Morphology (Seminar Introduction to Linguistics, Andrew McIntyre)

1. Morphology and morphemes

- **Morphology**: Study of the mental knowledge and processes involved in the structure of words and the creation of new (forms of) words.

- **Morphemes**: the smallest linguistic elements with a meaning or grammatical function.

Examples of words **segmented** into morphemes:

- (1) dis-please-ure; nerv-ous; electr-ic; walk-ed; tree-s; who-se

- **Morphemes can, but need not, consist of a single sound** (sing-s, walk-ed).

- A. Look at the morpheme divisions in (1). Mark for discussion in the class any examples of divisions (or lack of divisions) which you do not understand.

2. Types of morphemes

- **Free morphemes** can, and **bound morphemes** cannot, occur as independent words. (Simplest test for word: it can stand alone as the answer to a question.)

- **Affixes**: bound morphemes which have one or more identifiable semantic or grammatical functions/meanings and which occur in more than one word in the language.

- **Prefixes**: affixes pronounced before base. **Suffixes**: affixes pronounced after base.

- **Base**: the morpheme(s) to which an affix is attached. (Advanced point: don’t confuse *base* with *root* (consisting of a single morpheme); *stem* (base for inflectional affixes (defined below), possibly consisting of more than one morpheme)).

- **Portman teau morphology** = single indivisible morpheme realising more than one feature. (The term is applied when the features are realised by separate morphemes in the same language, and less frequently in other languages.)

- **Clitics**: a cross between an affix and a word. They are phonologically so short they can’t be pronounced alone, they need to join to other words. Like words, their position is determined partly by syntactic rules. They are sometimes short forms of larger words.

3. Allomorphy

- **Allomorphy**: the phenomenon in which a morpheme has more than one allomorph (=variant in pronunciation):

  - (9) a. *an* owl
  - b. *a* tree

4. Three types of allomorphy

- **Phonologically conditioned allomorphy**: the choice of allomorph is predictable on the basis of the pronunciation of adjacent morphemes.

- **Morphologically conditioned allomorphy**: choice of allomorph is determined by specific morphemes, not by phonological facts. E.g. –some in (18) becomes –sump- in (19). (20) shows that this is not predictable from phonological laws of English.

- **Lexically conditioned allomorphy**: the choice of allomorph is unpredictable, thus memorised on a word-by-word basis. E.g. the plural morphemes in *oxen, sheep, children* are lexically conditioned, as it doesn’t follow from general principles of English morphology or phonology (cf. *foxes*, *foxes*, *two beeps*/*beep*).

C. Can you think of a German example of the following phenomena? (i) suppletion (ii) allomorph (a case not involving suppletion)

D. Are the allomorphs below lexically, morphologically or morphologically conditioned?

1. The prefix *en-* in forming verbs meaning ‘cause to enter a particular thing or state’:

   - enchain, endanger, enlist, entrain, enslave, ensnare, entangle, enlarge

2. The alternation between /sid/ and /ses/ in the following contexts:

   - Small children, shepherds, sheiks, sheaves, sheaves, sheep, ships, ships

3. Allomorph involving voicing of final consonant of bases of -s plurals.

   - a. Voicing: wires (cf. wire), leaves, thieves, shelves, lives, knives, loaves, calves, hoes, halves, wolves; houses; months, mouths, mouths.
   - b. No voicing: cliffs, safes, proofs, fifies, fifes; clothes, fifths, births
   - c. Either (depending on the speaker): whoifes/wharves, dwarfs/dwarves, roots/rooves; sheafs/sheaves, oafs, oaths, booms, baths, paths

4. Allomorphs of the English noun plural morpheme spelt *(e)s*:

   - a. [z]: dogs, cats, hives, vans, guns, flags, battles, trees, lies, keys
   - b. [s]: cups, cats, deaths, kicks, cliffs
   - c. [iz]: breezes, buses, dishes, edges, notches, foxes
Morphology

(30) The words in (30) were originally backformations, but we only know this from diachronic evidence (e.g. etymological dictionaries), which children don’t have access to in learning the language. (30) should thus not be called backformations in a synchronic analysis.

