

Truth and inference

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LING 405: Semantics and Pragmatics

8 September 2023

WA1: Expressive Meaning

Due by 11:59pm tonight!

- I'm asking for an expressive in a language other than English.
- Most words have some degree of expressive meaning, but some words *only* have expressive meaning. *Ouch*, *oops*, *wow*, and *yum* do not have sense or denotation – they *only* express how the speaker feels. These kinds of words, with only expressive meaning, are called expressives.
- Other languages have expressives, too. Find one, explain when it's used, and mention what language it comes from. Make it clear that you know what expressive meaning is.

What we'll cover.

- I. A quick review of sense and denotation
- II. Truth and inference

I. A quick review of sense and denotation

Two components of meaning we're interested in.

sense

|

context-free

|

like a dictionary definition

denotation

|

context-dependent

|

who/what the word points at

or

the set of everything it points at

To know the denotation of a word, you need to know the context it's used in.

sense

|

context-free

|

like a dictionary definition

referring expressions
(proper nouns,
pronouns)

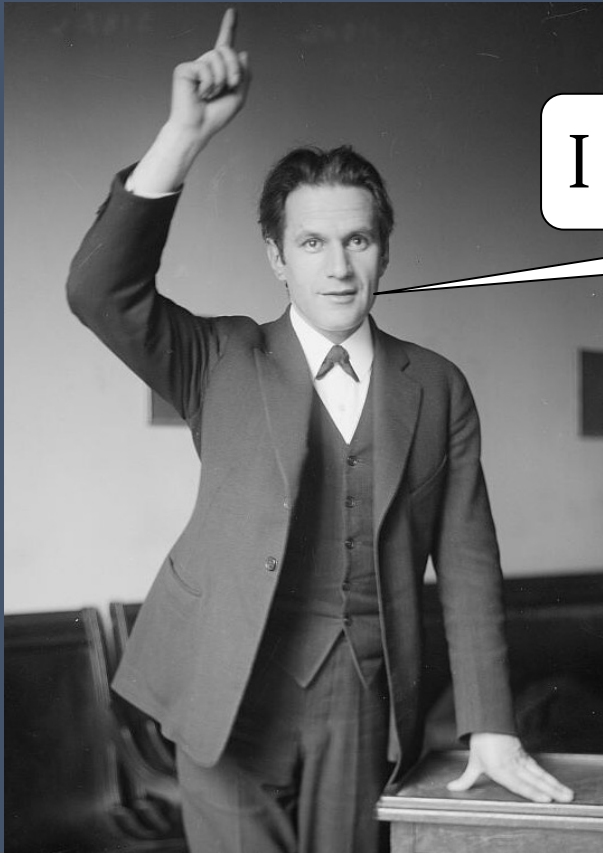
denotation

|

context-dependent

|

who/what the word points at
or the set of everything it points at



I love the President of the United States.

I: sense? denotation?

love: sense? denotation?

the President: sense? denotation?

Remember: to know the denotation of a word,
you need to know the context it's used in.

sense

|
context-free

|
like a dictionary definition

denotation

|
context-dependent

|
who/what the word points at
or the set of everything it points at

content words

dog

sense:

furry domesticated quadrupeds that bark and/or growl

denotation:

all the furry domesticated quadrupeds that bark and/or growl



sense

|

context-free

|

like a dictionary definition

denotation

|

context-dependent

|

who/what the word points at
or the set of everything it points at

the oldest man in the world

George Washington

dog

pizza

the professor

vegetables

my favorite color

good music

II. Truth and inference

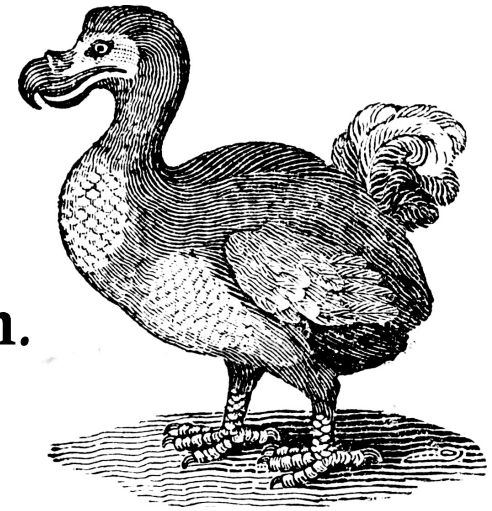
- The meaning of a simple declarative sentence is its **proposition**.
- A proposition can be true or false.

“Barack Obama is the King of England.”

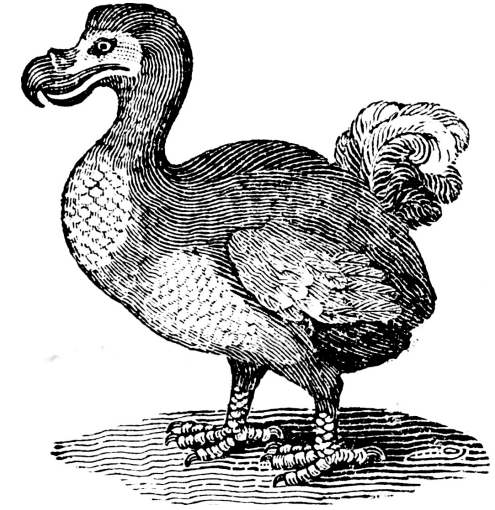
“The dodo is extinct.”

