INTD0111A

The Unity and Diversity of Human Language

Lecture #5
Feb 23rd, 2009

Announcements

- Homework assignment #1 is available on the course website. It's due Wed March 4th in class, or by e-mail no later than 5pm.
- Policy on delay in turning in assignments:
  5% off if turned in after the deadline on the day it's due (that means prior to midnight via e-mail only).
  10% off if turned in on the next day after the deadline.
  20% off if turned in later than that.
  Not accepted after I post the solutions (I know this is self-evident, but just in case)

Announcements

- Should you have questions, please do come to my office hours, Mon and Fri from 11:15am to 12:45pm, or e-mail to schedule an appointment at other times.

- Also, a reminder: The second talk in the Language Works series is this Friday at 12:15pm in the same room in RAJ.

Announcements

- For your Language Adoption Project (LAP), you may want to have a look at "*The world atlas of language structures*", which is available in the main library at the Main Atlas Case G1046.E3 W6 2005.
- Should you fall in love with one particular language there, you'll have to start looking for a descriptive grammar of that language, and if it's not available in our library, then order it through the inter-library loan service.
- I have also posted links to lists of some descriptive grammars for different languages on the course website.

So, where are we?

So, where are we?

"Mrs. Advocate walks in."

- "Hi …"
- "Hi …"

So, where are we?

- Human language is different from other communication systems by virtue of having a set of distinctive "design features."
- Hypothesis: Humans are endowed with a language faculty.
- Evidence for the language faculty so far:
    - a. *the poverty of the stimulus argument.*
    - b. *uniformity of first language acquisition.*
    - c. *the double dissociation argument.*

The "critical period" hypothesis

- Ever wondered why you're having hard time learning a foreign language, even though you had no trouble whatsoever learning your first language?
- Well, if language is a biological system, we have an answer: Certain biological abilities follow a timetable and then get "turned off" or at least "degrade" considerably, as Eric Lenneberg suggested for language in 1967.

The "critical period" hypothesis

- The visual system of cats.
- The birdsong of the chaffinch.

- **Mrs. Advocate**: "Excuse me, Mr. Linguist! That sounds good and all, but we are human; we're not birds or little kittens. The important question is: What happens to a human that gets deprived from language exposure?"

- Well, the point of these examples is that biological systems can actually degrade over time. As for depriving a child from language, we obviously cannot experiment with that. It's unethical.
- As it turns out, however, nature can be unethical sometimes. So, let's see.

The "critical period" hypothesis

- The cases of "wild children".
- **Isabelle** discovered at the age of 6 with no language skills, but within a year she learned to speak and was able to function normally in school.
- **Genie** discovered at the age of 13, but her language development never matched what normal children do.
- **Chelsea** misdiagnosed as mentally challenged, fitted with hearing aids at 31, but after 12 years of training her language level remained that of a 2 and ½ year old.

The "critical period" hypothesis

- It seems then that there is a critical period for "subconscious" language acquisition, roughly ends at 12 years of age.
- After that period, we are still able to learn language, but only consciously, hence the difficulty.
- This is expected if language is indeed part of our biology.

So, …

- There's poverty of the stimulus in language acquisition.
- There's dissociation between language and general intelligence.
- There's uniformity of language acquisition by children within the same language and across languages.
- And there is some evidence for a critical period.
- *Well, … if it looks like biology, then it must be biology!*

Ok, but there's another paradox

- **Mrs. Advocate**: "Mr. Linguist. Sorry to interrupt you, again. I do see your point about the biological basis for language, but if we're all born with the same language faculty, why do we speak different languages, then? Why does all this variation that we've been talking about exist?"
- Another excellent question, Mrs. Advocate. Baker actually calls this the "Code Talker's paradox":
  "How can languages be simultaneously so different and so similar?"

Time to introduce UG

- Chomsky's answer is this:

  We are born with a *Universal Grammar* (UG), an abstract system of general principles that are tied to all languages. Then, on the basis of the *primary linguistic data* (PLD) that we hear around us in early childhood, we arrive at the *particular grammar* (PG) of our language.

Time to introduce UG

input   output

PLD $\rightarrow$ UG $\rightarrow$ PG

This is getting too abstract

- Mrs. Advocate: "This is really getting too abstract for me. Could you please explain what's in OG, I mean UG?"
- Sure.

UG: principles and parameters

- UG has two components: **principles** and **parameters**.
- The principles are invariant; they exist in all languages; well, they are universal.
- Parameters are also universal, but unlike principles, they come with options (typically binary), and this is where the locus of variation exists.
- Languages select different values for parameters, and the cumulative effect of a group of parametric settings will be still enough to generate a dramatic diversity on the surface.

UG: principles and parameters

- Graphically, we can represent this as follows:

UG   Japanese   English
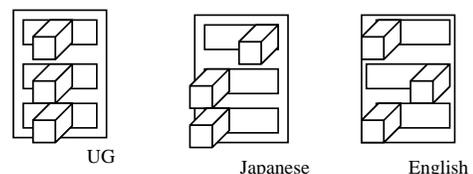
One UG principle: structure-dependency

➢ One UG principle is called **structure-dependency**, which states that grammatical rules have to make reference to sentence structure (and not to linear order of words, for example).
➢ Let's consider how a child can learn the rule for yes-no question formation in English on the basis of primary linguistic data in the input.
➢ Here's a couple of sentences in the input:
    John must leave.
    Must John leave?

One UG principle: structure-dependency

➢ Hypothesis #1 (structure-independent): Invert the first word and the second word to form a yes-no question.
➢ Does it work?
    Well, let's expand the input space:
        This boy must leave.
        *Boy this must leave?
➢ Something went wrong here, but it wasn't a child's error. Children never make these mistakes.

