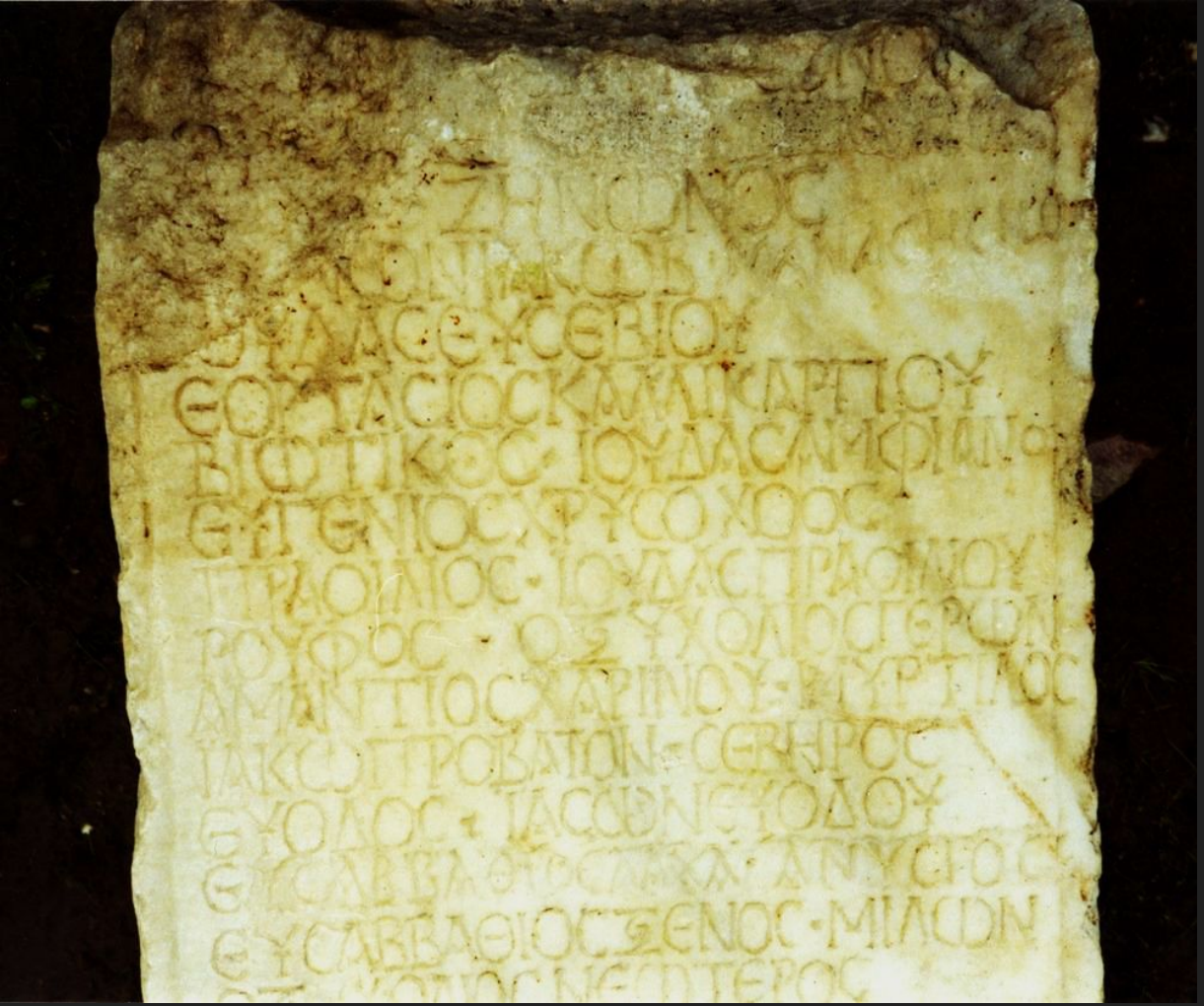
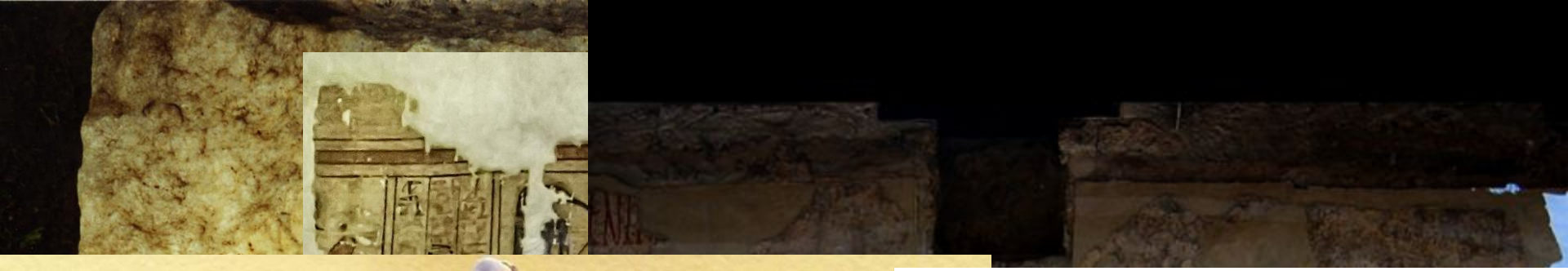
Palaeography, Epigraphy and Digital Editing

