ELTE PhD Programme in English Linguistics

**Morphology**
(mainly: derivational morphology and compounding)

**Instructor:** László Varga

**Prescribed texts:**

**Exam:** written paper based on Prescribed texts and lectures, with problem solving.

**Schedule:**
3. Word-based morphology. Possible and actual words.
8. Truncation rules.
10. Distributional arguments, -able.
11. Compounds)

**Select bibliography**

**General morphology:**

**English morphology:**
Course handouts

**Basics** (Revision of things known, and Katamba Chs 2-3)

Lexeme, grammatical word, word form. Inflection, derivation. Paradigm.
Morpheme, morph, allomorph.
Conditioning (phonological, grammatical, lexical). Suppletion.
Free morphemes, bound morphemes.
Affixes (prefixes, suffixes, infixes). Empty formatives.
Stem, root, base. Warning: // In general usage (e.g. Bauer, Crystal, Katamba, Spencer) a *stem* is that part of a word which remains if the last-added inflectional affix is removed, a *base* is that part of a word which remains if the last-added (inflectional or derivational) affix is removed, and a *root* is that part of a word which remains if all affixes are removed. // In Aronoff’s usage, a *stem* is that part of a word which remains if we remove the last-added isolable affix (e.g. regul* is the stem for regulable*), and a *base* is a word from which another word is derived, e.g. *regulate* is the base for regulable*).

Agglutinating, isolating (analytic), inflectional (fusional, synthetic), incorporating (polysynthetic), infixing languages.

1) TAKE: *take, takes, taking, took, taken*. 2) portmanteau morphs, e.g. It. *bell-ò*.
3) -cub: *incubate, incubus, concubine, succubus; incumbent, succumb, decumbent*
4) *inept, unkempt, cranberry; permit, commit, submit, admit, remit*
5) empty formatives (stem extenders): *sensual, children, tradesman*
6)a. pénz+telen+ség+em+ből  
b. kangaroo, table, boy  
c. took, mice  
d. *iilu- mi- niip- puq* (‘he is in his house’)  
  house his be-in 3sg indic  
e. *kth* ‘write’; *kitab* ‘book’; *katab* ‘he wrote’; *katib* ‘writer’

*More on words, inflection and derivation* (Aronoff Ch1, Bauer pp22-33)

1) a. a pound of tea b. He took a pound of tea and put two spoonfuls of it into a teapot.
2) a. teapot b. *He took the teapot and poured it into the cup.
3) a. The analysis of existing composite words b. The formation of new composite words

Problems with the identification of inflectional and derivational morphemes:
- “morphemes whose form is specified by rules of concord and government are inflectional” (?) *novij učenik, novaja učenica, ja čitaju, ti čitaješ; v škole, bez školi, na školu, láttam Pétert, találkoztam Péterrel, hiszek Péternek*. But then what about tense, genitive suffix, comparative?
- “if a form including affixes can be replaced in some of its occurrences by a simple root form, then that form shows derivation rather than inflection” (?) *The writer/boy received a prize. But then kissed in They always kissed their mother. should be regarded as a derivative, because it can be replaced by kiss.*
- “if an affix causes a stem to change its wordclass membership, then the affix is derivational” *en+joy*

Inflectional morphemes are normally external to derivational ones:
  compart+ment+al#ize#d *compart+ment+al#d#ize

Closed system (small number) of inflectional affixes vs. open class (large number) of derivational ones; *drug-oholic, work-oholic*
- Inflection is paradigmatic, derivation is not

\[
\begin{array}{ccccc}
V & V^#s & V^#d1 & V^#d2 & V^#ing \\
4) a. & sigh & sighs & sighed & (has) sighed & sighing \\
b. & go & goes & went & (has) gone & going \\
\end{array}
\]

Although a paradigm may be defective (see (5)), derivation has a large number of unpredictable gaps in the system (see (6)):

\[
5) a. scissors (*scissor) & trousers (*trouser) \\
b. scissorlike & trouserleg \\
\]

6) regress regression, confess confession, caress *caression, *sess session

Problems with morphemes. Redefinition.

\[
0) a + b: amuse + ment \\
A + B + C: 'the state resulting from being amused' (meaning)
\]

C B A

1) cranberry boysenberry huckleberry
2) #cran# #boysen# #huckle#
3) strawberry blackberry blueberry gooseberry
4) #straw# #black# #blue# #goose#

\[
5) X=fer X=mit X=sume X=ceive X=duce \\
refer & remit & resume & receive & reduce \\
confer & commit & consume & conceive & conduct \\
defer & demit & deceive & deduce \\
\]

N.B. refuse (‘fuse again’), suffer, vomit do not contain the = boundary.

6) [m]\text{tt} has the allomorph [m]\text{ts} before the suffixes +ion, +ory, +or, +ive, +able.

a. permit permission permissive b. prohibit prohibition prohibitive
remit remission remissory vomit vomitory

\[
7) re=X con=X in=X de=X \\
repel & compel & impel \\
reduce & conduce & induce & deduce \\
refer & confer & infer & defer \\
remit & commit & infer & demit \\
\]

8) understand/stood withstand/stood
9) a We stood there for a while. b. We stood the chairs in the corner.
   c. We stood it as long as we could, and then left.

Word formation

91) transmission
92)a. smog, chunnel b. NATO, radar c. transmote

All regular word-formation processes are word-based. A new word is formed by applying a regular rule to a single already existing word. Both the new word and the existing one are members of major lexical categories.
11) [communal]$_A$ $\rightarrow$ [communal#ize]$_V$ ‘make communal’ $\rightarrow$ [communalize+Ation]$_N$ ‘the act of making communal

111) A string $\sigma$ has to be bracketed
   a. if its surface reflex shows up elsewhere as an independent word, AND
   b. if the meaning of the matrix string, of which $\sigma$ is a substring, is a function of the meaning of $\sigma$
      and the meaning of the rest of the matrix string.
      *(fil)(ter)

12) a. Prohibition [pròbíšn] [pro=hibit+ion]$_N$  b. prohibition [pròhíšn] [[pro=hibit]$_V$ +ion]$_N$

13) “to self-destruct”, “to cohere”
   a. destroy / destruction construct / construction
   b. Vs+ion (confuse/confusion) Vd+ion (delude/delusion) Vr+ion (cohere/cohesion) $\rightarrow$ Vs+ion

