Class 8: The cycle, part II

To do
- Start Chamorro assignment (due in a week)
- Read K&K ch. 10 (SQs due Thursday)
- Read Kisseberth (SQs due Thursday)

Overview: We’ll work through Icelandic, from a lexical-phonology perspective, then see some evidence for levels within the lexical component.

1. Application to Icelandic (from Kiparsky 1984)

   u-epenthesis (applies before r only)
   - dag+ur ‘day m.nom.sg.’
   - tek+ur ‘take 2/3sg.pres.ind.’

   j-deletion
   - bylj+ar ‘snowstorm gen.sg.’
   - bylj+ir ‘snowstorm nom.pl.’
   - bylj+i ‘snowstorm acc.pl.’
   - bylj+a ‘snowstorm dat.pl.’
   - bylj+um ‘snowstorm dat.pl.’
   - byl ‘snowstorm acc.sg.’
   - byl+s ‘snowstorm gen.sg.’
   - byl+ur ‘snowstorm nom.sg.’

   How should we order these two rules?

   u-umlaut
   - /harð+um/ hörðum ‘hard dat.pl.’
   - /kalla+um/ köllum ‘call 1sg.’
   - /saga+ur/ sögur ‘sagas nom.pl.’
   - /dag+r/ dagur ‘day nom.sg.’

   Ordering?

   syncope, roughly: certain unstressed Vs → Ø / __ {l,r,n,ð,s}V
   Additional fact: syncope applies before case and derivational endings, but not before the enclitic articles –inn and -ið.

   hamar ‘hammer nom.sg.’
   hamr+i ‘hammer dat.sg.’
   hamr+a ‘to hammer’
   hamar#inn ‘the hammer nom.sg.’
   akur ‘acne nom.sg.’
   akr+i ‘acne dat.sg.’
   akur#inn ‘the acne nom.sg.’
   höfuð ‘head nom.sg.’
   höfði+i ‘head dat.sg.’
   höfuð#ið ‘the head nom.sg.’
   akur+um ‘acne dat.pl.’

Ling 200A, Phonological Theory I. Fall 2004, Zuraw/Martin
Recall the problem from Anderson: we have to order u-umlaut before syncope (/bagg+ul+i/ → [bögg+l+i]—counterbleeding) but we also have to order syncope before u-umlaut (/alin+um/ → [öln+um]—feeding)

- Shifting to Lexical Phonology, first assume that affixed words undergo their first cycle with an affix (i.e., the bare root isn’t subjected to phonological rules). Is syncope lexical or postlexical? u-umlaut? u-epenthesis?

- Let’s try to resolve the ordering paradox using Lexical Phonology. We should do derivations for: dag+ur, dag+ur#inn, byl+ur, hamar#inn, akur, ökr+um, bögg+l+i, stað#num.

## 2. Observation: two classes of affix in English (and many other languages)

<table>
<thead>
<tr>
<th>suffix examples</th>
<th>-al, -ous, -th, -ate, -ity, -ic, -ify, -ion, -ive</th>
<th>-ship, -less, -ness, -er, -ly, -ful, -some</th>
</tr>
</thead>
<tbody>
<tr>
<td>stress shift?</td>
<td>párent vs. paréntal</td>
<td>párent vs. paréntless</td>
</tr>
<tr>
<td>trisyllabic shortening?</td>
<td>op[et]que vs. op[æ]city</td>
<td>op[et]que vs. op[æ]queness</td>
</tr>
<tr>
<td>prefix examples</td>
<td>in-, con-, en-</td>
<td>un-, non-</td>
</tr>
<tr>
<td>can bear main stress?</td>
<td>cónéntale</td>
<td>-- (rarely)</td>
</tr>
<tr>
<td>obligatory assimilation of nasal?</td>
<td>illegal</td>
<td>unlawful</td>
</tr>
<tr>
<td>both</td>
<td></td>
<td></td>
</tr>
<tr>
<td>attach to bound morphemes?</td>
<td>caust-ic</td>
<td>-- (rarely)</td>
</tr>
<tr>
<td>ordering</td>
<td>non-in-com-prehens-ible&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>act-iv-at-ion-less-ness&lt;sup&gt;2&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>semantics</td>
<td>riot vs. riotous</td>
<td>riot vs. rioter</td>
</tr>
</tbody>
</table>

(prefixes that come in two flavors: re-, de-, sub-, pre-; and of course there are exceptions…)

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<sup>1</sup>“They are good movies, in a lot of ways - good production values, great cast, snappy dialogue, non-boring non-incomprehensible non-insane plotting - which lift them above your “Battlefield Earths” and so on.” (www.thepoorman.net/archives/002732.html)

<sup>2</sup>“Future work on the temperature dependence of this ET step may allow verification of the correspondingly predicted near-activationlessness of the reaction.” (www.pnas.org/cgi/content/full/101/46/16198)
3. Solution: level ordering
Lexical component is broken into levels with different Word-Formation and phonological rules.