Gabriel Bodard, University of London
Martina Filosa, University of Cologne
Nora White, Maynooth University

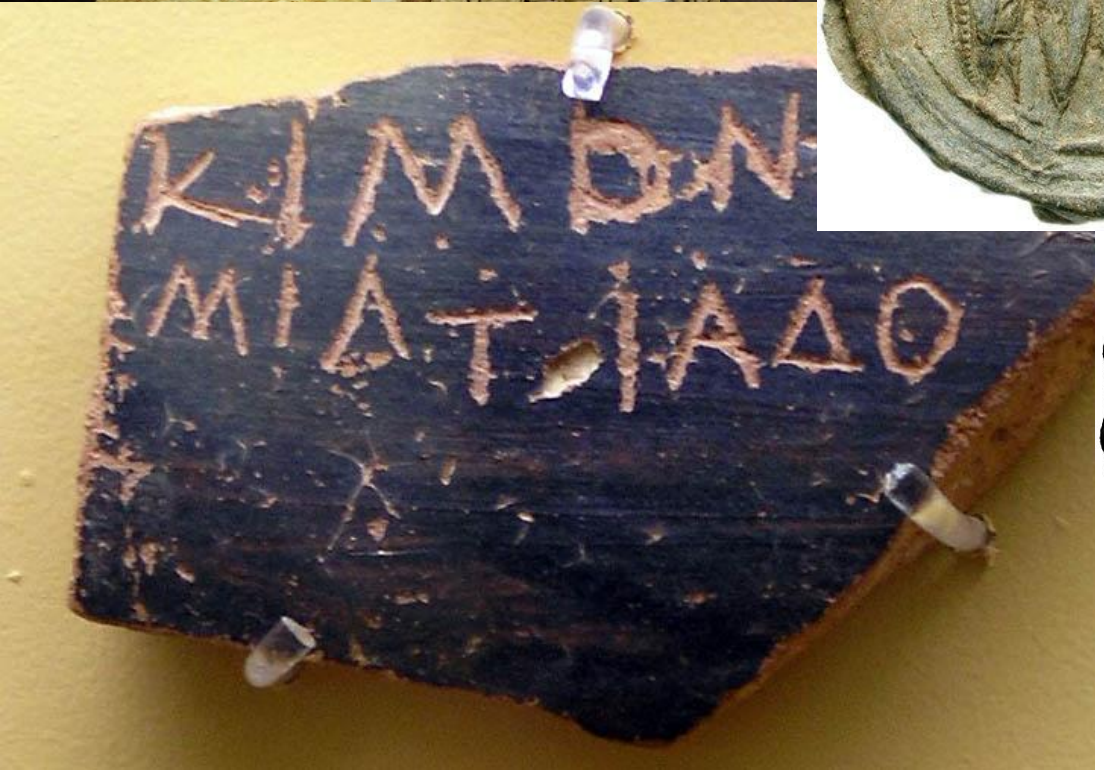
- Palaeography and epigraphy
- Editing & digital editing
- Object history: Mediaeval Irish and Ogham inscriptions
- Process and metadata: Byzantine seals
- Discussion: legal and ethical responsibilities with digital editing