14) Xion Xive/ory Xor *X
    incision incisive incisor *incise
    locomotion locomotive locomotor *locomote
    valediction valedictory *valedict
    illusion illusory *illude
    revulsion revulsive *revulse

15) commune$_N$+al#ize$_V$+Ation$_N$

16) a. bake$\#r$$_N$  b. butch$\#r$$_N$  c. poss+abl$_A$  d. prob+abl$_A$  e. cran#berry$_N$  f. girh+es$_A$

Productivity

1) a. perceptive # ness  c. servile + ity  b ? perceptive + ity
2) a. fabulousness ?fabulosity  b. acrimonious *acrimoniosity famous *famosity

3) The semantics of Xousness
   a. ‘the fact that Y is Xous’:  His callousness surprised me.
   b. ‘the extent to which Y is Xous’:  His callousness surprised me.
   c. ‘the quality or state of being Xous’:  Callousness is not a virtue.

4) The semantics of Xosity is less coherent:
   curiosity:  Like (3a, b):  His curiosity surprised me.
               Like (3c):  Curiosity can be dangerous.
               Other:  They admired my dress, but only as a curiosity.

5) lúminous luminósity;  fábulous fábulousness fabulósity
6) R1: -ous truncation:  os $\rightarrow$ 0 / ___ + ity
7) various variety *variosity; curious *curiety curiosity
8) The application of (6) is not lexically governed in +ity derivatives of words of the class $XVcious$

a. $Xacious$ $Xacity$ $Xaciosity$
    mendacious mendacity (*mendaciosity)

b. $Xocious$ $Xocity$ $Xociosity$
    precocious precocity (*precociosity)

c. $Xecious$ $Xecity$ $Xeciosity$
    specious (*specity) speciosity

9) The application of (6) is lexically governed in +ity derivatives of words of the class $Xulous$

nebulous *nebulity nebulosity
credulous *credulity *credulosity

We expect +ity to be more productive with (8) than with (9).

10) = (5 on p41): Majority (21 out) of the 29 adjectives of the form $Xacious$ have corresponding nominals of the form $Xacity$ < NOT lexically governed > productive

- bibacious *
- efficacious *
- perspicacious perspicacity
- mendacious mendacity

11) = (6 on p42): Only minority (8 out) of the 52 adjectives of the form $Xulous$ have corresponding nominals of the form $Xulosity$ or $Xulity$ < lexically governed > not productive

- bibulous *
- miraculous *
- fabulous fabulosity [-R1]
- nebulous nebulosity [-R1]
- credulous credulity [+R1]

12) glorious glory *gloriosity gloriousness
    gracious grace *gracity graciousness
    furious fury *furiosity furiousness
    spacious space *specity spaciousness

Constraints on productivity (Katamba 4.2)

13) Phonological: a) -en added to monosyllabic stems ending in an obstruent, which may optionally be preceded by a sonorant: blacken, dampen, lengthen, but *dryen, *laxen, *dimmen, *greenen
    b) -ly not added to adjectives ending in ly: *sillily, *friendlily, *sisterlily

14) Morphological: -hood was originally attached only to native stems, not to Latinate roots: boyhood, sisterhood, kinghood, *judgehood, *governorhood, *prisonerhood. Later this changed: parenthood, statehood, nationhood.

15) Semantic: a) Adj+past participle compounds permitted only where the root to which -ed is added is inalienably possessed by the head N which it modifies: blue-eyed, red-haired, short-sleeved, three-legged, *two-carred family, *big-Alsatianed woman
    b) *unsad, *unpessimistic, *unill

Word Formation Rules (i): Syntactic, semantic aspects, and morphological restrictions

1) a. John punched Bill
    b. * John repunched Bill.
    c. John punched the holes in the paper. d. John repunched the holes in the paper.
2) \(N^\#able_1 \quad V^\#able_2\)
- fashion\#able accept\#able
- fashion\#able#ness accept\#able#ness
- *fashion\#abil+ity accept\#bil+ity

‘characterized by X’ ‘capable of being Xed’

3) \([X]_{V+ee}N\)
4) \([X]_{V#er}N\) ‘one who Vs habitually, professionally’; e.g. baker, programmer, teacher, writer, diver
5)a. John washed the dishes, b. John re-washed the dishes. = John washed the dishes again.

7) Velar Softening
- electri[k] electri[s]ity analo[g]ue analo[dʒ]y
- criti[k] criti[s]ism re[g]al re[dʒ]icide
- mysti[k] mysti[s]ism ri[g]our ri[dʒ]id

8) a. advise#abil+ity read#abil+ity
   b. forgive # able * forgive # able = * for[dʒ]ivable

9) Xable +ity; Xic/Xal/Xid/Xile +ity

10)a. [en+Y]_{V} [be+X]_{V}
    en+croach#ment be+wilder#ment
    em+bezzle#ment be+dazzle#ment
    b. un#flag+ging un#buri+ed un#bear#able

11) X+ate/ X+ant/ X+ent *#ness
    profligate aberrant decent
    *profligateness *aberrantness *decentness
    profligacy aberrancy decency

Exc: accurateness, accuracy

12) ornament_{N} *orna_{V} ornamental
    excrement_{N} *excre_{V} excremental
    regiment_{N} *regi_{V} regimental
    fragment_{N} *frag_{V} fragmental
    employment_{N} employ_{V} *employmental
    discernment_{N} discern_{V} *discernmental
    containment_{N} contain_{V} *containmental

Exc.: government_{N} govern_{V} governmental
development_{N} develop_{V} developmental

13) a. [[employ]_{V}#ment]_{N} *+al
    b. [orna#ment]_{N} +al c. Obstruent Deletion: obs \(\rightarrow\) 0 / ___#ment
    d. [experiment]_{N} +al e. [[experiment]_{N}]_{V}

15) X]_{N+al}A
    Condition: X \(\neq\) [Y]_{V} #ment
16) humanity humanness; proposal proposition
    recital recitation; consolement consolation
    assignment assignation; committal commitment

17) constitution+al#ism, physic+al#ism, anim+al#ism

18) *fatal ism al, *dogmat ism al
    N.B. In dismal, rheumatismal, catechismal, the ism is not a morpheme.

