

A pragmatic approach to the phenomenon of presupposition conditionalization

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Presupposition projection

Example

- ① NEGATION: Chris has not given up writing/ It is not true that Chris has given up writing.
- ② MODALS: It is possible that/ Perhaps/ Maybe Chris has given up writing.
- ③ IF-CLAUSES: If Chris has given up writing, he must be depressed.
- ④ QUESTIONS: Has Chris given up writing?/ Is it true that Chris has given up writing?
- ⑤ BELIEVE-TYPE VERBS: Lenny thinks/believes that Chris has given up writing.
- ⑥ >> Chris used to write.

The projection problem in compound sentences

- However, the presuppositions carried by the clauses of compound sentences do not follow a single projection (or lack of projection) pattern.
- The projection problem: How to predict the presuppositions of a compound sentence from the presuppositions of its clauses.

Projection

Example

- 1 Lida cares about her health and will stop smoking.
- 2 If Lida cares about her health, she will stop smoking.
- 3 Either Lida does not care about her health or she will stop smoking.
- 4 \gg Lida smokes.

Lack of projection

Example

- ① Chris used to write but he has given up writing.
- ② If Chris used to write, he has given up writing (since I never see him write).
- ③ Either Chris did not use to write or he has given up writing (since I never see him write).
- ④ \nrightarrow Chris used to write.

Non-trivial conditionalization

Example

- ① Chris is in Copenhagen, and Lenny will discover that he's staying at a hotel near the Tivoli Gardens.
- ② If Chris is in Copenhagen, Lenny will discover that he's staying at a hotel near the Tivoli Gardens.
- ③ Either Chris is not in Copenhagen or Lenny will discover that he's staying at a hotel near the Tivoli Gardens.
- ④ \gg If Chris is in Copenhagen, he's staying at a hotel near the Tivoli Gardens.
- ⑤ \nrightarrow Chris is staying at a hotel near the Tivoli Gardens.

Entailment by the first clause and still projection

Example

- 1 Chris is staying at a hotel near the Tivoli Gardens, and Lenny will discover that he's in Copenhagen.
- 2 If Chris is staying at a hotel near the Tivoli Gardens, Lenny will discover that he's in Copenhagen.
- 3 Either Chris is not staying at a hotel near the Tivoli Gardens or Lenny will discover that he's in Copenhagen.
- 4 \gg Chris is in Copenhagen.

Observation

- If the presupposition entails the first clause or its negation, the presupposition does not project.
- By contrast, if the first clause or its negation entails the presupposition, unless the entailment is symmetric, the presupposition projects.
- The entailment by itself does not explain the lack of projection, but creates the appropriate configuration that constrains projection.

Main questions

- What exactly explains the lack of presupposition projection?
- What happens with the presuppositions that do not project?

What explains the lack of presupposition projection?

Projection is constrained in order to preserve the assumptions that the speaker is informative and consistent in his/her beliefs. In line with van der Sandt (1988) and Gazdar (1979), respectively.

Informativeness

In conjunctions of the form φ and ψ_π , where π entails φ , if π projected, the assertion of φ would be uninformative (vdSandt 1988):

Example

- 1 Chris is in Copenhagen, but Lenny won't discover that he's staying at a hotel near the Tivoli Gardens.
- 2 $\not\Rightarrow$ Chris is staying at a hotel near the Tivoli Gardens.

Informativeness - Cont'd

- The key question is: if π were a presupposition of the speaker, would the sentence be felicitous?
- In principle, π is just a potential/elementary/basic presupposition that may or may not be presupposed by the speaker.
- The assumption that all the speaker's assertions are informative overrides the possibility that π might be presupposed by the speaker.

Belief consistency - Conditionals

- In conditionals of the form *if φ , then ψ_π* , where π entails φ , if π projected, there would be inconsistency between the speaker's belief that π and the compatibility of the falsity of φ with the speaker's beliefs.
- The set $\{\Box_{Dox}\pi, \Diamond_{Dox}\neg\varphi\}$, where π entails φ , is inconsistent.

Example

- 1 If Chris is in Copenhagen, Lenny will discover that he's staying at a hotel near the Tivoli Gardens.
- 2 Chris is in Copenhagen.
- 3 \nRightarrow Chris is staying at a hotel near the Tivoli Gardens.