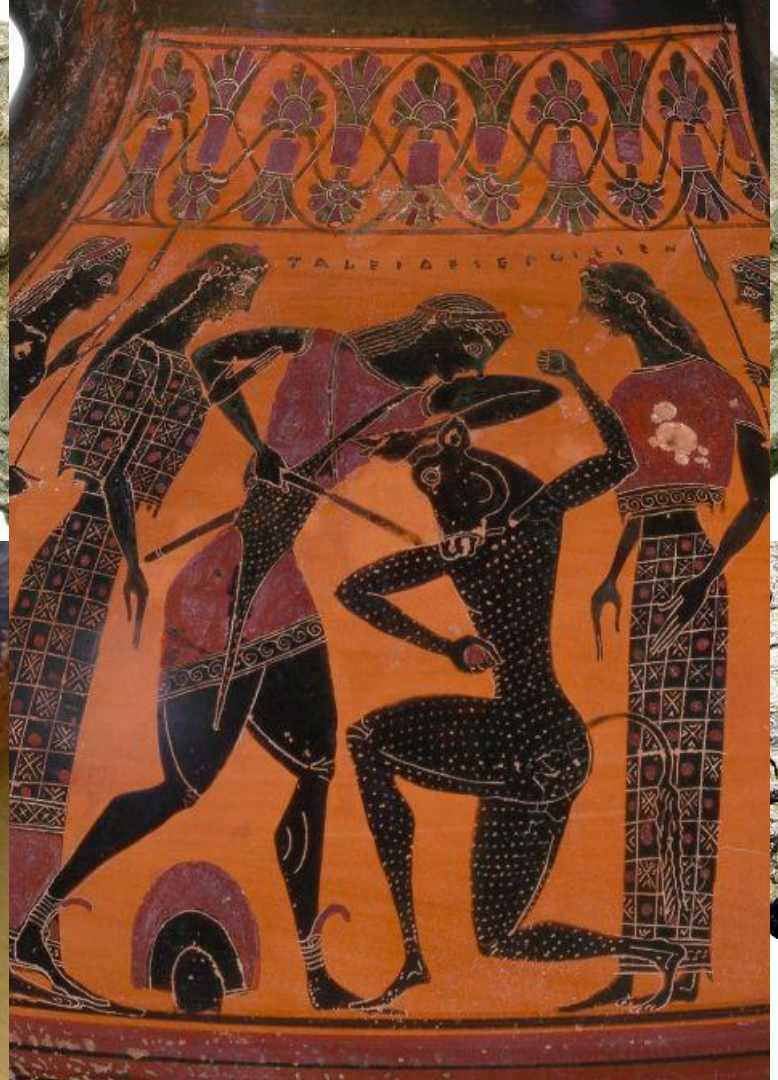
Palaeography and Epigraphy

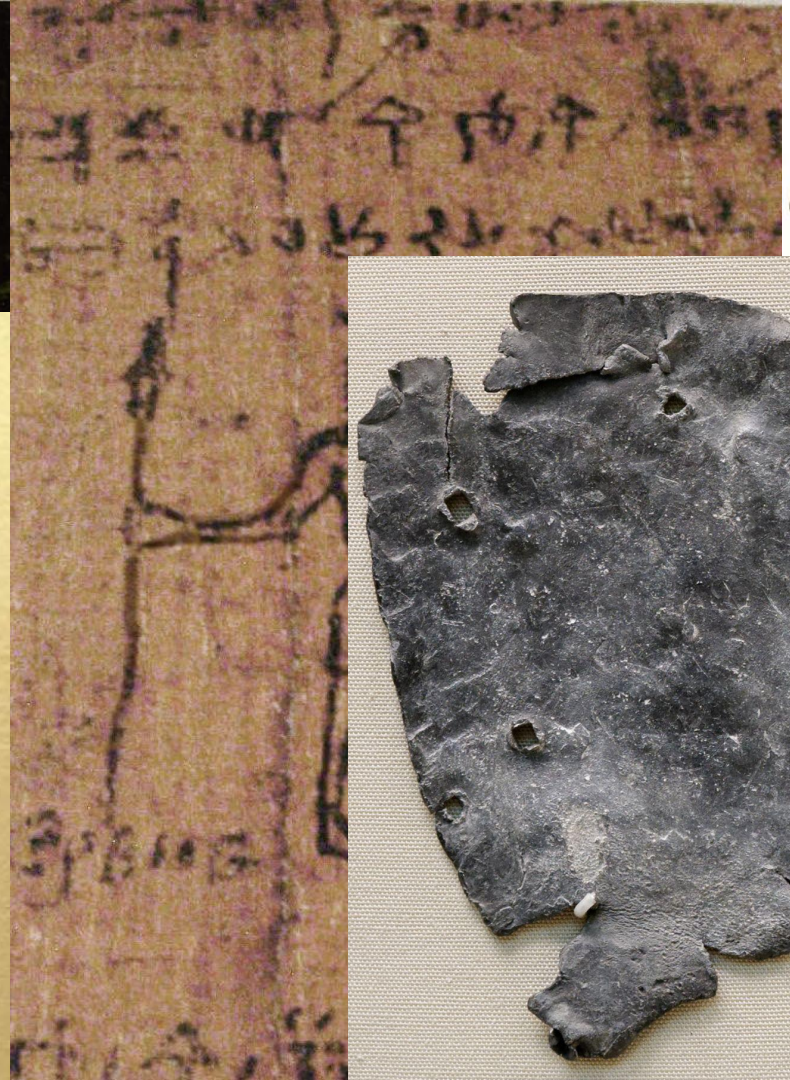




K·I M D·N
MI A T·I A Δ O


ΚΙΜΒΝ
ΜΙΑΤΙΑΔΟ





Disciplines

- Epigraphy
- Papyrology
- Numismatics
- Sigillography
- Diplomatics
- Codicology

D M S
SICITASVNT
MATRONA
NOMENEMO
TERTVLLIAVIBI
SVBVI E VIXI
XXIIIANNIS
TVMVLATS
MARIVS
SECVNDVS
MARITVSS
MERENTI

THE BODY
OF
NOVEM

M·AGRIPPA·L·F·COS·TERTIVM·FECIT

BVSH HOVSE

HUMANITY
EDITH CAVELL
BRUSSELS
DAWN
OCTOBER 12TH
1915
PATRIOTISM IS NOT ENOUGH
I MUST HAVE NO HATRED OR
BITTERNESS FOR ANYONE

