Fake Tense
in structural models

Katrin Schulz
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1 The Problem
1 The Problem

Fake Tense
In English subjunctive conditionals the Simple Past, and also the Past Perfect appear not to be interpreted as semantic past tense or past perfect.
1 The Problem

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In English subjunctive conditionals the Simple Past, and also the Past Perfect appear not to be interpreted as semantic past tense or past perfect.

(2) If Peter left in time, he will be in Amsterdam ➔ indicative conditional this evening.
(3) If Peter left in time, he would be in Amsterdam this evening. ➔ simple past subj.
(4) If Peter had left in time, he would have been in Amsterdam this evening. ➔ double past subj.
1 The Problem

Fake Tense
In English subjunctive conditionals the Simple Past, and also the Past Perfect appear not to be interpreted as semantic past tense or past perfect.

- Fake Tense occurs in other contexts as well

(5) I wished I owned a car.
(6) He behaves like he was sick.
(7) Suppose she failed the test.
(8) It’s time we left.
1 The Problem

Fake Tense
In English subjunctive conditionals the Simple Past, and also the Past Perfect appear not to be interpreted as semantic past tense or past perfect.

- Fake Tense occurs in other contexts as well.
- It occurs in various languages from different language families.

English, French, Latin, Classic Greek, Russian, and Old Irish (Indo-European), Cree (Algonquian), Tonga and Haya (Bantu), Chipewyan (Athabascan), Garo (Tibeto Burman), Nitinaht (Wakashan), and Proto-Uto-Aztecan (in the reconstruction of Steele). [James 1982]
1 The Problem

Fake Tense
In English subjunctive conditionals the Simple Past, and also the Past Perfect appear not to be interpreted as semantic past tense or past perfect.

- Fake Tense occurs in other contexts as well.
- It occurs in various languages from different language families.
- Fake Tense is something a tense language can develop diachronically.
1 The Problem
1 The Problem

Fake Tense
1 The Problem

past-as-past approaches

- Tedeschi 1981
- Crouch 1992
- Condoravdi 2002
- Arregui 2007
- Romero 2014
1 The Problem

Fake Tense

- Tedeschi 1981
- Crouch 1992
- **Ippolito** 2003, 2006, 2013
- Condoravdi 2002
- Arregui 2007
- Romero 2014

past-as-past approaches

- Palmer 1986
- Fleischmann 1989
- Dahl 1997
- Iatridou 2000
- Schulz 2014

past-as-modal approaches
1 The Problem

The goal of today’s talk

- evaluating both lines of approach using counterpossibles/generic counterfactuals
- proposing a combined theory: PaM approach for Simple Past, PaP approach for Past Perfect
1 The Problem

Outline of argumentation
1 The Problem

Outline of argumentation

Schulz (2014) sketches an approach to Past Perfect.
1 The Problem

Outline of argumentation

- Schulz (2014) sketches an approach to Past Perfect.
- Empirical studies involving counterfactual and counterpossible conditionals show that this approach cannot be correct.
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- Schulz (2014) sketches an approach to Past Perfect.
- Empirical studies involving counterfactual and counterpossible conditionals show that this approach cannot be correct.
- But PaP approaches like Ippolito (2013) cannot account for these observations either.
1 The Problem

Outline of argumentation

- Schulz (2014) sketches an approach to Past Perfect.
- Empirical studies involving counterfactual and counterpossible conditionals show that this approach cannot be correct.
- But PaP approaches like Ippolito (2013) cannot account for these observations either.
- So we need something new.
2 A PaM approach
2 A PaM approach

Fake Tense as structural metaphor
2 A PaM approach

Fake Tense as structural metaphor
2 A PaM approach

the Past-as-Modal idea

Fake Tense as structural metaphor
2 A PaM approach

- the Past-as-Modal idea
- Romero & von Stechow’s Tense in Generative Grammar
- Fake Tense as structural metaphor
2 A PaM approach

- the Past-as-Modal idea
- Romero & von Stechow’s Tense in Generative Grammar
- Kratzer’s restrictor approach to conditional sentences

Fake Tense as structural metaphor
2 A PaM approach
The past tense morpheme always expresses the same semantic function.
2 A PaM approach

The past tense morpheme always expresses the same semantic function.

\[[[\text{PAST}_x]] = \forall \mathcal{P}. \text{ x is remote from } x^* \cdot \mathcal{P}(x)\]
The past tense morpheme always expresses the same semantic function.

