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Simultaneous analyses for simultaneous present*

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Abstract We argue following Schlenker that present tense (in a variety of languages) is a shifting indexical, and that "simultaneous" uses of the present have at least two different sources. While in some cases simultaneous present is due to the mechanism responsible for sequence of tense, in other cases it is due to the presence of character-selecting elements that "shift the indexical" in such a way that it is no longer anchored to the context of utterance. This position allows for a satisfying account of cross-linguistic variation in the use of simultaneous present. We make the point that some languages, like Romanian, make use of both strategies. We explore in some detail the case of Romanian, where speakers seem to divide into different classes with respect to their use of simultaneous present under past tense attitude verbs.

Keywords: tense; indexicality; shifting indexicals

1 A problem concerning the present tense

In this note, we will start from an essentially Kaplanian view on which sentences – or more accurately syntactic structures – are semantically evaluated with respect to an unshiftable context parameter. We will address an issue in the semantics of present tense that arises once we adopt this view.

We will take a context to be an individual-time-world triple. The issue then comes out most clearly when we adopt two assumptions: that the semantic values of sentences are functions from possible worlds to truth values, and that a speaker S uses a sentence Σ at time T in world W to say that $[\![\Sigma]\!]^{\varnothing,\langle \mathbf{S},\mathbf{T},\mathbf{W}\rangle}(W) = 1$[1]. (These kinds of assumptions suggest an analysis of *I am tired now* as in (1).) The problem

*This paper draws on Lungu 2009 and represents in many ways the first author's perspective on the analysis there.

[1] $\varnothing$ is the null assignment – semantic evaluation is with respect to a context and an assignment. Our reference to the null assignment here implies that speakers do not use sentences containing free variables, so on this view deictic and anaphoric pronouns, for example, would not be free variables. Later, we will depart from the strong assumption that sentences lack free variables entirely, but we will move to a position only slightly weaker.

is well known and is the following.

(1) $[\![\text{I am tired now}]\!]^{g,\langle \mathbf{x},\mathbf{t},\mathbf{w}\rangle} = \lambda u_s.$ **x** is tired at **t** in u.
Alternative notation:
$[\![\text{I am tired now}]\!]^{g,\mathbf{c}} = \lambda u_s.$ **Author**(**c**)is tired at **time**(**c**) in u.

On the one hand, consider a sentence like (2a). On the basis of examples like these, it is natural to think that, in simple sentences, English present tense on a verb simply indicates that the verb's time argument is the time coordinate of the context. Assuming that present tense signals the presence of a particular lexical item in the time argument position of the verb, we would say that this element has the semantics in (3a). (On this assumption, the structure of the VP would be as in (3b), abstracting away from movement of the subject.[2] We have called the element $^{\text{pi}}$PRES here since, on this view, English present tense is a "pure indexical" – its contribution to a sentence's semantic value varies in a systematic way with the context of use.)

(2) a. I am tired.
b. $[\![\text{I am tired}]\!]^{g,\mathbf{c}} = \lambda u_s.$ Author(c) is tired at **time**(**c**) in u.

(3) a. $[\![^{\text{pi}}\text{PRES}]\!]^{g,c} = \text{time}(c)$
b. $[\ldots[_{\text{VP}}\ w_1[^{\text{pi}}\text{PRES}\ [\ \text{I}\ [\ \text{be tired}\ ]\ ]\ ]\ ]\ldots]$

The uses of present tense in embedded clauses like those in (4)-(5) support this view. Here our starting assumptions lead to the conclusion that the time coordinate of the context plays a role in the semantics of the embedded clause, and the present tense seems to be responsible for that. (Specifically, if the semantics that we sketch for the embedding verbs in (b) is on the right track, the embedded clauses seem to behave roughly as in (c).)

(4) a. She refused to photograph everyone who is in that room.
b. $[\![\text{refuse}]\!]^{g,c} = \lambda P_{\langle e,ist\rangle}.\lambda x_e.\lambda t_i.\lambda w_s.$ By virtue of what x says at t in w, x excludes as possibilities for his own context of utterance all triples s such that, for some time t' after time(s), $P(\text{author}(s))(t')(\text{world}(s)) = 1$.
c. $[\![\text{PRO to photograph everyone who is in that room}]\!]^{g,c} = \lambda x_e.\lambda t_i.\lambda w_s.$ x photographs at t in w every person in w who is in that room at **time**(**c**) in world(c).

[2] We assume that the world argument is projected in the syntax, and that the position is occupied by a variable. This variable is then abstracted over by a higher binder. This said, when we can we will simplify the structures and leave out the world argument. In general, we will assume that syntactic structures are interpreted along the lines of Heim and Kratzer's text.

(5) a. John said that Mary likes cauliflower.
b. $[\![\text{say}]\!]^{g,c} = \lambda p_{\langle i,st\rangle}.\lambda x_e.\lambda t_i.\lambda w_s$. By virtue of what x says at t in w, x limits the possibilities for his own context of utterance to triples s such that $p(\text{time}(s))(\text{world}(s)) = 1$.
c. $[\![\text{Mary likes cauliflower}]\!]^{g,c} = \lambda t_i.\lambda w_s$. Mary likes cauliflower at **time**(**c**) in w.[3]

But on the other hand we find sentences like (6) and (7), where present tense evidently does not make this kind of contribution. It is possible to understand these sentences as talking about people who are dancing a waltz at the time of photographing, which is situated *in the future* of the utterance time, and when we take the sentences this way, the time argument of the embedded verb is evidently not the time coordinate of the context. Rather, the verb's time argument seems to be a bound variable. In the case of (6), the variable is bound within the complement of *will*, as (6c) indicates. (In (6c), again we abstract away from movement of the subject, and imagine that the subject is within the complement of *will*.) In the case of (7), it is bound within the property argument of *hope*, which says[4] that the subject's desires are such that he has the property at some point in the future.

(6) a. I will photograph a woman who is dancing a waltz.
b. $[\![\text{will}]\!]^{g,c} = \lambda p_{\langle i,st\rangle}.\lambda t_i.\lambda w_s$. For some time t' following t, $p(t')(w) = 1$.
c. $[\![\text{I photograph a woman who is dancing a waltz}]\!]^{g,c}$
$= \lambda t_i.\lambda w_s$. Author($c$) photographs at t in w some woman in w who is dancing a waltz at **t** in w.

(7) a. I hope/expect to photograph everyone who is dancing a waltz.
b. $[\![\text{hope}]\!]^{g,c} = \lambda P_{\langle e,ist\rangle}.\lambda x_e.\lambda t_i.\lambda w_s$. Of all the triples that constitute x's "doxastic alternatives" at t in w, x favors those triples s s.t. for some time t' after time(s), $P(\text{author}(s))(t')(\text{world}(s)) = 1$.
c. $[\![\text{PRO to photograph everyone who is dancing a waltz}]\!]^{g,c}$
$= \lambda x_e.\lambda t_i.\lambda w_s$. x photographs at t in w every person in w who is dancing a waltz at **t** in w.

