An Introduction to Historical Phonology 4

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The contents of the session

1. What are the properties of phonology change?
2. Is change exceptionless?
3. Does this matter?

Is change exceptionless?

There has been substantial debate about this question throughout the history of historical phonology

- there still is...

o the same basic question – are phonological processes exceptionless – is often seen as a crucial question today

Why should we care if phonological change is exceptionless or not?

- there are (at least) two reasons...

o the neogrammarian tradition of historical phonology has set great store by it, in part as a hallmark of scientific investigation

o exceptionlessness is a hallmark of the grammar, and if grammar is involved in change, we expect exceptionlessness in (new?) innovations

Before the Neogrammarians, in early 19th century historical phonology (as done by Jacob Grimm and others), phonological changes were typically assumed to be general tendencies which could easily lead to irregular correspondences

The neogrammarian context: late 19th century
- science was becoming serious
- geology had institutionalised uniformitarianism since the 1830s
- Darwin had published works on evolution – 1859 & 1871
- James Clark Maxwell ushered in modern physics – since the 1860s
o and... the exceptions that had been thought to exist in the Germanic Consonant Shift ('Grimm's Law') had been explained

Grimm had described correspondences like these, for the part of the change t > θ

Latin	OE		
tres	þri	>	three
tegere	þæc	>	thatch
dent-	toþ	>	tooth
frater	broþor	>	brother

But Grimm was aware that there seemed to be exceptions:

Latin	OE		
stella	steorra	>	star
hostis	giest	>	guest
sto	stede	>	-stead

It had been recognised, though, that the Gmc Consonant Shift ('Grimm's Law') did not affect stops following /s/ – not a single one –

Lithuanian *spiáuju*	Old Frisian	*spiwa*	'spit'
Lithuanian *skabù*	Gothic	*skaban*	'cut, clip'

It was thus recognised that this was a conditioned change

- the absence of change here did not involve 'exceptions' to the change, once it was formulated properly

But that wasn't all:

*ma**t**er*	*mo**d**or*	>	*mother*
*pa**t**er*	*fæ**d**er*	>	*father*
*cen**t**um*	*hun**d**red*	>	*hundred*

- why haven't these correspondences of t turned into θ?

It's worse: there's even alternation in some verb paradigms:

- *cweþan* 'to say' (> *quoth*) descended from PIE $g^w et$-, so every t *should* be θ, however:

indicative	present	past
1st-person singular	cwe**þ**e	cwæ**þ**
2nd-person singular	cwe**þ**est	cwæ**d**e
3rd-person singular	cwe**þ**eþ	cwæ**þ**
plural	cwe**þ**aþ	cwæ**d**on

This must be just random, mustn't it...?

Verner (1875) recognised that the 'exceptions' of the *fæder* type were also explicable

- "If one surveys the cited examples, one may easily be tempted to explain this entire differentiation of the originally voiceless stops as a caprice of the language, to ascribe simply to chance the appearance of the voiced stops in many cases where the voiceless fricative would be expected. Yet just to cite still another striking example, the three identically formed Indo-European relationship terms bhrâtar, mâtar, patar correspond to the Germanic correlatives brôþar, môdar, fadar, though there is no apparent reason why môdar and fadar do not follow the regularly shifted brôþar. One cannot however persist in the hypothesis that this was a chance occurrence. Comparative linguistics cannot, to be sure, completely deny the element of chance; but chance occurrence en masse as here, where the instances of irregular shifting are nearly as frequent as those of regular shifting, it cannot and may not admit. That is to say, in such a case there must be a rule for the irregularity; it only remains to discover this."
  - 'Verner's Law' = PGmc obstruents were voiced unless the preceding syllable was stressed
  - [a separate, expected development accounts for them occurring as stops]

This is a stunning realisation as voicing is not obviously connected to stress, and the stress referred to PIE stress, which had shifted by the time Germanic languages were attested (clearly after the occurrence of Verner's Law).

