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Last Week’s Topics

- **Lecture 6** | Making Sense of Time, *Dr. Núñez*
- **Lecture 7** | What are you learning when you learn a language?, *Dr. Creel*
Lecture 6
Making Sense of Time, Dr. Núñez
1. What different spatial frames of reference exist? Give examples of how we use them to talk about spatial relations between objects.

2. What is deictic time? What is sequence time? Give examples of each.

3. What is the relationship between space and time in language and gesture?

4. In what ways is the Aymara conception of time different from the English conception? In what ways is it similar?

5. In what ways is the Yupno conception of time different from the English conception? In what ways is it similar?
1. What different spatial frames of reference exist?

There are different ways to describe the position of the pig relative to the cow.
1. What different spatial frames of reference exist?

The pig is in front of the cow

The pig is right of the cow

The pig is east of the cow
1. What different spatial frames of reference exist?

Location of object is expressed in relation to

- **OBJECT-CENTERED**
  
  (some part of) another object.

- **EGO-CENTERED**
  
  the viewpoint of the observer

- **GEOCENTRIC**
  
  cardinal directions or some features of the local geography
2. What is deictic time? What is sequence time? Give examples of each.

**Deictic time**
- *now* is the absolute reference point;
- all expressions are relative to the current moment (perhaps implicitly), without it the expressions have no meaning, e.g.
  - “The next day” (implicit - after today)
  - “She left two days ago” (implicit - relative to today)
- b/c of that also called **tensed time**

**Sequence time**
- *no absolute reference point* - sequences of events **relative to one another**, e.g.
  - “Spring follows winter”
  - “Move the meeting forward” (implicit - forward relative to its current scheduled time)
- b/c of that also called **tenseless time**
- sequences can be non linear, e.g. **cyclic and helic time**
3. What is the relationship between space and time in language and gesture?

- **We very frequently talk about time using spatial terms**
  For example:
  - “on Tuesday”, “at the next meeting”
  - “Summer is behind us”
  - ...

- This suggests that **we might think about time in terms of space as well**.
- Another type of evidence that points in the same direction is **gesture**
3. What is the relationship between space and time in language and gesture?

- We live in 3 spatial dimensions, but time is primarily construed in terms of 1d space.
- For example, we usually talk and think about time as flowing along the longitudinal axis (from back to front).
4. In what ways is the Aymara conception of time different from the English conception? In what ways is it similar?

- **English:**
  - Representation/gestures are egocentric (now = here)
  - Longitudinal axis (back-front)
  - Past is behind; future is in front

- **Aymara**
  - Representation/gestures are egocentric (now = here) *(Like Eng)*
  - Longitudinal axis (back-front)
  - **Past is in front; future is behind (different from Eng)**
4. In what ways is the Aymara conception of time different from the English conception? In what ways is it similar?

Nayra mara ... antiguo
[old year/time]

aka maran
[this year]

q”ipa timpun
[future times]
4. In what ways is the Aymara conception of time different from the English conception? In what ways is it similar?
5. In what ways is the Yupno conception of time different from the English conception? In what ways is it similar?

- **English:**
  - Past is behind; future is in front; now is right in front of the body
  - Representation/gestures are egocentric (now = here)
  - Longitudinal axis (back-front)

- **Yupno:**
  - Now is right in front of the body, on the ground *(like Eng & Aymara)*, but
  - Past = downhill; future = uphill *(different from Eng & Aymara)*
  - Representation/gestures are geocentric *(different from Eng & Aymara)*
5. In what ways is the Yupno conception of time different from the English conception? In what ways is it similar?
Lecture 7

What are you learning when you learn a language?, Dr. Creel
1. What does the word “homunculus” mean? What are motor and somatosensory homunculi?
2. What is brain lateralization? How does it relate to language production?
3. According to lecture, what are some characteristics of a 3-year old’s language?
4. What are two possible patterns of language development discussed in lecture? What evidence supports each pattern?
5. What are the stages of language development? What is characteristic about these stages with respect to both language production and recognition?
6. How do children find word boundaries?
7. What is the significance of babbling? What did the researchers from the “Listen to your baby babble” reading find?
8. What are the main findings and implications of the study in the reading, “Mandarin Makes you more Musical”?
1. What does the word “homunculus” mean? What are motor and somatosensory homunculi?
2. What is brain lateralization? How does it relate to language production?

- The brain is split into hemispheres (left and right)
  - This is referred to as lateralization
    - Left hemisphere controls right side of body
    - Right hemisphere controls left side of the body
- Most speech is produced in the left hemisphere
3. According to lecture, what are some characteristics of a 3-year old’s language?

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<td>[Over]generalizes concepts</td>
<td>“Blowed up”</td>
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<tr>
<td>● Obi-Wan = “teacher”</td>
<td>● “Well” vs. “wew”</td>
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<td>● “Garage sale for robots”</td>
<td>● $Sh \rightarrow s$</td>
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4. What are two possible patterns of language development discussed in lecture? What evidence supports each pattern?

- **Sequential**

- **Overlapping**
5. What are the stages of language development? What is characteristic about these stages with respect to both language production and recognition?

Producing language

- Speech sounds: ~6-8 months: Babbling onset
- Words: 10-12 months: say first words
- Grammar: 18 months: “word spurt”
- Social context: This takes quite a while...

A caution: Perception precedes production.
5. What are the stages of language development? What is characteristic about these stages with respect to both language production and recognition?

Recognizing/comprehending language

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**By 10-12 months:**
- Only sensitive to speech sound changes in your native language (mostly)

**Older idea:** you need to have a small set of sound “symbols” (kind of like mental letters) to be able to store words in the brain—otherwise, information overload
6. How do children find word boundaries?

- **Stress**
  - In *English*, most nouns are stress-initial
  - Ex: The | PREtty | BAby | WANTSa | BOTtle

- **Statistics**
  - Children track probabilities of sequential elements
    - Ex: The | PREtty | BAby | WANTSa | BOTtle
    - Given “ty” what’s likely to come next? vs. Given “ba”

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LECTURE 7 | Creel
7. What is the significance of babbling? What did the researchers from the “Listen to your baby babble” reading find?

- **Main idea:**
  - Responding to children’s babbling can **shape infant communication and vocalization**

- **Study:**
  - Observed mothers and infants during free play
  - Infants whose mothers responded to babbling showed **increase in more advanced vocalizations**

- Mothers who engaged with infants when they babbled **let the children know they could communicate**
8. What are the main findings and implications of the study in the reading, “Mandarin Makes you more Musical”?

- Does Mandarin make you more musical?
  - In a study of 3-5 year old children, native speakers of Mandarin Chinese were more successful than English-speakers at processing musical pitch
  - Suggests permeability and generalization across cognitive abilities
- Mandarin is a tone language
  - Linguistic attention to pitch translates to attention to pitch in music
- Demonstrates overlap of cognitive mechanisms for different cognitive abilities
Quiz time!

- No talking, signing, or communicating of any kind.
- Put *everything* away except a pen or pencil (make sure it’s a black pen and press hard with a pencil)
- When you get your quiz:
  1. Write your name in the “Name” box
  2. Write and bubble in your PID
  3. Sign the Academic Integrity Agreement
  4. Bubble in *this* section (regardless of which you’re assigned to)
- Please have your student ID out when you turn in your quiz!
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