19) A: +al rule: $[[X]_{N}+al]_{A}$  B: #ism rule: $[[X]_{A}#ism]_{N}$

Problem:

20a. +Ation precedes +al: organiz+Ation+al
    b. +al precedes #ize: industri+al#ize
    c. #ize precedes +Ation: organiz+Ation;
    +Ation may both precede and follow #ize

21) i. A: +al/+ence, etc. (Nominal affixes other than Ation or ment); committal, occurrence ...
    B: +Ation explanation, starvation, sensation, consolation
    ii. N.B.: verbs in en+ and be+ are exceptions
    C: #ment; embezzlement, bewilderment

22) *fatal#ism+al ~ fatalistic, * modern#ism+al ~ modernistic

23) Rule of negative un#
    a. The main part of the WFR:
       $[X]_{A} \rightarrow [un# [X]_{A}]_{A}$
       Semantics: un#X = ‘not X’
    b. Morphological conditions on the base:
       1. $[Y_{V} #e_{d} u_{p} a_{r} t i_{c} p i _{l i s} a l]_{A}$ (buried)
       2. $[Y_{V} #i_{n} g]_{A}$ (flagging)
       3. $[Y_{V} #a_{b} l e]_{A}$ (bearable)
       4. $[Y_{V} +y]_{A}$ (worthy)
       5. $[Y_{V} +ly]_{A}$ (seemly)
       6. $[Y_{V} #f u l]_{A}$ (mindful)
       7. $[Y_{V} +al]_{A}$ (conditional)
       8. $[Y_{V} #l i k e]_{A}$ (warlike)

Word Formation Rules (ii): (Phonological aspects)

24) Klamath Noncausative Causative
    pe:wa ‘bathes’  hespe:wa
    no:ga ‘is cooked’  hosno:ga
    mas:s’a ‘is sick’  hasmas:s’a

25) Kisseberth’s assumption: hV* s+

26) Klamath Causative WFR (a copying rule)
    $v[C_{0}V X]$  $v_{c a u s}$
    1 2 3 $\rightarrow$ $v_{c a u s} [h \begin{array}{c} 2 \\ \text{long} \end{array}]$ s $v[123]$

27) 3 2 1 3 2 1
    Mononga-fuckin-hela; fan-fuckin-tastic
28) Siegel’s “fuckin” rule

\[ X V C_0 \ (V \ C_0)_0 \ [\text{infix}] \ V \ Y \]

−str

29) Aronoff’s “fuckin” rule

\[ X V Q V Y \]

\[ 1 \ 2 \ 3 \ 4 \ 5 \rightarrow 1 \ 2 \ 3 \ [\text{infix}] \ 4 \ 5; \text{ where Q contains no V} \]

30) a. N V
    b. v[N[X] 0]
    c. N[X] → v[X]

  father
  referee
d. skate
  hammer

taxi
taxi

31) + prephonological (cyclic); # postcyclic (word-level); ## postphonological

32) a. trial, denial, refusal, rehearsal, arrival
    b. *constructal, *organizal, *resistal

33) + prephonological (cyclic); # postcyclic (word-level); ## postphonological

34) Kalamazoo
    fuckin
    Kalamafuckinzoo

35) a. abridgement, impeachment
    b. *abridgeation, *impeachation
    c. sheepish, piggish
    d. *fishish, *drudgish

36) a. analyze#able
    b. (analyze#abil)+ity
    c. (un#grammatical)+ity

37) /standard#i:z/

**Adjustment Rules (i): Truncation Rules**

1) Truncation

\[ [(\text{root} + A)X + B]Y \]

\[ 1 \ 2 \ 3 \rightarrow 1 \ 0 \ 3 \]

where X and Y are major lexical categories

2) Siegel’s +ee Attachment: preliminary

\[ [[V +ee]N + trans + anim. \ obj. \text{e.g. } [\text{employ}]_V +ee]_N \]

3) nominate nominee, evacuate evacuee

4) Aronoff’s +ee Attachment (One WFR+Truncation)

\[ [[\text{nomin+ate}]_V +ee]_N \text{ nomin} +ee \]

\[ 1 \ 2 \ 3 \rightarrow 1 \ 0 \ 3 \]
5) Siegel’s +ee Attachment: revised (Two WFRs!)
   Restriction: (5a) does not operate where (5b) does.
   a. as (2).................................e.g. [[employ]V_ee]_N
   b. [ [ ]_ee]_N ..................................e.g. [[nomin]X_ee]_N
      where there exists Y_ν............e.g. nominate_ν
         +trans
         +anim. obj.
      such that [Y]_ν = [[ ]_X]_ν .......e.g. [nomin]_ν = [[nomin]_X_ate]_ν
   Restriction: (5a) does not operate where (5b) does.

6) Words in +ant fall into two classes
   (i) Those which have a morphologically related V:
      A. officiate → officiant
      negotiate → negotiant
         (deodorize → deodorant)
      B. descend → descendant
      complain → complainant
   (ii) Those whose roots are not free words:
      C. merchant, pedant, penchant

7) Aronoff’s +ant Attachment (One Truncation rule)
   [[negoti+ate]_V+ant]_N  negoti +ant
   1 2 3 → 1 0 3

8) +ant Attachment à la Siegel (Two WFRs!)
   a. [ [ ]_V +ant]_N ............ e.g. [[descend]_V+ant]_N
   b. [[ ]_X+ant]_N ........... e.g. [[negoti]_X+ant]_N

   where there exists Y_ν ....... e.g. negotiate_ν
   such that [Y]_ν = [[ ]_X]_ν ....... e.g. [negotiate]_ν = [[negoti]_X_ate]_ν

9) inflate *infant inflatant;  dilate *dilant dilatant

10) in=fl+ate di=l+ate

11) in=flate di=late

12) relegiate – relegable,  penetrate – penetrable,  consecrate – consecrable (memorize – memorable)

13) inflate – *inflable – inflatable;  dilate – *dilable – dilatable

14) a. big–bigger, small–smaller  b. interesting – more interesting

15) Adj  moreAdj  Adj-er
   a. big  *more big  bigger
      fast  *more fast  faster
      happy  ?more happy  happier
   b. silly  more silly  sillier
      lovely  more lovely  lovelier
      comely  more comely  comelier
   c. flagrant  more flagrant  *flagranter
      pompous  more pompous  *pompouser

16) Adv  moreAdv  Adv-er
   fast  *more fast  faster
(He did it)  
   slow (US)  *more slow  slower
   skillfully  more skillfully  *skilfullier
17) a. I am strongly (*strong) inclined to believe it.
   b. I am more strongly inclined to believe it.
   c. I am stronger (*stronglier) inclined to believe it.

