Presents embedded under pasts

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In this paper I will discuss a rather recondite phenomenon in the area of sequence of tense (SOT), exhibited by sentences like (1):

(1) John said that Mary is pregnant.

According to traditional grammar, this is a sentence where sequence of tense has failed to apply (i.e., concord has been broken): standard sequence of tense rules would dictate use of a past tense when embedding an event contemporaneous to the embedding verb under a past tense verb, giving the sentence *John said that Mary was pregnant*. For some verbs breaking concord is impossible (**Mary said that John builds a house*) or can only have a present-as-future interpretation (*John said that the last spaceship to Mars leaves tomorrow*), but with stative verbs, as Enç (1987) and others have observed, this failure of sequence of tense to apply is associated with a rather special meaning, which we will try to elucidate below. For the moment, let us merely observe that the use of present tense seems to cause such sentences to end up saying something about a larger interval including both the time of utterance and the time of the event described in the main clause. For this reason Enç calls them "double access sentences", but that seems a rather dubious name as the interpretation seems to rely on evaluation at a large interval, not just at two points.

1 Costa (1972)

Costa (1972) identified that one gets special readings when one has presents embedded under pasts. However, some of the specific things she says seem to be wrong. At the highest level she suggests (p. 45) that the crucial factor is "presupposed relevance", whether "the speaker has reason to consider the complement relevant to the conversation he is engaged in." This may be a reasonable first stab, but some of the more specific remarks clearly reflect things that may be common, but are not necessary conditions, as we will see below: "these come into play most clearly if the complement describes a condition that is still true at the time of utterance" (p. 44), "often enough because [the speaker] agrees with it" (p. 45), "it is not even necessary that the complement describe an objectively true state of affairs: what matters is the speaker's presupposition of its truth" (p. 45). Costa then tries to divide verbs into two classes, one of which allows and the other of which disallows optional SOT (i.e., presents embedded under pasts). She suggests that "the factive/non-factive dichotomy is really the fundamental criterion in distinguishing" (p. 46). I think this is dubious. The notion of "present relevance" does seem of some use, and it is clear that factives should thus usually be good because clauses embedded under them would tend to have "present relevance" because they are true.[1] But presents under pasts are also good with verbs like *say* and *hear* which clearly aren't factive. Moreover, it seems to me that in appropriate contexts of "present relevance" you can use presents under pasts for many of the verbs that Costa regarded as B-verbs (disallowing optional application of the SOT rule):

(2) a. A detective says: "Bill knew that John knows the killer's identity, so he did everything possible to get him out of the country before we got to him."

b. When I met Bill last week, he whispered to me that John knows the killer's identity.

c. I found it hard to believe, but Bill insisted that John knows the killer's identity.

d. Before he died, Bill alleged that John knows the killer's identity.

However, it does seem that she was somewhat on the right track. It seems presents under pasts are truly impossible only with what we might term *anti-factive* verbs: ones which imply that their complement clause is false, such as *imagined* and *wished*.

2 Dowty (1982)

Dowty (1982) contains more than one proposal for dealing with tenses. In his first proposal, one would get for (1) the reading:

$$\exists t[\mathrm{PAST}(\text{say-that}'(john, {}^\wedge\, \mathrm{AT}(t, \mathrm{PRES}(\mathrm{pregnant}(m)))))]$$

[1] This is not to imply, of course, that everything that is true has present relevance.

Since the main clause verb introduces a new time index t, the main and embedded clauses will be evaluated relative to separate reference times, and hence the tenses PRES and PAST in the respective clauses gives the reading that John asserted at some time in the past that Mary would be pregnant at the time of speech of the utterance. This is roughly what Hornstein (1991) believes *is* the meaning of these sentences (see below). But Dowty rejects his first proposal because it doesn't deal correctly with various other phenomena where the embedded clause's event time doesn't seem to be independent of the main clause's event time (a past under past *that*-complement sentence like *John said that Mary left* is not possible whenever both the events are before the speech time; rather the embedded clause event must precede the main clause event).

