Week 7b. Language Universals, part one

CAS LX 400
Second Language Acquisition

Typological universals

• 1960’s and 1970’s saw a lot of activity aimed at identifying language universals, properties of Language.
• Class of possible languages is smaller than you might think.
• If a language has one property (A), it will necessarily have another (B).
  – +A+B, –A–B, –A+B but never +A–B.

(Typological) universals

• All languages have vowels.

• If a language has VSO as its basic word order, then it has prepositions (vs. postpositions).

<table>
<thead>
<tr>
<th>VSO?</th>
<th>Yes (VSO)</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adposition type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepositions</td>
<td>Welsh</td>
<td>English</td>
</tr>
<tr>
<td>Postpositions</td>
<td>None</td>
<td>Japanese</td>
</tr>
</tbody>
</table>

Markedness

• Having duals implies having plurals
• Having plurals says nothing about having duals.

• Having duals is marked—infrequent, more complex. Having plurals is (relative to having duals) unmarked.
• Generally markedness is in terms of comparable dimensions, but you could also say that being VSO is marked relative to having prepositions.

Berlin & Kay 1969: Color terms

• (On the boundaries of psychophysics, linguistics, anthropology, and with issues about its interpretation, but still…)
• Basic color terms across languages.
• It turns out that languages differ in how many color terms count as basic. (bluish, salmon-colored, crimson, blond, … are not basic).

Berlin & Kay 1969: Color terms

• The segmentation of experience by speech symbols is essentially arbitrary. The different sets of words for color in various languages are perhaps the best ready evidence for such essential arbitrariness. For example, in a high percentage of African languages, there are only three “color words,” corresponding to our white, black, red, which nevertheless divide up the entire spectrum. In the Tarahumara language of Mexico, there are five basic color words, and here “blue” and “green” are subsumed under a single term.
  – Eugene Nida (1959)
## Berlin & Kay 1969: Color terms

<table>
<thead>
<tr>
<th>Language</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arabic</td>
<td>Lebanon</td>
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<tr>
<td>Bulgarian</td>
<td>Bulgaria</td>
</tr>
<tr>
<td>Catalan</td>
<td>Spain</td>
</tr>
<tr>
<td>Cantonese</td>
<td>China</td>
</tr>
<tr>
<td>Mandarin</td>
<td>China</td>
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<tr>
<td>English (US)</td>
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<tr>
<td>Hebrew</td>
<td>Israel</td>
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<tr>
<td>Hungarian</td>
<td>Hungary</td>
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<tr>
<td>Ibibo</td>
<td>Nigeria</td>
</tr>
<tr>
<td>Indonesian</td>
<td>Indonesia</td>
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<tr>
<td>Japanese</td>
<td>Japan</td>
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<tr>
<td>Korean</td>
<td>Korea</td>
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<tr>
<td>Pomo</td>
<td>California</td>
</tr>
<tr>
<td>Spanish</td>
<td>Mexico</td>
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<tr>
<td>Swahili</td>
<td>East Africa</td>
</tr>
<tr>
<td>Tagalog</td>
<td>Philippines</td>
</tr>
<tr>
<td>Thai</td>
<td>Thailand</td>
</tr>
<tr>
<td>Tzeltal</td>
<td>Mexico</td>
</tr>
<tr>
<td>Urdu</td>
<td>India</td>
</tr>
<tr>
<td>Vietnamese</td>
<td>Vietnam</td>
</tr>
</tbody>
</table>

## Eleven possible basic color terms

- White, black, red, green, yellow, blue, brown, purple, pink, orange, gray.
- All languages contain term for white and black.
- Has 3 terms, contains a term for red.
- Has 4 terms, contains green or yellow.
- Has 5 terms, contains both green and yellow.
- Has 6 terms, contains blue.
- Has 7 terms, contains brown.
- Has 8 or more terms, chosen from {purple, pink, orange, gray}.