18) a. He ran quickly (*quick).
   b. He ran more quickly.
   c. He ran quicker (*quicklier).

19) a. He spoke softly (*soft).
   b. He spoke more softly.
   c. He spoke softer (*softier).

20) Adverb +er Truncation
   C_0VC_0ly+er_{Adv}
   1 2 3 → 1 0 3

21) Isačenko’s Russian Truncation rules
   N. B.: the # in (21) to (32) is the symbol of an abstract vowel called yer
   \[(ov_1^1 + (ov_2^1 + #c#)) → suvórovec\]
   \[(roz+ov_1)+(ov_2+at)) → rozovátýj\]

   Structurally similar to:

22) X+ate\_V+At+ion
   1 2 3 4 → 1 0 3 4 e.g. cre+ate+At+ion → cre+At+ion

23) leningrad leningrádskij
   tomsk *tómskij / tómskij
   bask baskskij / *baskij

24) oburžuazit’ ‘make bourgeois’; buržuaznyj ‘bourgeois’
   N.B.: ‘ shows palatalization of preceding consonant, when the palatalization is not caused by a following vowel!

25) buržuazn(yj) → buržuaznit’ → buržuazit’\_V
26) sekrét\_N sekrétnyj\_A zasekrétit’\_V
27) syngá\_N ‘scurvy’ → syngótnyj\_A → syngótet’\_V
28) o+bez+N+verbalizer e.g. obezúmet’ ‘make mindless’
   bez\_N: ‘without N’ \_V: ‘make Nless’

29) bez\_N bez+N+#n\_A o+bez+N+verbalizer\_V
   ‘without N’ ‘Nless’ ‘make Nless’
   a. bez umá bezúmnyj obezúmet’
   b. bez lóšadi bezlošádnyj obezlošádet’
   c. bez vredá bezvrédnyj obezvrédit’
   d. bez vodý bezvódnyj obezvódit’
   e. bez zemlí bezzemél’nyj obezzemélit’
   f. bez nadéždy beznad’óžnyj obeznad’óžit’

30) /bez+zem\#l’++n+yj/ → bezzemél’nyj

31) zem\#l’+a → zeml’á

32) Input 1: bez+zem\#l’++n\_A
   # vocalization: e
   stress: é
   # deletion: 0
   Output 1: bezzemél’+n\_A
   WFR: o+bezzemél’+n\_A+it’\_V
   Truncation: o+bezzemél’it’\_V
   Output 2: obezzemélit’\_V
33) a. mißfallen *gemißfalten, mißbräucht *gemißbräuchten, mißbilligt *gemißbilligt
   b. mißverständen, why not *gemißverständen? (and also mißgestaltet, mißinterpretiert, etc.)

34) gemißverständen → mißverständen → mißverstehen

Adjustment Rules (ii): Allomorphy Rules

35) dandelion, accordion, ganglion; onion, companion, million

36) SPE: (+At)+iVn

37) 1. +Ation realization (unrestricted)
   2. +tion resumption (if restricted root ends in non-coronal)
   3. +ion communion (if restricted root ends in coronal)
   4. +ution repetition (like 3 = restricted root ends in coronal)
   5. +ution resolution (like 2 = restricted root ends in non-coronal)

38) Labial                  Coronal                Velar
    perturbation           cessation           deportation   evocation
    formation              degradation         manifestation purgation
    exhumation             elicitation         consultation prolongation
    usurpation             accusation          affectation amplification
    revelation             commendation       implication
    declaration            sensation          representation

39) vary variation; continue continuation; renounce renunciation

40) amplify amplification; imply implication  41) SPE: k → 0 / +C₁ ĭ ___##

42) equivocate equivocation *equivocationat

43) nominate nominee; dominate dominant; penetrate penetrable

44) Marked roots ending in non-coronals take +tion
   a. sune
      subsume subsumption *subsumption
      consume consumption *consumation
      assume assumption *assumption
      presume presumption *presumption
   b. duce
      deduce deduction conceive conception prescribe prescription
      reduce reduction receive reception conscribe conscription
      seduce seduction deceive deception
      produce production perceive perception
      introduce introduction

45) deem redeem redemption sorb stroy
    redeem redemption sorb absorption destroy destruction

N.B. On p102, Aronoff says the root of destruction is struc, whereas on p28 he says the root is struct!
Marked roots ending in coronals take +ion.

45) rebel rebellion commune communion
46) decide decision revise revision

47) \( V \rightarrow V /___ C_{1}^{1} \) low V abrade, abrasion \( \rightarrow \) abrasion
-\( \text{high} \) +\( \text{tns} \) -\( \text{back} \) -\( \text{high} \) -\( \text{cons} \) -\( \text{str} \)

48) Exceptional: convene convention
49) add addition 50) revolve revolution
vend vendition resolve resolution
define definition dissolve dissolution
X+pose X+position solve solution
compete competition
repeat repetition
imbibe imbibition

49)a. add+ion, imbib+ion
b. add \( \rightarrow \) addition, imbib \( \rightarrow \) imbibition

prescribe \( \rightarrow \) prescription

50)a. resolve \( \rightarrow \) resolution; solve \( \rightarrow \) solution
\( v \rightarrow u /___ t \)

51) Allomorphy of ion
\( +\text{Ation} \rightarrow \) \( +\text{ion} \) \( / X \) \( +\text{cor} \) \( -\text{cor} \) ______

Condition: \( X \) a cor is one of a set of specified latinate roots shown in (44)-(46), (49)-(50).