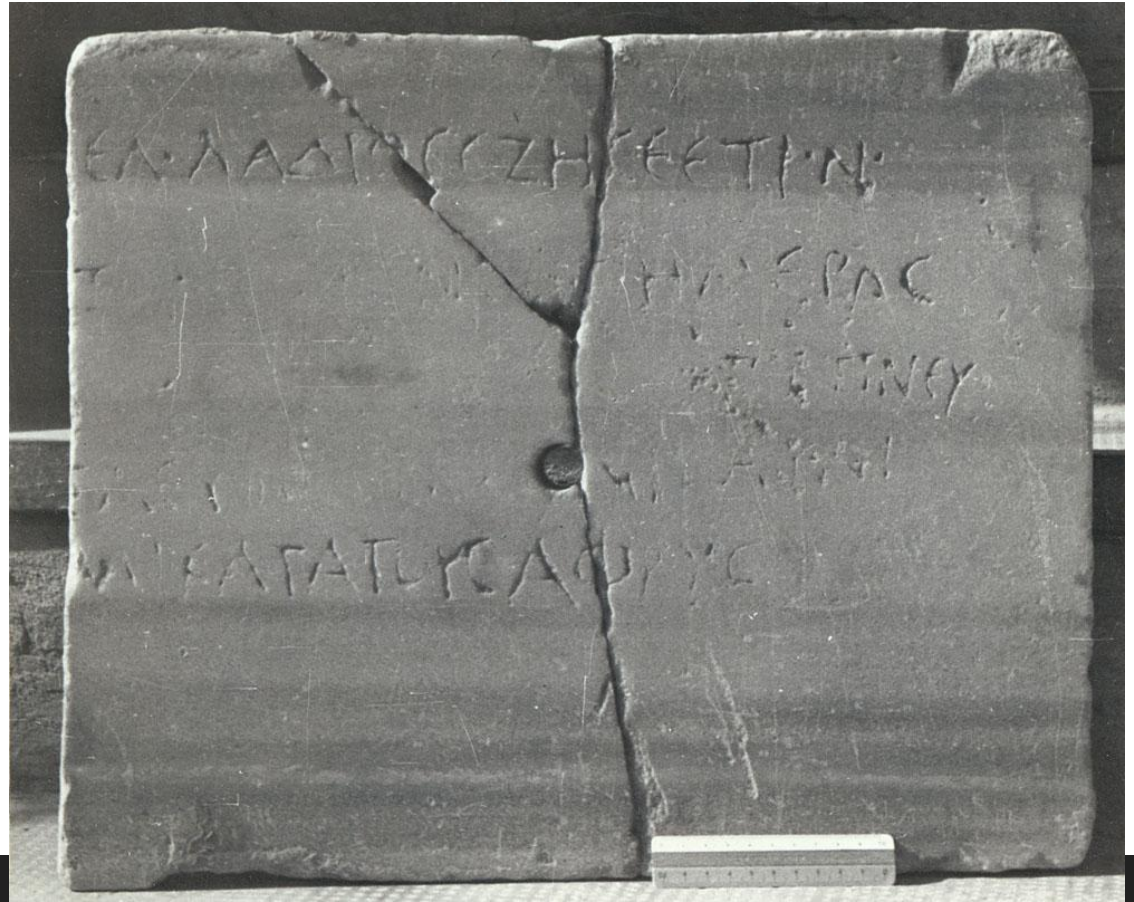
Reading inscriptions

- Historians
- Anthologists
- Antiquarians
- Ancient historians
- Philologists

Editing & Digital Editing

Leiden System

256a. Christian funerary inscription for Helladios



256a. Christian funerary inscription for Helladios

[Εὐμοιριτο] Ἑλλάδιος ἔζησε ἔτι ν´
[πλέον ἔλατ(τ)ον μῆ]ν[ες γ´] ἡμέρας
[δεκαπέντε ὁ Χριστὸς μετὰ τ(ο)ῦ] πνεύ-
[ματός σ(ο)υ ἐτ]ελεύ[τισεν μι]νὶ Ῥ̣αυνὶ
5 [ἑβδό]μι κατὰ τοὺς Ἄφρ<ο>υς

[May he be well off]. Helladios lived approximately 50 years, three months and fifteen days. Christ be with your spirit. He died on the seventh of the month of Payn among the Africans.

256a. Christian funerary inscription for Helladios

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...	Illegible letters, not restored by editor.
ạḅ	Letters ambiguous without their context.
[...]	Letters missing, not restored by editor.
[abc]	Letters missing, restored by editor.
⟨...⟩	Letters erroneously omitted, not restored.
⟨abc⟩	Letters erroneously omitted, restored by editor.
a(bc)	Abbreviation expanded by editor.
{abc}	Letters considered superfluous by editor.
⟦abc⟧	Deletion which can be restored.

EpiDoc

- Text Encoding Initiative (TEI XML)
  - SGML/XML for literary/linguistic corpora since 1988
- Leiden System *distinctions* (1931)
  - Krummrey-Panciera 1980 / Panciera 1991
- Corpus and database *fields*
    - CIL / IG / SEG / Année Epigraphique …
    - EAGLE / EDH / EDR / PETRAE …
- Expanded for neighbouring disciplines
  - Papyrology
  - Other ancient inscribed objects (seals, coins, stamps…)
  - Other scripts (Cuneiform, Mayan, Mycenaean…)

Epigraphic edition contains…

- Physical description
- Locations and history of finding
- Dates and dating information
- Previous editions
  - Apparatus criticus
  - Reference and inventory numbers
- Text, translation, commentary

- Guidelines
- Reference Stylesheets
- Schema
- EFES
- EpiDoc training programme
- Third party tools
  - Papyrological Navigator/editor
  - Perseids
  - EAGLE vocabularies and tools

...	Illegible letters, not restored by editor.
ạḅ	Letters ambiguous without their context.
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{abc}	Letters considered superfluous by editor.
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...	`<gap reason="illegible" extent="unknown"/>`
ạḅ	`<unclear>ab</unclear>`
[...]	`<gap reason="lost" extent="unknown"/>`
[abc]	`<supplied reason="lost">abc</supplied>`
⟨...⟩	`<gap reason="omitted" extent="unknown"/>`
⟨abc⟩	`<supplied reason="omitted">abc</supplied>`
a(bc)	`<expan><abbr>a</abbr><ex>be</ex></expan>`
{abc}	`<surplus>abc</surplus>`
⟦abc⟧	`<del>abc</del>`

