

September 14, 2005

## CLASS 4-5: DERIVATION: LEXICON AND SEMANTICS

[ignore: (Saussurean) sign (motivated vs unmotivated) — signifier — signified]

### DERIVATIONS: THE BASICS

#### Negative definition of derivational morphology:

*Suffixes that are not inflectional must be derivational.*

The **base** is a partially complete word form to which a suffix attaches.

- one result is an **inflected word form**, the other a **new lexeme** (derivational)
- the base for an affixation process is what remains when an affix is **removed**

**word class** (A&F) = **part of speech** (traditional) = **lexical category** (generative)

Derivational morphology is **word formation** (often resulting in a **new word class**):

- (1)
  - a. happy, **unhappy**, happiness, **unhappiness**
  - b. care, **careless**, carelessness, \*carelessness
  - c. educate, **education**; generate, **generation**
  - d. custom, **customize**, customization

Affixes attach to roots or stems and form new words; better: they **attach to bases**. Sometimes we may not see an overt morpheme, in which case we speak of **zero-derivation** — this process or type of word formation is also called **conversion**:

- (2) *cut* (N) – *cut* (V); *fish* (N) – *fish* (V) — note: novel zero-derivation by children

Morphemes come in a **fixed order** and seem to **care what they attach to**:

- (3)
  - a. quick – **quickly**; soft – **softly**; care – \*carely                    *-ly*: Adj ⇔ Adv
  - b. quick – **quickness**; soft – **softness**; care – \*careness            *-ness*: Adj ⇔ N
  - c. care – **careless** – carelessness (\*quickless, \*softless)        *-less*: N ⇔ Adj
  - d. joy – **enjoy**; danger – **endanger** (\*ensoft, \*enquick)            *en-*: N ⇔ V

**MORE ON DERIVATIONS**

So in the above examples, *-ly* attaches to adjectives and forms adverbs, *-ness* attaches to adjectives and forms nouns, *en-* attaches to nouns and gives us verbs. **Generally:**

**Principle of Compositionality:**

*The meaning of the whole is determined by the meaning of its parts.*

In all the above examples the meaning of the whole is determined by the meaning of its parts — yes, in the spirit of **compositionality** (but this is not always the case...).

- (4) a. amuse – amusement, enjoy – enjoyment  
b. cure – curable – incurable

**Some derivational operations:**

- N ⇔ N:  
'small X', 'female X', 'inhabitant of X', 'state of being an X', 'devotee of/expert on X'
- X ⇔ N:  
*-ity, -ness, -ism* — *-ance/ence, -ment, -ing, -ion/tion/ation, -al, -er* — stress, final C, V
- A ⇔ A:  
*un- + -able, -ful* (English/Germanic) — *in- + -ible, -al* (Latin/Romance)
- X ⇔ A:  
passive/participle *-ed, -en, -ing* (test: *very*) — *-able, -ent/ant, -ive* — *-ful, -less, -al, -ish*
- V ⇔ V:  
*re-, un-, de-, dis-* (all through prefixation!) — V-change: transitivity (causativity)
- X ⇔ V:  
*de-, -ise/ize, -fy/ify* — final voicing/V-change — *en-/em-* (plus others, e.g. *-en*)

**Did you know...**

- (5) a. *lord* = *loaf* 'bread' + *warden* 'guardian'  
b. *woman* = *wife* 'female' + *mon* 'person'

**Other derivational processes:**

As flexible and productive as word formation may sometimes appear, there are limits — even in languages like German, when we stumble upon a **closing suffix**:

- (6) *lehr(en) – er – haft – igkeit – \*... 'teach – er – like an N – ness'*

**Blending** (also known as one meaning of **portmanteau**):

- (7) a. *smoke* + *fog* = **smog**  
 b. *binary* + *digit* = **bit**

**Acronyms:**

- (8) a. **UCY** = *University of Cyprus*  
 b. *Skinheads against Racial Prejudice* = **SHARP**

- distinction: *initialisms* vs. *reverse acronyms*

**Eponyms:**

- (9) a. **guy** c. **kleenex**  
 b. **spartan** d. **atlas**

- based on *personal/geographical/commercial* names, literature, folklore, or mythology

