



Sound change vs. orthographic remapping: Visualising 'excrecent' <t> and <t> deletion in fifteenth-century Scots

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The FITS Project (*From Inglis To Scots*)

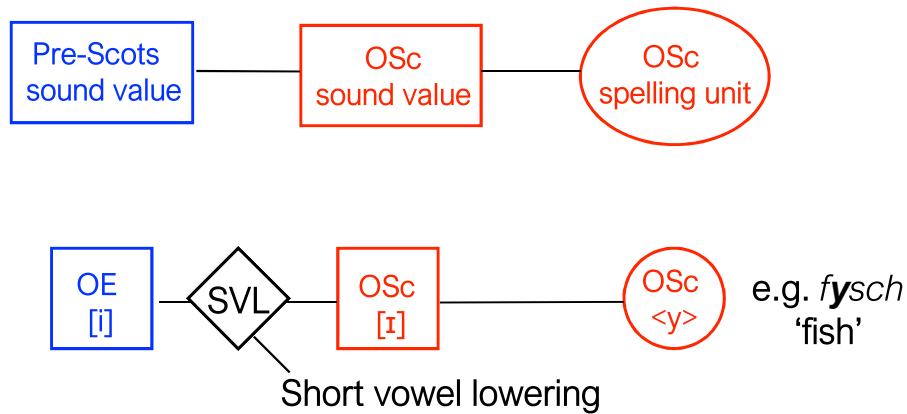
- 4-year project at the Angus McIntosh Centre for Historical Linguistics
AHRC Grant N° AH/L004542/1
- Researching the early **sound/spelling history of Scots**
- Data: *A Linguistic Atlas of Older Scots* (LAOS, Williamson, 2008)
 - c.**1250** Scots 'local documents' (c. 400k wds) dated **1380-1500**
- Restricted to **Germanic** root morphemes
- Main RQ:

**What phonological facts underlie the diversity of spelling
in Scots (1380-1500) and how did it develop?**



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The FITS corpus of triads + Corpus of Changes

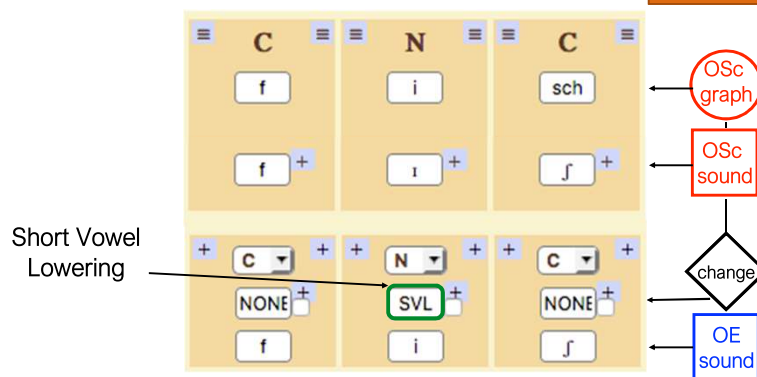


Grapho-phonological parsing (GP parsing)

- Resolves word forms into units of spelling, e.g.
 - <fisch> 'fish' <f> | <i> | <sch>
- Assign likely sound values

Linguistic context
word class, adjacent units

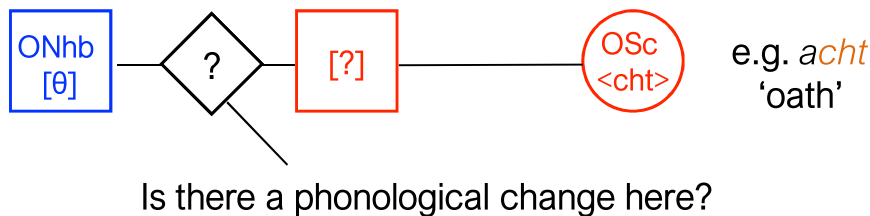
Extralinguistic info
date, location, text



Alternation between <ch>, <th> and <gh> in final and pre-<t> position: A case study

