LIN 001: Introduction to Linguistics (Spring 2024)

Weeks 5 + 6 Discussion - Sections A05 and A06

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Semantics and Pragmatics

- semantics: the study of meaning

    - Week 5 Lecture, Assignment 3 [Part A]

- pragmatics: the study of meaning in context

    - Week 6 Lecture, Assignment 3 [Part B]

Agenda

1. Assignment 3 Questions [Part A + Part B]

- Lexical Semantic Relations [QA1 + QA2]

- Compositionality and its Exceptions [QB5]

- Conceptual Metaphors [QB11]

- Truth-Conditional Semantics and Limitations [QB6 + QB7 + QB2; QA4-7]

- Felicity Conditions and Speech Acts [QB10]

- Types of Implication [QB1 + QB3 + QB4 + QB8 + QB9; QA3]

Synonymy and Antonymy

- Synonymy: the semantic relationship between words with closely related meanings

    - ex. chilly and freezing are synonyms

- Antonymy: the semantic relationship between words with opposite meanings

    - ex. large and small are antonyms

Let's try Assignment 3, QA1!

QUESTIONS

1. Two relations involving word meanings are antonymy and synonymy. Which relation is illustrated in each of the pairs of words below?

a) flourish/thrive
b) intelligent/stupid
c) casual/informal
d) young/old
e) uncle/aunt
f) intelligent/smart
g) flog/whip
h) drunk/sober

Homophony

- Homophony: two different words with completely separate meanings that are accidentally the same phonologically (i.e., share the same sounds)

    - ex. bat (the animal) and bat (the wooden stick in baseball) are homophones

- Note that two words do not have to be spelled the same to be homophones - what matters is whether they share the same sounds

    - ex. “week” (amount of time) and “weak” (not strong physically)

Polysemy

- Polysemy: the same word with multiple related meanings or “senses”

  - ex. the word “head” is polysemous

  1. Many humans have a nose and two ears on their **heads**.

  2. Each page of the article was **headed** with the author’s name.

  3. The **head** of the organization is very kind.

- In the examples above, “head” is not used in the exact same way (i.e., these are not synonyms), but the meanings are clearly related - all refer to the “upper part” of something (literally in #1 and #2, and metaphorically in #3).

Let's try Assignment 3, QA2!

2. It was noted in this chapter that a single form can have two or more meanings. Depending on whether these meanings are related to each other, this phenomenon involves polysemy or homophony. Which of these two relations is exemplified by the forms below?

a)	*grass*	herbage used for grazing animals; marijuana
b)	*leech*	a bloodsucking worm; a hanger-on who seeks advantage
c)	*range*	a cooking stove; a series of mountains
d)	*key*	an instrument used to apply to a lock; an answer sheet for a test or assignment
e)	*reel*	a spool for photographic film; round device at the butt end of a fishing rod for the line
f)	*race*	the act of running competitively; people belonging to the same genetic grouping
g)	/flawər/	a blossom; finely ground wheat

Check Your Understanding: Lexical Semantic Relations

- For the 4 pairs of words below, state whether they illustrate synonymy, antonymy, homophony, or polysemy. **Come see me at office hours for the answers!**

1. The detective realized that the answer to the mystery was in **plain** sight all along.

   The living room had very few decorations - the furniture was **plain** and austere.

2. The library was extremely **quiet** as many students were preparing for finals.

   The sound of the drums within the concert hall was **cacophonous**.

3. We were not allowed to **start** the final exam until the instructor told us to.

   The parade **began** at 7am last Sunday.

4. The trees must **bear** the weight of the birds' nests.

   A brown **bear** was spotted in the park yesterday.

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- Truth-Conditional Semantics and Limitations [QB6 + QB7 + QB2; QA4-7]

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Compositionality

- Technical Definition: the meaning of a sentence or phrase is a function of the meanings of the words it contains and the way in which these words are syntactically combined

- Simple Explanation: meaning of the whole = sum of the meanings of the parts

- Let's see some examples…

Compositionality Example: Noun Phrase

- Imagine that you are an alien with no prior language experience. You have just learned what individual words mean, but have never heard them put together into longer phrases or sentences.

- Let's say that you've learned what "red" and "car" mean. What is a "red car"?