## Color hierarchy

- White, black
- Red
- Green, yellow
- Blue
- Brown
- Purple, pink, orange, gray

Even assuming these 11 basic color terms, there should be 2048 possible sets—but only 22 (1%) are attested.

## Color terms

- BW Jalé (New Guinea) ‘brilliant’ vs. ‘dull’
- BWR Tiv (Nigeria), Australian aboriginals in Seven Rivers District, Queensland
- BWRG Ibibo (Nigeria), Hanunóo (Philippines)
- BWRY Ibo (Nigeria), Fitzroy River people (Queensland)
- BWRYG Tzeltal (Mexico), Daza (eastern Nigeria)
- BWRYGU Plains Tamil (South India), Nupe (Nigeria), Mandarin?
- BWRYGUO Nez Perce (Washington), Malayalam (southern India)

## Implicational hierarchy

This is a ranking of markedness or an implicational hierarchy.

- Having blue is more marked than having (any or all of) yellow, green, red, white, and black.
- Having green is more marked than having red…
- Like a set of implicational universals…
  - Blue implies yellow
  - Blue implies green
  - Yellow or green imply red
  - Red implies black
  - Red implies white
  - Brown implies blue
  - Pink implies brown
  - Orange implies brown
  - Gray implies brown
  - Purple implies brown
### L2A?

- Our overarching theme: How much is L2/IL like a L1?
- Do IL/L2 languages obey the language universals that hold of native languages?
- This question is slightly less *theory*-laden than the questions we were asking about principles and parameters, although it’s similar…
- To my knowledge nobody has studied L2 acquisitions of color terms…

### Question formation

- Declarative: John will buy coffee.
- Wh-inversion: What will John buy?
- Wh-fronting: What will John buy?
- Yes/No-inversion: Will John buy coffee?
- Greenberg (1963):
  - Wh-inversion implies Wh-fronting.
  - Yes/No-inversion implies Wh-inversion.

### Wh-inversion→Wh-fronting

- English, German: Both.
  - *What will John buy?*
  - John will buy what?
- Finnish: Wh-fronting only.
  - *What John will buy?*
- *Unattested:* Wh-inversion only.
  - *Will John buy what?*

### Y/N-inversion→Wh-inversion

- English: Both
  - *Will John buy coffee? What will John buy?*
- Japanese: Neither
  - John will buy coffee? John will buy what?
- Lithuanian: Wh-inversion only.
  - John will buy coffee? What will John buy?
  - *Unattested:* Y/N-inversion only.
  - *Will John buy coffee? What John will buy?*

### Eckman, Moravcsik, Wirth (1989)

- L1: Korean (4), Japanese (6), Turkish (4)
- L2: English

- Note L1s chosen because they are neither/neither type languages, to avoid questions of transfer.
- Subjects tried to determine what was going on in a scene by asking questions.

### Eckman, Moravcsik, Wirth (1989)

- Example Y/N Qs:
  - *Did she* finish two bottle wine?
  - *Is Lou and Patty* known each other?
  - Sue does drink orange juice?
  - Her parents are rich?
  - *Is this story* is chronological in a order?
  - *Does Joan* has a husband?
  - Yesterday *is Sue* did drink two bottles of wine?
Eckman, Moravcsik, Wirth (1989)

• Example Wh-Qs:
  – Why Sue didn’t look solution for her problem?
  – Where Sue is living?
  – Why did Sue stops drinking?
  – Why is Patty’s going robbing the bank?
  – What they are radicals?
  – What Sue and Patty connection?
  – Why she was angry?

