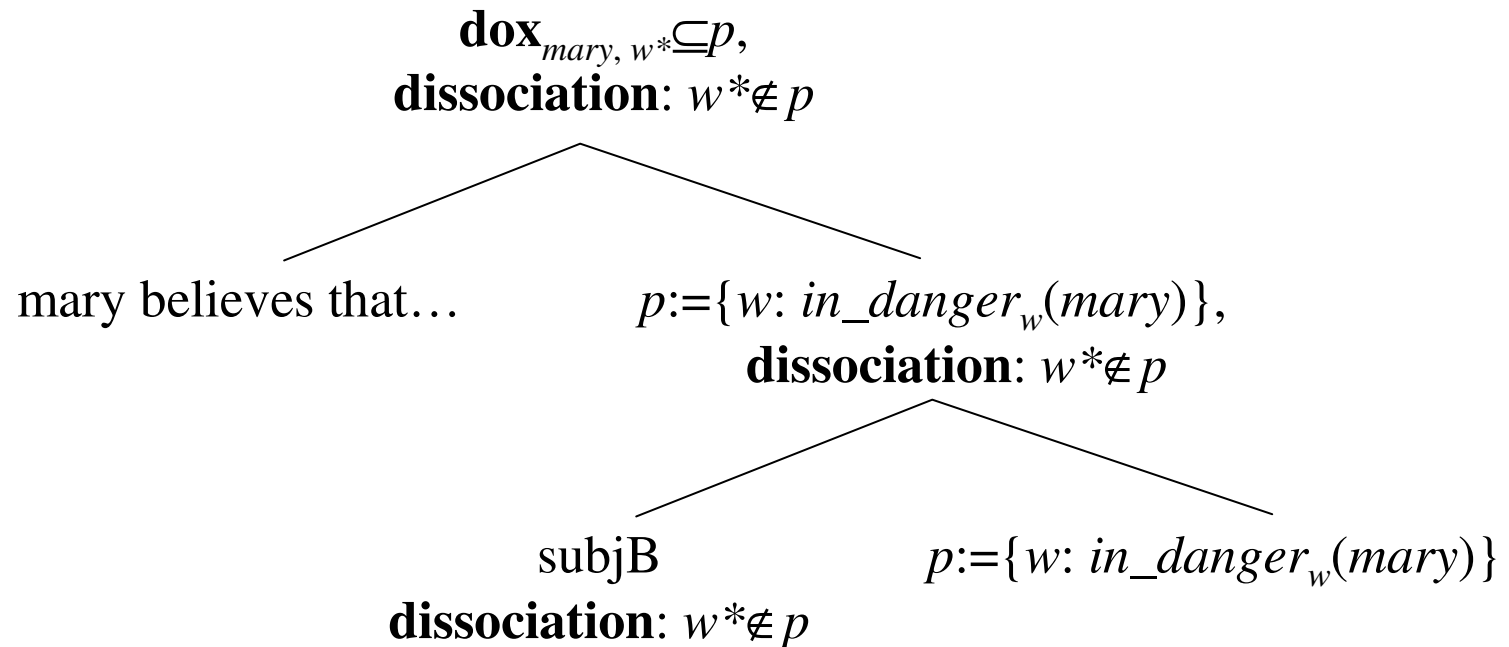
- (1) Mary believes that she is (**subjB**) in danger.
(...but in fact she isn't)

The dissociation requirement:

at least one world **w*** among the speaker
belief worlds is such that the reported belief **p**
is not true in **w***

i.e. **w*** \notin **p**

3. Representing Dissociation: Mary believes that she is (subjB) in danger.



For simplicity, the speaker belief worlds are assumed to be the singleton set $\{w^*\}$ (where w^* is the actual world).



3. Dissociation as Presupposition.

Dissociation 'percolates' to the top of the tree because of its **presuppositional** nature...

...shown by its **projection behavior** in:

- **negative contexts**
- **conditional antecedents**



3. Dissociating from a Negative Belief: x believes that **not** p (in **subjB**)

SubjB always **takes wide scope** with respect to **embedded negation and negative quantifiers**.

We have distinct dissociation presuppositions:

- if subjB has wide scope: **subjB** > > **not** > > p ,
then **subjB** dissociates from **not** p ($w^* \notin \neg p$);
- if subjB has narrow scope: **not** > > **subjB** > > p ,
then **subjB** dissociates from p ($w^* \notin p$).



3. Dissociating from a Negative Belief: *x* believes that **not** *p* (in **subjB**)

Only the wide scope (**subjB** > > **not** > > *p*)
dissociation is empirically attested ...

...despite the overt surface form, in which
negation **precedes** (and **has** to
precede) the subjB morpheme,

e.g. ... Maria **nu** **ar** fi în pericol.
Mary **NOT SUBJB** be in danger.



3. Dissociation: Summary.

- **subjB** is represented as a **single package** of multiple presuppositions
- **dissociation** is represented as $w^* \notin p$
 w^* : one of the speaker belief worlds
 p : the reported belief
- **subjB** not only can, but **has to scope over embedded negation/negative quantifiers**, despite the surface morpheme ordering.