How does the hearer infer that the falsity of the antecedent is compatible with the speaker's beliefs?

- The context in which *if φ , then ...* is uttered must be compatible with φ (Stalnaker 1975): $\diamond\varphi$.
- The speaker is making a supposition (i.e. s/he does not believe in the truth of the antecedent). Thus, the context in which *if φ , then ...* is uttered must be compatible with $\neg\varphi$ as well: $\diamond\neg\varphi$.
- On the assumption that the speaker believes (or acts as if s/he believed) everything that is in the context: $\diamond_{Dox}\neg\varphi$.

Another possibility

$\diamond_{Dox}\neg\varphi$ may be derived as a scalar implicature. The relevant Horn scale would be: $\langle \Box_{Dox}\varphi, \diamond_{Dox}\varphi \rangle$.

- The speaker might have asserted that φ , thus showing belief in φ , i.e. $\Box_{Dox}\varphi$.
- However, s/he has just made the supposition that φ , thus showing that his/her beliefs are compatible with φ , i.e. $\diamond_{Dox}\varphi$.
- The alternatives in this scale would be conventional implicatures about the speaker's beliefs, respectively associated with the speaker's assertion of φ , and with the speaker's making the supposition that φ .

Belief consistency - Conditionals - Cont'd

- Once the hearer infers that the falsity of the antecedent is compatible with the speaker's beliefs, s/he cannot withdraw this inference.
- However, the presupposition carried by the consequent is just a potential presupposition that may or may not be presupposed by the speaker.
- The assumption that the speaker is consistent in his/her beliefs overrides the possibility that the presupposition carried by the consequent might be presupposed by the speaker.

Belief consistency - Disjunctions

- In disjunctions of the form *either* φ *or* ψ_π , where π entails $\neg\varphi$, if π projected, there would be inconsistency between the speaker's belief that π and the compatibility of the truth of φ with the speaker's beliefs.
- The set $\{\Box_{Dox}\pi, \Diamond_{Dox}\varphi\}$, where π entails $\neg\varphi$, is inconsistent.

Example

- 1 Either Chris is not in Copenhagen or Lenny will discover that he's staying at a hotel near the Tivoli Gardens.
- 2 Chris is not in Copenhagen.
- 3 $\not\Rightarrow$ Chris is staying at a hotel near the Tivoli Gardens.

How does the hearer infer that the truth of the first disjunct is compatible with the speaker's beliefs?

- The context in which *either* φ or ... is uttered must be compatible with φ (Stalnaker 1975): $\diamond\varphi$.
- On the assumption that the speaker believes (or acts as if s/he believed) everything that is in the context: $\diamond_{Dox}\varphi$.

Belief consistency - Disjunctions - Cont'd

- Once the hearer infers that the truth of the first disjunct is compatible with the speaker's beliefs, s/he cannot withdraw this inference.
- However, the presupposition carried by the second disjunct is just a potential presupposition that may or may not be presupposed by the speaker.
- The assumption that the speaker is consistent in his/her beliefs overrides the possibility that the presupposition carried by the second disjunct might be presupposed by the speaker.

What happens with a potential presupposition that does not project?

- My hypothesis is that this presupposition is conditionalized to the clause (or the negation of the clause) it entails: *iff $(\neg)\varphi$, then π* .
- As was explained above, π must not project in cases where π entails $(\neg)\varphi$. Thus, *if π , then $(\neg)\varphi$* .
- Furthermore, in cases where π must not project, π must remain within the clause that carries it, i.e. ψ_π . But then, *if $(\neg)\varphi$, then π* .

Conditionals - Non-trivial conditionalization

(2) entails the antecedent of (1) and thus, must not project. Therefore, (2) remains in the consequent of (1) giving rise to the conditional presupposition in (3):

Example

- ① If Chris is in Copenhagen, Lenny will discover that he's staying at a hotel near the Tivoli Gardens.
- ② Chris is staying at a hotel near the Tivoli Gardens.
- ③ \gg If Chris is in Copenhagen, he's staying at a hotel near the Tivoli Gardens.

