

# Sound Change

- Principles of Sound Change: How sounds and sound systems change over time
- Historical Reconstruction: How to reconstruct the history of sound change by comparing related varieties.
- Dialectology: How the geographic spread of sound change produces dialects (and, ultimately, languages).

# Why is English orthography so weird?

[i] beet, beat

through, boot [u]

[ɪ] bit

put [ʊ]

[ey] bait, mate

dough, low, boat [ow]

[e] bet

[ʌ] but

fall, caught [ɔ]

[æ] bat

[ɑ] cot

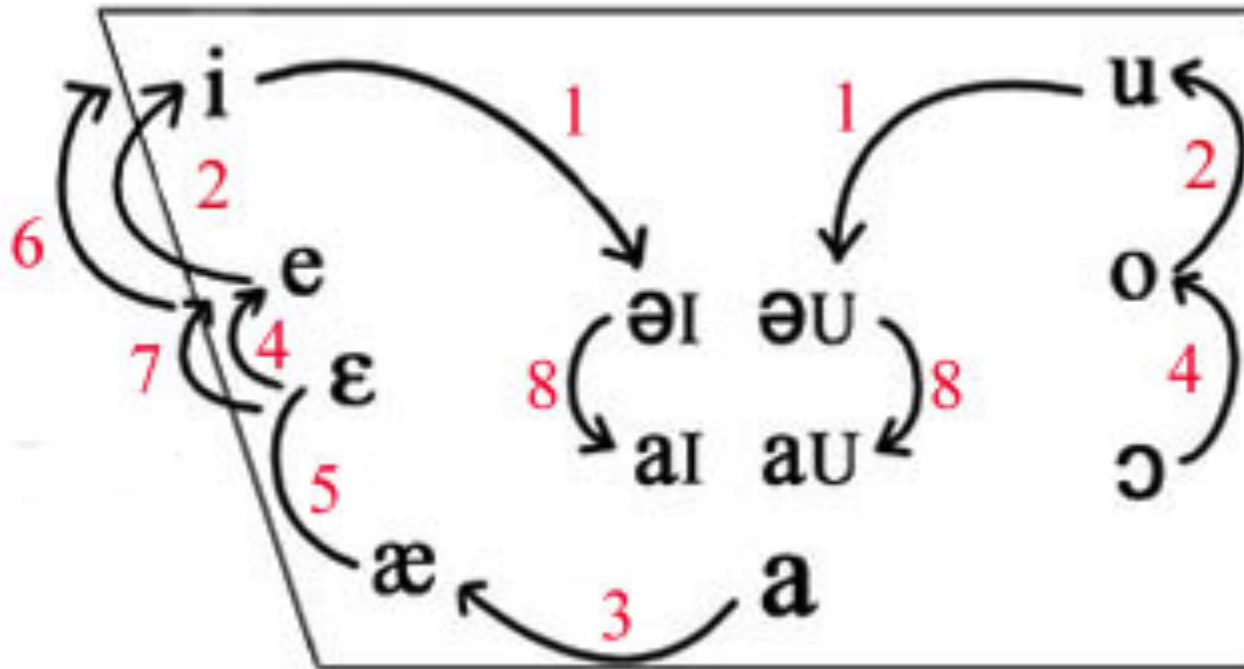
bite [ay]

[aw] about

# The GREAT VOWEL SHIFT

Between the 12<sup>th</sup> and the 18<sup>th</sup> Centuries  
(but primarily in the 15<sup>th</sup> and 16<sup>th</sup> Centuries)

the **long stressed** vowels of English underwent a major shift:



A great website to see and hear the great vowel shift:

<http://facweb.furman.edu/~mmenzer/gvs/seehear.htm>

## Conditioned sound change can begin with allophonic variation

grandə	>	grãdə	‘big’ fem.
grand	>	grãd	‘big’ masc.
bonə	>	bonə	‘good’ fem.
bon	>	bõn	‘good’ masc.

$$V > \tilde{V} / \_N \left\{ \begin{array}{c} C \\ \#\#\end{array} \right\}$$

Vowels nasalize before nasal codas

Later, Nasal Codas were Dropped

$N > \emptyset / \text{---} \left\{ \begin{array}{c} C \\ \#\# \end{array} \right\}$

grandə	>	grañdə	>	grãdə	‘big’ fem.
grand	>	grãnd	>	grãd	‘big’ masc.
bonə	>	bonə	>	bonə	‘good’ fem.
bon	>	bõn	>	bõ	‘good’ masc.