52) invert inversion /r\( z \)/ insert insertion /r\( s \)/

53) Preliminary:
vert \( \rightarrow \) verd /___ +ion
54) **Marked coronal alternations**

<table>
<thead>
<tr>
<th>Sample verbs</th>
<th>Verb-</th>
<th>/+ion</th>
<th>/+ive (and often +able)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. excrete, X+sert</td>
<td>t</td>
<td>Š</td>
<td>t</td>
</tr>
<tr>
<td>2. X+mit</td>
<td>t</td>
<td>Š</td>
<td>s</td>
</tr>
<tr>
<td>3. X+vert</td>
<td>t</td>
<td>Ž</td>
<td>s</td>
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<tr>
<td>4. digest</td>
<td>st</td>
<td>sč</td>
<td>st</td>
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<tr>
<td>5. connect</td>
<td>kt</td>
<td>kš</td>
<td>kt</td>
</tr>
<tr>
<td>6. decide, explode</td>
<td>d</td>
<td>Ž</td>
<td>s</td>
</tr>
<tr>
<td>7. X+cede</td>
<td>d</td>
<td>š</td>
<td>s</td>
</tr>
<tr>
<td>8. apprehend</td>
<td>nd</td>
<td>nš</td>
<td>ns</td>
</tr>
<tr>
<td>9. commune</td>
<td>n</td>
<td>n</td>
<td></td>
</tr>
<tr>
<td>10. scan</td>
<td>n</td>
<td>nš</td>
<td></td>
</tr>
<tr>
<td>11. convene, retain</td>
<td>n</td>
<td>nš</td>
<td>nt</td>
</tr>
<tr>
<td>12. prevent</td>
<td>nt</td>
<td>nš</td>
<td>nt</td>
</tr>
<tr>
<td>13. recense</td>
<td>ns</td>
<td>nš</td>
<td></td>
</tr>
<tr>
<td>14. coerce</td>
<td>rs</td>
<td>rš</td>
<td>rs</td>
</tr>
<tr>
<td>15. disperse</td>
<td>rs</td>
<td>rž/hš</td>
<td>rs</td>
</tr>
<tr>
<td>16. submerge, asperge</td>
<td>rdž</td>
<td>rž</td>
<td>rs</td>
</tr>
<tr>
<td>17. adhere</td>
<td>r</td>
<td>Ž</td>
<td>s</td>
</tr>
<tr>
<td>18. recur</td>
<td>r</td>
<td>rž</td>
<td>rs</td>
</tr>
<tr>
<td>19. rebel</td>
<td>l</td>
<td>l</td>
<td></td>
</tr>
<tr>
<td>20. X+pel</td>
<td>l</td>
<td>lš</td>
<td>ls</td>
</tr>
<tr>
<td>21. convulse</td>
<td>ls</td>
<td>lš</td>
<td>ls</td>
</tr>
<tr>
<td>22. revise</td>
<td>z</td>
<td>Ž</td>
<td></td>
</tr>
<tr>
<td>23. percuss</td>
<td>s</td>
<td>š</td>
<td>s</td>
</tr>
<tr>
<td>24. admonish</td>
<td>š</td>
<td>š</td>
<td>t</td>
</tr>
</tbody>
</table>

55) C → -voice / ___ +ive

56) Vs, Vz, st, kt, nt, nd, ns, ls
   N.B.: I think rs could also be added to the list.

57) Ž/tš t/š s/š st/sč

58) Palatalization (i): t → č/s ___ yV

59) Palatalization (ii):

$$\left[ +\text{cons} \right] \rightarrow \left[ -\text{ant} \right] /___ yV$$

N.B.: +ant, +cor seem to be missing from initial C in Aronoff.

60) Xnd# Xns+... (Xnsan# Xnsiv# Xnsabl#)

   hend: apprehend, comprehend  fend: defend  tend: pretend, contend, extend
   pand: expand  scend: ascend, descend, condescend
61) d → s /n____{+ive

+ion

+abl

}, where d is part of marked Xnd roots

62) commend, emend, amend, recommend

commend+Ation

commend+able

63) abolish abolition

admonish admonition admonitive

punish ?punition punitive

64) Xish#v Xit+...

65) Xvert#v Xverz+... rather than (53)

convert, converžan, convers iv

66) Xmit#v Xmis+...

submit, submišan, submis iv

67) Xerge#v Xerz+...

emerge emersion /rž/

submerge submersion submersible

deterge detersion detersive

asperge aspersion

68) g → z /___{+ive

+ion

+abl

}, where g is part of Xerge

69) asperse backformed from aspersion; disperse from dispersion; immerse from immersion

70)a. Xhiː#V Xhiːz+... adhere, adhesive

b. Xkær#v Xkarz+... recur, recursive

71)a. Xviː#V Xvent+... convene, convention

b. Xtein#v Xtent+... retain, retention

72) d-final roots (except for cede) show the forms d /ž/s: decide, decision, decisive

XVz+..., where V is long

73) d → z/___{+ive

+ion

74) Xcede#v Xcess+... concede, concession

Marked non-coronals:

75) stroy destroy struc destruction ceive deceive cep deception

76)a.(= 41) k → 0 /+C₁ ī ___##

b. 0 → k /+C₁ ī ___+Ation

77) +f ī k → +fak /

satis

putre

lique

___+Ation

78) (i) professor professorial

manager managerial

president presidential

exponent exponential

Arab Arabian

industry industrious, industrial

(ii) habit habitual

tempest tempestuous

excrement excremental

(iv) periphery peripheral

Arabian calamity calamitous
79) *departmential, *excremential; parental, torrential; continental, exponential

80) a. professor: pro=fess+Or+i / habit: habit+u    b. presidency: president+i+y
c. y → i / C ___boundary

81) professor → professori /___ +al
periphery → peripher /___ +al
habit → habitu /___ +al

**Distributional arguments**

1) A → B
   a₁,……… b₁
   a₂,……… b₂
   a₃,……… b₃
   a₄,……… b₄
   a₅
   a₆
   a₇

2) Xmentᵥ Xmentᵮ Xmentᵥ Xmentᵮ
   ornament ornament tormént tórment
   implement implement fragmént frággment
   complement complement segmént ségment
   tenement tenement augmént aúgment
   sediment sediment fermént férment
   regiment regiment
   compliment compliment
   experiment experiment
   /…ment/ /…ment/ /…ment/ /.’ ment/

3) element figment monument garment

4) If Xistᵮ is the source of Xisticᵮ, then there should be a word xίstN for (almost) every xίsticᵮ.
   But no Xistᵮ for the adjectives in (5):