**Clipping** (or **shortening**, formed by **truncation**):

- (10) a. *influenza* ⇒ **flu** c. *brassiere* ⇒ **bra**  
 b. *Jonathan* ⇒ **Jon** d. *typographical error* ⇒ **typo**

**Folk etymology:**

- (11) a. Spanish *cucaracha* ⇒ **cockroach**  
 b. Cree *wuchak* ⇒ **woodchuck**

**Backformation:**

- (12) a. *surveillance* ⇒ **surveil**  
 b. *editor* ⇒ **edit**

**Combining forms:**

- (13) *anthrop(o) + (o)logy*

**Phrasal words:**

- (14) *jack-in-the-box* (\**jacks-in-the-box*, \**people-in-the-street* — devoted to syntax)

- only (?) occurrence of left-headed word forms in English? (e.g. *attorney general*)

## COMPOUNDS: AN OVERVIEW

*A compound is a word that contains more than one root.*

- (15) a. high schóol, black bóard, green hóuse, white hóuse, toy fáctory  
[NP phrases]  
b. híghschool, bláckboard, gréen house, Whíte House, tóy factory  
[compounds]

- compound **verbs**: VV, NV, AV, PV (these are all **right-headed**)
- compound **adjectives**: NA, AA, PA (?\*VA: *fail-safe*, \**sing-happy*)
- compound **nouns**: VN, NN, AN, PN (main **stress** on left, right-headed)
- note: **nonce forms** ('a particular occasion') / **hapax legomena** ('said once')

**Headless** compounds are also known as **exocentric** compounds ("center outside").

- (16) a. *faintheart* (not about a heart or a faint), *pickpocket*, *killjoy*, *cutpurse*  
b. *take-off*, *sell-out*, *wrap-in*, *sit-in* (VP–N)  
c. *overland*, *in-house*, *offshore*, *downmarke* (PN–A)t

**Right-headed** compounds (the majority of compounds in English) and **left-headed** compounds (the famous *attorney general* cases) are **endocentric** ("center inside").

## COMPOUNDS: SOME PROPERTIES

Compounding is **recursive**.

- (17) a. film society  
b. student film society  
c. [...] student film society committee  
d. [...] student film society committee member

Compounds have a **constituent structure** (allowing disambiguation).

- (18) a. student [film society]  
b. [student film] society

Elements are **related** to each other: head-modifier, predicate-argument, apposition.

- (19) a. film society, hand-wash, footpath ...  
b. truck driver, language teacher ...  
c. learner-driver, mother-child ...

Compounds can be **endocentric** or **exocentric**:

- (20) a. film society, truck driver ...  
b. pickpocket, push up ...

**Lack of referential properties** of the non-head:

- (21) a. film society (no reference to specific film)  
b. truck driver (no reference to a specific truck)

Compounds show **morphological integrity** (cannot be split up by other elements).

- (22) a. greenhouse, \*greenerhouse  
b. doghouse, \*dogshouse

Likewise, compounds show **lexical integrity**.

- (23) a. A: Which student film society committee member did you see?  
B: The tall one. / The one with glasses. / The German one.  
b. A: Which society committee member did you see?  
B: \*The student film one.  
c. A: Which member did you see?  
B: \*The student film society committee one.

#### PRIMARY VS SECONDARY COMPOUNDS

**Primary (root) compounds** are formed with simple words,  
e.g. *greenhouse*, *postal order*.

**Secondary (verbal, synthetic) compounds** have a complex word as their head,  
e.g. *truck driver*, *truck driving*.

#### What counts as a synthetic compound?

- The non-head is an **argument**: *truck driver*, *slum clearance*...
- Perhaps passive **participles**: *hand-made*, *moth-eaten*...
- Perhaps compounds based on **adjectives**: *machine readable*...

