

# Class 8

## Splits, Mergers, and Relative Chronology

10/8/19

### 1 A fuller look at English *umlaut*

- The umlaut rule in Old English is only the first in a series of changes that give us weird irregular alternations like *mice~mouse* and *foot~feet*.

- (1) Umlaut and subsequent changes in English (Campbell 2013:20)

TABLE 2.2: Historical derivation of ‘mouse’, ‘mice’, ‘foot’, ‘feet’

	<i>mouse</i>	<i>mice</i>	<i>foot</i>	<i>feet</i>
Stage 1 (no changes)	/mu:s/	/mu:s-i/	/fo:t/	/fo:t-i/
	[mu:s]	[mu:s-i]	[fo:t]	[fo:t-i]
Umlaut	/mu:s/	/mu:s-i/	/fo:t/	/fo:t-i/
	[mu:s]	[my:s-i]	[fo:t]	[fō:t-i]
Loss of <i>-i</i> (= split after merger)	/mu:s/	/my:s/	/fo:t/	/fō:t/
	[mu:s]	[my:s]	[fo:t]	[fō:t]
Unrounding	/mu:s/	/mi:s/	/fo:t/	/fe:t/
	[mu:s]	[mi:s]	[fo:t]	[fe:t]
Great Vowel Shift	/maus/	/mais/	/fu:t/	/fi:t/

- Umlaut creates new allophones:

- (2) Umlaut rule (synchronic): /non-low **back round** vowel/ → [non-low **front round** vowel] / \_Ci

◦ Prior to the adoption of this rule, English didn't have front rounded vowels.

→ The innovation of front round vowels doesn't encroach on any existing phonemes.

⇒ As a sound change, umlaut is a *non-phonemic split*, because it creates new allophones that don't affect the phonemic system.

- The next thing that happens — final *-i* is lost:

- (3) Final *-i* deletion rule: /i/ → Ø / \_#

◦ Crucially, this phonological process / sound change *destroys the environment* for the umlaut rule.

★ Speakers are faced with a choice:

- (4) a. Keep the umlaut rule as is and *revert* back to back rounded vowels in these cases, or  
 b. Keep the front rounded vowels in spite of their being *no rule* that derives them

- In this case, speakers picked the second option.

→ But without a rule, it was no longer *predictable* when the front rounded vowels would occur.

- From a synchronic / language learner's perspective, they could pop up anywhere, not just a specific environment (i.e. before a high front vowel).

- *Unpredictable information* has been stored at the **phonemic/underlying** level.
  - Therefore, the front rounded vowels have now become their own *phonemes*.
- ⇒ As a sound change, the final *-i* deletion rule has created a **phonemic split** — what were once single phonemes are now separate phonemes.
- (5) Phonemic situation for back and front vowels **before** final *-i* deletion:
- a. /u:/ → [y:] / .i
  - /u:/ → [u:] elsewhere
  - b. /i:/ → [i:] everywhere
- (6) Phonemic situation for back and front vowels **after** final *-i* deletion:
- a. /y:/ → [y:] everywhere
  - b. /u:/ → [u:] everywhere
  - c. /i:/ → [i:] everywhere
- Phonemic splits are always accompanied by a **partial merger**.
  - In this case, /i/ has “merged” with Ø in final position.
- After this stage, there was a subsequent change — all the front rounded vowels spontaneously lost their rounding:
- (7) Unrounding rule: /*front round* vowel/ → [*front unround* vowel] (everywhere)
- This couldn't have lasted as a synchronic rule for very long, because it removes all evidence that front rounded vowels existed in the language.
  - All of the vowels that used to be front rounded vowels have now **merged** with their unrounded counterparts.
  - ⇒ As a sound change, this is therefore a **phonemic merger**, since what used to be separate phonemes are now a single phoneme.
- (8) Phonemic situation for back and front vowels **before** unrounding:
- a. /y:/ → [y:] everywhere
  - b. /u:/ → [u:] everywhere
  - c. /i:/ → [i:] everywhere
- (9) Phonemic situation for back and front vowels **after** unrounding:
- a. /y:/ → [i:] everywhere
  - b. /u:/ → [u:] everywhere
  - c. /i:/ → [i:] everywhere
- Lastly, the *Great Vowel Shift* changed the phonetic values of the long vowel phonemes (non-high vowels raised one step, high vowels turned into diphthongs — hopefully more on this later).