[3]This formulation is not quite correct: it does not capture the "double access" aspect of this sentence's interpretation. To obtain the right meaning here, it does not suffice to say that our $^{\text{pi}}$PRES occupies on its own the time argument position of the embedded verb. Later ((22)) we will treat past tense as involving a constituent of the form $[\, T[< \ ^{\text{si}}\text{PRES}\ldots]\,]$. Here it seems that we need something like $[T[\supseteq \ ^{\text{pi}}\text{PRES}]]$ in the time argument position, recalling "partial control." There must also then be a device that imposes something like Abusch's (1997) Upper Limit Constraint and introduces the domain condition $\lambda t : T$ doesn't entirely follow t .... The result is: $\lambda t_i : T$ doesn't entirely follow t. λw_s. Mary likes cauliflower at T in w, defined only if T includes time(c) – which seems accurate. We will abstract away from these considerations.

[4]See Abusch 2004 for a different point of view.

(8) provides another such example, from Russian, where on the basis of examples similar to (2) and (4) we would also be tempted to say that present tense brings the time coordinate of the context into play. Here, we seem to have a variable bound within the temporal property argument of *say* (assuming as we did above that *say* expresses that the subject, by virtue of what he says, locates himself at a time with a certain property). We will call all these uses of the present tense "simultaneous present," since they serve to identify the "event time" associated with the present-marked verb with another time that the sentence implicitly or explicitly makes reference to (such as the time of photographing or the time at which the subject locates himself as he speaks).

(8) a. Petja skazal, čto Miša plačet (Russian; Schlenker 1999)
Petja say-past that Miša cry-pres
"Petja said that Miša was crying"
b. $[\![\text{Miša cry-pres}]\!]^{g,c} = \lambda t_i.\lambda w_s$. Miša cries at **t** in w.

The problem is: how does it come about that present tense can make these two different kinds of contributions?

2 The *real* problem

When it comes to the English examples, the solution to the problem looks pretty clear, if we accept what has been said in the recent literature about sequence of tense (see for instance the Abusch, Ogihara and von Stechow references). In the case of examples like the Russian (8), however, there is more of an issue. These examples pose the real problem. The source of "simultaneous present" in examples like (8) has been debated, and the purpose of this note is to present a few arguments in favor of one stand that has been taken. Let us first summarize the solution that suggests itself for English.

English is a "sequence of tense" language. In other words, in clausal arguments of a past tense verb, a verb with *past* tense can often behave as though its time argument is a bound variable. We see this effect in (9) for the verb *reminded* – which is within the clause that serves as an argument of the past tense auxiliary *would*[5] – and arguably for *would* itself, which is within the clause that serves as argument of the past tense verb *said*. In these examples, we seem to have a variable bound at the top of the clause that serves as an argument of the higher past tense item ((9b),(9c)). At a first approximation, a past tense verb can behave as though its time argument is a simple variable in cases where we would say that this variable ends

[5]We adopt here the view that *would* is the past tense form of the auxiliary whose present tense form is *will* (Ladusaw 1977). Abusch (e.g. 1997) named the auxiliary *woll*.

up "bound by" a past tense element of a certain class, a class that includes both attitude verbs like *said* and auxiliaries like *would*.[6] And in these cases, a number of researchers have concluded that something special is happening. While past tense is not normally associated with a simple variable in the time argument position, in cases like these a special mechanism effectively replaces the time argument "inherently" associated with past tense by a simple variable. This is the "tense deletion" approach to sequence of tense phenomena.[7]

(9) a. The oracle said that John would fall in love with someone who reminded him of his mother.

b. $[\![$John fall in love with s.o. who reminded him of his mother$]\!]^{g,c}$ $= \lambda t_i.\lambda w_s$. John falls in love at t in w with someone who at **t** in w reminds John of his mother in w.

c. $[\![$J. would fall in love with s.o. who reminded him of his mother$]\!]^{g,c}$ $= \lambda t_i.\lambda w_s$. For some time t' following **t**, John falls in love at t' in w with s.o. who at t' in w reminds John of his mother in w.

Now, the English facts involving "simultaneous present" parallel the "simultaneous past" facts. A *present* tense verb can behave as though its time argument is a simple variable in cases where we would say that this variable ends up bound by a *present* tense element of the same class – a class including both attitude verbs and *will*, as we have seen. So if something special like tense deletion is going on in the "simultaneous past" cases, it is natural to think that the same thing is going on in the "simultaneous present" cases. What we have is more generally a phenomenon of tense deletion under agreement – as indeed everyone advocating a tense deletion analysis has claimed.[8] Once we recognize the existence of this phenomenon, to capture the English facts, we can say, as we did at the outset, that present tense on a verb just signals the presence of $^{\text{pi}}$PRES in its time argument position.

[6] See Von Stechow 2003 and later writings of von Stechow's for more detailed discussion.

[7] "Tense deletion" approaches date back to Ogihara 1989. There are different varieties, relating to different ideas about what the "inherent" contribution of past tense is, and not all of the varieties conform to this simplified description. Our description here comes closest to the position of Von Stechow 2003. For von Stechow, tense indicates the presence of features that combine with a variable in the verb's time argument position and constrain its possible values; in cases like those we have seen, features literally delete, so (9) is interpreted as though it contained *remind* and *woll*, the untensed counterparts of *reminded* and *would*. An alternative approach (Kratzer 1998) says that simple variables can appear in the time argument position under the same special circumstances, but doesn't posit an actual deletion process. There are important differences among the different varieties, but we don't think they matter for what we say.

[8] We have ignored here a case of "simultaneous present" that at least on the surface does not seem to fit this description. As Sauerland (2002) emphasizes, in simple sentences with temporal adverbs – apparently untensed elements – present tense verbs may behave as though their time argument is a variable bound by the adverb. More needs to be said about this.

But appealing to tense deletion under agreement obviously isn't enough to explain examples like the Russian example, since in those cases there is no higher present tense verb. So the real problem is to explain what is going on there.

Could it be that in Russian tense deletion can apply also in non-agreeing contexts? Or is there another source for "simultaneous present" there? Both positions have been defended. Von Stechow (2003 and later work) has argued for the former. Schlenker (2003) has argued for the latter. In the rest of this note, we will present some reasons for siding with Schlenker, based largely on data from Romanian, which is like Russian in exhibiting both "indexical" uses of present like (2) and (4) and "simultaneous" uses like (8). On the position we are arguing for, which originates with Schlenker, present tense is *not* inherently linked to the context parameter. To introduce this position, we need to make a slight modification to our initial assumptions.

