Projection, Attachment and Ludics

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Projective Material

(1) a. Paul knows that the Earth is round.
b. Does Paul know that the Earth is round?
c. Maybe Paul knows that the Earth is round.
d. Paul doesn’t know that the Earth is round.
e. \( \sim \) The Earth is round.

- Each of the utterances (1-a)-(1-d) entail (1-e)
- The content (1-e) is said to be projected

Projection

A semantic content \( p \) is **projected** if it is conveyed by an utterance, even though it is embedded in a context that usually alters truth-conditions (e.g. negation, interrogation...).
Projective types of contents

- Projectivity has traditionally been considered to be the hallmark of presupposition.

- Other types of material also show a projective behaviour:
  - Conventional implicatures (Potts, 2005):
    
    (2)  
    a. John, that bastard, took my handbook.  
    b. John, that bastard, didn’t take my handbook.  
    c. \( \sim \) John is a bastard.
  
  - Conversational implicatures (Roberts & Tonhauser, 2011):
    
    (3) [The car’s tank is almost empty.]
    a. There is a garage round the corner.
    b. There might be a garage round the corner.
    c. \( \sim \) A garage is a potential solution to the problem.

  ...
Traditional view

- Karttunen (1973): contexts can be divided between **holes** (that project presuppositions), **plugs** (that block projection) and **filters** (that affect/weaken the content)

- One and the same context always behave in the same way, e.g.
  - Factive verbs are holes: always project
  - Verbs of 'saying' (e.g. **say**, **accuse**, **mention**...) are plugs: they do not let presupposition through
  - Antecedents of conditionals are filters (cf. infra)
Contents do not always project in the same way

Karttunen (1977)

(4)  a. If Mary realizes that John has not told the truth, she will be angry.
    b. \( \sim \)John has not told the truth.

(5)  a. If I realize later that I have not told the truth, I will confess it to everyone.
    b. \( \not\exists \)I have not told the truth.

This is problematic for any theory that postulates a fixed behaviour for a given type of linguistic context.

Solution: The context of utterance must be taken into account.
Projection and \textit{at-issueness}

**Simons et al. (2010)**

A content $p$ is projected iff. it is not \textit{at issue} regarding the Question Under Discussion (QUD, cf. Roberts (1996)).

- $p$ is \textit{at issue}, if the speaker intends to address the QUD via $p$:
  - $p$ must be relevant to the QUD (i.e. contributes to answering it).
  - The speaker can expect the addressee to recognize his intention.

- In (4), the truth of the complement of \textit{realize} is entailed by world opened by the QUD, it is therefore not at issue and thus projective.

- In (5), the nature of the antecedent makes it clear that the speaker does not know whether he told the truth: this entails that this content is not true in all the relevant possible worlds. It is thus relevant to the QUD, i.e. at issue and does not project.
Projection and **attachment**

- Ducrot (1972): a key feature to identify a presupposition is that it cannot be used to establish a subsequent discourse relation.

- If $A$ is an utterance that presupposes $P$, a discourse of the form $AB$ cannot contain a discourse relation $R$, such that $R(P, B)$.

  (6)  
  a. Paul stopped smoking, so he worries about his health.  
  b. #Paul stopped smoking, so he did not worry about his health.

- Jayez (2010): discursive attachment to a content is possible iff. the attachment also bears on the main content ($R(A + P, B)$ is possible).

  (7) Harry suddenly stopped smoking, so I guess that it was his wife who did not like it.

- Attachment is related to projection: to be able to establish a discourse relation means that the material must be accessible/projected.
Taking stock

Requirements for a discursive theory of presupposition:

1. Handle the projection of material out of non-veridical contexts.
2. Tie the projection of the material to the context of utterance.
3. Provide an explanation for the impossibility to exclusively attach to non-main content.
Ludics

- A theory of Logic based on the notion of interaction (Girard, 2001).

- Proofs emerge as the result of the interaction between two designs.