(40) Gothic: faifah ‘I caught’ (<fahan ‘catch’); laitaik/laitham ‘jump’, lai(t)/le(t) ‘let’

E. Why would it be a mistake to call [z] and [s] in the previous question allophones of a phoneme? (Hint: consider lonesome, tiresome, false, awesome.)

(31) Morphological processes: Creating or changing the form of words

4.1. Affixation (defined above)

4.2. Compounding

creating a word (a compound) by combining two words. Either or both of these words might itself be a compound. If so, we have an instance of recursion (=a situation where a particular rule applies to a structure which was created by the same rule).

(29) A-V: slow (the tempo), cool (the wine), busy (oneself), bare, humble, empty

4.3. Conversion (zero derivation)

change of syntactic category (e.g. noun, verb) of a word without adding affixes. It may involve a stress change or other minor changes in the base. Some linguists see conversion as addition of zero affixes (=unpronounced affixes), while others say there is no affix.

(33) N-V: a look, call; crack; cry; meet, wait

4.4. Clipping

shortening a word by deleting phonological material (not necessarily morphemes):

(35) T-V: torch (a house), access (a file), hammer, batter, accent, sign, blossom, e-mail

4.5. Blending

merging of two words in which at least one of them undergoes clipping:

(37) S-T: carjack (hijack + car), stagflation, Reaganomics, guesstimate, infotainment

4.6. Backformation

the formation of a new word by removing an affix:

(39) S-T: self-destruct (from self-destruction)

-> not formed by compounding of self-+destruc, since destruct (an allomorph of destroy) is otherwise only found with suffixes: destruction, destructive, indestructable

(41) D-V: dissertation, liaison, enthusiasm, emote, combustion, redact, opinion

here the shorter words sound “less normal” and aren’t acceptable to every native speaker, suggesting they are perceived as being derived from the longer words.

Backformation vs. clipping: Backformation involves the removal of affixes and changes meaning (and often syntactic category). Clipping is the deletion of random phonological material (not specifically affixes) and doesn’t change meaning/category. (The only effect relevant to meaning is a change in style level: prof is less formal than professor.)

The structures in (31) look like compound verbs, but are actually backformations, since structures of this type don’t exist unless there is a longer affixed word. It is impossible to form compound verbs of the type [V N V] directly in English.

4.7. Ablaut

creation of new (form of a) word by changing vowel in the base word:

(42) V-V: ring-ring; man-men; louse-lice; sit-seat; live-life

4.8. Acronymy and abbreviation

Acronyms words formed by taking the initial letters from the words in a compound or phrase and pronouncing the word spelled by them.

(44) NATO, UNICEF, AIDS, RAM, Moodle

Abbreviations are like acronyms, but the names of the letters are pronounced.

(46) BBC, tlc, PLO, cd, AC/DC (Anti-Christian Devil Children?)

4.9. Reduplication

repetition of part of a word. Less important in English (mainly childspeak, onomatopoeia; lists in Marchand 430ff), but can be a very important way of forming new (forms of) words in other languages.

(48) lovey-dovey, super-duper, boogie-woogie, teeny-weeny, byebye

Reduplication (US):

(50) Latin:

(52) Gothic: ‘Stuff the money!’

F. Name the morphological processes used in forming the words in italics below. In some cases more than one process was used. Note that some of the words are occasionalisms (words used rarely, not part of the standard vocabulary).

1. twiggle (twist and wiggle; produced as a speech error)

4. ASIO [ezuzo] (=Australian Security and Intelligence Organisation)

2. barbi (=barbecue, Australian)

5. flautist (=flute player)

3. un-p.c. (=not politically correct)

6. they tidied the room

4. ASIO [ezuzo] (=Australian Security and Intelligence Organisation)

5. flautist (=flute player)

6. they tidied the room

7. mike (=microphone)

8. FacMac (=MacIntosh computer at Sydney University Faculty of Arts)

9. our-herods Herod (=is more like H. than H. himself; Shakespeare, Hamlet)

10. crash a party (=go uninvited” <gatecrash < gatecrasher ‘uninvited guest’)
5. Inflection versus derivation

- **Derivation** (word formation): The use of morphological processes to create new words.
- **Inflection**: Morphological operations changing the form of a word in response to syntactic requirements. Native speakers have an intuition that inflection doesn’t create a new word, it just results in a different form of the same word.

