

INTD0112 Introduction to Linguistics

Lecture #17
April 19th, 2007

Announcements

- Apparently, the Korean sentence (c) is not aligned right in the exercise on the textbook website. It should probably look like this:
Sue-ka chinkwu eykey chayk-ul ilkessta.
Sue-NOM friend to book-ACC read
- So, please take a note of that.
- Also, assignment #6 will be posted tomorrow.

First language acquisition cont.

- Children go through some stages until they finally converge on the adult grammar.
- At each stage, however, the child's language is constrained by what is possible in human language.
- In terms of the continuity hypothesis, child language is different from adult language only in ways in which adult languages are different from each other.

So, how do children acquire language?

Imitation?

- Most people, including those you saw at the beginning of Part II of the Human Language Series movie, believe that children learn language by imitation.
- You should've seen by now how this view cannot be right.
- For one thing, if we learn language by imitation, how do we end up producing sentences we have never heard before?

Imitation?

- Also, child language does include innovations (e.g., overgeneralizations and overextensions). Where do these come from?
- Children are also known for their resistance to correction, or simply ignoring it, as in the following exchanges.

"Incorrigible" children

■ **Exchange #1 (from McNeill 1966):**

Child: Nobody don't like me.

Parent: No, say 'nobody likes me.'

Child: Nobody don't like me.

[repeats eight times]

Parent: No, now listen carefully; say 'nobody likes me.'

Child: Oh! Nobody don't likes me.

"Incorrigible" children

■ **Exchange #2 (from Braime 1971):**

Child: I want other one spoon, daddy.

Parent: You mean, you want the other spoon.

Child: Yes, I want other one spoon, please Daddy.

Parent: Can you say 'the other spoon'?

Child: Other...one...spoon

Parent: Say 'other'

Child: Other

Parent: 'Spoon'

Child: Spoon

Parent: 'Other spoon'

Child: Other...spoon. Now give me other one spoon?

"Incorrigible" children

■ **Exchange #3:**

Child: My teacher holded the baby rabbits and we patted them.

Adult: Did you say that the teacher held the baby rabbits?

Child: Yes.

Adult: What did you say she did?

Child: She holded the baby rabbits and we patted them.

Adult: Did you say she held them tightly?

Child: No, she holded them loosely.

Reinforcement?

- Could it be that children learn language because they are positively and negatively reinforced in their use of language?
- The previous exchanges obviously show that children cannot be possibly learning language by reinforcement. They are not even paying attention to this alleged reinforcement.

Reinforcement?

- Notice incidentally that reinforcement seldom occurs in language acquisition. Experiments show that parents correct their children more on the *truth-value* of children's utterances rather than on the *grammaticality* of these utterances.
- So, "*The dog wants to eat*" may receive the response "*No, the dog doesn't want to eat*" if the dog has just finished its dinner, whereas "*Robin goed to school*" may receive the response "*Yes, she did*" if Robin did go to school that day.

Reinforcement?

- Finally, reinforcement, even when it occurs, only tells the child what the correct form is, but it does not tell the child why it is correct. The child has to figure out the rules for her language by some other means.

Analogy?

- Could it be that we learn language by analogy?
- Well, this is a question on your homework, but you should be able to know the answer if you have already watched the movie.

Is it motherese?

- Could it be that children manage to learn language because adults speak to them in a simplified language, often called *motherese* or *caregiver speech*.
- While motherese might help children match morphemes, words, and phrases with meanings, due to its slow and carefully articulated nature, there is good evidence that its effect on acquisition is not that significant.

Is it motherese?

- For one thing, in many cultures adults do not actually use a form of motherese when speaking with children, and in others babies are hardly talked to, but this does not seem to affect the normal acquisition of language by children.
- At the same time, bound morphemes and nonlexical categories are relatively frequent in motherese, yet they remain absent from child language for a while.

So, what is it?

- We've already given the answer throughout the semester: The complexity and abstractness of linguistic knowledge forces us to assume that we come to the acquisition task with prior knowledge to learn language.
- This prior knowledge is what we called UG: principles and parameters.

UG

- Under the principles and parameters approach, children actively construct the grammar of their language on the basis of the primary linguistic data around them.
- Universal principles of grammar constrain the space of possible hypotheses for the child, and binary parameters help the child converge on the linguistic properties of her language.

UG

- The virtue of this approach is that we can actually run experiments on children to find out whether they know these general and abstract principles of UG.
- As an example, we discuss children's knowledge of binding principles.