4. SubjB: Presupposing An Iterated Belief.

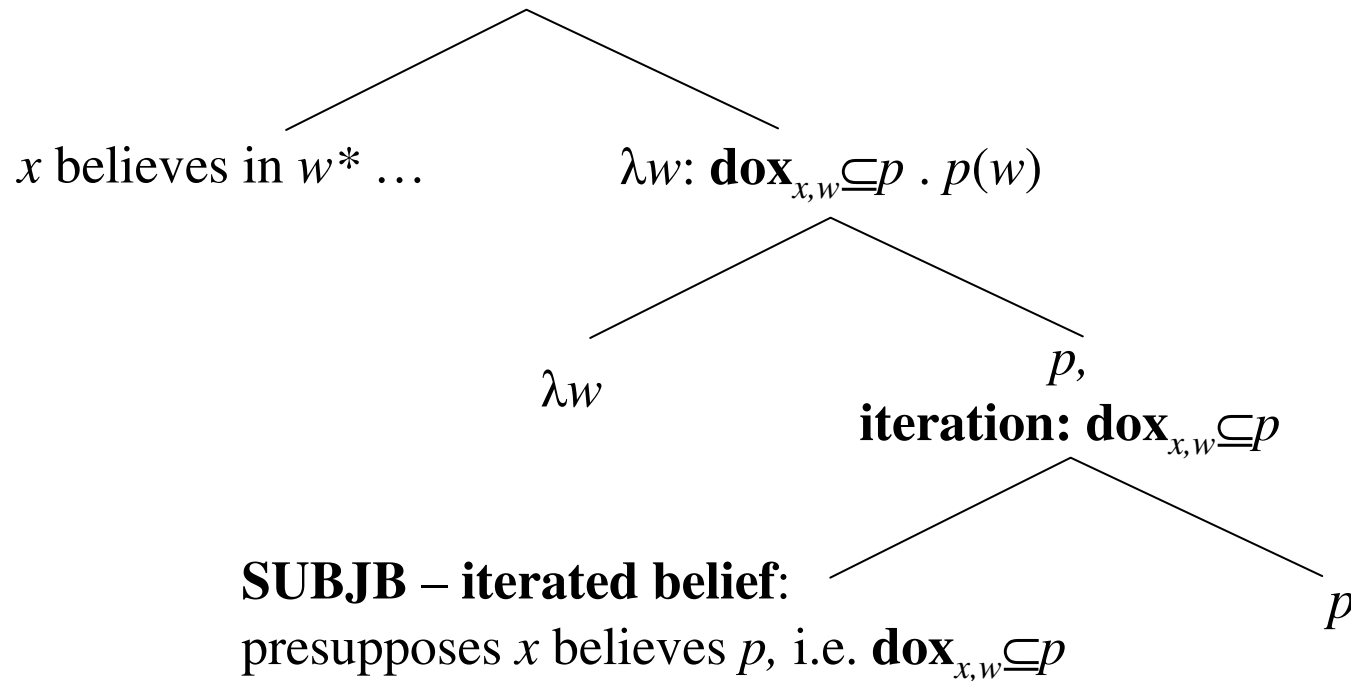
In this section, I propose a **semantic** solution to the '**wide scope only**' problem...

... as opposed to a syntactic solution postulating obligatory raising or an obligatory covert modal operator 'binding' the subjB mood.

In particular, I propose that **subjB** has a third presuppositional component, namely **iterated belief**.

4. Presupposing An Iterated Belief: x believes in w^* that p (in subjB)

assertion: x believes in w^* that p ,
i.e. $\mathbf{dox}_{x,w^*} \subseteq p$,
presupposed iteration: x believes in w^* that x believes that p ,
i.e. $\forall w \in \mathbf{dox}_{x,w^*} (\mathbf{dox}_{x,w} \subseteq p)$





4. SubjB: Iterated Belief.

The **iterated belief** solution has **two advantages** over a syntactic solution:

- it makes for an attractive overall analysis:
subjB contributes a **belief-internal perspective** on the reported belief;
- ... in the temporal domain, we have **temporal de se**: we locate the belief with respect to the **belief-internal 'now'**;
- ... in the modal domain, we have **iterated belief**: we locate the belief with respect to the **belief-internal doxastic alternatives**.



4. SubjB: Iterated Belief.

- secondly, it accounts for the unacceptability of ***probabil*** (probably) in **subjB** reports (as opposed to **ind** reports),

... while a syntactic solution (probably) wouldn't.



4. SubjB and '*Probably*'.

The generalization about *probabil* (probably) is that, in structures of the form ...

x believes that **probably** *p*,

... '*p*' can be marked with **ind**, but not with **subjB**.

4. SubjB and '*Probably*'.

(6) Când m-am întâlnit cu el, Ion credea că...

When I met him, John believed that...

a. marțienii probabil invadează Bucureștiul.
the Martians **probably** invade.**IND.PRES** Bucharest.
the Martians were probably invading Bucharest.

b. #marțienii probabil **ar** invada Bucureștiul.
the Martians **probably SUBJB** invade Bucharest.
the Martians were probably invading Bucharest.



4. Iterated Belief Reports.

Iterated belief reports are not as unusual as they might seem. Consider:

(7) I'm probably in danger.

... uttered by Mary.

- **probably**: an epistemic modal quantifier; it quantifies over Mary's epistemic alternatives
dox_{mary,w}

4. Iterated Belief Reports.

- for simplicity, I will assume that **probably** is interpreted as **most** in the modal domain.

