Homework

- Grades
  - 5 = better than perfect
  - 4 = perfect
  - 3 = pretty good, but some problems
  - 2 = valiant effort, but not quite there
  - 1 = you turned something in
- For Monday (2/7):
  - read chapter 3
  - write up Esperanto problem

Morphophonology

- One solution: morphophonemes (or archiphonemes)
- morphophonemes : phonemes :: phonemes : phones
- This simplifies the morphology
  
<table>
<thead>
<tr>
<th>morphemes</th>
<th>phonemes</th>
</tr>
</thead>
<tbody>
<tr>
<td>/knife/</td>
<td>/knives/</td>
</tr>
<tr>
<td>/wife/</td>
<td>/wifes/</td>
</tr>
<tr>
<td>/leaf/</td>
<td>/leafs/</td>
</tr>
<tr>
<td>/proof/</td>
<td>/proofs/</td>
</tr>
<tr>
<td>/chief/</td>
<td>/chiefs/</td>
</tr>
</tbody>
</table>

- This obscures phonological relationships:
  
<table>
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</tr>
</tbody>
</table>

- We can do the same with the English plural and 3rd sing
  morphemes: { /-s/ , /-z/ /-s/ } becomes { /-Z/ } with the
  appropriate morphophonological rules

Morphophonology

- Item and Arrangement = morphemes + tactics
- Selecting allomorphs by environment allows variation
- This is obviously a phonological process, but...

  - It can’t be a phonemic alternation, because the English
  phoneme /f/ doesn’t always get voiced in this environment

Morphophonology

- Morphophonemes give us some easy cases, but...
- Hockett (1958) on took
  
<table>
<thead>
<tr>
<th>morphemes</th>
<th>phonemes</th>
</tr>
</thead>
<tbody>
<tr>
<td>/took/</td>
<td>/taufs/</td>
</tr>
<tr>
<td>/took/</td>
<td>/taufs-/</td>
</tr>
</tbody>
</table>

- This ignores the formal alternation
  
  - took is a single morpheme
  - took is a portmanteau for take+ed (like went for go+ed)

- took is an allomorph of take that occurs with a -Ø
  allomorph of -ed
  
  - took is t...k with a -u- infix allomorph of -ed
  
  - We can do the same with the English plural and 3rd sing
    morphemes: { /-s/ , /-z/ /-s/ } becomes { /-Z/ } with the
    appropriate morphophonological rules

- This is just weird
Morphophonology

- Item and Process = morphemes + rules
- Possible past tense rules:
  - add /-t/ (for bake / baked)
  - replace /-ei-/ with /-i-/ (for take / took)
- Both models have their strengths:
  - IA is simple, but treats all variation as suppletion
  - IP is general, but treats all variation as phonology

Word and Paradigm

- Most modern morphological theories build on either Item-and-Arrangement or Item-and-Process
- Both are best suited to *agglutinating* morphology and have trouble with cumulative and overlapping exponence
- A third approach, Word-and-Paradigm, was outlines by Robins (1959)
- Related to traditional and school grammars
- Takes the notion of an *inflectional paradigm* as central

Word and Paradigm

- WP separates word forms from morphosyntactic words
- One set of formatives build morphosyntactic words, with no pronunciation
- Another set builds word forms, with no meanings
- Form and meaning are connected via a paradigm
- English

<table>
<thead>
<tr>
<th>Form</th>
<th>TAKE</th>
<th>BAKE</th>
</tr>
</thead>
<tbody>
<tr>
<td>3SG.PRES</td>
<td>takes</td>
<td>bakes</td>
</tr>
<tr>
<td>PAST</td>
<td>took</td>
<td>baked</td>
</tr>
<tr>
<td>PAST.PART</td>
<td>taken</td>
<td></td>
</tr>
<tr>
<td>PRES.PART</td>
<td>taking</td>
<td>baking</td>
</tr>
<tr>
<td>OTHER</td>
<td>take</td>
<td>bake</td>
</tr>
</tbody>
</table>
Word and Paradigm

- For example, Swahili:
  \[ u-na-m-\text{sumbua} \]
  you-PRES-him-annoy
  ‘you are annoying him’