Disjunctions - Non-trivial conditionalization

(2) entails the negation of the first disjunct of (1) and thus, must not project. Therefore, (2) remains in the second disjunct of (1) giving rise to the disjunctive presupposition in (3), which is logically equivalent to the conditional presupposition in (4) (cf. Stalnaker 1975):

Example

- ① Either Chris is not in Copenhagen or Lenny will discover that he's staying at a hotel near the Tivoli Gardens.
- ② Chris is staying at a hotel near the Tivoli Gardens.
- ③ \gg Either Chris is not in Copenhagen or he's staying at a hotel near the Tivoli Gardens.
- ④ \gg If Chris is in Copenhagen, he's staying at a hotel near the Tivoli Gardens.

Conditionals and disjunctions - Trivial conditionalization

If the presupposition is identical to the proposition expressed by the first clause or its negation, the result of the conditionalization is a trivially true conditional presupposition:

Example

- 1 If Chris used to write, he has given up writing (since I never see him write).
- 2 Either Chris did not use to write or he has given up writing (since I never see him write).
- 3 \gg If Chris used to write, Chris used to write.

Conjunctions - Non-trivial conditionalization

For the assertion of (2) to be informative, it is necessary that (3) does not project, but it is not sufficient. It is also necessary that (4) is presupposed: the speaker, in asserting that (2), would be affirming the antecedent of (4), so that the hearer would infer the consequent of (4):

Example

- ① Chris is in Copenhagen but Lenny won't discover that he's staying at a hotel near the Tivoli Gardens.
- ② Chris is in Copenhagen.
- ③ Chris is staying at a hotel near the Tivoli Gardens.
- ④ \gg If Chris is in Copenhagen, he's staying at a hotel near the Tivoli Gardens.

Conjunctions - Cont'd

That would explain why, upon the utterance of (1), the hearer infers that (2), even though (2) should not be presupposed by a speaker who asserts (1), nor is (2) entailed by (1):

Example

- 1 Chris is in Copenhagen but Lenny won't discover that he's staying at a hotel near the Tivoli Gardens.
- 2 \rightsquigarrow Chris is staying at a hotel near the Tivoli Gardens.

Conjunctions - Tests

The fact that (4) survives when (1) is embedded under a modal operator or in the *if*-clause of a conditional reinforces the hypothesis that (4) is the presupposition of (1):

Example

- ① Chris is in Copenhagen but Lenny won't discover that he's at a hotel near the Tivoli Gardens.
- ② It is possible that Chris is in Copenhagen but Lenny won't discover that he's at a hotel near the Tivoli Gardens.
- ③ If (Chris is in Copenhagen but Lenny doesn't discover that he's at a hotel near the Tivoli Gardens), there will be no problem.
- ④ \gg If Chris is in Copenhagen, he's at a hotel near the Tivoli Gardens.

Presupposition conditionalization and world knowledge

There are cases where it is the first clause that, together with one or more contextual premises, entails the presupposition carried by the second clause. The presupposition does not entail the first clause. Nevertheless, a conditional presupposition arises:

Example

- 1 If Jade does not have a green card, she will regret having to leave the States.
- 2 \gg If Jade does not have a green card, she will have to leave the States.
- 3 \nrightarrow Jade has to leave the States.

Cancellable conditionalization

It might seem that world knowledge is responsible for the conditionalization in these cases. However, 1. the hearer may not be in possession of the relevant piece/s of world knowledge, and 2. if the sentence is followed by a continuation that provides a different sufficient condition for the presupposition, the conditionalization is cancelled:

Example

- 1 If Jade does not have a green card, she will regret having to leave the States. But, if **she has committed a crime**, she won't regret having to leave the States.
- 2 >> Jade has to leave the States.

Conditional perfection

- What seems to happen in these cases is that the hearer infers that the antecedent provides the only sufficient condition, i.e. the necessary and sufficient condition, for the presupposition.
- In the example, the hearer would infer that, if Jade has to leave the States, it must be the case that she does not have a green card.
- The hearer infers a symmetric entailment between the antecedent and the presupposition.
- As it is inferred that the presupposition entails the first clause, the presupposition must not project (exactly for the same reasons as in the preceding cases).
- As a result, the presupposition is conditionalized. Ultimately, this conditionalization does not follow from world knowledge.

