LNGT 0250
Morphology and Syntax

Lecture #9
March 9th, 2015

Assignments

• Average score on Homework #2: 23¼/25.
• Media: 24/25.
• Tree drawing on homework 3.
  http://ironcreek.net/phpsyntaxtree/
• Project groups: Short questionnaire due on Wednesday.

Transition from last class

• Inflection creates word forms from a lexeme.
• Categories for nominal inflection: Number, person, gender/class, and case.
• Categories for verbal inflection: Tense, aspect, voice, and mood/modality.

Case and agreement systems

• Nominative-accusative languages vs. ergative-absolutive languages.
• Japanese vs. Greenlandic.

Japanese: a nominative-accusative language

John-\textit{ga} Mary-\textit{ni} hon-o yatta
\textit{John-NOM Mary-DAT book-ACC} gave
“John gave Mary a book.”

John-\textit{ga} Kobe-ni itta
\textit{John-NOM Kobe-to} went
“John went to Kobe.”

Greenlandic: an ergative-absolutive language

a. Juuna-\textit{p} atuaga-\textit{q} miiqa-\textit{nut} nassiuppa
  \textit{Juuna-CM book-CM child-CM} send
  “Juuna sent a book to the children.”

b. atuaga-\textit{q} tiki\textit{s}imann\textit{gilaq}
  \textit{book-CM hasn’t come}
  “A book hasn’t come yet.”

(CM = case marker)
Case and Agreement systems

• Some languages may have a “split” system, where they use nominative-accusative in some contexts, and ergative-absolutive in others.

• Split systems may be based on
  - Whether a predicate is stative or active (as in Eastern Pomo), or on
  - Tense and aspect (as in Georgian)

Eastern Pomo

<table>
<thead>
<tr>
<th>Xása:lu wí ko:khóya</th>
<th>Há: mí:pal šá:ka</th>
</tr>
</thead>
<tbody>
<tr>
<td>rattlesnake 1sg bit</td>
<td>1sg him killed</td>
</tr>
<tr>
<td>“A rattlesnake bit me.”</td>
<td>“I killed him.”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Wí qa:láma</th>
<th>Há: xákqákki</th>
</tr>
</thead>
<tbody>
<tr>
<td>1sg sick</td>
<td>1sg bathe</td>
</tr>
<tr>
<td>“I got sick.”</td>
<td>“I bathed.”</td>
</tr>
</tbody>
</table>

Georgian

<table>
<thead>
<tr>
<th>Student-i midis student-CM goes</th>
<th>Student-i ceril-s cers student-CM letter-CM writes</th>
</tr>
</thead>
<tbody>
<tr>
<td>“The student goes.”</td>
<td>“The student writes the letter.”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Student-i mivida student-CM went</th>
<th>Student-ma ceril-i dacera student-CM letter-CM wrote</th>
</tr>
</thead>
<tbody>
<tr>
<td>“The student went.”</td>
<td>“The student wrote the letter.”</td>
</tr>
</tbody>
</table>

Verbal inflectional categories

• Tense
• Aspect
• Mood and Modality

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 finer-grained distinctions within “past” or “future”.

<table>
<thead>
<tr>
<th>English:</th>
<th>Lithuanian:</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. I workØ.</td>
<td>a. dirb-u</td>
</tr>
<tr>
<td></td>
<td>“I work”</td>
</tr>
<tr>
<td>b. I worked.</td>
<td>b. dirb-au</td>
</tr>
<tr>
<td></td>
<td>“I worked”</td>
</tr>
<tr>
<td>c. I will work.</td>
<td>c. dirb-siu</td>
</tr>
<tr>
<td></td>
<td>“I will work”</td>
</tr>
</tbody>
</table>
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):
   \textit{Ba-\d{a}-bomb-ele} “they worked”
b. Removed past (yesterday):
   \textit{Ba-\dd{a}-bomba} “they worked”
c. Near past (earlier today):
   \textit{Ba-\dd{a}-bomba} “they worked”
d. Immediate past (just happened):
   \textit{Ba-\d{a}-bomba} “they worked”

Chibemba future tense system

a. Immediate future (very soon):
   \textit{Ba-\dd{a}-bomba} “they’ll work”
b. Near future (later today):
   \textit{Ba-\d{e}-bomba} “they’ll work”
c. Removed future (tomorrow):
   \textit{Ba-\d{a}-bomba} “they’ll work”
d. Remote future (after tomorrow):
   \textit{Ba-\d{a}-bomba} “they’ll work”

Aspect

- Aspect has to do with the internal temporal structure of an event, e.g., whether it is temporally bounded or not.
  - \textit{Perfective} aspect: “He wrote three letters.”
  - \textit{Imperfective} (or habitual) aspect: “He writes letters.”
  - \textit{Progressive} aspect: “He is writing letters.”