- “<ch, cht, th, tht> appear interchangeable, leading some authorities to conclude that they are just graphical variants.” (Johnston, 1997 a: 101)
- Non-etymological final <t> after /x/ and /θ/:
burght ‘burgh’, *throucht* ‘through’, *laucht* ‘law’, *yotht* ‘though’, *southt* ‘south’, *truetht* ‘truth’, *clacht* ‘cloth’, *vortht* ‘worth’, *aitht* ‘oath’
- Final <t> loss in etymological /xt/ words:
thoch ‘thought’, *auch* ‘eight’, *boch* ‘bought’, *frach* ‘freight’, *rich* ‘right’, *knighth* ‘knight’, *myth* ‘might’
- Final <ch>~<th>(~<gh>) alternation:
monecht~*monetht*, *norch*~*northt*, *clacht*~*clath*, *furcht*~*furth*~*furght*, *acht*~*ath*, *tolbuch*~*tolbut*, *lench*~*lenth*.

Uncovering OSc sound values and changes



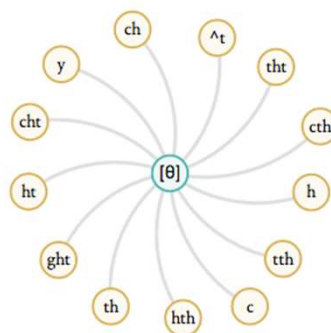
Searching the FITS Corpus:

How is root-final etymological [θ] spelled in the 15th century?

	Form	Sound	Morpheme	Grammar	Texts Text ID-Year-County-Tokens	Total tokens	Source
Morp	()cla't	Root#-kla:θ	cloth OED DSL	n	797-1490-MLO-2	2	kla:θ (ONhb)
Scots	()forth	Root#-forθ	forth OED DSL	av	63-1386-XDI-1	1	forθ (ONhb)
Scots	()furth	Root#-forθ	forth OED DSL	av	378-1461-ABD-1	2	forθ (ONhb)
Gram	()furht	Root#-forθ	forth OED DSL	av	742-1498-NRN-1	1	forθ (ONhb)
Time	()furth~	Root#-forθ-horizStroke	forth OED DSL	av	730-1465-BWK-1	5	forθ (ONhb)
Coun	()hu(n)d(er)eth	Root#-hondaraθ	hundred OED DSL	qc	394-1487-AGS-1	1	hundreθ (ON)
Text	()moth	Root#-moθ	mouth OED DSL	n	452-1493-STG-1	1	mu:θ (ONhb)
	()twelmoneht	Root#-moneθ	month OED DSL	n	1048-1437-AYR-1	1	moneθ (ONhb)
	()worth	Root#-worθ	worth OED DSL	n	477-1426-AYR-1	4	worθ (OE)
	()worthy	Root#-worθ-#deriv	worth OED DSL	aj	45-1490-ORK-2	2	worθ (OE)
	()worth~	Root#-worθ-horizStroke	worth OED DSL	n	850-1435-PBL-3	3	worθ (OE)
	()wyrdy	Root#-ward-#deriv	worth OED DSL	aj	1280-1468-FIF-1	1	wurθ (ONhb)
	()ynfurth~	Rootz-furθ-horizStroke	forth OED DSL	n	946-1496-PBL-1	1	forθ (ONhb)
	()owbuthe	Root#-beθ-e	booth OED DSL	n	1289-1468-FIF-1	1	beθ (ON)

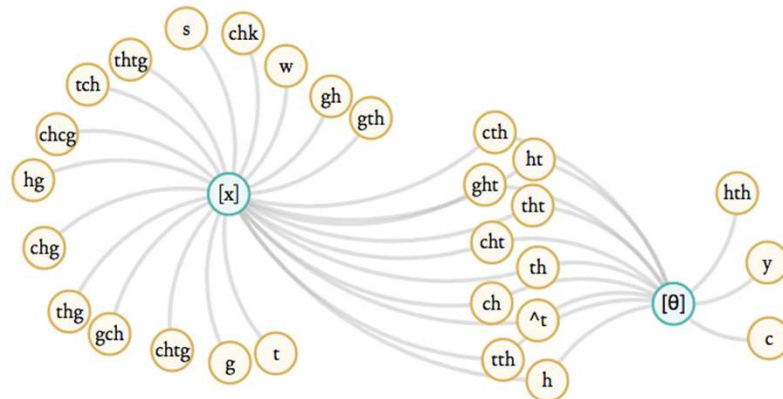
Visualising sound-spelling mappings: [Medusa](#)