\[ [[\text{PAST}_x]] = \forall P. \ x \text{ is remote from } x^*. P(x) \]
The past tense morpheme always expresses the same semantic function.

\[
[[\text{PAST}_x]] = \forall P. \text{ x is remote from x}^*.P(x)
\]

But this semantic function can apply to different domains:
2 A PaM approach

- The past tense morpheme always expresses the same semantic function.

\[
[[\text{PAST}_x]] = \forall P. \ x \text{ is remote from } x^*. P(x)
\]

- But this semantic function can apply to different domains:
  - applied to the temporal domain it expresses remoteness from the temporal deictic center,
The past tense morpheme always expresses the same semantic function.

\[
[[\text{PAST}_x]] = \forall P. \ x \text{ is remote from } x^*. P(x)
\]

But this semantic function can apply to different domains:

- applied to the temporal domain it expresses remoteness from the temporal deictic center,
- applied to a modal domain it expresses remoteness from the epistemic deictic center.
The past tense morpheme always expresses the same semantic function.

\[
[[\text{PAST}_x]] = \forall P. \text{ x is remote from x*}. P(x)
\]

The modal meaning emerged out of the temporal meaning in a process of re-categorization.
2 A PaM approach

- $[[\text{PAST}_i]]^{M,a,S} = \forall P. a(i) <_S c_\text{s}. P(a(i))$, 
  ... for any structure $S=\langle U, <, c \rangle$
2 A PaM approach

- $[[\text{PAST}_i]]^{M,a,S} = \forall P. a(i) < S \text{ cs. } P(a(i))$
  ... for any structure $S = <U, <, c>$

Temporal domain
2 A PaM approach

- $[[\text{PAST}_i]]^{M,a,S}=\forall P. a(i) \prec_S c. P(a(i))$

... for any structure $S=\langle U, <, c \rangle$

Temporal domain

$T \rightarrow S$
2 A PaM approach

- $[[\text{PAST}_i]]^{M,a,S} = \forall P. a(i) <_S c. P(a(i)),$
  
  ... for any structure $S = \langle U, <, c \rangle$
2 A PaM approach

- \([\text{PAST}_i]_{M,a,S} = \forall P. a(i) <_S c. P(a(i)),\)
  ... for any structure \(S = <U, <, c>\)

Temporal domain +

Modal domain +

\[ S = <T, <, s> = T \]
2 A PaM approach

- \([[[\text{PAST}_i]]^{M,a,S}=\lambda P. a(i) \prec_S \text{cs. } P(a(i)),\]
  
  ... for any structure \(S=<U,<,c>\)

Temporal domain

\(T \rightarrow s\)

\(S = <T, <, s>=T\)

Modal domain

- all possible worlds
- epist. possible worlds
- expected worlds

\[\text{S}\]
\[\text{S}_2\]
\[\text{S}_3\]
2 A PaM approach

- \([[[\text{PAST}_i]]]^{M,a,S} = \lambda P. \ a(i) \prec_s cs. \ P(a(i))\),
  
  ... for any structure \(S = \langle U, <, c\rangle\)

Temporal domain

\(S = \langle T, <, s\rangle = T\)

Modal domain

\(S = \langle W, <s, S_1\rangle = E\)

- \(S\) = all possible worlds
- \(S_1\) = epist. possible worlds
- \(S_3\) = expected worlds
1 The Problem

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In English subjunctive conditionals the Simple Past, and also the Past Perfect appear not to be interpreted as semantic past tense or past perfect.

(2) If Peter left in time, he will be in Amsterdam ➔ indicative conditional this evening.
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Fake Tense
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(2) If Peter left in time, he will be in Amsterdam ➩ indicative conditional this evening.
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A PaM approach
2.2 extended to Past Perfect

\[ [[\text{PERF}]]_{M,a,S} = \forall P \forall x. \exists x' \in U_S (x' \prec_S x \land P(x')) \]
... for any structure \( S = <U, <, c> \)

Temporal domain

\[ S = <T, <, s> = T \]

Modal domain

\[ S = <W, <S, S_1> = E \]

+ all possible worlds
  - epist. possible worlds
  - expected worlds
2 A PaM approach
2.2 extended to Past Perfect

\[ [[\text{PERF}]]^{\text{M,a,S}} = \forall \forall x. \exists x' \in U_S (x' \prec_S x \land P(x')) \]
... for any structure \( S = \langle U, \prec, c \rangle \)