  - A speaker’s contributions are represented by a design.
  - The addressee (possibly virtual) has a counter-design.

- A well-formed discourse is one such that the discourse participants actions match, i.e. such that their designs converge/are orthogonal.

- The meaning of the discourse comes from the interaction between the two designs: it is given by the set of designs with which the interaction converges.
An example (Lecomte, 2011)

**Context**
- $B$ has three houses that he can sell (1,2 and 3).
- $A$ wants to know whether $B$ sells a house (numbered 1).
- If $B$ is willing to sell 1, $A$ wants to know the price.

**Interaction**
- $A$ asks $B$ which houses he has to sell, and foresees several possible answers.
- $B$ is prepared to answer questions about the houses he sells, and about their prices.
Plan A

What $A$ has in mind:

- $A$ first wants to ask $B$ which houses he has to sell.
- Assuming that $A$ knows that $B$ has 3 houses to sell, he expects every combination of houses as possible answers.
- If $B$ does not sell house 1, $A$ will stop the conversation.
- Otherwise he will ask for the price of the house 1,
- and expect an amount as an answer, after which he’ll stop.

\[
\begin{align*}
\vdash 0.1.1, 0.2 & \vdash 0.1.1, 0.2 \vdash 0.1.1, 0.2 \\
\vdash 0.2 & \\
\vdash 0.1, 0.2 & \\
\vdash 0.1 & \\
\vdash \langle \rangle
\end{align*}
\]
Plan B

- $B$ expects a question about the houses he has to sell.
- To this question, he plans an answer.
- He foresees possible questions about the price of the houses (or some other aspects).
- He plans his answers to these questions.

\[
\begin{align*}
\text{0.1.1.n} & \vdash 0.1.1.1 & \vdash 0.1.2.1.2 & \vdash 0.2.1.m 0.2.1.m \vdash 0.2.1.0.2.1 \quad \ldots \\
\text{0.1.1} & \vdash 0.1.0.1 & \vdash 0.1.0.0 & \vdash 0.2.0.2 \vdash \\
\langle \rangle & \vdash
\end{align*}
\]
Interaction of the two designs

- $A$ and $B$'s designs interact:
  - It is possible to establish correspondences between dual loci in $A$ and $B$'s designs (i.e. loci of opposite polarities).
  - By putting two loci in interaction, one can define a normalization process.

- Two designs are **convergent** if their normalization reduces to:

  \[
  \vdash \dagger
  \]

- If two designs diverge, the interaction fails and the agents might have to revise their designs.
Negative and Positive actions

Ludics distinguish between positive and negative actions inside a player’s design:

- **Positive** actions correspond to an active intervention on the part of the player.
- **Negative** actions correspond to the anticipation of the speaker regarding some potential refutation, and to the recording of the addressee’s interventions. They are deterministic: the player is not involved in any choice.
Multiple assertions

(8) **E**: I was to be captain of the *Pharaoh*; I was to marry a nice girl.

- E’s utterance conveys two distinct parts.

\[
\begin{array}{c}
0 \vdash \\
1 \vdash
\end{array}
\]

\[
\vdash \langle \rangle
\]

- All the information conveyed by the speaker is made available for further attachment: (8) conveys an information about a captainship and a wedding.

- As seen above this is undesirable for the case of presupposition (and projective material in general): not all conveyed contents should be placed on the same level of accessibility.

⇒ Ludics handles the case of presupposition by means of **covert moves**.
An example (Lecomte & Quatrini, 2011b)

(9)  

a.  

A: Are you still smoking?  

b.  

B: Yes.