[θ]	
Total attestations:	4738
[θ]=(<ʌt>):	128
[θ]=(<c>):	1
[θ]=(<ch>):	168
[θ]=(<chr>):	117
[θ]=(<cth>):	3
[θ]=(<ghr>):	1
[θ]=(<h>):	1
[θ]=(<ht>):	9
[θ]=(<hth>):	1
[θ]=(<s>):	1
[θ]=(<th>):	4057
[θ]=(<thr>):	237
[θ]=(<trh>):	3
[θ]=(<tth>):	7
[θ]=(<y>):	4



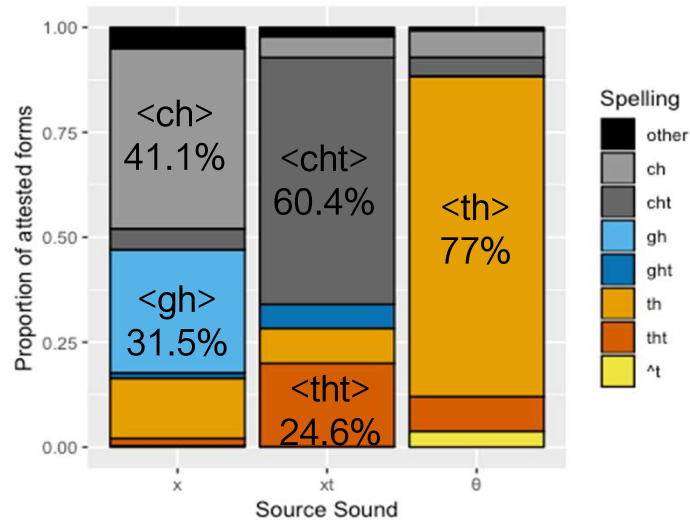
Spellings for root-final etymological [θ] in the FITS database

