

Sequence of Tense Revisited

Explaining the Ambiguity of Past-under-Past Embeddings

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References

I. Introduction

The Sequence of Tense Phenomenon

The Relevant Data

(1) John said Mary was ill.

a. John, at some $t' < \text{utterance time}, t_u$: “Mary is ill.”

[simultaneous reading]

b. John, at some $t' < t_u$: “Mary was ill.”

[backward-shifted reading]

The Sequence of Tense Phenomenon

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- (1) John said Mary was ill.
- a. John, at some $t' < \text{utterance time}, t_u$: “Mary is ill.” [simultaneous reading]
 - b. John, at some $t' < t_u$: “Mary was ill.” [backward-shifted reading]

- Availability of the simultaneous reading: Sequence of Tense(s), short: SoT
- SoT: One of the prevalent topics of research in tense semantics:

(Abusch, 1988, 1997; Altshuler, 2016; Altshuler & Schwarzschild, 2012; Enç, 1987; Klecha, 2016; Ogihara, 1989, 1995; Ogihara & Sharvit, 2012; Stowell, 2007; von Stechow, 2003, a.o.)

Why Is SoT Interesting?

Two Views on Past Tense – Predictions for Past-Under-Past Embeddings

1. Relative/Dependent Theory of Past Tense:

- Past tense morphology is **evaluated with respect to the local evaluation time, t^*** (i.e. the time entering the functional argument position of the predicate, usually the c-commanding time node)
- $\llbracket \text{Past tense morphology} \rrbracket : \lambda t^*. \exists t' < t^* \ \& \ P(t')$

(2) John said Mary was ill.
PAST 1 PAST 2

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 $\exists t_1 < \underline{t_u} \ \& \ P(t_1)$ $\exists t_2 < \underline{t_1} \ \& \ Q(t_2)$

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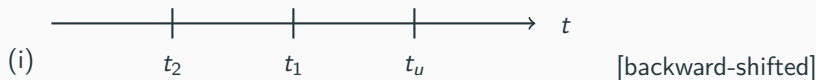
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- **Result:** Only one reading is predicted!



BUT: The simultaneous reading is not generated in this way! ⚡

Why Is SoT Interesting?

Two Views on Past Tense – Predictions for Past-Under-Past Embeddings

2. Absolutive/Independent Theory of Past Tense:

- Past tense morphology is always **evaluated with respect to the utterance time, t_u**
- $\llbracket \text{Past tense morphology} \rrbracket : \exists t' < \underline{t_u} \ \& \ P(t')$
- Two past tense morphemes \rightarrow two independent precedence relations with respect to t_u

(3) John said Mary was ill.
PAST 1 PAST 2

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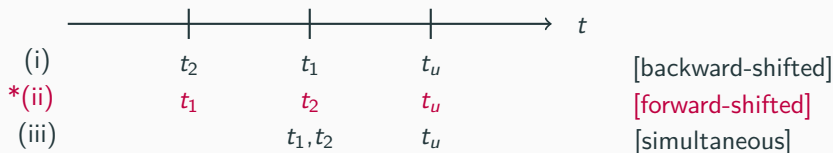
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- **Result:** Three readings are predicted!



BUT: Cross-linguistically, the forward-shifted reading is generally not available! ⚡

Why Is SoT Interesting?

Interim Summary

Relative Theory of Past Tense

generates too few, i.e. one, reading

Absolutive Theory of Past Tense

generates too many, i.e. three, readings



Conceived Wisdom in (Most) Existing SoT Literature:

There exists some mechanism by means of which the embedded past tense **loses its contribution of past tense meaning** (e.g. void past, present-in-disguise, past polarity item)

BUT: Ideally, a theory of SoT should retain a 1-to-1 mapping between past tense form and meaning

Why Is SoT Interesting?

Interim Summary

Relative Theory of Past Tense

generates too few, i.e. one, reading

Absolute Theory of Past Tense

generates too many, i.e. three, readings



Conceived Wisdom in (Most) Existing SoT Literature:

There exists some mechanism by means of which the embedded past tense **loses its contribution of past tense meaning** (e.g. void past, present-in-disguise, past polarity item)

BUT: Ideally, a theory of SoT should retain a 1-to-1 mapping between past tense form and meaning

Aim

See whether it is possible to provide a new, **compositional** account of SoT that **explains the systematic ambiguity** between the simultaneous and the backward-shifted readings of past-under-past embeddings **without postulating past tense meaning deletion**.