This even accounts for the alternations in some verb paradigms:

indicative	present	past
1st-person singular	cweþe	cwæþ
2nd-person singular	cweþest	cwæde
3rd-person singular	cweþeþ	cwæþ
plural	cweþaþ	cwædon

In PIE stress was not fixed on one syllable
- some words had stress on 1st or 2nd syllable
- in some words, stress was on various syllables depending on the morphological case

thought (f.)	
singular	
nom.	méntis
voc.	ménti
acc.	méntim
inst.	mn̥tíh$_1$
dat.	mn̥téyey
abl., gen.	mn̥téys
loc.	mn̥téy (-ēy)

	nest (m.)	work (n.)
singular		
nom.	nisdós	wérǵom
voc.	nisdé	wérǵom
acc.	nisdóm	wérǵom
inst.	nisdóh$_1$	wérǵoh$_1$
dat.	nisdóey	wérǵoey
abl.	nisdéad	wérǵead
gen.	nisdósyo	wérǵosyo
loc.	nisdéy	wérǵey

Stress became fixed in Germanic – on the 1st syllable of a word's morphological base, but only after Verner's Law had occurred.

	PIE	**OE**		
	meh$_2$tér	módor	>	*mother*
	ph$_2$tér	fæder	>	*father*
vs	bʰréh$_2$tēr	bróþor	>	*brother*
	gʷét-	cwéþan	>	'to say'

	early PGmc	OE	
	kwéþamaz	cwéþaþ	plural present
	kwedúm	cwǽdon	plural past

Many see the discovery of Verner's Law as perhaps *the* most important discovery in historical phonology, as work on Germanic was very well-known in the late 19th century, so this data was known by everyone (as it still is...)

- it showed that there was a 'law for the exceptions' to Grimm's Law, which means that they are not really exceptions
- this context made it possible for the neogrammarians to claim that 'normal' change is always exceptionless
- if changes are exceptionless, the correspondences that they leave should be exceptionless
- unless something intervenes, such as analogy or borrowing or other changes

The extent to which N-changes truly are exceptionless has become an important issue in argumentation in theoretical historical phonology

- if phonological change is primarily seen as change in grammar (rule addition, rule loss etc), change should be rule-governed and exceptionless
- o if change is not actually like this, then the grammar change model (indeed, even the whole RBP model of phonology) is cast in doubt
- o the foundation of formal, autonomous phonology become less secure – approaches like Rule-Based Phonology might best be rejected (in favour of Usage-Based Phonology?)
- o theoretical historical phonology does not just take ideas from theoretical phonology but can contribute argumentation to it, too
- the notion of exceptionless generalisations in phonology can be traced from the neogrammarians to contemporary generative approaches through direct influence of individuals on those who developed the ideas
- o Brugmann > Saussure, Bloomfield > Jakobson, Hockett > Halle, Chomsky > RBP

One example of 20th-century phonological ideas influenced by neogrammarian thinking is in the writing of the central American Structuralist Bloomfield (1933), who studied in Leipzig under Brugmann, and who writes:

- "[Sound change] affects a phoneme or a type of phonemes either universally or under certain strictly phonetic conditions and is neither favoured nor impeded by the semantic character of the forms which happened to contain the phoneme"

While the neogrammarians themselves linked a number of other characteristics to this basic type of change (eg, that such changes are driven by phonetic factors only), the fundamental issue can be seen as the claim about exceptionlessness itself.

The RBP approach has a fundamental place for exceptionlessness in its model of phonology

- rules are expected to be 'natural' when first added to a grammar
- o this includes the idea that they may show evidence of the phonetic pressures that led them to be innovated and that they will apply without exception
- o a rule should apply in every word with the appropriate phonological environment
- this can be seen as a reflection (inheritance?) of the neogrammation exceptionlessness hypothesis that every change should apply whenever its conditions are met

Scheer (2015), discussing approaches like RBP and change, describes highly relevant thinking in this regard:

- "Regularity in linguistic patterning is the result of grammatical computation: it is due to the fact that lexically stored pieces are run through a computational system (made of rules or constraints) before they reach the surface. What we see, then [after a change], are the traces that grammar leaves on the lexical ingredients, and these traces are regular."
- if a rule is added at the end of the rule component it will be surface-true and exceptionless
- o it is only as rules rise in the grammar that they can acquire (surface or lexical) exceptions – for example through becoming opaque

So: *are* all changes exceptionless?