Overlapping spelling substitution sets in Medusa

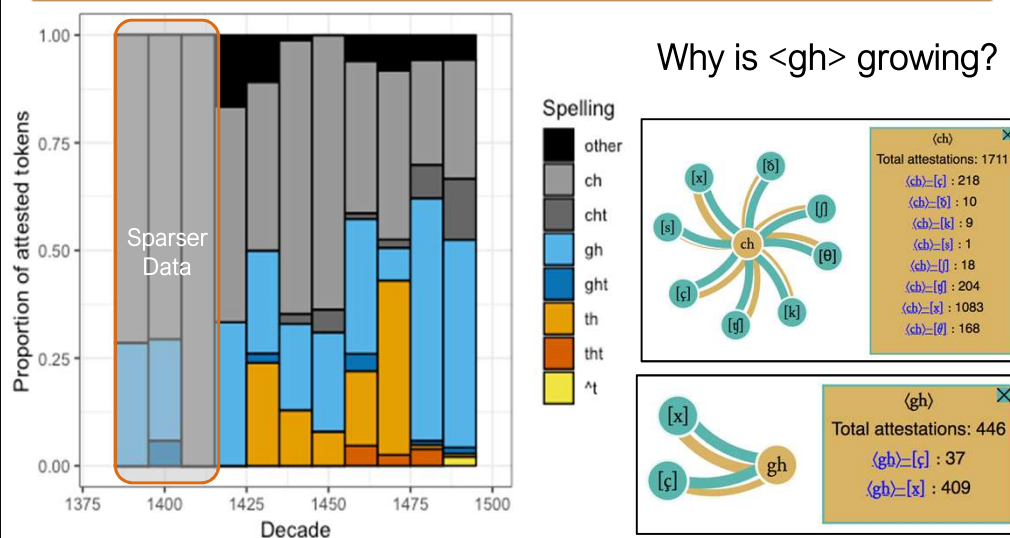


Spellings for root-final etymological [x] and [θ] in the FITS database

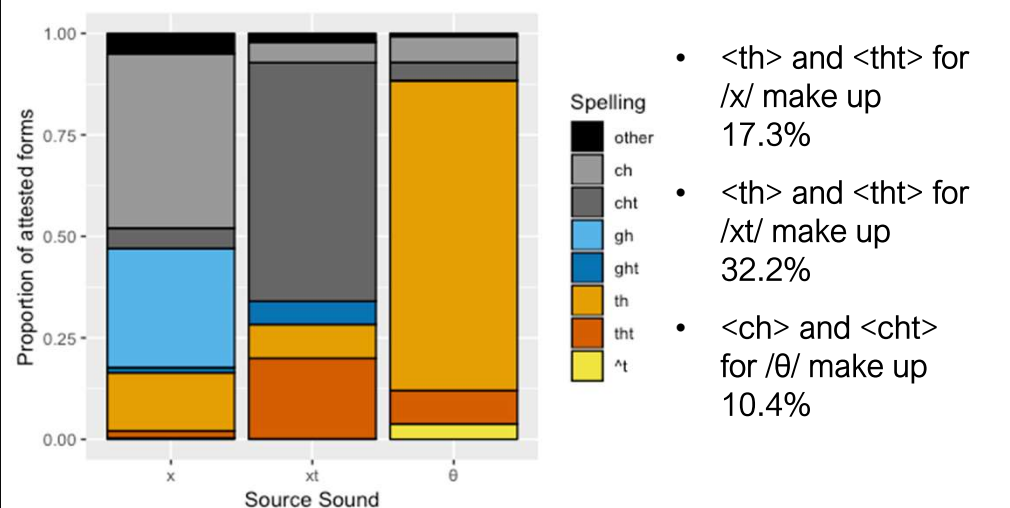
Main spelling variants by etymological category



Diachrony within our corpus: Spellings of /x/



Explaining the OSc spellings of /x/, /xt/ and /θ/



Explaining the OSc spellings of /x/, /xt/ and /θ/

We assume that the OSc scribes weren't just spelling randomly, but that there must have been a rationale for the spellings they used; we suggest two factors which explain the array of spellings:

- 1) Sound changes, still evident in Modern Scots
 - i. /xt/-Dentalisation ('Place Assimilation') (/xt/ > [θt] > [θ])
 - ii. /t/-Deletion
 - iii. /t/-Excrecence
- 2) Confusion between <t> and <c> by transcribers

A combination of these explains almost all of the variation we see in the OSc spellings of these words

/xt/ > [θ]

Present-day Scots dialects, especially in the NE, are characterized by a change, limited to a few words, of OSc /xt/ to [θ]

- e.g. *dother* (daughter), *drouth* (drought), *mith* (might)
- see Grant (1931: xxxv), Dieth (1932: 113), Johnston (1997b: 505)

Johnston (1997b: 505)

- "It must be an old change, recessive for years, if any of the <th, tht> spellings of Older Scots in the class of words really reflect [θ] and are not purely graphic... It may have covered a wider area in Older Scots."

This is also noted for Middle English, with an entry in Lass, Laing & Alcorn (2013; CoNE):

- ((TXT)) *Transposition x to theta*: "[x] > [θ] before [t] and (less commonly) finally."

/t/-Deletion and Excrescence

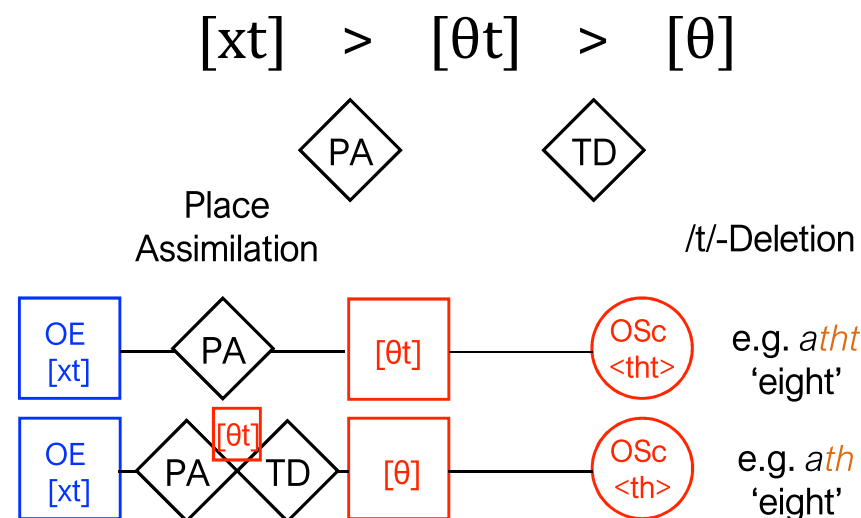
/xt/ > [θ] probably involved an intermediate stage, [θt] ('Place Assimilation'), with [θ] being the result of /t/-Deletion (cf. CoNE 'Final Coronal Deletion')