## 2 Phonemic split in Old English fricatives

- Old English originally has only voiceless fricatives, but through a series of borrowings and sound changes, it eventually developed *phonemic* voiced fricatives in addition.
- Up to around 700 AD, Old English had only voiceless fricatives, no voiced fricatives.
  - Around 700 AD, it developed a synchronic rule that voiced (singleton) fricatives intervocalically (after a stressed vowel) [this is basically the environment for the Modern English flapping rule].

	Old English pre-700		Old English post-700
(10) a.	'five'	[fí:f]	= [fí:f]
b.	'wolf'	[wúlf]	= [wúlf]
c.	'over'	[ófer]	> [óver]
d.	'to become'	[wéorðan]	> [wéorðan]
e.	'nose'	[nósu]	> [nózu]

○ It's just a synchronic allophonic rule so far, with intervocalic voiced fricatives derived by rule from underlying voiceless fricatives.

→ This is a *non-phonemic split* because there were no other voiced fricatives in the language.

- Soon after, "standard" Old English started borrowing some forms from non-standard dialects (e.g. Kentish) which had developed voiced fricatives in *initial position*

- (11) a. [væt] 'vat' ≠ [fæt] 'fat'  
 b. *vyxen* 'vixen' ≠ *fyxen* 'female fox'

⇒ Now, in a limited set of cases, *voiceless fricatives* and *voiced fricatives* **contrast in word-initial position**.

- Then, Old English adopted a rule that changed *geminate voiceless fricatives* (-ff-, -ss-, -θθ-) into *singleton voiceless fricatives* (-f-, -s-, -θ-) intervocalically: e.g., 'offer' Middle Eng [offer] > Modern Eng [ɔfər]

⇒ Now, in a limited set of cases, *voiceless fricatives* and *voiced fricatives* **contrast in word-medial position**.

- Finally, some final vowels (mostly [ə] at that point) were lost: e.g. Mid Eng 'bathe' [ba:ðə] > [ba:ð] > Mod Eng [beɪð] ≠ 'bath' [bæθ].

⇒ Now, in a limited set of cases, *voiceless fricatives* and *voiced fricatives* **contrast in word-final position**.

- Changes affecting fricatives in different positions ended up creating contrast between voiced and voiceless fricatives in all positions.

⇒ Therefore, English eventually developed fully distinct voiced and voiceless fricative phonemes.

### 3 "Primary Splits"/Conditioned partial mergers in Latin and French

- Sometimes, sound change / synchronic processes create an allophone for one phoneme that already exists as (the allophone of) another phoneme.

- Consider again Latin rhotacism.

- (12) Latin rhotacism (synchronic): /s/ → [r] / V\_V (earlier \*[z])

- But Latin already had an [r] that could occur in all positions:

- (13) Latin /r/ → [r] everywhere

- Intervocalically, the phone [r] could come from either /s/ or /r/.

- In the presence of *alternations* with [s], a given [r] could still be associated with underlying /s/:

- (14) a. /onus/ → [onus] 'load', /onus-a/ → [onera] 'loads' (ignore the vowel change)  
 b. /opus/ → [opus] 'work', /opus-a/ → [opera] 'works'  
 c. /korpus/ → [korpus] 'body', /korpus-a/ → [korpora] 'bodies'

- (15) a. /rus/ → [rus] ‘country side’  
 b. /rus-tic-us/ → [rusticus] ‘rustic’  
 c. /rus-a:l-is/ → [rura:l-is] ‘rural’

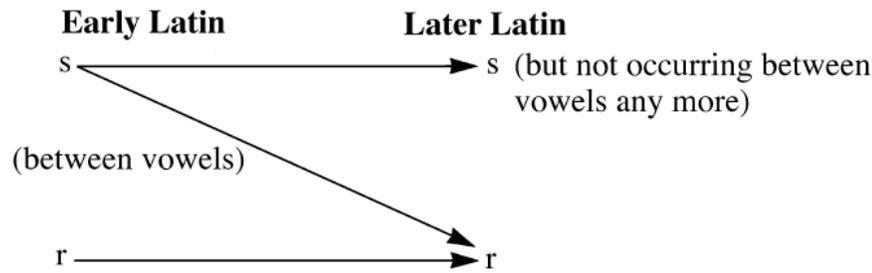
- However, in cases where there weren’t alternations to support attribution to /s/, we can assume that the surface [r] transferred to the phoneme /r/:

- (16) The genitive plural suffix: Old Latin *-o:sum* > Classical Latin *-o:rum*  
 a. Old Latin /-o:sum/ → [-o:sum]  
 b. Classical Latin [-o:rum] ← /-o:rum/

★ When a sound change ends up transferring an allophone from one phoneme to another, it’s called a **conditioned partial merger** (a.k.a. “primary split”).

