Sound Change: Types and Motivations

• change occurs regularly and systematically
• word order for all V, S, O changed to SVO, not only for some elements
• change and development of single speech sounds

OE		ME				Modern English
baːt	→	bɔːt	→	boʊt	→	bəʊt
aːθ	→	ɔːθ	→	oʊθ	→	əʊθ
staːn	→	stɔːn	→	stoʊn	→	stəʊn

→ transmission of languages across generations introduces changes

Causes of sound change:
• articulatory simplification
most sound changes have a physiological basis = "ease" of pronunciation
consonant deletion:

clothes	kloʊðɪz	→	kloʊz
fifths	fifθs	→	fifs

Sound Change: Causes and sequential changes

Start: subtle alternations in sound pattern
• conditioned by certain phonetic environments
• frequently: simplification
• involves all levels (tone, stress, syllable structure)
• most obvious in segmental phonology where it affects the segments

• most sound changes involve sequences of segments → sequential change

Sequential changes: likely vs. unlikely sound changes
likely sound change: if 2 elements have more in common after change

Most common sound change: assimilation
= increasing efficiency of articulation through <u>simplification of articulatory movements</u>
Partial assimilation vs. Total assimilation:
• involves place or manner of articulation, can result in total assimilation

Sound Change: Assimilation

Place assimilation:
Early Latin: *inpossibilis* → late Latin: *impossibilis*
alveolar nasal + bilabial stop → bilabial nasal + bilabial stop
= regressive
Early OE: *slaepde* → later OE: *slaepte*
voiceless bilabial + voiced alveolar → voiceless bilabial + voiceless alv.
= progressive
Palatalization and affrication
a non-palatal sound (dental, alveolar, velar…) becomes palatal
velar stops /k/,/g/ → /tʃ/, /j/

kinn	→ tʃin
kɛːsi	→ tʃiːz
geldan	→ jiːld
centum /k/	→ Italian *ciento* /tʃ/

Assimilation across a distance:
• umlaut, results in front rounded /y/ and /ø/
gos (*goose*), plural, *gosi* → *gösi* → *gös* → *geese*

Sound Change: Directions

Fortition vs. lenition (Strengthening vs. weakening)
hierarchy of strength:
voiced higher than voiceless
stops higher than continuants
fricatives higher than approximants
consonants higher than semi-vowels
orals higher than glottals
front/back vowels higher than central vowels

Lenition:
a) glottalization, e.g. in dialects /k/ → /ʔ/
b) rhotacism /s/, /z/ → rhotic between vowels
/wɔz/ in plural: were /wɜː/
root /wese/ later: lenition /s/ → /r/

Gothic	English	German
maiza	*more*	*mehr*
diuzam	*deer*	*Tier*

Sound Change: Dissimilation

Dissimilation: one segment is made less like another
• less frequent than assimilation
Latin *anma* → Spanish *alma* (soul), avoids two nasal consonants
Latin *arbor* → Spanish *arbol* / Italian *albero* , different dissimilation

Epenthesis: insertion of a consonant or vowel in particular environment
Early OE *aemtig* → later OE *aemptig*

m	*p*	*t*
labial	**labial**	non-labial
nasal	**non-nasal**	**non-nasal**
voiced	**voiceless**	**voiceless**

• vowel epenthesis often preserves phonotactics of respective language
cf. Spanish /sk/- avoidance

Sound Change: Weakening and deletion

• geminates weaken to non-geminates (degemination)
• stops weaken to fricatives (frication)
• voiceless sounds to voiced sounds (voicing)
ultimate weakening/extreme lenition: deletion
subject to weakening: especially intervocalic environments
cf.history /hɪstriː/, dropping schwa /ə/

tt → t → θ → ð → zero
→ d → ð → zero

degemination tt → t	Latin *mittere* (*to put*)	Spanish *meter*
voicing t → d	Latin *matures* (*ripe*)	Old Spanish *maduro*
frication d → ð	Old Spanish *maduro*	Modern Spanish *maduro*

Sound Change: Apocope and syncope

Vowels in unstressed syllables: susceptible to weakening or deletion (especially in neighborhood of stressed syllables)
Vowel deletion: commonly preceded by vowel reduction to short central /ə/
Apocope: loss of word-final vowel _V → ∅
cf. *cura* → *cure*
singe → *sing*
i, u, e, a, o → /ə/ → /ø/

OE	ME	ModernE
nama	*name* /ə/	*name* / ∅ /

Syncope: loss of word-internal vowel _CVC_ → _CC_
cf. *interest* → /intrest/, *policeman* → [pli:smən], hɪstri:

OE	ME	ModernE
stanas	*stones* /ə/	*stones* / ∅ /

Consonant deletion: common sound change
/kn/ as in *knight, knee, knot, knit* → /k/ gets lost

Sound Change: Cluster reduction and haplology

Cluster reduction: deletion of consonants from consonant clusters CC → C
government → [gʌvəmənt]

Haplology
loss of a syllable when next to identical or similar syllable
→ difficult to pronounce similar/same syllables as in tongue twisters,

She sells sea shells by the sea shore

library → [laɪbr] instead of [laɪbrəri]
Anglaland→ *England* [ɪŋgləɪnd]

Phonetic vs. Phonological Sound Change

Early stages of sound change: create a new allophone of existing phonemes
Split:
• allophones of the same phoneme contrast due to loss of environment result of a split cf. English ŋ
1) ŋ was an allophone of /n/ before a velar consonant
2) ME: loss of g in word-final position after nasal consonant n
3) this leaves ŋ in final position, cf. *sing*

phonological sound change: when allophone is no longer predictable

Merger:
• two or more phonemes collapse into a single one, reducing phoneme inventory of that language
cf. Cockney, instances of /θ/ change to /f/, therefore the phonemes /θ/ and /f/ have become one, /f/, as in /fɪn/
similarly, /ð/ and /v/ have become /v/ as in /smu:v/