- a common but sporadic change in the history of Scots, deleting /t/ as the second member of clusters such as /xt/, /st/, /ft/, /pt/, /kt/ (Johnston 1997a: 101)
- "The sound-change /xt/ > /x/ suggested by Meurman-Solin (1997b: 121) is not noticed in the literature on the modern dialects, as far as I know, but is heard in Lanarkshire speech at the present time" (Macafee & Aitken (2002: fn 87)
- This may account for <ch> spellings of /xt/, though another explanation is also possible (see further slides)

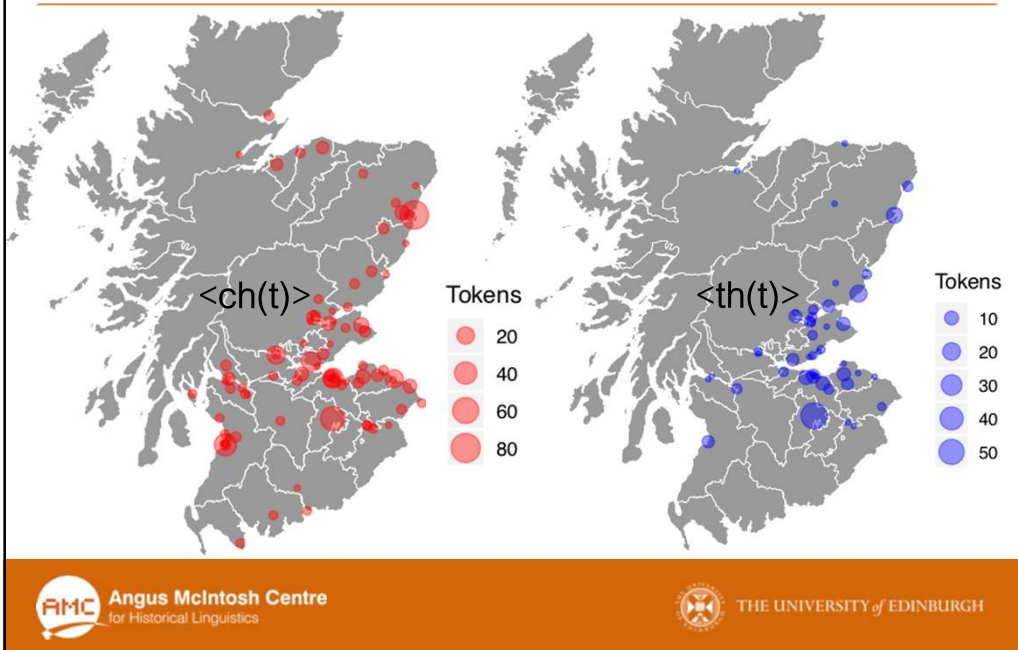
Johnston (1997a: 101) notes of OSc that:

- "Towards the end of the period, a tendency to restore /t/ in /st xt ft/ starts to work ... leading to forms with 'excrescent /t/' as well as restored forms, which can now be observed in many non-standard dialects today in England, Ireland and America, as well as Scotland" (cf. CoNE 'Final Consonant Excrescence')

<th(t)> for /xt/: The proposed changes



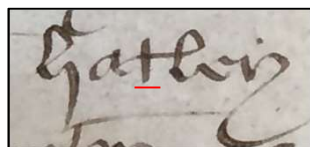
Is <th> for /xt/ a northern Older Scots feature?



