

# Consonant orthography and variation in the Ormulum

Andrew Cooper Stockholm University

ICEHL 22 – July 2023

This talk represents part of my current attempt to synthesise a complete phonology of Orrm's dialect, and includes some findings which are not covered to my satisfaction in previous literature. These findings represent work in progress and there are still some other gaps in the system which are unfilled.

## The *Ormulum* Project









MS Junius 1 f. 10r

2

In this, as in all things, I am endebted to NLJ. In this particular context, to his precise transcriptions of MS Junius 1 as part of the Ormulum project, which has also resulted in this year's new critical edition with the EETS (Johannesson & Cooper, 2022).

Watch this space for future publications.



### Today's talk

- The orthography of the *Ormulum*,
- Reflexes:
  - Germanic /g/, /x/ and especially OE/ON [ $\gamma$ ],
  - $< \frac{h}{\delta} >$ ,  $< h \frac{h}{\delta} >$  and  $< h h \frac{h}{\delta} >$  sequences,
  - <sc>/<sk> alternation.



3

NB: the operations of Grimm's Law require that the primary allophone of the phoneme /g/ was in fact  $[\gamma]$  and therefore the phoneme should be  $/\gamma$ / as well. Nevertheless, many sources give /g/ as the phoneme, as it represents the spelling and initial allophone, and I'm sticking with it. By the same logic the phoneme /h/ could be used instead of /x/, but it doesn't seem to go that way.

In this talk I'll be focusing on two anomalous letters, <c> and <g>, with specific reference to their various representations and the sounds they can represent.

#### **Orthography: Orrm and ME spelling conventions**



- Starting with King Alfred's **educational reforms** (c.880s), OE became progressively standardised.
- By Edward the Confessor's time (c. 1003-1066)
   the Winchester Standard had emerged,
- Official OE was written in an archaic South-Western dialect, including obsolete features,
- After the Norman Conquest, writing in English is (effectively) abandoned for nearly 100 years,
- The *Ormulum* is written in the Danelaw (approx. 1150-1180).



Page from the will of Alfred the Great

4

To put the spelling conventions of the *Ormulum* into context.

https://esawyer.lib.cam.ac.uk/charter/1507.html

https://commons.wikimedia.org/wiki/File:Alfred\_the\_Great%27s\_will.jpg

The starting point for the paper is Anderson & Britton's "Phonology and Orthography of the Ormulum" (1999). *English Language and Linguistics* 3.2: 299-334. The purpose of the present paper is to address peripheral features of the orthographic system which A & B missed, probably due either to the scope of their own study or the limitations of the editions and ms. facsimiles available at the time.



## **Orthograph: source languages**

Every analysis of Orrm's language needs to take into account at least the following source varieties:

- 1. Standard Old English (OE)
- 2. Late **Anglian** dialect (OE A)
- 3. Anglo-Norman (AN)
- 4. Old Norse (ON) or rather **Anglo-Danish** (AD)



5

### **Orthography: What Norse?**



ON almost always means Old Icelandic:

- Well attested,
- Late medieval (13th, 14th century),
- West ON dialect (distinct in 7th century).

Ormulum ON features from Anglo-Danish (AD):

- Unattested,
- Early Medieval (mostly 9th century),
- Probably Old East Norse in Orrm's area,
- Written Old Danish & Old Swedish attested from 13th century.



6

https://en.wikipedia.org/wiki/Danelaw#/media/File:England\_878.svg

Here, as always within the *Ormulum* project, I use the forms *Ormulum* and *Orrm*.

Because of this origin, we need to pay attention to the phonologies and orthographies of at least 1. Standard Old English, 2. Late Anglian, 3. The unattested Anglo-Danish, 4. Anglo-Norman.

Anglo-Danish is my chosen term and it is neither well established nor particularly defensible compared to alternatives. One bugbear of mine is that it should not be called *scandinavian* (like Sw., Da., Nor.). It is an *insular* variety of North Germanic (like Icelandic, Faroese and Norn) and subject to different sorts of areal influence and pressures.