3 Shifting indexicals

We initially made the assumption that a speaker S uses a sentence Σ at time T in world W to say that $[\![\Sigma]\!]^{\varnothing,\langle S,T,W\rangle}(W) = 1$. Data from a number of languages different from those considered here have been used to motivate changes to this assumption. Let us modify it slightly. The idea is this: syntactic structures may contain variables over contexts (c^i) as well as binders for these variables, and one of these variables (c^1, let's say) can in principle remain free. A speaker then uses this variable to refer to his context of utterance – that is, a speaker S uses a sentence Σ at time T in world W to say that $[\![\Sigma]\!]^{\mathbf{G},\langle S,T,W\rangle}(W) = 1$, where $\mathbf{G}$ is the assignment $[\, \mathbf{c^1} \rightarrow \langle S,T,W\rangle \,]$.

Schlenker has argued that a modification of this kind helps us to understand what is going on in a language like Amharic. When we embed Amharic sentences that translate as *I am a hero or My son will not obey me*, these sentences can make contributions different from those of their English counterparts. For example, the English sentence *John said that my son will not obey me* expresses that John uttered a sentence like "S's son will not obey *S*" (where *S* names the speaker); by contrast, the Amharic (10), which embeds the sentence that corresponds to *My son will not obey me*, can express (among other things) that John uttered a sentence like "My son will not obey *S*."[9]

[9] At least, this is our understanding given the descriptions in the literature. Schlenker (to appear) gives the gloss "John said 'my son will not obey auth(c).' " This and similar examples are discussed by Schlenker (1999) and Anand (2006). Anand specifically argues *against* the analysis we give below. It isn't so relevant here whether our description of the example, and our treatment of it, are correct. It allows us to introduce the theoretical machinery we will use for present tense, and the overall framework seems to us to be compatible with the variety of "shifting indexical" facts that have been considered (see Schlenker, to appear, for discussion).

(10) John [$_{\phi}$ lɨj-e ay-ɨttazzəzə-ññ] alə
John son-**my** NEG.3s-obey.mkimperf-**1sO** say.PERF.3sm
Possible translation: "John said that his son would not obey me"
(transliteration with morphemic analysis from Anand 2006: 101)

Once we adopt the modification, we can account for this. Specifically, we can do so by saying that the embedded clause in (10) admits structures with at least two distinct variables over contexts c^i and c^j, and expresses that the son of the author of the first context will not obey the author of the second[10] (below, ϕ^{ij} stands for the structure with variables c^i and c^j):

(11) $[\![\phi^{ij}]\!]^{g,c} = \lambda w_s$. In w, author$(g(\mathbf{c^i}))$'s son does not obey author$(g(\mathbf{c^j}))$ at any point after time$(g(c^i))$.

Consider first what happens when the clause appears unembedded. In that case, the only structure that we could use is one with two c^1 variables, and a speaker S would use this to say that *his own son* wouldn't *obey him* – hence the translation *My son will not obey me*. As for the embedded case, suppose that the first variable is c^2 and the second variable is c^1. Then we can arrive at the meaning in question if we say that "Amharic *say*" selects for the kind of object that we would associate with a sentence's "character," in Kaplan's sense. "Characters" capture how the semantic value of a sentence varies with respect to a context – for example, the character of *I am tired now* (evaluated with respect to an assignment g) would be $\lambda k_k.\lambda u_s$. Author(k) is tired at time(k) in u.[11] The idea here would be the following. "Amharic *say*" says that its subject expresses what he would express by uttering a sentence with a certain character (cf. (12)). And in the case at hand, we get this character by putting a binder for c^2 at the beginning of the embedded clause ((13)). What this gives us is the character of a sentence like *My son won't obey S*, so the sentence as a whole will express that, what John said, he could have said by uttering a sentence with that character – hence the translation *John said that his son wouldn't obey me*. (The steps given in (14) should make this clear.)

(12) $[\![\text{say}_{\text{Amh}}]\!]^{g,c} = \lambda F_{\langle k,st\rangle}.\lambda x_e.\lambda t_i.\lambda w_s$. By virtue of what x says at t in w, x limits the possibilities for his own context of utterance to triples s such that $F(s)(\text{world}(s)) = 1$.

[10] More specifically, to arrive at the gloss above, we will need: ...that the son of the author of the first context will not obey the author of the second context at any time *after the time of the first context*. We have included this information in (11).

[11] Here and in what follows, we use "k" in the metalanguage as a variable over contexts as well as an indicator of the type of contexts.

(13) $[\![\lambda c^2 \phi^{21}]\!]^{g,c} = \lambda k_k.\lambda w_s$. In w, author($\mathbf{k}$)'s son does not obey author($g(\mathbf{c^1})$) at any point after time(k).

(14) a. $[\![\lambda c^2 \phi^{21}]\!]^{G,c} = \lambda k_k.\lambda w_s$. In w, author($\mathbf{k}$)'s son does not obey author($\mathbf{c}$) at any point after time(k).

b. $[\![\text{say}_{\text{Amh}} \lambda c^2 \phi^{21}]\!]^{G,c} = [\![\text{say}_{\text{Amh}}]\!]^{G,c}([\![\lambda c^2 \phi^{21}]\!]^{G,c}) = \lambda x_e.\lambda t_i.\lambda w_s$. By virtue of what x says at t in w, x limits the possibilities for his own context of utterance to triples s such that, *in world*(s)*, author*($\mathbf{s}$)*'s son does not obey author*($\mathbf{c}$) *at any time after time*(s).

An analysis along these lines would treat Amharic first person items as elements that select for a context and yield the context's author coordinate ((15a)). In the case we just considered, one instance would combine with the variable c^2 – the resulting constituent is the possessor argument of *son* (cf. (15b)) – and the other would combine with the variable c^1 – thereby forming the object of *obey*. "Amharic *I/me/my*" would be a "shifting indexical," an item whose contribution sometimes depends on the context of utterance (in cases where it combines with a free c^1) but which doesn't always (since under "character-selecting" operators its context argument might be bound).

(15) a. $[\![$ I/me/my$_{\text{Amh}}$ $]\!]^{g,c} = \lambda k_k$. author(k)

b. [$_{\text{NP}}$ [my c^2] son]

Once we move to a picture of this kind, another treatment suggests itself for the Russian facts. Maybe present tense on a Russian verb doesn't signal the presence of a "pure indexical" like our $^{\text{pi}}$PRES in its time argument position. Maybe it signals the presence of a *shifting* indexical $^{\text{si}}$PRES which combines with a context variable ((16)). Then the "simultaneous present" of the Russian example would follow if "Russian *say*" were just like "Amharic *say*." To arrive at the "simultaneous present" reading, we would simply insert a binder for $^{\text{si}}$PRES's context argument at the top of the complement clause ((17a)). What we would get is the character of a sentence like *Miša is crying now* ((17b)) so *say* will express that, what its subject claimed, he would have claimed by uttering a sentence with that character ((17c)).

