

INTD0112

Introduction to Linguistics

Lecture #13
Oct 21st, 2009

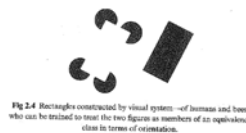
Announcements

- Midterm is now posted. It's due next Wednesday Oct 28th. It covers our discussion of the nature of human language, phonetics, phonology, and morphology (no syntax). It has 14 exercises; so start early.
- Review session will be held this Saturday from 11am to 12:30pm in the library, Room 201. I'll be there at 11am. If nobody shows up by 11:15, I'll head out for my brunch.
- I'll answer questions on the midterm and on any of the 3 first assignments during the review session.
- Assignment 3 will be returned to you by Friday afternoon at the latest.

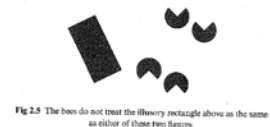
A visual puzzle

- http://www.magicmgmt.com/gary/oi_pac_tri/#

Visual puzzles (Nieder 2002)



Images from Isac and Reiss's book "I-Language"



A rat behavior puzzle (Seth Roberts)

- Press a lever for food 40 seconds after hearing a tone.
- Press a lever for food 40 seconds after seeing a light.
- Ok, Ratty, here's 20 seconds of sound, followed by 20 seconds of light. What are you going to do?

And your point is ... ?

- Something that I've been stating repeatedly, but now you should have seen evidence for it in language:
We need **abstraction**.

Morphophonological puzzles

- Phonetically different sounds are perceived as similar: [t] in *star*, [t^h] in *tar*, [ɾ] in *butter*, and [t̚] in *bat*.
- Phonetically similar sounds are perceived as different: [ɹ] in *waiting*, and [r] in *wading*.
- Turkish vowel harmony: An abstract vowel that is non-pronounceable needs to be posited for the plural morpheme:

$$l \begin{bmatrix} V \\ - \text{High} \\ - \text{Round} \end{bmatrix} r$$

A couple of more puzzles

Let's look at another puzzle (from Isac and Reiss)

- Do you know if anyone is here yet?
I know Mary is here.
- Do you know if anyone is here yet?
I know Mary's here. (so, *copula contraction is possible*)
- Do you know if anyone is here yet?
I know Mary is. (so, *deletion of predicate is possible*)
- Do you know if anyone is here yet?
**I know Mary's.* (hmmm ... ???)

Maybe it's phonetic deficiency?

- Let's see:
Do you know anyone's mother?
I know Mary's.

Maybe the contracted form can not be followed by a pause?

- But:
Do you know if anyone is here yet?
**I know Mary's and Bill's coming soon.*
- Or:
**I know Mary's but she has to leave soon.*

Solution?

- Well, what does a pause and "and/but" have in common?
- Right. They mark a clause boundary. So, perhaps this is the right generalization, then:
Copula contraction is not possible at a clause boundary.
- Eureka. But look what we did. We had to rely on an abstract concept to explain the puzzle: The notion of "clause," we had to refer to "structure." Our explanation was "**structure-dependent**."

**Another puzzle:
Let's form a yes-no question**

- *John must leave.*
Must John leave?
- Rule #1 (structure-independent): Invert the first word and the second word of a declarative sentence to form a yes-no question.
- Does it work?
This boy must leave.
**Boy this must leave?*

**Another puzzle:
Let's form a yes-no question**

- Rule #2 (structure-independent): Move the auxiliary verb of a declarative sentence to the front to form a yes-no question.
- Does it work?
This boy must leave.
Must this boy leave?
- But:
The boy should have left.
Should the boy have left?
And also:
**Have the boy should left?*
- Can we do better?

**Another puzzle:
Let's form a yes-no question**

- Rule #3 (structure-independent): Move the first auxiliary verb of a declarative sentence to the front to form a yes-no question.
- Does it work? How about this?
The boy who must leave has been sick.
**Must the boy who leave has been sick?*
- This is not English, obviously.

**Another puzzle:
Let's form a yes-no question**

- Rule #4 (structure-dependent): Invert the auxiliary verb of the **main clause** and its subject to form a yes-no question.
- Does it work?
[_{main-clause} *The boy* [_{sub-clause} *who must leave*] *has been sick*].
Has the boy who must leave been sick?
- That worked. But we had to refer to “structure.”

One more puzzle: wanna-contraction

- Who do you want to kiss?
Who do you *wanna* kiss?
- Who do you want to kiss Mary?
**Who do you wanna kiss Mary?*
- Compare: I want to kiss Mary.
I *wanna* kiss Mary.

SYNTAX
is the study of sentence structure
in human language.

Syntax

- There are several aspects of syntactic knowledge that native speakers have about their language.
- We have already seen that in the puzzles about contraction and question-formation.
- Let's look at some more examples.