(7) is true in a world w iff

$\text{MOST}_{w'} \{w' : w' \in \mathbf{dox}_{\text{mary}, w} \}$
 $\{w' : \text{Mary is in danger in } w'\}$



4. Iterated Belief Reports.

Moreover, in the above situation we can truthfully assert :

(8) Mary believes that she is probably in danger.

...where *probably* is interpreted relative to Mary's epistemic alternatives.

So: (8) is our iterated belief report.



4. Reducing Iterated Belief Reports.

Moreover: (7) is intuitively equivalent to (8)...

(7) I'm probably in danger.

(8) Mary believes that she is probably in danger.

...when:

- (7) is uttered by Mary;
- 'probably' in (8) is interpreted relative to Mary's doxastic alternatives.



4. Reducing Iterated Belief Reports.

... that is, iterated belief reports can be reduced to non-iterated ones given the '**introspection**' principles:

1. Positive 'Introspection':

$$\mathbf{bel} (x, p) \rightarrow \mathbf{bel} (x, \mathbf{bel} (x, p))$$

2. Negative 'Introspection':

$$\neg \mathbf{bel} (x, p) \rightarrow \mathbf{bel} (x, \neg \mathbf{bel} (x, p))$$



4. Reducing Iterated Belief Reports.

The 'introspection' principles are equivalent to:

$$(9) \quad \forall x \quad \forall w \quad \forall w' \in \mathbf{dox}_{x,w} \\ \quad \quad \quad (\mathbf{dox}_{x,w'} = \mathbf{dox}_{x,w})$$

Assuming (9), we derive the equivalence of (7) and (8).



4. Identifying Iterated Belief.

How can we identify such iterated belief reports?

By 'introspection', we have:

$$\mathbf{bel} (x, p) \leftrightarrow \mathbf{bel} (x, \mathbf{bel} (x, p))$$

...hence, our modal intuitions about non-iterated belief reports are same as the ones about iterated reports...



4. Identifying Iterated Belief.

But: 'introspection' enables us to produce a different kind of evidence for **presupposed iterated belief**:

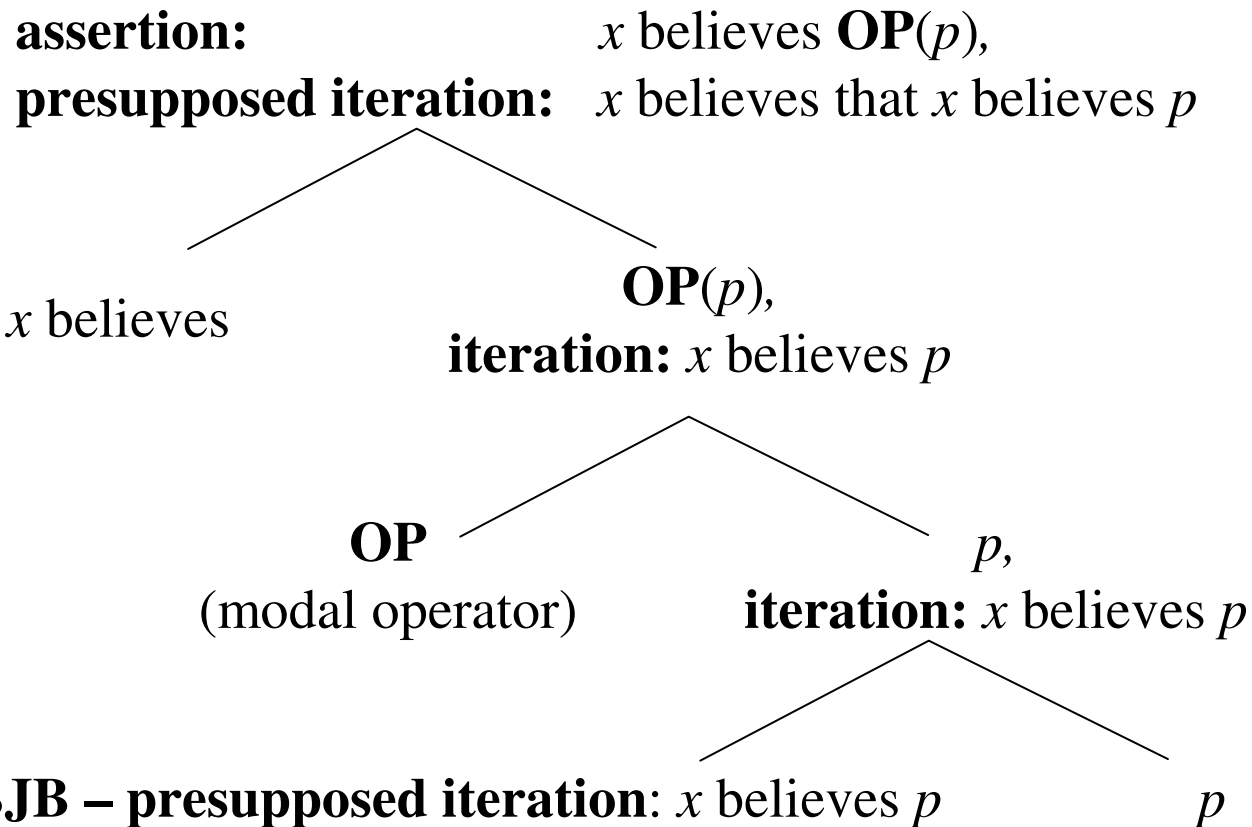
e.g. we interpolate a **modal operator**...

