Restoration, Palaeographical Knowledge Bases and Classification of Letter-forms

Peter A. Stokes

... Dotild · Dunsten · Osbern · Churcum · Asketil · Raculf · Thyl
Mathilsthan · Boda War · Berki · Esel · Peure · Osbern · Estret · Leculf · Osau
... Thoue · Sure · Thurure · Eshil Estret · Loedn · Godefrid · Osmar
Quessing · Thure · Thoue · Thereberg Oresia · Æthelold Herunod
Will · Godric · Agelric · Hedne · Actin · Leinrune ... William ...
... Laurald Dade Bonild Peburgiu Reinold Estrild Baldunin William Osmund
Colbrand · Thoricha · Thorulf Thorburch fiua · Aldpif · Actor · Oresie ·
Gaufrid · Wisgord · Hormann · Aldred · Libe · Albrecha bold...
Raulf · Osaald · Anfrech · Pua · Thos fiaura ...
... Siuard Thos · Thorlouer · Thori ...
... Suan ... Will ... Seman · Raulf · Haret · Alet · ...
... Alfe · Queold · Serun · Osaild · Adith · Thurbern · Pua ·
... Radt ... Kodt · Raulf · ...
...
...
...
... Soum Peter ... Albrith Achill Thor Alat Gozel ...
...
... Alfred Gosa Soll ... Wauid Conus ... Suri ...
... Deberch Bonild · William · Racul · Raulf
Uthgar Brihtmund Boenir Ingulais Gamelo Racar R...
Gamelo · Sigar Asuatil · Osuuard · Lisgeur · Godgeue · Churiu · Godg...
Aluredo · Ranald Will · Aluric · Will ·
... Ricardus Alfred + Radulf + Archillus. Snædisa ...
... Ainsi Gamelo yazelin William Adric Arnich ·
... Horbe Bare Keol Turchel Durt ...
... Turchel Bozun Gunnild ...
... Lefulf Swarcbosche hulchill lans ramald

'How to organize and access palaeographical knowledge in order to use it as evidence in an emerging interpretation.'

'[Palaeographers] are all too often regarded as repositories of authoritative dogma.'

D. Ganz [Prof. of Palaeography, KCL],
'Editorial Palaeography', *Gazette du livre médiéval* 16 (1990), p. 11

'[Palaeography is] an authoritarian discipline, the pertinence of which depends on the authority of the author and the faith of the reader.'

A. Derolez [Prof. Emeritus, President *CIPL*],
The Palaeography of Gothic Manuscript Books (2003), p. 9

'It is obvious that one cannot prove that two texts were penned by the same hand. The only way to persuade other people that this is so is to show them, to give them the feeling that it is the same hand.'

C. Sirat, *Writing as Handwork* (2006), p. 493

'The dating and localizing of most manuscripts will always be informed guesswork.'

Ganz, 'Editorial Palaeography', p. 11

'... the low esteem in which palaeography is currently held as an academic discipline...'

Derolez, *The Palaeography* (2003), p. 2

'How is it possible to proceed in such a way that the description of a specimen of handwriting is as clear and convincing to its reader as it is to its author? An obvious answer is: by replacing qualitative data by quantitative ones.'