Conditional perfection - Cont'd

Conditional perfection also seems to be responsible for the trivially true conditionalization that gives rise to the non-presuppositional interpretation of sentences such as (1) (from vdSandt 1988):

Example

- ① If John murdered his wife, he will be glad that she is dead.
- ② ≫ John's wife is dead. (Presuppositional interpretation)
- ③ ≫ If John murdered his wife, she's dead. (Non-presuppositional interpretation)

Conditional perfection - Cont'd

Just as happened with the green card example, if the sentence is followed by a continuation that provides a different sufficient condition for the presupposition, the conditionalization is cancelled (example from vdSandt 1988):

Example

- 1 If John murdered his wife, he will be glad that she is dead. But, if she took those pills herself, he won't be glad that she is dead.
- 2 >> John's wife is dead.

In order to get the non-presuppositional interpretation, the hearer must infer that, if John's wife is dead, it must be the case that John murdered her.

Conditional perfection vs abductive reasoning

Inferring that (2) provides a good explanation for (3) is not strong enough to prevent (3) from projecting. The hearer might infer that, whereas (4) is true, there might be a more pressing reason for (3) than that provided by (2):

Example

- ① If Jade does not have a green card, she will regret having to leave the States.
- ② Jade does not have a green card.
- ③ Jade has to leave the States.
- ④ \gg If Jade does not have a green card, she will have to leave the States.

Conditional perfection vs abductive reasoning - Cont'd

The only thing that can prevent the projection of the presupposition is that the hearer infers that, in the particular context in which the sentence is uttered, the antecedent is necessary for the presupposition:

Example

If Jade has to leave the States, she does not have a green card.

Conditional perfection vs abductive reasoning - Cont'd

Once the hearer infers (1), the projection of (2) is blocked. For, suppose the hearer inferred (1) in addition to (2); s/he would also infer (3). But then, the hearer would reason that, if the speaker believed that (3), it would not make sense for him/her to make the supposition that (3), as it is the case in (4):

Example

- 1 If Jade has to leave the States, she does not have a green card.
- 2 Jade has to leave the States.
- 3 Jade does not have a green card.
- 4 If Jade does not have a green card, she will regret having to leave the States.

Gazdar (1979)

In Gazdar, there is no informativeness constraint that may preclude the projection of π in conjunctions of the form φ and ψ_π , where π entails φ . Thus, Gazdar would say that (1) carries the presupposition in (2):

Example

- 1 Chris used to write but he has given up writing.
- 2 Gazdar's prediction: \gg Chris used to write.

Van der Sandt (1988)

In vdSandt, there is no belief consistency constraint that may preclude the projection of π in conditionals of the form *if φ , then ψ_π* , where π entails φ . VdSandt would say that, if (2) projected, the antecedent of (1) would be uninformative. This is correct but does not explain why the speaker of (3) sounds incoherent:

Example

- 1 If Chris is in Copenhagen, Lenny will discover that he's staying at a hotel near the Tivoli Gardens.
- 2 Chris is staying at a hotel near the Tivoli Gardens.
- 3 # (Chris is staying at a hotel near the Tivoli Gardens.) If Chris is in Copenhagen, Lenny will discover that he's staying at a hotel near the Tivoli Gardens.

Van der Sandt (1988) - Cont'd

VdSandt would say that, if (2) projected, the first disjunct of (1) would be inconsistent with a proposition which would have been already added to the context. This is correct but does not explain why the speaker of (3) sounds incoherent, since (3) (as a whole) is consistent:

Example

- 1 Either Chris is not in Copenhagen or Lenny will discover that he's staying at a hotel near the Tivoli Gardens.
- 2 Chris is staying at a hotel near the Tivoli Gardens.
- 3 # (Chris is staying at a hotel near the Tivoli Gardens.) Either Chris is not in Copenhagen or Lenny will discover that he's staying at a hotel near the Tivoli Gardens.

Karttunen (1974), Heim (1983), Beaver (2001), among others

- The satisfaction theory revolves around the notion of ‘local satisfaction’, i.e. local entailment.
- Presuppositions must be satisfied by their local contexts.
- Suppose $\varphi \star \psi_\pi$ is uttered in a context C . The local context of ψ_π is $C \cup \{\varphi\}$.
- Thus, $(C \cup \{\varphi\}) \models \pi$.
- The latter is equivalent to: $C \models \varphi \rightarrow \pi$.
- The theory’s prediction: Sentences of the form $\varphi \star \psi_\pi$ presuppose $\varphi \rightarrow \pi$.