II. Proposal

Assumption: Locus of past tense \neq locus of past tense morphology

(in line with e.g. (von Stechow, 2003; Stowell, 2007; Zeijlstra, 2012))

Evidence: In (4), past tense scopes over the universal quantifier *every Sunday* even though the PTM appears within the scope of *every*:

(4) **(In the past,) Wolfgang played tennis on every Sunday.** (von Stechow, 2006)

= Past > Every Sunday > Play tennis

'There is a past interval t , s.t. for every Sunday in t , Wolfgang plays tennis.'

\neq Every Sunday > Past > Play tennis

'For every Sunday, there is a past interval t , s.t. Wolfgang plays tennis at t .'

Even though the locus of past tense is different from its overt instantiation, this does not entail that PTM is semantically vacuous!

Past-Under-Past Embeddings – Sketch of Proposal

Past tense morphology (= PTM) ...

- **triggers the existence of** a structurally high, covert past tense operator *Op-PAST* in the matrix clause
- denotes a **relative non-future semantics** with respect to its local evaluation time (informally: 'not later than')

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Example (formal explanation to follow):

- (5) Susan left.
- a. [*Op-PAST* [Susan leave-ed]]
 - b. 'The time of Susan's leaving takes place at a time not later than the past time introduced by the matrix past tense operator.'

Assumptions (in line with e.g. (von Stechow, 2003; Stowell, 2007; Zeijlstra, 2012)):

- Each PTM carries a **[uPAST] feature**
- These [uPAST] features are **checked by the [iPAST] feature of *Op-PAST***, which sits in the matrix clause of every past sentence and c-commands all local occurrences of [uPAST]

Denotation of *Op-PAST*:

$$(6) \quad \llbracket \textit{Op-PAST} \rrbracket = [\lambda t^*. \lambda P. \exists t < t^* \ \& \ P(t)]$$

Motivation for a **relative** operator

$$\llbracket Op-PAST \rrbracket = [\lambda t^*. \lambda P. \exists t < t^* \ \& \ P(t)]$$

- At matrix level, t^* **in principle applies to** t_u
- In certain embedded clauses, however, this **does not have to be the case:**

(7) Alan will think everyone hid.

a. [will think [*Op-PAST*_[iPAST] [everyone hide-ed_[uPAST]]]]

b. Possible readings

1. 'At some point in the future, Alan will think that everyone hid at a point prior to the utterance time.'
2. 'At some point in the future, Alan will think that everyone hid at a point prior to the time of Alan's thinking but later than the utterance time of the sentence.'

(for a more detailed discussion of this example, see later on)

- **Note:** When *Op-PAST* occurs in the **matrix clause**, we will apply t_u to t^* **by default:**
 $\llbracket Op-PAST \rrbracket (t_u) = [\lambda P. \exists t < t_u \ \& \ P(t)]$

Assumptions:

- Both the covert operator (*Op-PAST*) and the **past tense morpheme (PTM)** are **semantically active**
- PTM semantically encodes a **relative non-future** with respect to its local evaluation time (informally: 'not later than') (after (Heim, 1994))

Denotation of PTM (-ed)¹:

$$(8) \quad \llbracket -ed \rrbracket = [\lambda t^*. \lambda P. \exists t'. t' \leq t^* \ \& \ P(t')]$$

Note: $t' \leq t^*$:= “the lower boundary of the **time interval** t' is not later than the lower boundary of the time interval t^* ”

¹-ed represents the past tense morpheme with the default realizations as -ed

- (9) Susan left.
- $[Op\text{-}PAST_{[iPAST]} [Susan \text{ leave-}ed_{[uPAST]}]]$
 $\exists t' < t_u \qquad \qquad \qquad \exists t^2 \leq t'$
 - $\exists t' < t_u \ \& \ [\exists t^2 \leq t' \ \& \ \text{leave}(Susan, t^2)]$
 - There is a time t' strictly before the utterance time t_u and Susan leaves at a time **no later than** t' .*

Notice that t' can stand in two relations to t^2 ($t^2 = t' \vee t^2 < t'$). Here, the two readings are undistinguishable ...

Proposal

Sample Computation – Past-Under-Past Sentence

... but the different relations become visible once past tense is embedded and then make the correct predictions for past-under-past sentences!

