Chapter 5. Morphology

5.1 Basics of Morphology

- Morphology: Study of word structure
  - To isolate the component parts of word,
  - To determine the (word formation) rules by which words are formed.
  - E.g., *unidentifiability*

- Morphemes vs. phonemes
  - Morphemes: the smallest linguistic unit bearing a meaning
  - Phonemes: the smallest linguistic unit distinguishing meaning

5.2 Formal Types of Morphemes

- Bound vs. free morphemes
  - Bound morphemes:
  - Free morphemes:

- Affixes
  - Prefix
  - Suffix
  - Infix (Bontoc *-um-*)
  - Zero affixation (conversion)

- Reduplication
  - Total reduplication
  - Partial reduplication

5.3 Notation

- Hyphen
  - To separate morphemes
  - To indicate the “gluing point” of bound forms

5.4 Compounding

- Combining two (or more) words (i.e., roots)
  - No affix necessary
  - In English, spelling is inconsistent
  - Internally complex, but syntactically one word

5.5 Morphological Structure

- Parts in a complex word is not linearly arranged, but hierarchically structured
  - *city desk, desk lamp*
  - Different morphological structures of *city desk lamp* and their respective meanings (p. 107)
5.6 The Functions of Morphology

- Derivation: forming new words from old/existing ones
  - Compounding is often considered as a form of derivation

- Inflection: rendering words syntactically appropriate to their context
  - Inflection in English:
    - Tense (present Ø vs. past -ed)
    - Aspect (simple vs. progressive -ing vs. perfect -en)
    - Number (singular Ø vs. plural -s)
    - (small amount of) person and number agreement (3.sg.pres.ind -s; am ~ are ~ is)
    - Case in pronouns (subjective he vs. objective him)
    - Positive Ø, comparative -er/more and superlative -est/most

- Inflection in other languages
  - Gender
  - Degree of respect/formality:
  - Dual or trial number
  - Inclusive vs. exclusive form of the first person plural

5.6.1 Inflectional morphology as obligatory choice

- E.g., English count nouns must be in either a singular or a plural form (with the associated meaning).
  - Other languages are different: e.g., Chinese/Korean do not have such an obligation.
  - Different (inflectional) morphological requirements in different languages

- Roots, bases, stems
  - Roots
  - Bases
  - Stems

5.7 Writing Morphological Rules

5.7.1 Rules for derivation

- *-able /əbəl/ Affixation (or more broadly, word formation rule) (*washable, lovable, doable, etc.)
  - Verb + /əbəl/ → Adjective
  - Verb + /əbəl/ means “able to be Verbed”
  - Yields a morphological structure (top p. 110) or [[wɔʃ]Verb əbəl]Adj or [[wɔʃ]əbəl] or wɔʃ-əbəl.

- *-ity /ɪti/ Affixation (*obesity, divinity, obscurity, insanity, etc.)
  - A + /ɪti/ → N
  - A + /ɪti/ means “the quality of being A”

- un-* /ʌn/ Affixation (*unkind, unfair, unhappy, unjust, etc.)
  - /ʌn/ + A → A
  - /ʌn/ + A means “not A”
  - Yields [ʌn [kænd]A ].
• \textit{un-2 /\texttt{\textasciitilde}n/2} Affixation (\textit{unload, undo, unlock, undelete, etc.})
  • /\texttt{\textasciitilde}n/ + V \rightarrow V
  • /\texttt{\textasciitilde}n/ + V means “do the reverse of V”
  • Yields [\texttt{\textasciitilde}n [\texttt{\textasciitilde}o\texttt{~d}]_V].

• Noun to Verb Conversion
  • N \rightarrow V
  • “to do an action involving Noun”
  • [[[\texttt{\textasciitilde}l\texttt{\textasciitilde}\texttt{\textasciitilde}f\texttt{\textasciitilde}o\texttt{\textasciitilde}u\texttt{\textasciitilde}n]}_N]_V ‘to telephone’.
  • Creating a higher-level constituent labeled as a Verb
  • Could be viewed as adding a zero affix (N + \emptyset \rightarrow V).

• Bontoc -\textit{um} - Infixation
  • \[[ C_0 X ]_{A,N} \rightarrow [[ C_0 um X ]_{A,N}]_V
  • Meaning: “is becoming A/a N”
  • X being a variable, i.e., “any string of phonemes”

• Multiple application of word formation rules
  • \textit{unmindfulness}
  • Tree diagram on p. 111 bottom

\begin{itemize}
  \item un mind ful ness
  \item Alternatively, [[[ un [[ [ mind ]_N ful ]_A ]_A ness ]_N
  \item Two different meanings of \textit{undeletable} and \textit{unlockable}

\end{itemize}

\begin{itemize}
  \item [[ un\texttt{\textasciitilde}n [ delete able ]_A ]\]
  \item \[[ un\texttt{\textasciitilde}n [ delete able ]_V\]

\end{itemize}

• Noun Compounding
  • X + Noun \rightarrow N (X = word)
  • Meaning: “a Noun that has something to do with X”
  • A very productive rule that readily applies and is understood: e.g., \textit{tigerbird, chairarm}
5.7.2 Rules for inflection

- Grammar provides (abstract) morphological features such as [+plural], [3rd person], [–past], etc., and inflectional morphology realizes/interprets these features as phonological material.

- Past Tense Formation in English
  \[ X \rightarrow X-d \quad \text{when} \quad \{+\text{past}\} \]

- Plural Formation in English
  \[ X \rightarrow X-z \quad \text{when} \quad \{+\text{plural}\} \]

- The past tense /d/ and the plural /z/ are subject to further phonological operations.

5.7.3 The ordering of inflection and derivation

- A strong, perhaps universal, cross-linguistic tendency:
  - Derivational rules apply before inflectional rules.
  - nullifies (null-ify-s) vs. *nullsify (null-s-ify)
  - Cf. systems analyst, higher-level

5.8 Productivity

- Productivity: the capacity to apply in novel circumstances
  - E.g., -ical Affixation vs. -like Affixation
  - -like can attach to any noun (i.e., is productive),
  - while -ical selects only certain nouns (i.e., is non-productive): e.g., *attitudical, *porchical, *breezical, *violinical

- Non-productive rules are helpful in understanding systematic relationships among existing words.
  - Cf. ear - hear

- What causes differences in productivity?

5.9 Morphological Analysis

- Two kinds of data that are particularly useful
  - A collection of words derived from the same root (“paradigm”): mainly for inflection
  - A collection of words with the same morphological process (i.e., affix), e.g., all as in -able

- Case study: Swahili (or Kiswahili) verbs
  - Data: p. 115 bottom
  - Verb structure: p. 116 middle
  - Affixes: pp. 116-117
  - Morphemes: p. 117 middle