



# Introduction

## Topical Preview and Unit of Analysis

### Semantics

- the proposition and truth conditions
- entailment, paraphrase
- denotation
  - intension
  - extension
- event schemas and semantic roles redux
- semantic primes
- ambiguity
- linguistic relativity

## Topical Preview and Unit of Analysis

### The Unit



Lexicology  
(the Word)



Morphology  
(the Morpheme)



Phonology  
(the Phoneme)



Phonetics  
(the Phone)



Syntax  
(the Sentence)



Semantics  
(the Proposition)

Icon: University of Waterloo

## Syntax and Semantics



Syntax  
(the Sentence)

- predication
- propositions
- assertions
- syntactico/semantic
- form: the appropriate arrangement of signifiers



Semantics  
(the Proposition)

- the content:  
the composite signification

Icons: University of Waterloo

## Syntax and Semantics

### Semantax

- sentence:  
expresses a complete ‘thought’; i.e., a proposition
- proposition:  
incomprehensible without form; i.e., a sentence



Egg: University of Waterloo; Chicken: wenchiawang/iStock/GettyImages

# Propositions and Truth Conditions

## Some Examples

### Propositions

- The cat is on the mat.
- Homer eats crap.
- Marge really makes the best gelatin towers.
- Patty and Selma have a secret undergarment.



Cat: wenchiawang/iStock/Thinkstock; Mat: University of Waterloo; Homer: Fox Flash (2006). "Homer Simpson". Wikimedia Commons.; Marge: Brooks, J. L., Groening, M., & Simon, S. (Executive Producers). (2012, April 17). Q: What is Marge's shoe size? A: 13AA. [Facebook, Timeline Photos] Retrieved from <https://www.facebook.com/TheSimpsons/photos/a.473850413696.246070.29534858696/10150696582228697/>; Patty & Selma: Brooks, J. L., Groening, M., & Simon, S. (Executive Producers). (2013, September 10). 'Patty and Selma crash back into Springfield at Level 35 with Disco Stu burning up dance floors in their wake. Play The Simpsons: Tapped Out today!' [Facebook, Timeline Photos] Retrieved from <https://www.facebook.com/TheSimpsons/photos/a.473850413696.246070.29534858696/10151666167153697/>

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## Some Examples

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- Homer eats crap.
- Marge really makes the best gelatin towers.
- **Patty and Selma have a secret undergarment.**



Cat: wenchiawang/iStock/Thinkstock; Mat: University of Waterloo; Homer: Fox Flash (2006). "Homer Simpson". Wikimedia Commons.; Marge: Brooks, J. L., Groening, M., & Simon, S. (Executive Producers). (2012, April 17). Q: What is Marge's shoe size? A: 13AA. [Facebook, Timeline Photos] Retrieved from https://www.facebook.com/TheSimpsons/photos/a.473850413696.246070.29534858696/10150696582228697.; Patty & Selma: Brooks, J. L., Groening, M., & Simon, S. (Executive Producers). (2013, September 10). Patty and Selma crash back into Springfield at Level 35 with Disco Stu burning up dance floors in their wake. Play The Simpsons: Tapped Out today! [Facebook, Timeline Photos] Retrieved from https://www.facebook.com/TheSimpsons/photos/a.473850413696.246070.29534858696/10151666167153697

## Truth Conditions

The cat is on the mat. **TRUE**

- ✓ There exists a cat.
- ✓ There exists a mat.
- ✓ The cat is located on the mat.



Cat: wenchiawang/iStock/Thinkstock; Mat: University of Waterloo

## Truth Conditions

The cat is on the mat. FALSE

- ✗ There exists a cat.
- ✗ There exists a mat.
- ✗ The cat is located on the mat.

If any of these are false  
then the expression is false.



Cat: wenchiawang/iStock/Thinkstock; Mat: University of Waterloo

## Truth Conditions

The cat is on the mat. FALSE

- ✗ There exists a cat.
- ✓ There exists a mat.
- ✓ The cat is located on the mat.

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Cat: wenchiawang/iStock/Thinkstock; Mat: University of Waterloo

## Truth Conditions

The cat is on the mat. FALSE

- ✓ There exists a cat.
  - ✗ There exists a mat.
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Cat: wenchiawang/iStock/Thinkstock; Mat: University of Waterloo

## Truth Conditions

The cat is on the mat. FALSE

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Cat: wenchiawang/iStock/Thinkstock; Mat: University of Waterloo

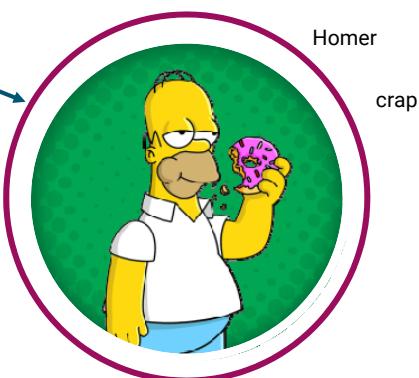
## Some Examples

Truth conditions

Proposition

Homer eats crap.