One UG principle: structure-dependency

➢ Hypothesis #2 (structure-independent): Move the auxiliary verb to the front to form a yes-no question.
➢ Does it work?
        The boy should have left.
        ✓Should the boy have left?
    But:
        *Have the boy should left?
➢ So, the modified rule may generate ill-formed questions. Can we do better?

One UG principle: structure-dependency

➢ Hypothesis #3 (structure-independent): Move the first auxiliary verb 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. So, something went wrong again.

One UG principle: structure-dependency

➢ Hypothesis #4 (structure-dependent): Invert the auxiliary verb of the whole sentence and its subject to form a yes-no question.
➢ Does it work?
        The boy who must leave has been sick.
        Has the boy who must leave been sick?
➢ That worked. But notice that for this to work, the child has to know what the structure of sentences is.

One UG principle: structure-dependency

➢ As it turns out, children never produce any of the bad forms above. Why?
➢ Because hypotheses like 1, 2 and 3, are not even considered. Why?
➢ Because they are not structure-dependent. Structure-dependency is a universal principle of grammar, and as such constrains language acquisition by children.

Ok, what's a parameter then?

Can you give us an example?

Mrs. Advocate: "Yes, please!"

The null subject parameter

> Consider these data from English, French, and Italian, all of which allow SV orders:

    (1) John will leave.

    (2) Jean arrivera.   French

        Jean will-arrive

    (3) Gianni verrá.   Italian

        Gianni will-come.

The null subject parameter

> Italian, however, allows the subject of a tensed sentence to be omitted, an option that is not available in English or French:

    (5) *Will leave.

    (6) *Arrivera.   French

        will-arrive

    (7) Verrá.   Italian

        will-come.

The null subject parameter

> This is an example of *parametric variation*, which Baker formulates as follows:

"In some languages (e.g., French, English, Edo) every tensed clause must have an overt subject. In other languages (e.g., Italian, Spanish, Romanian, Navajo, Arabic) tensed clauses need not have an overt subject."

> This case of cross-linguistic variation is typically referred to as the **null subject (NS) parameter**.

The null subject parameter

> The children's task in acquiring their language is to "set" the parameter value on the basis of the PLD in their linguistic environment.

> The interesting thing about the null subject parameter is that it also explains to us a "cluster" of differences between these two "types" of languages.

The null subject parameter

> For one thing, unlike English and French, Italian also allows VS orders:

    (8) *Will leave John.

    (9) *Arrivera Jean.   French

        will-arrive Jean

    (10) Verrá Gianni.   Italian

        will-come Gianni.

The null subject parameter

➢ Similarly, an overt "dummy" subject with "weather verbs" is required in both English and French, as opposed to its absence in Italian:

> (11) It is raining.
> (12) Il pleut.   French
>   it rains
> (13) Piove.   Italian
>   Is-raining.

The null subject parameter

➢ Also, subject wh-questions that, as we've seen before, are disallowed in English (and French) when the embedded clause has "that", are fine in Italian:

> (11) *Who did you say that — saw Chris in the park?
> (12) *Qui veux-tu   que — épouse Jean?
>   who want-you that   marries Jean?
> (13) Chi   crede   che — verrá?
>   who you-think that   will leave

The null subject parameter

➢ As Baker notes, there are three reasons why linguists think this "cluster" of linguistic properties are interrelated.

The null subject parameter

➢ First, Spanish and Romanian behave exactly like Italian with regard to the three properties above, so it cannot be an accident that such properties occur or do not occur together in natural languages.

The null subject parameter

➢ Second, Old French was exactly like Italian, i.e., it had all the properties discussed above. At one point in its historical development, though, French became just like English, i.e., it lost all these three properties. This makes sense only if there is a correlation in the occurrence or lack of occurrence of such syntactic properties.

The null subject parameter

➢ Third, the properties are indeed interrelated, since they all involve the notion "subject of the sentence" in one way or another. Without getting into technical detail, somehow the on-setting of the NS parameter allows subjects to behave in a way that is not possible when the parameter is assigned an "off" value.

The null subject parameter

➢ The parametric approach thus seems promising: Not only does it tell us why languages differ with regard to a particular property, but it also ties together what seem to be (at least on the surface) a set of unrelated linguistic phenomena.

Remember word order correlates in English and Japanese?

➢ Maybe it's time to revisit the word order correlates from last time, and see what the principles and parameters framework can say about them.

➢ Here's the data again, followed by the table for word order correlates that we observed earlier:

Remember word order correlates in English and Japanese?

➢ 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   miseta   to   omette iru
picture-OB showed   that   thinking be
"Taro thinks (literally, is thinking) that Hiro showed a picture of himself to Hanako."

Remember word order correlates in English and Japanese?

Element A	Element B	English	Japanese
Verb	Direct Object	A precedes B	A follows B
Verb	Pre-/post-position phrase	A precedes B	A follows B
Verb	Embedded Clause	A precedes B	A follows B
Pre-/post-position	Related Noun Phrase	A precedes B	A follows B
Noun	Pre-/post-position phrase	A precedes B	A follows B
Complementizer	Embedded Clause	A precedes B	A follows B
Auxiliary	Main verb	A precedes B	A follows B

Remember word order correlates in English and Japanese?

➢ Since we don't have time to discuss this now, please take some time and think about that. How do you think we can account for these correlations? What kind of parameter do you think is involved?

➢ If you read Baker, an answer is given there. And we'll discuss this in detail next time.

Next class agenda

➢ Introducing syntax. Read Payne chapters 6 and 7.
➢ Continue to read Baker Chapter 3.