Eckman, Moravcsik, Wirth (1989)

<table>
<thead>
<tr>
<th></th>
<th>% YNINV</th>
<th>% WHINV</th>
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<tr>
<td>MK K</td>
<td>38</td>
<td>80</td>
</tr>
<tr>
<td>YK J</td>
<td>51</td>
<td>100</td>
</tr>
<tr>
<td>TS J</td>
<td>67</td>
<td>70</td>
</tr>
<tr>
<td>TM K</td>
<td>83</td>
<td>100</td>
</tr>
<tr>
<td>RO J</td>
<td>85</td>
<td>86</td>
</tr>
<tr>
<td>BG J</td>
<td>86</td>
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<td>SI J</td>
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<td>95</td>
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<tr>
<td>ST J</td>
<td>100</td>
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</table>

Eckman, Moravcsik, Wirth (1989)

<table>
<thead>
<tr>
<th></th>
<th>% WHIN</th>
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<tr>
<td>SM K</td>
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<td>UA T</td>
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<td>TS J</td>
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<td>SI J</td>
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<td>100</td>
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<tr>
<td>ST J</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Eckman’s Markedness Differential Hypothesis

• Markedness. A phenomenon or structure X in some language is relatively more marked than some other phenomenon or structure Y if cross-linguistically the presence of X in a language implies the presence of Y, but the presence of Y does not imply the presence of X.
  – Duals imply plurals.
  – Wh-inversion implies wh-fronting.
  – Blue implies red.

Markedness Differential Hypothesis

• MDH: The areas of difficulty that a second language learner will have can be predicted on the basis of a comparison of the NL and TL such that:
  – Those areas of the TL that are different from the NL and are relatively more marked than in the NL will be difficult;
  – The degree of difficulty associated with those aspects of the TL that are different and more marked than in the NL corresponds to the relative degree of markedness associated with those aspects;
  – Those areas of the TL that are different than the NL but are not relatively more marked than in the NL will not be difficult.
MDH vs. CAH

- Those areas of the TL that are different from the NL and are relatively more marked than in the NL will be difficult;
- The MDH is a bit better than its predecessor, the Contrastive Analysis Hypothesis because it anticipates (and attempts to systematically predict) that not every difference between TL and NL cause learners difficulty.

MDH example:
Word-final segments

- Voiced obstruents  most marked  Surf;
- Voiceless obstruents  Coke;
- Sonorant consonants  Mountain;
- Vowels  least marked  Coffee.

- All Ls allow vowels word-finally—some only allow vowels. Some (e.g., Mandarin, Japanese) allow only vowels and sonorants. Some (e.g., Polish) allow vowels, sonorants, but only voiceless obstruents. English allows all four types.

MDH example:
Word-final segments

<table>
<thead>
<tr>
<th>Spanish L1</th>
<th>Mandarin L1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gloss</td>
<td>IL form</td>
</tr>
<tr>
<td>Bob</td>
<td>[bɔp]</td>
</tr>
<tr>
<td>Bobby</td>
<td>[bɔbi]</td>
</tr>
<tr>
<td>Red</td>
<td>[reɪ]</td>
</tr>
<tr>
<td>Wet</td>
<td>[wɛt]</td>
</tr>
<tr>
<td>Sick</td>
<td>[sk]</td>
</tr>
<tr>
<td></td>
<td>Bleeding</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mandarin L1</th>
<th>IL form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tag</td>
<td>[tægəs]</td>
</tr>
<tr>
<td>And</td>
<td>[ændə]</td>
</tr>
<tr>
<td>Wet</td>
<td>[wɛt]</td>
</tr>
<tr>
<td>Deck</td>
<td>[dek]</td>
</tr>
<tr>
<td>Letter</td>
<td>[lɛtər]</td>
</tr>
<tr>
<td>Bleeding</td>
<td>[blɪdɪŋ]</td>
</tr>
</tbody>
</table>

MDH and IL

- The MDH presupposes that the IL obeys the implicational universals too.
- Eckman et al. (1989) suggests that this is at least reasonable.
- The MDH suggests that there is a natural order of L2A along a markedness scale (stepping to the next level of markedness is easiest).
- Let’s consider what it means that an IL obeys implicational universals…