- Examples of derivational affixes:
  - killey, kingdom, painful, vulgarise, beautify, nonentity, pseudoproblem, unclear, ultra-stupid, behead, circumnavigate

- Inflection in English:
  a. with verbs: ride, riding, rode, ridden
  b. with adjectives: older, oldest
  c. with nouns: dogs, oxen, men
d. with numbers: seventh

- Examples of inflection that English lacks:
  a. agreement on German adjectives: gute Musik / guter Wein
  b. case inflection on German nouns: der Name / den Namen / des Namens

- The inflection-derivation distinction is hard to define precisely. More specific criteria:

- Derivation changes the meaning of a word, while inflection either does not (e.g. sings/sing; they/them) or does so only with regard to a feature which is part of the grammar rather than the vocabulary of the language (dog/dogs; talks/talked).

- Inflection is obligatory, being forced by syntactic requirements. With derivation, we can decide whether we use it or not (e.g. green vs greenish, fascist vs neo-fascist).

- Inflection is mostly on the edge of a word, ‘outside’ derivation, since inflection occurs after derivation. E.g. piglets vs. *piglet.

- Derivation may change syntactic category ([N]{A}[cheerfulness]), inflection does not.

- Inflection is semantically regular (if it does change meaning). E.g. Xs nearly always produces the meaning ‘plural of X’, while semantic effects of derivational affixes are often unpredictable (profess/profession, commit/commission, steal/steal).

- Inflection can’t be repeated, while derivation can: neo-neo-conservative vs. *two doses (intended meaning: ‘two groups of dogs’).

- Inflection is not always fully productive. Cf. piglet but *doglet, *horselet. Inflection is almost completely productive. There are only a few verbs in English that don’t have a complete set of inflectional forms: quoth (past only), abide, beware, stride (no past participle), drive (no past tense for some speakers).

6. Types of compounds

- **Endocentric compounds**: AB is an instance of B: houseboat is a type of boat, boughouse is a house; a person who is seasick is sick. In endocentric compounds, the final element is the head, and the other element(s) provide additional information about the head.

- **Exocentric compounds**: AB is neither an A nor a B: a sabretooth is neither a tooth nor a tiger, but a tiger with teeth resembling sabres. Exocentric means literally ‘out-centred’, i.e. the ‘centre’, i.e. head, is not in the compound. Note also that calling a compound exocentric isn’t the same as saying that its meaning has nothing to do with the meanings of the parts of the compound. In most examples below, you can see that the compound’s meaning clearly is related to that of its parts.

- **Verbal (or synthetic) compounds**: Special type of endocentric compound where left-hand element is interpreted like the object of a verb related to the item on the right.

- **Copulative compounds**: AB is both an A and a B: a sabretooth is both a tooth and a sabre, but a tiger with teeth resembling sabres. Copulative means literally ‘out-centred’, i.e. both A and B end up in the compound.

- **Inflectional compounds**: AB is neither A nor B, but a singular form: two dogs = two groups of dogs.
7. More on the notion ‘head’

- The head is the element that determines the semantic and grammatical characteristics of the whole word.
- Since endocentric compounds have heads, it follows that endocentric compounds form their plural in the same way as their heads do. E.g. scrubwomen, firemen.
- Exocentric compounds, being headless, are not inflected in the same way as their righthand members: still lives, lowlifes (cf. lives), walkmans, sabre tooths, tenderfoots, bigfooty.
- Exocentric compounds, being headless, don’t necessarily have a constituent with the same semantic category as that of the whole compound: sit-in doesn’t contain a noun.
- Right-Hand Head Rule: The head of a word is on the right in English.
- Consequence: Prefixes do not (normally) produce category changes: un[[love]ly].

A. Indicate why the following phenomena could be seen as exceptions to the Right-Hand Head Rule. Do they prove that the RHR is wrong, or can you think of ways of reconciling them with the RHR?