- A only expects answers that entail that B smokes.
- Presupposition are treated like covert questions answered by A:
  - The speaker asks and answers the question “Did you smoke before?”
  - The speaker asks the question “Are you smoking now?”, attached to the previously created locus.
  - The speaker expects either a Yes or a No answer and the addressee is committed to the presupposition if he wishes to remain convergent.

\[ \vdash 0.0.0.0 \vdash 0.0.0.0 \vdash 0.0.0.1 \vdash 0.0.0.1 \]  
\[ (-, 0.0.0, \{0\}, \{1\}) \vdash (-, 0.0.0, \{0\}, \{1\}) \]  
\[ (+, \langle \rangle, \{0\}); (-, 0, \{0\}); (+, 0.0, \{0\}) \vdash (+, \langle \rangle, \{0\}); (-, 0, \{0\}); (+, 0.0, \{0\}) \]

**Figure:** A’s treatment of presupposition in (9)
Consequences for presupposition projection

The previous analysis has various desirable consequences for the treatment of presupposition and projection in general:

1. Attachment is managed by way of loci:
   - The loci open by the last positive move represent the set of questions under discussion.
   - The addressee necessarily has to react on one of these questions whose content corresponds to the main content of the speaker.
   - All open loci integrate the presupposition in their structure, so the addressee’s reaction can also use this information.

2. A material $p$ can be considered to be projected if it is part of all the open loci, i.e. each integrates the covert question in its structure.

3. If a given material is at issue, it will not be included in every open loci ($\sim$ the material is not true in all considered branchings/worlds).
The proviso problem

(10)  
   a. If John comes, he will bring his diving gear.  
   b. \( \sim \rightarrow psp \) John has diving gear.  
   c. If John is a diver, he will bring his diving gear.  
   d. \( \sim \rightarrow psp \) If John is a diver, he has diving gear.

- Depending on the content of the antecedent, conditionals can either act as holes (10-a) or filters (10-c).
- I assume that conditionals are treated as such:
  - First a covert question about the truth of the antecedent is asked.
  - From each resulting location, loci are opened relative to the consequent.
Different projection behaviours

(11) If John comes, he will bring his diving gear.

\[
\begin{array}{c}
\vdash 0.0.0.0 \\
\vdash 0.0.0.1.0.0 \\
\vdash 0.0.0.1.0.1 \\
\end{array}
\]

\[\Phi\]

\[\vdash \langle \rangle\]

Where: \(\Phi = (+, \langle \rangle, \{0\}); (−, 0, \{\{0\}\}); (+, 0.0, \{0\}); (−, 0.0.0, \{\{0\}, \{1\}\}); (+, 0.0.0.1, \{0\}); (−, 0.0.0.1.0, \{\{0\}, \{1\}\})\)

\[
\begin{array}{c}
\vdash 0.0.0.1.0.0 0.0.0.1.0.0 0.0.0.1.0.1 \\
\vdash 0.0.0.00.0 0.0 0.0.0.0 \\
\vdash 0.0 0.0 \\
\end{array}
\]

\[\vdash \langle \rangle\]

- First, the presupposition is handled: nothing in the considered contents would entail it, so it is accommodated at the highest level.
- The next branching relates to the truth of the antecedent.
- Then a question about him bringing the gear is open, with potential answers related to the case when the antecedent is true.


Different projection behaviours (II)

(12) If John is a diver, he will bring his diving gear.

\[
\vdash 0.0 \vdash 0.0 \\
\vdash 0.1.0.0.0.0 \vdash 0.1.0.0.0.0 \vdash 0.1.0.0.0.1 \vdash 0.1.0.0.0.1 \\
\vdash 0.1.0.0 \\
\vdash \langle \rangle
\]

- Here, the presupposition is entailed by the truth of the antecedent and world-knowledge.
- It is only considered in the corresponding branching (\(\sim\) locally bound)
- No further loci are open on the address 0.0: considering the context, there is no reason to assume John has gear if he’s not a diver.
- The presupposition is handled locally, and is not present in all loci: it is not projected (or under a weakened form).
Different projection behaviours (III)

(13)  
  a. If Mary realizes that John has not told the truth, she will be angry.  
  b. If I realize later that I have not told the truth, I will confess it to everyone.

The approach is essentially the same as for the previous examples.