- If meaning abides by the principle of compositionality, then you can infer that a "red car" is an object that is both "red" and a "car".

Compositionality Example: Noun Phrase

RED

Set of Objects that are Red

+

CAR

Set of Objects that are Cars

=

RED CAR

Set of Objects that are Red Cars

- The interpretation of "red car" is <u>compositional</u>. The meaning of the whole ("red car") is the sum of the meanings of its parts ("red" and "car").

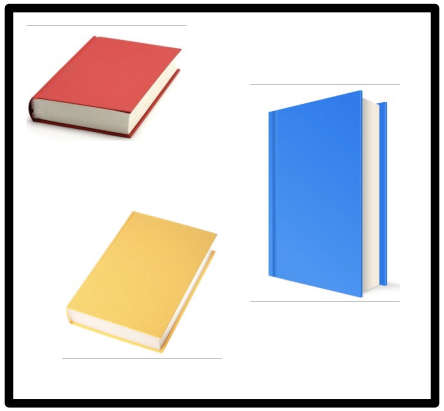
Compositionality Example: Verb Phrase

READ

The Act of Reading

+

A BOOK



Set of Objects that are Books

=

READ A BOOK

The Act of Reading a Book

- The interpretation of a verb phrase like "read a book" is also compositional. The meaning of the whole ("read a book") is the sum of the meanings of its parts ("read" and "a book").

Exceptions to Compositionality

- There are exceptions to the principle of compositionality…sometimes the meaning of the whole is not the sum of the meanings of its parts.

- Idioms represent an excellent counterexample to compositionality.

    - ex. spill the beans, kick the bucket, raining cats and dogs, break a leg, go down in flames, once in a blue moon…

- **Note that the following slide contains the answer to Assignment 3, QB5.**

Exceptions to Compositionality: Idioms

- The idiom “spill the beans” means “to reveal a secret”.

- If “spill the beans” was interpreted compositionally, it would mean that someone had a can of beans and knocked them over (the meaning of “spill” + the meaning of “the beans”).

- When we say that so-and-so “spilled the beans”, we almost always mean the idiomatic interpretation, not the literal compositional interpretation.

“Spill the Beans”: Idiomatic Meaning

“Spill the Beans”: Compositional Meaning

Check Your Understanding: Compositionality

1. What does the idiom “kick the bucket” mean?

2. If we lived in a world where meaning was only interpreted compositionally, what would “kick the bucket” mean?

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- Truth-Conditional Semantics and Limitations [QB6 + QB7 + QB2; QA4-7]
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Conceptual Metaphors

- Conceptual Metaphor: when one concept (the target domain) is understood in terms of another concept (the source domain)

- Why are conceptual metaphors so pervasive in everyday life?

    - Because it is easier to understand a more abstract concept (the target domain) in terms of a simpler, more tangible concept (the source domain).

    - Conceptual metaphors are useful and thus highly common across languages.

- **Note that the current and following slides answer Assignment 3, QB11.**

Conceptual Metaphors: An Example

Source Domain: MONEY		Target Domain: TIME
She **spent** all of her savings.		How did you **spend** your weekend?
I **saved** $10 from that sale.	→	Using this gadget will **save** you hours.
We should **invest** in stocks.		We should **invest** in our future.

Conceptual Metaphor: TIME IS MONEY

Check Your Understanding: Conceptual Metaphors

What conceptual metaphor do all of the sentences use below? What is the source domain and what is the target domain?

- That was a really complex lecture…I need to **digest** what the professor just said.

- My essay only consists of **half-baked** ideas, none of which are well-developed.

- The students had a **hunger** for knowledge and read as much as they could.

- The first few paragraphs are just the introduction, but the **meat** of the paper starts on page 11.

- We have to challenge our students, we shouldn't **spoon-feed** them.

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Truth-Conditional Semantics

- Truth-Conditional Semantics: A characterization of meaning that provides a systematic association between sentences and their truth conditions.

    - Essentially, with truth-conditional semantics, we only care about whether a sentence is true or false.

    - ex. California is in the United States = **TRUE**

    - ex. Mexico is in the United States = **FALSE**

- Note that this slide contains the answer to Assignment 3, QB6.

