INTD0112
Introduction to Linguistics

Lecture #11
March 22th, 2007

Announcements

- Don't forget:
  Your midterm is due tomorrow by 4:15pm.

Some aspects of morphological typology

Tense

- Tense can be defined as a relation of event time to speech time.
- The main distinctions are between past and non-past, or future and non-future, though some languages will have more fine-grained distinctions within "past" or "future".

Tense

- English:
    - a. I work$_\emptyset$.   (present)
    - b. I work*ed*.   (past)
    - c. I *will* work.   (future)
- Lithuanian:
    - a. dirb-*u*   "I work"
    - b. dirb-*au*   "I worked"
    - c. dirb-*siu*   "I will work"

Tense

- Some languages do not mark tense on the verb. Rather they use time expressions and modality markers for that. Burmese is an example:
    - a. sãneineì-taìñ   myeʔ hpyaʔ-te
      Saturday-every grass cut-REALIS
      "He cuts the grass every Saturday."

Tense

b. da-caúñmoú mã-la-ta
    that-because not-come-REALIS
    "because of that they didn't come."

c. mãneʔhpañ sá-me
    tomorrow   begin-IRREALIS
    "We will begin tomorrow."

Tense

- Chibemba (Bantu) changes the verb to indicate if the event took place before yesterday, yesterday, earlier today, or if it just happened. And it has a similarly fine-grained scale for future as well:

Chibemba past tense system

a. Remote past (before yesterday):
    Ba-àlí-bomb-ele "they worked"
b. Removed past (yesterday):
    Ba-àlíí-bomba "they worked"
c. Near past (earlier today):
    Ba-àcí-bomba "they worked"
d. Immediate past (just happened) :
    Ba-á-bomba "they worked"

Chibemba future tense system

a. Immediate future (very soon):
    Ba-áláá-bomba "they"ll work"
b. Near future (later today):
    Ba-léé-bomba "they"ll work"
c. Removed future (tomorrow):
    Ba-kà-bomba "they"ll work"
d. Remote future (after tomorrow):
    Ba-ká-bomba "they"ll work"

Mood

- Mood is a grammatical category through which speakers of a language can indicate whether they believe that an event or a state actually occurs, does not occur, or had the potential to occur.

Mood

- *Indicative* mood asserts the truth of a proposition, e.g., "It is raining."
- *Subjunctive* mood typically indicates an attitude of uncertainty on the part of the speaker or a hypothetical situation, e.g., "It is essential that it rain."
- Commands are said to be in the *imperative* mood.

Modality

- Modality has to do with obligation/desire (deontic), or with degrees of possibility (epistemic) regarding an event.

  > John must come tomorrow.

  > We really should go now.

  vs.

  > John must have left the door open.

  > My guess is that it should rain tomorrow.

Evidentials

- Some languages indicate epistemic modality by means of morphological markers, called evidentials, e.g., Tuyuca (Brazil and Colombia):

  > a. díga   apé-*wi*

  >   soccer play-VISUAL

  >   "He played soccer (I saw him)."

Evidentials

b. díga   apé-*ti*

   soccer play-NON-VISUAL

   "He played soccer (I heard him playing)."

c. díga   apé-*yi*

   soccer play-APPARENT

   "He played soccer (I have evidence but I didn't actually witness the game in any way)."

Evidentials

d. díga   apé-*yigi*

   soccer play-SECONDHAND

   "He played soccer (Someone told me)."

e. díga   apé-*hiyi*

   soccer play-ASSUMED

   "He played soccer (It seems reasonable that he did)."

Semantics

Semantics

- Semantics is the study of meaning. But, …

  What is the meaning of meaning?

- Good question, but like so many other good questions in semantics, it probably doesn't have an answer. But let's try.

Meaning as "definition"

- Where do you go to find out the meaning of a word you don't know?
- Exactly: To the dictionary, e.g.,
    an *ectomere* is "a blastomere that develops into ectoderm."
- So, dictionaries really define a word in terms of other words listed in the dictionary, which are, in turn, defined in terms of other words listed in the dictionaries, and so on and so forth.

Dictionary meaning

- This sort of circularity can really be interesting sometimes:
    pride is "the quality or state of being proud"
    proud is defined as "feeling or showing pride"
- Dictionary entries thus give paraphrases of the meaning of a word in terms of other words. They do not explain the meaning of a word in terms of something more basic.