#### Properties of synthetic compounds:

1. The verb's **internal argument** is satisfied by the non-head:  
drive a truck – truck driver
2. The **subject** can never be the non-head:  
\*child driver (a child who drives)
3. The non-head could be an **adjunct**:  
act fast – fast acting, eaten by moths – moth eaten
4. The heads of synthetic compounds inherit the **argument structure** of the verb

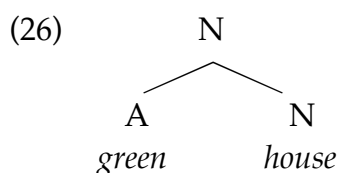
**WORD STRUCTURE**

Based on **structural properties**, we can investigate possibilities and generalizations:

- (24) a. Input Lexeme A ⇒ Output Lexeme B  
 b. Input Lexeme B ⇒ Output Lexeme C  
 c. Input Lexeme A ⇒ Output<sub>1</sub> Lexeme B ⇒ Output<sub>2</sub> Lexeme C ⇒ Output<sub>n</sub> Lexeme Z

compounding:

- (25) [ [ non-head ] head ]

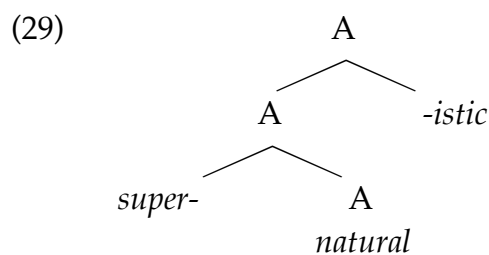
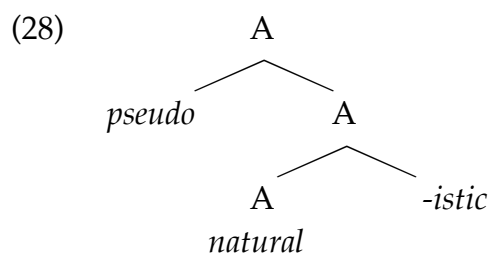


For your interest: **head operation**  
 (we won't discuss these any further).

- flower child ⇒ flower children, \*flower childs
- frogman ⇒ frogmen, \*frogmans (*walkmans*)

derivation:

- (27) [ <sub>3</sub>prefix- [ [ [ ROOT ] -suffix<sub>1</sub> ] -suffix<sub>2</sub> ] ]  
 [ BASE<sub>1</sub> ]  
 [ BASE<sub>2</sub> ]  
 [ BASE<sub>3</sub> ] ]



inflection (more on this station next week):

- (30) [ [ [ [ [ ROOT ] -suffix<sub>D</sub> ] -suffix<sub>D</sub> ] -suffix<sub>I</sub> ] \*-suffix<sub>D</sub> ]

Concerning derivations, consider **reversative -un**, for example (and some exercises):

- (31) a. **undressed**  
 b. **unpacked**  
 c. **unzipped**
- (32) a. lawnmower  
 b. biodefenses  
 c. insightful

## DERIVATION AND SEMANTICS

**Semantic type**

*The entity or relation (real or imaginary) in the world a word refers to.*

**Polysemy**

*one lexeme, more than one related meaning*

**Homophony**

*same sounding words, different meanings*

- |      |    |                                                               |                       |
|------|----|---------------------------------------------------------------|-----------------------|
| (33) | a. | I don't like <b>watermelon</b> .                              | <i>mass</i>           |
|      | b. | I don't like <b>watermelons</b> .                             | <i>count</i>          |
| (34) | a. | Hugh broke the <b>window</b> .                                | <i>figure</i>         |
|      | b. | The kids climbed through the <b>window</b> .                  | <i>ground</i>         |
| (35) | a. | A hot <b>glass</b> put under cold water will shatter.         | <i>container</i>      |
|      | b. | Franny downed the <b>glass</b> in two seconds flat.           | <i>content</i>        |
| (36) | a. | The president and his family live in the <b>White House</b> . | <i>place</i>          |
|      | b. | The <b>White House</b> reacted too late to Katrina.           | <i>people</i>         |
| (37) | a. | Sarah is upset about her scratchy <b>voice</b> .              | <i>characteristic</i> |
|      | b. | It was well known that the <b>Voice</b> didn't drink.         | <i>person</i>         |