Dowty makes two suggestions for fixing problems such as the interpretation of pasts under pasts in *that*-complements, but unfortunately they both cause sentences such as (1), which Dowty was actually not considering, to have no interpretation at all. For example under "Solution B" (p. 48), the reference time of the subordinate clause is required to be identical to the speech time and to precede or be identical to the past reference time of the main clause. The translation of (1) is modified to:

$$\exists t[t \leq t^* \wedge \mathrm{PAST}(\text{say-that}'(john, {}^\wedge\, \mathrm{AT}(t, \mathrm{PRES}(\text{pregnant}(m)))))]$$

Since the introduced t is now constrained to be before t^* which evaluates as the 'reference time' i, the two tense specifications now produce a contradiction (PAST says $i < j$ while PRES says $t = j$ which is impossible given that $t \leq i$). Actually, this is essentially also the result that Enç's (1987) basic system gives, but she adds special clauses so that some reading is generated, as we will see in the next section.

3 Enç (1987)

Enç develops an alternative 'GB-style' theory of sequence of tense. I do not wish to expound it in detail, but the upshot is that the initial version (up to p. 647) would yield exactly the same result as Dowty's later attempts – sentence (1) would cause a contradiction. Enç thus suggests the modification that at LF, the indices of present tense and its COMP are changed to 0, where 0 denotes the speech time. This would yield the same reading for these systems as Dowty's initial proposal, and is thus a somewhat brute force way of resolving the tension between the facts that when a past is embedded under a past, the two are related whereas when a present is embedded under a past, the present still seems to "access" the current speech time.

However, Enç claims that sentence (3):

(3) John heard that Mary is pregnant

has a more special reading than this: "the time of Mary's pregnancy must include the speech time. Furthermore, it must also include the time at which the matrix is evaluated, that is, the time when John heard about it" (pp. 636–7). To capture this (putative) reading Enç introduces a more complicated system of double indexing, with only the first index being rewritten at LF. Providing that the complement moves out of the scope of the matrix past tense at LF, this would allow a reading which requires the sentence to be true at an 'extended now' that includes the speech time and the time of the event in the main clause. Alessandro Zucchi (p.c.) points out various problems with this analysis – there seems to be no way of extending it to deal with future sentences and the alleged evidence for the LF movement seems to be contradicted by the existence of sentences like *Every woman in this hospital learnt that she is pregnant by taking a test* – but at any rate we see that the analysis predicts that a sentence like (3) "is true if and only if the time of Mary's pregnancy includes both the moment of utterance and the past time when John heard about it" (p. 653), presumably under the assumption that the reporting was veridical.

4 Hornstein (1991)

The account of Hornstein (1991) simplifies the problem by claiming that sentences like (3) needn't have the complicated reading that Enç tried to capture. Hornstein's theory predicts that the time of Mary's being pregnant is the speech time. Period. Hornstein disputes Enç's claim that a sentence like (2) must be true at some form of 'extended now' that includes the time of the matrix clause event. He points out sentences like (4):

(4) I heard from a reliable source that John knows the killer's identity

According to Hornstein, (4) may be true if at some time in the past, I learnt from a reliable source that John would know the killer's identity later on, and that time has now come. The usual implicature that the embedded state of affairs was also true at the time of the matrix clause event is attributed to pragmatic factors.

I think we have to concede that this reading of Hornstein's is possible. Here is another example that seems fairly plausible:

(5) Mary is talking to Bruce on Dec 3. She tells him that Claire is going to be in Boston on Dec 4, Denver on Dec 5 and then in Washington from Dec 6–10. It is now Dec 8 and Bruce is talking to Fred and he says, “I heard from Mary that Claire is in Washington now.” Or alternatively, he could say, “Mary claimed that Claire is in Washington now”.

It’s not necessarily the preferred way of saying such things; often using *was going to be* or *would be* in the complement clause sounds better, but I and the speakers that I have consulted seem to agree that such readings are possible. It seems that such sentences are better with *heard* than with just about any other verb and I think there is a good reason for this. If the verb is a speech act verb, such as *said* it inevitably focusses attention on the matrix clause event, and it can thus be very hard to get a reading in which the state of affairs of the subordinate clause did not obtain at the time of the matrix clause event. But with *heard* it seems considerably easier to keep the focus on the information that was gained and how it relates to the state of affairs at the time of speech.

There is thus a tension between the accounts of Enç and Hornstein as to what the facts are, but we will leave the resolution of this problem until after looking at the most detailed study of the use of presents under pasts, that of Ogihara (1989).