The satisfaction theory - Cont'd

- In many cases, $(C \cup \{\varphi\}) \models \pi$ only because $C \models \pi$.
- In these cases, local satisfaction is just a logical consequence of global satisfaction.
- Thus, the fact that π is locally satisfied does not prevent π from projecting.
- In addition, a non-inferable material implication $(\varphi \rightarrow \pi)$ arises. This is known as 'the proviso problem' (Geurts 1996). However, there is no problem as long as $(\varphi \rightarrow \pi)$ is not regarded as the presupposition of the sentence.

The satisfaction theory - Cont'd

For instance, what (1) requires is that the context in which it is uttered entails (3). If this requirement is fulfilled, the global context incremented by (2) (i.e. the local context) will go on entailing (3); hence, the material implication in (4):

Example

- 1 If Lida cares about her health, she will stop smoking.
- 2 Lida cares about her health.
- 3 \gg Lida smokes.
- 4 S.T.'s prediction: \gg If Lida cares about her health, she smokes.

The satisfaction theory - Cont'd

In (1), the consequent is negated and thus, (4) does not even follow from (1). Unless the global context entails the unconditional presupposition in (3) and thus, the global context incremented by (2) (i.e. the local context) goes on entailing (3), there is no explanation as to where the material implication in (4) comes from:

Example

- 1 If Chris goes away, Lida will not stop smoking.
- 2 Chris goes away.
- 3 \gg Lida smokes.
- 4 S.T.'s prediction: \gg If Chris goes away, Lida smokes.

The satisfaction theory - Cont'd

In cases where the first clause (or its negation) entails the presupposition, the satisfaction theory predicts a non-presuppositional interpretation. However, a speaker can presuppose that (3) at the same time as the falsity of (2) is compatible with his/her beliefs, since (2) entails (3). Therefore, unless a symmetric entailment is inferred (as in the murder example), there is no reason why (3) should not project:

Example

- ➊ If Chris used to write for four different book publishers, he must have given up writing.
- ➋ Chris used to write for four different book publishers.
- ➌ \gg Chris used to write.
- ➍ S.T.'s prediction: \gg If Chris used to write for four different book publishers, he used to write.

The satisfaction theory - Cont'd

Good predictions for cases where the presupposition entails the first clause (or its negation) and thus, the presupposition should not project, i.e. the global context should not entail the presupposition:

Example

- 1 If Chris is in Copenhagen, Lenny will discover that he's staying at a hotel near the Tivoli Gardens.
- 2 S.T.'s prediction: \gg If Chris is in Copenhagen, he's staying at a hotel near the Tivoli Gardens.
- 3 If Chris used to write, he must have given up writing.
- 4 S.T.'s prediction: \gg If Chris used to write, he used to write.

In these cases, a conditional presupposition arises which is not an irrelevant consequence of the fact that, if the global context entails π , the local context entails π too.

Some conclusions in relation to the satisfaction theory

- Contrary to the theory's predictions, local satisfaction and projection may coexist. If the global context satisfies a presupposition, the local context satisfies it too. However, the presupposition projects.
- The phenomenon of inferable conditionalization occurs in cases where the global context must not entail the relevant presupposition.
- Thus, this phenomenon is orthogonal to the non-inferable material implications that often result when the global context (but not the first clause or its negation) entails the presupposition.
- There would be no point in attempting to derive inferable conditional presuppositions from non-inferable material implications, as so-called 'theories of accommodation' do.

Concluding remarks

- Presupposition conditionalization is a pragmatic phenomenon since it follows from pragmatic constraints on projection.
- The key principles to understand why presupposition projection may be blocked are informativeness and belief consistency.
- The recalcitrant cases can be handled with an additional assumption: the inference of conditional perfection.
- However, conditional perfection is necessary in order to account for other aspects of the pragmatics of conditionals and thus, is independently motivated.
- The potential presuppositions that do not project remain within the clauses that carry them giving rise to inferable conditional presuppositions.

Thank You

Thank you for your attention!