P 7 phase pillenn shall his boc. Effe obest sibe pricenn. him bidde icc h her price pilht. Spa sum his boc ho tæcheb. All hpeppe ut affeepp hatt itt is. Vpp 7 whase wilenn shall piss boc.
Efft operr sipe writenn?
Himm bidde icc patt het write rihht.
Swa summ piss boc himm tæchepp.
All pwerrt út affterr patt itt iss?
Upp...

Orrm's orthography is incredibly consistent for an ME text:

- punctuation mostly marks verse structure, rather than syntactic breaks,
- double consonants indicate preceding short vowel,
- 'nasal strokes' above a vowel indicate a following nasal consonant,
- single consonants indicate preceding long vowel,
- acute accents redundant marking for long vowel.

7

hët here is a cliticised form of two pronouns he and itt



#### **Generalisations**

#### Orrm's orthography:

- is remarkably consistent,
- represents a regular 'semi-phonetic' analysis of his ME variety,
- is heavily corrected,
- has few extant errors in its final condition,
  - (most errors are tripled consonants over a line break),

#### Assumption (possibly leading to hypotheses):

- Orthographical features which appear to be systematic are systematic,
  - 'systematic' orthographical features have **consistent** representations depending on phonological environment of the sounds they represent.

8

I use "sounds" here to avoid the issue of whether they are phonemes allophones, segments or suprasegmental features.

"Semi-phonetic" is Burchfield's term. That is, it includes *more* distinctions than a phonological system would require, including several redundant means of marking the same features, but not as many as a truly phonetic system would (for example distinguishing between aspirated and unaspirated stops).

So free variation is to be assumed *not* to exist unless it can be demonstrated otherwise.



## Reflexes of Germanic /g/, /x/ and especially [ $\gamma$ ]



#### Reflexes: The 'stacked graph'

- Represents an ostensible phoneme /y/,
- Emerges from OE [ $\chi$ ] (intervocalic allophone of /g/ and /x/),
- An 'archiphoneme' //V// (Anderson & Britton, 1999)
- Found in words sourced from OE & ON, including loans
- 1. An re $\frac{h}{\delta}$ ell boc to foll $\frac{h}{\delta}$ enn 'a rule book to follow' (1. 8)



NB: underlying /gg, xx/  $V_V \neq /\gamma\gamma$ / (the individual segments are never intervocalic).

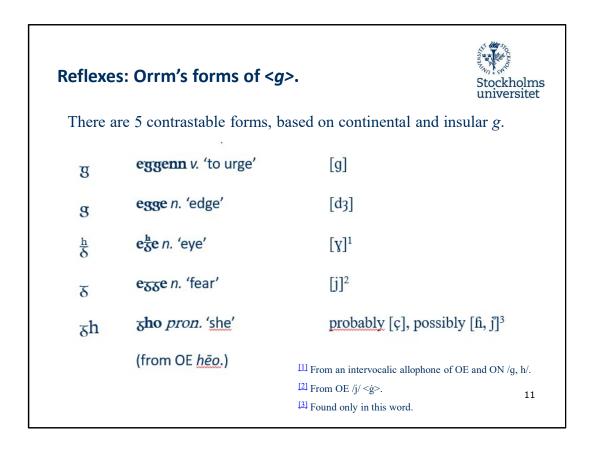
10

Anderson & Britton 1999 "Phonology and Orthography of the Ormulum"

Apologies for representation of the stacked graph. Powerpoint can't deal with the relevant superscription, and most PCs don't read our special fonts very well. I've therefore pasted in pictures of this graph where necessary.

Note that the OE infinitive is *folgian* (type ii weak verb) in which the <g> may be palatal /j/ due to being followed by a front vowel. In final position, this comes out as an /h/ as in Orm. *follh*. In OE there are inflections with /g/, but not in Orm.

Note that archiphonemes are usually identified by a capital letter. The Latin capital of  $\langle \gamma \rangle$  is  $\langle X \rangle$ , so I've used that. Printing limitations in the 90s are probably why A & B only give  $//\gamma$ . They may also have left it like that because who cares because it doesn't matter.