between: the top belief report,
which is asserted

and: the bottom belief report,
which is presupposed

4. Identifying Iterated Belief.

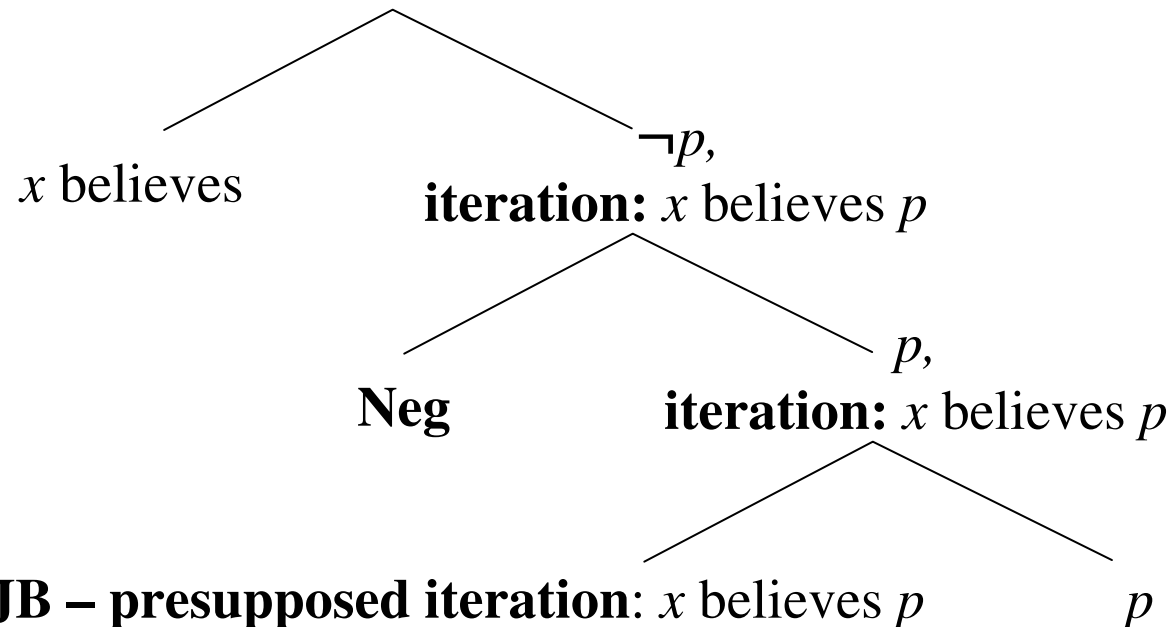
Iterated Belief and Interpolated Operators



4. Identifying Iterated Belief.

e.g. if OP is **negation**, we predict that this attitude report is unacceptable...

assertion: x believes $\neg p$,
presupposed iteration: x believes that x believes p





4. Deriving 'Wide Scope Only'.

So, assume **subjB** has narrow scope with respect to **negation** in:

(10) Maria crede că
Mary believes that

nu **ar** fi în pericol.
not subjB be in danger.
she is not in danger.

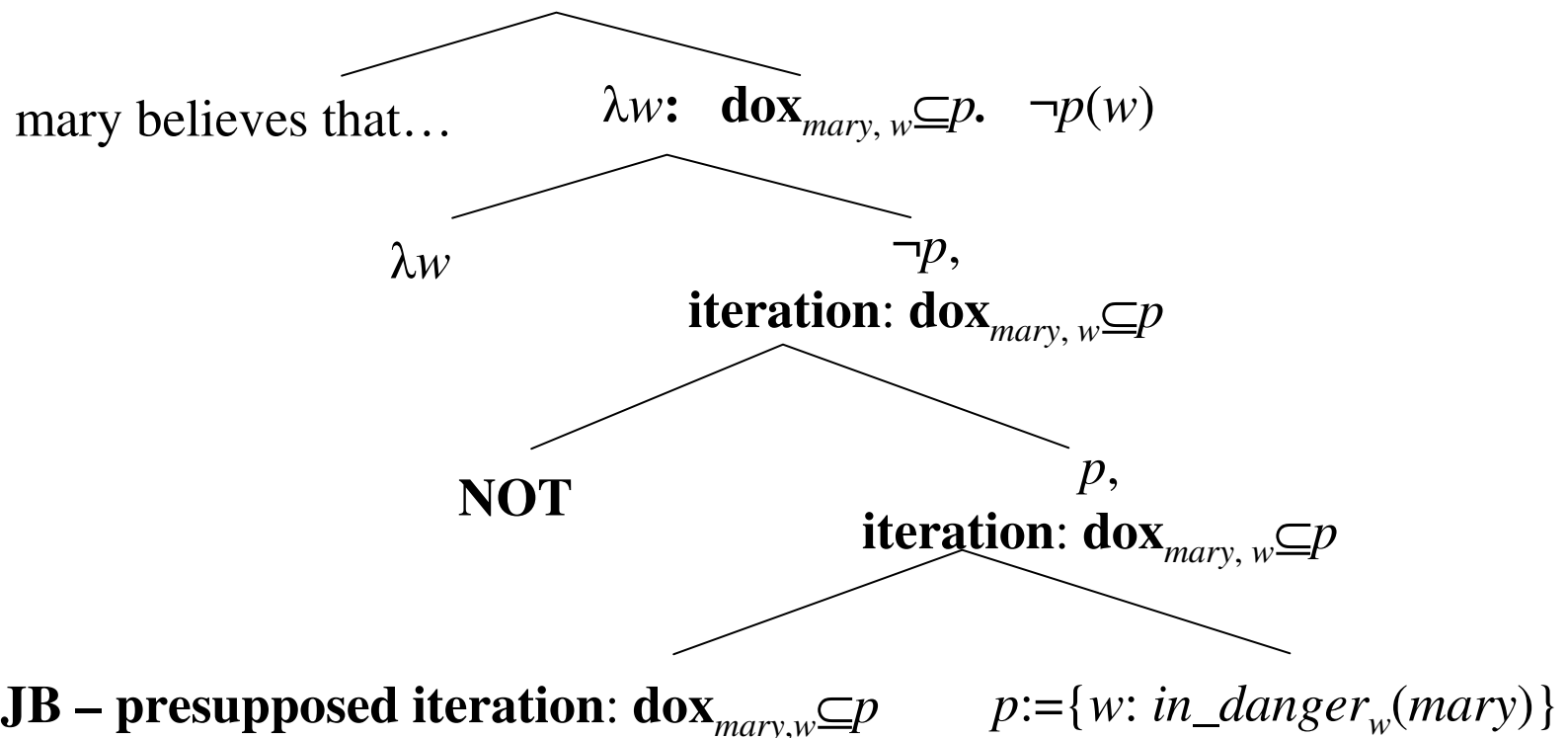
4. Deriving 'Wide Scope Only'.