(10) John said that Mary was ill.

a. [*Op-PAST*_[iPAST] [John [say-*ed*_[uPAST] [that [Mary [be-*ed*_[uPAST] ill.]]]]]]]
 $\exists t' < t_u$ $\exists t^2 \leq t'$ $\exists t^3 \leq t^2$

b. $\exists t' < t_u$ & [$\exists t^2 \leq t'$ & say(John, t^2 , [$\exists t^3 \leq t^2$ & be-ill(Mary, t^3))]]

c. *John's saying is strictly before the utterance time t_u and Mary's being ill starts out **no later than** the time of John's saying.*

Proposal

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Predicted readings for (10):

1. **simultaneous reading** arises for $t^3 = t^2$
2. **backward-shifted reading** arises for $t^3 < t^2$

So far: PTM triggers the existence of an *Op-PAST* operator in the matrix clause.

Question: Is there another *Op-PAST* operator in the embedded clause? I.e. do several [uPAST] features require the presence of more than one *Op-PAST* operator?

Answer:

- Zeijlstra (Zeijlstra, 2012): the number of operators is regulated by **economy principles**:
A second operator may only be included when grammatically necessary
 - **Multiple agree**: *Op-PAST* (cf. (6)) can check all [uPAST] features in its syntactic domain
- ⇒ Only when two [uPAST] features appear in different syntactic domains, a second *Op-PAST* operator may be included!

For standard SoT-sentences, our theory yields the correct results:

- it derives the simultaneous and backward-shifted reading
- crucially, it does not derive the forward-shifted reading
(exclusion of forward-shift is hard-wired into the semantic component of PTM!)

III. Explaining Challenging Past-Under-Past Embeddings

Crucial property of any theory of SoT: Ability to account for more complex cases of temporal embeddings

1. **Forward-shifted interpretation of PTM**

- Embedded PTM in past-under-past environments ('fish sentences')
- Embedding PTM in past-under-past environments (Klecha, 2016)
- Embedded PTM in past-under-future environments

2. **Deviant behavior of (non-restrictive) relative clauses**

Complement Clausal Embeddings

Challenging Data I

(11) He said he would buy a fish that was still alive. (Ogihara, 1989)

(12) He decided a week ago that in ten days he would say to his mother that they were having their last meal together. (Abusch, 1988)

Interpretation of underlined PTM:

- Most prominent: simultaneity with respect to their local evaluation times (*buy, say*)
 - *buy, say* have been forward-shifted (via *would*)
- ⇒ *was/were*, even though carrying PTM, receive a **forward-shifted interpretation**

Complement Clausal Embeddings

Challenging Data I – Solution

Assumption

would := operator *woll*, restricted to past environments as it carries a [uPAST] feature²:

$$(13) \quad \llbracket \text{woll}_{[uPAST]} \rrbracket = [\lambda t. \lambda P. \exists t'. t' > t \ \& \ P(t')]$$

(14) John said he would buy a fish that was alive.

$$\begin{array}{l}
 \text{a. } [\text{Op-PAST}_{[iPAST]} [\text{John} [\text{say-ed}_{[uPAST]} [\text{he} [\text{woll}_{[uPAST]} [\text{buy a fish} [\text{that} \\
 \exists t' < t_u \qquad \qquad \qquad \exists t^2 \leq t' \qquad \qquad \qquad \exists t^3 > t^2 \\
 \text{be-ed}_{[uPAST]} \text{alive.}]]]]]]]] \\
 \exists t^4 \leq t^3
 \end{array}$$

b. *There is a time t^4 which is the time of a contextually salient fish's being alive, and t^4 starts no later than t^3 . The time t^3 is the time of John's buying the fish which lies strictly after t^2 , i.e. the time of John's saying; t^2 is prior or equal to t' which, in turn, is a time strictly before the utterance time t_u .*

²Ignoring the modal contribution of the operator.

Complement Clausal Embeddings

Challenging Data I – Solution

(13) John said he would buy a fish that was alive.

a. [*Op-PAST*_[iPAST] [John [say-*ed*_[uPAST] [he [*woll*_[uPAST] [buy a fish [that
 $\exists t' < t_u$ $\exists t^2 \leq t'$ $\exists t^3 > t^2$
be-*ed*_[uPAST] alive.]]]]]]]]
 $\exists t^4 \leq t^3$

b. *There is a time t^4 which is the time of a contextually salient fish's being alive, and t^4 starts no later than t^3 . The time t^3 is the time of John's buying the fish which lies strictly after t^2 , i.e. the time of John's saying; t^2 is prior or equal to t' which, in turn, is a time strictly before the utterance time t_u .*

Interpretations of (25):

1. **simultaneous reading (preferred):** buying overlaps the state of the fish's being alive ($t^3 = t^2$)
2. **backward-shifted reading:** buying follows the state of the fish's being alive ($t^3 < t^2$)

Note: Even under this reading, the state of the fish's being alive can still lie completely after t_u

Complement Clausal Embeddings

Challenging Data I – Solution

Similarly, the same applies to example (12).