Derolez, *The Palaeography* (2003), pp. 7–8

Computational Palaeography?
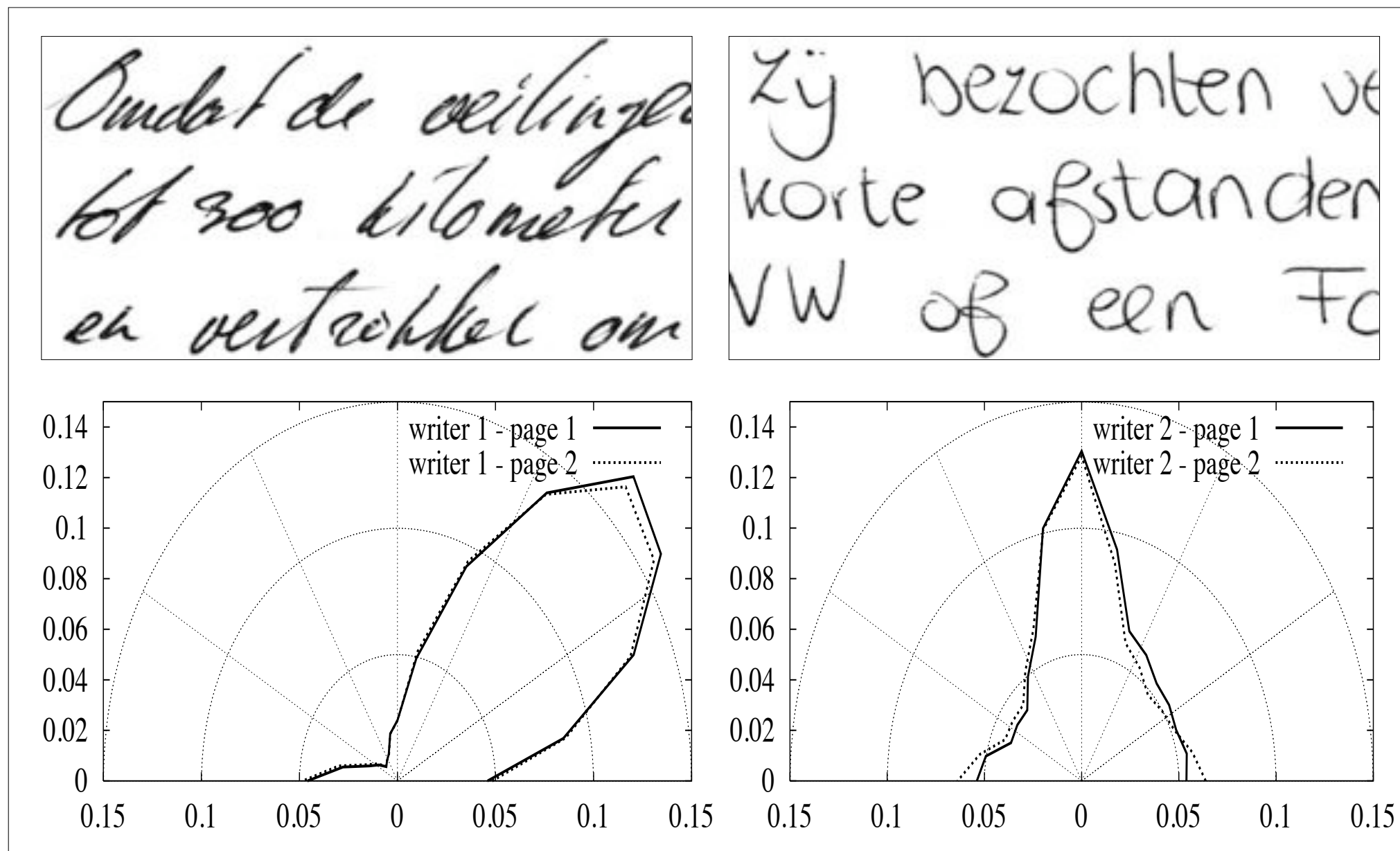
Bulacu, Schomaker and Vuurpijl, 'Writer Identification',
Proc. 7th ICDAR (2003)

Computational Palaeography?

'These [computational] methods are unlikely to replace, though they may supplement, the work of the document analyst,' because, however powerful computers will (surely) become, it will probably not be possible to cross-examine them.'

T. Davis, 'The Practice of Handwriting Identification', *The Library* (2007), p. 266 n. 27

Palaeographical Databases?

Decision Support System

- 'This system will guide the users, record their decisions, and enable them to track their previous hypotheses and decisions.'

- 'It will … [provide] tools for word-searches and for character recognition.'

- '[I]t is important to have knowledge bases of phrases, words or letter-forms from which to draw comparisons.'

Problems with Databases

1. How do we search for letter-forms?

2. How do we deal with image rights?

3. How do we ensure sustainability?

([d wedged ▼] OR [▼] OR [▼])
AND [▼] OR [▼] OR [▼])
AND [▼] OR [▼] OR [▼])
AND [▼] OR [▼] OR [▼])
AND [▼] OR [▼] OR [▼])
AND [▼] OR [▼] OR [▼])