Truth-Conditional Semantics: Interpreting “And”

- The truth table on the right is easier to understand with concrete examples. Look at the 4 sentences below:

1. California is in the US and Texas is in the US.

2. California is in the US and Mexico is in the US.

3. Canada is in the US and Texas is in the US.

4. Canada is in the US and Mexico is in the US.

- Which of the statements above is true? Only Statement 1, where Sentence A and B are both true.

A	B	A and B
TRUE	TRUE	TRUE
TRUE	FALSE	FALSE
FALSE	TRUE	FALSE
FALSE	FALSE	FALSE

Truth-Conditional Semantics: Interpreting “And”

- Note that in truth-conditional semantics, every sentence maps onto either “true” or “false” in a binary fashion. We do not care about how the words are arranged or about the social context at all.

- For instance, the following 2 statements are equally true:

- California is in the US and Texas is in the US.

- Texas is in the US and California is in the US.

A	B	A and B
TRUE	TRUE	TRUE
TRUE	FALSE	FALSE
FALSE	TRUE	FALSE
FALSE	FALSE	FALSE

Limitations of Truth-Conditional Semantics

- Although order may not matter for geography facts, it does matter in many other contexts. Take a look at the sentences below:

    1. Jenny went running and took a shower.

    2. Jenny took a shower and went running.

- Do these sentences mean the same thing? Which seems more reasonable?

- Under truth-conditional semantics, both sentences would be treated the same way.

- But in practice, saying “A and B” often implies that A comes before B.

    - Sentence 1 (“Jenny went running and took a shower”) thus seems like the more reasonable option.

- Note that this slide contains the answer to Assignment 3, QB7.

More Limitations of Truth-Conditional Semantics

- There are many other limitations of truth-conditional semantics. For example, the meanings of words often depend on the context:

    - ex. This object is small.

    - ex. This object is a cup.

- It is impossible to verify whether these statements are true or false without knowing what the actual object is. A “small” car might be several feet long while a “small” mouse could only be several inches long. See Slides 17 + 21 of the Week 5 Lecture for visuals.

- Note that this slide contains the answer to Assignment 3, QA4.

Even More Limitations of Truth-Conditional Semantics

- Different words/phrases also have different connotations beyond their literal meaning:

    - ex. (1) She is a spinster; (2) She is not skinny, she is slim!; (3) I haven't eaten.

- (1) The term "spinster" technically means "an unmarried woman". However, "spinster" is often associated with an *older*, unmarried woman. It would be quite odd to refer to a 23-year-old woman as a "spinster".

- (2) Even though "skinny" and "slim" refer to someone with low weight, "skinny" often has a negative connotation, while "slim" has a positive connotation.

- (3) When someone says, "I haven't eaten", it doesn't literally mean that the speaker has never ingested food before; it typically means that the speaker hasn't eaten since their previous meal.

- Note that this slide contains the answer to Assignment 3, QA5, QA7, and QB2.

Even More Limitations of Truth-Conditional Semantics…

- A fourth limitation of truth-conditional semantics is that it doesn't take the cultural context into account. For example, the traditions associated with "marriage" can differ based on the culture. (See Slides 28-29 of the Week 5 Lecture for more info).

- Note that this slide contains the answer to Assignment 3, QA6.

The overall takeaway is that truth-conditional semantics only gets us so far - to truly understanding meaning, we have to take *context* into account. This is why pragmatics becomes important.

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Felicity Conditions and Speech Acts

- Felicity Conditions: the set of conditions that must hold for a speech act to achieve its desired goal

- The following quote from a US Supreme Court Justice illustrates this idea: “The most stringent protection of free speech would not protect a man falsely shouting *fire* in a theatre and causing a panic”.

- When someone shouts “Fire” as a warning for people to flee, a felicity condition is that there is an actual fire present. If there is no actual fire, then according to the quote above, shouting “Fire” is *infelicitous*.

- For more information about felicity conditions and speech acts, read Slides 4-11.

Difference Between
Felicity Conditions and Truth Conditions

- Truth conditions = what conditions need to be met in order for a sentence to be true or false

- Felicity conditions = what conditions need to be met in order for a sentence to achieve the desired goal

- If one shouts the word “Fire!” (or any noun in isolation, like “Apple!”), there aren’t any truth conditions; but there could be felicity conditions.