- In the most extreme case (when there are no alternations), this results in there being a gap in the environments in the language where the original phoneme can occur.
- Thinking about the cases without alternations, we can diagram the change like this:

- (17) Conditioned partial merger (Campbell 2013:22)



- A case where we get conditioned partial merger without alternations is in French’s treatment of Latin *k*:

- (18) Latin *k* > French *s* / \_\_\_\_\_
- | Latin         |          | > | French                 |
|---------------|----------|---|------------------------|
| <i>centum</i> | [kentum] | > | <i>cent</i> [sã]       |
| <i>cervus</i> | [kerwus] | > | <i>cerf</i> [seɪf]     |
| <i>cinis</i>  | [kinis]  | > | <i>cendre</i> [sandvə] |

- (19) Latin *k* > French *f* / \_\_\_\_\_
- | Latin          |            | > | French   |
|----------------|------------|---|--|
| <i>cantāre</i> | [kanta:re] | > | <i>chanter</i> [ʃante] (related word: <i>chant</i> [ʃã]) |
| <i>carbōn-</i> | [karbo:n]  | > | <i>charbon</i> [ʃaʁbõ]                                   |
| <i>causa</i>   | [kausa]    | > | <i>chose</i> [ʃoz]                                       |

- (20) Latin *k* > French *k* / \_\_\_\_\_
- | Latin         |           | > | French              |
|---------------|-----------|---|---------------------|
| <i>cor</i>    | [kor]     | > | <i>coeur</i> [køʁ]  |
| <i>clarus</i> | [klarus]  | > | <i>clair</i> [kleʁ] |
| <i>quandō</i> | [kwando:] | > | <i>quand</i> [kã]   |

- So what is the set of (allophonic) rules that originally capture the behavior of Latin *k*?

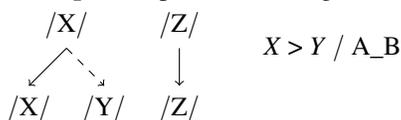
- Subsequently, there were a bunch of additional sound changes affecting vowels, which destroyed the environments for this distribution, causing [s], [ʃ], and [k] to split into three separate phonemes.
- Problem is, Latin *s* remained *s* in French, and there wasn't much in the way of alternations (a lot of this happened word-initially).

⇒ So, the instances of French *s* deriving from Latin *k* **merged** with the already existing phoneme /s/.

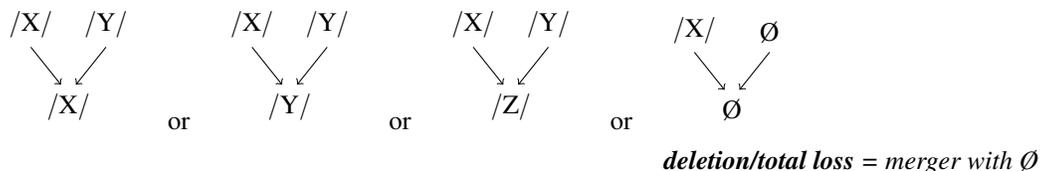
## 4 Summary of splits and mergers

- Here's diagrammatic representations of the different structural types of sound changes:

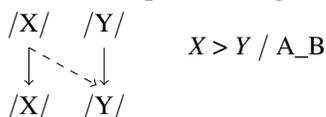
- (21) **Total split** (no phonemic change)



- (22) **Total merger** (phonemic change)



- (23) **Conditioned partial merger / primary split** (phonemic change)



## 5 Relative chronology of English *umlaut*

- If all we had was the first stage (*mu:s~mu:si*) and the pre-GVS stage (*mu:s~mi:s*), we would still be able to figure out what order the sound changes happened in.
  - We can observe that there has been a fronting change in the plurals.
  - We know that there was originally a front vowel at the end of the plurals.
- We can therefore hypothesize that the frontness of the root vowel owes originally to the frontness of the now-lost suffix.

\* What does this tell us about the order in which the changes must have occurred?