Object history

Mediaeval Irish and Ogham inscriptions

Encoding ogham inscriptions using EpiDoc XML

Dr Nora White

OG(H)AM project
Department of Early Irish
Maynooth University

<textLang mainLang="pgl-Ogam">Primitive Irish written in ogham script</textLang>

https://emili.celt.dias.ie

EMILI: Early Medieval Irish Latinate Inscriptions

About Inscriptions Indices Bibliography

A digital collection of inscriptions, primarily in Old and Middle Irish and in the Latin script, from the early medieval period (6th - 12th cent. AD)

DIAS Institiúid Ard-Léinn Bhaile Átha Cliath | Dublin Institute for Advanced Studies

Maynooth University National University of Ireland Maynooth

Acadamh Ríoga na hÉireann Royal Irish Academy

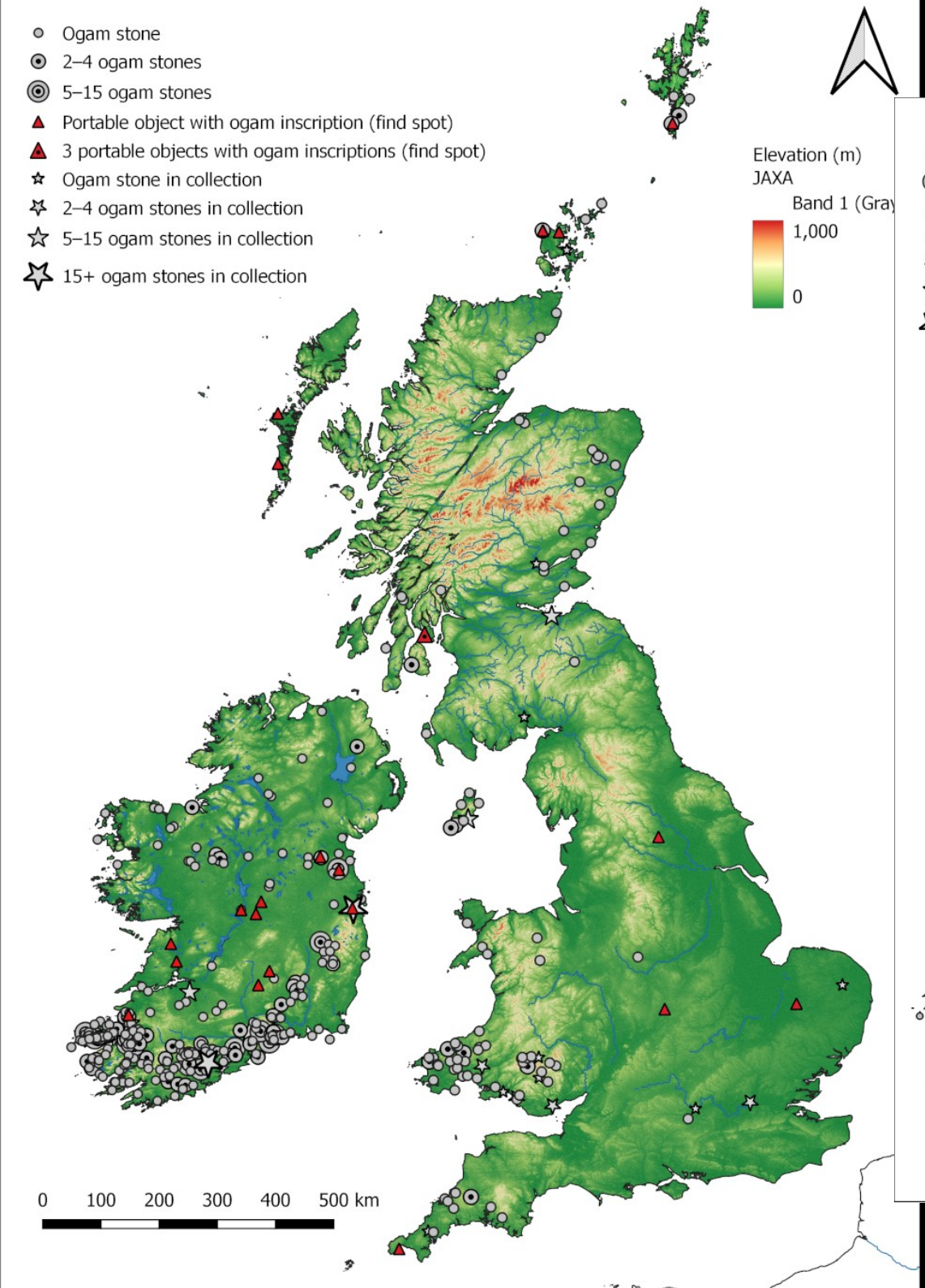
https://emili.celt.dias.ie/en/indices/epidoc/placename.html