Orm uses the insular g with superscript h for a sound which only occurs intervocalically. It is in complementary distribution with insular g followed by h, so these could be considered allophones.

In developing these distinctions, Orrm combines insular and continental forms and makes them contrastive, with some innovative changes.

However, they have different phonological origins, as OE /he:o/ first becomes /hjo/ rather than the predicted /h $\phi$ :/ > /he:/. In this way the /o/ is retained at the expense of the diphthong. Had it done so, it would have converged with the masc.sg.nom pronoun he /he:/ during Orrm's lifetime.

Unusually, insular g with superscript h is never doubled, regardless of the quantity of the preceding vowel.



12

#### Reflexes of /x/ and functions of <h>

Orrm's  $\langle h \rangle /x/$  has the usual late OE/ME allophones:

- [h] in syllabic onsets (e.g. bihaldenn 'behold', hiderr 'hither')
- [ç] in syllabic codas after a **short** front vowel (e.g. *brihht*),
- [x] elsewhere.

'Free h' must be distinguished from 'combining h' in digraphs <sh, ch,  $\delta$ h, th, ph> and 'radical h', found only in the stacked graph  $<\frac{h}{\delta}>$ .

'Free h' shows alternation with  $/y/, <\frac{h}{6}>,$ 

The few examples with <h> after a **long** vowel indicate productivity:

- /h/ > /y/ intervocalically e.g. stih 'path' (OE  $st\bar{\imath}g$ )  $> sti_{\delta}^{h}ess$  'paths',
- $/\sqrt{2}$  /h/ **finally** e.g.  $hi\frac{\hbar}{\delta}enn$  (OE  $h\bar{\imath}gian$ ) 'to hurry' > hih 'haste'.

PGmc is the relevant level to start with as Orrm's phonology is influenced by OE and ON.

When Orrm uses the letter <h> it can represent the phoneme /x/ and that phoneme /x/ has the usual late OE/ME allophones. He also uses the grapheme <h> as combining graphs in consonantal digraphs like <sh> and as a radical graph in the stacked graph yogh with superscript (or radical) h.

However, internal <h> is always doubled, and indicates a short preceding vowel. Yogh with radical h is never doubled. This complementary distribution supports the idea that they are allophones.

I am cautious about using examples from proper nouns because they almost all reflect Anglo Norman forms. I am also loth to take into account verbal reflexes as they can incorporate irregular forms with unproductive phonological processes undergoing regularisation.

'Free h,' 'combining h' and 'radical h' are my terms and may be replaced if I find established terms that give the same distinctions. A & B gives "superposed" (p. 305 etc.) for 'radical', other authors sometimes use "superscript", although the h is never *next to* the yogh but always above it. Technical limitations in A & B's papers make it seem as though the h really is superscript, like an index number.

## **Reflexes:** $\langle h^{\underline{h}}_{\delta} \rangle$ , $\langle hh^{\underline{h}}_{\delta} \rangle$ ,



Anderson & Britton (1999) argue that these sequences:

- Represent the geminate /xx/ as in lah<sub>o</sub><sup>h</sup>enn 'to laugh' (OE A \*hlæhhan),
- Contrast with  $<\frac{h}{\delta}>$  as in  $la_{\delta}^{h}enn$  'to make low' (< Orrm lah < ON  $l\acute{a}gr$ ),
- Contrast with <hh>> which:
  - shows a preceding short vowel, (e.g. *brihht*),
  - does not occur between vowel graphs.

13

We need to consider that in Orrm's mind, the superscript letter may be the *first* in the sequence rather than the second, so that the insular g with superscript h should be considered an underlying <hg> sequence rather than <gh>. As all other systematic stackings are double letters, there is no confirmation for this. Unsystematic stackings however are always "bottom up."

The (possibly implied) sequence /xy/ (perhaps indicating delayed VOS) is indefensible (both historically and generally). (
VOS - voice onset time)

"OE A" refers to the Anglian dialect which is reconstructed as having a low front vowel in the root. Standard WS has *hlehhan* 

The disappearance of the nominative masculine suffix –r from *lágr* does not need to be accounted for.

