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# Lecture 4: Properties of sound changes continued

### 1. Assimilation

 In general, segments need not be adjacent: vowel harmony foot > feet

*fōt	*fōti	pre-OE
*fōt	*føti	i-mutation
fot	fet	OE
fuːt	fi:t	Great Vowel Shift
fut	fit	ME

cf. mouse > mice, goose > geese

- Palatalisation = common assimilatory change: C, [+FRONT] vowel
- Drags point of articulation of consonant further forward.
- Term used with three meanings: [k] > [c] or  $[k] > [k^i]$  or any fronting
- Latin centum [kentu] > Fr. cent [s-], It. cento [tʃ]-, Sp. ciento  $[\theta$ -]
- Also PIE \*k<sup>u</sup> > Gk. τ- (in most dialects) before a [+FRONT] vowel:
   cf. Lat. -que, quis vs. Gk. τε, τίς.
- ullet Can be full or partial, e.g. ad-similare, ἐμβαίνω
- Greek shows examples of both

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#### Partial assimilation:

- A nasal assimilates to the place of articulation of a following stop
- [+nasal] > [position X] / \_\_ [+stop, position X]
- Generally noted in internal sandhi
- In inscriptions usually also noted in external sandhi
- When the words are closely associated in sense (e.g. def. art. + noun or preposition + noun), when the second word starts with a labial or when the first word is  $\dot{\epsilon}\nu$ : EM  $\Pi O \Lambda E I$ ,  $E \Gamma K \Upsilon K \Lambda O I$
- Occasionally found also in looser combinations:

### ΙΕΡΟΓ ΧΡΕΜΑΤΟΝ, ΣΤΕΣΑΜ ΠΡΟΣΘΕ

#### Full assimilation

- A nasal assimilates completely to a following continuant.
- $[+nasal] > [-nasal, -stop, position X] / __ [-stop, _ position X]$

ΤΟΛ ΛΟΓΟΝ = τὸν λόγον

ΕΡ ΡΟΔΟΙ = ἐν Ῥόδω

• Compare Mod. Gk. treatment of the -v of the def. art.

Before a stop: written as -v

assimilates in place of articulation

τον  $\pi$ ατέρα [tom ba'tera]

• Before a continuant: not written

not pronounced

[ton 'logon] > [tol 'loyo] > [to 'loyo], το λόγο

• Lack of full assimilation of nasals before  $\beta$ ,  $\delta$ ,  $\gamma$  in classical Greek is evidence that these are stops not fricatives.

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## 2. Weakening (lenition) and loss

• Relaxation of articulatory effort: mechanically efficient

Example 1: Latin rhotacism

- flōs, flōris
- a-stem gen.pl. in [-āsom] > [-āzom] > [-ārum].

Example 2: Greek [s]

- Between vowels weakened first to [h] then further to zero
- Hence  $[-\bar{a}s\bar{o}m] > [-\bar{a}h\bar{o}] > Attic [-\bar{o}n], -\tilde{\omega}v$

Example 3: Latin word final [s] is lost after a short vowel

• Hence inscr. spellings:

Cornelio(s)

militare = militaris

- Common in Ennius
- Restored from end of C3 BC

Example 4: Simplification of Greek consonant clusters involving [n] and [s]

- Often with compensatory lengthening of a preceding short vowel
- In Attic and Ionic:

$$\label{eq:VNs} \breve{V}Ns \geq \bar{V}s \qquad \text{and} \qquad \breve{V}sN \geq \bar{V}N$$

NB  $\alpha > \bar{\alpha}$ ,  $\epsilon > \epsilon \iota$ , o > ov

Acc plural \*- ăns (Doric  $-\alpha v \varsigma$ ) >  $-\bar{\alpha} \varsigma$ , \*-ŏns >  $ov \varsigma$ 

Infinitive of 'to be': \*es-nai > εἶναι

Note that  $\varepsilon\iota$  [eː] and ov [oː] > [uː] = 'spurious diphthongs'

Other dialects assimilate e.g. Aeolic ἐμμεν

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## Example 5: Latin simplification of clusters involving nasals and fricatives

