Chapter X: Other Operations- Introduction

- Examine phonological rules & morphological structures that are somewhat more exotic.

- We will examine the following processes:
  - Metathesis
  - Medial Vowel Weakening
  - Rhotacization
  - Vowel Raising
  - Epenthesis
  - Reduplication

The Nasal Increment

- A small group of roots have a nasal inside the root in some forms but not in others.

- Called: Nasal Increment

- Its exact purpose has been lost.

- Reconstruct the processes by which it is inserted.

- Note: When the nasal is present the final [s] of the root has disappeared.

  – Remember: the [s] will always disappear in Latin phonology when it is followed by a voiced consonant.

  – Also: consonants will usually assimilate in voicing to a following consonant.

  – Since [n] is voiced, [s] will assimilate to [z].

The Nasal Increment con't

- As we have seen previously- the [z] deletes.
  - [Voicing Assimilation]$_{Latin}$
  - [zC --> C]$_{Latin}$
- Consider the root *pos + n*
- What we conclude is that in the early years, Latin (and other Indo-European Languages) had the rule:
  - Root$_{Nasal}$ $\Rightarrow$ Root + *n*
- What about *tangent*?

The Nasal Increment con't

ex + pos + n + e + nt	pro + pos + n + e + nt	
ex + poz + n + e + nt	pro + poz + n + e + nt	[Voicing Assimilation]$_{Latin}$
ex + po + n + e + nt	pro + po + n + e + nt	[zC --> C]$_{Latin}$
exponent	proponent	Remove "+"

Metathesis

- tangent:
  - *tag + n + e + nt*
- To get the correct form here we must move the nasal inside the root: e.g. *tag + n > tang*
- Processes of this sort are called Metathesis.
- A Metathesis rule is a phonological rule that switches the position of 2 sounds.
  - [C + n --> nC]$_{Latin}$
- The effect of this rule is to insert the nasal increment into the root.

Metathesis con't

- Consider: *dimension & incumbent*
- After metathesis:
  - *in + cunb + e + nt*
  - The nasal increment has partially assimilated to the following [b].
- Dimension is a little more complicated.

Dimension

pro+pos+n+e+nt	dis+met+n+e+t+ion	
pro+poz+n+e+nt	diz+met+n+e+t+ion	[Voicing Assimilation]$_L$
pro+po+n+e+nt	di+met+n+e+t+ion	zC --> C
	di+ment+e+t+ion	Metathesis
	di+ment+t+ion	e + t --> +t
	di+menss+ion	t + t --> ss
	di+mens+ion	Css --> Cs
proponent	dimension	Remove "+"

Metathesis con't

- What happens if the nasal is added to a nominal root?
- If the last consonant is a dental or a labial, it assimilates to a nasal.
  - *sop* + *n* becomes *somn*
  - *pet* + *n* becomes *penn*
- Velars also assimilate to a nasal.
  - *dec* + *n* becomes *dign*
  - *mag* + *n* becomes *magn*
- The digraph *gn* signified the sound [ŋ], the velar nasal.

Nouns with Nasals

insomnia	sop + n	√sop	*sleep*	soporific
pennate	pet + n	√pet	*feather*	(helicopter < Greek)
animal	at + n	√at	*spirit*	(Mahatma *great spirit)*
magnify	mag + n	√mag	*great*	magistrate
dignity	dec + n	√dec	*befit*	decent
sign	sec + n	√sec	*cut*	secant

Metathesis con't

- Why does the nasal metathesize in verbs but not in nouns?
- Two possible explanations:

1. The nasal increment of verbs is a different construction from that of the nouns and somehow this makes the difference.

2. The noun construction was created later than the verb construction and the metathesis rule no longer applied.

- As your text illustrates, based on previous analyses, it appears as though the second explanation is likely the correct one.

Medial Vowel Weakening

- One of the dramatic changes that occurs to Latin vowels is a raising (for example, from [a] to [e] to [i]) when they appear in the middle of words.

- When the vowel of the root is *e*, it will raise to *i* if it is in the middle of the words and there is only 1 consonant following.

- The vowel does not raise if:

  – It is the first vowel in the word

  – The last vowel in the word

  – If it is followed by more than 1 consonant

Medial Vowel Weakening

√spec	*see*	species	inspection	susp_i_cion
√reg	*rule*	regal	correction	incorr_i_gible
√sed	*sit*	sediment	session	ins_i_dious

Medial Vowel Weakening con't

- Medial *a* will also change.

1. When the vowel of the root is *a*, it will raise to *i* if it is in the middle of the words and there is only 1 consonant following.

2. When a prefix is added *a* will change to *e*.

- We need to rules:

1. $[V \; C^n \; a \; \text{-->} \; V \; C^n \; e]_{\text{Latin}}$

2. $[V \; C^n \; e \; CV \; \text{-->} \; V \; C^n \; i \; C \; V]_{\text{Latin}}$

- The first rule converts *a* to *e*.