## **Reflexes:** $\langle h^{\underline{h}}_{\delta} \rangle$ , $\langle hh^{\underline{h}}_{\delta} \rangle$ ,



2 a. De laferrd crist himm neh $\frac{h}{\delta}$ enn.	12669	A & B suggest that $\langle hh_{\Delta}^{h} \rangle$ indicates
'the Lord Christ approached him'		shortening of the
b. Wass himm full lap to nehh $_{\delta}^{\underline{h}}$ enn.	8078	preceding vowel.
'it was terrible to approach him'		Distribution suggests that the distinction
c. Þatt lahðenn her wiþþ sinne	5663	between $\langle h_{\delta}^{h}, hh_{\delta}^{h} \rangle$ is
'who laugh here with sin'		arbitrary.
d. 7 toc to lahh $\delta$ enn lhude.	8142	While *hlæhhen may have /xx/, OE nēhwian,
'and took to laughing loudly'		late OE <i>nehian</i> <b>doesn't</b> .

A & B provide these two words as examples. They disregard other words. Only \*hlaehhan can be argued to have underlying /xx/

These examples show a comparison of infinitives (b & d) with subjunctive forms (a & c). *Neh6en* (a & b) is a type ii weak verb and *lah6en* (c & d) is a type 6 strong verb (ON reflex *hlaeja*, standard OE *hliehhan*, A hlæhhan).

Andersson & Britton consider *neh6enn* an erroneous form (even though it appears twice), and argue that it does not indicate a short vowel. In fact h6 never indicates a short preceding vowel except in *hlaehhan*.

Although these are different inflections, and would have different forms in OE and ON, they have the same form in Orrm.

H6 and hh6 appear to be variants representing the same sound.

In 2b Andersson and Britton cannot not account for the OE /w/, also in the PGmc adjective stem \*nēhwaz.

What happens to the /w/ in nehwian? This is a unique example, as all other input forms (etymologies) which include /hw/ sequences have them initially, in which case they become <wh>>, or over a morpheme break

## **Reflexes:** $\langle h^{\underline{h}} \rangle$ , $\langle h h^{\underline{h}} \rangle$ ,



Anderson & Britton (1999) argue that these sequences:

- Represent the geminate /xx/ as in lah<sub>o</sub><sup>h</sup>enn 'to laugh' (OE A \*hlæhhan),
- Contrast with  $<\frac{h}{\delta}>$  as in  $la_{\delta}^{h}enn$  'to make low' (< Orrm lah < ON  $l\acute{a}gr$ ),
- Contrast with <hh>> which:
  - shows a preceding short vowel,
  - does not occur between vowel graphs.

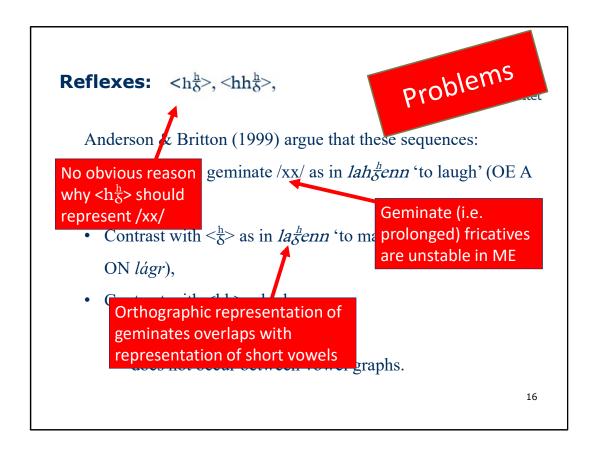
15

We need to consider that in Orrm's mind, the superscript letter may be the *first* in the sequence rather than the second, so that the insular g with superscript h should be considered an underlying <hg> sequence rather than <gh>. As all other systematic stackings are double letters, there is no confirmation for this. Unsystematic stackings however are always "bottom up."