(16) $[\![^{\text{si}}\text{PRES}]\!]^{g,c} = \lambda k_k$. time($k$)

(17) a. [$_\alpha$ say$_{\text{Amh}}$[$_\beta$ $\lambda \mathbf{c^1}$ [$^{\text{si}}$PRES c^1] Miša cry]]

b. $[\![\beta]\!]^{g,c} = \lambda k_k.\lambda w_s$. Miša cries at time($k$) in w.

c. $[\![\alpha]\!]^{g,c} = \lambda x_e.\lambda t_i.\lambda w_s$. By virtue of what x says at t in w, x limits the possibilities for his own context of utterance to triples s such that *Miša cries at time*(s) *in world*(s).

If Russian present tense is a shifting indexical, then we can account for "simultaneous present" in the Russian example. Indeed, it is possible to maintain that present

tense in *both* Russian and English is a shifting indexical, as long as one can claim that the two languages differ with respect to the "character-selecting" operators they can make use of – following the lines of our sketch above, one might say that, while "Russian *say*" is character-selecting, English *say* is not and thus does not give rise to simultaneous present in complements of attitude verbs. In the next section, we will present a few reasons for adopting an approach along these lines. Since this will be relevant in what follows, though, note first that in order to arrive at the meaning of our Russian example, we didn't have to say that "Russian *say*" is exactly like our "Amharic *say*." In (18) is another entry that would do just as well. While our entry for "Amharic *say*" "shifted" *all* shifting indexicals, this new entry "shifts" only those that would otherwise depend *on the time coordinate* of the context of utterance. All others remain anchored to the context of utterance. Since in our Russian example there was only one shifting indexical and it accessed only the time coordinate of its context argument, the two entries will yield the same result. Assuming that present tense is the only shifting indexical that we find in Russian, (18) is another candidate for the semantics of "Russian *say*."

(18) $[\![say']\!]^{g,c} = \lambda F_{\langle k,st\rangle}.\lambda x_e.\lambda t_i.\lambda w_s$. By virtue of what x says at t in w, x limits the possibilities for his own context of utterance to triples s such that $F(\langle \mathbf{author}(\mathbf{c}), \mathbf{time}(\mathbf{s}), \mathbf{world}(\mathbf{c})\rangle)(\text{world(s)}) = 1$.

Moreover, once we recognize that (18) is a candidate for the semantics of "Russian *say*," we can see that the entry we gave for English *say* is as well, as long as we assume that another silent element can appear in the Russian structure, call it BINDPRES ((19)). BINDPRES would take the "character argument" of *say* in (17b) that corresponds to the character of *Miša is crying now* and produce the property that a time has as long as Miša is crying then ((20)). If we perform this operation and then apply English *say* (repeated in (21)) to the result, we get just what we would get by applying the entry in (18) directly to the "character argument." So there really are many ways of getting the desired result once we say that present tense is a shifting indexical.

(19) [say [BINDPRES [λc^1[^{si}PRES c^1] Miša cry]]]

(20) a.[12] $[\![\text{BINDPRES}]\!]^{g,c} = \lambda F_{\langle k,st\rangle}.\lambda t_i.\lambda w_s.F(\langle \text{author}(c), \mathbf{t}, \text{world}(c)\rangle)(w)$

b. $[\![\text{BINDPRES}]\!]^{g,c}(\lambda k_k.\lambda w_s$. Miša cries at time$(k)$ in $w) = \lambda t.\lambda w$. Miša cries at **t** in w.

(21) $[\![\text{say}]\!]^{g,c} = \lambda p_{\langle i,st\rangle}.\lambda x_e.\lambda t_i.\lambda w_s$. By virtue of what x says at t in w, x limits the possibilities for his own context of utterance to triples s such that $p(\text{time}(s))(\text{world}(s)) = 1$.

[12]To simplify here, we have left out some domain conditions. To be more precise,

4 Arguments for present tense as a shifting indexical

Here we will argue the case that present tense is a shifting indexical, at least in the languages we considered. The points are the following. In a certain sense, this view is more explanatory than the tense deletion approach when it comes to accounting for why we find Russian-style examples with simultaneous present. And it also leads to a simple account of cross-linguistic variation concerning the availability of simultaneous present in such cases, where there is no agreeing higher tense.

As far as the first point, the explanatoriness point, consider first the tense deletion approach to Russian-style examples. On this approach, there is a tense that can delete irrespective of the tense of the higher verb, and it seems arbitrary that this tense is present tense. One might expect there equally well to be languages that allow simultaneous readings for *past* tense under different tenses. As far as we know, there are no languages that behave this way. On the shifting indexical approach, by contrast, it is *expected* that, if there is a tense that leads to simultaneous readings under different tenses, it is present tense. We haven't discussed past tense, but on the usual kinds of assumptions, it couldn't lead naturally to a simultaneous reading. For example, suppose that, roughly as Schlenker (1999) says, past tense indicates the presence of a feature on the verb's time argument that imposes a presupposition, the presupposition that the time argument is prior to what we would have with present tense ((22)). It is hard to see what meaning of *say* could naturally lead to a simultaneous reading of past tense in examples like (23a), once we combine *say* with a constituent initiated by a binder of context variables. ((23b) gives the kind of structure we would have for the embedded clause on these assumptions. T in (23b) is an unpronounced time-referring expression.[13])

(22) Past tense indicates that $[< [^{\text{si}}\text{PRES } c^i]]$ is attached to the verb's time argument, where $[\![<]\!]^{g,c} = \lambda s_i.\lambda t_i : t$ precedes s. t.

(23) a. John says that Mary cried

b. structure of the embedded clause *without* a binder attached:
$[_\alpha\ [T[<\ ^{\text{si}}\text{PRES } \mathbf{c^1}]]$ Mary cry$]$

c. meaning of the embedded clause *with* a binder attached:
$[\![\lambda c^1\ \alpha]\!]^{g,c} = \lambda k_k : [\![T]\!]^{g,c} < \text{time}(k).\lambda w_s$. Mary cries at $[\![T]\!]^{g,c}$ in w.

the full entry should be: $\lambda F_{<k,st>}.\lambda t : \langle \text{author}(c), t, \text{world}(c)\rangle$ is in the domain of F. $\lambda w : w$ is in the domain of $F(\langle \text{author}(c), t, \text{world}(c)\rangle)$. $F(\langle \text{author}(c), t, \text{world}(c)\rangle)(w)$

[13] Alternatively, we might have an existential quantifier over times binding into the position that T occupies in (23b). This structure would be as in (ia) (we can imagine that the implicit quantifier sometime QRs from the lower position):

i. a. $[_\beta\ \lambda w_2$ SOMETIME $[\lambda t_1\ w_2\ [t_1\ <\ ^{\text{si}}\text{PRES } c^1]$ Mary cry $]]$

b. $[\![\lambda c^1\ \beta]\!]^{g,c} = \lambda k.\lambda w$. For some time t such that $t\ <\ \text{time}(k)$, Mary cries at t in w

So to the extent that there are really no languages that allow simultaneous readings for past tense under different tenses, while there are languages that allow simultaneous readings for present tense under different tenses, the shifting indexical approach to these readings is in a position to explain why this is, while the deletion approach is not.