**Temporal domain**

\( S = \langle T, \prec, s \rangle = T \)

**Modal domain**

- all possible worlds
- epist. possible worlds
- expected worlds

\( S = \langle W, <_S, S_1 \rangle = E \)
2 A PaM approach

2.2 extended to Past Perfect

\[ [[\text{PERF}]_{M,a,S}] = \forall P \forall x. \exists x' \in U_S (x' <_S x \land P(x')) \]

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Temporal domain

\[ S = \langle T, <, s \rangle = T \]

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all possible worlds
epist. possible worlds
expected worlds
2 A PaM approach
2.2 extended to Past Perfect

\[ [[\text{PERF}]]^{M,a,S} \lambda P \lambda x. \exists x' \in U_S (x'<_S x \land P(x')) \]
... for any structure \( S = \langle U, <, c \rangle \)

Temporal domain

\( T \)
\( t_2 \quad t_1 \)

\( S = \langle T, <, s \rangle = T \)

Modal domain

\( S = \langle W, <, S, S_1 \rangle = E \)

- All possible worlds
- Epist. possible worlds
- Expected worlds
2 A PaM approach
2.2 extended to Past Perfect

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**Temporal domain**

$T = \langle T, <, S \rangle = T$

**Modal domain**

$S = \langle W, <_S, S_1 \rangle = E$

- all possible worlds
- epist. possible worlds
- expected worlds
2 A PaM approach
2.2 extended to Past Perfect

Predictions
2 A PaM approach
2.2 extended to Past Perfect

Predictions
- The presuppositions of a double past subjunctive are stronger than those of a simple past subjunctive.
2 A PaM approach
2.2 extended to Past Perfect

Predictions

- The presuppositions of a double past subjunctive are stronger than those of a simple past subjunctive.
- The principle *Maximize Presupposition!* should apply.
2 A PaM approach
2.2 extended to Past Perfect

Predictions

- The presuppositions of a double past subjunctive are stronger than those of a simple past subjunctive.
- The principle *Maximize Presupposition!* should apply.
- The speaker needs good reasons to use a simple past subjunctive in case he/she utters a counterfactual conditional.
The presuppositions of a double past subjunctive are stronger than those of a simple past subjunctive.

The principle *Maximize Presupposition!* should apply.

The speaker needs good reasons to use a simple past subjunctive in case he/she utters a counterfactual conditional.

- If the counterfactuality is relevant and known a double past subjunctive should be preferred.
2 A PaM approach
2.2 extended to Past Perfect

Predictions

- The presuppositions of a double past subjunctive are stronger than those of a simple past subjunctive.
- The principle *Maximize Presupposition!* should apply.
- The speaker needs good reasons to use a simple past subjunctive in case he/she utters a counterfactual conditional.
  - If the counterfactuality is relevant and known a double past subjunctive should be preferred.
  - Out of context, if the conditional is counterfactual, a double past subjunctive should be preferred.
The presuppositions of a double past subjunctive are stronger than those of a simple past subjunctive.

The principle *Maximize Presupposition!* should apply.

The speaker needs good reasons to use a simple past subjunctive in case he/she utters a counterfactual conditional.

- If the counterfactuality is relevant and known a double past subjunctive should be preferred.
- Out of context, if the conditional is counterfactual, a double past subjunctive should be preferred.

**Study 1**
2 A PaM approach
2.2 extended to Past Perfect

Predictions

- The presuppositions of a double past subjunctive are stronger than those of a simple past subjunctive.
- The principle *Maximize Presupposition!* should apply.
- The speaker needs good reasons to use a simple past subjunctive in case he/she utters a counterfactual conditional.
  - If the counterfactuality is relevant and known a double past subjunctive should be preferred.
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*Study 1*

*Study 2 ( & 3)*
3 Empirical Studies
3.1 corpus study on counterpossibles
3 Empirical Studies
3.1 corpus study on counterpossibles

The study
3 Empirical Studies
3.1 corpus study on counterpossibles

The study
- 10 papers on counterpossible conditionals
3 Empirical Studies
3.1 corpus study on counterpossibles

The study
- 10 papers on counterpossible conditionals
- manually selecting all counterfactual conditionals
3 Empirical Studies
3.1 corpus study on counterpossibles

