

# Semantic Theory

## Lecture 12: Presuppositions

Manfred Pinkal & Stefan Thater  
FR 4.7 Allgemeine Linguistik (Computerlinguistik)  
Universität des Saarlandes

Summer 2011

### Three levels of meaning

- **Assertions** (truth-conditions, entailment)
- **Presuppositions**  
The requirements that the context must satisfy for the utterance to be interpretable at all
- **Conversational Implicatures**  
Inferences that arise from observing or flouting the cooperative principle and conversational maxims

2

### Entailment

- Entailment is a relation between sentences
  - Strictly speaking: a relation between sentence meanings, i.e. the propositions expressed by the sentences
- A sentence **A entails** a sentence **B** ( $A \models B$ ) iff whenever A is true, then B must also be true.
- Examples
  - (1) *John and Mary flunked*  $\models$  *Mary flunked*
  - (2) *John or Mary flunked*  $\models$  *Someone flunked*
  - (3) *John is an intelligent student*  $\models$  *John is a student*
  - (4) *Every student works*  $\models$  *Every blond student works*

3

## Entailment?

- (1) *The mathematician who proved Goldbach's conjecture was a woman*  
     $\models$ ? *Someone proved Goldbach's conjecture*
- (2) *Mary loves her husband*  
     $\models$ ? *Mary has a husband / is married*
- (3) *It was Mary who broke the typewriter*  
     $\models$ ? *Somebody broke the typewriter*
- (4) *John kissed every girl at the party*  
     $\models$ ? *Girls have been at the party*

(Examples (1), (3) from von Fintel)

4

## Entailment vs. Presupposition

### ■ Entailment:

- (1) *John and Mary flunked*  $\models$  *Mary flunked*
- (2) *John and Mary didn't flunk*  $\not\models$  *Mary flunked*

### ■ Presupposition: both (3) and (4) "entail" (5)

- (3) *The mathematician who proved Goldbach's conjecture was a woman*
- (4) *The mathematician who proved Goldbach's conjecture wasn't a woman*
- (5) *Someone proved Goldbach's conjecture*

5

## Presuppositions

### ■ Basic idea:

A presupposition of a statement is a proposition that must be true in order for the statement to be interpretable (to make sense) in the first place.

### ■ Slightly different view:

A presupposition is an implicit assumption about the world whose truth is taken for granted by the speaker.

6

## Definite Descriptions

- *the*  
 $\mapsto \lambda F \lambda G \exists x (\forall y (F(y) \leftrightarrow x = y) \wedge G(x))$
- *the chancellor*  
 $\mapsto \lambda G \exists x (\forall y (\text{chancellor}'(y) \leftrightarrow x = y) \wedge G(x))$
- *the chancellor decides*  
 $\mapsto \exists x (\forall y (\text{chancellor}'(y) \leftrightarrow x = y) \wedge \text{decide}'(x))$ 
  - “there is exactly one chancellor, and she decides”

7

## Definite Descriptions

- *It is not the case that the chancellor decides*
- **Compositional analysis** of the sentence leads to
  - $\neg \exists x (\forall y (\text{chancellor}'(y) \leftrightarrow x = y) \wedge \text{decide}'(x))$
  - “Either there is no chancellor, or more than one, or there is exactly one chancellor and he doesn’t decide.”
- **Correct representation** for the sentence:
  - $\exists x (\forall y (\text{chancellor}'(y) \leftrightarrow x = y) \wedge \neg \text{decides}'(x))$
  - “There is exactly one chancellor, and she doesn’t decide.”

8

## Presuppositions

- *The chancellor decides*
  - $\exists x (\forall y (\text{chancellor}'(y) \leftrightarrow x = y) \wedge \text{decides}'(x))$
  - “There is exactly one chancellor, and she decides.”
- A sentence (containing a definite description) contains meaning information of two different types:
  - **Presupposition:** the requirements that the context must satisfy for the sentence to be interpretable at all.
  - **Assertion:** the claims that are made, based on the context.

9

## Presuppositions and Negation

- *It is not the case that the chancellor decides*
  - $\exists x(\forall y(\text{chancellor}'(y) \leftrightarrow x=y) \wedge \neg \text{decides}'(x))$
  - “There is exactly one chancellor, and she doesn’t decide.”
- Negation only applies to the assertion.
- The presupposition isn’t negated.
  - The presupposition is projected “upwards,” outside of the usual rules of semantic composition.
- Such a “survival” of negation (and other operators) is the standard test for presuppositions.