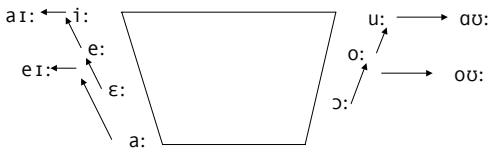
Phonological Sound Change: Sound Shift

Shift: systematic modification of series of phonemes

ME	1300		1400		1500		1600		1700		MoE
[i:]	risen	→	[rɨ]	→	[ʌɨ]	→	→	→	→	[aɨ]	rise
[u:]	mouth	→	[ʊu]	→	[ʌu]	→	→	→	→	[aʊ]	mouth
[e:]	feet	→	→	→	[i:]	→	→	→	→	[i:]	feet
[o:]	goos	→	→	→	[u:]	→	→	→	→	[u:]	goose
[ɛ:]	beeme	→	→	→	→	→	[e:]	→	→	[i:]	beam
[ɔ:]	ston	→	→	→	→	→	[o:]	→	[oʊ]/[əʊ]		stone
[a:]	name	→	→	→	[æ:]	→	[ɛ:]	→ [e:] →		[eɪ]	name

cf. vowel trapezium: approximation of a phonological vowel space
• languages tend to max out phonological space
• 3-vowel system would be i, a, o or u
• 7+ -vowel system (cf. English before Great Vowel Shift)
• vowels undergo diphthongisation
→ effect reduces 7-vowel system to 5-vowel system

Phonological Sound Change: Great Vowel Shift



The Neogrammarian model: 2 principles

Neogrammarians: Leipzig school, ca. 1876-90, considers language as an individual phenomenon with physical and psychological properties
Brugmann, Osthoff, Delbrück, Verner, Behaghel ("Junggrammatiker")

Two fundamental principles governing language change over time:
1. sound change
2. analogy

Sound change: processes operating at phonological level
Analogy: at the syntactic and morphological level
presupposes independence phonological and morphological level have different regularities

a) direction would be same for all members of speech community
b) same phonetic environments would yield same results

Neogrammarian belief: phonological level is morphosyntax-independent
→ sound change rules are inherently phonological

The Neogrammarian model: Analogy

Analogy: a powerful force in language change
speakers perceive partial similarity between 2 forms on basis of meaning even when there is no similarity in their actual forms
speakers change shape of a word to make it more like another word that is related in meaning
→ relationship in meaning meaning A : meaning B form A : form B
but: form-meaning relationship is arbitrary
quattuor (Latin: 4)
quinque (Latin: 5)

early Latin:
*quetuor
*penque → regular change: *pinque*
/p/ → /kw/

but: other basis than meaning may be possible: based on form
ewt (OE lizard), was *an ewt* but analogical to a name → *a newt*

Motivations of Analogy

Popular etymology: bases on guesses of people about history of a word on basis of partial similarities
• French *crévisse* → borrowed as OE *creviss*, single morpheme
analogy with words with 2 morphemes
→ folk version: *crayfish*
• French *berfrei* (movable siege tower) → borrowed as OE *berfry* (defensive tower) → folk version: *belfry* (bell tower)
• OE *earwicga* proununciation: *earwidge*
wicga: lost as an independent word, association with *to wiggle*
→ folk version: *earwig*

Hypercorrection: /da:ns/ for *dance* → /ʌndersta:nd/

Analogy: process of inventing or extending a linguistic element in conformity with an element perceived as a <u>model for analogy</u>
• frequency bias: infrequent elements are <u>more affected</u> than frequent elements

Analogy changes in Middle English: reduction of inflection

Old English:

stan – stanas
word – word
scip – scipu
synn – synna
tunge – tungan
beo – beon
boc – bec
lamb – lambru

Middle English: period of major changes, general reduction of inflections
A earliest change: -m to –n for pl.DAT,
muðum > muðun (*to the mouths*)
B intermediary change: –n dropped
muðun > muðu
C later change: endings reduce to –e , then to schwa /ə/

sg. muð, muðes, muðe, muð	→ muð, muðes, muðe
pl. muðas, muða, muðum, muðas	→ muðes, muðe

• 3 forms take over function of originally 6 forms for 8 functions

Analogy changes in Middle English: plural marking

independence also means that phonological and grammatical structure get "out of step"

	OE	ME
sg.NOM/ACC	stan	ston/stone
DAT	stane	
GEN	stanes	stones
pl.NOM/ACC	stanas	stones

• unstressed –e was lost but retained in spelling
→ ME: only 2 phonologically distinct forms: *stone* and *stones* (*stone's*)

but: ME plural marking not conflated with additional case marking
→ served as a **paradigm** for reshaping the entire noun system
• frequency bias: all <u>infrequent nouns</u> take plural in analogy to this paradigm
few common nouns do not follow paradigm: *women*, *children*, *brethren*...

Analogy changes of plural marking: Adoption of a paradigm

OE cf. *wund* (wound) sg. NOM *wund*, GEN/DAT/ACC *wunde*
pl. NOM/ACC/GEN *wunda*, DAT *wundum*
• proposed change for –um: -um > -un >-an > -en > e
→ reduction of unstressed final syllables would eliminate all marking
but: Modern E shows plural and genitive markings for *wound*

• analogy therefore stone : stones = wound : x → wounds
N of the *stone*- type inspired the analogical change

Neogrammarian theory: sound change and analogy are basic components of language change
• difference: analogy is concerned with relationship between phonological and grammatical structure
realigns phonological and grammatical structure
1) analogical change (realigns existing material via redistribution)
2) analogical creation (produces new forms by extending existing form-function relationships)