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Introduction to Linguistic Theory

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Morphology: The Words of Language

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The Words of Language

• In spoken language we don’t pause between most words

• So when you hear a sentence in a language you don’t know, you won’t be able to tell where one word ends and the next begins

• Most English speakers can pick out all of the words in *The cats sat on the mat* because they can identify all those words
The Words of Language

• These boundaries between words can be played with for humor, as in the credits for NPR’s Car Talk:

  – Copyeditor: Adeline Moore
  – Pollution Control: Maury Missions
  – Legal Firm: Dewey, Cheetham, and Howe
The Words of Language

• We all have a mental dictionary of all the words we know, which includes the following information:
  – Pronunciation
  – Meaning
  – Orthography (spelling)
  – Grammatical category
Content Words and Function Words

- **Content words**: the words that convey conceptual meaning (nouns, verbs, adjectives, etc.)
  - **Open class**: new types of content words can be added all the time
    - E.g. a new noun called a *flurg* would be fine

- **Function words**: the words that convey grammatical meaning (articles, prepositions, conjunctions, etc.)
  - **Closed class**: new function words are very rarely added to a language
    - English does not have a gender-neutral third person singular pronoun, and rather than adopt a new pronoun, many people use *they* instead of choosing between *he* and *she*. 
Content Words and Function Words

• The brain treats content and function words differently

  – Some aphasics are unable to read the function words *in* and *which* but can read the content words *inn* and *witch*.

  – Content words may be inadvertently switched in speech, but there is no documentation of function words being switched in this way

  – Children often omit function words from their speech when learning their first language ("doggie barking")
Morphemes

- **Morphology**: the study of the structure of words and the rules for word formation

- **Morpheme**: the minimal units of meaning

  - Morphemes can be words on their own, and/or can often be combined with other morphemes to make words
    - E.g. the word *book* has one morpheme
    - E.g. the word *books* has two morphemes:
      
      *book* + *-s*
      
      N plural marker
Morphemes

• Discreteness: In all languages, sounds combine to make morphemes, morphemes combine to make words, and words combine to make sentences.

• Creativity: We can combine morphemes in new ways to create new words that can easily be understood.
  – writable
  – rewritable
  – unrewritable
Bound and Free Morphemes

• **Free morphemes** can stand alone
  • E.g. *love* is a single morpheme that can be uttered with no other morphemes connected to it

• **Bound morphemes** cannot stand alone, and must be attached to other morphemes
  • E.g. *un-* and *-ish* are bound morphemes because they cannot stand alone
Bound and Free Morphemes

- **Prefixes**: bound morphemes that attach to the *beginning* of a root
  - E.g. *un-* as in *untie*

- **Suffixes**: bound morphemes that attach to the *end* of a root
  - E.g. *-ness* as in *kindness*
Bound and Free Morphemes

- Languages may differ in how they use affixation
  - What is a prefix in one language may be a suffix in another
    - Isthmus Zapotec plural prefix *ka-*
  - What is an affix in one language may not be expressed with affixation in another
    - English *dance (N)* and *dance (V)*
  - What is a separate word in one language may be an affix in another
    - Piro (Peru) has a suffix, *-kaka*, that means “cause to”, thus *cokoruhakaka* means “cause to harpoon”
Bound and Free Morphemes

- **Infixes**: morphemes that are inserted *inside* a root
  - Bontoc (Phillippines):
    - *fikas* “strong”  *fumikas* “to be strong”
    - *kilad* “red”  *kumilad* “to be red”

- **Circumfixes**: affixes that attach to both the *beginning and the end* of a root
  - Chickasaw (USA):
    - *chokma* “he is good”  *ikchokmo* “he is not good”
    - *lakna* “it is yellow”  *iklakno* “it is not yellow”
Roots and Stems

• **Roots**: the morpheme base upon which other morphemes are attached to create complex words: *un-love-able*

• **Stems**: once an affix has been attached to a root, the result is called a stem to which more morphemes may be attached: *un-lovable*
Roots and Stems

• **Bound roots:** Roots that cannot stand alone and can only occur in combination with other morphemes

  – -ceive: *receive, conceive, perceive, deceive*

  – *Ungainly (*gainly), discern (*cern), nonplussed (*plussed)*

  – *Huckleberry, lukewarm, cranberry*
Rules of Word Formation

• **Derivational morphemes** change the meaning and/or part of speech of a root
  
  – Adding *–un* to the word *do* changes the meaning drastically
  
  – Adding *–ish* to the noun *boy* creates the adjective *boyish*

• Derivational morphemes carry semantic meaning and are like the affix version of content words
Rules of Word Formation

• When a new word is created through derivation, other possible derivations may be blocked
  – Communist exists, therefore we don’t need Communite or Communian