assertion:

$\mathbf{dox}_{mary, w^*} \subseteq \neg p,$

presupposed iteration:

$\forall w \in \mathbf{dox}_{mary, w^*} (\mathbf{dox}_{mary, w} \subseteq p)$





4. Deriving 'Wide Scope Only'.

As the top node shows,

- we assert: $\mathbf{dox}_{mary, w^*} \subseteq \neg p$
- we presuppose:
 $\forall w \in \mathbf{dox}_{mary, w^*} (\mathbf{dox}_{mary, w} \subseteq p)$
by 'introspection', this is equivalent to
 $\mathbf{dox}_{mary, w^*} \subseteq p$

Contradiction.



4. Deriving 'Wide Scope Only'.

However,

the wide scope of **subjB** with respect to **negation** is perfectly fine...

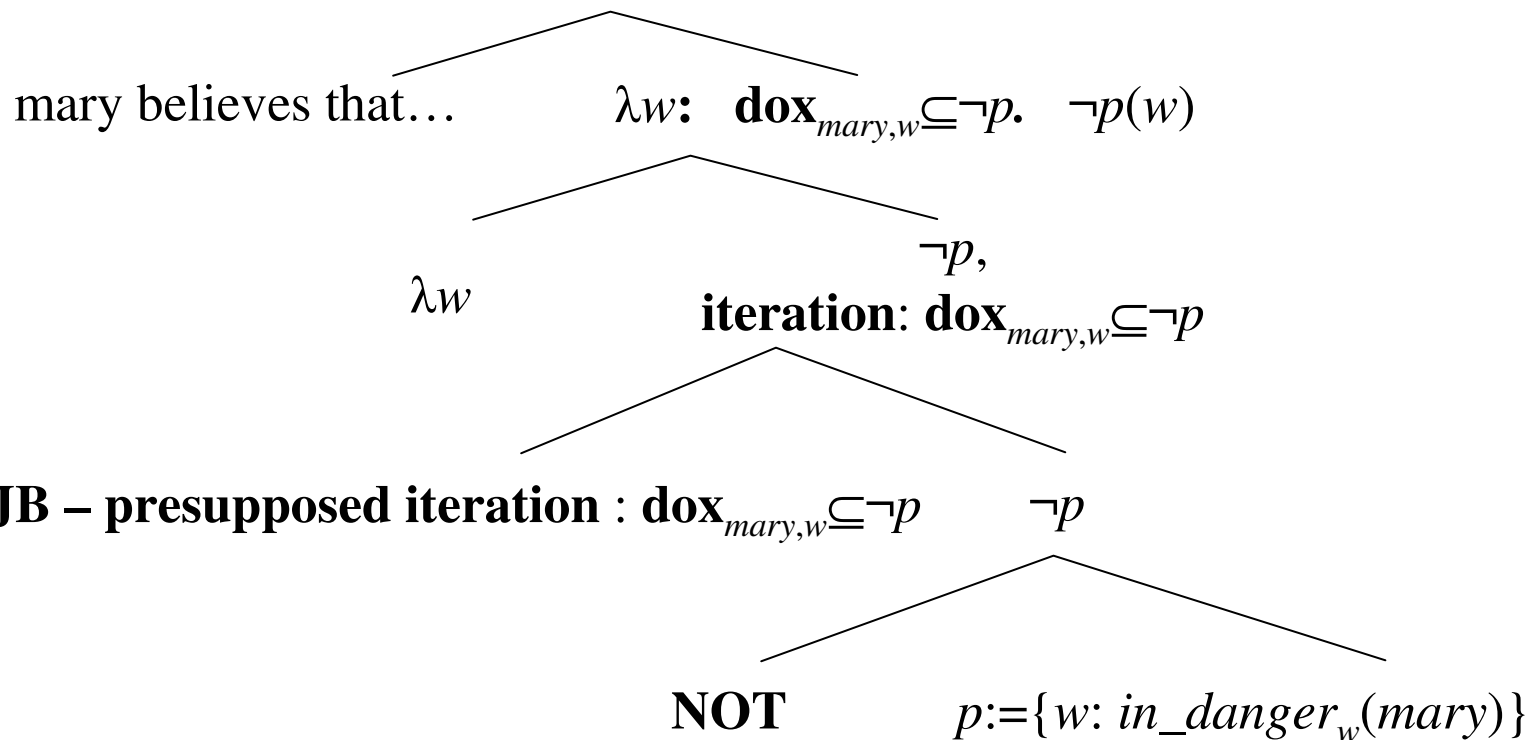
4. Deriving 'Wide Scope Only'.

