Chapter XII: The Greek Partition

- Greek Borrowings
- Greek prefixes & roots that are often resurrected when new concepts require a name.
- There are a considerable number of borrowings frm Greek but not so much that the morphology of Greek can be teased out in the same way we did for Latin.
- There are suggestions of Greek rules among the borrowings.
- There are suggestions of rules that resemble the rules that were discovered among the Latin borrowings.
- Greek and Latin are intimately related.

Introduction

- Latin and Greek are so closely related that it is quite easy to see that various morphemes are cognates.
- In some cases the morphemes are identical.
- Though Greek and Latin may have similar structures and cognate morphemes, they have different phonologies.
- It is the difference in phonological rules that accounts for the divergences in the languages.
- This is most obvious with cognate morphemes.

syn- (together, with)

- The prefix shows a pattern similar to that of Latin *con-*.
- They are cognates.
- The [n] of the prefix assimilates to a following [l] or a labial consonant.
  - [n + l --> l + l]$_{\text{Greek}}$
  - [n + labial --> m + labial]$_{\text{Greek}}$
- There is one environment where the story of the *n* of *syn-* is not so straightforward.
- Table XII.2.
- The assimilation rule appears to hold for *s* as well.
  - [n + s --> s + s]

syn- con't

- Also need the rule:
  - [s + s consonant --> + s consonant]$_{Greek}$
  - And
  - [zz --> z] This is a degemination rule.
- It is interesting to note that the sequence of *zz* will degeminate in Greek, but the sequence of *ss* does not, even though they differ only in voicing.

ana- (up, throughout)

- Before consonants, the prefix appears as *ana-*.
- Before vowels, the final [a] deletes so that the prefix appears as *an-*.
- Rule:
  - $[a + V \text{ --> } + V]_{Greek}$
- Because of this change, this prefix can be homophonous with the negative prefix *an-*.
- Pay attention to the root.

dia- (through, across)

- Table III.4
- Require a rule that deletes [a] before other vowels.
- The same occurs with other prefixes that end in [a], such as *ana-*.
- This increases our confidence in the rule.

cata- (down)

- This prefix behaves regular with respect to the [a] deletion rule.
- It appears as *cata-* before consonants.
- It appears as *cat-* before vowels.
- Table XII.5.

para- (beside) & meta- (after, change)

- Provide further evidence for the deletion rule
- Appear as *para- & meta-* before consonants.
- Appear as *par- & met-* before vowels.
- Note: *meta-* is still used productively in English.
- Evidence for productivity is a term like *metafiction* which has a Greek prefix and the Latin root √*fig*.

anti- (against)

- Has become naturalized in English.
- Is used productively.
- Can be applied to any noun to indicate a position critical of the object or idea referenced by the noun.
- Note: One of the reasons that this prefix became productive in English is that although the Latin form of this prefix is *ante-*, Medial Vowel Weakening often converts it to *anti-*.
- English inherited words from both language with similar prefixes.
- This prefix (in Greek) alternates between *anti-* and *ant-*.

anti- (against) con't

- *Anti-* appears before consonants while *ant-* appears before vowels.
- We can amend our earlier rule:
- $[V_1 + V_2 \text{ --> } V_2]_{Greek}$
- The vowels need not be identical.
- It is the second vowel that is retained.
- We will examine more prefixes to see if this rule holds.

epi- (upon, in addition), endo- (within)

- These two prefixes demonstrate that the rule holds.
- We also see with *endo-* that it appears to apply to [o] as well.
- This provides further evidence that a general deletion rule is appropriate: it appears that [a], [i], and [o] all delete before other vowels.
- The prefix *endo-* has some structure itself.
- It is formed from the Greek locative *en-* with the extension *-do-*.
- The source of this extension is a mystery.

apo- (from, off)