- **Note that this slide contains the answer to Assignment 3, QB10.**

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Implication

- We are constantly determining *implications* in everyday conversation.

- For example, read the following dialogue:

    A: Where's the roast beef?

    B: Hmm, well the dog looks happy!

- Even though Person B isn't directly answering the question, their implication is that the dog probably ate the roast beef.

- There are 5 types of implications that are referenced in Assignment 3: entailment, contradiction, paraphrase, presupposition, implicature.

Entailment

- Entailment: If one sentence is true, then another sentence must also be true.

- Example (A entails B):

    A: Buddy is a brown dog.

    B: Buddy is a dog.

- Note that entailment is not necessarily bidirectional - A entailing B does not mean that B entails A.

    - In the example above, B does not entail A. Just because Buddy is a dog does not necessarily make him a brown dog.

Contradiction

- Contradiction: If one sentence is true, then another sentence must be false.

- Example (A contradicts B):

    A: Susan ate an apple yesterday.

    B: Susan did not eat an apple yesterday.

Paraphrase

- Paraphrase: When the same meaning is expressed with different words.

- Example (A paraphrases B):

    A: Bill read the book.

    B: The book was read by Bill.

Let's try Assignment 3, QA3!

3. Three semantic relations among sentences were covered in this chapter: paraphrase, entailment, and contradiction. Which of these relations is exemplified in each of the following pairs of sentences?
   a) I saw Timothy at the anniversary party.
      It was Timothy that I saw at the anniversary party.
   b) Jules is Mary's husband.
      Mary is married.
   c) My pet cobra likes the taste of chocolate fudge.
      My pet cobra finds chocolate fudge tasty.
   d) Vera is an only child.
      Olga is Vera's sister.
   e) It is fifty miles to the nearest service station.
      The nearest service station is fifty miles away.

The Cooperative Principle and Gricean Maxims

Before discussing *implicature*, we first need to talk about the Cooperative Principle and the Gricean maxims.

- 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.

  - In plain English: Be a helpful, cooperative speaker!

  - According to Grice, there are 4 maxims (or rules) that speakers must follow in order to abide by the Cooperative Principle: Quantity, Quality, Relation, Manner.

Grice's Maxims

- The 4 maxims are already listed on Slide 16 of the Week 6 Lecture, but they are written here in plain English:

1. Quantity: Don't give too much or too little information.

2. Quality: Tell the truth. Don't say anything that you don't have evidence for.

3. Relation: Make statements that are relevant to the conversation.

4. Manner: Be clear and concise.

- Note that the maxims overlap to some extent. For example, part of being "clear and concise" (Manner) involves not giving too much information (Quantity).

Implicature

- Implicature: An inference listeners derive under the assumption that speakers are being cooperative (i.e., abiding by Grice's maxims)

- Example (The implicature of A is B):

A: I have 2 dogs.

B: I have exactly 2 dogs (not more than 2 dogs).

- A strongly implies B. If a speaker states A ("I have 2 dogs"), many listeners will assume that the speaker is being cooperative and abiding by the Maxim of Quantity. If the speaker had 5 dogs (i.e., more than 2 dogs), why wouldn't they be as informative as possible and state the exact number of dogs they had? Given this logic, many listeners will use A to infer that B is also true.

Implicature is Not the Same as Entailment!

- Implicature: an inference listeners derive under the assumption that speakers are being cooperative (i.e., abiding by Grice's maxims)

- Example (The implicature of A is B):

    A: I have 2 dogs.

    B: I have exactly 2 dogs (not more than 2 dogs).

- Note that A does not entail B in the example above. For example, let's say that in reality, I have 5 dogs - statement A would still technically be accurate, but B would be false. Statement A being true does not necessarily mean that B is also true.

The Cancellability Test: Teasing Apart Implicature From Entailment

- We can use the cancellability test to tease apart implicature from entailment and presupposition (Slide 41, Week 5 Lecture; Slide 20, Week 6 Lecture).

- Cancellability Test: Let's say that we have 2 statements: A and B.

    i. *Implicatures are cancellable:* If we follow A with a negated version of B and there is not a contradiction, then A implies B.

    ii. *Entailments and presuppositions are not cancellable:* If we follow A with a negated version of B and there is a contradiction, then A either entails (or presupposes) B.