The study
- 10 papers on counterpossible conditionals
- manually selecting all counterfactual conditionals
- annotated for counterpossible, form, temporal reference
3 Empirical Studies
3.1 corpus study on counterpossibles

The study
- 10 papers on counterpossible conditionals
- manually selecting all counterfactual conditionals
- annotated for counterpossible, form, temporal reference
- one paper of non-native speakers; dismissed in analysis
3 Empirical Studies
3.1 corpus study on counterpossibles

Table 1: total count in corpus of different forms

<table>
<thead>
<tr>
<th></th>
<th>total</th>
<th>sp</th>
<th>pp</th>
<th>ind</th>
<th>mixed cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>counterfactuals</td>
<td>282</td>
<td>183</td>
<td>71</td>
<td>8</td>
<td>20</td>
</tr>
<tr>
<td>percentage</td>
<td></td>
<td>65%</td>
<td>25%</td>
<td>3%</td>
<td>7%</td>
</tr>
<tr>
<td>counterpossibles</td>
<td>206</td>
<td>145</td>
<td>40</td>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td>percentage</td>
<td></td>
<td>73%</td>
<td>70%</td>
<td>19%</td>
<td>3% 7%</td>
</tr>
</tbody>
</table>

![Pie charts showing percentage of different forms]
## 3 Empirical Studies

### 3.1 corpus study on counterpossibles

<table>
<thead>
<tr>
<th></th>
<th>total</th>
<th>sp</th>
<th>pp</th>
<th>ind</th>
<th>mixed cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>counterfactuals</td>
<td>230</td>
<td>162</td>
<td>52</td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td>percentage</td>
<td></td>
<td>70%</td>
<td>23%</td>
<td>2%</td>
<td>5%</td>
</tr>
<tr>
<td>counterpossibles</td>
<td>172</td>
<td>133</td>
<td>27</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>percentage</td>
<td></td>
<td>75%</td>
<td>77%</td>
<td>16%</td>
<td>3% 4%</td>
</tr>
</tbody>
</table>

### Table 2: total count if at least one author is native speaker

![Pie chart showing distribution of sp, pp, ind, and mixed cases in counterfactuals and counterpossibles.](chart.png)

- **Counterfactuals**: 70% sp, 23% pp, 2% ind, 5% mixed cases.
- **Counterpossibles**: 75% sp, 77% pp, 16% ind, 3% mixed cases.
3 Empirical Studies
3.1 corpus study on counterpossibles

Table 4: temporal use of pp counterfactuals for native speakers

<table>
<thead>
<tr>
<th></th>
<th>total</th>
<th>past</th>
<th>timeless</th>
<th>present</th>
<th>future</th>
<th>unclear</th>
<th>others</th>
</tr>
</thead>
<tbody>
<tr>
<td>counterfactuals</td>
<td>52</td>
<td>41</td>
<td>5</td>
<td>4</td>
<td>1</td>
<td>3</td>
<td>-2</td>
</tr>
<tr>
<td>percentage</td>
<td>79%</td>
<td>10%</td>
<td>8%</td>
<td>2%</td>
<td>6%</td>
<td>-4%</td>
<td></td>
</tr>
<tr>
<td>counterpossibles</td>
<td>27</td>
<td>21</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>-1</td>
</tr>
<tr>
<td>percentage</td>
<td>78%</td>
<td>7%</td>
<td>7%</td>
<td>4%</td>
<td>7%</td>
<td>-4%</td>
<td></td>
</tr>
</tbody>
</table>
3 Empirical Studies

3.1 corpus study on counterpossibles

Table 3: total count native speakers, without clear past reference

<table>
<thead>
<tr>
<th></th>
<th>total</th>
<th>sp</th>
<th>pp</th>
<th>ind</th>
<th>mixed cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>counterfactuals</td>
<td>175</td>
<td>161</td>
<td>4</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>percentage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>counterpossibles</td>
<td>147</td>
<td>133</td>
<td>5</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>percentage</td>
<td>84%</td>
<td>90%</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
</tr>
</tbody>
</table>

- sp
- pp
- ind
- mixed cases

92%
90%
3 Empirical Studies

3.2 online questionnaire on generics
3 Empirical Studies
3.2 online questionnaire on generics

The study
3 Empirical Studies
3.2 online questionnaire on generics

The study

- counterfactual generic conditionals (counterpossibles)
3 Empirical Studies
3.2 online questionnaire on generics