- consol [kŏnsol] > [kōːsol] > [koːsol], later [koːsul]
- *censor* [kĕnsor] > [ke:sor] > [ke:sor]
- Hence inscr. spellings
   cosol (whence standard abbrev. cos.)
   cesor
  - cosentiont
- Cf. Lat. mensis > It. mese, Lat. sponsa > It. sposa.
- *n* spellings used historically, especially in official inscriptions.
- Leads to reintroduction of pronunciation of [n]
- But not uniformly reintroduced, leading to utter confusion:

  Grammarian Caper: 'omnia adverbia numeri sine n scribenda sunt, ut milies, centies, decies; quotiens, totiens per n scribenda sunt.'
- Also hypercorrections eg. thensaurus, occansio, Herculens.
- Lost nasal sometimes restored analogically
- Eg. in the perf. of *sumo*, sum-s-i [sumsi] >  $[s\bar{u}:si] > [s\bar{u}:si]$
- But *m* then restored by analogy with present, (with epenthetic *p*)

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## Example 6: Fricativisation of the Greek voiced stops

- In class. period,  $\beta$ ,  $\delta$ ,  $\gamma$  = [b, d, g], i.e. voiced stops.
- In Mod. Gk. these are [v,  $\delta$ ,  $\gamma$ ], i.e. voiced fricatives.
- No clear evidence when this change took place.
- C2 AD: Jewish inscriptions at Rome use  $\beta$  for L.<V> ([v])  $\beta \iota \xi \iota \tau$  = vixit [vixit]

But NB what else would they use?

• Some evidence for change in some dialects in C4 BC omission of  $\gamma$  after a front vowel

cf. Mod. Gk.  $\xi \varphi \alpha \gamma \epsilon$  'he ate' = ['efaye]

BUT the Mod. Gk. phenomenon is palatalisation before a front vowel ALSO grammarian Herodius: ολιος phenomenon was not standard.

- C4 AD: Wulfila adopts Greek alphabet for Gothic
- Uses  $\beta$ ,  $\delta$ ,  $\gamma$  for Goth. [b~v, d~ð, g~ $\gamma$ ]
- BUT stops as well as fricatives
- C9 AD: Cyrillic alphabet adapted from Greek
- Uses <B в> (=beta) for [v] and a modified sign <δ δ> for [b]
- Terminus post quem
- Mod. Gk. uses digraphs μπ, ντ, γκ for [b, d, g]
- These originate in voicing assimilation of the voiceless stop to the preceding nasal (with  $\gamma = [\eta]$ ).

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### Example 7: Fricativasation of Greek aspirated stops

- In class. period,  $\phi$ ,  $\theta$ ,  $\chi = [p^h, t^h, k^h]$  i.e. aspirated stops.
- In Mod. Gk. these are [f,  $\theta$ , x] i.e. voiceless fricatives.
- We assume that  $[ph] > [\phi] > [f] = \text{oral depletion}$
- First clear evidence comes from C1 AD spellings at Pompeii:

DAFNE =  $\Delta \dot{\alpha} \phi \nu \eta$ 

LASFE =  $\lambda$ άσθη (cf. Cockney English)

- From C2 AD Latin frequently uses  $\langle F \rangle$  to represent Gk.  $\varphi$
- Inscr. from Jewish catacombs in Rome use  $\langle F \rangle$  for  $\varphi$
- But  $\langle TH \rangle$ ,  $\langle KH \rangle$  for  $\theta$ ,  $\chi$
- May suggest  $\phi$  had become fricative earlier than  $\theta$ ,  $\chi$
- Greek script confuses  $\theta$ ,  $\tau$  and  $\chi$ ,  $\kappa$  but not  $\varphi$ ,  $\pi$   $E\Theta\Omega N = \mathring{\epsilon}\tau \tilde{\omega} v$

ΠΑΡΤΕΝΟΣ = πάρθενος

• Possibly the change of  $\theta$  takes place earlier in Doric  $\sigma$  to  $\zeta$  for  $\theta$  e  $\zeta$  in Spartan ambassador's speech in Lysistrata

# **Bibliography**

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