Meaning as a mental image

- Perhaps then the meaning of a word is whatever mental image it brings in the mind, e.g., *Mona Lisa*.
- But the same word may invoke different mental images to different people, e.g., *lecture* for you and *lecture* for me.
- Also, what do you think of when I say *bird*?
- And what mental images come to mind when I say *forget*, *the*, and *syntax*?

Connotation

- Maybe the meaning of a word is the set of associations that come to mind when the word is uttered, aka **connotation**.
- For Vermonters, what does the word *winter* mean?
    bitter cold, snow shoveling, skiing, etc.
- But what if you move to California? Would the word *winter* lose its meaning then?
- Of course not. So, there's more to the meaning of a word than its connotation.

Denotation

- Maybe the meaning of a word, then, is its **denotation**, that is, the set of entities it refers to.
- Under that approach, the denotation of *winter* is the season between the fall and the spring.
- The problem with this approach is that there are expressions that refer to the same entity but they cannot be said to have the same meaning:
    The former governor of Texas
    The president of the United States

Denotation

- And how about:
    The morning star is the evening star.
    The morning star is the morning star.
  We probably don't want to say these two sentences have the same meaning, do we?
- Finally, consider:
    The king of France is bald.
    I met two *unicorns* last night.

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Extension and intension

- So, perhaps we want to make a distinction between the *extension* and *intension* of an expression.
- The extension of an expression is the set of entities that the expression picks out in the real world, whereas the intension of an expression is the inherent properties that it has.
- For example, the extension of the word *man* is the set of men in the world, while its intension involves notions such as [human] and [male].

Extension and intension

- So, can we see now how the earlier puzzles are resolved under this approach?
  a. *The former governor of Texas*
     The president of the United States
  b. *The morning star is the evening star.*
     The morning star is the morning star.
  c. *The king of France* is bald.
     I met two *unicorns* last night.

OK, but …

- Have we really explained what meaning is?
  Not really!

- Ok, let's try again, then, though this time more precisely: How can we represent the intension of an expression?
  Answer: *Semantic Decomposition.*

Semantic decomposition

- Semantic decomposition (aka *componential analysis*) is an approach to the analysis of meanings in terms of *semantic features*.
- As we did in phonology, semantic features are also binary, whose presence or absence is represented by "+" and "-," respectively.
- Let's look at a few examples.

Semantic decomposition

- The words *man* and *woman*, for instance, can be decomposed as follows:

man	woman
$\begin{bmatrix} + ANIMATE \\ + HUMAN \\ + MALE \\ + ADULT \end{bmatrix}$	$\begin{bmatrix} + ANIMATE \\ + HUMAN \\ - MALE \\ + ADULT \end{bmatrix}$

Semantic decomposition

- Similarly, the words *boy* and *girl* can be decomposed as follows:

boy	girl
$\begin{bmatrix} + ANIMATE \\ + HUMAN \\ + MALE \\ - ADULT \end{bmatrix}$	$\begin{bmatrix} + ANIMATE \\ + HUMAN \\ - MALE \\ - ADULT \end{bmatrix}$

Semantic decomposition

- How about *dog*?

  dog

$$\begin{bmatrix} + \textit{ANIMATE} \\ - \textit{HUMAN} \\ + \textit{CANINE} \end{bmatrix}$$

Semantic decomposition

- An obvious advantage of semantic decomposition is to allow us to group entities in natural classes, therefore allowing us to state generalizations.
- For example, only [+HUMAN] entities can be used as subjects of verbs like *marry*, *argue*, or *run for president*.

Semantic decomposition

- This allows us to explain cases of semantic anomaly (conventionally indicated by a "!" in front of a sentence):
  - a. *John ate the burger*.
  - b. !*The burger ate John*.
  - c. !*John ate the table*.
- Why are (b, c) semantically anomalous?
- Because "eat" requires its subject to be [+ANIMATE] and its object to be [+EDIBLE].

Verb meaning and structure

- Decomposition of meaning can also help explain certain asymmetries that human languages exhibit with regard to the ability of some verbs to occur in particular syntactic structures, as in the following examples from English:

Verb meaning and structure

- *throw* the boy the package
  toss
  kick
  fling
- **push* the boy the package
  *pull
  *lift
  *haul

- There are limits of course to componential analysis of meaning; still, it has proven quite helpful in certain domains of word meanings.