- This prefix should follow the vowel deletion rule.
- Difficult to see because it does not seem to appear before roots that begin with a vowel.
- However, it does line up with the other prefixes that we have examined.
- Remember that the Greek orthography did not have a character *h*.
- Added later to indicate words that began with aspiration.
- In effect, the aspiration was transparent.
- So if a root began with *h* it was as though it began with a vowel.
- Consequently, a form like *aphelion* is an instance of the deletion rule.

hypo- (below)

- Yet another example of a prefix that loses the vowel when the root to which it is added begins with a vowel.
- It is a cognate with Latin *sub-*.

eu- (good)

- Previously noted that the characters *u* and *v* have the same origin.
- There is an alternation in this prefix between these two characters.
- The prefix appears as *eu-* before consonants.
- It appears as *ev-* before vowels.
- Rule:
  - $[u + V \text{ --> } v + V]_{Greek}$

hyper- (over)

- Another Greek prefix that is productive in English.
- Now is combined with forms that are not Greek.
- The first group in Table XII.16 are native Greek.
- The second group are hybrids.

A Note on Latin and Greek Cognates

- Many of the prefixes that we have examined from Latin and Greek are cognates.
- For example: Greek *syn-* and Latin *con-* are related.
- The pair of *super-* (from Latin) and *hyper-* (from Greek) illustrate a common rule from Ancient Greek: A word initial [s] disappeared leaving only aspiration *h* behind.
- Thus, when an unfamiliar Greek form has an initial *h*, it is sometimes possible to find the potentially familiar Latin form by substituting *s* for *h*.

ex- (out)

- Cognate with the Latin prefix *ex-*.
- Although cognates, they are susceptible to different rules.
- Whereas Latin *ex-* had an allomorph *e-*, the Greek prefix alternates with *ec-*.
- Remember x = [ks].
- The consonant in the allomorph *ec-*, is [k].
- Thus the rule converts [eks] to [ek].
- This rule applies only before consonants.
- Before vowels the prefix remains [eks].
- The rule: $[ks + C \dashrightarrow k + C]_{Greek}$

exo-, ecto- (outside, external)

- These are related to *ex-*.
- The later is an extension of *ex-* with the addition of *-to-*.
- The resulting cluster simplifies so that the new prefix is *ecto-* not *exto-*.
- *Exo-* is an extension by adding -o-.

dys- (bad, difficult)

- Cognate with Latin *dis-*.
- They do not behave exactly the same way.
- Latin *dis-* lost the *s* before voiced consonants.
- Greek *dys-* has no other allomorphs.

Suffixes

- Greek morphology plays a significant role in the naming of new chemical compounds, diseases, medicines and medical procedures.
- Few of these structures make it into everyday talk.
- There are a few however that have become productive, and thus do appear in everyday language.
- Some scientific forms appear with some frequency.
  - *-ose (glucose, fructose, sucrose, lactose, etc.)* Used to form nouns referring to sugars.
- Borrowed from French *glucose*, which was borrowed from Greek *glykys* meaning 'sweet'.
- Reanalyzed as a suffix, and used to create new nouns.

-ene & -oid (resembling)

- *-ene* (refers to hydorcarbons of a particular structure; it appears in words like *benzene, propylene, butylene, kerosene* and many other)
- Productive in English
- *-oid*
- Also productive in English.
- See it in hybrid words such as *factoid, hominoid* and *polaroid* which are formed off Latin roots.
- Begins with a vowel- triggers vowel deletion on roots that terminate in a vowel.

-tomy (cut)

- Used in conjunction with terms for body parts to name medical procedures.
- Formed from the root √*tom* meaning 'cut'.
- Medical procedures referred to by the *-tomy* suffix are ones in which something is cut.
- Example: *neurotomy* - a nerve is cut ot alleviate pain.
- In many cases, the procedure results in the removal of an organ or body part.
- Terms referring to such procedures are created first by combining the prefix *ex-* with *-tomy* to create *-ectomy* 'cut out'.
- *lobotomy* (where a lobe is cut) vs. *lobectomy* (where a lobe is removed).

