

Morphology

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Morphological competence

- can decide which words are English and which aren't
- can segment the stream (strings) of sounds into smaller meaningful units (morphemes)
 - (1) thecatsatonthemat, Ihavetogohomeearlytoday; uncoffeelike; unbelievable; *bookly
- have the rules for forming words

What do we know when we know a word

- phonetic/phonological information: tree
- lexical structure information: trees
- syntactic information: Mary reads the book; The book is readable
- semantic information: John is so friendly and helpful
- pragmatic information: "Oh, brother! What a mess!"

Lexical knowledge

- Do the dictionary entries represent what we know about words?
Think about the word "desk".
- no complete definition
- no relatedness of words with others
- a finite list

Research Questions on Morphology

- ① What are words?
- ② How they are structured?
- ③ How is the meaning of a complex word related to the meaning of its parts?
- ④ How are individual words related to other words?

What is a word?

- Orthographic: space (good-for-nothing)
- Semantic: has semantic coherence; expresses a unified semantic concept (cf. grapefruit, son-in-law)
- Phonological: pause and one primary stress (money-hungry)
- morphological: indivisible by other units
- grammatical: fall into particular classes
- syntactic: has external distribution or mobility

Morpheme

- Can we break down words into smaller units?
 - (2) boys, rakes, lips, dogs, bushes, brothers...
 - (3)
 - a. unkind, unhappy, unclear, unsophisticated...
 - b. phone, phonetics, telephone, symphony, ...
 - c. look, looks, looked, looking,...
 - d. straight, straighten, bright, brighten..
 - e. car, dog, book, chair, ...
 - f. and, or, the, a, that, if, whether,

How can we form a new word?

- Rule-governed

(4) a. uneaten, unadmired, ungrammatical..

b. *eatenun, *admiredun, *grammaticalun

Definition of a Morpheme

- Morpheme: a smallest linguistic unit which has a meaning or grammatical function
 - (5) a. It is a word or a part of a word that has meaning
 - b. It cannot be divided into smaller meaningful parts without violation of its meaning or without meaningless remainders; it cannot be further be analyzed into smaller meaningful units.
 - c. It recurs in a different environment

From Morpheme to Morphology

- Some tests: try to find out morphemes in the following words
(6) boy, boyish, gentlemanliness, antidisestablishmentarianism, amoral, etc
- Morphology: the study of the internal structure of words and of the rules by which words are formed

Types of morphemes

- Free vs. Bound morpheme:
 - (7) a. cat, book, kick, school...
 - b. -s, -ed, -ing
- Open vs. close:
 - (8) a. cat, book, school
 - b. in, from, he, she...
- derivational vs. inflectional
 - (9) a. -tion, -ity, -able,
 - b. -s, -ed, -ing

Free vs. bound

- Free morpheme: a morpheme that can stand alone in a phrase:
(10) John sat in the tree.
- Bound morpheme: a morpheme that cannot stand alone but must be attached to another morpheme
(11) a. prefixes(re): redo, rewrite, rethink, ..
b. suffixes(ize): modernize, equalize, centralize, usable, thinkable,..
c. infix, circumfix...

Bound bases

- bound bases: morphemes that must combine with a restricted set of morphemes; morphemes that have meaning only in combination with other specific morphemes

- (12) a. crane/huckle: cranberry, huckleberry,..
b. ceive: receive, perceive, conceive, deceive
c. mit: remit, permit, commit, submit, transmit, admit
d. ept/cest/ert/: inept; *ept, incest; *cest, inert/*ert,
disgusted; *gusted

Content words or open words (morphemes)

- these are the words or morphemes that have semantic content; have some kind of independent, identifiable meaning or indicate a change in meaning when added to a word (nouns, verbs, adjectives, adverbs)
- we can and regularly add new words to these classes (download, weatherwise, saleswise, moneywise, email, etc)

Function or grammatical words

- only to provide information about grammatical function by relating certain words in a sentence to each other (prepositions, articles, pronouns, conjunctions, etc)
- hard to add new words to these classes

Derivational Morphemes

- change the meaning (reactivate, unkind, usable, reasonable..)
 - change the part of speech of a word they attach to (judgement, derivation, generation, grammaticality...)
 - not very productive: -hood: brotherhood, neighborhood, *friendhood, *candlehood...
- (13) a. purify, amplify, simplify, falsify,
b. uglification, glorification, simplification, purification (cf. vegetarian vs. humanitarian)

Inflectional morphemes

- do not change the meaning (look, looks, looking,)
- do not change the part of speech (big, bigger, biggest)
- very productive (-s; -ed)

Two types of derivational affixes

- Type I: ity, y, ive, al, ize, ion, etc. These affixes cause stress shifts
(14) sanity, publicity, democracy, productive
- Type II: phonologically neutral, having no effect on the segmental makeup of the base or on stress placement

Morpheme vs. morph

- Morpheme vs. morph: The smallest meaningful unit, morpheme, can be realized into different morphs (concrete realizations of morpheme). These are called allomorphs. (cf. Phoneme, phone, allophone)
- Allomorph: morphemes that has the same function and has the same meaning but have different phonetic representation depending on which sounds precede or follow them