**Overextension**

*Use of a word to refer to objects/individuals typically covered as well as others that are perceptually similar.*

**Underextension**

*Use of a word to refer to only a subset of its actual referents.*

**Semantics of derivations**

affixation: e.g., *-ism* 'doctrinal system of principles' vs. 'a peculiarity of speech'

zero derivation: N-to-V (location, duration, agent, goal, instrument, miscellaneous)

- **evaluative domain**: things in the extension of a noun which serve to evaluate it

**agentive -er**: four basic categories of derived meaning

- |      |                     |                                                 |
|------|---------------------|-------------------------------------------------|
| (38) | Persons:            | <b>baker, dancer, gambler, driver</b>           |
|      | Animals:            | <b>pointer, retriever, warbler, trotter</b>     |
|      | Material objects:   | <b>blotter, eraser, fertilizer, shutter</b>     |
|      | Immaterial objects: | <b>reminder, clincher, thriller, eye-opener</b> |

Strategy 1: assign the derivation a **semantic rule** (as for zero-derivation)

Strategy 2: classify words into categories and build on **proto-** or **archetype**

**SOME EXERCISES****DERIVATIONAL PREFIXES AND SUFFIXES****1. Sort the suffixes in the words below according to their class-changing function.**

The categories include the following:

- |             |                                          |
|-------------|------------------------------------------|
| (a) N > N   | (e) N > A                                |
| (b) V > N   | (f) V > A                                |
| (c) A > N   | (g) N/A > Adv                            |
| (d) N/A > V | [There are two examples of each suffix.] |

<i>broaden</i>	<i>syntactic</i>	<i>width</i>	<i>socialist</i>
<i>absorbent</i>	<i>falsehood</i>	<i>closure</i>	<i>straighten</i>
<i>rhetorician</i>	<i>clockwise</i>	<i>refusal</i>	<i>vaccinate</i>
<i>gangster</i>	<i>stardom</i>	<i>warmth</i>	<i>hopeless</i>
<i>twofold</i>	<i>trial</i>	<i>accidental</i>	<i>selfish</i>
<i>advisory</i>	<i>likelihood</i>	<i>friendless</i>	<i>politician</i>
<i>idealist</i>	<i>mobster</i>	<i>kingdom</i>	<i>facilitate</i>
<i>flippant</i>	<i>contradictory</i>	<i>boyish</i>	<i>seizure</i>
<i>manifold</i>	<i>stepwise</i>	<i>thankless</i>	<i>global</i>
<i>historic</i>	<i>penniless</i>		

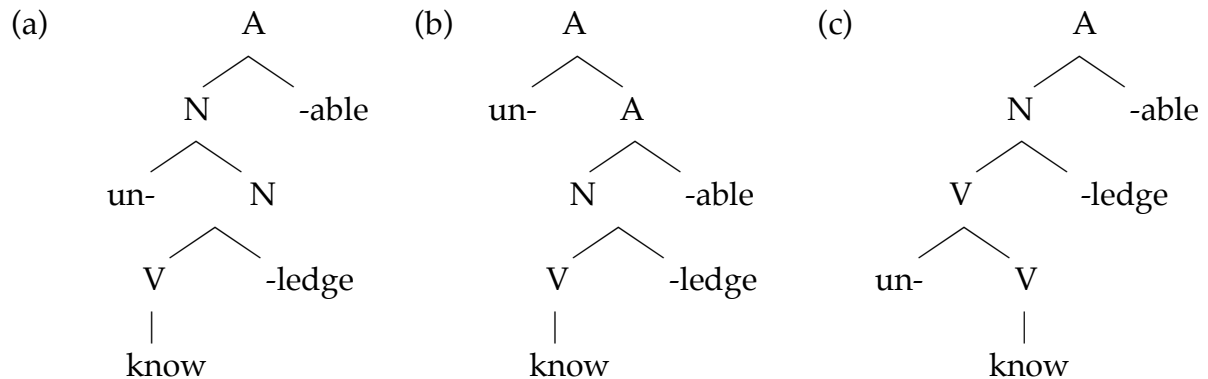
**2. Can you think of a reason why *-en* may attach to some adjectives, but not to others?**