What should we expect if the exceptionlessness hypothesis is true?

- historical evidence: there should be perfect correspondences between related dialects and languages in every relevant word, reflecting past changes in one or both lects; and there should be evidence of a change in every relevant word between two diachronic stages of a language – unless there is a good reason why not...
- change in progress: all words involved in the variation associated with an ongoing change should be affected in same time
- o [my other course, on frequency effects, considers some of this]

The place where we started in this course might give us pause:

- the ʊ > ʌ change (the FOOT/STRUT split) was inhibited when the /ʊ/ was directly adjacent to certain consonants; for example: labial consonants like /p, b, f, w/
- o NB: there are some (surprising?) seeming exceptions, which invite consideration: *putt, but*

The neogrammarian-style injunction in such cases, following Verner, is:

- "There must... exist a rule for the irregularities; the task is to find this rule."
- = look for a phonological generalisation that explains them
- [or show analogy or borrowing]

An example: consider these correspondences between cognates:

English English   **German**
stɑːt   ʃtyːr͡ts
beə   bɛːr
stɑː   ʃtɛrn
mɔː   mɛːr

All these words have an /r/ reconstructed for PGmc
- relevant varieties of English had the change r > Ø / [in a rhyme]
- = the addition of r → Ø / [in a rhyme]

All words which had a rhymal occurrences of /r/ have lost the /r/ in the relevant varieties of English (or at least, they have lost [r]).

So, this change was exceptionless
- there is not a single word with rhymal [r] in non-rhotic varieties of English

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Consider these correspondences between cognates in closely related languages:

English   **Swedish**
aʊt   ʉːt
maʊs   mʉːs
naʊ   nʉː
saʊə   sʉːr

All these words have an /uː/ reconstructed for PGmc
- Swedish had the change uː > ʉː
- English had the change uː > aʊ – at least most dialects did (here are given typical southern English forms)
- [both of these changes were parts of chain shifts and English is typically described as having intermediate stages, but these are the diachronic correspondences in each language]

The English change occurred between Middle English and Present-Day English, so synchronic stages of English can be compared thus:

ME   **PDE**
hous huːs   *house* haʊs
toun tuːn   *town*   taʊn
foul   fuːl   *fowl*   faʊl

The current correspondence is regular (it occurs in many other words beyond these four), but it is muddied by other factors
- does the correspondence exist in all words: does every /aʊ/ correspond to a /ʉː/?

English **Swedish**
paʊnd   pund
graʊnd   grund

- English 'homorganic lengthening' produced some occurrences of /uː/ from /u/ before the diphthongisation occurred
o so this failure of correspondence does not mean that either change is not regular

Jespersen (1909) points out these forms:
- how can we explain them?

ME   **PDE**
coupe   kuːp   *coop*   kuːp
loupe   luːp   *loop*   luːp
roum   ruːm   *room*   ruːm
toumbe tuːmb   *tomb*   tuːm

Jespersen (1909, 237) writes "before lip consonants we do not get the diphthong"
- the change was inhibited when a labial followed = phonological conditioning

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How can we explain this: ME *cuccu* [kukuː] > PDE *cuckoo* [kʊkuː] ?
- there is a straightforward answer which allows us to maintain that this change not affected by lexical factors... onomatopoeia

No unexplained occurrence of Middle English /uː/ remains as Present-Day English /uː/ which requires reference to lexical factors (to talk about specific morphemes behaving in certain ways) only phonological principles (plus general principles in the case of onomatopoeia – it has nothing to do with the morpheme *cuckoo* – it would affect any /u/ that represents the sound that it transcribes).

So, the changes involved here show every sign of having been exceptionless.