“My neighbor ate mashed potatoes last night.”

- When we know the meaning of a sentence, we may not know whether it's true or false...
- But we do know what conditions there'd have to be for it to be true or false.



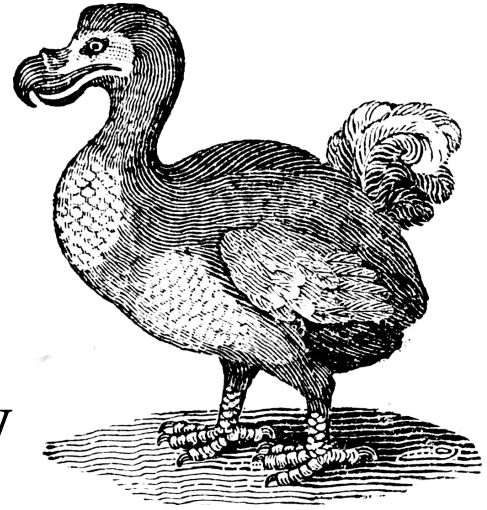
Analytic sentences



- What's an analytic sentence?
- An analytic sentence – aka a tautology – is true under all circumstances.
- In other words, no matter what the conditions of the world are, an analytic sentence is always true.
 - “Today is the first day of the rest of your life.”
 - “Que será será.” [‘What will be will be.’]
 - “When history calls, history calls.”
 - “No extinct species is still alive.”

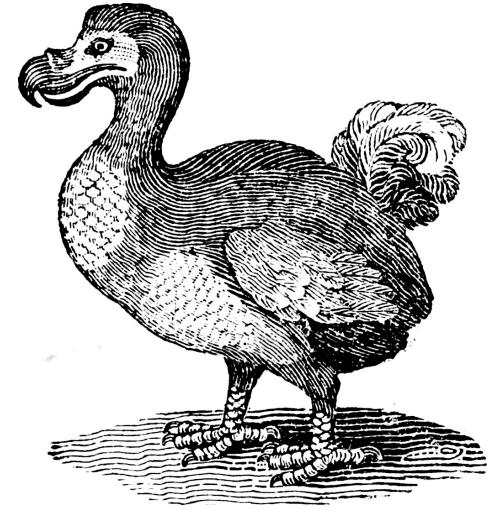
Contradictions

- What are contradictions?
- Contradictions are the opposite of analytic sentences. They are always false.
 - “Your children are not your children.”
 - “Flightless birds can fly.”
 - “The silence is quite loud.”
- If analytical sentences and contradictions are self-evidently true and false (respectively), what’s the point in ever saying them?
- They can serve a pragmatic purpose.



Synthetic sentences

- What are synthetic sentences?
- The vast majority of sentences can be true in certain circumstances, and untrue in others.
 - “I’m hungry.”
 - “King Henry VIII is snoring.”
 - “The package is on your doorstep.”
 - “The dodo bird lives on Mauritius.”
- We need to know something about the state of the world to assess the truth value of these sentences.



Practice! (p.48, q.1a)

- Are the propositions expressed by the following sentences analytic, synthetic, or contradictions?

My sister is a happily married bachelor.

Even numbers are divisible by two.

All dogs are brown.

All dogs are animals.

The earth revolves around the sun.

The sun is not visible at night.

Entailment

- What is entailment?
- Entailment is when, under all circumstances, whenever one sentence is true, another is true as well — and whenever one is false, the other must also be false.
 - a. “Edward VIII has abdicated the throne in order to marry Wallis Simpson.”
 - b. “Edward VIII is no longer the King.”
- The proposition expressed by sentence (a) entails the proposition expressed by sentence (b).



Entailment

We say that proposition p entails proposition q when:

- whenever p is true, it is logically necessary that q must also be true
- whenever q is false, it is logically necessary that p must also be false
- these relations follow directly from the meanings of p and q , and do not depend on the context of the utterance.

a. “Edward VIII has abdicated the throne in order to marry Wallis Simpson.”

b. “Edward VIII is no longer the King.”

- Does (b) entail (a)?



Entailment



- a. I broke your Ming dynasty vase.
- b. Your Ming dynasty vase broke.