1. enrich, enthrone, behead, derail
2. he wised up to the conspiracy (=became aware of it)

B. Speculate on how the following data could be explained in terms of a non-phonological constraint which we might call ‘informativeness’:

- Bearded people, freckled people, one-legged people, *legged people, cold-hearted people, *hearted people, short-sighted people, *sighted people (sighted is, however, used in the blind community)

8. Constraints on morphological processes

8.1. Productivity

- The ability of an affix or process to form new words.
- Examples of productive affixes:
  - er: -er: baker, runner, thinker, producer, emailer, SMS-er...
  - -wise: timewise, moneywise, jobwise, healthwise, productivity-wise...
  - -ful: armful, fistful, drawerful, mouthful; potful, bathful, coffiful

(67) Very productive affixes:

- a. -er: baker, runner, thinker, producer, emailer, SMS-er...
- b. -wise: timewise, moneywise, jobwise, healthwise, productivity-wise...
- c. -ful: armful, fistful, drawerful, mouthful; potful, bathtful, coffiful

8.2. Blocking

- The formation of new words can be blocked by existing words with same meaning.
- C. Which words block the following words? *ungood, *seeable, *stealer
- D. Cooker means ‘stove’ but cannot mean ‘person who cooks’. Why?

8.3. Phonological constraints

- An affix/process might require or disallow bases with particular phonological properties.
- Example: The comparative morpheme –er disallows bases of more than one syllable excepting bisyllabic bases ending in syllabic /n/, /l/ or /i/ (Spencer 1991:399):

(71) *populayer, *putrider, *slothfuller, *surereder; *dangerouser, *curiouser

(72) longer, nicer, fuller; greasier, fancier, commoner, subtler, nobler

E. Are the words lecturer, composer, programmer, provider exceptions to what was said about comparative affix –er? If not, why not?

F. Use the following data to determine a phonological constraint on the noun-forming suffix –al. Hint: it has something to do with stress.

- a. arrival, denial, approval, disposal, refusal, retrieval, dispersal, reversal

9. Motivation, lexicalisation and the lexicon

- The product of a morphological process is motivated or compositional if the meaning is predictable from the meanings of the parts. If not, we say it is idiomatic or lexicalised:

73) Completely compositional: dog owner, car race, gold bracelet, uninterpretable

74) Partly idiomatic (meaning slightly narrower/wider than expected): blackboard, wetsuit, unreadable (in sense ‘boring to read’), wheelchair (only for disabled people)

75) Totally idiomatic: blackmail, cupboard, butterfly, hedgehog, profession, landlord

- More exactly, lexicalised means that the word has an entry in the (mental) lexicon, our mental ‘dictionary’, the part of our memory containing unpredictable knowledge about the meaning and pronunciation of morphemes or words.

- Examples of lexical entries:

76 (simplified) lexical entry for sing:

- Pronunciation: /sɪŋ/ (simplified)
- Semantics (rough): ‘create musical sounds using one’s voice’

77 (simplified) lexical entry for watchmaker:

- Pronunciation: /ˈwɒtʃmɪkəs/ (simplified)
- Semantics: ‘person who makes or repairs watches and similar devices’

- Every morpheme has a lexical entry (because the sound-meaning correspondence is unpredictable).

- Examples of lexical terms: [description of examples]

- Sometimes words which were completely lexicalised at one stage in the history of a language are reinterpreted as at least partly motivated by subsequent generations. This is an instance of folk etymology. Examples:

78) hamburger: Original use: a German word meaning ‘(something) from Hamburg’

- Folk etymological assumption: the word involves ham in sense ‘meat from pig’ and (by extension) burger means roughly ‘sandwich’. Hence we now find beefburger, cheeseburger.

79) bridegroom: Original use: Old English brydeguma (literally ‘bride man’). Guma was once a free morpheme meaning ‘man’, but became a cranberry morpheme, used only in brydeguma.

- Folk etymology: people assumed brydeguma (later groom) was really grown, giving the word a more motivated interpretation (he ‘grooms’ the bride)

80) inflammable: Original use: ‘able to burn’ (non-compositional meaning)
Folk etymology: people assumed that the word had a compositional meaning; they took in to be the negative prefix found in incompetent, inconvenient and many others. Thus, inflammable came to mean ’not burnable’.

10. More details on analysing the structure of words

10.1. Some advice on segmenting words into morphemes

1. We are interested in sounds, not spelling. The divisions happy-ness, vari-ous, he tri-es, fitt-ing are correct, even though happi, vari, tri, fitt are misspelt. You could also write happiness, vary-ous, he try-s, fitt-ing. Using IPA transcriptions would also be good.

