

# Foundations of Language Science and Technology (FLST)

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PD Dr.Valia Kordoni

Email: [kordoni@coli.uni-sb.de](mailto:kordoni@coli.uni-sb.de)

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# Linguistic Foundations

## Language Ambiguity: a Curse and a Blessing

# What does Language Ambiguity mean

- Something is ambiguous when it can be understood in two or more possible senses or ways

# Lexical Ambiguity

- If the ambiguity is in a single word it is called **lexical ambiguity**
- Examples of lexical ambiguity are everywhere
- In fact, almost any word has more than one meaning

# Lexical Ambiguity: Examples

- "Note" = "A musical tone" or "A short written record"
- "Lie" = "Statement that you know it is not true" or "present tense of lay: to be or put yourself in a flat position"

# Lexical Ambiguity: Examples

- "ambiguity" = an indecision as to what one means, an intention to mean several things, a probability that one or other or both of two things has been meant, and the fact that a statement has several meanings
- Ambiguity tends to increase with frequency of usage

# Structural Ambiguity

- If the ambiguity is in a phrase or a sentence it is called **structural ambiguity**
- "John enjoys painting his models nude."  
Who is nude?
- "Visiting relatives can be so boring."  
Who is doing the visiting?
- "Mary had a little lamb." With mint  
sauce?

# Polysemy

- This happens when a word acquires a wider range of meanings
- "paper" comes from the Greek *papyrus*. Originally it referred to writing material made from the papyrus reeds of the Nile, later to other writing materials, and now it refers to things such as government documents, scientific reports, family archives or newspapers



# Polysemy

- "complementary polysemy" = a single verb has multiple senses, which are related to one another in some predictable way
- "bake" = a change-of-state verb or a creation verb in different circumstances.  
"John baked the potato" (*change-of-state*)  
"John baked a cake" (*creation*)

# Denotation

- This is the central meaning of a word, as far as it can be described in a dictionary
- It is therefore sometimes known as the **cognitive** or **referential** meaning
- The denotation of "silly" today is not what it was in the 16th century. At that time the word meant "happy" or "innocent"

# Connotation

- Connotation refers to the psychological or cultural aspects;
- the personal or emotional associations aroused by words.
- *vicious* = originally derived from *vice*, it meant "extremely wicked." In modern British usage, however, it is commonly used to mean "fierce," as in *the brown rat is a vicious animal*

# Implication

- What the speech intends to mean but does not communicate directly
- The listener can deduce or infer the intended meaning from what has been uttered
- Example from David Chrystal:  
Utterance: "A bus!" → Implicature (implicit meaning): "We must run."

# Metaphor

- This refers to the non-literal meaning of a word, a clause or sentence
- Metaphors are very common
- In fact all abstract vocabulary is metaphorical
- A metaphor compares things
- Examples: "blanket of stars"; "out of the blue"

# Metaphor

- A metaphor established by usage and convention becomes a symbol
- Thus *crown* suggests the power of the state, *press* = the print news media and *chair* = the control (or controller) of a meeting

# Metonym

- A word used in place of another word or expression to convey the same meaning
- Example: the use of *brass* to refer to military officers

# Allegory

- The expression by means of symbolic fictional figures and actions of truths or generalizations about human existence;
- "Moby Dick" by Herman Melville = the great white whale is more than a very large, aquatic mammal; it becomes a symbol for eternity, evil, dread, mortality, and even death, something so great and powerful that we humans cannot even agree on what it might mean



# Homonym

- When different words are pronounced, and possibly spelled, the same way
- Examples: *to*, *too*, *two*;
- *bat* the animal, *bat* the stick, and *bat* as in the bat the eyelashes

# Homophone

- Where the pronunciation is the same (or close, allowing for such phonological variation as comes from accent) but standard spelling differs, as in *flew* (from *fly*), *flu* ("influenza") and *flue* (of a chimney)

# Homograph

- When different words are spelled identically, and possibly pronounced the same
- Examples: *lead* the metal and *lead* = what leaders do

# Paradox

- A statement that is seemingly contradictory or opposed to common sense and yet is perhaps true;
- a self-contradictory statement that at first seems true;
- an argument that apparently derives self-contradictory conclusions by valid deduction from acceptable premises

# Paradox

- Example:

I do not love you except because I love  
you;

I go from loving to not loving you,  
From waiting to not waiting for you  
My heart moves from cold to fire."

*Pablo Neruda*

# Ambiguity in (Computational) Linguistics

- (Computational) linguists are obsessed with ambiguity
- Ambiguity is a fundamental problem of (computational) linguistics
- Resolving ambiguity is a crucial goal

# Ambiguity in (Computational) Linguistics

- Find at least 5 meanings of this sentence:

I made her duck

# Ambiguity in (Computational) Linguistics

- The 5 meanings:

I cooked waterfowl for her benefit (to eat)

I cooked waterfowl belonging to her

I created the (plaster?) duck she owns

I caused her to quickly lower her head or  
body

I waved my magic wand and turned her  
into undifferentiated waterfowl



# Ambiguity is Pervasive

- I caused her to quickly lower her head or body

**Lexical category:** “duck” can be a N or V  
I cooked waterfowl belonging to her.

**Lexical category:** “her” can be a possessive (“of her”) or dative (“for her”) pronoun

I made the (plaster) duck statue she owns

**Lexical Semantics:** “make” can mean “create” or “cook”

# Ambiguity is Pervasive

- **Grammar:** *make* can be:

**Transitive - (verb has a noun direct object):** I cooked [waterfowl belonging to her]

**Ditransitive - (verb has 2 noun objects)**  
I made [her] (into) [undifferentiated waterfowl]

**Action-transitive - (verb has a direct object and another verb)**  
I caused [her] [to move her body]

# Ambiguity is Pervasive

- **Phonetics!**

I mate or duck  
I'm eight or duck  
Eye maid; her duck  
Aye mate, her duck  
I maid her duck  
I'm aid her duck  
I mate her duck  
I'm ate her duck  
I'm ate or duck  
I mate or duck