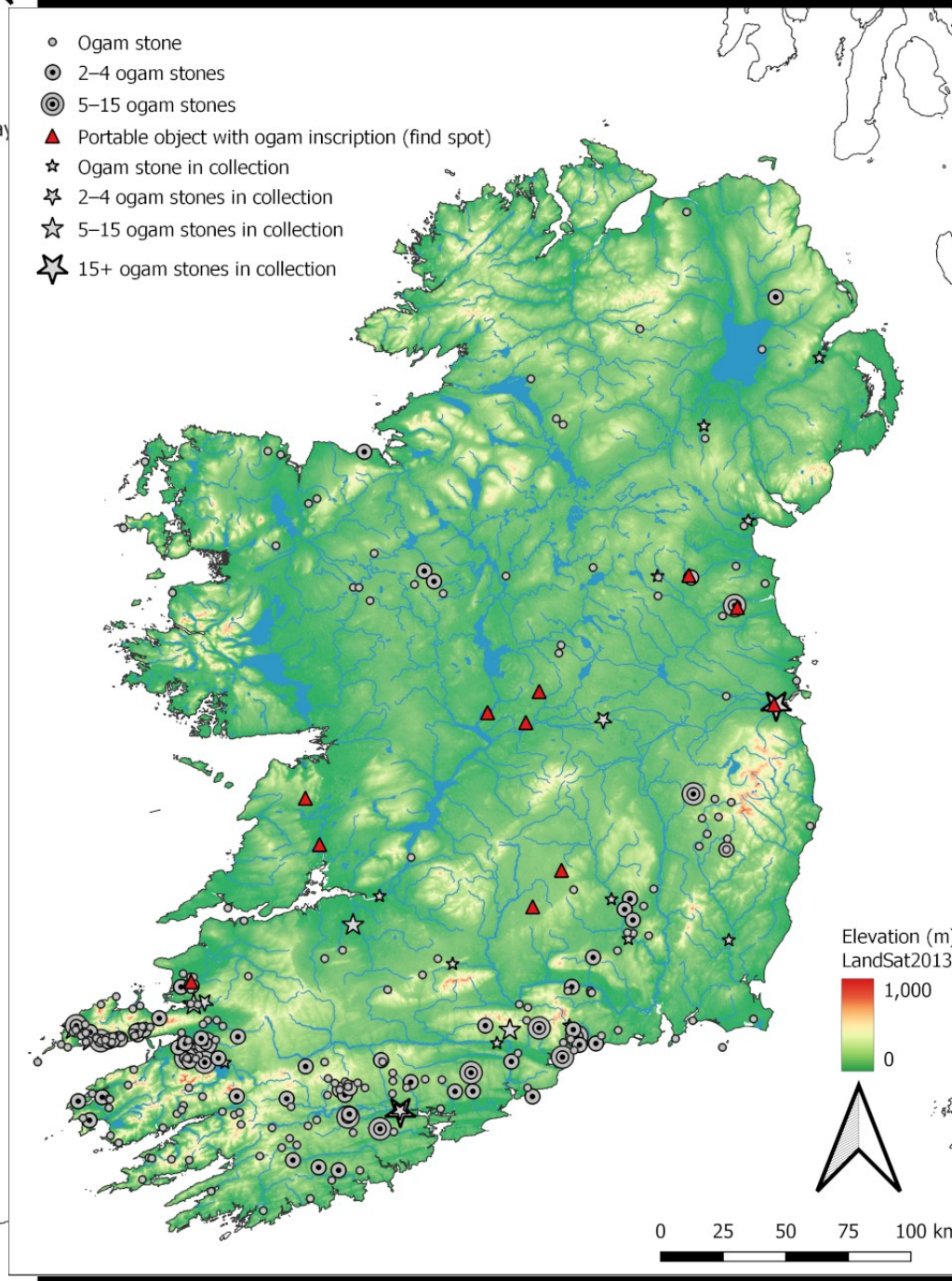
Nora White and David Stifter, *EMILI: Early Medieval Irish Latinate Inscriptions* (2022), https://emili.celt.dias.ie

Faunkill and the Woods, Co. Cork
4.70m
(https://ogham.celt.dias.ie/66._Faunkill_and_the_Woods)

Ardmore, Co. Waterford
1.27m
(https://ogham.celt.dias.ie/263._Ardmore_I)