Hill (2017) describes an instructive case:

- in the majority of Latvian dialects an etymologically short a has been lengthened if followed by a tautosyllabic r
- the only other living Baltic language Lithuanian retains the original forms

a > aː / __r.

NB: aː > ā

For example, these forms compare the Latvian dialect spoken in Rucava with Lithuanian

- for practical reasons, all forms are given in the accusative singular

Lithuanian acc.sg.		Latvian acc.sg.	
*š**ar**mą*		*s**ār**mu*	'lye'
*k**ar**klą*	~	*k**ār**klu*	'willow'
*d**ar**bą*		*d**ār**bu*	'work'

In the very similar Latvian dialect of Jelgava, however, this lengthening of sometimes fails to occur for no evident reason:

Lithuanian acc.sg.		Rucava acc.sg.	Jelgava acc.sg.	
*š**ar**mą*		*s**ār**mu*	*s**ār**mu*	'lye'
*k**ar**klą*	~	*k**ār**klu*	*k**ār**klu*	'willow'
		but		
*d**ar**bą*		*d**ār**bu*	*d**ar**bu*	'work'

In this therefore a non-exceptionless change...?

In order to understand what went on, we need to recognise that:

- in Rucava and Jelgava, a syllable containing a long vowel, a diphthong or a vowel followed by a tautosyllabic liquid can bear one of two different tones
- the 'sustained' tone which is traditionally marked with [˜] above the long vowel, the second component of a diphthong or a vowel followed by a liquid (e.g., *sã̃rmu* 'lye')
- the 'broken' tone which is glottalised - traditionally marked with [ˆ] (e.g., *kâ̂rklu* 'willow')

A closer look at the evidence shows that in Jelgava the lengthening never fails to occur under sustained tone

- all instances of a remaining short are found in syllables bearing the broken tone

Lithuanian acc.sg.		Rucava acc.sg.	Jelgava acc.sg.	
šarmą		*sãrmu*	*sãrmu*	'lye'
varpą	~	*vãrpu*	*vãrpu*	'spike'
karpą		*kãrpu*	*kãrpu*	'wart'
karklą		*kârklu*	*kârklu*	'willow'
daržą	~	*dârzu*	*dârzu*	'garden'
sparną		*spârnu*	*spârnu*	'wing'
darbą		*dârbu*	*dar̂bu*	'work'
sargą	~	*sârgu*	*sar̂gu*	'guard'
žarną		*zârnu*	*zar̂nu*	'gut'

But this doesn't help: on this basis, we might conclude, that the lengthening must have been completely regular in Rucava Latvian but partly irregular in Jelgava Latvian, where it sometimes failed to occur in syllables with broken tone for no apparent reason.

However, a third, most archaic dialect of Latvian, spoken in Valmiera, sheds further light on the change...

Lithuanian acc.sg.		Rucava acc.sg.	Jelgava acc.sg.	Valmiera acc.sg.	
karklą		*kârklu*	*kârklu*	*kàrklu*	'willow'
daržą	~	*dârzu*	*dârzu*	*dàrzu*	'garden'
sparną		*spârnu*	*spârnu*	*spàrnu*	'wing'
darbą		*dârbu*	*dar̂bu*	*dar̂bu*	'work'
sargą	~	*sârgu*	*sar̂gu*	*sar̂gu*	'guard'
žarną		*zârnu*	*zar̂nu*	*zar̂nu*	'gut'

In Valmiera Latvian, three different tones are distinguished

- the 'sustained' ('first') tone which is traditionally marked with [˜]

- the 'broken' ('second') tone which is glottalized and traditionally marked with [ˆ]

- the 'falling' ('third') tone which is traditionally marked with [`]

Syllables with both falling tone and broken tone in Valmiera systematically correspond to syllables with broken tone in Rucava and Jelgava

- in Jelgava Latvian, the only syllables with broken tone that license the lengthening of /a/, all correspond to syllables with falling tone in the dialect of Valmiera

This all shows that the pre-r lengthenings were, in fact, exceptionless in all dialects

- in Rucava Latvian, the lengthening always occurred in the relevant segmental environment, i.e. did not depend on tonal environment
- in Valmiera Latvian, it occurred in syllables with falling tone, but not in syllables with broken tone
- in Jelgava Latvian, we can assume that the tonal situation at the time of the lengthening was as is now preserved in Valmiera Latvian: there were three tones, sustained, broken and falling and lengthening occurred in syllables with sustained and falling, but not in syllables with broken tone
  o this is now obscured because of a later merger of the broken and the falling tones in Jelgava Latvian

Hill found the rule for the irregularities!