<i>blacken</i>	<i>broaden</i>	<i>stiffen</i>	<i>ripen</i>
<i>deafen</i>	<i>tighten</i>	<i>soften</i>	<i>loosen</i>
<i>*thinen</i>	<i>*longen</i>	<i>*slimen</i>	
<i>*nearen</i>	<i>*slowen</i>	<i>*narrowen</i>	
<i>*highen</i>	<i>*holyen</i>	<i>*noblen</i>	

**3. Can you think of a reason why *-ed* may attach to some nouns, but not to others?**

<i>brown-haired</i>	<i>kind-hearted</i>	<i>low-spirited</i>
<i>left-handed</i>	<i>narrow-minded</i>	<i>strong-headed</i>
<i>*brown-coated</i>	<i>*heavy-pursed</i>	<i>*long-skirted</i>
<i>*one-childed</i>	<i>*two-catted</i>	<i>*silly-hatted</i>

**4. Which is the proper derivation of *unknowledgeable*? Explain.**



**PREFIXATION**

**1. Consider the following words:**

<i>disbelief</i>	<i>dishonorable</i>	<i>dislike</i>
<i>discomfort</i>	<i>dispassionate</i>	<i>disconnect</i>
<i>disharmony</i>	<i>dismissive</i>	<i>disclose</i>
<i>disorder</i>	<i>disgraceful</i>	<i>disinfect</i>
<i>displeasure</i>	<i>disorderly</i>	<i>disown</i>
<i>dishonest</i>	<i>dissimilar</i>	<i>discontinuous</i>
<i>discharge</i>	<i>disobey</i>	<i>distrust</i>

- What kinds of bases does the prefix *dis-* attach to? Give an example of each.
- What kinds of roots does the prefix *dis-* attach to? Explain.
- Is it a class-maintaining or class-changing prefix?
- What are the two meanings of the prefix? Name and give an example from the list above of each of the two meanings.
- In addition to derivation, what process of word formation is involved in the formation of the following words?

<i>disarm</i>	<i>distrust</i>	<i>dismember</i>	<i>disfigure</i>
<i>disband</i>	<i>discolor</i>	<i>discourage</i>	<i>disbar</i>

- What problem do the following words pose for morphological analysis? Explain.

<i>discern</i>	<i>disgust</i>	<i>dissipate</i>	<i>disburse</i>
<i>disparage</i>	<i>dismantle</i>	<i>dispel</i>	<i>discreet</i>

- Would you say that the following words contain the *dis-* prefix or a different one? Explain.

<i>denude</i>	<i>deforest</i>	<i>demerit</i>	<i>declassify</i>
<i>deform</i>	<i>degrade</i>	<i>denounce</i>	<i>decode</i>
<i>detract</i>	<i>deflower</i>	<i>deflect</i>	<i>defrost</i>

- (h) Analyze the following words into morphs and label each morph as R (=root), DP (=derivational prefix), DS (=derivational suffix), and IS (=inflectional suffix). Specify the grammatical function of the affixes and the part of speech of the root.

Example:

DISCOURAGEMENT *dis-* (DP) + *courage* (R – noun) + *-ment* (DS – nominalizer)

*disheartening*    *disproportionately*    *disqualification*    *disenchantments*  
*disinterested*

- (i) Draw a tree diagram showing the derivation of the word *disreputable*.

**2. Consider the follow words:**

<i>antisocial</i>	<i>antibacterial</i>	<i>antihistamine</i>
<i>antibody</i>	<i>antinuclear</i>	<i>antihygienic</i>
<i>anticlimax</i>	<i>antihero</i>	<i>antiseptic</i>

- (a) What bases does the prefix *anti-* attach to? Give an example of each.  
 (b) What kinds of roots does the prefix *anti-* attach to? Explain.  
 (c) Is the prefix class-changing or class-maintaining?  
 (d) Give the meaning of the prefix.  
 (e) What problem do the following words pose for morphological analysis? Explain.