So nasalized and non-nasalized vowels  
are no longer in complementary distribution

and the change created minimal pairs

bõn > bõ ‘good’	bo ‘handsome’
ʃãm > ʃã ‘field’	ʃa ‘cat’ masc
fõn > fõ ‘bottom’	fo ‘false’
ʃánt > ʃãt ‘sing’ 3 sg	ʃat ‘cat’ fem

Hence, French gained some new phonemes

## What happened to Latin /k/ in French?

\*kórpo > kɔʁ 'body'

\*kónta > kɔ̃tə 'story'

\*kúra > kyʁə 'cure'

\*kúpa > kyvə 'tank'

## What happened to Latin /k/ in French?

\*kórpo > kɔʁ 'body'

\*kónta > kɔ̃tə 'story'

\*kúra > kýʁə 'cure'

\*kúpa > kývə 'tank'

but ...

\*kérkulo > séʁklə 'circle'

\*kélo > sjɛl 'sky'

\*képpo > sɛp 'vine stock'

\*kivitáto > sité 'city'



# and ...

VLate Latin		French	Gloss
*kárta	>	ʃaʁtə	‘charter’
*kámpo	>	ʃã	‘field’
*blánka	>	blãʃə	‘white’ (fem)
*sékka	>	séʃə	‘dry’ (fem)
*kapéllō	>	ʃapó	‘hat’
*kalóre	>	ʃalóεʁ	‘heat’

These changes were regular  
i.e. they affected the entire lexicon

e.g.

*kertáno	>	сѢѠѢ	‘certain’
*kerebéllo	>	сѢѠѠѠ	‘brain’
*kénere	>	сѢѠѠѠ	‘cinder’
*kénto	>	сѢ	‘hundred’
*kínkwe	>	сѢѠ	‘five’
*kiséllo	>	сѢѠѠ	‘scissors’
*kaptiáre	>	сѢѠѠ	‘hunt’ inf
*kastéllo	>	сѢѠѠ	‘castle’
*káтта	>	сѢѠѠ	‘cat’ f.
*kantáre	>	сѢѠѠ	‘sing’ inf
*kámera	>	сѢѠѠѠ	‘room’
*mánduka	>	мѢѠѠ	‘eat’ 3 sg
*mánika	>	мѢѠ	‘sleeve’

...

A sound change is a historical occurrence. It takes place at a particular time.

It affects a class of sounds - whether an entire phoneme or some allophone(s)

We think of sound change as basically exceptionless

There can be exceptions for a variety of reasons (which people can argue about), but in general, sound changes affect the entire class.

The order in which sound changes occur affect the outcome.

The plot thickens when we see what happened to \*a

* laváre	lavé	'wash' inf
* kláve	kle	'key'
* dáto	de	'die' (dice)
* náso	ne	'nose'
* bláto	ble	'wheat'

but ...

* lav <u>á</u> re	lav <u>é</u>	'wash' inf
* kl <u>á</u> ve	kle <u>é</u>	'key'
* dá <u>o</u>	de <u>é</u>	'die' (dice)
* ná <u>o</u>	ne <u>é</u>	'nose'
* bl <u>á</u> to	ble <u>é</u>	'wheat'
* mart <u>é</u> llo	ma <u>κ</u> t <u>ó</u>	'hammer'
* parad <u>í</u> so	pa <u>κ</u> ad <u>í</u>	'paradise'
* mar <u>í</u> to	ma <u>κ</u> í	'husband'

and ...

* lav <u>á</u> re	lav <u>é</u>	'wash' inf
* kl <u>á</u> ve	kle <u>é</u>	'key'
* d <u>á</u> to	de <u>é</u>	'die' (dice)
* n <u>á</u> so	ne <u>é</u>	'nose'
* bl <u>á</u> to	ble <u>é</u>	'wheat'
* mart <u>é</u> llo	ma <u>κ</u> t <u>ó</u>	'hammer'
* parad <u>í</u> so	pa <u>κ</u> ad <u>í</u>	'paradise'
* mar <u>í</u> to	ma <u>κ</u> í	'husband'
* b <u>á</u> rba	b <u>á</u> ϑbə	'beard'
* m <u>á</u> rtiu	ma <u>κ</u> s	'March'
* p <u>á</u> sta	pa <u>κ</u> t	'dough'

## What happened first:

\*k > ʃ/\_\*a      or      \*á > e

*mukkáre	>	muʃé	‘wipe nose’ inf.
*blankáre	>	blãʃé	‘bleach’ inf
*kása	>	ʃe	‘house’
*kára	>	ʃεʋə	‘dear’ f.