World



Homer: Fox Flash (2006) "Homer Simpson". Wikimedia Commons.; Finger: Noedelhap/iStock/Thinkstock

## Some Examples

Truth conditions

Proposition

Marge really makes the best gelatin towers.

World



Brooks, J. L., Groening, M., & Simon, S. (Executive Producers). (2012, April 17). Q: What is Marge's shoe size? A: 13AA. [Facebook, Timeline Photos] Retrieved from <https://www.facebook.com/TheSimpsons/photos/a.473850413696.246070.29534858696/10150696582228697>

## Some Examples

Truth conditions

Proposition

Patty and Selma have a secret undergarment.

World



Brooks, J. L., Groening, M., & Simon, S. (Executive Producers). (2013, September 10). *Patty and Selma crash back into Springfield at Level 35 with Disco Stu burning up dance floors in their wake. Play The Simpsons: Tapped Out today!* [Facebook, Timeline Photos] Retrieved from <https://www.facebook.com/TheSimpsons/photos/a.473850413696.246070.29534858696/10151666167153697>

# Entailment

## Definition of Entailment

A relation between sentences (X, Y), such that:

- if sentence X is true,
- sentence Y *must* be true,
- (Conversely, it is impossible for X to be true and Y be false.)

## An Example

X

I saw Maggie at the rave.

Y's = truth conditions for X

- There was a rave.
- Maggie was there.
- I saw Maggie.
- I have eyes.
- There was light at the rave.
- I have a visual cortex.
- ...



Maggie: Brooks, J. L., Groening, M., & Simon, S. (Executive Producers). (2015, March 21). *Caption this!* [Facebook, Timeline Photos] Retrieved from <https://www.facebook.com/TheSimpsons/photos/a.473850413696.246070.29534858696/10152787105933697>; Rave: zacky24/iStock/Getty Images

## Mutual Entailment

- X entails Y (if X is true, Y must be true)

and

- Y entails X (if Y is true, X must be true)

e.g.,

X: I saw Maggie at the rave.

X: There was a rave.

Y: There was a rave.

Y: I saw Maggie at the rave.

- X's and Y's

• I saw Maggie at the rave.

• Maggie, I saw at the rave.

• It was Maggie I saw at the rave.

• Maggie was seen by me at the rave.

} mutual entailment

Maggie: Brooks, J. L., Groening, M., & Simon, S. (Executive Producers). (2015, March 21). *Caption this!* [Facebook, Timeline Photos] Retrieved from <https://www.facebook.com/TheSimpsons/photos/a.473850413696.246070.29534858696/10152787105933697>; Rave: zacky24/iStock/Getty Images; Hand: Noedelhap/iStock/Thinkstock

## Paraphrase



Structural synonymy = mutual entailment

Different ways to say the same proposition:

- I saw Maggie at the rave.
- Maggie, I saw at the rave.
- It was Maggie I saw at the rave.
- Maggie was seen by me at the rave.

Maggie: Brooks, J. L., Groening, M., & Simon, S. (Executive Producers). (2015, March 21). *Caption this!* [Facebook, Timeline Photos] Retrieved from <https://www.facebook.com/TheSimpsons/photos/a.473850413696.246070.29534858696/10152787105933697/>; Rave: zacky24/iStock/Getty Images; Hand: Noedelhap/iStock/Thinkstock

# Lexical Meaning: Denotation and Connotation

## Denotation

Denotation ← set membership

The entities, actions, or qualities in the world picked out by the words.



The cat is on the mat.



I saw Maggie at the rave.

Parties at warehouses

Maggie: Brooks, J. L., Groening, M., & Simon, S. (Executive Producers). (2015, March 21). *Caption this!* [Facebook, Timeline Photos] Retrieved from <https://www.facebook.com/TheSimpsons/photos/a.473850413696.246070.29534858696/10152787105933697>; Party people: zacky24/iStock/Getty Images; Cat: wenchiawang/iStock/Thinkstock; Mat: University of Waterloo;

## Connotation

### Connotation

Distinct from truth value.