The study
- counterfactual generic conditionals (counterpossibles)
- testing “naturalness” of SP form compared to PP form
3 Empirical Studies
3.2 online questionnaire on generics

The study
- counterfactual generic conditionals (counterpossibles)
- testing “naturalness” of SP form compared to PP form
- 52 participants (another 51 in an almost identical study), pre-screened for native speakers and high-school degree
3 Empirical Studies
3.2 online questionnaire on generics

The study
- counterfactual generic conditionals (counterpossibles)
- testing “naturalness” of SP form compared to PP form
- 52 participants (another 51 in an almost identical study), pre-screened for native speakers and high-school degree
- fillers distracting from conditional and from generic (8 goal examples, 24 fillers), not from tense markings
3 Empirical Studies
3.2 online questionnaire on generics

The study
- counterfactual generic conditionals (counterpossibles)
- testing “naturalness” of SP form compared to PP form
- 52 participants (another 51 in an almost identical study), pre-screened for native speakers and high-school degree
- fillers distracting from conditional and from generic (8 goal examples, 24 fillers), not from tense markings
- randomised order of questions and the representation of the answers
3 Empirical Studies
3.2 online questionnaire on generics

Which of the following two sentences sounds more natural to you as a general statement about water?

- If water had been an element, it would not have been composed of hydrogen and oxygen.
- If water were an element, it would not be composed of hydrogen and oxygen.
- Both of the above sound equally natural.
- None of the two sentences sound natural to me.
3 Empirical Studies
3.2 online questionnaire on generics

The study
3 Empirical Studies

3.3 Conclusions
3 Empirical Studies

3.3 Conclusions

- The PaM analysis proposed for double past subjunctive conditionals has been falsified.
3 Empirical Studies

3.3 Conclusions

- The PaM analysis proposed for double past subjunctive conditionals has been falsified.
- Adopt a PaP approach, then?
3 Empirical Studies

3.3 Conclusions
3 Empirical Studies

3.3 Conclusions

Typical PaP approaches cannot account for the data either (approaches that propose that the Simple Past shifts the evaluation time of the modal back).
3 Empirical Studies

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A > C
3 Empirical Studies

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A > C
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\[ A > C \]
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Typical PaP approaches cannot account for the data either (approaches that propose that the Simple Past shifts the evaluation time of the modal back).

\[ A > C \]

\[ \neg A \]
3 Empirical Studies
3.3 Conclusions

- Typical PaP approaches cannot account for the data either (approaches that propose that the Simple Past shifts the evaluation time of the modal back).

\[ A > C \]

- They cannot deal with generic counterfactuals or counterpossibles, because no past branches are available where the antecedent is true.
4 A New Proposal
4.1 Planning
4 A New Proposal

4.1 Planning

A combined approach:
PaM for Simple Past and PaP for Perfect.
4 A New Proposal
4.1 Planning

A combined approach:
PaM for Simple Past and PaP for Perfect.

- introduce causal networks and interventions
4 A New Proposal

4.1 Planning

A combined approach:
PaM for Simple Past and PaP for Perfect.

- introduce causal networks and interventions
- sketch the proposal
4 A New Proposal

4.1 Planning

A combined approach:
PaM for Simple Past and PaP for Perfect.

- introduce causal networks and interventions
- sketch the proposal
- A problem for PaP approaches
4 A New Proposal
4.1 Planning

A combined approach:
PaM for Simple Past and PaP for Perfect.

- introduce causal networks and interventions
- sketch the proposal
- A problem for PaP approaches
- and how it can be solved in the new setting
4 A New Proposal
4.2 Causal Networks and Interventions
4 A New Proposal
4.2 Causal Networks and Interventions

Causal Networks:
4 A New Proposal
4.2 Causal Networks and Interventions

Causal Networks:
4 A New Proposal
4.2 Causal Networks and Interventions

Causal Networks:

- effective way to store law-like information
4 A New Proposal
4.2 Causal Networks and Interventions

Causal Networks:

- Effective way to store law-like information
4 A New Proposal
4.2 Causal Networks and Interventions

Causal Networks:

$V(B) = 1$, $V(S) = 1$, $V(P) = 1$, $V(T) = 0$

→ valuation (possible world)

_effective way to store law-like information_
4 A New Proposal
4.2 Causal Networks and Interventions