• Some derivations trigger pronunciation changes, while others do not
  – specific → specificity and Elizabeth → Elizabethan
    vs.
  – bake → baker and wish → wishful
Rules of Word Formation

• **Inflectional morphemes** have only grammatical function (similar to function words) and never change the part of speech of the root
  
  – waited, waits, waiting

• Inflectional morphemes are always suffixes in English and always follow any derivational morphemes
  
  – commit + ment can become commit + ment + s but not commit + s + ment
Rules of Word Formation

• Inflectional morphemes are **productive**, meaning they apply freely to almost any appropriate base

  – Most nouns will take the inflectional suffix –s to make a plural noun

  – Only some nouns will take the derivational suffix –ize to make a verb
Rules of Word Formation

• Some languages use **case morphology**, where the grammatical relations of nouns are marked with inflectional morphemes.

• In Russian, the sentence “Maxim defends Victor” can have a variety of word orders:

  Maksim zašiščajet Viktora.
  Maksim Viktora zašiščajet.
  Viktora Maksim zašiščajet.
  Viktora zašiščajet Maksim.

  – This is because the –a in *Viktora* marks the object of the sentence, regardless of the word order.
Hierarchical Structure of Words

• Morphemes are added to a base in a fixed order which reflects the structure of a word

• *unsystematic* = *un* + *system* + *atic*
Hierarchical Structure of Words

• The example of *unsystematic* represents the application of two morphological rules:
  – Noun + -atic $\rightarrow$ Adjective
  – un- + Adjective $\rightarrow$ Adjective

• In the case of *unsystematic*, this is the only possible hierarchy, as *unsystem* is not a word
Hierarchical Structure of Words

- The hierarchical structure of words can help disambiguate ambiguous words:
- *unlockable* could mean:
  1) “not able to be locked” or 2) “able to be unlocked”
Rule Productivity

Derivational affixes are productive to different extents:

- *-able* can be affixed to any verb to create an adjective

- *un-* is most productive for adjectives derived from verbs and words with polysyllabic bases
  - unsimplified, unenlightened, and unhappy, but not *unsad, unbrave, or untall*
Rule Productivity

• Exceptions and Suppletions:

  – Not all words undergo regular morphological processes (e.g. feet, went, sing, children)
    • These words must be learned separately since rules don’t apply to them

  – When new words enter the language, regular morphological rules generally apply to them
    • The plural of fax became faxes rather than faxen

  – Borrowed words may retain borrowed morphology
    • Latin datum and data (rather than *datums)
Lexical Gaps

- **Lexical Gaps** (Accidental Gaps): words that could be in a language but aren’t
  
  - Some permissible sound sequences have no meaning (e.g. *blick*)
  
  - Some combinations of morphemes are never used (e.g. *curiouser*)
Other Morphological Processes

• **Back-formations**: new words can be created through misanalysis of morpheme boundaries

  – *pease* → *pea*
  – *bikini* → *tankini*
  – *editor* → *edit*
  – *television* → *televise*
Other Morphological Processes

• **Compounds**: joining two or more words together to make a new word (e.g. *landlord*)

  – The rightmost word in a compound is the head, which determines its meaning and part of speech
    • Noun + adjective = adjective (*headstrong*)

  – The stress on English compounds falls on the first word
    • *greenhouse* vs. *green house*

  – Two-word compounds are the most common, but there may not be an upper limit
    • Dr. Seuss’ s “Tweetle beetle puddle paddle battle”
Other Morphological Processes

• The meaning of a compound is not always the sum of the meaning of its parts
  – Blackboard
  – Cathouse
  – Turncoat

• Compounding is a universal process for creating new words
Other Morphological Processes

• We can use our knowledge of morphemes and morphological rules to guess the meaning of words we don’t know

• Our guesses may be wrong but they are based on morphological (mis)analysis

  – deciduous  “able to make up one’s mind”
  – bibliography  “holy geography”
  – gullible  “to do with sea birds”
Sign Language Morphology

• Like spoken languages, signs have parts of speech, roots and affixes, and morphemes that can be free, bound, derivational or inflectional

• Like spoken languages, sign languages have rules for combining morphemes to make complex signs
Sign Language Morphology

• Affixation can occur by adding another sign before or after the root sign
  – The negation suffix is a rapid turning over of the hand(s) after the root sign

• Sign languages can also allow the stem and the affixes to be signed simultaneously, an option not available in spoken languages
Morphological Analysis

*nokali*  “my house”
*nokalimes*  “my houses”
*mokali*  “your house”
*ikali*  “his house”
*nopelo*  “my dog”
*mopelo*  “your dog”
*mopelomes*  “your dogs”

• Look for recurring forms with recurring meanings to identify each morpheme
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Morphological Analysis

kali  “house”
pelo  “dog”
no-   “my”
mo-   “your”
i-    “his”
mes-  “plural”