The feelings, attitudes, moods, implied by term.

connotations  
are all different

### Denotation

Picking members out of a set.

denotation  
↓  
{abstract set}  
↓  
world

Gay  
Queer  
Homo  
Homosexual  
Batting for the other team

denotations  
are the same

## Denotation: Intension and Extension

### Intension

- The definition
- The criteria of set membership

### Extension

- The members



### Criteria:

- functionality
- support
- legs

Hand: Noedelhap/IStock/Thinkstock; Chair: wenchiawang/IStock/Thinkstock

## Denotation: Intension and Extension

Phrase	Extension	Intension
Homer's daughter	Lisa Simpson Maggie Simpson	Female progeny of Homer Simpson.
The assistant to Monty Burns	Smithers	The individual paid to assist Montgomery Burns
Selma's secret under-garment	Rocket bra	An article of Selma's clothing that is intimate and known only to a few

## Denotation: Intension and Extension

Phrase	Extension	Intension
Prime Minister of Canada	Brian Mulroney Pierre Trudeau Jean Chrétien	Leader of governing party.
Stanley Cup Champions	Red Wings Stars Beelzebubs Avalanche	Winners of Canada's annual summer NHL tournament.
Capital of Manitoba	Winnipeg	City containing provincial legislature of Manitoba.

Hand: Noedelhap/Stock/Thinkstock

## Synonyms and Antonyms vis-à-vis Denotation

### Synonyms

Words which have largely the same intensions and extensions.

drunk  
inebriated



Hand: Noedelhap/iStock/Thinkstock; Barney Gumble: Fox Flash. Photo of The Simpsons character Barney Gumble.

## Synonyms and Antonyms vis-à-vis Denotation

### Antonyms

Words which have largely the same intensions, but with one crucial opposition.



man

Noun, human, adult  
male



woman

Noun, human, adult  
female

Naked: Baluchis/iStock/Thinkstock

## Homonyms and Polysemy

### Homonyms

Homonyms are orthogonal to denotation.

Words whose intensions (signifieds) have little or nothing in common, but whose phonetic forms (signifiers) are the same.



bear



bare

Bear: coffeeee-in/iStock/Thinkstock; Naked: Baluchis/iStock/Thinkstock

## Homonyms and Polysemy

### Polysemy

A signifier with a cluster of related intensions (signifieds).

#### **Bear (verb)**

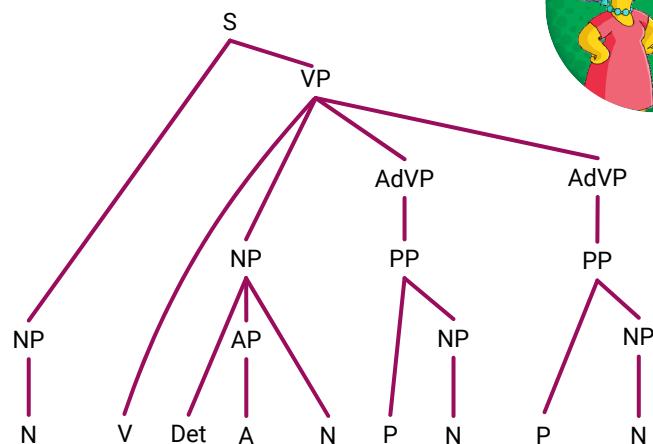
- It will bear over two tonnes.
- It bears fruit.
- She will bear a child.
- Cujo can't bear Quinn.
- She bears him a grudge.



Hand: Noedelhap/iStock/Thinkstock; Backpack: blueringmedia/iStock/Thinkstock

# Semantic Roles

## Example Sentence



**Patty mailed a crazy letter to Selma from Borneo.**

Patty and Selma: Brooks, J. L., Groening, M., & Simon, S. (Executive Producers). (2013, September 10). *Patty and Selma crash back into Springfield at Level 35 with Disco Stu burning up dance floors in their wake. Play The Simpsons: Tapped Out today!* [Facebook, Timeline Photos] Retrieved from <https://www.facebook.com/TheSimpsons/photos/a.473850413696.246070.29534858696/10151666167153697>

## Example Sentence



Agent  
(does the mailing)      Patient  
(gets mailed)      Goal  
(destination  
of mailing)      Source  
(origin of mailing)

Patty mailed a crazy letter to Selma from Borneo.

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## Event Schemas and Semantic Roles

- Being
  - Happening
  - Doing
  - Experiencing
  - Having
  - Moving
  - Transferring
- } Complex



Homer is large.

Predicates a trait

Homer on scale: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2014.; Homer drinking in bar: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2016.; Homer with six-pack: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2015.; Homer loves beer: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2016.; Homer smiling: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2015.; Dog: Fox Flash (2009). "Santa's Little Helper". Wikimedia Commons.; Hearts, Bone: University of Waterloo.

## Event Schemas and Semantic Roles

- Being
  - Happening
  - Doing
  - Experiencing
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  - Moving
  - Transferring
- } Complex



The beer gets consumed.

Predicates an occurrence

Homer on scale: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2014.; Homer drinking in bar: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2016.; Homer with six-pack: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2015.; Homer loves beer: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2016.; Homer smiling: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2015.; Dog: Fox Flash (2009). "Santa's Little Helper". Wikimedia Commons.; Hearts, Bone: University of Waterloo.