Using the Cancellability Test on Entailments

- Example 1:

A: Buddy is a brown dog.

B: Buddy is a dog.

- Example 2:

A: Ian eats lunch every day.

B: Ian eats lunch on Mondays.

- Both Examples 1 + 2 are entailments. If A is true, then B is necessarily true.

- B is not cancellable. If A is followed by the negation of B, there is a contradiction.

- Example 1: “Buddy is a brown dog, but Buddy is not a dog” (A, then negation of B). This is a contradiction => B is not cancellable, not an implicature.

- Example 2: “Ian eats lunch every day, but Ian does not eat lunch on Mondays” (A, then negation of B). This is a contradiction => B is not cancellable, not an implicature.

Using the Cancellability Test on Implicatures

- Example 5:

  A: I have 2 dogs.

  B: I have exactly 2 dogs.

- Example 6:

  A: I ate some of the cookies.

  B: I didn't eat all of the cookies.

- In Examples 5 + 6, A implies B. If A is followed by the negation of B, there is no contradiction.

- Example 5: "I have 2 dogs, but I don't have exactly 2 dogs" (A, then negation of B). This is not a contradiction (the speaker could have 5 or 10 or 15 dogs and this would still be true) => B is cancellable and must be an implicature.

- Example 6: "I ate some of the cookies, and in fact, I ate all of the cookies" (A, then negation of B; note that a double negative is a positive). This is not a contradiction => B is cancellable and must be an implicature.

Check Your Understanding: Cancellability Test

- In one of the pairs of sentences below, A entails B. In the other pair, A implies B. Which is which? Use the cancellability test to check your answer.

Sentence Pair 1:

A: Natalie Portman speaks English, Hebrew, and Spanish.

B: Natalie Portman speaks more than 2 languages.

Sentence Pair 2:

A: Natalie Portman speaks English, Hebrew, and Spanish.

B: Natalie Portman does not speak Russian.

Check Your Understanding II:
Cancellability Test (A More Challenging Problem!)

- In one of the pairs of sentences below, A entails B. In the other pair, A implies B. Which is which? Use the cancellability test to check your answer.

Sentence Pair 1:

A: The pizza has ham or pineapple.

B: The pizza does not have both ham and pineapple.

Sentence Pair 2:

A: The pizza has ham or pineapple.

B: It is not true that the pizza has neither ham nor pineapple.

Come see me at office hours for the answers!

Implicature: Invoking the Maxim of Relation

- Implicature: an inference listeners derive under the assumption that speakers are being cooperative (i.e., abiding by Grice's maxims)

- Example (The implicature of A is B):

    Context: Someone asks, "Is Jamie dating anyone these days?"

    A: Well, she goes to Cleveland every weekend.

    B: Jamie is dating someone in Cleveland. [Unstated Implication]

- Statement A does not directly answer the question and thus violates the Maxim of Relation. However, assuming that the speaker is being cooperative, Statement A should somehow be *indirectly* relevant to the question. We can therefore infer that Jamie does have a partner and that they live in Cleveland (the implicature in B).

Let’s try Assignment 3, QB8!

In the following exchange, explain what the speaker means in the answer to the question. State why we know what the meaning is.

Speaker A: Is Tom a good philosopher?

Speaker B: He is always punctual.

Let’s try Assignment 3, QB9!

Read the exchange below. Did Speaker B go out with Speaker A? How could the conversation continue if the outcome is that B accepted to go out?

Speaker A: Let’s go out.

Speaker B: It’s raining.

A Special Type of Implicature: Scalar Implicature

- Attributes are often ordered in *scales*. Here are some examples:
    - Numeric Scale: <$0, $10, $20, $30, $40…>
    - Rating Scale: <terrible, bad, ok, good, amazing>
    - Color Scale: <very light blue, light blue, blue, dark blue, very dark blue>
- When we use a non-maximal attribute from a scale, we often derive a scalar implicature => that a higher attribute from the scale is not applicable.
    - Example: The food was good. => The food was not amazing.
    - In this example, “good” is a non-maximal (not the highest) attribute along the “rating scale”, and “amazing” is a higher attribute.