Order By

⦿ Place, Date ○ Date, Place ○ Place, Script ○ Date, Script ○ Script Only

Limit To

☑ Relevant ☐ Memb.disj. ▦ Glosses ▦ Bookhands ▦ Documentary

▦ Ins in Lat ▦ A-C in OE ▦ Scribbles   11 matching hands

S.950-1	Main Hand	CaCC	Saec. xi1/4
G.577-1	Main Hand	SE England	Saec. xi1
G.914-1	Directions, Hand 1 (91r18--22)	Unknown	Saec. xi1
G.917-1	Decree (75v)	Unknown	Saec. xi1
G.358-1	Main Hand	Unknown (Malms.	Saec. xi1
G.54-2	Hand 2 (pp. 170--270)	Unknown (Worces	Saec. xi1
S.1399-1	Main Hand	Worcester	Saec. xi2/4
S.1394-1	Main Hand	Worcester	Saec. xi med.
G.774-1	First Land Survey (156v)	York	Saec. xi1/4
G.774-2	Second Land Survey (157r1--7)	York	Saec. xi1/4
G.774-4	OE Additions (158r--160v, 161v1--13)	York	Saec. xi1/4

P.A. Stokes, 'Digital Image Processing', *Digital Medievalist* 3 (2007/8)

York | Worcester | ▒ Ins in Lat
Worcester (and Yor | Worcester or York | Order By
| | ◉ Frequency
| | ○ Feature

44 matching hands
56 hands total

Asc.	wedged	44
c	round	40
Minim	feet horiz.	37
ð	long	37
Asc.	long	36
e	round	35
ð	hook down	35
y	straight dotted	35
Desc.	straight	34
a	teardrop	34
e	horned	34
s	low	33
Minim	attack-stroke	30
e	angled tongue	29
þð	conventional	28
ð	vertical tip	28
g	flat-topped	27
7	vertical desc.	27
g	open	26
7	hooked left top	26
d	45-degree	24
Desc.	long	23
æ	teardrop	23
Aspct	shaded	22
g	closed	22
hmn	minims rounded	22
r	angled shoulder	21

G.55-1	Main Hand
G.64-1	Hand 1 (fols. iii, 1--23)
G.64-2	Hand 2 (fols. 24--87, 16
G.64-3	Hand 3 (fols 88--149, 20
G.64-4	Hand 4 (fols. 248--87)
G.64-5	Hand 5 (fols. 150--9, 21
G.64-6	Hand 6 (fols. 328r--50r,
G.64-7	Hand 7 (fols. 350r--359r
G.64-8	Hand 8 (fols. 291r--321r
G.294-1	Sermon notes (57v--58r)
G.314-1	Metrical Inscription (31v
G.314-3	Sinodalia Decreta (35v--
G.341-1	Hand 1 (fols. 70--96)
G.341-3	Hand 3 (100v--105v)
G.341-4	Hand 4 (fols. 109--20)
G.341-5	Additions (100v1--4, 102
G.366-1	Main Hand 1 (47r--62v,
G.366-2	Main Hand 2 (9r--20r, 22
G.366-3	Main Hand 3 (39r--44r)
G.366-4	Main Hand 4 (63r--101v
G.366-5	Main Hand 5 (103r--109
G.366-6	Note of Dues (109v)
G.366-7	Additions (115v--16v, 'a

- 'Essentially Caroline' minuscule (Ker, 1957)
- 'Anglo-Insular' minuscule (Boyle, 1980)
- 'Anglo-Saxon Round minuscule' (T.J. Brown, 1990)
- 'Anglo-Saxon Vernacular minuscule' (Dumville, 2001)
- 'English Caroline minuscule' (Roberts, 2005)
- 'English Vernacular minuscule' (Stokes, 2005)
- 'Anglo-Saxon Insular minuscule' (Da Rold, ?2006)
- 'The script with letter-forms that derive ultimately from the old Insular minuscules' (M. Brown, 2009)

Bodleian Auct. D.2.16, 1r (detail)

'If we are really to capitalize on the potential that the digital scriptorium seems to guarantee ... the blurriness of palaeography and its organizing principles might usefully be appraised and considered carefully with a view to eliminating the widespread variability of description and the arbitrariness of evaluative analysis.'

E. Treharne, 'The Good, The Bad, The Ugly' (forthcoming)

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1824

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MANCASS C11 Database Project

An Inventory of Script and Spellings in Eleventh-Century English, an **AHRB-Funded** Project

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We gratefully acknowledge the kind permission of the University of Michigan Press to show adapted passages from The Dictionary of Old English Corpus in Electronic form, by Antonette di

<http://www.arts.manchester.ac.uk/mancass/C11database/>

S.4 known as: **Ælsinus**

[A] forward-sloping hand...The æg and æt ligatures and the upward slope to the cross-bar of f are noteworthy (Ker, p. 340); a forward sloping hand of marked character (Ker, p. 266).

