Linguistics 101
Morphology
1. The Basics
2. Talking about Morphemes
   o General
   o Affixes
3. Hierarchical Structure
4. Morphophonology
5. Coining New Words
Definition: the study of word structure

Morphology is part of the grammar.

Contains rules and constraints for forming words.

- un + lady + like / un + husband + like
- boy + ish / *ish+boy
- boy + ish + ness / *boy + ness + ish
Words are built up of one or more morphemes.

- deactivate: de - act - ive - ate

A morpheme is any of the minimal units of speech which carry a meaning or function

- apple
- the
- -s (plural)
- -ed (past tense)
- -ate (creates verbs)
- ...
Morphemes are stored in the *lexicon*.

Morphemes consist of a form and a meaning or function.

‘water’
- form = /watər/
- meaning = H₂O

‘for’
- form = /fɔr̩/
Do not confuse morphemes with sound sequences.

<table>
<thead>
<tr>
<th>spelling</th>
<th>phonological form</th>
<th>meaning/function</th>
</tr>
</thead>
<tbody>
<tr>
<td>too</td>
<td>/tu/</td>
<td>‘additionally’</td>
</tr>
<tr>
<td>to</td>
<td>/tu/</td>
<td>‘in the direction of’</td>
</tr>
<tr>
<td>two</td>
<td>/tu/</td>
<td>‘2’</td>
</tr>
</tbody>
</table>

- too, to, and two are different morphemes
Do not confuse morphemes with sound sequences.

<table>
<thead>
<tr>
<th>spelling</th>
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</tr>
</thead>
<tbody>
<tr>
<td>s</td>
<td>/z/</td>
<td>(plural)</td>
</tr>
<tr>
<td>s</td>
<td>/z/</td>
<td>(agreement)</td>
</tr>
<tr>
<td>‘s</td>
<td>/z/</td>
<td>(possession)</td>
</tr>
</tbody>
</table>

- two dog-s (plural)
- the dog begs (subject agreement)
- the dog’s tail (possession)
All morphemes are either free or bound.

A free morpheme can appear on its own
- cat
- love
- apple
- paint

A bound morpheme cannot appear on its own
- -ness
- bi-
- -ist
- lingu-
Some words contain only bound morphemes
  o linguist = lingu + ist

Some bound morphemes appear in one word only
  o cranberry = cran + berry
  o lukewarm = luke + warm
Some words contain more than one free morpheme.

- Compounds: roof-top, book-store
Talking about Morphemes

- All words contain a root.

- The root carries the word’s principal meaning.

- The root may or may not be able to stand alone.

  - Free: paint (‘painter’, ‘painting’, ‘painted’)
  - Bound: lingu- (‘linguist’, ‘bilingual’)

Affixes are bound morphemes.

Affixes are used heavily in many languages to form forms.

There are four types of affixes:

1. Prefixes
2. Suffixes
3. Infixes
4. Circumfixes
**Affixes**

- **Prefix** – attaches to beginning of a stem
  - *un-*  
    - *un+do*
  - *de-*  
    - *de+port*
  - *im-*  
    - *im+port*
  - *ex-*  
    - *ex+port*

- **Suffix** – attaches to end of a stem
  - *-ness*  
    - *kind+ness*
  - *-ly*  
    - *quick+ly*
  - *-ite*  
    - *Wisconsin+ite* (representin’)  
  - *-er*  
    - *sing+er*
Infix – inserted inside another morpheme

- fuckin-
  abso+fuckin+lutely
- iz(n)-
  b+iz+ itch; sh+iz(n)+it
- ma-
  sophisti+ma+cated

Think about the word de+act+ive+ate. Why isn’t ive considered an infix?
Circumfix - two parts, one part precedes and one part follows a stem

- Rare in English (e.g. a-(verb)-ing)
  - Gather ye rosebuds while ye may, Old time is still a-flying
  - He’s a-comin’ alright.
- German past tense: ge-...-t
  - kauf ‘buy’ → ge-kauf-t ‘bought
Words have a hierarchical structure

Meaning is related to the structure

Example: ‘unlockable’

Unable to be locked

Able to be unlocked
Even with one meaning, there is hierarchy.
  