Our second point is that, compared to the deletion approach, a shifting indexical account of simultaneous present under past tense accounts in a more satisfying way for some cross-linguistic variation in the use of this simultaneous present. We are not in a position to talk about Russian, where we are not fully informed and where there is some debate in the literature concerning the data, but will make this point by considering Romanian.

Arguably, in one respect, Romanian behaves like English. It allows simultaneous present in cases where, if we were to imagine the present tense as a simple bound variable, we would say that this variable ends up bound by a present tense element of the familiar class – a class including both attitude verbs and the future auxiliary, but not, for example, the perfect auxiliary ((24)).[14] In fact, as far as we can see, it is possible to maintain that Romanian gives rise generally to English-style sequence of tense phenomena – that is, in general, a verb can behave as though its time argument is a simple bound variable in cases where we would say that this variable ends up bound by an element of this class with identical tense marking. At the same time, however, Romanian – like Russian – also allows for simultaneous present in the complements of past-marked attitude verbs. (Subject to some further variation that we will discuss below.) Some examples are given in (25), where we gloss tense but not agreement morphology. Now, on the shifting indexical view of present tense, the difference between English and Romanian can be characterized as a simple lexical difference. Following up on our earlier suggestion, we could say that English and Romanian contain the same verb *say*, the same present tense, and so forth, and differ only in that Romanian contains, but English lacks, the element BINDPRES. (The Romanian structures for the complement clauses in (25) would thus be as in (26).) On the deletion approach, by contrast, it is difficult to see how this difference could reduce to a mere difference in the existence of a lexical item.

[14]The data in (24) require further comment. (24b) differs from our earlier examples in that the main verb of the embedded clause is a subjunctive form. (24c) is a little odd under any reading. It sounds better with a definite, and then refers to a woman *now* dancing a waltz.

(24) a. Voi fotografia o femeie care dansează vals.
aux.pres photograph a woman who **dance.pres** waltz
"I will photograph a woman dancing a waltz at that time"
b. Sper/vreau să fotografiez o femeie care dansează vals.
hope/want.pres SĂ photograph-subj a woman who **dance.pres** waltz
"I hope to photograph a woman dancing a waltz at that time"
c. Am fotografiat o femeie care dansează vals.
have.pres photographed a woman who dance.**pres** waltz.
"I photographed a woman dancing a waltz at that time"

(25) a. Ion a spus că Maria este în Japonia.
Ion have.pres said that Maria **be.pres** in Japan
"John said that Mary was in Japan"
b. Ion credea că Maria este logodită cu bărbatul care
I. believe.imp that M.**be.pres** engaged with the man who
dansează.
dance.pres
Among other possibilities:
i. "J. thought that M. was engaged to the man who was dancing"
ii. "J. thought that M. was engaged to the man who is dancing"

(26) a. BINDRES [λc^1 [^{si}PRES c^1] Mary be in Japan]
b. i. BINDPRES [$\lambda \mathbf{c^1}$ [λw_3 w_3 [^{si}PRES $\mathbf{c^1}$] Mary be engaged to
[the man-w_3 [who λx_5 w_3 [^{si}PRES $\mathbf{c^1}$] t_5 be dancing]]]
ii. BINDPRES [$\lambda \mathbf{c^2}$ [λw_3 w_3 [^{si}PRES $\mathbf{c^2}$] Mary be engaged to
[the man-w_4 [who λx_5 w_4 [^{si}PRES $\mathbf{c^1}$] t_5 be dancing]]]

Beyond this, the shifting indexical account seems well suited to account for variation *within* Romanian. Our impression is that in fact speakers of Romanian divide up into two classes with respect to when they allow simultaneous present under a past-marked attitude verb. While some speakers ("Romanian A," to be abbreviated "RA") allow it systematically, others ("RB") are more restricted. In the following section, we will discuss the relevant data. As we will see, if our characterization of RB is correct, then the difference between RA and RB also can be seen as a simple lexical difference on the shifting indexical view. What differs is the precise semantics of the "character-selecting" element: while RA uses an element that does exactly what BINDPRES does, RB uses an element with a slightly more complex semantics. Again, this is an appealing way of accounting for the difference,

and it does not seem to be available to a deletion account. (It does, however, pose the question of what constraints there are on the semantics of "character-selecting" elements.)

We will formulate our account in the next section in a way that departs slightly from what we have done so far. As we said, once we accept that present tense is a shifting indexical, there are various ways in which we might arrive at simultaneous present in the complement of verbs like *say*. This is true even if we stick to the idea that *say* has the semantics we attributed to English *say*, one that selects for a property of times. For example, rather than say that the character-selecting element BINDPRES attaches to the verb's complement, we might say that there is a silent affix $\text{AFF}_{\text{bindpres}}$ that attaches to the verb and converts it to a character-selecting element. $\text{AFF}_{\text{bindpres}}$ would work in such a way that when $\text{AFF}_{\text{bindpres}}$-*say* combines with its character argument, we get just what we would get by applying BINDPRES to its character argument, and applying *say* to the result:

(27) $[\![\text{AFF}_{\text{bindpres}}]\!]^{g,c} = \lambda P_{\langle ist,eist\rangle}.\lambda F_{\langle k,st\rangle}.P([\![\text{BINDPRES}]\!]^{g,c}(F))$[15]

On this view, the structure of a sentence like (25a) would include a constituent like (28) below, no different from what we have already imagined except that there is no BINDPRES, but rather an $\text{AFF}_{\text{bindpres}}$ attached to the verb.

(28) $\textbf{AFF}_{\text{bindpres}}\text{–}\textbf{say}[\lambda c^1[^{\text{si}}\text{PRES } c^1]$ Mary be in Japan]

In the next section, we will see how this position, on which the item that is responsible for character selection takes the attitude verb as an argument, can help us to understand the variation within Romanian. We will suggest that RA and RB both use an affix that attaches to the verb and converts it to a character-selecting element, but differ slightly when it comes to the semantics of the affix. RA uses $\text{AFF}_{\text{bindpres}}$; RB uses something slightly more complex.