5) a               b
   characteristic patristic solecistic formulistic shamanistic totemistic
   logistic heuristic sufístic euphemistic eudemonistic hetaeristic
   mediumístic erístic syllogístic euphústic synchronístic porístic
   phlogístic ballístic neológístic animístic anachronístic humoralístic
   harmonístic catabológístic melanístic hylozoístic
(6) + (5a) do not have a corresponding $Xism_N$

7) Total $Xistic_A$

<table>
<thead>
<tr>
<th>$Xistic_A$, $Xist_N$, $Xism_N$</th>
<th>145</th>
</tr>
</thead>
<tbody>
<tr>
<td>$Xistic_A$, $Xist_N$, $Xism_N$</td>
<td>100</td>
</tr>
<tr>
<td>$Xistic_A$, $Xist_N$, $Xism_N$</td>
<td>9 (=5a)</td>
</tr>
<tr>
<td>$Xistic_A$, $Xist_N$, $Xism_N$</td>
<td>19 (=5b)</td>
</tr>
<tr>
<td>$Xistic_A$, $Xist_N$, $Xism_N$</td>
<td>17 (=6)</td>
</tr>
</tbody>
</table>

8) For a given word $x_ist$ there cannot exist a corresponding word $x_istic$ unless there also exists a corresponding word $x_ism$.

9) archaeologist
meteorologist
alchemist
botanist
dentist
symphonist
economist
etc.

<table>
<thead>
<tr>
<th>*archeologism</th>
<th>*meteorologist</th>
<th>*alchemism</th>
<th>*botanism</th>
<th>*dentism</th>
<th>*symphonism</th>
<th>*economism</th>
</tr>
</thead>
</table>

10) m→ t/s ___ +ic

11) phantasm / fantastic, iconoclasm / iconoclastic, sarcasm / sarcastic

-Able revisited

12) refrángible córrigible

13) a. +abl b. +abVl

<table>
<thead>
<tr>
<th>inéxplicable</th>
<th>inexplicable</th>
<th>govern#abl</th>
<th>ballast#abl</th>
<th>discipline#abl</th>
</tr>
</thead>
</table>

14) #abl

<table>
<thead>
<tr>
<th>réparable</th>
<th>repaírable</th>
</tr>
</thead>
<tbody>
<tr>
<td>réfutable</td>
<td>refútable</td>
</tr>
<tr>
<td>préférable</td>
<td>préférable</td>
</tr>
<tr>
<td>disputable</td>
<td>disputable</td>
</tr>
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</table>

15) a. +able b. #able

<table>
<thead>
<tr>
<th>cómparable</th>
<th>comparáble</th>
</tr>
</thead>
<tbody>
<tr>
<td>réparable</td>
<td>repaírable</td>
</tr>
<tr>
<td>réfutable</td>
<td>refútable</td>
</tr>
<tr>
<td>préférable</td>
<td>préférable</td>
</tr>
<tr>
<td>disputable</td>
<td>disputable</td>
</tr>
</tbody>
</table>

perceive: perception, perceptive, perceptor, perceptory, perceivable
<table>
<thead>
<tr>
<th>16)</th>
<th>+abl</th>
<th>#abl</th>
<th>17)</th>
<th>+abl</th>
</tr>
</thead>
<tbody>
<tr>
<td>circumscribe</td>
<td>circumscriptible</td>
<td>circumscriptable</td>
<td>tolerate</td>
<td>tolerable</td>
</tr>
<tr>
<td>extend</td>
<td>extensible</td>
<td>extendable</td>
<td>negotiate</td>
<td>negotiable</td>
</tr>
<tr>
<td>defend</td>
<td>defensible</td>
<td>defendable</td>
<td>vindicate</td>
<td>vindicable</td>
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<tr>
<td>perceive</td>
<td>perceptible</td>
<td>perceivable</td>
<td>demonstrate</td>
<td>demonstrable</td>
</tr>
<tr>
<td>divide</td>
<td>dividable</td>
<td>dividable</td>
<td>exculpate</td>
<td>exculpable</td>
</tr>
<tr>
<td>deride</td>
<td>deridable</td>
<td>deridable</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>18)</th>
<th>debate</th>
<th>debatable</th>
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<tbody>
<tr>
<td>abate</td>
<td>abatable</td>
<td>*abable</td>
</tr>
<tr>
<td>dilate</td>
<td>dilatable</td>
<td>*dilable</td>
</tr>
<tr>
<td>state</td>
<td>/statable</td>
<td>*stable (in this sense)</td>
</tr>
<tr>
<td>relate</td>
<td>relatible</td>
<td>*relable</td>
</tr>
<tr>
<td>inflate</td>
<td>inflatable</td>
<td>*inflable</td>
</tr>
<tr>
<td>translate</td>
<td>translatable</td>
<td>*translatable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>19)</th>
<th>+abl</th>
<th>#abl</th>
</tr>
</thead>
<tbody>
<tr>
<td>cultivate</td>
<td>cultivable</td>
<td>*cultivable</td>
</tr>
<tr>
<td>educate</td>
<td>éducable</td>
<td>*écucatable</td>
</tr>
<tr>
<td>irrigate</td>
<td>irrigable</td>
<td>*irrigable</td>
</tr>
<tr>
<td>navigate</td>
<td>náviable</td>
<td>*navigable</td>
</tr>
<tr>
<td>regulate</td>
<td>régulable</td>
<td>*régulable</td>
</tr>
<tr>
<td>frustrate</td>
<td>frústrable</td>
<td>*frustrátable</td>
</tr>
<tr>
<td>filtrate</td>
<td>filtrable</td>
<td>*filtratable</td>
</tr>
<tr>
<td>demonstrate</td>
<td>démonstrable</td>
<td>*demonstratable</td>
</tr>
<tr>
<td>operate</td>
<td>opérable</td>
<td>*opératable</td>
</tr>
<tr>
<td>narrate</td>
<td>narrátable</td>
<td></td>
</tr>
<tr>
<td>implicate</td>
<td>implicable</td>
<td>*implicatable</td>
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<tr>
<td>separate</td>
<td>séparable</td>
<td>*séparatable</td>
</tr>
<tr>
<td>allocate</td>
<td>allocable</td>
<td>*allocatable</td>
</tr>
<tr>
<td>investigate</td>
<td>investigable</td>
<td>*investigatable</td>
</tr>
<tr>
<td>anticipate</td>
<td>antícipable</td>
<td>*anticipatable</td>
</tr>
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</table>