Binding in child language

- We have already discussed Binding Principles A and B:
- *Principle A:*
An anaphor must be bound by a c-commanding NP in its domain.
- *Principle B:*
A pronoun cannot be bound by a c-commanding NP in its domain.

Binding in child language

- It turns out from a naturalistic study of the occurrence of *me* and *myself* in the language of three children aged 2 to 5 that very few violations of these two principles actually occur in children's speech.
- Children misused *me* only about 5% of the time (e.g., *I see me*), and misused *myself* less than 1% of the time (e.g., *you hurt myself*).

Binding in child language

- Experimental studies were also conducted to test children's knowledge of binding principles, and in particular, Binding Principle C, which we haven't actually talked about yet. Let's do this now.

Binding Principle C

- Consider the binding possibilities in the following two sentences:
 - a. $John_i$ says that $he_{i/j}$ likes pizza.
 - b. He_i says that $John_{-i/j}$ likes pizza.
- What do you think the generalization here is? Maybe an NP cannot be coreferential with a pronoun that precedes it?
But:
 - c. $His_{i/j}$ mother says that $John_i$ likes pizza.

Binding Principle C

- The correct generalization is again tree-geometric: An NP like *John* cannot be coreferential with a c-commanding element in the sentence it is in.
- In sentence (b) coreference is not possible because the pronoun *he* does c-command *John*.
- In sentence (a), *he* does not c-command *John*, hence coreference is possible.
- In sentence (c), c-command again does not obtain, and coreference becomes possible.

Binding Principle C in child language

- So, do children know Binding Principle C?
- An experiment run by Stephen Crain and Rosalind Thornton show that they do.

Some principles have to be innate

"Suppose that we find a particular language has the property P... Suppose, furthermore, that P is sufficiently abstract and evidence bearing on it sufficiently sparse and contrived so that it is implausible to suppose that all speakers, or perhaps any speakers, might have been trained or taught to observe P or might have constructed grammars satisfying P by induction from experience. Then it is plausible to postulate that P is a property of [the acquisition device]."

(Chomsky 1977:65)

And, ...

UG is not only manifest in the oral-aural modality. It can be manifest in the manual-visual modality as well.

Sign language systems

- Sign language is the term used to refer to the system of sign communication that develops naturally by the deaf.
- Notice that in that sense sign language is different from artificial systems that are created to facilitate communication between the deaf and the hearing community, e.g., finger-spelling or Manual English.

Misconceptions

- For long, people have had all sorts of wrong ideas and misconceptions about sign language systems.
- In the rest of this class we discuss these misconceptions and we show how the study of sign languages is so important to the study of human language in general.

Misconceptions

- Misconception #1: There is one sign language spoken all over the world.
- Wrong. There are many sign languages all over the world, quite different from one another. The relationship of sign to meaning may not be quite as arbitrary as it is for spoken language, but there is still great room for variation. American Sign Language is different from British Sign Language, and both are different from Italian Sign Language.

Misconceptions

- Misconception #2: American Sign Language (ASL) is just a system for spelling out English.
- Wrong again. ASL is its own language with its own linguistic system, exhibiting features that bear no typological relationship to English.

Misconceptions

- Misconception #3: Sign languages are not as complex as spoken languages.
- Wroooooong. Sign languages are natural languages with all the subcomponents of grammar. They have a phonology (yes, that's right), morphology, and syntax. They also have the full range of expression of spoken languages, as evidenced by a full range of language artifacts like stories and poems.

Sign languages are natural languages

- Modern interest in sign languages was sparked by William Stokoe's (1960) *Sign Language Structure*, where he showed how ASL have systematic organization that strongly parallels the phonological structure of spoken languages.
- From that time on, more work has been done both on ASL as well as other sign languages.

Sign language phonology

- Stokoe identified 4 components of signs in ASL
 - a. handshape
 - b. hand orientation
 - c. location
 - d. movement
- Change any of these 4 and you change the meaning of the word. For example, The signs CANDY, APPLE, and JEALOUS, have the same location, movement, and orientation, and are distinguished only by their handshape (see Figure 7.1 on the sheet distributed in class from Jackendoff's book Patterns in the Mind).

Sign language phonology

- The signs for CHINESE and ONION have handshapes and twisting motion identical to CANDY and APPLE, respectively, but in a different location (see Fig. 7.2).
- The signs for NAME, SHORT, and EGG are all made with the same handshape, location, and orientation. The first two are made with different motions of the right hand; the last is made with motion of both hands (see Fig. 7.3).

Iconicity

- A couple of quick notes here.
- Notice that signs in ASL are somewhat related to the things they refer to in the world. In that sense, they are considered *iconic*.
- Spoken languages, by contrast, are non-iconic. The relation between form and meaning is arbitrary. Onomatopoeic words represent a tiny fraction of words in a language.