- The proposition “I have not told the truth” in (13-b) is only entailed in the case the antecedent is true (mainly because of the use of the first person).
- This is not valid for (13-a), so both open branchings are equal regarding the truth of the presupposition, and there is no reason to assume it is only verified in only one of the alternatives.
Attachment

As said before, attachment is only possible on the last open loci, attachment to a presupposition alone is not possible; e.g. in the smoking example:

\[
\begin{align*}
\vdash 0.0.0.0 & \quad \vdash 0.0.0.1 \\
0.0.0 & \vdash \\
\vdash \langle \rangle & \quad 0.1 \vdash \\
\vdash \langle \rangle & \quad \langle \rangle \vdash 
\end{align*}
\]

Discursive attachment is subject to other constraints, one of the most famous one being the Right Frontier Constraint (Asher & Lascarides, 2003).
Right Frontier

(14)  

a. \( \pi_1 \) Max had a great evening last night.  
b. \( \pi_2 \) He had a great meal.  
c. \( \pi_3 \) He ate salmon.  
d. \( \pi_4 \) He devoured lots of cheese.  
e. \( \pi_5 \) He then won a dancing competition.  
f. \( \pi_6 \) It was a lovely pink.  
g. \( \pi'_6 \) Afterwards, he also enjoyed dessert.

Antecedents for anaphora cannot be found outside the right frontier.

Available attachment points are located on the right frontier: \( \pi'_6 \) cannot attach to \( \pi_4 \).
Right Frontier (II)

Elaboration

Narration

Narration

\[ \pi_1 \]

\[ \pi'' \]

\[ \pi_2 \]

\[ \pi' \]

\[ \pi_3 \]

\[ \pi_4 \]

\[ \pi_5 \]
**Ludics and the Right Frontier**

\[
\begin{align*}
&0.1.0 \vdash \pi_5 \\
&\quad \vdash 0.1 \\
&0.011.0 \vdash 0.1 \quad \pi_4 \\
&\quad \vdash 0.011, 0.1 \\
&0.010.0 \vdash 0.011, 0.1 \\
&\quad \vdash 0.010, 0.011, 0.1 \\
&0.01 \vdash 0.1 \quad \pi_2 \\
&\quad \vdash 0.0, 0.1 \\
&0 \vdash \langle \rangle \quad \pi_1 \\
&\quad \vdash \langle \rangle \\
\end{align*}
\]

- In the counter-design the actions labeled by \(\emptyset\) are interpreted as incentives to remove a QUD from the stack (Lecomte & Quatrini, 2011a; Lecomte, 2011).

- Once a QUD has been focused, it is not possible to switch to a different one (cf. the counter-design).
Conclusion

Ludics give a flexible and intuitive framework to represent various phenomena related to presupposition.

**Projection** is equated to the presence of a given content in all open loci.

**Attachment** is captured via open loci:

- one cannot ignore the last loci when attaching material, but it is possible to integrate information contained in the structure of the locus.
- one cannot freely switch between QUD: it is necessary to “close” a QUD before being able to attach to a different one.

The question of the locality of presuppositions can be accounted for, but there is (yet) no principled way to promote some designs over others.

⇒ It remains to see how to manage the compositionality and triggering of presuppositions.
Thank you
References


Denial

- If a speaker refuses to converge, he must make it linguistically explicit: a mark of refutation is necessary.

- The so-called monadic **but** is such a mark:

  (15)  
  a. A: I regret that Mary cannot come.  
  b. B: % (But) she's already there.

- In ludics terms, the monadic **but** is a mark that the addressee wants the speaker to revise his design, for example by allowing him access to previously inaccessible loci.
An example (Lecomte & Quatrini, 2010)

(16) a. \( E: \) I was to be captain of the *Pharaoh*; I was to marry a nice girl.

b. \( F: \) Did someone had an interest in you not becoming captain?

c. \( E: \) Only one man: Danglars.

d. \( F: \) Now, tell me about the girl you were supposed to marry.

Figure: Ludics representation of the dialogue in (16-a)-(16-d)