However, consider these correspondences between cognates:

Gothic

þlahsjan	flieman (OE)	'frighten, drive, chase'
þliuhan	fleon (OE)	'flee'
þlauhs	flyht (OE)	'flight'
ga-þlaihan	flehon (OHG)	'cherish, comfort'
flodus	flod (OE)	'flood stream'
flokan	flocan (OE)	'bewail, lament'
flahtom	fleohtan (OE)	'plait(s)'
flautjan	flozzan (OHG)	'to boast, show pride'

PGmc initial /fl/ appears in Gothic in some words as /θl/ in others as /fl/

- it looks like Gothic has had the change fl > θl
  o = the addition of a rule? f → θ / __l

- but this changes doesn't seem to have affected all words (cf Salmons & Iverson, 1993)
  o it has been proposed that the change was conditioned by a following velar consonant in the word: /x/ (written as <h> in the above) and /kʷ/, but not /k/
  o even this doesn't account for all forms: *flahtom*
  o even if we search for the rule for the irregularities we don't seem to find one

This kind of change is sometimes claimed to be subject to Lexical Diffusion.

Labov (1994) sets out Li's (1982) data from 10 speakers of the Atayalic dialect of Formosa, who show lexically different behaviour on an individual level (= apparent time); the data is simplified here to show only obstruents, and the change is:
- labial > velar / __#

Table 15.2   Lexical diffusion in velar/labial shift in Skikun (from Li 1982)

	S.T. f84	S.P. f80	Y.K. f71	B.M. m65	P.S. m61	Y.S. m54	M.W. m50	Y.N. f55	H.Y. m46	Y.K. m36	W.B. m32	
qciyap	-p	-p	-p	-p	-p	-p		-p	-p	-k	'opposite shore'
ʔiyup	-p	-p	-p	-p	-p	-p		-p	-p	-k	'goshawk'
qatap–	-p	-p	-p	-p	-p	-p		-p	-p	-k	'scissors'
tgtap	-p	-p	-p	-p	-p	-k		-p	-p	-k	'to fan'
ghap	-p	-p	-p	-p	-p	-p		-p/k	-p	-k	'seed'
qurip	-p	-p	-p	-p	-p	-p		-p/k	-p	-k	'ginger'
hmap	-p	-p	-p	-p	-p	-p		-k	-k	-k	'stab'
pshup	-p	-p	-p	-p	-p	-p		-k	-p	-k	'suck'
hmop	-p	-p	-p	-p	-p	-p		-k	-p	-k	'do magic'
talap	-p	-p	-p	-p	-p	-k		-p	-k	-k	'eaves'
tgiyup	-p	-p	-p	-p	-p	-k		-k	-p	-k	'sink'
miyup	-p	-p	-p	-p	-p	-k		-k	-k	-k	'enter'
qmalup	-p	-p	-p	-p	-p	-k		-k	-k	-k	'hunt'
mgop	-p	-p	-p	-p	-p	-k		-k	-k	-k	'share one cup'
qmuyup	-p	-p	-p	-p	-p	-k		-k	-p	-k	'fold'
kmiyap	-p	-p	-p	-p	-p	-k		-k	-k	-k	'catch'
mnep	-p	-p	-p	-k	-p	-k		-k	-k	-k	'to fish'
msuyap	-p	-p	-p/k	-k	-p	-k		-k	-k	-k	'yawn'

The oldest speakers have the most of the old labials, and the younger speakers more velars, showing a standard pattern of variation in a speech community
- form most speakers, this really must be a non-exceptionless change?