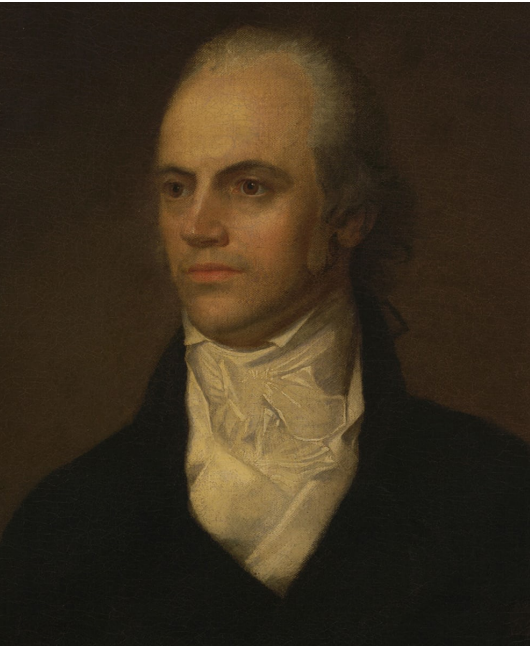
- a. Hong Kong is warmer than Beijing in December.
- b. Beijing is cooler than Hong Kong in December.

What's different about these two pairs of sentences?

In the second pair, (a) and (b) mutually entail one another.

Paraphrases

- When two propositions mutually entail one another, they are **synonymous** or **paraphrases** of one another.
- If either one's true, the other must be; if either one's false, the other must be.



“Aaron Burr outlived Alexander Hamilton.”

“Alexander Hamilton died before Aaron Burr did.”



Inconsistent propositions

- What does it mean for two propositions to be **inconsistent**?
- Two propositions that cannot both be true are called inconsistent. There are two types:
- If two propositions must have opposite truth values, they're **contradictory**.

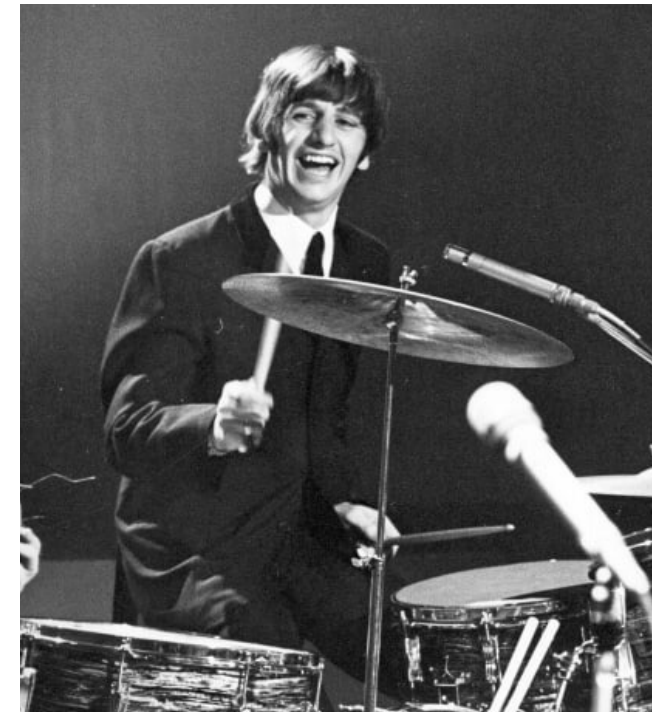
“Ringo Starr is my grandfather.”

“Ringo Starr is not my grandfather.”

- If two propositions can't both be true, but can both be false, they're **contrary**.

“Al is taller than Bill.”

“Bill is taller than Al.”



Independent propositions

- What does it mean for two propositions to be independent?
- Two propositions are independent when they are neither synonymous nor inconsistent.
- In other words, the truth condition of one is in no way dependent upon the truth condition of the other.

“I broke your Ming dynasty vase.”

“You loved your Ming dynasty vase.”



Practice! (p.49, q.1b)

- Identify the relationships between the following pairs of propositions (entailment, paraphrase, contradictory, contrary, independent)

John killed the wasp.
The wasp died.

The wasp is no longer alive.
The wasp is dead.

John studied.
John got an A.

John killed the wasp.
The wasp did not die.

Fido is a dog.
Fido is a cat.

Roger reads the book.
The book is unreadable.

The wasp is alive.
The wasp is dead.

Fido is a dog.
Fido has four legs.

Roger can read.
Roger is literate.

Presupposition



- a) I broke your Ming dynasty vase.
 - b) You have (or had) a Ming dynasty vase.
- In the above example, (a) presupposes (b).
 - Presupposition can seem at first quite similar to entailment, but it's actually very distinct.
 - Since we're off next week, I'd rather not cover presupposition today with entailment is still fresh in your minds. I don't want it to become too confusing as you work on the next writing assignment.
 - When we come back on the 22nd, we'll review entailment (and the other stuff from this week), then go in-depth about presupposition.

For September 22nd...

No class next week!

- (Re)read the Presupposition section of chapter 3 (pp.40–48).
- Complete writing assignment #2:

Write five pairs of sentences that meet the following specifications:

- 1a entails 1b.
- 2a and 2b are contrary.
- 3a and 3b are contradictory.
- 4a and 4b are paraphrases.
- 5a and 5b are independent.

Do not reuse sentences from the textbook or our slides.