Mood and Modality

- Mood and modality typically refer to a grammatical category through which speakers of a language indicate whether they believe that an event or a state actually occurs, does not occur, or has 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 is typically used with regard to speakers’ expression of degrees of obligation/desire (**deontic**), or degrees of possibility (**epistemic**) regarding an event.
  
  John must come tomorrow.
  We really should go now.
  vs.
  John must have left the door open.
  I believe he should be arriving 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).”
  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).”
  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).”

Inflection vs. Derivation

1. Relevance to syntax:
   
   - Agreement on verbs:
     
     The boy walks vs. the boys walk-Ø
   
   - Case on nouns is tied to being ‘subject of,’ ‘object of,’ etc.
     
     I see him/*he.
Inflection vs. Derivation

2. **Obligatoriness**: Inflectional features are obligatory (any noun will have a plural form); derivational features are not (it’s not the case that every noun has to have an -ish adjective).

3. **Change in base**: Inflection induces less change in bases than derivation:
   - destroy → destroyed (but destruction)
   - broad → broader (but breadth)

Inflection vs. Derivation

4. **Iteration**: Doesn’t have in inflection at all; may happen in derivation but rare:
   - *book-s-es (to mean 'sets of books')
   - *washeded (to mean 'washed a long time ago')
   - But:
     - Post-post-modernism
     - ur-ur-größvater (German for great-great-grandfather)

Inflection vs. Derivation

5. **Category change**: Derivational affixes typically change the category of the base, but inflectional affixes do not:
   - poison (N) + -ous → poisonous (A)
   - refuse (V) + -al → refused (N)
   - optimist (N) + -ic → optimistic (A)

   Compare:
   - hat (N) + plural -s → hats (N)
   - look (V) + past tense -ed → looked (V)
   - old (A) + superlative -est → oldest (A)

Inflection vs. Derivation

6. **Order**: A derivational affix has to combine with the base before an inflectional affix does, e.g.,
   - free-dom-s  *free-s-dom
   - black-en-ed  *black-ed-en

Inflection vs. Derivation

7. **Productivity**: Inflectional morphemes have relatively few exceptions, whereas derivational affixes are restricted to combine with certain bases.

   - So while plural -s can combine with virtually any noun (irregular forms aside), the affix -ize can only combine with certain adjectives:
     - modern-ize, but no *new-ize
     - legal-ize, but not *lawful-ize

Exercise 1, p. 113

1. Look at the following data. In each case, identify the form of the morphological rule (that is, production, suffusion, inflection, reduplication, internal stem change, templatic) and its function (inflection or derivation):

   a. Turkish (Konst 1997: 446)
   - sikiş ‘weapon’  sikiş  ‘armed person’
   - əti ‘home’  atı  ‘homemaker’
   - yağı ‘fat’  yağı ‘aged person’
   - Londra ‘London’  Londra  ‘person living in London’

   b. Mosqun (Stotter 2004: 159)
   - pTel  ‘tell’  pTel  ‘be seeing’
   - k̚evi ‘look’  k̚evi  ‘be looking’
   - bė ‘fish with a net’  bėk  ‘be fishing with a net’

   c. Hausa (Newman 2000: 454)
   - tākā ‘chick’  tākā  ‘chicks’
   - kwarara ‘frog’  kwarara  ‘frogs’
   - alů ‘guinea-fowl’  alů  ‘guinea-fowls’
Exercise 2, p. 113

2. In the two columns below, you find verb bases and imperfective forms for a number of verbs in Tagalog, an Austronesian language spoken in the Philippines (Sachter and Otanes 1972: 365):

   a. Verb base  Imperfective
      layanan  ‘put in/on’
      magalahan ‘give a present to’
      niiregalahan ‘giving a present to’
      walisan  ‘sweep’
      niwalisan  ‘is sweeping’
      Write a rule that shows how the imperfective is formed in Tagalog.