## Event Schemas and Semantic Roles

- Being
  - Happening
  - Doing
  - Experiencing
  - Having
  - Moving
  - Transferring
- } Complex



Homer is drinking.

Predicates an activity

Homer on scale: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2014.; Homer drinking in bar: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2016.; Homer with six-pack: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2015.; Homer loves beer: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2016.; Homer smiling: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2015.; Dog: Fox Flash (2009). "Santa's Little Helper". Wikimedia Commons.; Hearts, Bone: University of Waterloo.

## Event Schemas and Semantic Roles

- Being
  - Happening
  - Doing
  - Experiencing
  - Having
  - Moving
  - Transferring
- } Complex



Homer loves beer.

Predicates an experience

Homer on scale: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2014.; Homer drinking in bar: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2016.; Homer with six-pack: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2015.; Homer loves beer: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2016.; Homer smiling: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2015.; Dog: Fox Flash (2009). "Santa's Little Helper". Wikimedia Commons.; Hearts, Bone: University of Waterloo.

## Event Schemas and Semantic Roles

- Being
  - Happening
  - Doing
  - Experiencing
  - Having
  - Moving
  - Transferring
- } Complex



Homer has a six pack.

Predicates possession

Homer on scale: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2014.; Homer drinking in bar: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2016.; Homer with six-pack: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2015.; Homer loves beer: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2016.; Homer smiling: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2015.; Dog: Fox Flash (2009). "Santa's Little Helper". Wikimedia Commons.; Hearts, Bone: University of Waterloo.

## Event Schemas and Semantic Roles

- Being
  - Happening
  - Doing
  - Experiencing
  - Having
  - Moving
  - Transferring
- } Complex



Homer leaves.

Predicates motion

Homer on scale: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2014.; Homer drinking in bar: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2016.; Homer with six-pack: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2015.; Homer loves beer: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2016.; Homer smiling: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2015.; Dog: Fox Flash (2009). "Santa's Little Helper". Wikimedia Commons.; Hearts, Bone: University of Waterloo.

## Event Schemas and Semantic Roles

- Being
  - Happening
  - Doing
  - Experiencing
  - Having
  - Moving
  - Transferring
- } Complex



Homer throws  
the dog a bone.

Predicates motion with  
a destination

Homer on scale: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2014.; Homer drinking in bar: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2016.; Homer with six-pack: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2015.; Homer loves beer: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2016.; Homer smiling: Brooks, J. L., Groening, M., & Simon, S./Facebook, 2015.; Dog: Fox Flash (2009). "Santa's Little Helper". Wikimedia Commons.; Hearts, Bone: University of Waterloo.

## Event Schemas and Semantic Roles

Role	Definition
Agent	The entity that performs the action.
Experiencer	The entity that experiences the state.
Instrument	The object used to perform the action.
Patient	The entity undergoing the action; the object of the experience.
Source	The starting point for a movement.
Goal	The end point for a movement.
Location	The place an action happens.

## Grammatical vs. Semantic Roles



Subject	Verb	Object	WITH-Object
Homer <i>agent</i>	fed	the dog. <i>patient</i>	
Homer <i>experiencer</i>	loved	the dog. <i>patient</i>	
Homer <i>agent</i>	pleased	the dog. <i>experiencer</i>	
Homer <i>agent</i>	cleaned	himself <i>patient</i>	with the dog. <i>instrument</i>

Dog: Brooks, J. L., Groening, M., & Simon, S/Facebook, 2015; Hand: Noedelhap/iStock/Thinkstock

\*Grammatical Roles  
\*Semantic Roles

## References

Slide 4: Homer on scale: Brooks, J. L., Groening, M., & Simon, S. (Executive Producers). (2014, June 16). *D'oh!* [Facebook, Timeline Photos] Retrieved from <https://www.facebook.com/TheSimpsons/photos/a.473850413696.246070.29534858696/10152196533828697/>; Homer drinking in bar: Brooks, J. L., Groening, M., & Simon, S. (Executive Producers). (2016, April 20). *Kick back and relax today with episodes of The Simpsons* [http://fox.tv/WatchTheSimpsons]. [Facebook, Timeline Photos] Retrieved from <https://www.facebook.com/TheSimpsons/photos/a.473850413696.246070.29534858696/10153360744223697/>; Homer with six-pack: Brooks, J. L., Groening, M., & Simon, S. (Executive Producers). (2015, July 23). *If you're not here, you're not part of The Simpsons!* [Facebook, Timeline Photos] Retrieved from <https://www.facebook.com/TheSimpsons/photos/a.473850413696.246070.29534858696/10153058851608697/>; Homer loves beer: Brooks, J. L., Groening, M., & Simon, S. (Executive Producers). (2016, January 1). *Happy New Year! Have a great 2016.* [Facebook, Timeline Photos] Retrieved from <https://www.facebook.com/TheSimpsons/photos/a.473850413696.246070.29534858696/10153360744223697/>; Homer smiling: Brooks, J. L., Groening, M., & Simon, S. (Executive Producers). (2015, January 25). [Facebook, Timeline Photos] Retrieved from <https://www.facebook.com/TheSimpsons/photos/a.473850413696.246070.29534858696/10152968458033697/>; Dog: Fox Flash (2009). "Santa's Little Helper". Wikimedia Commons., Hearts, Bone. University of Waterloo.