(14) He decided (a week ago) that (in ten days) he would say to his mother that they were having their last meal together.

- a. [*Op-PAST*_[iPAST] [He [decide-*ed*_[uPAST] [he [*woll*_[uPAST] [say to his mother [that
 $\exists t' < t_u$ $\exists t^2 \leq t'$ $\exists t^3 > t^2$

they be-*ed*_[uPAST] having their last meal together.]]]]]]]
 $\exists t^4 \leq t^3$

- b. *There is a time t^4 which is the time of their last meal, and t^4 starts no later than some time t^3 . The time t^3 is the time of his saying and lies strictly after t^2 , i.e. the time of his deciding. t^2 is prior or equal to t' which, in turn, is a time strictly before the utterance time t_u .*

Note: Here, imperfective aspect on *having* independently blocks the backward-shifted reading of (26). This therefore does not provide a problem for the proposed analysis.

Complement Clausal Embeddings

Challenging Data II

(15) He hoped she tried to kill him first. (Klecha, 2016)

a. [*Op-PAST*_[iPAST] [He [hope -ed_[uPAST] [she try-ed_[uPAST] [to kill him first]]]]]
 $\exists t' < t_u$ $\exists t^3 \geq t^2$ $\exists t^2 \leq t'$ $\exists t^4 \leq t^3$

- If you can still hope, you have not been killed yet! (temporally: hoping < killing)
- (Klecha, 2016): predicates like *hope* and *pray* may have an inherent future orientation
⇒ At time t you hope for something to happen at a time t' : $t' \geq t$

Complement Clausal Embeddings

Challenging Data II

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- (Klecha, 2016): predicates like *hope* and *pray* may have an inherent future orientation
⇒ At time t you hope for something to happen at a time t' : $t' \geq t$

- *Op-PAST* places the time t' of the matrix before t_u ($t' < t_u$)
 - PTM on *hope* places the time t^2 of the hoping no later than t' ($t^2 \leq t'$)
 - Future-orientation of *hope*: shifts the local evaluation time of complement, t^3 , to a present or future point in time ($t^3 \geq t^2$)
 - PTM on *try*: relative no-future with respect to time of *hoping*, t^3 ($t^4 \leq t^3$)
- ⇒ t^4 can thus lie in the strict future of t_u (as it stands in no direct temporal relation to t_u).

Complement Clausal Embeddings

Challenging Data III

Op-PAST needs to be included in the closest possible position above the highest instance of [uPAST].

(16) Alan will think everyone hid.

(17) [will think [*Op-PAST*_[iPAST] [everyone hide-ed_[uPAST]]]]

(18) Alan will think everyone hid.

a. [will think [*Op-PAST*_[iPAST] [everyone hide-ed_[uPAST]]]]
 $\exists t' > t_u$ $\exists t^2 < t'$ $\exists t^3 \leq t^2$

b. $\exists t' > t_u$ & think(Alan, t' , [$\exists t^2 < t'$ & $\exists t^3 \leq t^2$ & hide(everyone, t^3)])

c. *There is a time t' in the strict future of t_u and Alan thinks at t' that there is a time t^2 earlier than t' such that everyone from a contextually salient group hid at a point t^3 no later than t^2 .*

Note: The correct predictions are only made as *Op-PAST* does not have t_u cooked into its semantics but instead is defined as a relative past operator

Relative Clausal Embeddings

Challenging Data IV

- (19) CONTEXT. *Mary met a woman, but she doesn't know who she is. We, on the other hand, know that the person Mary met was a president at some point.*

Mary met a woman who (by the way) was president.

[non-restrictive]

- a. In 2000, Mary met a woman who was president in 1995.
- b. In 2000, Mary met a woman who was president in 2000.
- c. In 2000, Mary met a woman who was president in 2004.

Relative Clausal Embeddings

Challenging Data IV

- (19) CONTEXT. *Mary met a woman, but she doesn't know who she is. We, on the other hand, know that the person Mary met was a president at some point.*

Mary met a woman who (by the way) was president. [non-restrictive]

- a. In 2000, Mary met a woman who was president in 1995.
- b. In 2000, Mary met a woman who was president in 2000.
- c. In 2000, Mary met a woman who was president in 2004.