MDH and IL

- IL obeys implicational universals.
- That is, we know that IL is a language.
- So, we know that languages are such that having word-final voiceless obstruents implies that you also have word-final sonorant consonants, among other things.
- What would happen if we taught Japanese L2 learners of English only—and at the outset—voiced obstruents?
Generalizing with markedness scales

- Voiced obstruents *most marked* Surge
- Voiceless obstruents Coke
- Sonorant consonants Mountain
- Vowels *least marked* Coffee

- Japanese learner of English will have an easier time at each step learning voiceless obstruents and then voiced obstruents.
- But—if taught voiced obstruents immediately, the fact that the IL obeys implicational (markedness) universals means that voiceless obstruents “come for free.”

Nifty!

- Does it work? Does it help?
- Answers seem to be:
  - Yes, it seems to at least sort of work.
  - Maybe it helps.
- Point is: Learning a marked structure is *harder*. So, if you learn a marked structure, you can automatically generalize to the less marked structures, but was it faster than learning the easier steps in succession would have been?

Change between pre- & post-test

Eckman, Bell, and Nelson (1988)

**The Noun Phrase Accessibility Hierarchy**

- Keenan & Comrie (1977) observed a hierarchy among the kinds of relative clauses that languages allow.
- The astronaut [(that) I met yesterday].
- Head noun: *astronaut*
- Modifying clause: (that/who) I met — yesterday.
- Compare: I met the astronaut yesterday.
- This is an *object relative* because the place where the head noun would be in the simple sentence version is the object.

The Noun Phrase Accessibility Hierarchy

- There are several kinds of relative clauses, based on where the head noun “comes from” in the modifying clause:
  - The astronaut...
    - [I met — yesterday] object
    - [who — met me yesterday] subject
    - [I gave a book to —] indirect object
    - [I was talking about —] obj. of P
    - [whose house I like —] Genitive (possessor)
    - [I am braver than —] obj. of comparative

The Noun Phrase Accessibility Hierarchy

- Turns out: Languages differ in what positions they allow relative clauses to be formed on.
  - English allows all the positions mentioned to be used to make relative clauses.
  - Arabic allows relative clauses to be formed only with subjects.
  - Greek allows relative clauses to be formed only with subjects or objects.
Resumptive pronouns

- The guy who they don’t know whether he wants to come.
- A student who I can’t make any sense out of the papers he writes.
- The actress who Tom wondered whether her father was rich.
- In cases where relative clause formation is not allowed, it can sometimes be salvaged by means of a pronoun in the position that the head noun is to be associated with.

NPAH and resumptive pronouns

- Generally speaking, it turns out that in languages which do not allow relative clauses to be formed off a certain position, they will instead allow relative clauses with a resumptive pronoun in that position.
- Arabic: allows only subject relative clauses. But for all other positions allows a resumptive pronoun construction, analogous to:
  - The book that John bought it.
  - The tree that John is standing by it.
  - The astronaut that John gave him a present.

NPAH

- The positions off which you can relativize appears to be an implicational hierarchy.

<table>
<thead>
<tr>
<th>Language</th>
<th>SUB</th>
<th>DO</th>
<th>IO</th>
<th>OP</th>
<th>GEN</th>
<th>OCOMP</th>
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<td>(+)</td>
<td>+</td>
<td>+</td>
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<td>+</td>
</tr>
</tbody>
</table>

NPAH in L2A

- Very widely studied implicational universal in L2A—many people have addressed the question of whether the IL obeys the NPAH and whether teaching a marked structure can help.
- Eckman et al. (1989) was about this second question…

Change between pre- & post-test
Eckman, Bell, and Nelson (1988)

Next week

- Anna Do, graduate student in the Applied Linguistics program here at BU, has looked at this question focusing on English speakers learning Korean, trying to determine (a) whether the learners’ IL obey the NPAH, and (b) to what extent there is transfer of the position of the L1 on the NPAH to the IL (where the TL is at a different position).
- Next week, she’ll be here to tell us about her experiment and her results.