  - Example: unsystematically
Morphophonology refers to the interaction between morphology and phonology.

The combination of morphemes often triggers phonological processes.

- e.g. the English plural morpheme
  
  book + s → books
  
  /bʊk/ + /z/ → [bʊkz] → [bʊks]
### Example - English plural morpheme -s

<table>
<thead>
<tr>
<th></th>
<th>cab</th>
<th>cad</th>
<th>bag</th>
<th>love</th>
<th>lathe</th>
<th>cam</th>
<th>can</th>
<th>bang</th>
<th>call</th>
<th>bar</th>
<th>spa</th>
<th>boy</th>
</tr>
</thead>
<tbody>
<tr>
<td>pronunciation</td>
<td>[z]</td>
<td>[s]</td>
<td>[s]</td>
<td>(e)s</td>
<td>[z]</td>
<td>[s]</td>
<td>[s]</td>
<td>[z]</td>
<td>[s]</td>
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</tr>
<tr>
<td></td>
<td>cap</td>
<td>cat</td>
<td>back</td>
<td>cuff</td>
<td>faith</td>
<td>-s</td>
<td>-s</td>
<td>-s</td>
<td>-s</td>
<td>-s</td>
<td>-s</td>
<td>-s</td>
</tr>
<tr>
<td></td>
<td>bus</td>
<td>bush</td>
<td>buzz</td>
<td>garage</td>
<td>match</td>
<td>badge</td>
<td>(e)s</td>
<td>(e)s</td>
<td>(e)s</td>
<td>(e)s</td>
<td>(e)s</td>
<td>(e)s</td>
</tr>
<tr>
<td>shared feature</td>
<td>pronunciation of -s</td>
<td>voiced nonsibilant</td>
<td>voiceless nonsibilant</td>
<td>sibilant</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>[z] voiced sibilant</td>
<td>[s] voiceless sibilant</td>
<td>[əz] vowel + voiced sibilant</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Assume /z/ is underlying pronunciation of the plural morpheme, how do we derive the other forms?

We write rules!

Review:

[ɛz] after sibilants
[s] after voiceless nonsibilants
[z] after voiced nonsibilants
Schwa Insertion Rule

\[
/z/ \rightarrow [əz] / \text{sibilant} + ___#
\]

(<++> indicates a morpheme boundary, while <#> indicates a word boundary)

  e.g. buses /bʌs + z/ → [bʌsəz]

Assimilation Rule

\[
/z/ \rightarrow \text{voiceless} / C_{\text{voiceless}} + ___#
\]

  e.g. cats /kæt + z/ → [kæts]
All rules apply to all forms.

Rules must be ordered properly to derive correct form. e.g. ‘buses’

<table>
<thead>
<tr>
<th>Mental Representation</th>
<th>/bʌs + z/</th>
<th>Mental Representation</th>
<th>/bʌs + z/</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Schwa Insertion</td>
<td>[bʌsəs]</td>
<td>2. Assimilation</td>
<td></td>
</tr>
<tr>
<td>Phonetic Form</td>
<td><em>[bʌsəs]</em></td>
<td>Phonetic Form</td>
<td>[bʌsəz]</td>
</tr>
</tbody>
</table>
Morphophonology

mental rep. /kæt + z/
1. schwa insertion -
2. assimilation [kæts]
phonetic form [kæts]

mental rep. /bæg + z/
1. schwa insertion -
2. assimilation -
phonetic form [bægz]
What do we know about the pronunciation of the 3rd person singular -s?
<table>
<thead>
<tr>
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<th>voiced nonsibilant</th>
<th>voiceless nonsibilant</th>
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<td>pronunciation of -s</td>
<td>[z] voiced sibilant</td>
<td>[s] voiceless sibilant</td>
<td>[əz] vowel + voiced sibilant</td>
</tr>
</tbody>
</table>
The previous rule applies to three morphemes:
- the plural morpheme /z/
- the agreement morpheme /z/
- the possessive morpheme /z/

Can [s] never follow a voiced consonant in the same syllable?
- chance [tʃæns]
Do we memorize plural forms separately, or do we really have rules in our grammars?