The (possibly implied) sequence /xy/ (perhaps indicating delayed VOS) is indefensible (both historically and generally). (
VOS - voice onset time)

"OE A" refers to the Anglian dialect which is reconstructed as having a low front vowel in the root. Standard WS has *hlehhan* 

The disappearance of the nominative masculine suffix –r from *lágr* does not need to be accounted for.



There is evidence presented by A & B (mostly in their 1997 paper *Double Trouble* for geminate stops in the Ormulum). I'm steering clear of discussing stops here.

In my opinion, Orrm only has geminate fricatives in one condition: over morpheme boundaries when compounding or derivation has taken place, as in **læffull** *adj*. believing [OE *lēafful*]

There are a few plausible counter examples with double fricative graphs in a word with an OE etymon with a long vowel and geminate consonant like **lappe** n. hatred, malice [OE  $l\bar{x}\delta\delta u$ ], **wrappe** n. wrath, anger [OE  $wr\bar{a}\delta\delta u$ ], but the spelling gives away the fact that the long [æ] has been shortened and lowered to [a] before Orrm's time.

Sometimes the OE etymon has a long vowel, and no geminate, while Orrm has two consonants, such as in  $laffdi_{\overline{o}}$ . However, there is also considerable evidence of shortening in Orrm's dialect, which is not currently well described in the research literature. Watch this space for that as well.

**Reflexes:**  $\langle h_{\delta}^{\underline{h}} \rangle$ ,  $\langle hh_{\delta}^{\underline{h}} \rangle$ , without underlying /xx/



Inflected forms of lah 'low' ON lágr:

- $lah_{\delta}^{h}re$  'lower' (ON lagri) also attested as lahre,
- $la_{\delta}^{\underline{h}}esst$ , 'lowest' (ON lægstr)

 $\langle h_{\delta}^{\underline{h}}, hh_{\delta}^{\underline{h}} \rangle$  also occurs in *suhh\_{\delta}^{\underline{h}}enn* 'to sigh'

Cognates and possible etymons:

- OE swogan 'to make a rustling noise',
- OE sūcan 'to suck'
- OSw sukka 'to mourn, to pine',
- ON súga 'to suck' (usually 'to suckle'),

17

Note that in the inflections of *lagr*, there are evidently different forms of <g> underlying the three different spellings in Orrm (with <h>, <h6> and <6> respectively). These are quite consistent, 8 spellings with *lah6re*, 5 with *lahre*.

Modern cognates: Sw. sucka, Da/No sukke, Fris. suchtsjen, Ne zuchten.

## **Reflexes:** $\langle h_{\delta}^{\underline{h}} \rangle$ , $\langle h h_{\delta}^{\underline{h}} \rangle$ ,



Proposal: derivation of suhh benn

- PGmc \*saugijana / sau yi.ja.na/ 'to suckle' >
- Blend of attested descendents ON seygja + OE sūgan or ON súga

#### Additionally:

- lah he 'lower' (ON lægri)
- compared with lah (ON  $l\acute{a}gr$ ),  $la^{h}_{\delta}esst$  (ON lægstr),

#### This would suggest:

- $lah_{\delta}^{\underline{h}}enn < AD *hlægja$ 
  - compared with ON *hlæja* 'to laugh', contrasted with ON *lægja* 'to lower', conflated in Orrm when
- $lah_{\delta}^{h}re < late AD/early ME *læhwre (or *læhre)$

Meaning a merger of intervocalic ON  $\langle gj \rangle$  [ $\gamma j$ ] and (mostly) OE  $\langle hw \rangle$  [ $\gamma w$ ] in the predecessor dialects leading to a  $\langle \gamma j \rangle$  for Orrm.

18

ON "Old Norse"

AD "Anglo-Danish"

(!) indicates the speculation, an unattested intermediate form.

Note that the neutralisation of the ON contrast in late AD/early ME between  $*hl \alpha gja$  and  $l \alpha gja$ 

Something more than intervocalic assimilation /x, g/ > / $\gamma$ / is going on here, and it is *not* underlying /xx/.



