

The background features a dark blue gradient with a subtle pattern of white stars. Overlaid on this are several technical diagrams in a lighter blue color. These include circular gauges with numerical scales (e.g., 140, 150, 160, 170, 180, 190, 200, 210, 220, 230, 240, 250, 260) and various circular arrows indicating clockwise or counter-clockwise rotation. Some diagrams consist of concentric circles, while others show partial arcs or dashed lines.

THE MEANINGS OF SENTENCES

PART 1

- PHILOSOPHICAL CONTEMPLATION
 - Worlds, situations, and the meanings of sentences
- NEGATIVE POLARITY ITEMS AND DOWNWARD ENTAILMENT
- WHAT'S SEMANTIC? WHAT'S PRAGMATIC? WHERE'S THE LINE?



OUR ROADMAP

BACK TO THE REFERENTIAL vs INTERNALIST DEBATE

INTERNALIST

- The meaning of a sentence is a compositionally-derived internal mental structure.

REFERENTIAL

- Sentence meanings are abstract “objects.”
- Two kinds of abstract objects
 - Russellian proposition $\langle x,y \rangle$: an ordered pair consisting of x and the property y
 - Possible worlds: include modality (necessity, possibility, contingency).

Elizabeth II is wise.

\langle Elizabeth II, wisdom \rangle

- Sets are abstract objects
- Mapping from Elizabeth II to property of wisdom.

The snow must have melted.

-In every world, the snow is gone.

The snow might have melted.

-It's possible that there is a world in which there is snow.

“If there is one object that is the meaning of an uttered sentence, this seems to provide a better foundation for successful communication than the situation that the internalist alternative would envisage...” [p.44]

Sentence 1:

“Harold believes that there is life on Venus, and Fiona does too.”

Sentence 2:

“There is something they both believe – to wit, that there is life on Venus.”

FROM A REFERENTIAL PERSPECTIVE...

- Based on Sentence 1, we can deduce the truth of Sentence 2.
- There is an object that Harold and Fiona have a belief relationship to.
- That abstract object is the proposition that there is life on Venus.

FROM AN INTERNALIST PERSPECTIVE...

- Sentence meanings are internal mental structures.
- “There is something they both believe” is ambiguous in the same way that “There is something they both own” is ambiguous.
- If they both own houses, this doesn’t necessarily mean they own the same house.

Possible Worlds (David Lewis)

- **Meanings of sentences are sets of possible worlds.**
 - If you know the meaning of a sentence, then you know the conditions that must hold in order for the sentence to be true.
- **Two plus three equals five** and **Three plus four equals seven**
 - Both true in every possible world.
 - The meaning of each sentence is the set of all possible worlds.
 - These two sentences have the same meaning.
- **Two plus three equals six** and **Three plus four equals eight**
 - Both are false in every possible world.
 - These two sentences have the same meaning.

- **SITUATION:** Spatiotemporally delineated part of the world (or possible world)
 - Cherlon's office between 8:00 and 9:00 p.m.
- A minimal situation in which some condition holds contains:
 - Just enough entities, properties, and relations to make that condition hold.
- A minimal situation in which *Two plus three equals five* is distinct from a minimal situation in which *Three plus four equals seven*.
 - Both sentences are true in all possible worlds, but...
 - ...they don't have the same meaning because they don't have the same set of situations.

ENTER SITUATIONS

Barwise and Perry:
Sentence meanings are sets of possible situations.



- No actual situation in which *Two plus three equals six* is true.
- BUT, the set of situations in which *Two plus three equals six* or *Three plus four equals eight* might be true are distinct.
- SO...situations can be impossible.

NECESSARY
FALSEHOODS:
NO POSSIBLE
SITUATION IN WHICH
SOME PROPOSITION
IS TRUE

- The permissibility of certain words/phrases depends on the presence of other words/phrases.
- Suggests that we're evaluating sets of possible worlds.

WTF DOES
THIS HAVE TO
DO WITH
ANYTHING
???!!!

(1) a. Richard had **not** met *any* classicists.

b. *Richard had met *any* classicists.

(2) a. Richard had met many classicists

b. Richard had not met many classicists.

(3) a. Henry did **not** discuss the bacchanal *at all*.

b. *Henry discussed the bacchanal *at all*.

(4) a. Henry did **not** *ever* discuss the bacchanal.

b. *Henry *ever* discussed the bacchanal.

(5) a. Henry has **not** discussed the bacchanal *yet*.

b. *Henry has discussed the bacchanal *yet*.

(6) a. Henry did **not** *lift a finger* to prevent Cloke being incriminated.

b. *Henry *lifted a finger* to prevent Cloke being incriminated.

NEGATIVE POLARITY ITEMS

- *Any, at all, yet, lift a finger* are **negative polarity items (NPIs)**.

- *Not, at most* are **NPI licensors**.

- NPI licensors are downward entailing.
- If one sentence entails the other, there is no possible world in which the first sentence is true and the second sentence is false.

NPI LICENSING & DOWNWARD ENTAILMENT

Downward Entailing

- a. **No** gods worry. No gods worry about income tax.
- b. **At most** three gods worry. At most three gods worry about income tax.

Not Downward Entailing

- c. Some gods worry. Some gods worry about income tax.
- d. All gods worry. All gods worry about income tax.