2. Subtraction: epi in inept is a morpheme since in is a morpheme (witness its negative semantics, similar to that in incompetent).

3. Semantic clues: -er is a morpheme in butcher (although there is no verb *butch) as it names an agent, as in teacher, worker. There is no evidence that -er a morpheme in bachelor.

4. Systematic allomorphy: -sume in resume and -pel in repel are morphemes because they have allomorphs (-sump–, –puls–) that appear with other words, cf. (81). This supports a division into morphemes although the morphemes do not mean anything on their own.

(81) a. consume/consumption, resume/resumption, presume/presumption
   b. repel/repulsion, compel/compulsion, expel/expulsion

K. Should -ation in the words in 1 below be divided into two morphemes? Hint: look at the examples in 2 and 3, and remember the notion of allomorphy.

1. normalisation, internationalisation, naturalisation, devastation, taxation
2. action, confusion, suspension, option, election, division, destruction, invasion, fusion, domination, function, nation
3. imitation, translation, intimidation, education, contemplation
4. justification, education, purification, identification

L. How would you analyse the string ification in group 4 in the last question?

M. What speaks for/against the division of the following words into morphemes?

1. nor-th / sou-th / ea-st / we-st
2. h-ear, th-is / th-ey / th-ere
3. the/n. initial consonant clusters in the following words are sometimes claimed to be meaningful: Assess the evidence for/against treating them as morphemes?

L. flash, flijmer, flicker, flame, flare (fl- ’moving light’)
2. glitter, glimmer, glow, gleam, glisten (gl- ’light emanating from something’)
3. splash, slup, slop, slime, slobber (sl- ’wet’)

10.2. Constituency

Words with three or more morphemes are formed with constituents each consisting of two morphemes. This can be expressed using trees or labelled bracketing. Examples:

(82) a. [N [s [v govern] [a ment]] [s [v employ] [a ec]]]
   b. [s [v govern] [a ment]] [s [v employ] [a ec]]

Evidence for the structure in (82):

- government and employee exist as independent words.
- *government and employee are semantic units; *ment-employ means nothing.
- *ment-employ is also wrong as we know that ment is a suffix, not a prefix.

(83) a. [N [a Af] [N [a Af]]]
   b. [N [a Af] [N [a Af]]]

Here (a) is right and (b) is wrong (even though happiness is a possible word) since un-attaches to adjectives (unlucky, unlively) but not to nouns (*unluck, *unlove).

11. Two types of affixes and the Level Ordering Hypothesis

11.1. Two classes of affixes

- Non-neutral affixes (=Level I affixes): can change phonological structures and stress of the base. The boundary between affix and base is a weak boundary, written as +.
- Neutral affixes (=Level II affixes): never affect stress, segmental properties of base. The boundary between affix and base is ’stronger’, symbolised as #.

Examples (-ity is non-neutral, -ness is neutral):

(85) a. san [sæn] → san-ity [sænɪtɪ]
   b. electric [ɪkˈtræktɪk] → electric-ity [ɪkˈtræktɪsɪtɪ]
   c. rapacious, credulous → rapacity, credulity

(86) tired-ness, drunken-ness, fit-ness, absurd-ness, happy-ness

(87) a. curious [ˈkjuərɪəs] → curi-osity [ˈkjuərɪəsɪtɪ]
   b. profane-ness/profan-ity; productive-ness/productiv-ity; morbid-ness/morbid-ity

- A non-neutral affix doesn’t necessarily change the phonological properties of the base in all words: absurd-ity (we know -ity is non-neutral from other words seen above).
- Other differences besides phonological ones:

- Non-neutral affixes are less productive than neutral ones, e.g. -ness is more productive than +ity.

(88) a. glorious-ness/gloriosity; kindness/kindity; wileness/wility
   b. pugnacious-ness/pugnacity; gothicness/gothicity [‘= not accepted by all]

- Words formed with non-neutral affixes are often lexicalised (unpredictable meaning):

(89) prob-ity, univers-ity, fidel-ity

- Non-neutral affixes can attach to bound roots (roots that aren’t freestanding words):

(90) prob-ity, de-ity, impu-ity, fidel-ity

- Rough tendency: Non-neutral affixes have (and combine with bases with) phonological properties typical of morphemes of Romance/Latinate/Greek origin, and neutral affixes prefer Germanic words.