10

## Some Presupposition Triggers

- **Definite noun phrases**
  - (1) *John saw / didn’t see the man with the two heads*  
    » *There is a man with two heads*
  - (2) *Mary loves / doesn’t love her husband*  
    » *Mary has a husband*
  - (3) *Mary’s brother bought / didn’t buy a house*  
    » *Mary has a brother*
- **Quantifiers**
  - (4) *John kissed / didn’t kiss every girl at the party*  
    » *Girls have been at the party*

[Notation: read “A » B” as “A presupposes B”]

11

## Some Presupposition Triggers

- **Factive verbs** (regret, realize, being aware, ...)
  - (1) *John regrets that Pola is married*  
    » *Pola is married*
  - (2) *John realized that he was in debt*  
    » *John was in debt*
- **Implicative verbs** (manage to, forget to, ...)
  - (3) *John forgot to close the door*  
    » *John intended to close the door*
  - (4) *John managed to close the door*  
    » *John tried to close the door*

12

## Some Presupposition Triggers

### ■ Aspect

- (1) *John has stopped smoking*
  - » *John used to smoke*
- (2) *John opened the window again*
  - » *John had already opened the window before* (repetitive)
  - » *The window was open before* (restitutive)

### ■ Appositions, non-restrictive relative clauses

- (3) *John, (who is) a good friend of mine, studies CL.*
  - » *John is a good friend of mine*

13

## Some Presupposition Triggers

### ■ It-Clefts

- (1) *It was John who ate the cake.*
  - » *Somebody ate the cake*

### ■ Sentence particles

- (2) *Only John came to the party*
  - » *John came to the party*

14

## Presupposition Projection

- (1) *The chancellor decides, or the states' prime ministers are responsible for decisions*
    - » *There is a (exactly one) chancellor*
  - (2) *John possibly regrets that Mary is married*
    - » *Mary is married*
  - (3) *Mary believes that John has stopped smoking*
    - » *John used to smoke*
- Presuppositions “survive” not only negation, but also other kinds of embeddings.

15

## Presupposition Filtering

- (1) *If John is out of town, then his wife is unhappy*  
    » *John has a wife / is married*
  - (2) *If John is married, then his wife is unhappy*  
    NOT » *John is married*
  - (3) *If John is married, then his daughter is unhappy*  
    » *John has a daughter*
- There are contexts that can “neutralise” or filter some presuppositions: they block projection of these presuppositions.

16

## Presupposition Cancellation

- (1) *John doesn't regret that Mary is married. Mary has no husband, and John knows about that.*
  - (2) *The king of France isn't bald. France is a republic.*
- In the context of negation, presuppositions can be overwritten or “cancelled” by explicitly claiming that they are false.

17

## Presupposition Projection

- **The projection problem** for presupposition is the task of stating and explaining the presuppositions of complex sentences in terms of the presuppositions of their parts.
- ⇒ Next Lecture

18

## Accommodation

(1) *My wife is a great cook.*

- Even if the fact that the speaker is married isn't given by the context, it can be accommodated unless an inconsistency arises.

19

## Summary (Presuppositions)

- Presuppositions are triggered by a number of different words and linguistic constructions, including definite noun phrases.
- Presuppositions behave differently than assertions in semantics construction: They are typically projected unchanged, rather than used in functional application.
- Projected presuppositions can be filtered in the semantic composition process, and can be cancelled by contextual knowledge.

20

## Three levels of meaning

- **Assertions** (truth-conditions, entailment)
- **Presuppositions**  
The requirements that the context must satisfy for the utterance to be interpretable at all
- **Conversational Implicatures**  
Inferences that arise from observing or flouting the cooperative principle and conversational maxims

21

## Conversational Implicatures

- **Basic claim:** there is a set of “guidelines” for effective and rational use of language:
  - A general cooperative principle
  - Plus four maxims of conversations
- **Conversational implicatures** are inferences that arise from observing or flouting these rules.

22

## Conversational Implicatures

- **The Cooperative Principle:**  
Make your contribution such as is required, at the stage at which it occurs, by the accepted purpose or direction of the talk exchange in which you are engaged.
- **Four maxims of conversation:**
  - Quality, Quantity, Relevance, Manner

23

## Maxims of Conversation

- **Maxim of quality:** Try to make your contribution one that is true, specifically:
  - do not say what you believe to be false
  - do not say that for which you lack evidence
- **Maxim of quantity:**
  - Make your contribution as informative as is required for the current purposes of the exchange
  - Do not make your contribution more informative than is required.

24

## Maxims of Conversation

- **Maxim of relevance:** Make your contribution relevant
- **Maxim of manner:** Be perspicuous, specifically:
  - avoid obscurity
  - avoid ambiguity
  - be brief (avoid prolixity)
  - be orderly

25

## A simple Example

- A: *Where does Gerard live?*
- B: *Somewhere in the South of France*
- B's answer violates the maxim of quantity – it is less informative than required – but B adheres to the maxim of quality
  - Implicature: B does not know exactly where Gerard lives

26

## Literature

- Stephen C. Levinson. *Pragmatics*. Cambridge University Press. 1983. Chapters 3, 4.

27