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Semantic relations

- Another domain for the study of meaning of words is the so-called *semantic* (or *lexical*) *relations*.
- Semantic relations are relationships that hold between a word and other words in the lexicon of a language. There are several types of such relations. We discuss the main ones next.

Synonymy

- Synonymy is the relationship between two or more words that have the same meaning (which are called synonyms), e.g. *liberty* and *freedom*; *apathetic* and *indifferent*

Antonymy

- Antonymy is the relationship between two words that have opposite meanings, e.g. *tall* and *short*; *good* and *bad*.
- There are three types of antonyms:

Gradable antonyms

- **Gradable antonyms**: These can occur in the comparative and superlative forms of adjectives, e.g. *old/older/oldest* vs. *young/younger/youngest*.
- With these antonyms the negative of one antonym is not synonymous with the other, e.g. *not happy* does not necessarily mean *sad*.

Complementary (or non-gradable) antonyms

- **Complementary** (or **non-gradable**) **antonyms**: These cannot occur in the comparative and superlative forms of adjectives, e.g. *alive* but not **more alive*; *dead* but not **more dead*.
- They are called complementary antonyms because the meaning of one necessarily entails the absence of the other, e.g. *alive = not dead*; *dead = not alive*.

Relational antonyms

- **Relational antonyms**: These display a symmetry in their meaning, e.g. if X is Y's *husband*, then Y is X's *wife*.
- The same applies to pairs such as *give/receive*; *buy/sell*; *teacher/pupil*.

Hyponymy

- **Hyponymy** is an inclusion relation, where the meaning of one word includes the meaning of another, e.g. the meaning of *dog* necessarily includes the meaning of *animal*.
- The same applies to *apple/fruit*; *car/vehicle*.

Polysemy

- Polysemy arises when one word has related multiple meanings, e.g.,

    a deposit

  Meaning #1: minerals in the earth

  Meaning #2: money in the bank
- Another example is all the related meanings of the word *mark* in English.

Homophony

- Two words are homophonous when they have the same pronunciation but different meanings. One example is *bank* (of a river)/*bank* (a financial institution).
- Other examples include *tale/tail*; *flour/flower*; *m*eet/*meat*.

The role of context

- Polysemy and homophony may lead to *lexical ambiguity*, e.g.,

    He went to the bank.
- In actual speech, though, context will make it clear which meaning is relevant.

WordNet

- A very good website for word meanings and lexical relations is WordNet. It's worth checking out.

Sentential meaning

- So far, we've been looking at word meaning. But meaning also exists at the sentence level.
- As it turns out, there are also semantic relations among sentences in human language. We discuss three of these here.

Paraphrase

- Two sentences that have the same meaning are said to be *paraphrases* of each other, such that if one is true, the other necessarily has to be true as well, e.g.,
    - 1a.   The police arrested the murderer.
    - 1b.   The murderer was arrested by the police.

    - 2a.   I gave my linguistics book to Amy.
    - 2b.   I gave Amy my linguistics book.

Contradiction

- A contradiction holds between two sentences if their meanings are mutually exclusive, that is, if one is true, the other has to be false, e.g.,

    John is a bachelor.

    John is a married man.

Entailment

- Entailment holds between two sentences if the truth of one guarantees the truth of the other, e.g.,

    The dictator was executed.

    The dictator is dead.

Thematic relations

- Another aspect of semantic interpretation at the sentential level has to do with the relations between the parts of a sentence and the event that it describes.

Thematic relations

- Consider for example the following sentence:
    The boy kicked the ball.
- Syntactically, we know that *the boy* is subject and *the ball* is object. But semantically, we also know that *the boy* is **Agent** (entity that does the action) and *the ball* is **Theme** (entity affected by the action). Agent and Theme are called the thematic roles of the verb *kick*.
- Notice that if the verb was passivized, the grammatical functions change, but the same thematic relations hold:
    The ball was kicked by the boy.

Thematic relations

- Other thematic relations include **Source**, **Goal**, and **Location**:
    - a. **He** carried **the package** from **NY** to **LA**.
      Agent   Theme   Source Goal

    - b. He did his laundry at the laundromat.
      Agent   Theme   Location

Next class agenda

- Syntax: Chapter 5

Abbreviations used on the slides

REAL = realis
IRREAL = irrealis

References

- Whaley, L. 1997. *Introduction to typology: The unity and diversity of language*. Sage Publications.