<i>antipathy</i>	<i>antidote</i>	<i>antithetic</i>	<i>antibiotic</i>
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- (f) In addition to derivation, what process is involved in the formation of these?

<i>antiwar</i>	<i>antifreeze</i>	<i>antislip</i>
<i>antitrust</i>	<i>antiknock</i>	<i>antiwrinkle</i>

- (g) What problem do the following words pose for morphemic analysis? Explain.

<i>antacid</i>	<i>Antarctic</i>	<i>antepileptic</i>
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- (h) Analyze the following words as in (1h) above:

<i>antibacterial</i>	<i>antiperspirant</i>	<i>antirevolutionary</i>
<i>anticommercialization</i>		<i>antidisestablishmentarianism</i>

- (i) Give a tree diagram showing the derivation of the word *antidepressant*.

## COMPOUNDING

1. Identify the syntactic pattern in each of the following compounds and express it in a rule.

Example: 'gravedigger' — N + V + -er > N

- |                  |                   |                     |
|------------------|-------------------|---------------------|
| (a) hovercraft   | (m) dugout        | (y) lukewarm        |
| (b) dairyman     | (n) hardhearted   | (z) law-abiding     |
| (c) bath-towel   | (o) homesick      | (aa) far-reaching   |
| (d) goldfish     | (p) proofread     | (bb) homemade       |
| (e) inroads      | (q) overqualified | (cc) clean-cut      |
| (f) bystander    | (r) overachieve   | (dd) fighter-bomber |
| (g) setback      | (s) badmouth      | (ee) earthenware    |
| (h) meltdown     | (t) redhead       | (ff) driver's seat  |
| (i) blackout     | (u) birth control | (gg) baking powder  |
| (j) stand-in     | (v) breakfast     | (hh) drip-coffee    |
| (k) turnout      | (w) thoroughgoing | (ii) wisecrack      |
| (l) money-hungry | (x) quick-change  | (jj) snowplow       |

2. The following words are compounds which also include derivational affixes. Analyze the words, identifying the roots and their parts of speech, as well all the affixes and their function as nominalizer, verbalizer, adjectivalizer, adverbializer.

Example: 'housekeeper' — *house* (root – noun) + *keep* (root – verb) + *-er* (nominalizer)

- (a) flightworthiness
- (b) chatterbox
- (c) owner-occupied
- (d) freedom-loving
- (e) handicraft
- (f) broken-hearted
- (g) safety-tested
- (h) worldly-wise
- (i) antiaircraft
- (j) machine-readable
- (k) chartered accountant

### MINOR PROCESSES OF WORD FORMATION

1. Identify the process of word formation responsible for each of the following words.

- |                   |                     |                   |
|-------------------|---------------------|-------------------|
| (a) curio         | (j) serendipity     | (s) guestimate    |
| (b) (to) laze     | (k) diesel          | (t) canary        |
| (c) (to) network  | (l) (a) ha-ha       | (u) brain-gain    |
| (d) (to) cohere   | (m) (to) make up    | (v) boojum        |
| (e) (a) sitcom    | (n) (to) total      | (w) gaffe-slack   |
| (f) (the) muppets | (o) (the) hereafter | (x) psycho        |
| (g) (a) what-not  | (p) amphetamine     | (y) walkie-talkie |
| (h) margarine     | (q) (a) construct   | (z) bonfire       |
| (i) dystopia      | (r) (the) chunnel   |                   |

2. The words in column A have been created from the corresponding words in column B. Indicate the word formation process responsible for the creation of each word in column A.

<u>Column A</u>	<u>Column B</u>
(a) sprig	spray + twig
(b) nostril	nosu + thyrl 'hole' [in Old English]
(c) bookie	bookmaker
(d) van	caravan
(e) Amerindian	American Indian
(f) CD	compact disc
(g) RAM	random access memory
(h) televise	television
(i) xerox	xerography
(j) telathon	television + marathon
(k) sci-fi	science fiction
(l) elect	election
(m) deli	delicatessen
(n) scuba	self-contained underwater breathing apparatus
(o) scavenge	scavenger
(p) jell	jelly