5 Ogihara (1989)

In Chapter 4 of his dissertation, Ogihara considers a variety of hypotheses about the semantics of present under past *that*-complement sentences. One limitation of his account is that he only considers speech act verbs, although we have already seen that this construction occurs with mental verbs like *know* or *discover* and with sensory verbs like *hear* and I think using other senses, verbs like *notice* are also possible:

(6) John noticed that you are not behaving like your usual self.

Indeed, more precisely, Ogihara restricts himself to ‘positive’ speech act verbs such as *say* and *claim*; ignoring ‘negative’ ones like *doubt* and *deny* and apparently ones that are sort of ambivalent like *conjecture*:

(7) John conjectured that the Earth revolves around Pluto.

Nevertheless, he usefully works through a variety of conditions that needn’t hold for such present under past sentences to be good. The following example (p. 300) indicates: (i) the state of affairs described by the embedded verb need not obtain at the time of speech; (ii) the state of affairs described by the embedded verb need not obtain at the time of the event of the matrix sentence; (iii) the speaker need not believe the state of affairs described by the embedded verb obtains at the time of speech; and (iv) the subject of the matrix sentence need not believe that the state of affairs described by the embedded verb obtains at the time of speech:

(8) *John and Bill are peeping into a room. Sue is in the room.*
John (nearsighted): Look! Mary is in the room.
Bill: What are you talking about? That's Sue, not Mary. Mary is not that tall.
John: Yeah, you're right. That's Sue.
1 minute later Kent joins them. Sue is still in the room.
Bill (to Kent): John said that Mary is in the room.

However, it is not the case that the acceptability of a present under past sentence bears no relation to what is happening in the real world at the time of speech, as the abnormality of the final sentence in this example shows (p. 295):

(9) *John and Bill are peeping into a room. Sue is in the room.*
John (nearsighted): Look! Mary is in the room.
Bill: What are you talking about? That's Sue, not Mary.
John: I'm sure that's Mary.
Sue leaves the room; 1 minute later Kent joins them.
Bill (to Kent): *John said that Mary is in the room.

Indeed, note especially that this example would be bad even if the real Mary had walked into the room at the same time as Sue left. The present under past reading only seems to be good if the stimulus responsible for the embedded state of affairs description continues to exist in the real world until the time of speech. And yet, we seem to want an analysis where the truth of (10a) need not imply (10b):

(10) a. John said two weeks ago that Mary is pregnant.

b. John said two weeks ago that Mary was pregnant and that she would continue to be pregnant for at least two more weeks.

Ogihara suggests that if the main clause verb is factive then the truth conditions are as follows for sentence (11):

(11) John found out two weeks ago that Bill is living with Sue.

"(37) [our (11)] is true iff (i) John finds out at some past time that Bill is living with Sue at that time and (ii) this state happens to continue until the speech time of (37)" (p. 302). But in line with Hornstein's examples it seems that this point of view is not always correct. It would seem that this sentence could be used where someone described to John a state of affairs that was soon to eventuate. Such a reading seems easiest to get when a *now* is inserted into the embedded clause:

(12) On Dec 1, Bill is talking with John. Bill tells John that he and Sue are moving into a 1 bedroom apartment on Dec 10, which is when the redecoraters will finish their work. It is now Dec 15 and John's wife Mary is gossiping with Peter and says: "John found out two weeks ago that Bill is now living with Sue."

But let us put these examples aside and see what Ogihara proposes for examples like Enç's.

Ogihara entertains the following hypothesis for present under past *that*-complements (p. 300):

(13) **Hypothesis 4**: If the individual denoted by the subject NP of the matrix sentence were in the location of the original utterance now with all his physical and mental properties at the time of the original statement intact, he would self-ascribe the same property that he self-ascribed by uttering the original statement.

With the minor generalization of changing *uttering* in the last sentence so that the hypothesis worked for other mental acts, this hypothesis seems fairly satisfactory. It would even seem to allow some possibility of incorporating Hornstein's examples, although I think that ultimately this would be unsuccessful as the type of example that Ogihara is considering must be true of an entire interval and not just of the endpoint of it. One problem with the hypothesis is that it does not allow the viewpoint of the utterer of the entire sentence to influence acceptability, but this is a problem that most other proposals also share. At any rate, Ogihara quickly rejects this proposal (p. 301): "Hypothesis 4 seems to be inadequate because it is unfalsifiable" (although it is not very clear to me why it is worse than other proposals in this respect).