Slide 6: Dog: Brooks, J. L., Groening, M., & Simon, S. (Executive Producers). (2015, November 8). *West Coast- Santa's Little Helper is begging you to watch an all-new episode of The Simpsons, right now!* [Facebook, Timeline Photos] Retrieved from <https://www.facebook.com/TheSimpsons/photos/a.473850413696.246070.29534858696/10153263218318697/>

Slide 7: Dog: Brooks, J. L., Groening, M., & Simon, S. (Executive Producers). (2015, November 8). *West Coast- Santa's Little Helper is begging you to watch an all-new episode of The Simpsons, right now!* [Facebook, Timeline Photos] Retrieved from <https://www.facebook.com/TheSimpsons/photos/a.473850413696.246070.29534858696/10153263218318697/>

# Semantic Primes

## Introduction and Some Conventions

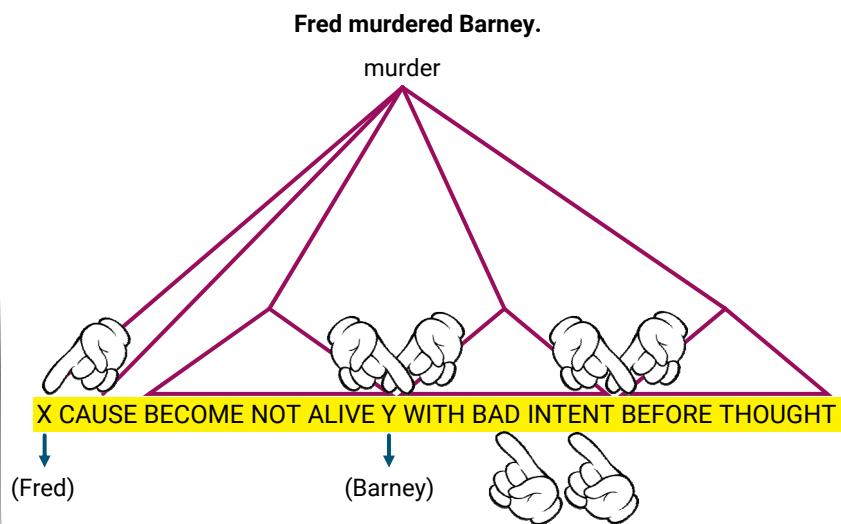
I	first person singular	BECOME
YOU	2 <sup>nd</sup> person singular	AND
SOMEONE	indefinite human	GOOD
WANT	desire for something	BAD
HEAR	resonating ear drum	WORD
NOT	opposite of something else	MALE
CAUSE	something causing something else	FEMALE
		HAVE

## Introduction and Some Conventions

alive ALIVE  
dead NOT ALIVE  
live BE ALIVE  
die BECOME NOT ALIVE  
kill CAUSE TO BECOME NOT ALIVE  
murder CAUSE TO BECOME NOT ALIVE WITH BAD INTENT BEFORE-THOUGHT  
assassinate CAUSE TO BECOME NOT ALIVE WITH BAD INTENT BEFORE-THOUGHT FOR SOCIAL INTENT

Hand: Noedelhap/iStock/Thinkstock

## Semantic Composition - Murder



Hand: Noedelhap/iStock/Thinkstock

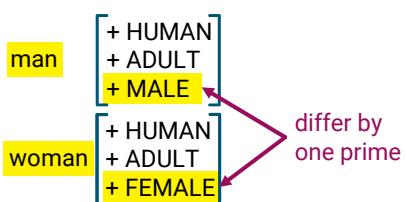
## Semantic Primes and Event Schemas

Event Schemas	Semantic Primes
Being	BE
Happening	HAPPEN
Doing	DO
Experiencing	FEEL
Having	OWN
Moving	GO
Transferring	CAUSE - GO

## Reductive Paraphrase

Expressing words in terms of their elemental semantic constituents.

Reducing words into semantic primes.



Semantic primes and **antonymy**

- Antonyms are words that differ on one semantic prime.
- up, down

UP, DOWN

Naked: Baluchis/iStock/Thinkstock

## Reductive Paraphrase

Expressing words in terms of their elemental semantic constituents.