MS: Cambridge, Trinity College R. 15. 32 **Sequence:** 15r - 26r

MS: London, British Library Cotton Titus D. xxvii **Sequence:** 30r - 55r

MS: London, British Library Stowe 944 **Sequence:** 29v (line 1) - 39v (line 16)

MS: London, British Library Stowe 944 **Sequence:** 57r (line 1) - 57v (line 19)

MS: London, British Library Stowe 944 **Sequence:** 59v (line 26) - 60r (line 25)

This hand contains letters resembling:

<http://www.arts.manchester.ac.uk/mancass/C11database/data/scriptors.php>

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PALAEOGRAPHY CATALOGUE

The number of sequences a letter has been assigned to is shown. Follow link to see a listing of those sequences
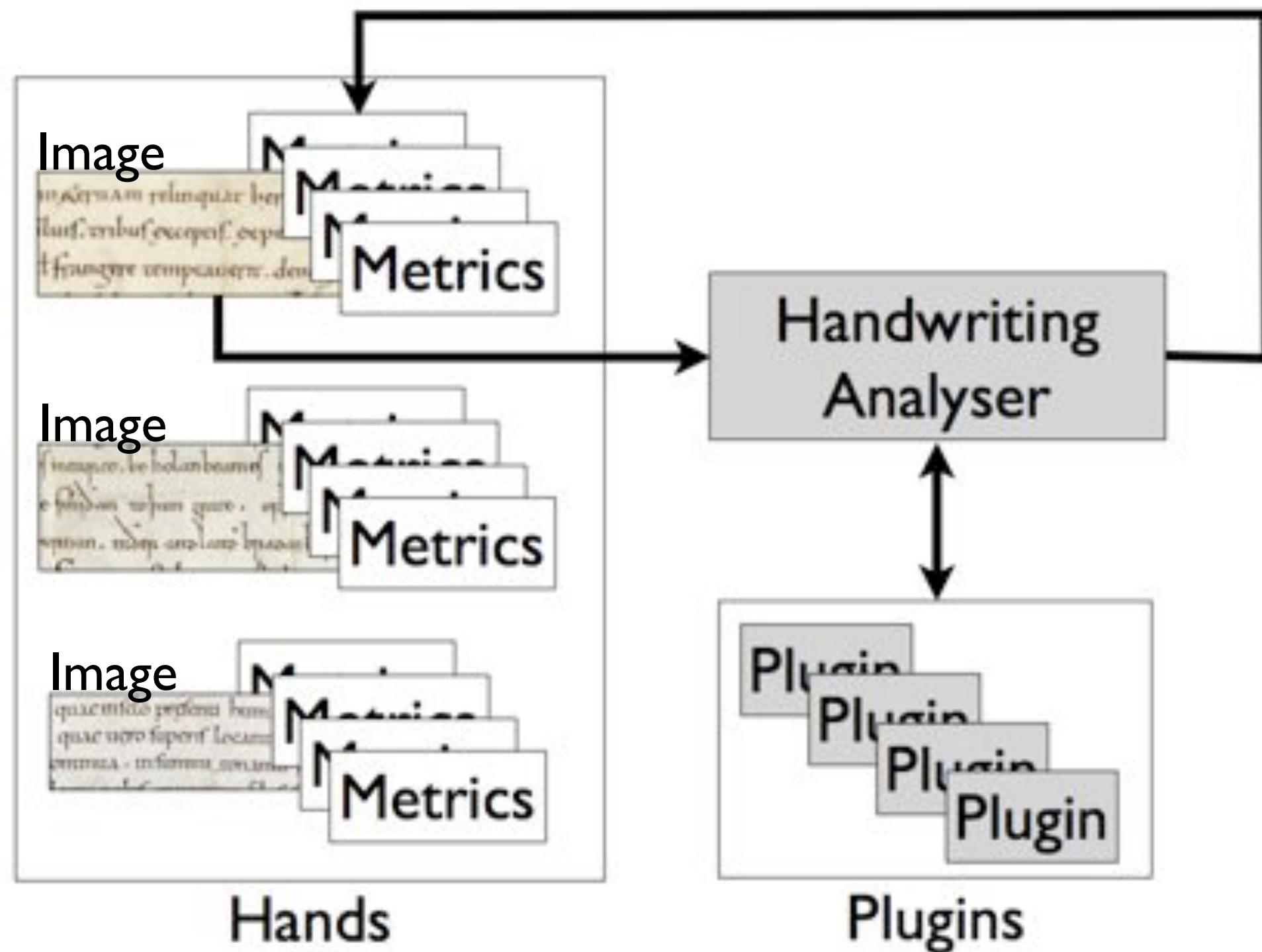