assertion:

$\mathbf{dox}_{mary,w^*} \subseteq \neg p,$

presupposed iteration:

$\forall w \in \mathbf{dox}_{mary,w^*} (\mathbf{dox}_{mary,w} \subseteq \neg p)$





4. Deriving 'Wide Scope Only'.

When subjunctive B scopes over negation...

... the assertion and the presupposition are compatible - in fact, equivalent – given 'introspection'.

- we assert: $\mathbf{dox}_{mary, w^*} \subseteq \neg p$

- we presuppose:

$\forall W \in \mathbf{dox}_{mary, w^*} (\mathbf{dox}_{mary, w} \subseteq \neg p)$

by 'introspection', this is equivalent to:

$\mathbf{dox}_{mary, w^*} \subseteq \neg p$



4. SubjB and '*Probabil*'.

We assume that the relative scope of **subjB** with respect to *probabil* is also free:

- narrow scope: *probabil* > > **subjB**
- wide scope: **subjB** > > *probabil*

We look first at *probabil* > > **subjB** and...

...since *probabil* is a 'MOST'-type quantification, it has a **scalar implicature** of the ' \neg EVERY'-type, which **contradicts** the **iterated belief** presupposition.

4. SubjB and '*Probabil*': Mary believes she probably is (subjB) in danger.

assertion: $\text{dox}_{\text{mary}, w^*} \subseteq \{ w: \text{MOST}(\text{dox}_{\text{mary}, w})(p) \}$

iteration: $\forall w \in \text{dox}_{\text{mary}, w^*} (\text{dox}_{\text{mary}, w} \subseteq p)$

implicature: $\forall w \in \text{dox}_{\text{mary}, w^*} (\neg \text{dox}_{\text{mary}, w} \subseteq p)$

mary believes... $\lambda w: \text{dox}_{\text{mary}, w} \subseteq p. \text{MOST}(\text{dox}_{\text{mary}, w})(p); \neg \text{dox}_{\text{mary}, w} \subseteq p$

λw

MOST($\text{dox}_{\text{mary}, w})(p)$,

iteration: $\text{dox}_{\text{mary}, w} \subseteq p$; **implic:** $\neg \text{dox}_{\text{mary}, w} \subseteq p$

PROBABIL: **MOST**($\text{dox}_{\text{mary}, w})(p)$,

¬EVERY($\text{dox}_{\text{mary}, w})(p)$, i.e. $\neg \text{dox}_{\text{mary}, w} \subseteq p$

p ,

iteration: $\text{dox}_{\text{mary}, w} \subseteq p$

SUBJB – iteration: $\text{dox}_{\text{mary}, w} \subseteq p$

$p := \{ w: \text{in_danger}_w(\text{mary}) \}$



4. SubjB and '*Probabil*'.

But why isn't the contradictory implicature simply canceled?

After all, implicatures are only **default** inferences...

Contradictory implicatures of this kind always yield infelicity (despite their cancelability)...



4. SubjB and '*Probabil*'.

- (11) # The students that stopped smoking had **probably** smoked before.
- (12) ✓ The students that stopped smoking had smoked before.
- (13) # **Most** students that stopped smoking had smoked before.
- (14) ✓ Every student that stopped smoking had smoked before.



4. SubjB and '*Probabil*'.

(15) # **Most** dolphins are dolphins.

(16) ✓ Every dolphin is a dolphin.

(thanks to Roger Schwarzschild for examples (22)-(23))

Whatever makes sentences (11), (13) and (15) infelicitous is also responsible for the infelicity of *probabil* > > **subjB**.



4. SubjB and '*Probabil*'.

We turn to

subjB > > *probabil*.

We predict that **iterated belief** should be perfectly compatible with the implicature triggered by *probabil*...

... however, **dissociation** yields a **contradiction** in this case.

4. SubjB and '*Probabil*'.

assertion: $\text{dox}_{\text{mary}, w^*} \subseteq \{w: \text{MOST}(\text{dox}_{\text{mary}, w})(p)\}$

dissociation: $\neg \text{MOST}(\text{dox}_{\text{mary}, w^*})(p)$

mary believes
that...

$\lambda w: \neg \text{MOST}(\text{dox}_{\text{mary}, w^*})(p). q(w)$

λw

$q,$

dissociation: $\neg \text{MOST}(\text{dox}_{\text{mary}, w^*})(p)$

SUBJB,

dissociation: $w^* \notin q$

$q := \{w: \text{MOST}(\text{dox}_{\text{mary}, w})(p)\}$

PROBABIL: $\text{MOST}(\text{dox}_{\text{mary}, w})(p)$

$p := \{w: \text{in_danger}_w(\text{mary})\}$



4. SubjB and '*Probabil*'.

When subjunctive B scopes over negation:

- we assert:
 $\mathbf{dox}_{mary, w^*} \subseteq \{w: \mathbf{MOST}(\mathbf{dox}_{mary, w})(p)\},$
by 'introspection', this is equivalent to:
 $\mathbf{MOST}(\mathbf{dox}_{mary, w^*})(p)$
- we presuppose (by dissociation):
 $\neg \mathbf{MOST}(\mathbf{dox}_{mary, w^*})(p)$

Contradiction.