5 The non-commitment condition in Romanian B[16]

RA and RB differ in that, in RB, the use of simultaneous present under past tense attitude verbs is more limited. If we stick to simple clauses embedded below past

[15] Again, we have simplified here and left out a domain condition. To be more precise, the entry is: $[\![\text{AFF}_{\text{bindpres}}]\!]^{g,c} = \lambda P_{\langle ist,eist\rangle}.\lambda F_{\langle k,st\rangle}$: $[\![\text{BINDPRES}]\!]^{g,c}(F)$ is in the domain of P. $P([\![\text{BINDPRES}]\!]^{g,c}(F))$. Note that, according to our earlier description, all F's of this type are in the domain of $[\![\text{BINDPRES}]\!]^{g,c}$, so this condition doesn't have to be specified too.

[16] Our discussion here follows Lungu (2009). Lungu however adopts a "deletion" account. She suggests that in RB a verbal affix similar to the one we posit here – an affix that introduces the non-commitment condition – triggers deletion of present tense below.

tense attitude verbs, we find, for example, that simultaneous present is possible under *think* but not under *know*, where one has to use past tense to express the relevant claim. We thus find the judgments below for RB (all sentences to be considered are fine in RA).

(29) Alex credea că Alina este însărcinată.
Alex think.imp that Alina be.**pres** pregnant
OK "Alex thought that Alina was pregnant."

(30) (Acum zece ani) Alex ştia că Mirela aşteaptă un copil.
(now ten years) Alex know.imp that Mirela expect.**pres** a baby.
"(Ten years ago), Alex knew that Mirela was expecting a baby."

In our view, the relevant difference here is not factivity per se, because an inherently non-factive verb like *tell* also gives rise to limitations on the use of simultaneous present[17]:

(31) **Context**. Two years ago, I spoke with Anca on the phone. She was in Seattle. Anca said: "It is raining." She obviously knew what she was talking about.

(Acum doi ani când am vorbit cu ea).
(now two years when have spoken with her)
Anca mi- a spus că plouă în Seattle
Anca me has told that rain.**pres** in Seattle
"... Anca told me that it was raining in Seattle."

What we find rather is that, in cases like these, a simultaneous present is inappropriate when the property of times that we would "recover" from the embedded clause (think in terms of BINDPRES) is one that, in the speaker's opinion, holds of the time of the attitude. For example, (31) is inappropriate because the speaker takes the subject, Anca, to be reliable. She thus thinks that the temporal property that we would "recover" – the property of being a time at which it is raining in Seattle – is indeed, as Anca claimed, a property that holds of the time of Anca's statement. By contrast, there is no inappropriateness in cases like (32), also with *tell*, where the speaker

[17]This argument is not conclusive if you think that *tell* is ambiguous between a factive verb and a non-factive verb. This isn't implausible – Marta Abrusan informs us that Hungarian has both a factive and a non-factive *tell* – and in that case the examples we quote here would in fact show a contrast between factivity and non-factivity. A datum that would be relevant is the judgment on (i) (modeled on Braşoveanu 2006). If (i) is OK on the relevant meaning for RB speakers, this would show that factivity of the verb is not the right criterion.

i. Mary mistakenly thinks that Helen was in LA last week. Moreover, she thinks that John knew that Helen **be.pres** there and flew to LA to join her.

does *not* take the subject to be a reliable authority as to the content of his claim. The inappropriateness of examples like (30) with factives follows, since, if they contained a simultaneous present, their use would require that the speaker be committed to the temporal property holding of the time of the attitude.

(32) **Context A**. I have no idea whether or not Mirela was ever pregnant.
Context B. I know for a fact that Mirela was never pregnant. I was there when the doctor told her that she cannot have babies.

Acum zece ani, Mircea mi- a spus că Mirela aşteaptă un
now ten years, Mircea me has told that Mirela expect.**pres** a
copil.
baby
OK "Ten years ago, Mircea told me that Mirela was expecting a baby."

Summarizing, if we stick to simple clauses embedded below past tense attitude verbs, RB seems to be subject to the following condition:

(33) *The non-commitment condition in Romanian B* (NCC):
A speaker cannot use a past tense attitude report with an embedded present to describe a situation in which the attitude subject X attributes property P to the time at which s/he is located, in cases where the speaker thinks that P indeed holds of the attitude time.

The NCC is found in RB but not in RA. The precise restriction that we find in a given case obviously depends both on what material appears as the complement of the attitude verb and on what the time is that constitutes the attitude time. Now, on the view where present tense is a shifting indexical and an affix is responsible for character selection, among the arguments that the affix takes are the complement clause itself and a time that serves as the attitude time – the latter since, once we put the affix together with the attitude verb and we put the result together with the complement clause, we have created something that we could have created by combining the original verb with its clausal argument. The difference between RA and RB can easily be accounted for on this view: the two dialects would just differ slightly as to the semantics of the affix. Over and above its job of doing the work that BINDPRES does, the affix in RB would have the effect of imposing the NCC.

To show how this would work, for concreteness we will imagine the NCC as a non-at-issue entailment: on this view, a speaker who utters a sentence like (32) expresses, among other things, that he considers it possible that Mirela was not pregnant at the relevant time, but a denial of the speaker's claim would leave this aspect of meaning untouched. And we will assume (unlike Potts) that non-at-issue entailments result from partiality in the semantic value that we generate

for the sentence. Recall that a speaker S uses Σ at time T in world W to say that $[\![\Sigma]\!]^{G,\langle S,T,W\rangle}(W) = 1$ where G is the assignment $[c^1 \rightarrow \langle S,T,W\rangle]$. The idea here is that, in the same way, to deny the truth of a sentence uttered by S at T in W is to say that $[\![\Sigma]\!]^{G,\langle S,T,W\rangle}(W) = 0$. So when $[\![\Sigma]\!]^{G,\langle S,T,W\rangle}(W)$ is defined only if S has a certain property at T in W, the claim that S has this property is not at issue. On this view, while RA's affix would be the one we considered earlier (rewritten in (34a) and rebaptized AFF_{RA}), RB's affix ((34b)) would be slightly different in that it would not be defined for all of the same sequences of arguments. In particular, it would not admit as arguments a character F and a time t in cases where the speaker is of the opinion that the property of times "corresponding to" F (the property BINDPRES gives us) holds of t. But in all other ways it would be like RA's.[18]

(34) [19] a. $[\![\text{AFF}_{\text{RA}}]\!]^{g,c}$
$= \lambda P_{\langle ist,eist\rangle}.\lambda F_{\langle k,st\rangle}.\lambda x.\lambda t.\lambda w.P([\![\text{BINDPRES}]\!]^{g,c}(F))(x)(t)(w)$

b. $[\![\text{AFF}_{RB}]\!]^{g,c} = \lambda P_{\langle ist,eist\rangle}.\lambda F_{\langle k,st\rangle}.\lambda x_e.\lambda t_i : \underline{\text{At time}(c) \text{ in world}(c), \text{author}(c) \text{ entertains as a candidate for the actual world some world } w'' \text{ such that } [\![\text{BINDPRES}]\!]^{g,c}(F)(t)(w'') = 0.}$
$\lambda w_s.P([\![\text{BINDPRES}]\!]^{g,c}(F))(x)(t)(w)$

To see the result of these assumptions, consider the sentence in (32). Here, to simplify slightly, we will imagine that, instead of *tell me*, we simply have the verb *say*. The affix will combine with this item. When the affixed verb combines with the complement clause (35a), we will have a constituent with the semantics in (35b). Assuming that past tense has the analysis sketched earlier and that a silent expression

[18] In other words, RB's affix is like RA's affix except for the fact that it introduces a semantic "non-commitment presupposition." A common view, due to Stalnaker, is that pragmatic presuppositions arise in this way, but we won't go further than we have here.

