INTD0111A

The Unity and Diversity of Human Language

Lecture #10
March 11th, 2009

Announcements/Questions

- I assigned language codes to each one of you for the purpose of checking the score sheet online.
- Review session on Saturday at 10am?
- Any questions on Assignment #2?

So, how are English and Mohawk different?

One word (though with multiple morphemes):
POLYSYNTHESIS

The polysynthesis parameter

- "Verbs must include some expression of each of the main participants in the event described by the verb (the subject, object, and indirect object)."

The polysynthesis parameter

- Polysynthesis obviously accounts for Mohawk complex word structure.
- Polysynthesis accounts for subject and object drop in Mohawk.
- Polysynthesis also accounts for freedom of word order in Mohawk since it allows NPs to be "dislocated" in sentence structure.
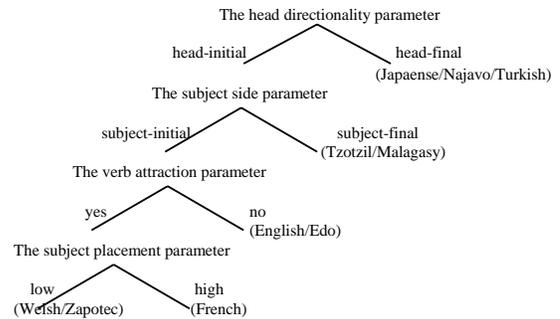

Baker's Parameter Hierarchy

- The reason that head directionality is irrelevant to Mohawk follows from Baker's innovative proposal regarding a *parameter hierarchy*, (his "linguistic periodic table," so to speak).
- The idea of a parameter hierarchy is simple, and would be really interesting, if true.
- The claim is that parameters are ranked in a hierarchical order, such that the one higher on the hierarchy will determine which ones are available below it on the hierarchy.
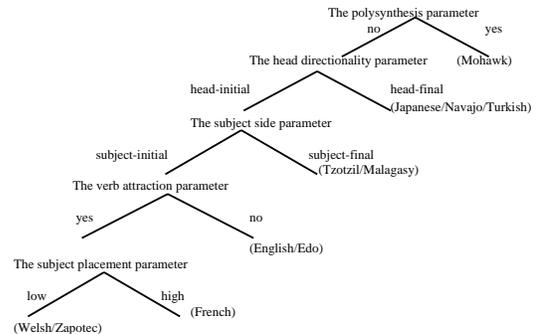
Baker's Parameter Hierarchy

- We have already seen a few examples of parameter interaction.
- For example, the HD parameter outranks the subject side parameter, in that this latter is only available for head-initial, but not head-final languages.
- Similarly, the subject side parameter outranks the verb attraction parameter in that it is not relevant to subject-final languages.
- And so on and so forth.
- Baker's hierarchy looks something like this:

Baker's parameter hierarchy (1st version)

The head directionality parameter
head-initial / head-final (Japaense/Najavo/Turkish)

The subject side parameter
subject-initial / subject-final (Tzotzil/Malagasy)

The verb attraction parameter
yes / no (English/Edo)

The subject placement parameter
low (Welsh/Zapotec) / high (French)

Now, given what we said about Mohawk today, where would you place the polysynthesis parameter on the hierarchy?

Baker's parameter hierarchy (2nd version)

The polysynthesis parameter
no / yes (Mohawk)

The head directionality parameter
head-initial / head-final (Japanese/Navajo/Turkish)

The subject side parameter
subject-initial / subject-final (Tzotzil/Malagasy)

The verb attraction parameter
yes / no (English/Edo)

The subject placement parameter
low (Welsh/Zapotec) / high (French)

Polysynthetic languages of the world

(table from Baker 2001:115)

Language family	Sample languages	Where spoken
Caddoan languages	*Wichita*	American Great Plains
Tanoan languages	*Suothern Tiwa, Jemez*	New Mexico
Nahuatlan languages	*Nahuatl (esp. Classical)*	Central Mexico
Gunwiniguan languages	*Mayali, Nunggubuyu, etc.*	North central Australia
Paleosiberian languages	*Chukchee, Koryak*	Northeastern Siberia
Mapuche	*Mapuche*	Central Chile
Ainu	*Ainu*	Northern Japan
Munda languages?	*So:ta?*	India

Polysynthesis and head directionality

- If Baker's parameter hierarchy is correct, then the head directionality parameter should be irrelevant to polysynthetic languages, right?

BUT…

- It turns out that there are languages for which both polysynthesis and head directionality seem to be relevant.

- This seems to be the case in the Bantu language of Chichewa.

