### Semantic Theory Lecture 12: Presuppositions

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# 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

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# Entailment

- Entailment is a relation between sentences
  - Strictily speaking: a relation between the propositions expressed by the sentences
- A sentence **A entails** a sentence **B** (A ⊨ 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  $\vDash$  Someone flunked
  - (3) John is an intelligent student  $\vDash$  John is a student
  - (4) Every student works ⊨ Every blond student works



# Entailment vs. Presupposition

#### Entailment:

- (1) John and Mary flunked  $\vDash$  Mary flunked
- (2) John and Mary did**n't** flunk ⊭ 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

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# 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.

#### (Russel, Montague)

# **Definite Descriptions**

- the  $\mapsto \lambda F \lambda G \exists x (\forall y (F(y) \leftrightarrow x = y) \land G(x))$
- the chancellor  $\mapsto \lambda G\exists x(\forall y(chancellor'(y) \leftrightarrow x = y) \land G(x))$
- the chancellor decides
   ⇒ ∃x(∀y(chancellor'(y) ↔ x = y) ∧ decide'(x))
  - "there is exactly one chancellor, and (s)he decides"

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# **Definite Descriptions**

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

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# Presuppositions

- The chancellor decides
  - $\exists x(\forall y(chancellor'(y) \leftrightarrow x=y) \land decides'(x))$
  - "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.

# Presuppositions and Negation It is not the case that the chancellor decides ∃x(∀y(chancellor'(y) ↔ x=y) A ¬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.

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# 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: "A  $\gg$  B" means "A pressuposes B"]

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# Some Presupposition Triggers Factive verbs (regret, realize, being aware, ...) John regrets that Pola is married Pola is married John realized that he was in debt John was in debt Implicative verbs (manage to, forget to, ...) John forgot to close the door John intended to close the door John managed to close the door John tried to close the door

# 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 (repetetive)
   > 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

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# 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

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# **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.





- (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.

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# **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

# 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.

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# 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.

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# **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

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# 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.



# 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

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# Literature

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