- a. No gods show any mercy to mortals.
- b. At most three gods show any mercy to mortals.
- c. *Some gods show any mercy to mortals.
- d. *All gods show any mercy to mortals. [p.56]

THE BIG PICTURE

Ladusaw's Theory:

NPIs teach us that sentence meanings are sets of possible worlds and that some part of our brain is performing set theoretic calculations in order to evaluate sentence meanings.

Sidebar: Positive Polarity Items

- not OK with negation
- a. Bill would rather be in Montpelier.
 - b. *Bill wouldn't rather be in Montpelier.
 - c. John is here already.
 - d. *John isn't here already.

Positive polarity examples from: Giannakidou, Anastasia. 2011. [Positive polarity items and negative polarity items: variation, licensing, and compositionality](#). In *Semantics: An International Handbook of Natural Language Meaning* (Second edition; ed. by C. Maienborn, K. von Stechow, and P. Portner). Berlin: Mouton de Gruyter. pp. 1660-1712.

The background features a dark blue gradient with a subtle pattern of white dots. Overlaid on this are several circular elements: a large scale on the left with numerical markings from 140 to 260, and several smaller circles with dashed lines and arrows, suggesting a technical or scientific theme.

WHAT ELSE IS PART OF SENTENCE MEANING?

“CHERLON, HAVE YOU STOPPED BUYING NECKLACES?”

PRESUPPOSITION VS ENTAILMENT

“CHERLON, HAVE YOU STOPPED BUYING NECKLACES?”

- Presupposes that Cherlon bought (several) necklaces in the recent past.
- Cherlon, haven't you stopped buying necklaces?
 - Negating the sentence maintains the presupposition that Cherlon bought necklaces.
 - Cherlon can cancel the presupposition.
 - “Well, actually, no I haven't stopped buying necklaces because I never started. They were all given to me.”

- a. Bill Clinton was impeached.
- b. Bill Clinton had sexual relations with Monica Lewinsky.

- a presupposes b
- Again, we can negate (a) and still maintain the presupposition:
 - Bill Clinton was not impeached, even though we all know he had sexual relations with Monica Lewinsky.
- Or we can cancel the presupposition:
 - Bill Clinton was impeached, even though he didn't actually have sexual relations with Monica Lewinsky.

a. The anarchist assassinated the emperor.

b. The emperor died.

- a entails b: one can't truthfully assert a and not also truthfully assert b.
- Not a reciprocal relationship: b does not entail a

Is (b) part of the meaning of (a)?

○ When an entailing sentence is negated, the entailment fails:

a. The anarchist didn't assassinate the emperor.

b. The emperor died.

- The emperor may have died, but it doesn't follow from a.

○ The entailment can't be canceled:

- *The anarchist assassinated the emperor, but the emperor didn't die.

THE THINGS WE “DO” WITH LANGUAGE:

- *Locutionary Act*: the act of uttering the actual words
 - “This classroom is hot.” ...
- *Illocutionary Force*: the force or intention behind the words
 - ...might mean that I want some fresh air...
- *Perlocutionary Effect*: the effect of the illocution on the hearer
 - ...and some kind student opens the door to the classroom

Is the meaning associated with illocutionary force part of the meaning of the sentence?

WAYS OF THINKING ABOUT MEANING

- “...language can be viewed as a set of abstract devices, rule systems, and principles that serve to characterize formally various properties of the well-formed sentences of that language.” (C,M-G 1)
- “...grammars...constitute accurate models of the (implicit) knowledge that underlies the actual production and interpretation of utterances by native speakers.” (C, M-G1-2)
- “The linguistic knowledge we seek to model, speakers’ competence, must be distinguished from their observable linguistic behavior.” (C, M-G1-2)

“THE DOOR IS LOCKED”

- Maps to different situations:
- The door could be in a state of having been locked for some indeterminate amount of time.
 - *A property of the door*
- “Locked” could be the resultant state of someone just having pushed on it.
 - *A property of the door that is closely connected to a property of the immediate larger event*
- Metaphoric/idiomatic meaning: An opportunity that once existed no longer does.

What **should** we include in a formal model?

I AM READY TO LEAVE.

- Traditionally, semantics is concerned with determining an abstract meaning for words/sentences that is somewhat generalizable across situations irrespective of context.
- Meaning is abstracted away from the individual conversational participants.
- Formal semantic meaning is independent of the context.

Semantics

I AM READY TO LEAVE.

- Pragmatics is concerned with the meaning that sentences have within a particular context.
- Meaning is derived in relation to the individual conversational participants.
- The sentence above has a variety of interpretations.
 - I could be suggesting to a companion that I no longer wish to be present at a really boring dinner party.
 - I could be saying that I'm packed and prepared for my next trip to Reykjavík.
 - If it's the dead of winter – or mid-April – I'm likely saying that I'm ready to get out of Minnesota.

- THE INTERPRETATIONS OF NPIS SUGGEST THAT WE ARE COMPUTING SET-THEORETIC POSSIBLE WORLD SCENARIOS.

- THERE HAS TRADITIONALLY BEEN A LINE BETWEEN SEMANTICS AND PRAGMATICS, BUT IT'S NOT ENTIRELY CLEAR WHERE THAT LINE SHOULD BE DRAWN.

SUMMARY

REFERENCES

- Chierchia, Gennaro and Sally McConnell-Ginet. 2000. Meaning and grammar: an introduction to semantics. The MIT Press: Cambridge.
- Elbourne, Paul. 2011. Meaning: a slim guide to semantics. Oxford University Press: Oxford.