Maps by Russell Ó Ríagáin





Nora White · Early Irish MU

Multimedial Ogham

© National Museum of Scotland

© Orkney Museum

© National Museum of Ireland

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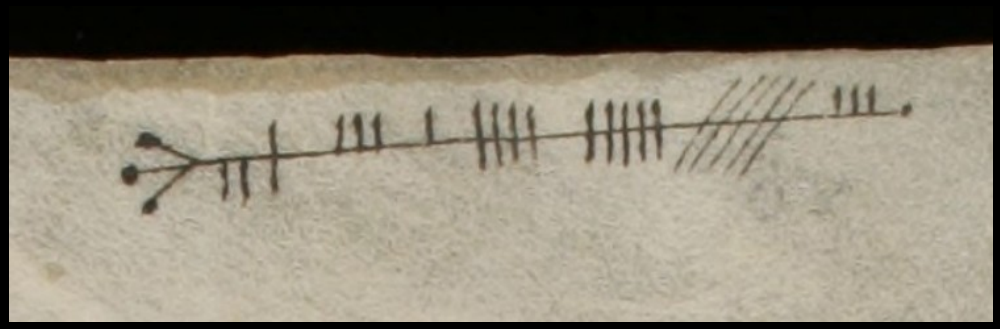
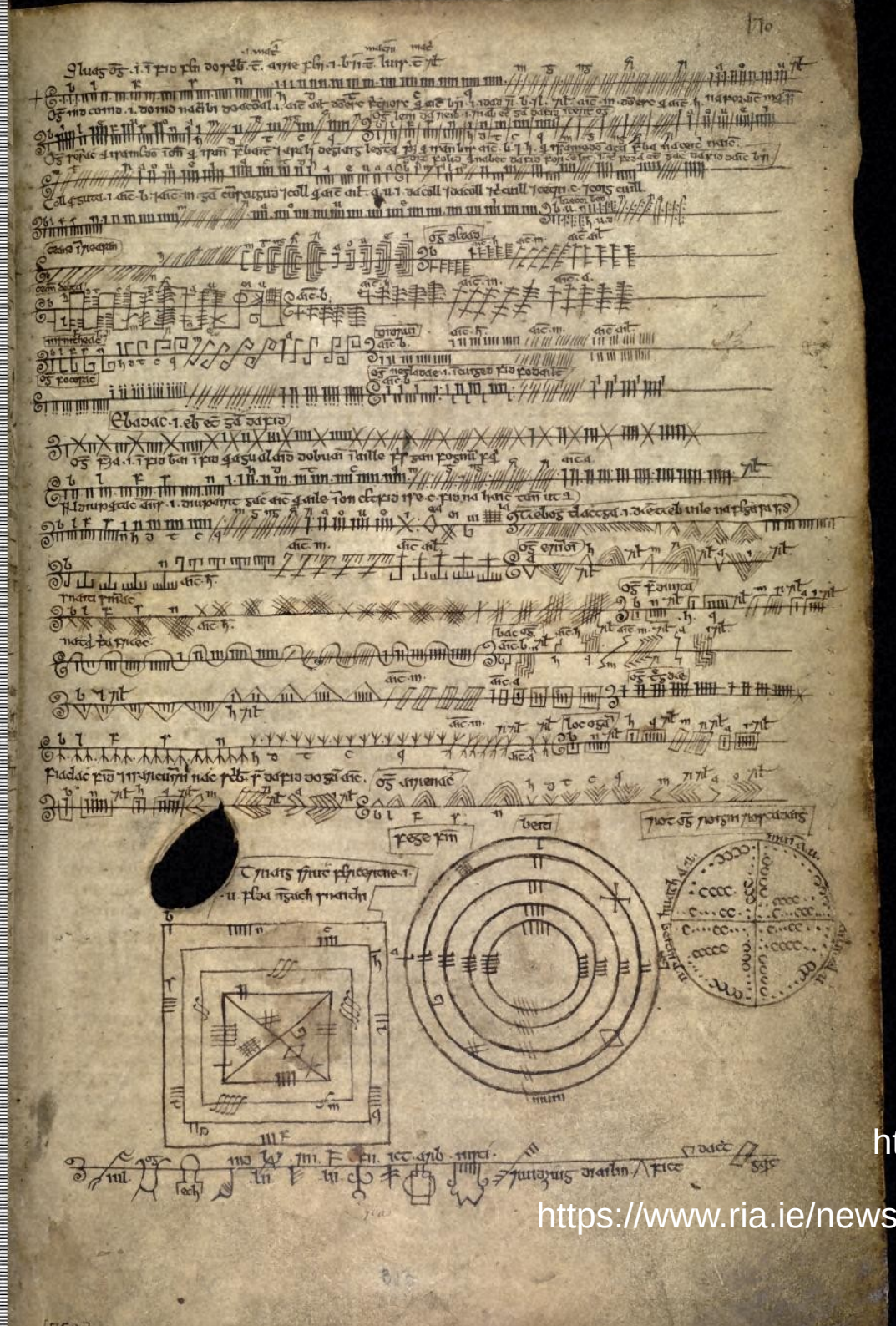


© e-codices, Stiftsbibliothek St Gallen



A selection of ogham alphabet variants from a text known as *In lebor ogaim* ‘The book of ogam’ in the 14th century Book of Ballymote (© Royal Irish Academy)

