More Morphology

Problem Set #1 is up: it’s due next Thursday (1/19)

fieldwork component:
    Figure out how negation is expressed in your language.
Martian fieldwork notes

X!oo  (popular Martian name)

• (feel free to make up your own transcription system)
Martian fieldwork notes

X!oo kuulduud bii

‘X!oo is a linguist’

• ‘What’s the word for “linguist”? ’
• ‘How do you say “X!oo is a physicist”? ’

‘X!oo is a linguist’
Martian fieldwork notes

X!oo kuulduud bii
X!oo linguist is
‘X!oo is a linguist’

• ‘What’s the word for “linguist”?’
• ‘How do you say “X!oo is a physicist”?’

Image of martian removed for copyright reasons.

Martian fieldwork notes

X!oo kuulduud bii
X!oo linguist is
‘X!oo is a linguist’

X!oo amsterdam digdug
X!oo canal dug
‘X!oo dug a canal’

X!oo amsterdam gudgid
X!oo canal is-digging
‘X!oo is digging a canal’

Image of martian removed for copyright reasons.
Martian fieldwork notes

**X!oo kuulduud bii**
X!oo linguist is
‘X!oo is a linguist’

**X!oo kuulduud noowee**
X!oo linguist NEG-is
‘X!oo isn’t a linguist’

**X!oo amsterdam digdug**
X!oo canal dug
‘X!oo dug a canal’

**X!oo amsterdam digwedug**
X!oo canal NEG-dug
‘X!oo didn’t dig a canal’

**X!oo amsterdam gudgid**
X!oo canal is-digging
‘X!oo is digging a canal’

**X!oo amsterdam gudwegid**
X!oo canal NEG-is-digging
‘X!oo isn’t digging a canal’

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**Martian fieldwork notes**

**hypotheses:**
- negative of ‘is’
  is irregular (bii > noowee)

- regular negation
  is an infix -we-
  ...after the first syllable?
  ...before the last syllable?
  ....??

**X!oo kuulduud noowee**
X!oo linguist NEG-is
‘X!oo isn’t a linguist’

**X!oo amsterdam digwedug**
X!oo canal NEG-dug
‘X!oo didn’t dig a canal’

**X!oo amsterdam gudwegid**
X!oo canal NEG-is-digging
‘X!oo isn’t digging a canal’
Martian fieldwork notes

**X!oo yodeleehihuu**

X!oo is-singing
‘X!oo is singing’

**X!oo roovaa munchmunchyum**

X!oo spacecraft destroyed
‘X!oo destroyed a spacecraft’

Image of martian removed for copyright reasons.

Martian fieldwork notes

**X!oo yodeleehihuu**

X!oo is-singing
‘X!oo is singing’

**X!oo yowedeleehihuu**

X!oo NEG-is-singing
‘X!oo isn’t singing’

**X!oo roovaa munchmunchyum**

X!oo spacecraft destroyed
‘X!oo destroyed a spacecraft’

**X!oo roovaa munchwemunchyum**

X!oo spacecraft NEG-destroyed
‘X!oo didn’t destroy a spacecraft’

Image of martian removed for copyright reasons.
Martian fieldwork notes

X!oo yodeleehihuux X!oo yowedeleehihuux
X!oo is-singing X!oo NEG-is-singing
‘X!oo is singing’ ‘X!oo isn’t singing’

X!oo roovaa munchmunchyum X!oo roovaa munchwemunchyum
X!oo spacecraft destroyed X!oo spacecraft NEG-destroyed
‘X!oo destroyed a spacecraft’ ‘X!oo didn’t destroy a spacecraft’

Negative morpheme -we- apparently infixed after first syllable of verb.

More on fieldwork

- Make sure your consultant knows what you’re interested in:
  “how people really speak”, not necessarily “proper language”.

- Start with simple, culturally appropriate sentences.

- Don’t assume that you’re getting what you’re asking for.

- Be organized.

- Be nice!
returning to our previous discussion...

- prefixes
- suffixes
- infixes
- templatic morphology

**Tone**: Buli

\[ ñàgı wà \quad \text{'I hit him'} \]
\[ wà ñàgı mù \quad \text{'he hit me'} \]

....etc., etc......

lexicon contains **morphemes**, with information on:

- sound
- meaning
- bound vs. free
- prefix vs. suffix (vs. infix...)