4. Summary.

- we analyzed Romanian **subjunctive B** as a bundle of three distinct presuppositions: **temporal *de se*, dissociation, iterated belief**
- the **subjB** – **ind** contrast is the temporal analogue of the **PRO** - **overt pronoun** contrast in the individual domain
- **dissociation** enabled us to show that **subjB** **always take scope over the embedded negation.**



4. Summary.

- adding a presuppositional **iterated belief** derives the '**wide scope only**' generalization and the infelicity of **subjB** belief reports with ***probabil***.
- **subjB** contributes a **belief-internal perspective** on the reported belief (by **temporal de se** and **iterated belief**)



5. Propositional De Se.

We can think of **presupposed iterated belief** as **propositional de se**,

in which case the **belief-internal perspective** contributed by **subjB** would simply be ...

... **de se** in the temporal and modal domains.



5. Propositional De Se.

Individual de se:

a belief about an individual that is **identical to the belief-internal 'self'**.

Temporal de se:

a belief about a time that **includes the belief-internal 'now'**.

Propositional de se:

a belief about a proposition that **includes the belief-internal 'actually'**.



5. Propositional De Se.

Given a belief world w , **the belief-internal 'actually'** is...

...the set of worlds that the believer x takes to be plausible candidates for world w ,

i.e. her **doxastic alternatives** in w ,
dox _{x,w}



5. Propositional De Se.

- (1) Mary believes that she is (**propositionally de se**) in danger.

Mary's belief worlds w are such that ...

THE_p $\{p: \text{dox}_{\text{mary},w} \subseteq p\}$
 $\{p: \text{Mary is in danger throughout } p\}$

('throughout p ': for any $w \in p$, Mary is in danger in w)

i.e. Mary **believes** that she **believes** that she is in danger.



5. Propositional De Se.

In terms of centered worlds, we have a quadruple

$$(\mathbf{x}^{self}, \mathbf{t}^{now}, \mathbf{p}^{actually}, \mathbf{w}),$$

where $\mathbf{p}^{actually} = \mathbf{dox}(\mathbf{x}^{self}, \mathbf{t}^{now}, \mathbf{w}),$

i.e. the set of doxastic alternatives to \mathbf{w} entertained by \mathbf{x}^{self} at time \mathbf{t}^{now} .



5. Propositional De Se.

Moreover, **propositional de se** naturally derives the claim that the **subjB** iterated belief is **presupposed**:

de se interpretations are in general presupposed – they require the presence of a pronominal, i.e. anaphoric / presuppositional, element – ...

... and verbal moods are pronominal elements in the modal domain,

as Stone (1999) argues (e.g. 'would').



5. Propositional De Se.

Finally, taking presupposed iterated belief to be **propositional de se** extends the parallel between pronouns, tenses and moods to **de se** readings...

... following the research program of Partee (1973, 1984), Abusch (1997), Stone (1999), Bittner (2001), Schlenker (2003) among others.



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Appendix – More Romanian Data: Identifying Dissociation.

Ind is felicitous in all three contexts.

SubjB is felicitous in all **but III!**

- I. $\neg p$; x believes p \checkmark **IND**; \checkmark **SUBJB**

- II. **possible**(p) & **possible**($\neg p$);
 x believes p \checkmark **IND**; \checkmark **SUBJB**

- III. p ; x believes p \checkmark **IND**; **#SUBJB**

Appendix – More Romanian Data: Dissociation.

I. $\neg p$; x believes p .

(17) (Eu cred că) Maria este frumoasă.

(I believe that) Mary is beautiful.

(Dar) Ion crede că

(But) John believes that

(a) Maria este urâtă.

✓**IND**

(b) Maria ar fi urâtă.

✓**SUBJB**

Mary is ugly.

Appendix – More Romanian Data: Dissociation.

II. **possible**(p) & **possible**($\neg p$);
 x believes p .

(18) (Nu am văzut-o niciodată pe Maria. În ce mă privește...)
(I have never seen Mary. As far as I'm concerned...)

Maria poate să fie frumoasă sau urâtă.

Mary could be beautiful or ugly.

(Dar) Ion crede că

(But) John believes that

(a) Maria este urâtă.

✓**IND**

(b) Maria ar fi urâtă.

✓**SUBJB**

Mary is ugly.

Appendix – More Romanian Data: Dissociation.

III. p ; x believes p .

(19) (Eu cred că) Maria este urâtă.

(I believe that) Mary is ugly.

Ion crede (și el) că

John believes (too) that

(a) Maria este urâtă.

✓**IND**

(b) #Maria ar fi urâtă.

#SUBJB

Mary is ugly.



Appendix – More Romanian Data: Dissociation and Factive Verbs.

Another argument for **dissociation** is the infelicity of subjB with factive verbs like *ști* (know), *regreta* (regret)

(20) Ion știe / regretă că

John knows / regrets that

(a) Maria este urâtă.

✓**IND**

(b) #Maria ar fi urâtă.