[19] Here as earlier, we have simplified and left out some domain conditions. The full entry for AFF_{RA} should be as in (i) and the full entry for AFF_{RB} should be as in (ii) – identical except for a condition on the time argument. These conditions can be ignored for the moment, but they are important in deriving the meaning for AFF_{RB}-*know* given at the end of the section. Note again that, since all F's of type $\langle k,st\rangle$ are in the domain of $[\![\text{BINDPRES}]\!]^{g,c}$, no additional condition on the F argument needs to be specified.

i. $[\![\text{AFF}_{\text{RA}}]\!]^{g,c} = \lambda P_{\langle ist,eist\rangle}.\lambda F_{\langle k,st\rangle} : \underline{[\![\text{BINDPRES}]\!]^{g,c}(F) \text{is in the domain of } P.}\ \lambda x_e :$
$\underline{x \text{ is in the domain of } P([\![\text{BINDPRES}]\!]^{g,c}(F)).}\ \lambda t_i : \underline{t \text{ is in the domain of}}$
$\underline{P([\![\text{BINDPRES}]\!]^{g,c}(F))(x).}\ \lambda w_s. : \underline{w \text{ is in the domain of} P([\![\text{BINDPRES}]\!]^{g,c}(F))(x)(t).}$
$P([\![\text{BINDPRES}]\!]^{g,c}(F))(x)(t)(w)$

ii. $[\![\text{AFF}_{\text{RB}}]\!]^{g,c} = \ldots\ \lambda t_i : t \text{ is in the domain of } P([\![\text{BINDPRES}]\!]^{g,c}(F))(x)$
$\underline{\text{and, at time}(c) \text{ in world}(c), \text{author}(c) \text{ entertains as a candidate for the actual world some world } w'' \text{ such that } [\![\text{BINDPRES}]\!]^{g,c}(F)(t)(w'') = 0.} \ldots$ (apart from this, just like (i))

referring to time τ serves as the time argument of *say*[20], sentence (32) as a whole will have the semantics in (36). This will mean that a speaker S who uses (32) at time T in world W is saying that (i) τ precedes T; (ii) at T in W, S entertains as a candidate for the actual world some world w'' such that Mirela is not pregnant at τ in w''; (iii) at τ, in W, Mircea says of his own context of utterance s that Mirela is pregnant at time(s) in world(s). However, (i) as well as (ii), the expression of non-commitment, are non-at-issue aspects of the speaker's claim.

(35) a. $\text{AFF}_{\text{RB}}\text{-say}[_{\alpha}\ \lambda c^2\ [^{\text{si}}\text{PRES}c^2]$ Mirela be pregnant]

b. $[\![\text{AFF}_{\text{RB}}\,\text{say}\,\alpha]\!]^{g,c} = \lambda x_e.\lambda t_i$: At time(c) in world(c), author(c) entertains as a candidate for the actual world some world w'' such that Mirela is not pregnant at t in w''. λw_s. By virtue of what x says at t in w, x limits the possibilities for his own context of utterance to triples s such that Mirela is pregnant at time(s) in world(s).

(36) $[\![(32)]\!]^{g,c}$ is defined only if: (i) τ precedes time$(g(c^1))$; (ii) at time(c) in world(c), author(c) entertains as a candidate for the actual world some world w'' such that Mirela is not pregnant at τ in w''. Where defined, $[\![(32)]\!]^{g,c} = \lambda w_s$. By virtue of what Mircea says at τ in w, he limits the possibilities for his own context of utterance to triples s such that Mirela is pregnant at time(s) in world(s).

Extending this to the other cases we have seen should be straightforward. A standard semantics for *think* and *know*[21] would give rise to the meanings in (37) when we combine these verbs with RB's affix. The two differ only in that there is a further definedness condition in the case of *know*. If we consider what happens with *know*, we see that in simple sentences like *Mircea knew (at τ) that Mirela be.pres pregnant*, we will arrive at a very unreasonable Mooreishly paradoxical claim. The speaker would be saying, among other things, that he considers it possible that Mirela was *not* pregnant at τ (due to the condition on the time argument), and that Mirela *was* pregnant at τ (due to the further condition on the world argument), where both of

[20] More precisely, that the expression is $[\ T\ [\ <\ ^{\text{si}}\text{PRES}\ c^1\ ]\ ]$, where $[\![T]\!]^{g,c} = \tau$.

[21] Here we just have in mind the entries in (i) and (ii), which themselves differ only with respect to the addition of a definedness condition in the case of *know*. The more detailed entry for AFF_{RB} given in the earlier footnote ensures that this results in a further definedness condition in the case of AFF_{RB}-*know*. (i) and (ii) are of course simplified in a variety of ways.

i. $[\![\text{think}]\!]^{g,c} = \lambda p_{\langle i,st\rangle}.\lambda x_e.\lambda t_i.\lambda w_s$. At t, in w, all pairs $\langle t', w'\rangle$ that x entertains as a candidate for the moment at which he is located and the actual world are such that $p(t')(w') = 1$.

ii. $[\![\text{know}]\!]^{g,c} = \ldots\ \lambda w_s : p(t)(w) = 1.\ \ldots$ (otherwise just like (i))

these apparently conflicting aspects constitute non-at-issue information.