...
industri-al
nation-al
autumn-al

*assert-al
*impress-al
*industrializ-al

industri-al

*industrializ-al
industrializ-ation-al
lexicon contains **morphemes**, with information on:
- sound
- meaning
- bound vs. free
- prefix vs. suffix
- what kind of morpheme they can attach to
- what kind of category they create

In fact, sometimes the information about what a morpheme can attach to isn't just information about categories:

<table>
<thead>
<tr>
<th>Word</th>
<th>Suffix</th>
</tr>
</thead>
<tbody>
<tr>
<td>sincere</td>
<td>-ity</td>
</tr>
<tr>
<td>chaste</td>
<td>-ity</td>
</tr>
<tr>
<td>scarce</td>
<td>-ity</td>
</tr>
<tr>
<td>curious</td>
<td>-ity</td>
</tr>
<tr>
<td>deep</td>
<td>-th</td>
</tr>
<tr>
<td>wide</td>
<td>-th</td>
</tr>
<tr>
<td>warm</td>
<td>-th</td>
</tr>
</tbody>
</table>
And there can be idiosyncratic information about what happens when the morphemes combine, too:

- electri[k]-al
  - electri[s]-ity

- hum humm-ed
- leap [lep]-t
- go [wen]-t
- sing sang

- -i[k] and -i[s],
  - leap and [lep]
  - -[d] and -[t]
  - are allomorphs: different forms that a single morpheme takes in combination with other morphemes.

### Allomorphy: Polish plurals

<table>
<thead>
<tr>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>jezyk ‘language’</td>
<td>jezyki ‘languages’</td>
</tr>
<tr>
<td>garnek ‘pot’</td>
<td>garneki ‘pots’</td>
</tr>
<tr>
<td>sok ‘juice’</td>
<td>soki ‘juices’</td>
</tr>
<tr>
<td>wuk ‘bow’</td>
<td>wuki ‘bows’</td>
</tr>
</tbody>
</table>
**Allomorphy: Polish plurals**

jezyk ‘language’  \hspace{1cm} jezyki ‘languages’

garnek ‘pot’  \hspace{1cm} garneki ‘pots’

sok ‘juice’  \hspace{1cm} soki ‘juices’

wuk ‘bow’  \hspace{1cm} wuki ‘bows’

brzek ‘bank of a river’  \hspace{1cm} brzegi ‘banks of a river’

dwuk ‘debt’  \hspace{1cm} dwugi ‘debts’

wuk ‘lye’  \hspace{1cm} wugi ‘(kinds of) lye’
Allomorphy: Polish plurals

jezyk ‘language’   jezyki ‘languages’
garnek ‘pot’   garneki ‘pots’
sok ‘juice’   sokí ‘juices’
wuk ‘bow’   wuki ‘bows’
brzek ‘bank of a river’   brzegi ‘banks of a river’
dwuk ‘debt’   dwugi ‘debts’
wuk ‘lye’   wugi ‘(kinds of) lye’

wuk ‘bow’ and wuk ‘lye’ are a minimal pair.

-->we’ll never be able to predict which k’s change to g’s in the plural....

Allomorphy: Polish plurals

jezyk ‘language’   jezyki ‘languages’
garnek ‘pot’   garneki ‘pots’
sok ‘juice’   sokí ‘juices’
wuk ‘bow’   wuki ‘bows’
brzek ‘bank of a river’   brzegi ‘banks of a river’
dwuk ‘debt’   dwugi ‘debts’
wuk ‘lye’   wugi ‘(kinds of) lye’

plus a rule: g changes to k at the end of a word.
Word structure

What does -ment attach to? What's the resulting category?
  government, treatment...
  *bodyment, powerment...

How about em-?
  embody, empower...

So why is there this contrast?
  *bodyment, powerment...
  embodiment, empowerment...
• *em*: 'sister' is an N, 'mother' is a V
• *ment*: 'sister' is a V, 'mother' is an N

- industrialization
- re-industrialization
- unlockable
morphemes:
- `-able`: takes a V, yields an A meaning 'possible to V' (*readable, understandable*)
- `un`-#1: takes a V, yields a V meaning 'reverse the effects of V' (*untie, unwrap*)
- `un`-#2: takes an A, yields an A meaning 'not A' (*unlikely, unhappy*)
- `lock`: here, a V (though there is also an N 'lock'. Is one of these derived from the other, via an unpronounced affix?)