Causal Networks:

- Effective way to store law-like information
4 A New Proposal
4.2 Causal Networks and Interventions

Causal Networks:

- Effective way to store law-like information
- Possible world with time/event structure
4 A New Proposal
4.2 Causal Networks and Interventions

Causal Networks:

- effective way to store law-like information
- type-token relation
- possible world with time/event structure
4 A New Proposal

4.2 Causal Networks and Interventions

Interventions
4 A New Proposal
4.2 Causal Networks and Interventions

Interventions

\[ V(B) = 1, \; V(S) = 1, \; V(P) = 1, \; V(T) = 0 \quad \Rightarrow \text{valuation (possible world)} \]
4 A New Proposal
4.2 Causal Networks and Interventions

Interventions vs. learning

\[ V(B)=1, V(S)=1, V(P)=1, V(T)=0 \quad \Rightarrow \text{valuation (possible world)} \]
4 A New Proposal
4.2 Causal Networks and Interventions

Interventions vs. learning

changing the value of a variable without considering its dependencies

$V(B)=1, V(S)=1, V(P)=1, V(T)=0$ ➜ valuation (possible world)
4 A New Proposal
4.2 Causal Networks and Interventions

Interventions vs. learning

Changing the value of a variable without considering its dependencies

\[ V(B) = 1, V(S) = \underline{X}, V(P) = 1, V(T) = 0 \]

valuation (possible world)
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Interventions vs. learning

changing the value of a variable without considering its dependencies

\[ V(B) = 1, V(S) = 0, V(P) = 1, V(T) = 0 \] ➔ valuation (possible world)
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Interventions vs. learning

- changing the value of a variable without considering its dependencies
- standard: cutting causal history

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Interventions vs. learning

- changing the value of a variable without considering its dependencies
- standard: cutting causal history

\[ V(B) = 1, \ V(S) = 0, \ V(P) = 0, \ V(T) = 1 \]  
valuation (possible world)
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Interventions vs. learning

- changing the value of a variable without considering its dependencies
- standard: cutting causal history
- doing vs. observing

\[ V(B)=1, \ V(S)=0, \ V(P)=0, \ V(T)=1 \]

valuation (possible world)
Interventions vs. learning

- type-token relation
- possible world with time/event structure
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4.3 The proposal in a nutshell
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- Simple Past expresses modal remoteness (Schulz 2014)
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- Zero tense that remains is interpreted as Present Tense
- Interventionist approach to conditionals; by default intervention in antecedent event
- The perfect in double past subjunctives localises the intervention in the past (PaP approach)
- Generics intervene at the type level
4 A New Proposal
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Advantages:
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4.3 The proposal in a nutshell

Advantages:
- accounts for possibility of counterfactual simple past subjunctive (no reference to past necessary)
- no need to distinguish between reference time and accessibility time to account for differences in presuppositions
- allows to account for generic counterfactuals (though this needs to be worked out)
4 A New Proposal
4.3 The proposal in a nutshell

Disadvantages
4 A New Proposal

4.3 The proposal in a nutshell

Disadvantages

- the intervention now takes over the role of the modal base - what’s the difference?
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- well, we now have an event that we can apply the tenses to
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Disadvantages

- the intervention now takes over the role of the modal base - what’s the difference?
- well, we now have an event that we can apply the tenses to
- and there is another advantage of this switch …
4 A New Proposal
4.4 A challenge
A coin is going to be flipped and you bet on tails. Unfortunately, heads comes up and you lose. Now you can say:

(1) If I had bet on heads, I would have won.
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\[
V(B) = 0, \quad V(F) = 1, \quad V(W) = 1
\]
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5 Conclusions

5.1 summary
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- combined PaP and PaM approach
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- combines possible world semantics (or event structures) with causal network approach
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- combined PaP and PaM approach
- combines possible world semantics (or event structures) with causal network approach
- moves outside the way we are used to do things in formal semantics
5 Conclusions
5.2 Challenges for future work
5 Conclusions

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- work in progress (model, generics, role of intervention)
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- The approach cannot explain the (marginal, but still) use of double past generic counterfactuals.
5 Conclusions

5.2 Challenges for future work

- work in progress (model, generics, role of intervention)
- The approach cannot explain the (marginal, but still) use of double past generic counterfactuals.
- Another corpus study in progress to test the idea.