Chichewa

- Chichewa shows similar properties to those of Mohawk:
  - (a) head-marking on verbs,
  - (b) frequent subject and object drop, and
  - (c) freedom of word order:
- Example: zi-na-wa-lum-a
                    they-bit-them
                    "They bit them."

Chichewa

a. Njuchi zi-na-wa-lum-a alenje   SVO
     bees   they-bit-them   hunters

b. Zi-na-wa-lum-a alenje   njuchi   VOS
     they-bit-them   hunters bees

c. Zi-na-wa-lum-a njuchi alenje   VSO
     they-bit-them   bees   hunters

Chichewa

d. Alenje njuchi zi-na-wa-lum-a   OSV
     hunters bees   they-bit-them

e. Alenje zi-na-wa-lum-a njuchi   OVS
     hunters they-bit-them   bees

f. Njuchi alenje   zi-na-wa-lum-a   SOV
     bees   hunters they-bit-them

Chichewa

- Unlike Mohawk, however, object agreement in Chichewa is optional rather than obligatory. Both of the following sentences are grammatical in the language:
- a. Njuchi zi-na-lum-a alenje   (without object agreement)
     bees   they-bit   hunters
- b. Njuchi zi-na-**wa**-lum-a alenje (with object agreement "*wa*")
     bees   they-bit-them   hunters
     "The bees bit the hunters."

Agreement in Chichewa

- Furthermore, while subject drop is always possible in Chichewa (since the verb always shows agreement with the subject), object drop is only possible in the presence of the object agreement marker on the verb; otherwise, the object has to appear following the verb:

Subject and object drop in Chichewa

a. zi-na-(wa)-lum-a alenje   (subject drop is always fine)
    they-bit-them   hunters
    "They bit the hunters."

b. Njuchi zi-na-*wa*-lum-a   (object drop with "wa" is fine)
    bees   they-bit-them
    "The bees bit them."

c. *Njuchi zi-na-lum-a   (object drop without "wa" is out)
    bees   they-bit

Freedom of word order in Chichewa

- Notice also that the freedom in the position of the object is contingent on the presence of object agreement.

- So, if object agreement does not appear on the verb, the object always has to follow the verb.

- Specifically, out of the six possible word orders we saw earlier, only two are allowed in absence of object agreement, i.e., SVO and VOS:

Freedom of word order in Chichewa

a. Njuchi zi-na-lum-a alenje   SVO
   bees   they-bit   hunters

b. Zi-na-lum-a alenje njuchi   VOS
   they-bit   hunters bees
   "The bees bit the hunters."

Chichewa-type languages

- Chichewa, then, seems to behave like Mohawk in polysynthesis when there is object agreement on the verb, but like English in head directionality when that agreement is lacking.

- Other languages that behave like Chichewa with regard to the optionality of object agreement on the verb are the Nilo-Saharan language *Lango*, the Indonesian language *Selayarese*, and perhaps also the Chilean language *Mapuche*.

Slave: The Chichewa of head-final languages

- Slave (or Slavey), a language spoken in the Yukon territory, also seems to behave like Mohawk with regard to polysynthesis when there is object agreement on the verb, but like Japanese with regard to head directionality when that agreement is lacking:

Slave

a. 'ehkee li ka*ye*yihshu   (OSV order permitted with object agreement)
   boy   dog it-bit-him
   "The dog bit the boy."

b. li 'ehkee kayihshu   (SOV order in absence of object agreement)
   dog boy   it-bit

c. *'ehkee li kayihshu   (OSV order not permitted without object agreement)
   boy   dog it-bit

Slave

- And, as you should expect, object drop in Slave is only possible when the object agreement marker "*ye*" is present:

  a. li   ka*ye*yihshu

     dog   it-bit-him

     "The dog bit him."

  b. *li   kayihshu

     dog   it-bit

So, …

- Chichewa and Slave are languages that show the effects of both the polysynthesis parameter and the head directionality parameter at the same, contrary to what Baker's parameter hierarchy predicts.

Reverse Chichewa

- Reverse Chichewa would be a language in which the verb *always* agrees with the object, hence allowing objects to drop and dislocate freely, but *optionally* with the subject, hence restricting subject drop and dislocation to only those contexts in which subject agreement is manifest on the verb.
- Such a language would have the following range of sentences:

Reverse Chichewa

a. Bees bit-him John   (object agreement obligatory)

b. Bees bit-him.   (object drop)

c. John bees bit-him.   (object dislocation)

d. They-bit-him John.   (subject drop possible only with subject agreement)

e. *Bit-him John.   (subject drop not possible in absence of subject agreement)

f. *Bit-him John bees./Bit-him bees John/etc.