Reducing words into semantic primes.

man	[+ HUMAN + ADULT + MALE]	[+ HUMAN + ADULT - FEMALE]
woman	[+ HUMAN + ADULT - MALE]	[+ HUMAN + ADULT + FEMALE]



Semantic primes and **antonymy**

- Antonyms are words that differ on one semantic prime.
  - up, down
- UP, DOWN

Naked: Baluchis/iStock/Thinkstock

## Reductive Paraphrase

Expressing words in terms of their elemental semantic constituents.

Reducing words into semantic primes.

Semantic primes and **homonymy**

bear, Noun

- ANIMATE, NOT HUMAN, 'ursus'

bare, Adjective

- NOT WEAR CLOTHES



Bear: coffeee-in/iStock/Thinkstock; Naked: Baluchis/iStock/Thinkstock; Hand: Noedelhap/iStock/Thinkstock

## Reductive Paraphrase

Expressing words in terms of their elemental semantic constituents.

Reducing words into semantic primes.

Semantic primes and **synonymy**

**drunk, Adjective**

- STUPEFIED, 'with alcohol'

**inebriated, Adjective**

- STUPEFIED, 'with alcohol'



Barney: Fox Flash. Photo of *The Simpsons* character Barney Gumble. Wikimedia Commons.

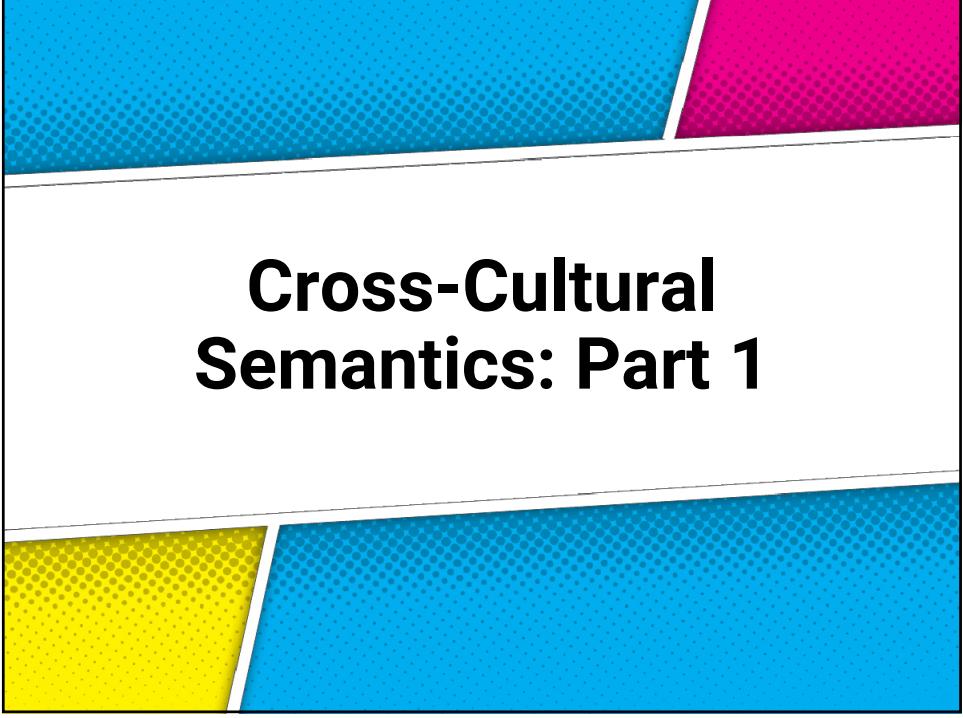
## Reductive Paraphrase

Expressing words in terms of their elemental semantic constituents.

Reducing words into semantic primes.

Semantic primes and **polysemy**

Semantic primes offer insight into all onomasiological phenomena.



# Cross-Cultural Semantics: Part 1

## How Languages Differ from One Another

How other communities means

- assert or implicate propositions
- establish truth values

How language means

## How Languages Differ from One Another

### Lexical differences

- cousin-brother (male cousin)
- crore (ten million)
- lakh (hundred thousand)
- Eve-teasing (harassment of women)
- godown (warehouse)
- Himalayan blunder (grave mistake)
- opticals (eyeglasses)
- nose-screw (woman's nose ornament)



India/Pakistan: mokhtari/iStock/Thinkstock

## Introduction to the Principle of Linguistic Relativity

Also called the "Whorfian hypothesis" after Benjamin Lee Whorf, author of *Language, thought, and reality*

"the principle of linguistic relativity holds that all observers are not led by the same physical evidence to the same picture of the universe, unless their linguistic backgrounds are similar, or can in some way be calibrated."