Then his final hypothesis is then the following (p. 313):

(14) **Hypothesis 5**: A sentence of the form $[_S$ NP Past $V_1 \ldots [_S \ldots$ Pres $V_2 \ldots]]$ is true iff $[_S$ NP Past $V_1 \ldots [_S \ldots$ Past $V_2 \ldots]]$ (with a simultaneous reading) is true and, moreover, if the state claimed to obtain by the individual denoted by the NP did in fact obtain, the state would obtain at an interval including the time of the matrix verb and the speech time.

Ogihara has attempted to move the discussion from the matrix NP's (logical subject's) attitude to the state of affairs responsible for it, so that he can regard present under past sentences as *de re* attitude reports. This move might be plausible for the verbs he considers (like *say* and *claim*) but does not seem tenable for attitude reports in general (with verbs like *believe*). This hypothesis also involves a counterfactual, and hence is only as sound as our underlying theory of counterfactuals. Unfortunately at about this point I move way out of my depth, but I will proceed with a few remarks. Ogihara adopts the analysis of counterfactuals from Lewis' *Counterfactuals*. (Now once upon a time I read Barwise's "Conditionals and Conditional Information" which set out to show the irremediable problems with a possible worlds-based analysis of counterfactuals, but I will forgo the opportunity to develop these issues here.) At any rate, returning to example (8), it is clear that the notion of "world which is closest to the real one among the worlds which satisfy the condition given in the antecedent of the conditional" would have to be not the one where Mary was in the room as well as Sue, but the one in which Mary was taking the place of Sue, and apparently acts as Sue does in the real world (and not as Mary might). In particular, Mary must stay in this room in the possible world until the speech time, just as Sue did in the real world. It is unclear whether in general there is a suitable means of finding such a closest possible world. One could suggest that the correct interpretation of (8) is an issue concerning the treatment of names rather than tenses. One way to explain what is going on might be that John is using a certain name for a certain person and thereafter it can continue to be used as a situationally-defined designator for another person.

Another problem with choosing the right possible world to evaluate counterfactuals, suggested to me by Alessandro Zucchi, is the following. Suppose that in the real world that Mary has reached puberty only two weeks before, but that John has very wrong beliefs and talks about them. We might then have the sentence:

(15) John said that Mary is preganant. He said that she is having a baby next week.

Now if we move to the nearest possible world that would make Mary pregnant, then presumably we have to choose one where she became pregnant in the last two weeks (or else we would be changing more than is necessary). But then the implications of the first sentence clearly contradict John's other beliefs that Mary will be having a baby next week.

Finally, this account says nothing about the attitudes of the utterer of the whole sentence. Costa suggested that the utterer was making an act of interpretation when choosing a present under a past. Discussing the examples:

(16) a. Nixon didn't say that the war in Vietnam was being technologized. He merely said it was being Vietnamized.

b. Nixon didn't say that the war in Vietnam is being technologized. He merely said it is being Vietnamized.

she says:

> To me, on the most immediate reading of [(16a)] Nixon uses the term "Vietnamization" as a paraphrase of "technologizing": in other words the complement of *say* reports a certain claim of Nixon's which the speaker presents as neither true nor false. But [(16b)], with its present-tense complement, is on the best reading quite different: the speaker, not Nixon, presents what he sees as two facts, technologizing and Vietnamization, the first of which Nixon neglected to mention."

I will return to this interpretative component at the end.

6 Abusch (1988)

Abusch (1988) also appears to have some trouble connecting the state of affairs asserted of some possible worlds by the embedded clause verb with the conditions that seem to have to obtain in the real world for a present under past sentence to be good. But she concludes that this is a matter of pragmatics (p. 8): "Under what circumstances the mismatch [between the embedded state of affairs and the real world at the speech time] is allowed seems to be a matter of pragmatics." While moving a problem into pragmatics is not of itself a solution to it, we have to ask ourself whether Ogihara is wrongly complicating his account with facts that should be explained by a different component. I think he is, as I will attempt to explain at the end. But for the moment, let us consider Abusch's main example:

(17) John believed that Mary is pregnant but actually she has just been overeating.