   Now consider these data:

   b. Verb base  Imperfective
      layanan  ‘put in/on’
      magalahan  ‘give a present to’
      niiregalahan  ‘giving a present to’
      walisan  ‘sweep’
      niwalisan  ‘is sweeping’

Dataset 12. Chiquihuitlán Mazatec (Mexico)

   Phrase tone is not indicated.

1. fafa  ‘takes’
2. tifafa  ‘is taking’
3. kafafa  ‘took’
4. sae  ‘sings’
5. tisse  ‘is singing’
6. kasae  ‘sang’
7. fha  ‘speaks’
8. tifha  ‘is speaking’
9. kafha  ‘spoke’
10. fi  ‘goes’
11. tifi  ‘is going’
12. kafi  ‘went’

Dataset 13. Finnish

1. laulun  ‘I sing.’
2. laulut  ‘You sing.’
3. laulavi  ‘He sings.’
4. laulumme  ‘We sing.’
5. laulatte  ‘You (pl) sing.’
6. laulavat  ‘They sing.’
7. yoon  ‘I drink.’
8. yoot  ‘You drink.’
9. yuovi  ‘He drinks.’
10. yosemme  ‘We drink.’
11. yootte  ‘You (pl) drink.’
12. yuovat  ‘They drink.’

Dataset 77. Tetelcingo Nahuatl (Mexico)

Present  Past  Future
1. ‘know’  kmati  okmat  kmatis
2. ‘go out’  kisa  okis  kisas
3. ‘stop’  moketsa  omokets  moketas
4. ‘sleep’  koftsi  okof  koftis
5. ‘die’  miki  omik  mkis
6. ‘seem’  niesi  onies  niesis

Dataset 85. Istahuaica Mazahua (Mexico)

Partial paradigm of the Mazahua verb ‘(e)’

<table>
<thead>
<tr>
<th>1s</th>
<th>2s</th>
<th>3s</th>
<th>1d</th>
<th>1dh</th>
<th>2d</th>
<th>3d</th>
</tr>
</thead>
<tbody>
<tr>
<td>stamag</td>
<td>stamag</td>
<td>stamag</td>
<td>stamag</td>
<td>stamag</td>
<td>stamag</td>
<td>stamag</td>
</tr>
<tr>
<td>2m</td>
<td>3m</td>
<td>1mp</td>
<td>2mp</td>
<td>3mp</td>
<td>1pmp</td>
<td>2pmp</td>
</tr>
<tr>
<td>stamag</td>
<td>stamag</td>
<td>stamag</td>
<td>stamag</td>
<td>stamag</td>
<td>stamag</td>
<td>stamag</td>
</tr>
<tr>
<td>2mp</td>
<td>3mp</td>
<td>1pmp</td>
<td>2pmp</td>
<td>3pmp</td>
<td>1ppmp</td>
<td>2ppmp</td>
</tr>
<tr>
<td>stamag</td>
<td>stamag</td>
<td>stamag</td>
<td>stamag</td>
<td>stamag</td>
<td>stamag</td>
<td>stamag</td>
</tr>
<tr>
<td>1ppmp</td>
<td>2ppmp</td>
<td>3ppmp</td>
<td>1ppmp</td>
<td>2ppmp</td>
<td>3ppmp</td>
<td>1ppmp</td>
</tr>
</tbody>
</table>

Morphological typology

How do languages differ in their morphological structure?
**Index of synthesis: How many morphemes does your language have per word?**

- One aspect of morphological variation has to do with **synthesis**: Some languages choose to “stack” morphemes on top of one another within words; others elect to use at most one morpheme per word, and many others will fall somewhere between these two extremes.
- Let us start by comparing Yay to Oneida (examples from Whaley 1997:127):

  **Yay:**
  a. *mi ran tua iwa lew*
  
  not see CLASS snake CMPLT
  
  “He did not see the snake.”

  **Oneida:**
  b. *yo-nuh-a-tho:le:*
  
  3.NEUT.PAT-room-epenthetic-be.cold.STAT
  
  “The room is cold.”