Scalar Implicature Continued

- We derive scalar implicatures because of the Maxim of Quantity. To be as informative as possible, we should use the highest attribute possible of a scale.

    - Example: The food was good. => The food was not amazing.

    - If the food was actually amazing (more than good) in reality, why wouldn't the speaker have been maximally informative and said so? We can thus infer that the food was only good and not amazing.

Answers to Assignment 3, QB3

Say what is implied in the following sentences. **Note that all of these are examples of scalar implicature!**

a. I often take sugar in my coffee. **Answer: I don't always take sugar in my coffee.**
- Temporal Scale: <never, sometimes, often, always>

b. I believe that John is away. **Answer: I'm not 100% sure if John is away.**
- Certainty Scale: <no idea, not sure, I believe, 100% sure>

c. Tom almost robbed a bank. **Answer: Tom did not rob a bank.**
- Scale: <did not rob a bank, almost robbed a bank, robbed a bank>

Check Your Understanding: Scalar Implicature

State the scalar implicature that is implied in the following sentences and state the relevant scale.

a. The coffee is warm.

b. The elephant is somewhat large.

c. Sam and Alicia are friends.

Come see me at office hours for the answers!

Presupposition

- Presupposition: An underlying assumption that must be satisfied in order for an utterance to make sense.

- Example (A presupposes B; B is the “underlying assumption”):

    A: The Amazon River runs through northern Europe.

    B: The Amazon River exists.

- Imagine if we lived in a world where the “Amazon River” did not exist. If this is the case, then Sentence A would not make sense - it would be silly to discuss where the “Amazon River” is located if there is no “Amazon River”!

Presupposition Triggers

- Presupposition Trigger: Word/phrase indicating the presence of a presupposition.

- Example (A presupposes B, where “stop” is the trigger):

  A: Alan **stopped** falling asleep at work.

  B: Alan used to fall asleep at work.

- Example (A presupposes B, where “again” is the trigger):

  A: The UFO came **again**.

  B: The UFO has appeared before.

The Projection Test: Teasing Apart Entailment and Presupposition

- Entailment and presupposition can be difficult to tease apart, but we can use the *projection test* to help us.

- Although the projection test was not technically covered during lecture, it is still useful for understanding the difference between entailment and presupposition (Assignment 3, QB3).

- Projection Test: Let's say that we have 2 statements: A and B.

    i. *Entailment:* If A is placed in an entailment-cancelling environment and B is no longer true, then A entails B.

    ii. *Presupposition:* If A is placed in an entailment-cancelling environment and B is still true (i.e., B projects), then A presupposes B.

Using the Projection Test on Entailments

- There are several different types of “entailment-cancelling” environments. A common example is negation.

- Example 1:

A: Buddy is a brown dog.

B: Buddy is a dog.

- Example 2:

A: Ian eats lunch every day.

B: Ian eats lunch on Mondays.

- Both Examples 1 + 2 are entailments. If A is true, then B is necessarily true.

- But Examples 1 + 2 are not presuppositions. If A is placed in an entailment-cancelling environment (e.g., if we negate A), then B doesn’t project (i.e., B is not necessarily true anymore).

- Example 1: If Buddy is not a brown dog (negation of A), then it is not necessarily the case that Buddy is a dog (B). Buddy could be a cat or a guinea pig.

- Example 2: If Ian does not eat lunch every day (negation of A), then it is not necessarily the case that Ian eats lunch on Mondays (B). Maybe Ian only eats lunch on Tuesday.

Using the Projection Test on Presuppositions

- There are several different types of “entailment-cancelling” environments. A common example is negation.

- Example 3:

  A: The UFO came again.

  B: The UFO has appeared before.

- Example 4:

  A: Alan stopped eating at work.

  B: Alan used to eat at work.

- In Examples 3 + 4, A presupposes B. For A to make sense, B must also be true.

- If we place A in an entailment-cancelling environment (e.g., if we negate A), then B projects (i.e., A still presupposes B).

- Example 3: Even if the UFO did not come again, B is still presupposed (i.e., we are assuming that the UFO has appeared before).