  (subject dislocation not possible in absence of subject agreement)

Reverse Chichewa

- As far as we know, no such languages exist. But if so, how do we account for their non-existence? Our parametric theory as it stands now does not predict their absence.
- So, we are faced with the following question:

  "How do we modify our parametric theory so that we can account for the presence of languages such as Chichewa and Slave, and at the same time for the absence of languages such as Reverse Chichewa?"

Solution 1: Splitting the polysynthesis parameter

- One solution is to split the polysynthesis parameter into two sub-parameters, one for subject polysynthesis, and the other for object polysynthesis, as follows:

Solution 1:
Splitting the polysynthesis parameter

- *The subject polysynthesis parameter*

  "The subject of a verb must be expressed inside that verb (Mohawk, Chichewa, Slave).

  or

  The subject of a verb need not be expressed inside that verb (English, Japanese)."

Solution 1:
Splitting the polysynthesis parameter

- *The object polysynthesis parameter*

  "The object of a verb must be expressed inside that verb (Mohawk).

  or

  The object of a verb need not be expressed inside that verb (English, Japanese Chichewa, Slave)."

Evaluating Solution 1

- To evaluate Solution 1, we need to consider the following two questions:
  - A. Does this parametric splitting approach account for the presence of languages such as Chichewa and Slave?

  - B. More importantly, does it predict the non-existence of Reverse Chichewa?

Solution 2:
Extending the polysynthesis parameter

- We can also solve the problem by allowing non-binary parameters in UG:
- *The extended polysynthesis parameter*

  "**All** participants of an event must be expressed on the verb (Mohawk).

  or

  Any participant of an event may be expressed on the verb (Chichewa, Slave).

  or

  No participant of an event must be expressed on the verb (English, Japanese)."

Solution 2:
Extending the polysynthesis parameter

- To evaluate Solution 2, we need to consider the same three questions as before:
  - A. Does the introduction of a third value into the formulation of the polysynthesis parameter account for the presence of languages such as Chichewa and Slave?

  - B. More importantly, does it predict the non-existence of Reverse Chichewa?

The *Agreement Principle*

- The key to solving the problem with Solution 2 is to find a way to ensure that subject agreement will always be required, whereas object agreement will be optional.

- For this, Baker introduces the *Agreement Principle* below:

  "If agreement with an NP is not required, use the agreement to show that this NP is animate and/or definite in its reference."

The *Agreement Principle*

- To see the relevance for notions such as "animacy" and "(in)-definiteness" for agreement, Baker provides the following data from Swahili:

  a. Juma a-na-**wa**-penda watoto (agreement "*wa*" with animate object)

  Juma he-likes-them children

  "Juma likes children./Juma likes the children."

The *Agreement Principle*

b. Juma a-li-**li**-kamata gitara (agreement "*li*" with inanimate, definite object)

Juma he-grabbed-it guitar

"Juma grabbed the guitar."

c. Juma a-li-kamata gitara (no agreement with indefinite, inanimate object)

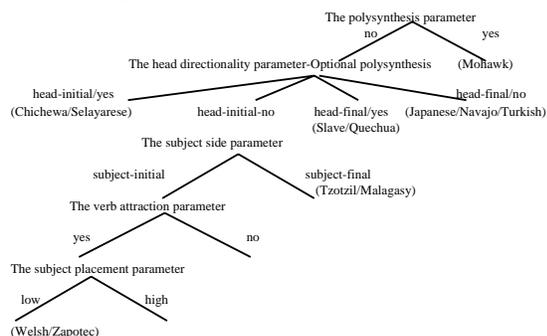Juma he-grabbed guitar

"Juma grabbed a guitar."

The *Agreement Principle*

- But how does the agreement principle help us predict that Chichewa and Slave will obligatorily have subject agreement and optionally object agreement?

- Baker's answer: Since "subjects are usually or always definite or animate, then the agreement principle will always tell speakers who have a choice to use agreement with the subject, even though agreement is optional in theory" (p.154).

The *Agreement Principle*

- The properties of Chichewa and Slave thus follow from the interaction of the optional setting of the polysynthesis parameter, the agreement principle, as well as the head directionality parameter.

- To see this, let's look at the revised parameter hierarchy:

Baker's parameter hierarchy (3rd version)

The polysynthesis parameter
- no — yes

The head directionality parameter-Optional polysynthesis   (Mohawk)

head-initial/yes
(Chichewa/Selayarese)   head-initial-no   head-final/yes   head-final/no
(Slave/Quechua)   (Japanese/Navajo/Turkish)

The subject side parameter

subject-initial   subject-final
(Tzotzil/Malagasy)

The verb attraction parameter

yes   no

The subject placement parameter

low   high

(Welsh/Zapotec)

Agenda for next class

- More diversity, more parameters: Baker (Chapter 6).