(*Language, thought, and reality*, 214)



Benjamin Lee Whorf

Benjamin Lee Whorf in The Hartford Agent magazine, page 129. (n.d.) Benjamin Lee Whorf papers, 1898–1971 (inclusive). Manuscripts & Archives, Yale University, New Haven, CT. Retrieved from <http://images.library.yale.edu/madid/showthumb.aspx?q=whorf>

## Introduction to the Principle of Linguistic Relativity

Also called the “Sapir-Whorf hypothesis” after Whorf’s teacher, Edward Sapir

“We see and hear and otherwise experience very largely as we do because the language habits of our community predispose certain choices of interpretation...

...The worlds in which different societies live are distinct worlds, not merely the same world with different labels attached.”

(*The status of linguistics as a science*, 162)



Edward Sapir

Edward Sapir (c. 1910). “Edward Sapir”. Public Domain via Wikimedia Commons.

## Introduction to the Principle of Linguistic Relativity

Also called the “Boas-Sapir-Whorf hypothesis” after Sapir’s teacher and sponsor, Franz Boas



Franz Boas

Franz Boas (c. 1915). “FranzBoas”. Public Domain via Wikimedia Commons.

## Introduction to the Principle of Linguistic Relativity

Also called the “von-Humboldt-Boas-Sapir-Whorf hypothesis” after Wilhelm von Humboldt, who influenced Boas

“Each language sets certain limits to the spirit of those who speak it; it assumes a certain direction and, by doing so, excludes many others.”

(*Humanist Without Portfolio: An Anthology of Writings of Wilhelm von Humboldt*, 245)



Wilhelm von Humboldt

Franz Krüger (c. 1835). "Wilhelm von Humboldt". Public Domain via Wikimedia Commons;

## Introduction to the Principle of Linguistic Relativity

“I find it gratuitous to assume that a Hopi who knows only the Hopi language and the cultural ideas of his own society has the same notions, often supposed to be intuitions, of time and space that we have, and that are generally assumed to be universal. In particular, he has no general notion or intuition of time as a smooth flowing continuum in which everything in the universe proceeds at an equal rate, out of a future, through a present, into a past...

In [the] Hopi view, time disappears and space is altered, so that it is no longer the homogeneous and instantaneous timeless space of our supposed intuition or of classical Newtonian mechanics.”

(*Language, thought, and reality*, 56, 58)



Benjamin Lee Whorf

Benjamin Lee Whorf in The Hartford Agent magazine, page 129. (n.d.) Benjamin Lee Whorf papers, 1898–1971 (inclusive). Manuscripts & Archives, Yale University, New Haven, CT. Retrieved from <http://images.library.yale.edu/madid/showthumb.aspx?q=whorf>

## Functional Bases for Lexicalization

Eskimo words for “snow”

- The Dictionary of the West Greenlandic Eskimo Language
  - qanik
  - aput
- Yup'ik Eskimo Dictionary
  - 24 under “very generous” construal
    - stuff for sinking habitually into
    - blizzard
    - avalanche



Hand: Noedelhap/iStock/Thinkstock; Snowflake: Muymuy/iStock/Gettyimages

## Functional Bases for Lexicalization

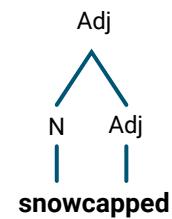
English words for “snow”

- |             |             |
|-------------|-------------|
| • snow      | • sleet     |
| • slush     | • snowstorm |
| • powder    | • flurry    |
| • hardpack  | • squall    |
| • corn      | • frost     |
| • avalanche | • hoarfrost |
| • blizzard  | • rime      |

## Functional Bases for Lexicalization

English words for “snow”

- snowflake
- snowdrift
- snowfall
- snowfort
- snowball
- snowbank
- snowcapped
- snow (= cocaine)
- snow (= tv noise)
- snow job
- snowed under
- Snow White



## English Word Quiz



## English Word Quiz

Write down as many words as you can think of for:



**breast**

**:00**

Please advance to  
the next slide

## English Word Quiz

Write down as many words as you can think of for:



**vagina**

**:00**

Please advance to  
the next slide

## English Word Quiz

Write down as many words as you can think of for:



**penis**

**:00**

Please advance to  
the next slide

## English Word Quiz

Write down as many words as you can think of for:



**shoulder**



**knee**

**:00**

Please advance to  
the next slide

## Lexical elaboration

Lexical elaboration: Languages tend to elaborate through lexicalization those terms that are most meaningful to its speakers

**breast**

**vagina**

**penis**

**shoulder**

**knee**

# Cross-Cultural Semantics: Part 2

## In Search of the Navajo Worldview

### Navajo Kinship (partial)

?akso:t

hakso:t

no:yeh

ha:nih

hakhno:she

ake:hak



Grandmothers: Kharlamova/IStock/Thinkstock

## Navajo and Motion

Navajo and Motion

‘e:h-hah (one moves into clothing)

(one dresses)

na-hah (one moves about here and there)

(one lives)

‘ani:-na-ha (one moves about newly)

(one is young)

ha-di-‘a:h (to move words out of an enclosed space)

(sing)

## Navajo and “Obligation” and “Control”

Navajo and “Obligation”

English: I must go there.