Wug Tests provide evidence of the existence of rules:

- What are the plural forms of the following:
  - blick
  - doog
  - glick
  - tash
Another Morphophonology Example:

<table>
<thead>
<tr>
<th>Yoruba</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘stop’</td>
<td>‘incomplete’</td>
</tr>
<tr>
<td>[kuro]</td>
<td>[ɪŋkəmplɪt]</td>
</tr>
<tr>
<td>‘press sand’</td>
<td>‘intrepid’</td>
</tr>
<tr>
<td>[tɛjɔnrin]</td>
<td>[ɪntʰrɛpɪd]</td>
</tr>
<tr>
<td>‘spoil’</td>
<td>‘imperfect’</td>
</tr>
<tr>
<td>[badʒɛ]</td>
<td>[ɪmpərɛfɛkt]</td>
</tr>
<tr>
<td>‘stopping’</td>
<td></td>
</tr>
<tr>
<td>[ŋkuro]</td>
<td></td>
</tr>
<tr>
<td>‘pressing...’</td>
<td></td>
</tr>
<tr>
<td>[ntɛjɔnrin]</td>
<td></td>
</tr>
<tr>
<td>‘spoiling’</td>
<td></td>
</tr>
<tr>
<td>[mbadʒɛ]</td>
<td></td>
</tr>
</tbody>
</table>
We build new words through various processes:
  - affixation, reduplication, compounding, blending, alternation, suppletion, reduction, back formation

We also add new words, or alter/extend the meanings of existing words, in various ways:
  - borrowings, eponyms, functional shift, semantic shift
Affixation – attaching affixes

-er  bank → banker
  run → runner

anti-dis-establish-ment-ari-an-ism

Korean:
sewul-ey ka-si-keyss-sup-ni-kka
Seoul-to go-SH-FUT-AH-IN-Q
‘Are you going to Seoul?’

SH = subject honorific, FUT = future, AH = addressee honorific, IN = indicative mood, Q = question
Reduplication – duplicating all or part of a word

- generally not productive in English
  - bling-bling, pee-pee, poo-poo, no-no
  - itsy-bitsy, teeny-weeny, hokey-pokey, super-duper
  - fancy-shmancy, facts-shmacts

- Forms plurals in Kupangese (a dialect of Malay)
  - anak ‘child’
  - anak-anak ‘children’
compounding - combining words into one, without changing the form of either part

- bittersweet, homework, sleepwalk
  - The meaning can be different from the sum of the parts
    - blackboard, bigwig

blends (portmanteaux) - combining words into one, while changing the form of at least one part

- smog (smoke+fog), urinalysis (urine+analysis)
alternations - altering some part of the word to modify its meaning
  sing - sang - sung
  man - men
  breath (n.) - breathe (v.)

suppletion - a single morpheme has one or more forms which are distinct from the root
  is - was
  go - went
  good - better
Coining New Words

Reduction

- **clipping**: cutting off part of a word to make it shorter
  
  hippo, prof, gym, fax

- **acronyms**: abbreviations using the first letter of several words
  
  NASA, UNICEF, RAM, ROM, RADAR, CEO, AIDS, SARS
Coining New Words

- **back formations**: words due to incorrect analogies
  - due to resemblance to known morphemes
    - burger (from hamburger, from the German city Hamburg)
    - edit (from editor)
    - peddle (from peddler)
Borrowings - words/expressions borrowed from other languages

- sushi
- faux pas
- burrito
- macho
- karaoke
- kangaroo
Coining New Words

- **eponyms**: words from names
  
  Kleenex, google, Xerox, denim
Coining New Words

- **functional shift** - a word of one grammatical category becomes usable as another category

  Kinko’s: ‘The new way to office.’
  ‘to message someone’ (origins: instant messaging)
  ‘to medal’ (i.e. win a medal)
Coining New Words

- semantic shift - a word comes to have a new meaning.

  hawks and doves (political, origins in Vietnam War)
  mouse
  sweet