- Example 4: Even if Alan has not stopped eating at work, B is still presupposed (i.e., we are assuming that Alan used to eat at work).

Check Your Understanding: Projection Test

- In one of the two pairs of sentences below, A entails B. In the other pair, A presupposes B. Which is which? Use the projection test to check your answer.

Sentence Pair 1:

A: Sam regrets winking at Dave.
B: Sam winked at Dave.

Sentence Pair 2:

A: The flying saucer came yesterday.
B: The flying saucer came sometime in the past.

Come see me at office hours for the answers!

Using the Cancellability Test on Presuppositions

- Example 3:

  A: The UFO came again.

  B: The UFO has appeared before.

- Example 4:

  A: Alan stopped eating at work.

  B: Alan used to eat at work.

- In Examples 3 + 4, A presupposes B. For A to make sense, B must also be true.

- B is not cancellable. If A is followed by the negation of B, there is a contradiction.

- Example 3: “The UFO came again, but the UFO has never appeared before” (A, then negation of B). This is a contradiction => B is not cancellable, not an implicature.

- Example 4: “Alan stopped eating at work, but Alan never used to eat at work” (A, then negation of B). This is a contradiction => B is not cancellable, not an implicature.

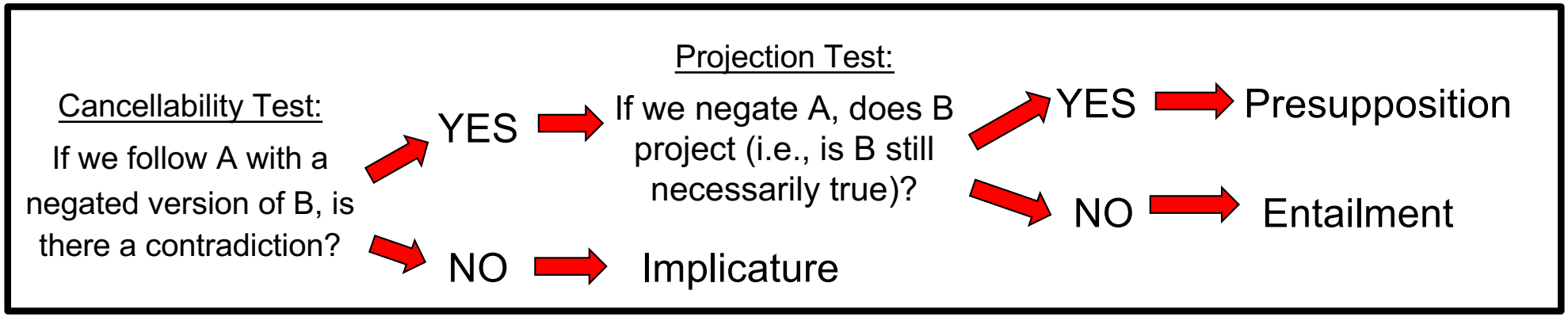
Summary: Types of Implication

- **Note that this slide contains the answer to Assignment 3, QB3 and QB4.**

Implication Type	Definition	Example
Entailment	If one sentence is true, then another sentence must also be true.	A: Buddy is a brown dog. B: Buddy is a dog.
Contradiction	If one sentence is true, then another sentence must be false.	A: Susan ate an apple yesterday. B: Susan did not eat an apple yesterday.
Paraphrase	When the same meaning is expressed with different words.	A: Bill read the book. B: The book was read by Bill.
Presupposition	An underlying assumption that must be satisfied in order for an utterance to make sense.	A: Alan stopped falling asleep at work. B: Alan used to fall asleep at work.
Implicature	An inference listeners derive under the assumption that speakers are being cooperative (i.e., abiding by Grice's maxims)	A: I have 2 dogs. B: I have exactly 2 dogs.

Summary: Projection and Cancellability Tests

- If we have 2 sentences (A and B), we can use the projection and cancellability tests to tell whether B is an entailment, presupposition, and implicature.



- Unlike presuppositions and entailments, implicatures are cancellable - we can negate them without a contradiction occurring.

- Unlike entailments, presuppositions project out of "entailment-cancelling" environments, such as negation.

Any questions, comments, or concerns?

Office Hours: Tuesday (10am-1pm), Thursday (12-3pm) in Kerr 261