20)a. possible refrangible vulnerable horrible
21) **Type**  

<table>
<thead>
<tr>
<th>Nonlexical stem (+abl)</th>
<th>in+</th>
<th>un#-</th>
</tr>
</thead>
<tbody>
<tr>
<td>im+poss+ible</td>
<td>*un#poss+ible</td>
<td></td>
</tr>
<tr>
<td>im+palp+able</td>
<td>*un#palp+able</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>At truncation, +abl</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>irregulable</td>
<td>*unregulable</td>
<td></td>
</tr>
<tr>
<td>inviolable</td>
<td>*unviable</td>
<td></td>
</tr>
<tr>
<td>*irregulatable</td>
<td>unregulatable</td>
<td></td>
</tr>
<tr>
<td>*inviolatable</td>
<td>unviolatable</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>At not truncated, #abl</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>imperceptible</td>
<td>*unperceptible</td>
<td></td>
</tr>
<tr>
<td>indivisible</td>
<td>*undivisible</td>
<td></td>
</tr>
<tr>
<td>*imperceivable</td>
<td>unperceivable</td>
<td></td>
</tr>
<tr>
<td>*individable</td>
<td>undividable</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Allomorphic root, +abl</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>irréparable</td>
<td>*unréparable</td>
<td></td>
</tr>
<tr>
<td>irrévocable</td>
<td>*unrévocable</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Non-allomorphic root, #abl</th>
<th></th>
<th></th>
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<tbody>
<tr>
<td>irréparable</td>
<td>*unréparable</td>
<td></td>
</tr>
<tr>
<td>irrévocable</td>
<td>*unrévocable</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stem stress changed, +abl</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>irréparable</td>
<td>*unréparable</td>
<td></td>
</tr>
<tr>
<td>irrévocable</td>
<td>*unrévocable</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stem stress unchanged, #abl</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>*irrepáirable</td>
<td>unrepáirable</td>
<td></td>
</tr>
<tr>
<td>*irrevókable</td>
<td>unrevókable</td>
<td></td>
</tr>
</tbody>
</table>

22) #abl → +abl (optional, obligatory with nonlexical stems)

23) He has just explained the inéxplicable.
24) **regulable** base: regulate, stem: regul  
    **regulatable** base = stem: regulate

25) I am aménable to a change in plans.  It’s ví sible to the naked eye.  
   He is éligible for appointment.  That’s compátible with our findings.
26) divisible by three, divisible into three parts  
    ?dividable by three, ?dividable into three parts

27) compárable (X#abl): ‘capable of being compared’
    a. The two models are simply not compárable.
    cómparable (X+abl): ‘capable of being compared’
    b. The two models are simply not cómparable.  
    ‘equivalent’
    c. This is the cómparable model in our line.
    d. *This is the compárable model in our line.
28) tóleratable (X#abl): ‘capable of being tolerated’
    tólerable (X+abl): ‘moderately good’
    a. We ate a tólerable lunch.
    b. * We ate a tóleratable lunch.
29) percéivable (X#abl): ‘capable of being perceived’ (regardless of it size)  
    percéptible (X+abl): ‘significant’ (large enough to matter)  
    a. There is a flaw in the grain, but it’s impercéptible.  
    b. *There is a flaw in the grain, but it’s unpercéivable.

30) Aronoff does not deny that X#abl words may also diverge from compositionality: e.g. advisable, excitable, sensible. But when we have pairs, then the word of the form X+abl is always the one that diverges from compositionality.
Compounds

1) Bauer, Katamba: Morphology → Inflection → Word-formation → Derivation → Compounding

2) Aronoff: Morphology → Word-formation → Derivation

3) a. gréenhouse ~ green hóuse    b. fire extinguisher ~ extinguish the fire
4) word formation, word-formation, wordformation
5) gréenhouse, fíre extinguisher, Christmas tree
6) apple píe, prime mínister, yellow féver, lawn ténnis, Christmas púdding, man máde, easy góing

7) mediatrix
   a. morphological properties  b. semantic properties
   c. phonological properties    d. syntactic properties
8) pass the salt

9) kick the bucket, kick humble pie, be in the red
   a. Subclause: when the chips are down       b. VP: kick the bucket
   c. NP: the man in the street               d. PP: round the clock

10) a. take (___NP) in hand, push (___NP) too far, keep tabs on (___NP)
    b. The teacher is keeping tabs on the new students.
    c. Tabs are being kept on the new students by the teacher.

11) The lexicalist hypothesis:
    Syntactic rules apply to words regardless of their internal structure.

12)a. [She saw the greengrocer.] Which greengrocer did she see?
    b. *Which green grocer did she see?

13)a. a pound of tea
    b. He took a pound of tea and put two spoonfuls of it into the teapot.
14)a. teapot
    b. He took the teapot and poured it into the cup.

15) Di Sciullo & Williams:
    morphemes > words > compounds > phrases > sentences
    all listed    most listed    many of them    some listed    most of them
    (But not if their meanings are compositional.)
    less liable to be listed (the idioms) unlisted

16) Classification of compounds
    (i) Whether they have a head
    (ii) If they have a head (= are endocentric)
    a. the word-class of the head
    b. whether the head appears at the left or at the right of the compound
17) a. schoolboy, bedroom, teapot  
    b. pincushion, fleabite, seaweed

18) NN  AN  PN  VN
    water-lily      hothouse    undergraduate  paymaster
    bookcase       greenfly    near-sightedness  think tank
    motor-car      high court  outskirts       call girl
    skyline        wet-suit    underdog        copycat
    India-rubber   bluebell    oversight       punch-line

19) \[
N \rightarrow \begin{cases} 
N & \text{railway station attendant} \\
V & \\
A & \\
P & 
\end{cases}
\]

20) 
\[
\begin{array}{cccc}
N & N & N & N \\
n & n & n & n \\
\end{array}
\]

21) NA  AA  PA
    world-wide short-lived overwhelming
    user-friendly hard-hearted under-mentioned
    seaworthy    good-natured outspoken
    foolproof    long-winded near-sighted