(37) a. $[\![\text{AFF}_{\text{RB}}\ \text{think}]\!]^{g,c} = \lambda F_{\langle k,st\rangle}.\lambda x_e.\lambda t_i$: At time(c) in world(c), author(c) entertains as a candidate for the actual world some world w'' such that $[\![\text{BINDPRES}]\!]^{g,c}(F)(t)(w'') = 0$. λw_s. At t, in w, all pairs $\langle t', w'\rangle$ that x entertains as a candidate for the moment at which he is located and the actual world are such that $[\![\text{BINDPRES}]\!]^{g,c}(F)(t')(w') = 1$.

b. $[\![\text{AFF}_{\text{RB}}\ \text{know}]\!]^{g,c} = \ldots\lambda w_s$: $\underline{[\![\text{BINDPRES}]\!]^{g,c}(F)(t)(w) = 1}$. ... (otherwise just like (37a))

6 Conclusion and possible connections

In this note we have elaborated on and argued for a position taken by Schlenker (1999, 2003) that in a variety of languages present tense is a shifting indexical.[22] We have argued that – as Schlenker suggests – "simultaneous present" has at least two different sources. While in some cases "simultaneous present" is due to the mechanism responsible for sequence of tense, in other cases it is due to the presence of character-selecting elements that "shift the indexical" in such a way that it is no longer anchored to the context of utterance. Some languages, like Romanian, make use of both strategies.

Our discussion of RB also suggests that, in cases where a shifting indexical gets "shifted" in the complement of an attitude verb, what makes this possible is an affix attached to the verb, or at least an element that takes the verb as an argument. Whatever enables shifting in RB also contributes the non-commitment condition, which concerns the evaluation time of the attitude verb, so the element responsible for shifting must in some manner "see" the embedding verb's time argument. This conclusion isn't really so surprising. In the literature, it is assumed that shifting occurs under attitude verbs only. If this is correct, and if attitude verbs can be distinguished on the basis of their semantic type, it is reasonable to think that, when shifting happens, it might be due to an element that takes as an argument items of the type of attitude verbs. But interestingly the approaches to shifting indexicals that have been floated in the literature do not assume that shifting is triggered by a verbal affix that creates a character-selecting element. And these approaches would not capture the RB facts naturally. For Schlenker (2003), no specific element appears if and only if there is shifting; for Anand & Nevins (2004), shifters never take as an argument either the verb or the verb's time argument.

[22] Japanese, which has been treated extensively in the literature, is probably not among these. As discussed by Ogihara (1989, 1996) and Kusumoto (1999), what has been called present tense in Japanese gives rise to many more "simultaneous readings" than we find in the languages we considered here, and these could not have the same source.

The non-commitment condition associated with simultaneous present in RB recalls other similar non-commitment conditions that have been discussed in the literature – in particular, in connection with the Konjunktiv I in German (Schlenker 1999, 2003) and the Subjunctive B in Romanian (Braşoveanu 2006), though also with some uses of the indicative in German, including uses of the present tense itself (Rau 2009). Further exploration is needed to see what just the commonalities are, and whether the common aspects can be attributed to similar ingredients. We do think it worth mentioning that the simultaneous present that we explored in RB is not just an alternate pronunciation of the Subjunctive B, a possibility that suggests itself given Braşoveanu's description. Subjunctive B in the complement of a past tense attitude verb leads not to a simultaneous reading, but rather to the "double access reading" associated with the use of present tense in English. A sentence like (38) is thus bizarre. So it seems that Subjunctive B incorporates an *un*shifted present tense, perhaps a "pure indexical" like our ^{pi}PRES.

(38) Acum zece ani, Petre a spus că Maria ar fi bolnavă.
Now ten years, Petre has said that Maria be.SUBJB sick
"Ten years ago, Peter said that Maria was sick"

This said, despite the differences, some of the mechanics that we mentioned here could be relevant to Subjunctive B as well. On Braşoveanu's description, when the main verb of an attitude complement is in the subjunctive, this indicates that either the speaker *or a higher attitude holder* has doubts about the truth of the clause. According to this description[23], (39) requires that either the speaker *or John* have doubts about Maria's being sick.

(39) Ion crede că Petre a spus că Maria ar fi bolnavă.
Ion think.pres that Petre has said that Maria be.SUBJB sick.
"John thinks that Peter said that Maria is-SUBJ sick"

This could be accounted for in part by saying that subjunctive morphology comes to impose a requirement on the author of the context that is relevant for *shifting indexicals within the clause of the embedding verb*. Here is a very quick sketch. Suppose the embedded clause in (39) looks something like (40a), with the semantics in (40b) (we ignore here the "double access" aspect of the sentence's interpretation).[24] If we embed this under *John thinks that* (type-shifting it so that we have a

[23]The judgments are not easy here. Braşoveanu's actual example involves *want* and *think*:

i. ... vrea ca Ion să creadvă că Elena nu ar fi în LA. (Braşoveanu 2006, ex. 19)
she wants John to believe that Elena is-SUBJB not in LA.

[24]We could arrive at this result if the element whose presence results in the subjunctive morphology

temporal property), the speaker will express that *he* has doubts about Maria being sick at the utterance time. But now suppose also that there is an affix that we can attach to attitude verbs that is reminiscent of those we have seen, one that selects for a character. And suppose that this affix insures that shifting indexicals in the verb's complement are evaluated with respect to a context whose author coordinate is the verb's subject. Then, if we attached this affix to *thinks* and abstracted over the context variables in its complement, the doubts would become John's rather than the speaker's.

(40) a. $[_{\beta}\ [T < [^{\text{si}}\text{PRES}\ c^1]]$ Peter … say … $[_{\alpha}\ ^{\text{pi}}\text{PRES}$ Maria sick]]

b. $[\![\beta]\!]^{g,c}$ is defined only if (i) τ precedes time$(g(c^1))$; (ii) at time$(g(c^1))$ in world$(g(c^1))$, author$(g(c^1))$ entertains as a candidate for the actual world some world w' such that Maria is not sick at time(c) in w'. Where defined, $[\![\beta]\!]^{g,c} = \lambda w_s$. By virtue of what Peter says at time τ in w, he limits the possibilities for his own context of utterance to triples s such that Maria is sick at time(c) in world(s).

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– an affix on the embedding verb, perhaps – selects for a context argument and imposes a requirement on the author of that context. On this approach, the full structure of (40a) would be as in (i). The semantics of the affix would be as in (ii). We have not explored multiple embeddings in Romanian B, and it actually could turn out that there too the non-commitment condition can concern higher attitude holders rather than the speaker. In that case, we would have to modify our analysis in a similar way, so that the affix we posited selects for a context argument.

i. $[_{\beta}\ [T < [^{\text{si}}\text{PRES}\ c^1]]$ Peter $\text{AFF}_{\text{SubjBelow}}$-say $\mathbf{c^1}$ $[_{\alpha}\ ^{\text{pi}}\text{PRES}$ Maria sick]]

ii. $[\![\text{AFF}_{\text{SubjBelow}}]\!]^{g,c} = \lambda P_{\langle ist,eist\rangle}.\ \lambda \mathbf{k}_k.\ \lambda p_{\langle s,t\rangle}$: At time$(\mathbf{k})$ in world$(\mathbf{k})$, author$(\mathbf{k})$ entertains as a candidate for the actual world some world w' such that $p(w') = 0$. $P(\lambda t.p)$

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