- (20) CONTEXT. *Mary wants to collect the signature of any (former) female president.*

Mary was looking for a woman that was president. [restrictive]

- a. In 2000, Mary was looking for a woman who was president in 1995.
- b. In 2000, Mary was looking for a woman who was president in 2000.
- c. *In 2000, Mary was looking for a woman who was president in 2004.

With relative clauses, there can be a forward-shifted interpretation for PTM, too!

- (Enç, 1987): relative clause tenses differ from complement clause tenses in **allowing an independent/absolutive interpretation**
- (Abusch, 1988): this only applies to relative clauses that receive a *de re* interpretation (see also (Ogihara, 1989, 1996))
- Connection between *de dicto/de re* and restrictive/non-restrictive relative clauses (though may not be clear-cut!):
 - **non-restrictive:** either *de dicto* or *de re* possible
In (19), the *de re* reading is triggered
→ independent interpretation of embedded past tense possible!
 - **restrictive:** only *de dicto* is possible
→ no independent interpretation of embedded past tense!

Non-restrictive, *de re* interpretation of relative clause

(21) Mary met a woman who was president.

- a. [*Op-PAST*_[iPAST] [Mary meet-*ed*_[uPAST] a woman [who [*Op-PAST*_[iPAST] [$\exists t' < t_u$ $\exists t^2 \leq t'$ $\exists t'' < t_u$ be-*ed*_[uPAST] president]]]]]
 $\exists t^3 \leq t''$

- b. *There is a woman x and at t^2 , prior or equal to t' which, in turn, is a time strictly before the utterance time t_u , Mary met x , and at t^3 , prior or equal to t'' which, in turn, is a time strictly before the utterance time t_u , x is president.*

Restrictive, *de dicto* interpretation of relative clause

(22) Mary was looking for a woman who was president.

- a. [*Op-PAST*_[iPAST] [Mary *be-ed*_[uPAST] looking for a woman [who [*be-ed*_[uPAST]
 $\exists t' < t_u$ $\exists t^2 \leq t'$ $\exists t^3 \leq t^2$
president]]]]]
- b. *At a time t^2 , prior or equal to t' which, in turn, is a time strictly before the utterance time t_u , Mary is looking for a woman x , and at t^3 , prior or equal to t^2 , x is president.*

IV. Conclusion

- Our approach accounts equally well for both **standard and challenging past-under-past embeddings** as existing approaches

- It explains the **systematic ambiguity** of past-under-past embeddings between the simultaneous and the backward-shifted reading cross-linguistically without alluding to structural ambiguity
- Empirical evidence in favor of an **underspecification** approach, e.g.

(23) At lunch, John said “Mary is ill”, and Bill said “Mary was ill a month ago.”
Therefore both of them said she was ill (at some point).

- without ‘at some point’: data unclear, but speakers tested did not really like it
- with ‘at some point’: accepted by all speakers

- In principle, it allows for the **simultaneous and the backward-shifted reading for both embedded stative and eventive predicates** (unlike (Altshuler & Schwarzschild, 2012; Altshuler, 2016))

Standard assumption: Past-under-past embedded eventive predicates are always interpreted in a backward-shifted manner

Kusumoto (Kusumoto, 1999), and Partee (p.c. to Kusumoto): Refutation of this claim based on:

- (24)
- a. Elliott observed/noticed/perceived that Josephine got hurt.
 - b. He didn't realize that his car hit the curb.
 - c. The pilot was sure that the plane landed in the correct spot.

(Kusumoto, 1999)

- It may provide **space for cross-linguistic variation**:
- For instance, unlike (Abusch, 1997), we do not assume the **Upper Limit Constraint (ULC)** to be a universal principle but rather **encode it directly in the lexical semantics of PTM**
 - the existence of the ULC might therefore be subject to cross-linguistic variation (as proposed in (Ogihara & Sharvit, 2012))

1. The proposal opens up more dimensions of potential cross-linguistic variation:
 - Op-PAST: relative/absolute operator?
 - PTM: relative non-future semantics?
 - ...

