LSci 51/Psych 56L: Acquisition of Language

Lecture 16
Development of morphology
Announcements

- Review questions for morphology and syntax available

- HW5 available (begin working on it): due 11/25/19
Adult knowledge:
The target state for morphology
Adult knowledge: The target state for morphology

http://arnoldzwicky.org/category/morphology/inflection/
Words and word parts

https://www.youtube.com/watch?v=nduDAN9sKx4
http://www.thelingspace.com/episode-7
0:38 - 3:10: smallest units of meaning
Words and word parts

The smallest unit manipulated by the rules of syntax is *not* a single word. Instead there are units smaller than words that play a role, called **morphemes**.

One goblin.

Two goblins.  
\[
goblins = \text{goblin} + s = + \text{plural}
\]

Morpheme = smallest unit of meaning
Words and word parts

https://www.youtube.com/watch?v=nduDAN9sKx4
http://www.thelingspace.com/episode-7
3:10 - 4:20: bound vs. free morphemes
Words and word parts

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One goblin.
Two goblins.  \[ \text{goblins} = \text{goblin} + s = + \text{plural} \]

**Bound morpheme** = morpheme that can’t stand on its own - it must be attached to something
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One goblin.
Two goblins. goblins = goblin + s = + plural

Free morpheme = morpheme that can stand on its own - it does not need to be attached to another morpheme
Morphology types

https://www.youtube.com/watch?v=BTZCozhneKA
http://www.thelingspace.com/episode-72
1:56 - 3:20: derivational morphology + structure
Types of morphology

Derivational morphology: forms a new word, potentially changing the word’s category (nouns become adjectives, verbs become nouns, etc.)

- **goblin**
  - **goblinish**  
    - $goblinish = goblin + ish = + similar to$

- **scowl**
  - **scowler**  
    - $scowler = scowl + er = + one who does that action$
Morphology types

https://www.youtube.com/watch?v=BTZCozhneKA
http://www.thelingspace.com/episode-72
5:21-7:00: inflectional morphology
Types of morphology

Inflectional morphology: adds grammatical information, but does not change the word’s category (nouns stay nouns, verbs stay verbs, etc.)

One goblin.
Two goblins.  goblins = goblin + s = + plural

He scowls.  scowls = scowl + s =

He’s scowling.  scowling = scowl + ing = + present tense
+ continuing action
Cross-linguistic comparison

English does not have a rich morphological system, compared to other languages. Instead, English mostly relies on word order to indicate who did what to whom.

Languages like Hungarian, however, rely more on morphology.

“The boy gave a book to the girl.”

A fiú könyvet adott a lánynak.
The boy a book+ACC gave the girl+DAT

Inflectional morphology:
ACC = accusative case = direct object (thing given)
Cross-linguistic comparison

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Languages like Hungarian, however, rely more on morphology.

“The boy gave a book to the girl.”

A fiú könyvet adott a lánynak.
The boy a book+ACC gave the girl+DAT

Inflectional morphology:
DAT = dative case = indirect object (recipient of giving)
Words and word parts

https://www.youtube.com/watch?v=nduDAN9sKx4
http://www.thelingspace.com/episode-7
5:08 - 5:36: cross-linguistic variation
Forms of “I go” in Turkish:
gidiyorum, gidiyordum, gidiyorsam, gidiyorduysam, gidiyormuşum, gidiyormuşsam, giderim, giderdim, gidersem, giderdiysem, gidermişim, gidermişsem, gideceğim, gidecektim, gideceksem, gidecektiysem, gidecekmişim, gidecekmişsem, gitmişim, gitmişim, gitmişsem, ...

(http://cromwell-intl.com/turkish/verbs.html)

<table>
<thead>
<tr>
<th>Simple</th>
<th>Past</th>
<th>Conditional</th>
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Morphological variation cross-linguistically

http://www.thelingspace.com/episode-17
https://www.youtube.com/watch?v=PN1DxuVt4hI
2:22 - 3:46
Cross-linguistic comparison

http://specgram.com/CLII.3/09.phlogiston.cartoon.3.html

I all possess friend all want eat chicken egg

“My friends all want to eat eggs.”
Isolating languages

https://www.youtube.com/watch?v=Ts2DS0ZsTyO&feature=youtu.be
1:30-2:24: isolating languages
Cross-linguistic comparison

http://specgram.com/CLII.3/09.phlogiston.cartoon.3.html

Agglutinative

Turkish

Avrupa- li- laş- tır- ama- dik- lar- imiz- dan

Europe -an become-ize NEG whom those we one.of

“Are you one of those whom we could not Europeanize?”

mi- siniz

Q are.you
Agglutinative languages

https://www.youtube.com/watch?v=Ts2DS0ZsTyo&feature=youtu.be
2:24-3:34: agglutinative languages
Cross-linguistic comparison

http://specgram.com/CLII.3/09.phlogiston.cartoon.3.html

"The man spoke with the woman,"

El hombre habló con la mujer.