The interesting thing about this example is that it seems that whatever circumstances caused John to think that Mary was pregnant (presumably a distended belly) must continue to exist until the speech time (in the real world) for this sentence to be good. It is not sufficient just that this state exist in some other possible world. In both this example and the earlier (8), it seems that we have a process of analogy at work where analogous conditions exist from the past through the present and the speaker feels free to extend the validity of the matrix subject's views to this later time period. This would make interpretation very context dependent, but I think this is unavoidable.

7 Some final thoughts

So, I think that we have to conclude that there is fundamentally a disjunction in the use of present under past *that*-complements. One possibility is that the the matrix subject described/heard/ imagined etc. some future state of affairs and that future time has now arrived. This is the usage that Hornstein brought up as his counterexample. I find this usage sort of marginal, but possible. An informal sampling of Americans seemed to suggest that they were happier with this construction than I. But even they tended to think that *would be* or *was going to be* would generally sound more natural than *is*.[2] This usage of the present is analogous to the use of adverbials that refer to the speech time even when embedded in a *that*-complement, although use of the latter is more common and does not imply use of this tense shifting. I think the reason that this usage is rather restricted is related to the restricted distribution of presents-as-futures – both types of sentences are only good when the state of affairs described is regarded as an established certain fact. Thus, while Hornstein's example sounds quite good due to the use of context and the phrase *from a reliable source*, the following sounds quite impossible:

(18) *I heard last night that it is raining today

The other usage, which the majority of authors discussed is when someone describes/hears/ imagines etc. something about the then current time but the speaker (rather than using standard indirect speech) continues to use the present to describe the embedded state of affairs when reporting this event. As such, this usage crucially involves an act of interpretation by the speaker (as Abusch observes) and can't really be regarded as a veridical report of the matrix NP's views. But this is true in general of indirect speech. Another example of this due to Mats Rooth from Ogihara (1989, p. 316) is the following:

(19) a. John (to Bill): "It's beautiful"

[2] A colleague suggested to me that in this usage *is* is "really just lazy for *would be*" – unintentionally revealing the fact that she has never taken Linguistics 1. But of course this is not true, because this use of *is* is much more restricted than the use of *would be* – it can only describe states predicted to obtain at the speech time, rather than any time after the time of the main clause event.)

b. Bill (later): "John said that the Pacific Ocean is beautiful."

Clearly John's remark was deictic referring to a particular scene – perhaps the view from his hotel window on Oahu – but Bill is interpreting it as a view that he holds of the Pacific Ocean as a whole.

And this is where Ogihara confuses semantics and pragmatics. Since the utterer of the whole sentence can be interpreting any remark of the matrix NP, he can be interpreting a remark such as one of the examples that Kripke discusses in "Speaker's Reference and Semantic Reference". Indeed Ogihara's examples with people peeking into a room are rather reminiscent of Donnellan's example:

(20) Smith's murderer is insane.

only embedded in one more level of speech-act verbs. Donnellan regarded this example as showing a referential/attributive ambiguity (contrasting the case of there being an unknown murderer but the gruesome evidence showing that he was insane with the case of there being someone on trial who looks insane and who the speaker is refering to as Smith's murderer, though in reality this person may or may not be guilty) but I would tend to follow Kripke and regard it as showing that the name is allowed to have both a semantic referent and a (pragmantically determined) speaker's referent. When embedded under another speech act verb, the utterer is allowed to use the present when the sentence remains true of the matrix NP's speaker's referent even if (as Ogihara shows) either or both of these people now know that the speaker's referent was not the semantic referent. If we accept Kripke's analysis of the "ambiguity" of a sentence such as (20), then clearly in embedded contexts as well, the determination of speaker's reference should pan out pragmatically. At any rate, no matter what one thinks about pragmatics, this problem seems to be a separate one that occurs in simple sentences as well, and hence shouldn't be confused with an analysis of sequence of tense. Thus while we are unfortunately proposing a disjunctive analysis of the whole phenomenon, the analysis of this latter type of example should be simplified from what Ogihara or Enç proposes.

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