#SUBJB

Mary is ugly.



Appendix – More Romanian Data: Dissociation and Negation.

Adding a negation

Nu este adevărat că...

It is not the case that...

on top of a **subjB** belief report

x crede că $p(\text{in subjB})$

x **believes that** $p(\text{in subjB})$

... does **not to affect** in any way the
dissociation requirement the **subjB**
mood places on the previous context.



Appendix – More Romanian Data: Dissociation and Negation.

(21) Maria nu este în pericol.

Mary is not in danger.

(22) (Și) Nu este adevărat că

(And) It is not the case that

Maria crede că **ar** fi în pericol. ✓**SUBJB**

Mary believes that she is in danger.



Appendix – More Romanian Data: Dissociation and Negation.

(23) Maria este în pericol.

Mary is in danger.

(22) #(Și/Dar) Nu este adevărat că

(And/But) It is not the case that

Maria crede că **ar** fi în pericol. **#SUBJB**

Mary believes that she is in danger.



Appendix – More Romanian Data: Dissociation and Conditionals.

Placing a **subjB** belief report

x crede că $p(\text{in subjB})$

x **believes that** $p(\text{in subjB})$

in the antecedent of a conditional

Dacă x crede că $p(\text{in subjB})$, atunci...

If x **believes that** $p(\text{in subjB})$, **then...**

... does **not to affect** in any way the
dissociation requirement the **subjB**
mood places on the previous context.



Appendix – More Romanian Data: Dissociation and Conditionals.

(24) Elena nu este în LA.

Helen is not in LA.

(25) (Dar) Dacă Maria crede că

(But) If Mary believes that

Elena **ar** fi în LA

✓**SUBJB**

Helen is in LA,

Îl va suna pe Ion cât de curînd posibil.

She'll call John as soon as possible.



Appendix – More Romanian Data: Dissociation and Conditionals.

(26) Elena este în LA.

Helen is in LA.

(25) # (Și/Dar) Dacă Maria crede că

(And/But) If Mary believes that

Elena **ar** fi în LA

#SUBJB

Helen is in LA,

Îl va suna pe Ion cât de curînd posibil.

She'll call John as soon as possible.



Appendix – More Romanian Data: Dissociating from a Negative Belief.

p ; x believes $\neg p$.

✓**SUBJB**

(27) Maria este în pericol.

Mary is in danger.

(28) (Dar) Maria crede că

(But) Mary believes that

nu ar fi în pericol.

not subj be in danger.

she is not in danger.

✓**SUBJB**



Appendix – More Romanian Data: Dissociating from a Negative Belief.

$\neg p$; x believes $\neg p$.

#**SUBJB**

(29) Maria nu este în pericol.

Mary is not in danger.

(28) #(Și/Dar) Maria crede că

(And/But) Mary believes that

nu ar fi în pericol.

#**SUBJB**

not subj be in danger.

she is not in danger.



Appendix – More Romanian Data: Dissociating from a Negative Belief.

Under the assumption that **nimeni** (no one) is a negative quantifier exhibiting negative concord with the sentential negation **nu** (and not an NPI),

...**subjB has to take scope over the pre-verbal negative quantifier** in subject position if we are to make the correct dissociation predictions.



Appendix – More Romanian Data: Dissociating from a Negative Belief.

Some_y F_y; x believes No_y F_y. √SUBJB

(30) Cineva este în pericol.

Someone is in danger.

(31) (Dar) Maria crede că

(But) Mary believes that

nimeni nu ar fi în pericol. √SUBJB

no one not subj be in danger.

no one is in danger.

Appendix – More Romanian Data: Dissociating from a Negative Belief.

No_y F_y; x believes No_y F_y. #SUBJB

(32) Nimeni nu este în pericol.
No one is in danger.

(31) # (Dar) Maria crede că
(But) Mary believes that
nimeni nu ar fi în pericol. #SUBJB
no one not subj be in danger.
no one is in danger.



Appendix – De Se 'Introspection'.

For simplicity, we use a non *de se* version of 'introspection', i.e.

$$(9) \quad \forall x \quad \forall w \quad \forall w' \in \mathbf{dox}_{x,w} \quad (\mathbf{dox}_{x,w'} = \mathbf{dox}_{x,w})$$

... instead of the *de se* version:

$$(9') \quad \forall x^*, t^*, w^* \quad \forall (x, t, w) \in \mathbf{self_ascribe}_{x^*, t^*, w^*} \\ (\mathbf{self_ascribe}_{x^*, t^*, w^*} = \mathbf{self_ascribe}_{x, t, w})$$



Appendix – SubjB and '*Probabil*'.

In fact, *probably* is an instance of graded modality...

... so, besides the modal base **dox**_{mary,w}, we also need a stereotypical ordering source.

('in view of what Mary takes the normal course of events to be'; see Kratzer (1991):643-645)



Appendix – SubjB and '*Probabil*'.

The implicature based analysis also goes through under the Kratzer analysis of *probably*, because we have the scalar implicatures generated by $(33) \Rightarrow (34) \Rightarrow (35)$ and $(33') \Rightarrow (34') \Rightarrow (35')$ (under suitable readings of *must* and *probably*)

(33) Mary is in danger.

(34) Mary must be in danger.

(35) Mary is probably in danger.

(33') Mary believes that she is in danger.

(34') Mary believes that she must be in danger.

(35') Mary believes that she is probably in danger.