	*k>ʃ/_a	*á>e	
*mukkáre	mufáre	muʃé	'wipe nose' inf
*blankáre	blanfáre	blãʃé	'bleach' inf
*kása	ʃása	ʃe	'house'
*kára	ʃara	ʃεrə	'dear' f.

	*á>e	*k>ʃ/_a	
*mukkáre	mukkére	NA	'wipe nose' inf
*blankáre	blankére	NA	'bleach' inf
*kása	késa	NA	'house'
*kára	kéra	NA	'dear' f.



## What happened first:

\*k > ʃ/\_\*a      or      \*a > ə/\_##

\*manika > mǎʃə 'sleeve'

\*mekka > mɛʃə 'wick, lock of hair'

\*blaŋka > blǎʃə 'white' fem.

# \*k>s/\_V<sup>front</sup> in Spanish as well

VlateLatin		French	Spanish	Gloss
*kórpo	>	kɔʁ	kwérpo	‘body’
*kónta	>	kótə	kwénta	‘story’
*kúra	>	kýʁə	kúra	‘cure’
*kúpa	>	kývə		‘tank’
*kérkulo	>	séʁklə	sírkulo	‘circle’
*kélo	>	sjɛl	sjélo	‘sky’
*képpo	>	sɛp	sépo	‘vine stock’
*kivitáto	>	sité	siudad	‘city’

# ... and in Gascon

VlateLatin		French	Spanish	Gascon	Gloss
*kórpo	>	kɔʁ	kwérpo	kɔr	‘body’
*kónta	>	kótə	kwénta	kúndo	‘story’
*kúra	>	kýʁə	kúra	kýro	‘cure’
*kúpa	>	kývə		kýbo	‘tank’
*kérkulo	>	séʁklə	sírkulo	sérkle	‘circle’
*kélo	>	sjɛl	sjélo	séw	‘sky’
*képpo	>	sɛp	sépo	sɛp	‘vine stock’
*kivitáto	>	sité	siudad	sitátʃ	‘city’

But \*k>ʃ/\_\*a ... not in Spanish

VLate Latin		French	Spanish	Gloss
*kárta	>	ʃáɾtə	kárta	‘charter’
*kámpo	>	ʃã	kámpo	‘field’
*blánka	>	bláʃə	blánka	‘white’ (fem)
*sékka	>	séʃə	séka	‘dry’ (fem)
*kapéllō	>	ʃapó		‘hat’
*kalóre	>	ʃalóɛɾ	kalór	‘heat’
*gámba	>	ʒãbə	káma	‘leg’
*kárga	>	ʃáɾʒə	kárga	‘charge, load up’

# or Gascon...

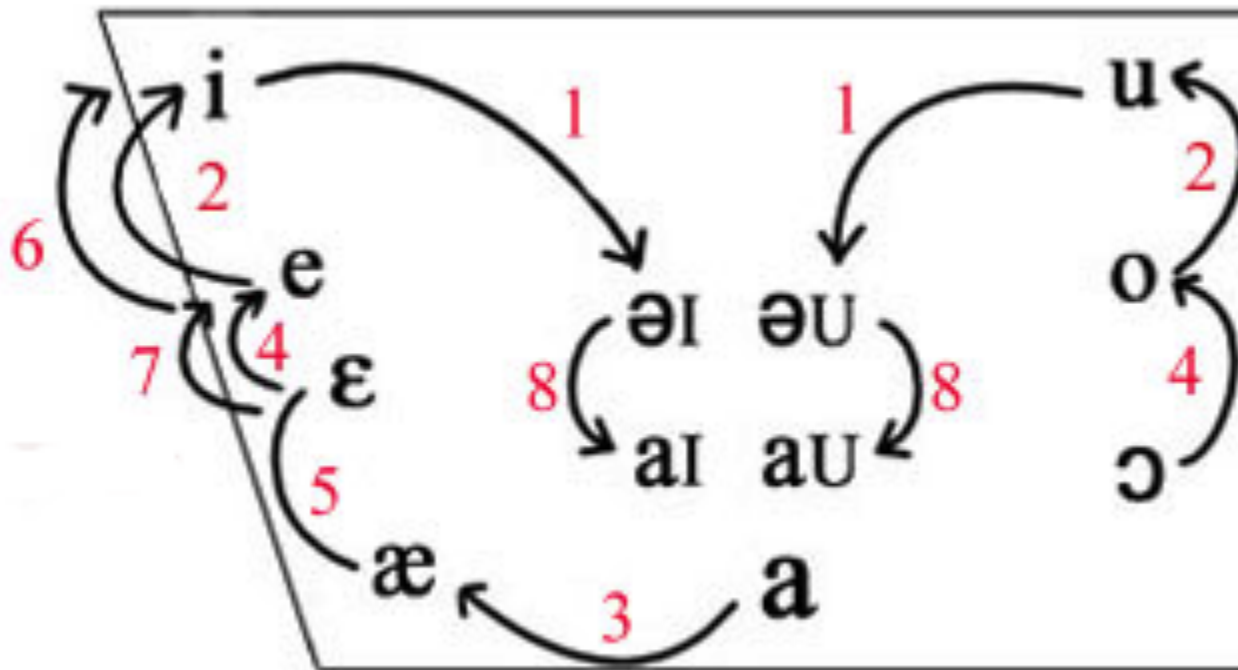
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*kárta	>	ʃáɾtə	kárta	kárto	‘charter’
*kámpo	>	ʃã	kámpo	kamp	‘field’
*blánka	>	blãʃə	blánka	blánko	‘white’ (fem)
*sékka	>	séʃə	séka	séko	‘dry’ (fem)
*kapéllo	>	ʃapó		kapétʃ	‘hat’
*kalóre	>	ʃalóɛɾ	kalór	kalú	‘heat’
*gámba	>	ʒãbə	káma	kámu	‘leg’
*kárga	>	ʃáɾʒə	kárga	kárgo	‘charge, load up’