- In IA or IP, the derivation would be:
  \[ \text{sumbua} \quad \text{msumbua} \quad \text{namsumbua} \quad \text{unamsumbua} \]
  annoy \quad him.annoy \quad PRES.him.annoy \quad you.PRES.him.annoy

- In WP, we would build the morphosyntactic word
  \[ \text{you.PRES.him.annoy} \]
  look it up in the paradigm, and find the form
  \[ \text{unamsumbua} \]

Structuralist linguistics

- Latin
  ‘slave (m.)’\quad ‘peace (f.)’\quad ‘mountain (m.)’
  nom sg
  servus\quad p\ddot{a}\ddot{x}\quad m\ddot{o}\ddot{n}s
  acc sg
  servum\quad p\ddot{a}\ddot{c}em\quad montem
  nom pl
  servi\quad p\ddot{a}\ddot{c}\ddot{e}s\quad mont\ddot{e}s
  acc pl
  serv\ddot{o}s\quad p\ddot{a}\ddot{c}\ddot{e}s\quad mont\ddot{e}s

- Item and Arrangement:
  serv-, p\ddot{a}\ddot{c}-, mont- / m\ddot{o}\ddot{n}-
  -us / -s
  -um / -em
  -\ddot{i} / -\ddot{e}s
  -\ddot{o}s / -\ddot{e}s

- Item and Process:
  serv-, p\ddot{a}\ddot{c}-, mont-
  ADD -us / ADD -s / DELETE -t and ADD -s
  ADD -um / ADD -em
  ADD -\ddot{i} / ADD -\ddot{e}s
  ADD -\ddot{o}s / ADD -\ddot{e}s
Structuralist linguistics

- Latin
  - ‘slave (m.)’ servus
  - ‘peace (f.)’ pāx
  - ‘mountain (m.)’ montem
- Word and Paradigm:
  - SERVUS, PAX, MONS
  - nom sg servus pāx mōns
  - acc sg servum pācem montem
  - nom pl servī pācēs montēs
  - acc pl servōs pācēs montēs

Post-structuralist linguistics

- Russian final devoicing
  - luk ‘onion’ luka ‘onion-gen’ luk-
  - luk ‘bow’ luka ‘bow-gen’ luk-
  - luk ‘meadow’ luga ‘meadow-gen’ lug-
  - lutj ‘ray’ lutj’a ‘ray-gen’ lutj-
- Biuniqueness principle requires that /G/ be a morphopheme
- Final voicing:
  - lug by uvidel ‘(he) would see the onion’
  - lug by uvidel ‘(he) would see the bow’
  - lug by uvidel ‘(he) would see the meadow’
  - lutj by uvidel ‘(he) would see the ray’

- Structuralist model
  - phonetics : phonology : morphophonology : morphology : syntax
- Chomsky and Halle (among others) attacked this model at every level
- Morphophonemics is a kind of ‘internal reconstruction’, which encodes historical developments in the synchronic grammar
- ‘Biuniqueness principle’ (requiring each phone correspond to a single phoneme) raises serious problems with the model

Post-structuralist linguistics

- IA can’t give a unified rule for final voicing
- WP can’t account for sandhi (inter-word phonological effects)
- Chomsky and Halle adopt an IP-like model which merges phonology and morphophonology into one module
  - phonetics : phonology : morphology : syntax
Post-structuralist linguistics

- Chomsky also looked at the relation between morphology and syntax
- English verb clusters
  
  Pat will have been being seen by Chris.
- Chomsky’s (1957) “Affix Hopping” transformation
  
  - Aux \rightarrow \text{Tense | Modal}
    
    (will, must, can, have+en, be+ing, be+en)
  
  - Af + V \rightarrow V + Af

Post-structuralist linguistics

- In generative linguistics, morphology is partitioned:
  
  - derivational morphology is part of phonology
  - inflectional morphology is part of syntax
  - Restrictive? Yes.
  - Reductive? Yes.
  - Right? We’ll see.

Post-structuralist linguistics

- Affix hopping
  
  Pat will have+en be+ing be+en see by Chris.
  Pat will have+en be+ing be seen by Chris.
  Pat will have+en be being seen by Chris.
  Pat will have been being seen by Chris.
- Early generative model
  
  phonetics : phonology : syntax