→ See whether the space of **variation** this approach predicts can indeed be attested **cross-linguistically** (or independently ruled out)
2. Investigate the proposal's interaction with **present tense**

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Sequence of Tense Revisited

Explaining the Ambiguity of Past-under-Past Embeddings

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Appendix

(25) John said he would buy a fish that was alive.

a. [*Op-PAST*_[iPAST] [John [*say-ed*_[uPAST] [he [*woll*_[uPAST] [buy a fish [that
 $\exists t' < t_u$ $\exists t^2 \leq t'$ $\exists t^3 > t^2$
*be-ed*_[uPAST] alive.]]]]]]]]
 $\exists t^4 \leq t^3$

b. $\exists t' < t_u$. $\exists t^2 \leq t'$: say(John, t^2 , [$\exists t^3 > t^2$: $\exists x$ [fish(x) & buy(he, t^3 , x) &
 $\exists t^4 \leq t^3$: alive(x , t^4)]])

c. *There is a time t^4 which is the time of a contextually salient fish's being alive, and t^4 starts no later than t^3 . The time t^3 is the time of John's buying the fish which lies strictly after t^2 , i.e. the time of John's saying; t^2 is prior or equal to t' which, in turn, is a time strictly before the utterance time t_u .*

- (26) He decided (a week ago) that (in ten days) he would say to his mother that they were having their last meal together.
- a. [*Op-PAST*_[iPAST] [He [decide-ed_[uPAST] [he [woll_[uPAST] [say to his mother [that
 $\exists t' < t_u$ $\exists t^2 \leq t'$ $\exists t^3 > t^2$
they be-ed_[uPAST] having their last meal together.]]]]]]]
 $\exists t^4 \leq t^3$
- b. $\exists t' < t_u$ & [$\exists t^2 \leq t'$ & decide(he, t^2 , [$\exists t^3 > t^2$ & say-to-mom(he, t^3 ,
[$\exists t^4 \leq t^3$ & be-having(they, last meal together), t^4))]]
- c. *There is a time t^4 which is the time of their last meal, and t^4 starts no later than some time t^3 . The time t^3 is the time of his saying and lies strictly after t^2 , i.e. the time of his deciding. t^2 is prior or equal to t' which, in turn, is a time strictly before the utterance time t_u .*

Non-restrictive, *de re* interpretation of relative clause

(27) Mary met a woman **who (by the way) was president.**

a. [*Op-PAST*_[iPAST] [Mary meet-*ed*_[uPAST] a woman [who [*Op-PAST*_[iPAST] [
 $\exists t' < t_u$ $\exists t^2 \leq t'$ $\exists t'' < t_u$
 be-*ed*_[uPAST] president]]]]]
 $\exists t^3 \leq t''$

b. $\exists x$ [woman(x) & $\exists t' < t_u$. $\exists t^2 \leq t'$: meet(Mary, x , t^2) & $\exists t'' < t_u$. $\exists t^3 \leq t''$:
 president(x , t^3)]

c. *There is a woman x and at t^2 , prior or equal to t' which, in turn, is a time strictly before the utterance time t_u , Mary met a woman x , and at t^3 , prior or equal to t'' which, in turn, is a time strictly before the utterance time t_u , x is president.*

Restrictive, *de dicto* interpretation of relative clause

(28) Mary was looking for a woman that was president.

- a. [*Op-PAST*_[iPAST] [Mary be-*ed*_[uPAST] looking for a woman [who [be-*ed*_[uPAST] $\exists t' < t_u$ $\exists t^2 \leq t'$ $\exists t^3 \leq t^2$ president]]]]
- b. $\exists t' < t_u$. $\exists t^2 \leq t'$: be-looking-for(Mary, t^2 , [$\exists t^3 \leq t^2$: $\exists x$ [woman(x): be-president(x , t^3)]])
- c. *At t^2 , prior or equal to t' which, in turn, is a time strictly before the utterance time t_u , Mary is looking for a woman x , and at t^3 , prior or equal to t^2 , x is president.*

Appendix V

Data Concerning Restrictive/Non-Restrictive Distinction

Restrictive relative clause with forward-shifted PTM?:

- (29) a. In 2000, every man met a woman that proposed to him in 2004.
b. In 2000, every man was looking for a woman that proposed to him in 2004.

Question to be answered:

- Are these grammatical?
 1. Can we have a 'that' in the relative clause in these cases?
 2. Do we need a "would + predicate" instead of the embedded past tense predicate?
 3. Is there a distinction between extensional and intensional predicates?

Appendix VI

Past Tense Scoping Below \forall -Quantifier in 'Wolfgang-Sentences'?

- (30) CONTEXT. *Talking about the war in 1990.*
- a. You're so inconsistent in your stories. **Every Sunday** (when you're bragging) **you were a hero but every Monday** (when you're bragging) **you were a villain.**