Sound change can have important consequences for morphology, and ultimately for syntax

# Back to The **GREAT VOWEL SHIFT**

Between the 12<sup>th</sup> and the 18<sup>th</sup> Centuries  
(but primarily in the 15<sup>th</sup> and 16<sup>th</sup> Centuries)

the **long stressed** vowels of English underwent a major shift:



# The long and short vowels of Middle English

High	/i:/ life /i/ did	house /u:/ under /u/
High mid	/e:/ sweet	boot /o:/
Low mid	/ɛ:/ eat /ɛ/ bet	nose /ɔ:/ often /ɔ/
low		/a:/ name /a/ cat

The short vowels haven't changed much



But the long vowels underwent the Great Vowel Shift

The long high vowels diphthongized:

i: > aj            li:f > lajf    (life)

u:> aw            hu:s > haws    (house)

The long low and mid vowels raised:

e: > i            swe:t > swit    (sweet)

ɛ: > i            ɛ:t    > it        (eat)

o: > u            bo:t   > but     (boot)

ɔ: > o            nɔ:s   > nos     (nose)

a: > e            na:m   > nem     (name)

Vowel length was closely tied to syllable structure in Middle English

Some long vowels shortened in closed syllables

Short vowels commonly lengthened in open syllables

**Closed** syllables have a coda:

cap-tain car-ton con-cert fun clan-des-tine

**Open** syllables do not:

ha-ppy-go-lu-cky do beau-ty a-tro-phy

ostracize cleanliness

Since only long vowels participated in the Great Vowel Shift, we're left with some interesting alternations in modern-day English

The vowel in OE **ke:p**-te shortened to **kep**-te so it didn't raise  
While the vowel in OE **ke:**-pan remained long and raised to /i/  
hence today we have the present-past alternation **keep ~ kept**

OE **nɔ**-su lengthened in ME to **nɔ:se** so it raised to /o/  
But nosþyrl (< nosu + þyrel 'nose+hole') stayed short.  
Hence today we have **nose ~ nostril**

Similarly: OE ste-lan > ME ste:le hence **steal ~ stealth** etc.

The open-closed syllable difference resulted in one of our favorite spelling rules:

**writ** < OE writ

**write** < OE writan

## Consider the Latin singular noun paradigms

	'farmer'	'dog'
Nominative	agricola	canis
Genitive	agricolae	canis
Dative	agricolae	cani
Accusative	agricolam	canem
Ablative	agricola	cane

Latin was basically an **S**ubject**O**bject**V**erb language  
But its case endings allowed speakers to mess with word order for  
stylistic and pragmatic purposes

agricola canem videt 'the farmer sees the dog'

canem agricola videt 'the farmer sees the dog'

agricola videt canem 'the farmer sees the dog'

videt agricola canem 'the farmer sees the dog'

canis agricolam videt 'the dog sees the farmer'

agricolam canis videt 'the dog sees the farmer'

agricolam videt canis 'the dog sees the farmer'

videt canis agricolam 'the dog sees the farmer'

# But then ...

C > ∅ / \_\_\_\_\_ ##

agricola cane vide

cane agricola vide

Without the final consonants, the morphological distinction between nominative and accusative (subject and object) was lost.

So Latin's daughters had to replace morphology with fixed word order. As a result, the Romance languages are **S**ubject**V**erb**O**bject languages.