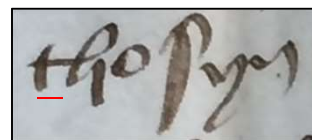
Confusion of <t> and <c> in OSc

A curious feature of OSc spelling is that <t> and <c> are very similar, and indeed are often impossible to distinguish

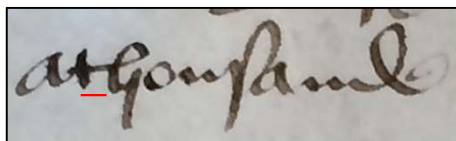
- “The interchange of <c, t> in this set is perhaps adequately explained by purely orthographic considerations, namely the confusability in secretary hand of <c> and <t>” Macafee & Aitken (2002: fn 87)



hatley



chosyn



athousand



plwthe

Transcription of '<t>' and '<c>'

Transcribers of OSc almost never confuse <t> and <c>; they are rigorously distinguished, based on their etymology, when they are used in the representation of

- [k] (<c> only, never <t>)
- [t] (<t> only, never <c>)
- [ʃ] (<c> almost exclusively)
- initial [θ] (<t> only, never <c>)

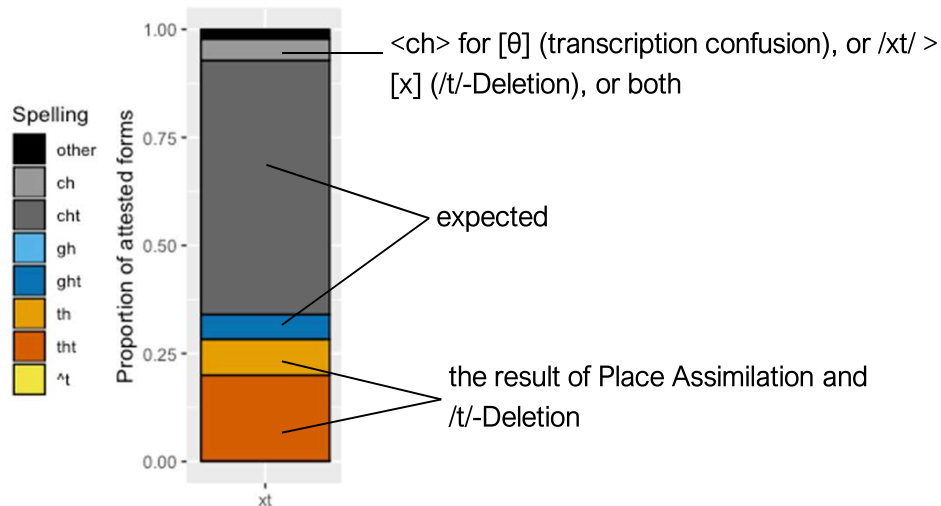
[θ]
Total attestations: 1877
[θ]-(s) : 1
[θ]-(th) : 1870
[θ]-(sch) : 3
[θ]-(y) : 3

[ɣ]
Total attestations: 212
[ɣ]-(ch) : 204
[ɣ]-(j) : 3
[ɣ]-(sch) : 4
[ɣ]-(th) : 1

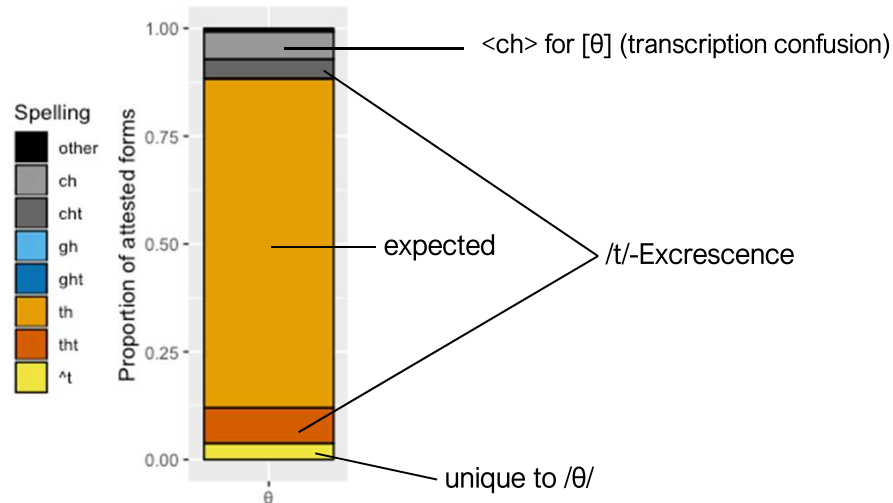
However, the same does not hold for [x], [xt], or [θ] in non-initial position, even though the written symbols are no different than those used in other environments