**Morphological typology: Index of synthesis**

- On the so-called index of synthesis for morphological typology (Comrie 1989), understood as a continuum, Yay is considered an **isolating** language, whereas Oneida would be closer to the **synthetic** end of the scale, with English closer to the Yay-end than to the Oneida-end:

  \[
  \text{Isolating} \underset{x}{\longrightarrow} \text{X} \longrightarrow \text{Yay} \text{English} \longrightarrow \text{Oneida} \longrightarrow \text{Synthetic}
  \]

**Morphological typology: Index of synthesis**

- Some languages take synthesis to the extreme, marking all grammatical relationships on the verb with extensive affixation, thereby creating **long and complex words** that would correspond to whole sentences in languages like English, as in Tiwa (example from Whaley 1997:131):

  - men-mukhin-tuwi-ban
dual-hat-buy-PAST
  “You two bought a hat.”

**Morphological typology: Index of synthesis**

- Or Eskimo:

  iglu-kpi-yuma-laak-tu-iŋa
house-build-intend-anxious-reflexive-I
  “I’m anxious to build a house.”

- Or Mohawk (from Baker 2001:88):

  Katerihwaïensta’
  “I am a student. [Literally: I habitually cause myself to have ideas.]”

**Morphological typology: Index of synthesis**

- Or Mohawk again, though rather more ridiculously:

  Washakota’yawitsheraherkvhta’se’
  “He made the thing that one puts on one’s body (i.e., the dress) ugly for her.”

- We call languages like Tiwa, Eskimo, and Mohawk, **polysynthetic** languages.
Morphological typology: Index of fusion
One-to-one or one-to-many?

- Synthetic languages, in turn, differ in whether morphemes are easily segmentable or not. Consider this paradigm from Michoacan Nahuatl, for example:

<table>
<thead>
<tr>
<th>no-kali</th>
<th>“my house”</th>
<th>no-pelo</th>
<th>“my dog”</th>
</tr>
</thead>
<tbody>
<tr>
<td>no-kali-mes</td>
<td>“my houses”</td>
<td>mo-pelo</td>
<td>“your dog”</td>
</tr>
<tr>
<td>mo-kali</td>
<td>“your house”</td>
<td>mo-pelo-mes</td>
<td>“your dogs”</td>
</tr>
<tr>
<td>i-kali</td>
<td>“his house”</td>
<td>i-pelo</td>
<td>“his dog”</td>
</tr>
</tbody>
</table>

- But now compare with Ancient Greek:
  - lu-ō “1sg. Pres. Active. Indicative (I am releasing)”
  - lu-ōmai “1sg. Pres. Active. Subjunctive (I should release)”
  - lu-ōmai “1sg. Pres. Passive. Indicative (I am being released)”
  - lu-ōmai “1sg. Pres. Active. Optative (I might release)”
  - lu-etai “3sg. Pres. Active. Indicative (He is being released)”

On the so-called index of fusion for morphological typology, also conceived of as a continuum, Michoacan Nahuatl is considered an agglutinative language, whereas Ancient Greek would be closer to the fusional end of the scale:

Agglutinative ← x ———— x ———— x ———— Fusional
Nahuatl  Greek

Another aspect of morphological typology has to do with whether languages mark grammatical functions such as ‘subject of’ and ‘object of’ on the head of the clause or on the dependents.

Head-marking vs. dependent-marking

- Languages that mark grammatical functions on heads are called head-marking languages; languages that mark grammatical functions on dependents are called dependent-marking languages.

- Compare Japanese with Mohawk.

Japanese
- John-ga Mary-o butta hit
  “John hit Mary.”
- Sak Uwāri shako-nûhwe’s likes
  “Sak likes Uwari.”
- Sak Uwāri ruwa-nûhwe’s likes
  “Uwari likes Sak.”

Mohawk
- John-nom Mary-acc hit
- Sak Uwari he/her-likes
- Sak Uwari she/him-likes
Next class agenda
• Allomorphy and morphological analysis. Read Lieber Chapter 9.

Abbreviations used in the data
• CLASS = classifier
• CMPLT = completive aspect
• NEUT = Neuter gender
• PAT = Patient (entity affected)
• STAT = Stative
• NOM = nominative case
• ACC = accusative case