SPEAK-INDIC.PAST.PERF.3rd.Sg
Fusional languages

https://www.youtube.com/watch?v=Ts2DS0ZsTyo&feature=youtu.be

3:34-4:34: fusional languages
Cross-linguistic comparison

http://specgram.com/CL11.3/09.phlogiston.cartoon.3.html

"If only you had not been able to make him take it all out from under me again for them!"

"Poly synthetic"

http://specgram.com/CL11.3/09.phlogiston.cartoon.3.html
Polysynthetic languages

https://www.youtube.com/watch?v=Ts2DS0ZsTyo&feature=youtu.be
6:45-7:49: polysynthetic languages
Development
Between 2 and 3 years old, children begin adding in the more “grammatical” categories - in particular the bound morphemes.

Usage of bound morpheme (either -ing progressive or -s plural) when required

Development is gradual (though may have spurt-like parts), and there are large ranges - not all bound morphemes come in at the same time
Something tricky:
English has multipurpose morphology

https://www.youtube.com/watch?v=Ts2DS0ZsTyo&feature=youtu.be
4:31-4:52
Morphological development

The order of acquisition for bound morphemes in English does appear to be similar across different children, however (even if their rates of development are quite different).

Brown (1973): three children (Adam, Eve, Sarah)
(1) present progressive: laughing /ɪŋ/  
(2) plural: cats /s/, dogs /z/, glasses /əz/  
(3) possessive: cat’s /s/, dog’s /z/, glass’s /əz/  
(4) regular past tense: touched /t/, hugged /d/, wanted /əd/  
(5) 3rd person singular: laughs /s/, hugs /z/, touches /əz/  
(6) contracted be: The cat’s going to /s/, he’s going to /z/  
(7) contracted auxiliary verb: he’d like to /d/, he’ll have to /l/  

Note: Chan & Lignos (2011) describe a learning strategy that could cause English children to produce this order, based on how hard or easy it is to recognize that a derived form like “hugs” is related to a base form like “hug”.
Morphological development

The order of acquisition for bound morphemes in English does appear to be similar across different children, however (even if their rates of development are quite different).

But what about development cross-linguistically? Remember, English is fairly impoverished morphologically when compared to languages like Hungarian.

English: “the goblin” = always the same form
Hungarian: “the goblin” may have up to 16 different forms, depending on what “the goblin” ’s role in the sentence is
Morphological development

Important: Morphologically rich languages are not necessarily more difficult for children to learn. Regular/predictable systems are easier for children to learn than languages that have multiple exceptions (like English often does).

Regularity vs. exceptions in English (ex: past tense):

We laughed.
We hugged.
We danced.
* We singed. (We sang.)
* We runned. (We ran.)
Morphological development

Important: Morphologically rich languages are not necessarily more difficult for children to learn. Regular/predictable systems are easier for children to learn than languages that have multiple exceptions (like English often does).

Regular morphologically rich language: Turkish

Inflected forms seem no harder for Turkish children to acquire. In fact, they often produce inflected forms (equivalent to English “laughed”) before they even combine words in multiple word utterances.
Morphological development

Other factors that help make morphology easier to learn:

- **high frequency** (more frequent morphemes are easier)
- **regularity** in form (morpheme is always the same)
- **fixed position** relative to the stem (ex: morpheme always attaches to the end of the word)
- morpheme is easy to recognize as **separate** from the stem (ex: laugh + ing)
- rhythm of language makes morpheme **perceptually salient** (ex: receives stress)
Morphology recap

Morphology refers to how words are put together to convey meaning.

The smallest units of meaning are morphemes, which can be smaller than a whole word.

Some morphology can change the category of a word (derivational), while other morphology does not (inflectional).

Languages vary on how rich their system of morphology is. Children must learn how their language puts words together, and what types of meaning can be conveyed via morphology.
Questions?

You should be able to answer up through question 3 on the review questions, and up through question 4 on HW5.