## sc/sk alternation

### **Reflexes:** <sc>, <sk>



#### Orthographic history:

- OE used  $\langle sc \rangle$  for both  $/\int$  and /sk/ (from PGmc /\*sk/),
- Orrm's ME already has shirt/skirt doublets e.g. shir 'unmixed' from OE and skir 'clear' from ON,
- <sk> is found frequently in e.g.:
  - skarn (AN escarnir), skinn 'skin' (ON skinn)
- However, for Orrm initial <sc> is found in a few words:

3. a. To scrennkenn menness sawless. 1405 'to ensnare men's souls'

b. Swa – summ itt wære scorrenedd laf? 1474 'as if it were a dried-out loaf'

c. 7 wælinng word purrh scaldess? 2192 'and wanton words through scolds'

d. Folike 7 scone 7 faggerr. 15665 'joyful and beautiful and fair'

Note that a doublet is a pair of cognates, not a type of shirt.

Note that the modern reflex of this word is obsolete, it is not an ancestor of *sheer*, even though the meaning is very similar.

Internal <-sc-> is found in *bisscopp* (L. episcopus, e.g. 1022), which is also occasionally spelled with <-sk-> (e.g. 9483).



### **Reflexes:** <sc>, <sk> - alternation

- 3. a. To scrennkenn menness sawless. 1405 'to ensnare men's souls'
  - Derived from OE screncen 'to ensnare',
  - Presumably therefore pronounced ['ʃrenkɛn] in late OE A.

However, skrennkenn is also found:

- *scrennkenn* (1405, 2618, 11816, 11861)
- *skrennkenn* (11467, 12074);

Compare: **internal** <-sc-> is found in e.g. *bisscopp* 'bishop'

- OE A biscop /bifop/
- L. episcopus, (e.g. 1022),
- bisshop (7205, 9494) bisskop (7233, 9184, 9483) also attested

21

Only one English word with initial <sc> (scrennkenn) shows any variability.

I'm not too sure about the qualities of the stressed versus unstressed e's at this point. Are they not all already raised to  $\epsilon$ ?

Bisshop only found in bishoppess.

Note that in scrennkenn, the internal *k* never changes,

## **Reflexes:** <sc>, <sk> - functions of <c> Stockholms



Common functions all represent /k/:

- /k/ when alone in onsets & codas
  - e.g. camb 'comb', bacc 'back',
- replacing <k> in doublings
  - e.g. slecken (also slekken) 'extinguish' (OSw slækkia),
- /k/ in alteration with <k>
  - e.g. swillc 'such' swillke 'such.WK, such.PL',
  - before <n> as in *takenn* 'token' *tacness* PL (OE *tacn*)

Other familiar functions:

• /tʃ/ combined with <h> in <ch, cch> e.g. bacch 'backwards', bennche 'bench' and in icc 'I'.

22

Just like ModE, <c> fulfils all of the functions of <k> but also has other functions too. The influence of French is also relevant. <k> was peripheral in older French.

Note that *scribe* here is from the Latin vocative plural with the lemma *scriba*. This is not the common medieval job title, but the religiously powerful legal caste in New Testament Hebrew Judea (*soferim*), hence the capital in modern English. Orrm does not use capital letters for proper names.

There is an ON cognate of *slækkia* which is *slökkva* and that's found in J&C's glossary. However, this is an Old West Norse form which is more distant from AD than the attested Old Swedish form.

$$WK = weak$$
,  $PL = plural$ 

Note that the *taken-tacness* pair also shows epenthesis of /e/ in breaches of the sonority sequences in codas. See Riad, T. 2014. *The Phonology of Swedish* for a description of the same feature.

## **Reflexes:** <sc>, <sk> - functions of <c>



#### But also:

- /ts/ in *millce n*. 'mercy' (OE *milts*), *blettcen* 'to bless' (OE *blētsian*), <ce>, (possibly /s/ in e.g. *saducew* 'Sadducee' (AN *saduceu*))
- devoiced /g/ in *strenncpe* 'strength' (OE *strengð*)

23

Just like ModE, <c> fulfils all of the functions of <k> but also has other functions too. The influence of French is also relevant. <k> was peripheral in older French.