- (15) a. past tense morpheme ed \rightarrow [t], [d], [ɪd] (picked, played, wanted)
b. 3rd present singular s \rightarrow [s], [z], [ɪz] (plays, picks, houses)
c. not im \rightarrow [ɪm], [ɪn], [ɪl] (impossible, immoral, incredible, illegal, irregular, (cf. invaluable))

Summary

Given a morpheme,

- can it stand alone as a word? 'Yes' means it is a free morpheme (bubble, orange), 'no' means it is a bound morpheme ('er' as in teacher)
- Does it create a new word by changing the meaning or/and part of speech? 'Yes' means it is a derivational affix (as in rewind, artist) and 'No' means it is an inflectional affix (smarter, smartest).
- Does it have a meaning or cause a change in meaning when added to a word? Yes means it is a content morpheme (untrue), and no means it is a function word (the, to, or -s in books)

Coining

- Abbreviation (from Latin brevis "short"): is strictly a shorter form of a word, but more particularly, an abbreviation is a letter or group of letters, taken from a word or words, and employed to represent them for the sake of brevity

(16) CD (compact disc), ER (emergency room), PC (personal computer), html, FTP
- acronyms: formed by the initial letters of (some or all) the words in a phrase or title and **pronouncing them as a word**.

(17) NATO(North Atlantic Treaty Organization), radar (radio detecting and ranging), laser (light amplification by stimulated emission of radiation), LAN (local area network), etc

Coining

- eponym (words from names): sandwich, robot, gargantuan, jumbo
- clippings: prof. photo op, fax
- blends: brunch, cafetorium, motel, edutainment, ...

Meaning Change

- generification: xerox, kleenex
- category change: to porch (the paper) to people (an island)
- metaphorical extension: let me chew on those new ideas

Derivational Rule

- write/writer, kill/killer, play/player, farm/farmer

(18) [V + er] → Noun "one who does X"

(19) phonetic change: nothing

category change: V → N

semantic change: 'one who does X'

Derivational Rule 2

- believable, credible, acceptable,

(20) [V + able] → Adj "able to be X-ed"

(21) phonetic change: schwa

category change: V → Adj

semantic change: 'able to be X-ed'

- unhappy, uncowardly (cf. *unsad, *unbrave, uncola)

(22) [un +] Adj → Adj "not X"

compounding

- a process which forms new words not from bound affixes but from two or more independent words: girlfriend, blackbird, textbook, lifeguard, aircraft, air conditioner, watch maker, ...
- no limit on the kinds of combinations that occur in English: AA, AN, AV, NA, NN, NV, VA, VN, VV: bittersweet, poorhouse, highborn, headstrong, rainbow, spoonfeed, carryall, pickpocket, sleepwalk.
- no upper limit on the number of the free morphemes: three-time loser, four-dimensional space-time, mother-in-law, ..
- no predictable meaning: boathouse vs. cathouse, turncoat, egghead, flatfoot
- different stress patterns in compound and phrases:
(23) a. blackbird vs. black bird
 b. make up vs. make up

back formation

- a new word may enter the language because of an incorrect morphological analysis
- (24) Usual cases: from (a) to (b):
- a. run, call, hit, ...
 - b. runner, caller, hitter
- (25) From (b) to (a), not (a) to (b):
- a. peddle, hawk, stoke, swindle, edit
 - b. peddler, hawker, stoker, swindler, editor
- (26) a. resurrection, preemption, television, emotion, donation
- b. resurrect, televise, emote, donate

Reduplication and suppletion

- reduplication: a process of forming new words either by doubling an entire free morpheme or part of it; English makes use of reduplication very sporadically (higglety-pigglety, hoity-toity, hocus-pocus, etc)
- Morpheme-internal changes

(27) a. man; men, woman; women, foot; feet
b. ring;rang;rung, sing;sang;sung
c. strife; strive, teeth; teethe, breath; breathe
- Suppletion: there are also small classes of words that are irregular (sing; sang, am; was, go; went...)

morphology and syntax

- how to form -able adjective? Turing a transitive verb into an -able adjective?
 - (28) a. able: read, break, wash, mend, debate, use, drive, spray..
 - b. *able: die, go, cry, sleep, rest, weep, sit, run, walk
- How about walkable, runnable?
 - (29) a. John will walk the dog
 - b. Mary will run the race.

Hierarchical Structure of a word

- stem vs. affix: free morpheme is often referred to as stem or root. To be more precisely, nonaffix lexical content morphemes that cannot be analyzed into smaller parts are called root morphemes. When a root morpheme is combined with affix morphemes it forms a stem.

- (30) a. believe, believe + able, un + believe + able
b. system, system + atic, + unsystem + atic

step by step process: example 1

- Knowing a word means we can segment its structure
- then how do you form words like unusable?

(31) Three possible structures

- a. un + use + able
- b. [un + use] + able
- c. un + [use + able]

- other data

(32) a. unkind, unwise, unhappy, undesirable, unlikely, uninspired,
unhappy, ...
b. stoppable, doable, washable...

step by step process: example 2

- then how about words like reusable?

(33) Two possible structures

- a. [re + use] + able
- b. re + [use + able]

- check other data

(34) a. redo, relive, refuel,

- b. *rewrite, *rekind, *rehappy