Most of our discussion of morphology has been about language-specific properties:

- a morpheme with a given meaning may be pronounced differently in different languages (Sausssure)
- a morpheme may be a prefix, a suffix, an infix...

<table>
<thead>
<tr>
<th>English</th>
<th>Lardil</th>
<th>Tagalog</th>
</tr>
</thead>
<tbody>
<tr>
<td>danced</td>
<td>yuud-luuli</td>
<td>sumayaw</td>
</tr>
</tbody>
</table>

- a morpheme may be bound or free...

<table>
<thead>
<tr>
<th>English</th>
<th>Turkish</th>
<th>Mohawk</th>
</tr>
</thead>
<tbody>
<tr>
<td>in my hand</td>
<td>el- -im -de</td>
<td>Wa'- ke- nákta-hnínu-'</td>
</tr>
<tr>
<td>I bought a bed</td>
<td>hand my in</td>
<td>PAST 1sgS bed buy PUNCT</td>
</tr>
</tbody>
</table>
In fact, languages are sometimes informally classified by how likely their morphemes are to be bound.

**Isolating** languages; not many bound morphemes

*Chinese*
Tā chī fàn le
he eat meal PAST
'He ate the meal'

**Polysynthetic** languages; opposite of isolating

*Wampanoag*
nu-pâhk-nuhtō-peepeenaw-uchuchôhq-ôkan-uhtyā -eenun -eum -unôn-ak
1 clear skill look reflection device make person POSS 1PL AN.PL
'our very skillful mirror makers'

**Agglutinative** languages; morphemes easily separable from each other

*Turkish*
tani  -sh  -tir  -il  -di  -lar
know each-other cause passive past 3PL
'They are introduced to each other'

**Fusional/inflectional** languages; morphemes tend to squash together

*Russian*
komnat  -u
room Feminine.Singular.Accusative

komnat  -y
room Feminine.Plural.Accusative

brat  -a
brother Masculine.Animate.Singular.Accusative
So we've seen that there's a lot that's language-specific. Is anything universal?

why, yes:

**inflectional** morphology (agreement, tense, etc.) is always 'higher'
**derivational** morphology (category-changing, causative...)

**Georgian**

```
V
/   \
|     |   \\
Aff   V   Aff
da     \   \\
V     /   \\
|     |   \\
'1sg' Aff V Aff '1sg'
a xatvineb\ \\
't CAUSE' 'paint'
```

**Turkish**

```
V
/   \
|     |   \\
Aff   V   Aff
im     \   \\
V     /   \\
|     |   \\
D     V   Aff 'Past'
ach tir\ \\
'open' 'CAUSE'
```

'I will have him paint it'  'I had him open it'

similar universals for other kinds of morphemes:

**Swahili**

```
V
/   \
|     |   \\
Aff   V   Aff
u     \   \\
V     /   \\
|     |   \\
'2sg' Aff V Aff '2sg'
li piga\ \\
'PAST' 'hit'
```

**German**

```
V
/   \
|     |   \\
Aff   V   Aff
st     \   \\
V     /   \\
|     |   \\
Schlag te V Aff 'PAST'
'hit'  'you hit'
```

**English**

```
in
/   \
|     |   \\
my hand -s
```

**Turkish**

```
in-de
/   \
|     |   \\
El -ler 'my'
-el -im 'in'
'hand'  'plural'
```
• these trees have something in common; if A is higher than B in one tree, the same A is higher than B in the corresponding tree in a different language (where 'higher' means 'the mother of A has B as a daughter, or as the daughter of a daughter, repeating generations as necessary'). This is true, for instance, of the morphemes meaning 'in' and 'my' in English and Turkish, even though the morphemes are bound, and suffixal, in Turkish, while they are free, and precede their sisters, in English. If we look at these words in the way that we've been arguing that we should, then, we do see universals, despite the apparent variation between languages.

Of course, there are still questions: why do these particular morphemes have to be higher than these other morphemes? We're going to have to put that question aside, for now...