Ablaut

- One of the mysteries of the Indo-European languages.
- A set of vowel alternations that do not seem to have any explanation.
- Examples of these alternations are the lexemes formed from the root √*ball* 'throw'.
- The vowel *a*, which we hypothesize for the root, appears in the lexeme *ballistic*.
- However, the root vowel is *o* in *symbol*.
- In *emblem*, the root has no vowel at all.
- This phenomenon is called **ablaut.**

Ablaut con't

- Common in Indo-European languages.
- Sometimes the vowel change signals inflectional categories.
- For example:
  - The so-called strong verbs of English are inflected for the past tense and the past participle by changing the vowel, rather than the regular way of adding morphemes.
  - sing/sang/sung
- There does not appear to be any rule that governs these changes.
- It is not possible to predict when they will occur.

Ablaut con't

- 19th Century philologists were able to map out the vowel changes and isolated the basic patterns of ablaut.
- These alternations were described as different degrees or grades of the vowels.
- For example, *sing*/*sang*/*sung* can be described as having *i, a, and u* grades.
- This is a typical ablaut case, where the vowel signals an inflectional category instead of the usual suffix.

Ablaut con't

- In the case of Greek borrowings, we can distinguish among 4 grades.
- Example: *dialog* and *dialect*
- They are the *e* and *o* grades of the root √*log* 'word'.
- Similarly if we compare: *symbol, ballistic* and *emblem*.
- They have the *o*, *a* and 0 'zero' grades of the root √*ball*.
- To summarize: the four grades are *a, e, o* and 0.

Ablaut con't

- How does this happen?
- A question for historical linguists.
- Don't have enough data.
- We do however have an example from the history of English that suggests one possible mechanism.
- In this example, the original change that created the vowel alternation was completely explicable.
- However, later changes removed the environment in which the change occurred, so that there is no longer a natural rule to which one can appeal.
- To see this changes, consider the nouns in Table XII.26.

Ablaut con't

- This could be a classic case of ablaut: the difference between the singular and plural is found in the vowel.
- There is no way to write a simple morphological rule that will build these words, followed by a phonological rule that adjusts the pronunciation.
- However, a little detective word reveals that there is an explanation.
- Ignoring much phonetic detail, notice that the difference between the singular and the plural is that the singular has a back vowel (or a diphthong) and the plural has a front vowel (or a front diphthong) and that this is completely regular among these nouns.

Ablaut con't

- Looking further back into the history of Old English, we discover that the original forms were probably those in Table XII.27.
- These words formed the plural by adding *-I*.
- This was, in fact, one of the regular mechanisms for forming the plural.
- There is now a good reason for the vowel in the root to move to the front in the plural.
- In the plural, the next vowel in the word after the root vowel is a front vowel. Thus the following assimilation rule:
- [VCV_{ft}--> $V_{ft}CV_{ft}$]

Ablaut con't

- One reason why we do not think that people actually learn a rule like that above for these plurals in the cause of the change - the final vowel *i-* is no longer present.
- The rule that deleted the final vowel is:
- *i* # --> #
- This is called *apocope* (the deletion of a vowel at the end of a word).
- As a consequence of this rule, the cause of the change cannot be discerned except by an historical exercise.

Compounding

- One of the productive uses of Greek borrowings is compounding.
- Unlike affixation in which an affix is added to a base.
- In compounding both forms can function as bases.
- This word formation process is used extensively in science & medicine with Greek formatives.
- The following offers without comment a selection of Greek roots that are useful to have under one's command.

Compounding con't

- What is the source of the vowel *o* in words such as speedometer?
- On some analyses, it is a kind of linking vowel, inserted to preserve meter.
- If we look to the vowel deletion rule discussed earlier, it will provide the solution for this Greek word formation. Instead of proposing a linking vowel, we would suppose that the vowel was part of the first root and was deleted before vowels.
- The root √*mono* 'one' provides a good example.
- It appears as *mono* in *monorail* but as *mon* in *monarchy*.