22) \[
A \rightarrow \begin{cases} 
A & \\
N & \\
P & 
\end{cases}
\]

23) Deverbal compounds:
    a. \([N \text{Ver}]_N\)  
       moneylender  
    b. \([N \text{Ven}]_A\)  
       hand-written 
    c. \([N \text{Ving}]_N\)  
       bear-baiting  
    d. \([N \text{Ving}]_A\)  
       God-fearing 
    gamekeeper  
    computer-matched 
    hay-making  
    awe-inspiring 
    shoemaker  
    hand-sewn 
    brick-laying  
    self-seeking 
    bookseller  
    time-worn 
    sheep-shearing  
    eye-catching 
    anteater  
    guilt-ridden 

24) NOT deverbal compounds:
    a. \([N \text{Ver}]_N\)  
       chainsmoker  
    b. \([N \text{Ven}]_A\)  
       capacity filled 
    c. \([N \text{Ving}]_N\)  
       Sunday closing  
    d. \([A \text{Ving}]_A\)  
       low-flying 
       church-going 
       hard-working 
       hard-hitting 
    party drinker  
    guilt-laden 
    hard-working 
    hard-hitting 
    daydreamer  
    alcohol related 
    spring-cleaning 
    hard-hitting 

25) N \rightarrow V N  
    think tank, call girl, copycat, playboy, punch-line, showman

26) codex copying  - copycat

27) V \rightarrow P V (preposition + verb)  
    undersell, overrate, upstage, outstay, offload, upset

28) For Katamba Verb+Preposition V-compounds also exist. Problems!
    b. “phrasal verbs”: show off, go off, look out, take X in, look X up
29a. VP
   \[ V' \]
   \[ V \]
   \[ PP \]
   \[ look \]

b. VP (in passives only!)
   \[ V' \]
   \[ V \]
   \[ P \]
   \[ NP \]
   \[ the key \]
   \[ for the key \]


a. DS: VP
   \[ V' \]
   \[ V \]
   \[ PrtP \]
   \[ tear \]
   \[ up \]
   \[ NP \]
   \[ the letter \]

b. SS1: VP
   \[ V' \]
   \[ V \]
   \[ PrtP \]
   \[ tear \]
   \[ up \]
   \[ NP \]
   \[ the letter \]

31) \[ [birdN \_watchV]_V \]
    \[ [overP \_réachV]_V \]
    \[ [súgarN \_daddyN]_N \]
    \[ [blúeA \_bookN]_N \]
    \[ [blueA \_bláckA]_A \]
    \[ [wíndN \_screenN]_N \]

32a. N [+pl]
   \[ N \]
   \[ N [+pl] \]
   \[ N \]
   \[ N [+pl] \]
   \[ air port \]
   \[ s \]

b. N [+pl]
   \[ N \]
   \[ N [+pl] \]
   \[ N \]
   \[ N [+pl] \]
   \[ air port \]
   \[ s \]

33a. V [+past]
   \[ P \]
   \[ V [+past] \]
   \[ V \]
   \[ V [+past] \]
   \[ under estimate ed \]
   \[ under estimate ed \]

b. V [+past]
   \[ P \]
   \[ V [+past] \]
   \[ V \]
   \[ V [+past] \]
   \[ under estimate ed \]
   \[ under estimate ed \]
99) firemen oversaw

34) A. scissors *scissor trousers *trouser binoculars *binocular
   B. scissor-handles trouser-legs binocular-cases

35) passer-by passers by
       notary public notaries public
       grant-in-aid grants-in-aid
       coat of mail coats of mail
       mother-in-law mothers-in-law

36) attorney general attorneys general/attorney generals
       spoonful spoonsful/spoonfuls

37) overseas investor sales receipt
       parks commissioner parts distributor
       arms merchant arms race
       buildings inspector weapons analysis

38) phone in, drive out, look out, lay off, melt down

39) \[V[past]\]
    \[V[past]\]
    \[V\]
    \[Af[past]\]
    phone ed in

40) see-through (curtains), live-in (nanny)

41) \[V\]
    \[P\]
    \[V\]
    \[P\]
    see through see through

Semantically **exocentric (bahuvrihi)** compounds:
42) greenhouse lazy-bones blue-nose
43) spoil-sport dare-devil
44) butterfingers blockhead turncoat

Semantically **copulative (dvanda)** compounds:
45) boyfriend north-west
    Urbana-Champaign player-manager
    Harper-Collins worker-priest
**Marginal (atypical) compounds:**

(i) **Rhyming compounds**
46)a. Black-Jack claptrap night-light
   b. goody-goody pretty-pretty preachy-preachy
47) nitvit titbit helter-skelter hobnob namby-pamby
   (cf. Hung. icipici, icurka-picurka, egyedem-begyedem, etc.)

(ii) **Ablaut compounds**
48) zigzag tittle-tattle dilly-dally tick-tock sing-song wishy-washy
   (cf. Hung. giz-gaz, dirib-darab, cikk-cakk, piff-puff, etc.)

**N.B. Perhaps twin-words would be a better term for Rhyming and Ablaut compounds.**

(iii) **Cranberry words**
49)a. cranberry        b. blueberry
     huckleberry       blackberry
     strawberry
     gooseberry
     elderberry

(iv) **Neoclassical compounds**
50) hydro-              theo-
    hydrology           theology
    hydrometer           theocracy
    hydrolysis           apothecism
    hydrogeology         theosophy

51) \begin{tabular}{lll}
    & Affix & Base \\
    a. & colonial & pre- colonial \\
    b. & active & in- active \\
\end{tabular} \begin{tabular}{lll}
    Affix/Base? & Base \\
    a. & neo- colonial \\
    b. & hyper- active \\
\end{tabular}

52) acro amphi ana anti apo archi auto bio brachy cardio cata chrono deca demo dia ecto
electro endo epi ethno exo geo hemi hetero hexa hippo homo hyper hypo ideo iso kilo
macro mega meta micro mono neo neuro ophthalmo ortho osteo paleo para penta peri
philo phono poly proto pseudo psycho stereo syn techno tele theo thermo xeno xylo zoo

53) postman (cf. footballer)

54)a. basketful, spoonful        b. painful, beautiful