- The second converts *e* to *i*.

- Under the right circumstances and applied in the right order, these 2 rules will together convert *a* to *i*.

Medial Vowel Weakening con't

- One rule *a* --> *e* creates an opportunity for another rule *e* --> *i* to apply.

- However, consider the compounds: manufacture, satisfaction, and benefaction.

- If is clear that medial vowel weakening does not apply to these compounds.

- It does apply to the following compounds: magnificent, significant, and quantification.

  - The change that has occurred here is from a --> i.

  - Note: the change that did not occur with the first set of compounds is from a --> e.

Medial Vowel Weakening con't

- This creates a problem for our previous analysis.

- Since the rule a-->e does not apply to compounds, the only way to explain the second set of compounds it so assume that a rule weakening a-->i does exist.

  – $[V\ C^n\ a\ CV\ \text{-->}\ V\ C^n\ i\ CV]_{Latin}$

  – It is necessary to include this rule.

Medial Vowel Weakening & the Nasal Increment

- Given the rules to this point, we expect that the words in Table X.17. will have the vowel *e* because the root vowel is followed by 2 consonants.

- Instead each word has the vowel *i*.

- The sequence in both of these is *ng*.

- This sequence is equivalent to [ŋg].

- *e* raises to *i* before [ŋ].

Other Alternations: Rhotacising Roots

- Often when [s] appears between vowels it will rhotacise to [r].

- As long a the [s] is followed by a consonant, it appears as such.

- However, whenever it appears between vowels, ti transforms to [r].

  - [VsV --> VrV]$_{Latin}$

  - Note: English has a rule that inserted [t] between [s] and [r].

Alternations between u/v

- *v* was created from the character *u*.

- This is analogous to the change by which [w] became [v], thus giving rise to an alternation between the characters *u,* which originally represented both [u] and [w], and *v*, which now represents [v].

- Rule:

  - [uV --> wV]$_{\text{Latin}}$

  - [w --> v]$_{\text{Romance}}$

Vowel Raising

- English has two versions of *l* depending on where in the syllable it is located.
- When it appears at the beginning of a syllable, it is produced relatively forward in the mouth and is called a "light l" *(light)*.
- When it appears at the end of a syllable it is produced farther back and is called a "dark l" *(full)*.
- Latin also had these different forms of *l*.
- When a vowel appeared before a "dark l" it assimilated by moving back and high.
- Thus roots that ended in *l* will often show *u* when the root is followed by a consonant.

Vowel Raising con't

- The rules states that any vowel will change to *u* if followed by *l* and another consonant.

  – [VlC --> ulC]$_{Latin}$

The "s" Increment

- Some verb roots have been augmented with *s*.
- The function of this increment is unknown.
- What effect does it have on the root?
- When the final stop is [k], as in the root *noc*, the resulting sequence is [ks], which is represented by the character *x*.
- When the final stop is a [g], the resulting sequence [gs] converts to [ks].
- When the final consonants are gh then:
  - gh + s --> g + s
  - g + s --> k + s

The "s" Increment con't

- Roots that end in [l], or more properly [ll].
- Although the roots end in a geminate [ll], there is only 1 [l] after the [s] is added.
  - [l + s --> s + s]
- This sort of rule will feed into the rule that we have already proposed that converts [ss] to [s] if preceded by a consonant:
  - [C s s --> C s]$_{Latin+}$
- Given this set of rules, the sequence of changes would be:
  - ll + s --> lss
  - lss + ls

Epenthesis

- A consonant cluster can be broken up by the insertion of another consonant.
- The common root to which this rule applied is √em.
- The rule applied in the past participle.
- This rule inserted *p* between the *m* of the root and the past participle *t*.
- The rule is:
  - m + t --> mpt

Reduplication

- The repetition of some part or all of a linguistic unit.

- An ancient formation that required the root be reduplicated was preserved in Latin in only a few forms.

- One root √sta "stand" was borrowed into English in both its reduplicated and unreduplicated forms.

  – Example: *statue* and *resistant*

  – *sta* ⇒ *stasta*

  – *stasta* ⇒ *stista*

  – A dissimilation rule: the rule will delete a portion of a consonant cluster whenever the cluster is repeated in the lexeme.

  – *stista* ⇒ *sista*

The Verb To Be

- Remnants of a labial verb:
  - *be, been, was and were*
- Remnants of a sibilant verb:
  - *is and are*
- Latin also had both the labial and sibilant forms.
- The Labial form:
  - *fui* 'I have been'
- The Sibilant form:
  - *sum* "I am", *es* "you (sg.) are"

The Verb To Be con't

- The Sibilant root is a bit more productive but is difficult to find.
- It appears in *essence*.
  - Present participle.
  - Formed off of the infinitive *esse* "to be".
  - The infinitive morpheme appears as *-se* instead of *-re* as usual.
  - The *-re* is in fact a rhotacized form of the original infinitive *-se*.
  - The sibilant root alternates between *es-* and *s-*.