*English* (Kiparsky 1982 with material from Mohanan 1986, who proposes 4 levels for English):

Level 1
- **WFRs**
  - “primary” (i.e., irregular) inflection (tooth/teeth)
  - primary derivational affixes (-al, -ous, -ant, in- etc.), including some Ø affixes

  **Selected phonological rules**
  - stress
  - trisyllabic shortening (*opacity*)
  - obligatory nasal assimilation (*illegal*)
  - velar softening (*electricity*)

Level 2
- **WFRs**
  - secondary derivational affixes (-ness, -er, un-, etc.)
  - compounding (blackbird)

  **Selected phon. rules**
  - compound stress
  - n → Ø / C_ _# (*damning* vs. *damnation*)
  - g → Ø / _[+nas]# (*assigning* vs. *assignation*)

Level 3
- **WFRs**
  - “secondary” (regular) inflectional affixes (-s, -ed, -ing)

  **Selected phon. rules**
  - optional sonorant resyllabification __]V (*cycling*)

Postlexical
- **Selected phon. rules**: aspiration, tapping
  (no morphology occurs after the lexical component, so no WFRs)

The output of each level (or, depending on the author, the output of each cycle) is a lexical item.
(Everyone clear on the difference between cycle and level?)

- How does this explain why Level 2 affixes can’t attach to bound roots?
- Compare the derivations for *damnation* and *damning*.

- Morphology question: In this model, what rules out *spier* and *inhabiter*? *cattles*? *oxens*?

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3 though also some problematic cases like *assigner*. For a completely different view of all this, see Jennifer Hay (2003) *Causes and Consequences of Word Structure*. New York: Routledge.
How is the compound asymmetry explained in this model?

- tooth marks  teeth marks  claw marks  *claws marks
- louse-infested  lice-infested  rat-infested  *rats-infested

4. Example: German dorsal fricatives (based loosely on Merchant 1996)

- Formulate the basic rule governing distribution of x/ç. Assume that it is fed by a syllabification rule.

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**Example:**

- **mazox** ‘Masoch’
- **?iç** ‘I’
- **oincorrect** ‘eunuch’
- **kôç+ô** ‘cooks’
- **prax+ô** ‘language’
- **by:ç+ô** ‘books’
- **kâç** ‘cook’
- **ri:ç+ô** ‘to smell’
- **bux+ôs** ‘book-GEN’
- **çemi** ‘chemistry’
- **ku:x+ôn** ‘cake-EN’
- **jtraiç+t** ‘he/she paints’
- **bux+ôn** ‘booking’
- **ri:ç+ôn** ‘to smell’
- **i:aux+ôn** ‘to smoke’
- **mi:ç** ‘milk’
- **taux+ôn** ‘to paint’
- **kalçoz:ô** ‘collective farm’
- **?ax+ôn** ‘to observe’
- **du:riç** ‘through’
- **zu:xt+ô** ‘s/he searched’
- **manç** ‘some’
- **mynç:ôn** ‘Munich’
- **mazox+ôst** ‘Masoch-ish’
- **çi:na** ‘China’
- **knóç+iç** ‘boney’
- **ç aos** ‘chaos’
- **prax+iç** ‘(mono-)lingual’
- **çolesteri:n** ‘cholesterol’
- **dax+artîç** ‘roof-like’
- **çemi:** ‘chemistry’
- **raçx+iç** ‘smoky’
- **çartisma** ‘charisma’

We now encounter some problem data:

- **ku:+ç:ôn** (some report ky:+ç:ôn) ‘little cow’
- **fira:+ç:ôn** ‘little woman’
- **mama:+ç:ôn** ‘mommy’
- **bio:+ç:emik:ô** ‘bio-chemist’
- **noryro:+çirurk** ‘neuro-surgeon’
- **indo:+çina** ‘Indo-China’

**speakers vary:**

- **ma:zox+i:st** ‘masochist’
- **oynux:ç+i:smus** ‘eunuchism’
- **oynu:ç+izi:ron** ‘to make into a eunuch’
- **paroç+i:** ‘parish’
- **paroç+ial** ‘parochial’

Let’s see if we can create a lexical-phonology analysis. I think we will need two levels, so we’ll have to decide which affixes belong to which level.

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4 Merchant, Jason (1996). Alignment and fricative assimilation in German. *Linguistic Inquiry* 27. Further issues: (1) There are also some [x] inside monomorphemic words. Merchant suggests that all follow short vowels, and therefore are syllabified as syllable-final. (2) Some apparently monomorphemic words need to be treated as bound root+suffix. (3) Umlaut must apply before fricative assimilation, to bleed it; this suggests umlaut applies at Level I, which may lead to problems for the strict cycle condition. Also, there are some lexical exceptions to the basic generalization, such as [x]utzpa ‘chutzpa’ and [x]atschaturjan ‘Khachaturian’.