48

36

40

27

<http://www.arts.manchester.ac.uk/mancass/C11database/data/letter_catalogue.php>

Palaeographical Criteria

- Aspect
- Ductus
- Letter-forms
- Mannerisms

- Pen angle
- Weight
- Shading
- Shakiness

- Orthography
- Abbreviations
- Punctuation
- Textual Apparatus

P.A. Stokes, 'Computer-Aided Palaeography', *Kodikologie und Paläographie im Digitalen Zeitalter* (2009), 309ff

Where to from here?

Stokes, 'Computer-Aided Palaeography' (2009), p. 328

Database II:
Web Interface

5. Cambridge, Corpus Christi College 162, pp. 1–138, 161–564   K38   G50

Content: Homilies* (most by Ælfric) : s. x ex. or xi in., SE England. Ker: Rather numerous alterations and additions in later hands of s. xi, with SE spellings (eg pp. 299, 331, 359, 412, 458, 528).

'Annotator'			Edit
Added homily (p. 563/8–23)	G50-2	Hand details	Edit
Additions	G50-5	Hand details	Edit
Early Corrector (e.g. pp. 174, 198)	G50-3	Hand details	Edit
Main Hand	G50-1	Hand details	Edit
Other Corrector(s) (pp. 161–75)	G50-4	Hand details	Edit

Compare hands in this MS   Edit

6. Cambridge, Corpus Christi College 178, pp. 1–270   K41.2   G54

Content: [with 162, pp. 139–160] Ælfric, Hexameron*, (version of Alcuin's) Interrogationes Sigewulfi in Genesin*, Homilies*, De duodecim abusivis saeculi* ; Two anon. texts* : s. xi1, prov. Worcester. Ker: 'There are occasional alterations of s. xi med. in several hands.' Ker, p. lvi: Annotated by Coleman on p. 229.

Annotation; Signed Note (pp. 97?; 229)			Edit
Annotator 2 (pp. 254, 255)	G54-3	Hand details	Edit
Annotator 3 (pp. 126, 129)			Edit
Hand 1 (pp. 1–169, and CCCC 162, pp. 139–60)	G54-1	Hand details	Edit
Hand 2 (pp. 170–270)	G54-2	Hand details	Edit

Compare hands in this MS   Edit

Database:
Royal Writs of *saec*. xi *med*.
(S1071, S1084, S1088, S1105, S1126, S1140, S1156)
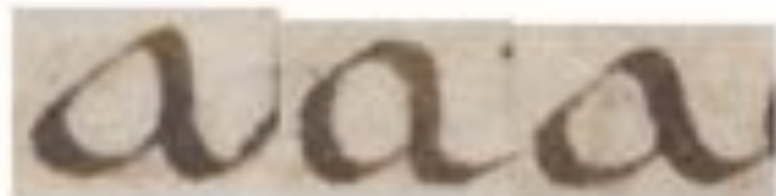
a			
S1400-1		1038×1050 CaCC	Hand MS Img.
S1467-1		1037×1040 CaCC	Hand MS Img.
S1471-1		ca 1045 CaCC	Hand MS Img.
S1472-1		1044×1045 CaCC	Hand MS Img.
S1473-1		1044×1048 CaCC	Hand MS Img.
S1530-1		1042×1043 CaCC	Hand MS Img.
S1530.2-1			Hand MS Img.

Database:
Timeline

Forms of a in eleventh century vernacular minuscule

G108-1

Wed, 01 Jan 1000 00:00:00 GMT
Fri, 01 Jan 1030 00:00:00 GMT

A 'confusing patchwork of policies [for image rights which] … is hindering new research and publication in the humanities.'

Max Planck Institute, *Call for Open Access* (2009)

Where to from here?

Any evidence must be:

- Reproducible
- Communicable (and communicated)
- Debatable
- (Ideally) verifiable

Where to from here?

- One resource which unites existing catalogues, databases, digitised MSS.

- Includes a database which allows searching by letter-form, with photographs of letters and links to complete online MSS.

- Ideally, allows users to add and share information.

- Must be extensible, flexible, modular, standards-compliant, and especially *human-centred*.

- The 'hard' technology is already here: the challenge is with *us*.

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