- here transcribers interpret some cases as <t>, others as <c>, i.e. they no longer base their decisions entirely on the etymology of the sound
- the result is that [θ] may be transcribed as <ch>, and [x] as <th>

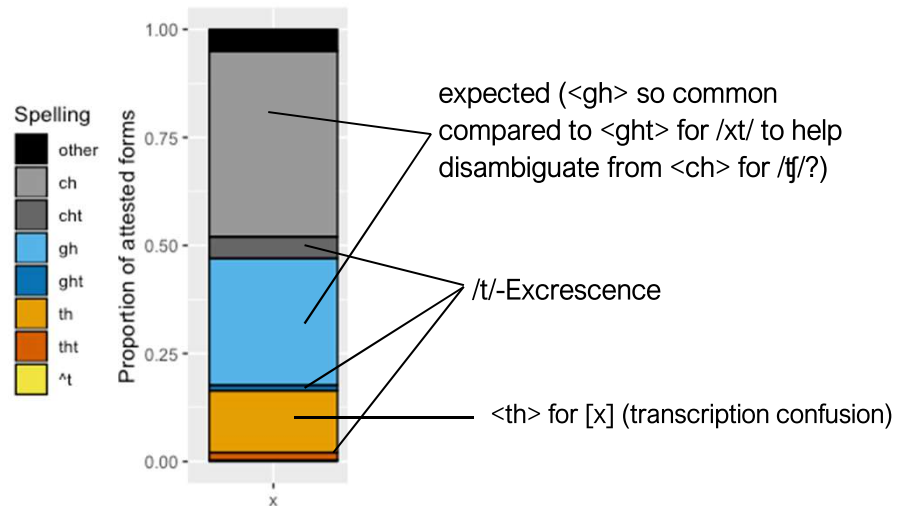
Spelling variants for /xt/ explained



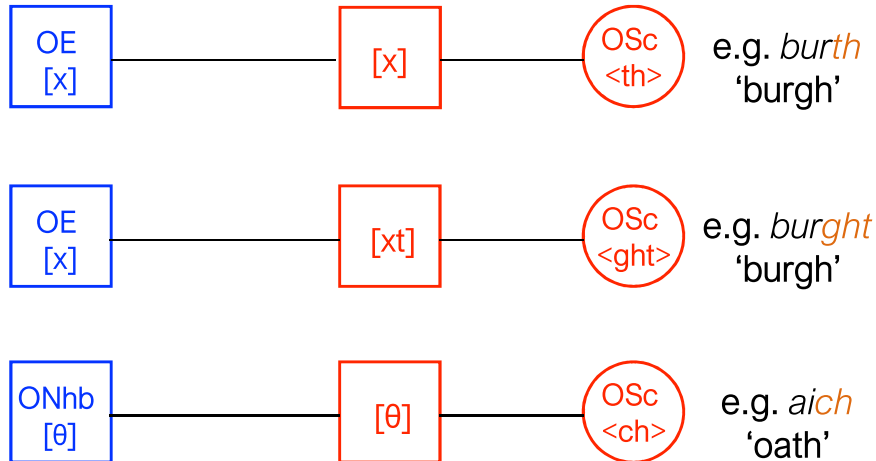
Spelling variants for /θ/ explained



Spelling variants for /x/ explained



Sample triads for etymological /x/ and /θ/:



Conclusions: <ch(t)> vs. <th(t)>

The apparently random mass of variant spellings of OSc /xt/, /x/ and /θ/ can be almost entirely explained by appeal to well-known sound changes in the history of Scots

- /xt/-Dentalisation (Place Assimilation), /t/-Deletion, and /t/-Excrescence

And confusion on the part of transcribers of the (near) identical <t> and <c>

- which gives the impression of cross-overs between /x/ and /θ/ in non-initial position

A close analysis of the data suggests that the OSc scribes knew what they were doing (even if they weren't too concerned to distinguish <t> and <c>...)

Conclusions: Tools

The FITS Corpus provides us with novel tools for historical phonology research:

- A means to visualise relationships between historical sounds and spellings
- A way of quantifying these relationships and linking them to linguistic and extralinguistic factors
- A way of visualising the distribution of sounds and spellings across time and space
- A suite of tools for generating and revising likely scenarios for sound or spelling changes



THANKS!