Syntactic knowledge: Grammaticality

- Native speakers know what is grammatical and what is ungrammatical in their language, e.g.,
The silly man hit the nice woman.
**Silly hit man the nice the woman.*

Syntactic knowledge: Grammaticality

- Remember too from Assignment#1 that **grammaticality does not depend on meaning**. A sentence can be grammatical even if it is meaningless, e.g.
Colorless green ideas sleep furiously.
- Similarly, we can figure out the meaning of an ungrammatical sentence, e.g.
The boy quickly in the house the ball found.
- These two facts seem to suggest that **syntax is an autonomous system**, that is, it has its own rules independent of meaning.

Syntactic knowledge: Ambiguity

- Our syntactic knowledge also enables us to understand cases of **ambiguity**. Remember these sentences?
Anne hit the man with an umbrella.
Visiting relatives can be a nuisance.
We need more honest politicians.
This is a large man's hat.

Syntactic knowledge: Sentence relatedness

- Our knowledge of the syntax of our language also enables us to know cases of **synonymy** or **near-synonymy** between sentences, as the case is with active and passive sentences:
John broke the window.
The window was broken by John.
- The same also applies to pairs of sentences like this one, where again two different structures have the same meaning:
John gave a book to Mary.
John gave Mary a book.

Syntactic knowledge: Sentence relatedness

- Another case of sentence relatedness is that between statements and questions:
They will be in London tomorrow.
Will they be in London tomorrow?

Syntactic knowledge: Recursiveness

- Recall also that our use of language is **creative**, that is, we are able to produce and understand an **infinite** number of sentences, even though our linguistic resources are finite: Wilhelm von Humboldt's famous phrase "infinite use of finite means."
- Remember also that a sentence in human language could in principle be **recursively infinite** as in the following example:

This is the dog that chased the cat that killed the rat that ate the cheese that was on the table that was in the room that ...

Cross-linguistic variation (e.g., in word order)

- And as we have seen with phonology and morphology, languages can also differ dramatically in their syntax.
- **English:**
The child might think that she will show Mary's picture of John to Chris.
- **Japanese:**
Taroo-ga Hiro-ga Hanako-ni zibun-no
Taroo-SU Hiro-SU Hanako-to self-POSS
syasin-o misetato omette iru
picture-OB showed that thinking be
"Taro thinks (literally, is thinking) that Hiro showed a picture of himself to Hanako."

Syntax

- For our theory of grammar to be adequate, it has to account for the different aspects of native speakers' subconscious syntactic knowledge.
- In addition, it should also tell us why languages differ in their sentence structures the way they do.
- And this is what the study of syntax is about.

Constituency

- A sentence is not a random sequence of words; rather, every sentence has a **syntactic structure**.
- And the key notion to understanding syntactic structure is that of **constituency**. Let's see what this means.

Constituency

- Consider the following sentence:
The linguist has drawn a tree.
- If I ask you to divide the sentence into two units, where would you draw the line?
- Right:
(1) The linguist | has drawn a tree.

Constituency

- Intuitively, we "know" that certain words "hang together" in the sentence to the exclusion of others. We call such strings of words "**constituents**".
- And we can actually determine constituency by means of "objective" diagnostic tests. Let's consider a couple of these tests.

Substitution test for constituency

- If a string of words can be replaced by one word and the result is a grammatical sentence while preserving the original meaning, then it must be that this string of words comprises a “constituent”.

Substitution test for constituency

- (2) a. [The linguist] has drawn a tree.
✓*He* has drawn a tree..
b. The [linguist has drawn a tree].
*The ???
c. [The linguist has] drawn a tree.
*??? drawn a tree.
d. [The linguist has drawn a] tree.
*??? tree.
e. The linguist [has drawn a tree].
The linguist *has*.

Substitution test for constituency

- (3) a. [The tall boy] ate the burrito.
✓*He* ate the burrito.
b. The tall boy ate [the burrito].
✓The tall boy ate *it*.
c. [The tall boy ate] the burrito.
*??? the burrito.
d. The tall boy [ate the burrito].
✓The tall boy *did (so)*.
e. The tall boy ate the burrito [in the classroom].
The tall boy ate the burrito *there*.

Movement test for constituency

- If a string of words can be moved together in a sentence, then this string of words comprises a “constituent”:
- (4) a. We will hold the meeting [in Sam’s office].
In Sam’s office we will hold the meeting .
b. We will hold [the meeting in Sam’s office].
**The meeting in Sam’s office* we will hold.

Movement test for constituency

- c. I know he will [eat the whole pizza], and
eat the whole pizza he will.
d. *I know he [will eat the] whole pizza, and
will eat the he whole pizza.
e. I read [this book by Chomsky] before.
This book by Chomsky I read before.
f. I read this book [by Chomsky before].
**By Chomsky before* I read this book.

Clefting

- Clefting (*It is X that ...*) may also be used a constituency diagnostic:
This linguist drew several trees on the board.
It is **this linguist** that drew several trees on the board.
It is **several trees** that this linguist drew on the board.
It is **on the board** that this linguist drew several trees.
*It is **trees on** that this linguist drew the board.
*It is **linguist drew** that this several trees on the board.

Next class agenda

- More syntax. Phrase structure and syntactic trees.
- Continue reading O'grady *et al*'s chapter 5 from the book on reserve.