Navajo: It is only good that I go there.

Navajo and “Control”

English: I am riding the horse.

Navajo: The horse runs for me.



Horse Riding: Askold Romanov/iStock/Gettyimages

## In Search of the Navajo Worldview

Navajo Worldview (Weltsicht)

What is it?

Who knows?

It's not the same as the Standard  
American English (SAE) worldview

Is it compatible with the SAE worldview?

Sometimes

## Navajo and English “Control”

Navajo and “Control”

✓ The horse kicked the mule.

yiztał = (sort of) kick

The horse controlled the action.

The horse struck the mule with its foot/feet.

The mule did not help bring this action about.

✓ The mule kicked the horse.

✓ The man kicked the horse.

✗ The horse kicked the man.



Farm Animals: VectorGift/iStock/Thinkstock

## Navajo and English “Control”

Navajo and “Control”

✓ The horse kicked the mule.

yiztał = (sort of) kick

~~The horse controlled the action.~~

**The horse struck the mule with its foot/feet.**

~~The mule did not help bring this action about.~~

✓ The mule kicked the horse.

✓ The man kicked the horse.

✗ The horse kicked the man.



Farm Animals: VectorGift/iStock/Thinkstock

## In Search of the Navajo Worldview

Role	Definition
Agent	The entity that performs the action
Experiencer	The entity that experiences the state
Instrument	The object used to perform the action
Patient	The entity undergoing the action; the object of the experience
Source	The starting point for a movement
Goal	The end point for a movement
Location	The place an action happens

### yiztał

- Mules and horses, reciprocal agency  
non-human-animate ⇔ non-human-animate
- Humans and horses (and mules), unilateral agency  
human => non-human-animate



## Colour Terms and the Linguistic Relativity

Dani (2-colour system)  
Ejagham (3-colour system)  
Mu'ra-Piraha (4-colour system)  
Cheyenne (5-colour system)  
Candoshi (6-colour system)  
English (>6-colour system)

Hand: Noedelhap/iStock/Thinkstock

## Colour Terms and the Linguistic Relativity

Colour, Language, Perception

Dark and Light



2 colour terms

Colour



6+ colour terms

Boat docked at sunset: Elenathewise/iStock/Getty Images; Hand: Noedelhap/iStock/Thinkstock

## Colour Terms and the Linguistic Relativity

Dani (2-colour system)

black white

Ejaghgam (3-colour system)

black white red

Mu'ra-Piraha (4-colour system)

black white red GRUE

Cheyenne (5-colour system)

black white red yellow GRUE

Candoshi (6-colour system)

black white red yellow green blue

English (>6-colour system)

black white red yellow green blue etc.

Hand: Noedelhap/iStock/Thinkstock

## Colour Terms and the Linguistic Relativity

2-colour  
system

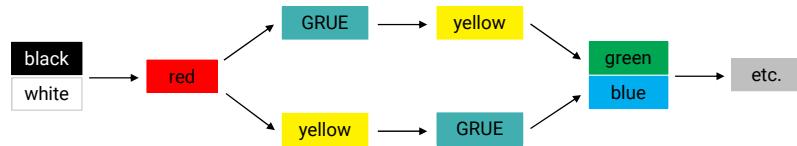
3-colour  
system

4-colour  
system

5-colour  
system

6-colour  
system

+6-colour  
system



There is something about the world, our brains, or our eyes  
(or some combination thereof) that constrains lexicalization.

Hand: Noedelhap/iStock/Thinkstock

## Colour Terms and the Linguistic Relativity

"The principle of linguistic relativity holds that all observers are not led by the same physical evidence to the same picture of the universe, unless their linguistic backgrounds are similar, or can in some way be calibrated."

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## Colour Terms and the Linguistic Relativity

### Cross-Linguistic Calibrators

- semantic primes
- semantic roles
- event schema
- perception
- (goodwill, common-interests, ...)

## Conclusion

### Linguistic Relativity Hypothesis

#### Strong form

- language determines thought
- speakers of different languages inhabit different, mutually inaccessible realities

} Translation is impossible



#### Weak form

- language influences thought

} There are cultural misunderstandings



Strong/Weak man: November\_Seventeen/iStock/Thinkstock

# Review

## Review

- The proposition and truth conditions
- Entailment, paraphrase
- Denotation
  - Intension
  - Extension
- Event schemas and semantic roles redux
- Semantic primes
- Ambiguity

} Correlated with  
truth value