Maybe, however, these changes do not involve rule-addition
- what else could they be?

A strand of thought has developed in historical phonology, largely following the ideas of John Ohala (e.g., 1981, 1993), that misperception on the part of listeners can lead to change
- this has also been taken up by Hale & Reiss and Blevins
o this is very different to assuming a rule is added

This model definitely does seem to be needed for changes like this:

ewt > newt   (the same reanalysis has occurred in *nickname, nonce, adder, apron*)
– this is very lexical-specific – most *n*-initial words have not changed

Speaker		Listener/Learner
an ewt		*a newt*
/#an##εut#/		/#a##nεut#/
↓		↑
[an+εut]	→	[a+nεut]
	misperception	
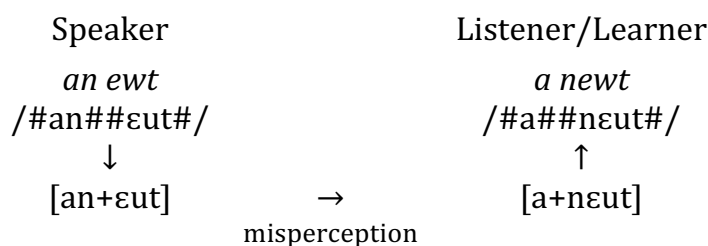
Does it work for changes that look more like the kind of thing that we've been talking about?

- Ohala (1981) cites the case of Shona glide delabialisation

	Pre-Shona	**Shona**	
w > ɣ / [LAB] __	-bwa	-bɣa	'dog'
	kumwa	kumɣa	'to drink'

"Here a labial-velar glide /w/ changed to /ɣ/ after labial consonants. Presumably listeners felt that the labial component of the /w/ was a predictable distortion introduced by the preceding labial consonant; they therefore factored in out. The velar component, however, could not be predicted by any contextual element and do it remained as /ɣ/." Ohala (1981, 188)

This crucially involves reanalysis – but not reanalysis after rule addition

- this means that a hallmark of this kind of change will be non-exceptionlessness
- why would a learner misperceive all the words with this phonology at the same time?

This means that, in the history of Gothic

- listeners at some point 'gave in' to the fact that [fl] sounds like [θl]

In the case of *fliuhan* 'flee':

Speaker		Listener/Learner
/fliuhan/		/θliuhan/
↓		↑
[fliuhan]	→	[θliuhan]
	misperception	

But this did not for all words with /fl/ – why would it?

- it occurred in *flahsjan* 'frighten, drive, chase'
- but no in *flodus* 'flood stream'

The misperceptions involved are misperceptions of individual words and there is no reason why a listener/learner who has misperceived *flahsjan* to fix its UR as /θlahsjan/ should have to also misperceive *flodus* to fix its UR as /θlodus/.

And, in the history of Atayalic...

- it is well recognised that labials and velars have an acoustic similarity, and in final position, especially, can be confused

So, speaker Y.S has done this in *msuyap* 'yawn'...

Speaker		Listener/Learner
/msuyap/		/msuyak/
↓		↑
[msuyap]	→	[msuyak]
	misperception	

...but not in *qciyap* 'opposite shore'.

NB: these kinds of change do not involve the addition of a rule at any point.

The claim here is that changes that are due to lexical diffusion are not N-changes

- because they do not affect the grammar
- they do not involve rule addition or loss, of example
- they involve the 'mis-setting' of URs = a reanalysis = by a learner
- on this model, they are a type of A-change

How to conclude this course...?

- in order to understand phonological change....

$$\Phi^x \Big/ P_i,T_1 \quad > \quad \Phi^y \Big/ P_i,T_{>1}$$

- Φ = a phonological entity
- $x \neq y$
- P = person, population, place, phonology
- T = time
- i = the same
- > = in diachronic correspondence

– we need to recognise the different types of Φ, and the different ways in which they can change

– we need to understand the different meanings of '>'