P. Decide whether the affixes in the words given below are neutral or non-neutral:

1. Nouns with –hi: width, length, breadth, growth, health, strength, warmth, wealth
2. Nouns with –ship: friendship, directorship, editorship, fellowship, apprenticeship
3. Nouns with –hood: motherhood, falsehood, priesthood, neighbourhood, unlikeliness
4. Nouns with –ee: escapee, absentee, divorcee, trainee, appointee
5. Adjectives with –af: beneficial, censorial, ancestral, accentual, sentimental, ornamental
6. Nouns with –er: downloader, embezzler, experimenter, writer
7. Adjectives with –ic: strategic, satanic, photographic, organic, democratic, fantastic
8. Verbs with –ify: personify, electrify, syllable, liquidify, demonify

Morphology

- (84) gives two ways of describing conversion. In (a/b) conversion is seen as just a change in category. (c/d) assumes a silent (=unpronounced) affix. The choice is open to debate.
- Some linguists believe that affixes like –ment in government and the proposed zero affix in to access have their own category. Thus, af would be N in (82) and V in (84).

O. Segment the following words into morphemes and indicate their structure using trees. Some cases have more than one possible analysis.

1. seascickness 2. overtired 3. paperbawker writer 4. nail polish remover
5. professionalism 6. unferning 7. uninventiveness 8. familiarise 9. truckfulls
9. Adverbs with –ly: appreciatively, commonly, secretly, intelligently
10. Adjectives with –ive:
   a. persuasive, productive, creative, administrative, permissive, elusive
   b. expensive, conducive, primitive

11.2. The Level Ordering Hypothesis

Level ordering hypothesis makes the following claims:

a. Non-neutral affixes are attached before neutral affixes.
b. This is because the lexicon is organised into two levels (strata), Level I (where non-neutral affixation happens) and Level II (where neutral affixation happens).
c. The levels are ordered such that the stem passes through Level I before passing through Level II.

The Lexicon according to Level Ordering Theory

Permanent lexical entries (all morphemes, info about their meaning, pronunciation etc.)

<table>
<thead>
<tr>
<th>Level I: Non-neutral affixation, phonological rules causing changes in stress/segments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level II: Neutral affixation, compounding</td>
</tr>
</tbody>
</table>

This is an instance of a lexicalist theory of morphology. In such theories, the lexicon is not just a dictionary-like part of the mind, but is also a component which can create new words. (This assumption is related to the lexicalist approach to argument structure seen earlier, in which lexical operations can change the meaning/argument structure of a verb.)

Evidence for the Level Ordering Hypothesis: Non-neutral affixes should be closer to the base than neutral affixes. Many examples support this:

(91) a. industri+al#ly; combat+ive#ness;
b. hope#less#ness vs. *hope#less+ity;
c. fear#ful#ness vs. *fear#ful+ity
d. *[war#hero]+ie, *[street#music]+al [compounding Level II]

Level Ordering also accounts for blocking effects: a word formed with a non-neutral affix will block (i.e. prevent the formation of) a word with a neutral affix if it has the same meaning:

(92) decent/decen+cy/*decent#ness; complacent/complacen+cy/*complacent#ness
aberrant/aberran+cy/*aberrant#ness; constant/constan+cy/*constant#ness

(93) a. apply/applic+ant/*apply#er; account/account+ant/*account#er
   b. defend+ent (person defending in court) /defend#er  (person defending, not in court)

11.3. An extension: Conversion

Level ordering theory was extended to conversion as follows (Kiparsky 1982):

A. Verb-to-Noun (V>N) conversion happens at Level I.
   B. Noun-to-Verb (N>V) conversion happens at Level II.

Evidence:

V>N conversion is far less productive than V>N conversion:

(94) a. guide, a cook, a spy, a bore; *a teach, *a boil, *an annoy
   b. *V>N conversion blocks the Level II affix –er:
   (95) guide/*guider, spy/*spyer, bore/*borer, cook (cooker = stove, not person cooking)

V>N conversion, unlike N>V conversion, can change stress, so it must be Level I.

(96) a. constru+ct (a construct) / construc+ts
   b. download, pervert, rebel, reject, retard, survey, transplant, transport

References