Note that *scribe* here is from the Latin vocative plural with the lemma *scriba*. This is not the common medieval job title, but the religiously powerful legal caste in New Testament Hebrew Judea (*soferim*), hence the capital in modern English. Orrm does not use capital letters for proper names.

There is an ON cognate of *slækkia* which is *slökkva* and that's found in J&C's glossary. However, this is an Old West Norse form which is more distant from AD than the attested Old Swedish form.

I wonder if there is some affrication in *saducew* from the French etymon

#### **Reflexes:** <sc>, <sk>



b. Swa – summ itt wære scorrenedd laf? 1474 'as if it were a dried-out loaf'

#### scorrcnenn

Possible etymologies (all cognates to unattested AD etymon):

- MED gives ON skorpna 'to shrivel up', Sw. Dialect skorkn (error),
  - Requires unaccountable p > k mutation
- OSw. storkna 'to stiffen' < PGmc \*sterkang < PiE \*sterg- 'stiff'
  - Also requires consonant harmony with t > k (less unusual than p > k),
  - /skj-/, /stj-/ merge with /sk/ in (much) later Scandinavian to /ʃ/ or similar),

24

MED = Middle English Dictionary https://quod.lib.umich.edu/m/middle-englishdictionary/dictionary?utf8=%E2%9C%93&search\_field=hnf&q=scorcnen

Outside of the MED, there is no evidence for skorkn

Skorkn must be an error in the MED; the final /rkn/ sequence is not phonotactically licit in Swedish (breaks sonority sequence and Swedish has no schwa which might allow the consonants to be separated) and in any case all Swedish verbs have etymological final /a/ in the infinitive. A printer may mistake an <a> for an <n> , but there is no incidence of skorka or skorkna either. Even in corrected forms, and taking account possible variations and diacritics this word is completely absent from Swedish sources, including the Swedish academy's exhaustive dictionaries and the usually thorough Svenska Landsmål och Svenskt Folkliv archives. Skorpna is found in both collections.

## **Reflexes:** <sc>, <sk> - Summary



<c> is preferred at the **end** of words and before <n, w>, and some vowels

<ka, ke, ki> sequences are common,

<ko, ca> rare (only in bisskopp, scald),

<ku, kn, kw> are absent,

<co, cu, cn, cw> are common,

<ce, ci> indicate value /ts/.

<sc, sk> and <c, k> can therefore be argued to be in complementary distribution.

25

Just like ModE, <c> fulfils all of the functions of <k> but also has other functions too. The influence of French is also relevant. <k> was peripheral in older French.

Note that *scribe* here is from the Latin vocative plural with the lemma *scriba*. This is not the common medieval job title, but the religiously powerful legal caste in New Testament Hebrew Judea (*soferim*), hence the capital in modern English. Orrm does not use capital letters for proper names.

There is an ON cognate of *slækkia* which is *slökkva* and that's found in J&C's glossary. However, this is an Old West Norse form which is more distant from AD than the attested Old Swedish form.

I wonder if there is some affrication in *saducew* from the French etymon



#### **Conclusions**

Orrm's orthography is so regular that broad phonological claims can be based on scant orthographical evidence.

Consonantal variation:

- $\langle h_{\delta}^{\underline{h}} \rangle$ ,  $\langle h h_{\delta}^{\underline{h}} \rangle$ 
  - are variants of each other but not of  $<\frac{h}{\delta}>$ ,
  - represent a neutralisation of intervocalic allophones of /gj/ and /hw/ sequences
  - are pronounced [γj],
- <c, k> are partial allographs, <sc, sk> likewise,
  - conditioned by shape or absence of following letter,
  - scorrcenn remains anomalous.

26

You'll forgive me if I don't really know where I'm going with this. The goal is to produce a full phonological analysis of Orrm's variety of ME. Our upcoming volume (Pons-Sanz et al.) will include a state-of-the-art description of the phonology of this variety.

All references are contained in the notes for the pages in which they are referenced.