Simultaneity

- Notice also that sign languages allow simultaneous articulation of signs.
- Spoken languages do not have this luxury, since sounds have to come out in sequence.

Phonotactics

- As in spoken languages, there are constraints on the combinations of elements within a sign.
- For example, while the finger group or the index-plus-middle-finger group may occur in a morpheme, a sequence of these two shapes is prohibited within a morpheme in ASL.

Assimilation

- In compounds in ASL, assimilation may also take place between two consecutive signs.
- See the example of OVERSLEEP as a compound of SLEEP and SUNRISE in your textbook, p. 347, where assimilation in hand orientation takes place.

Prosody in sign languages

- Like in spoken language phonology, where stress, pitch of voice, and intonation represent features of speech, sign languages use similar "prosodic" features such as *body posture, facial expression, pauses, increases and decreases of speech rate, and timing of emphasis.*

Prosody in sign languages

- For example, the following three sentences have the same sequence of hand signs in ASL:
 - a. THE WOMAN LEFT HER BOOK.
 - b. DID THE WOMAN LEAVE HER BOOK?
 - c. THE WOMAN DIDN'T LEAVE HER BOOK.
- The difference is signaled by the face. The statement in (a) is accompanied by a neutral expression. The question in (b) is signaled by a brow raise, widened eyes, and frequently a tilting forward of the head or whole body. The negative sentence in (c) is signaled by a side-to-side headshake and frequently by drawing the brows together.

Sign language morphology

- One interesting phenomenon in ASL has to do with the forms of the verb. ASL verbs will typically include much more information than what a verb in English would do. In that sense, ASL is more synthetic than English.
- Consider the examples for "I ask you" vs. "You ask me". Fig 7.4 on the sheet.

Sign language morphology

- The direction of motion in the verb's sign can be altered, so that it begins at the location in signing space for the subject and ends at that for the object.
- Not only that. If the subject and object are pronouns, they can be omitted altogether as separate signs.
- Hmm... Sounds familiar, huh!

“I show you” vs. “You show me”

I SHOW YOU.

YOU SHOW ME.

Aspectual morphology

- The motion of the verb can be inflected to show whether the action takes place at a point in time, over a long period of time, incessantly, repeatedly, or habitually.
- Example: LOOK AT, Fig. 7.5 on the sheet.

Distribution over time

- The motion of the verb can express how the action is distributed among a group of individuals over time.

I SHOWED ALL OF YOU.

Compounding

- Compounds in English have a different stress pattern from regular Adj + N strings, e.g.,
 - 'black 'bird
 - 'blackbird
- Same in ASL: Compounds exhibit altered timing and reduction in form, e.g.,
BLUE + SPOT “bruise”

Sign language syntax

- ASL uses both the *wh-movement* and the *wh-in-situ* strategies to form questions (as in French):
WHO BILL SEE YESTERDAY?
BILL SEE WHO YESTERDAY?
- Wh-questions are accompanied by a facial expression with furrowed brows and the head tilted back. Cf. the role of I-to-C movement in English and similar languages.

Sign language acquisition

- In one study of the acquisition of wh-questions in ASL, researches found that children easily learned the rules associated with the wh-phrase (they would move it sometimes, or leave it in situ at other times). But the children typically omitted the non-manual marker, in a comparable fashion to children omitting auxiliaries from wh-questions in English and related languages.

Sign language acquisition

- Hearing children of deaf parents acquire both sign language and spoken language when exposed to both. For example, Canadian bilingual children who acquire *Langues de Signes Quebecoise* (LSQ), develop the two languages exactly as bilingual children acquiring French and English.

Language change of sign language

- Like spoken languages, sign languages also undergo change. ASL has actually changed from what it was at the turn of the century.
- One change has to do with the signing space in ASL. In Old ASL, all of the body and the space around it was used in signing. Today's signing space is more restricted, occurring mainly in front of the body within reach of the arms when they are bent at the elbow.

Language change of sign language

- Particular signs also undergo change. Signs that used both hands on the head (e.g., COW) now use only one hand. Figure 8.
- Signs that formerly used one hand on the periphery of the signing space (e.g., DIE), now use two. Figure 9

Sing languages have "accents" and "dialects"

- See the "accent" difference for ABOUT, and the "dialect" difference for FOOTBALL. Figures 10 and 11.

Link to ASL browser

<http://commtechlab.msu.edu:16080/sites/aslweb/browser.htm>

Next class agenda

- Historical linguistics: chapter 7.