https://ogham.glasgow.ac.uk/index.php/category/blog/

https://www.ria.ie/news/library-library-blog/ogam-script-ria-library-collections

I-WAT-002

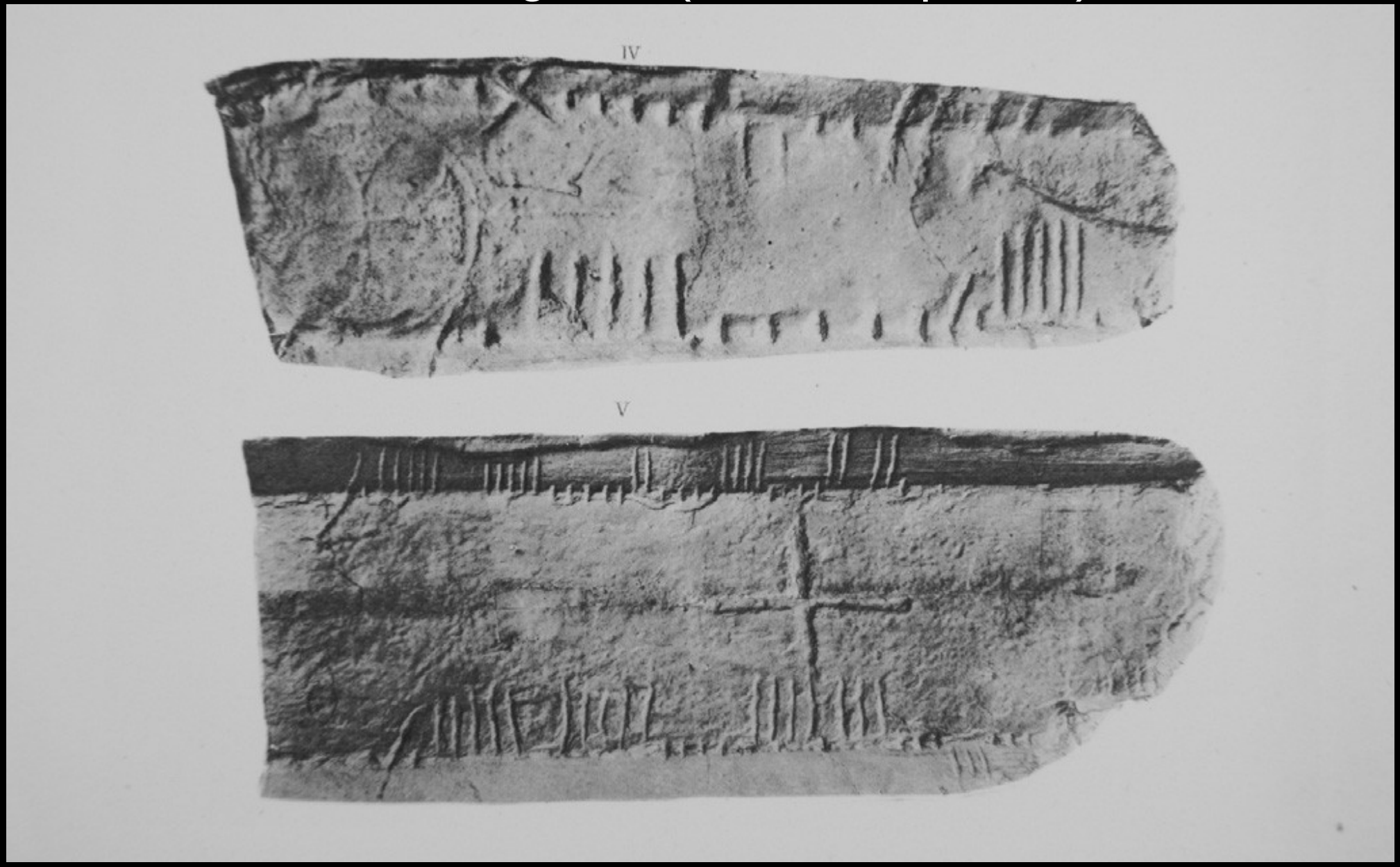
Ardmore
Co. Waterford

LUGUDECCAS
MAQI... [MU]COI
NETA-SEGAMONAS

‘of Lugaid son of ... descendant of Nad Segamon’

[n]	Nin	[kʷ]	Cert	[r]	Ruis	[i]	Idad
[s]	Sail	[k]	Coll	[st]?	Straif	[e]	Edad
[w]	Fern	[t]	Tinne	[gʷ]?	(n)Gétal	[u]	Úr
[l]	Luis	[d]	Dair	[g]	Gort	[o]	Onn
[b]	Beithe	[j]?	hÚath	[m]	Muin	[a]	Ailm

Samuel Ferguson’s photograph of flattened paper casts of inscribed ogham stones. From Ferguson (1877–86, plate II)



Stages of development in Irish from the 5th to the 8th century

When the same name is attested several times on different stones, belonging to different periods. The stages of the language change can then be directly observed:

1. **Lugudikos* ‘pointing out Lug (?)’ (Proto-Celtic reconstruction)

2. *LUGUDECCAS* (Ardmore, Waterford) [certain vowel changes – ‘lowering’]

3. *LUGUDECA* (Kilgrovane, Waterford) [loss of final –*s*]

4. *LUGUDEC* (Kilmannia, Mayo) [loss of final short syllables]

5. *LUGUDUC* (Kilcullen, Cork) [loss of distinct vowel quality in unstressed syllables]

6. *Luigdech* (OIr., 8th c.; genitive of *Lugaid*) [syncope]

Primitive Irish resembles Old Irish as much, or as little, as Latin resembles French, even though only three centuries separate the two stages.

Og(h)am alphabet key

[n]	Nin	[kʷ]	Cert	[r]	Ruis	[i]	Idad
[s]	Sail	[k]	Coll	[st]?	Straif	[e]	Edad
[w]	Fern	[t]	Tinne	[gʷ]?	(n)Gétal	[u]	Úr
[l]	Luis	[d]	Dair	[g]	Gort	[o]	Onn
[b]	Beithe	[j]?	hÚath	[m]	Muin	[a]	Ailm
Aicme Beithe		*Aicme hÚatha*		*Aicme Muine*		*Aicme Ailme*	

A fifth group of five 'supplementary characters' or *forfeda* is included in the manuscript tradition on ogham but only one of these occurs frequently in the inscriptions on stone and appears as two diagonal scores crossing each other on the stemline in the shape of an X, unicode: ᚸ (two values: earlier consonantal /k/ or /x/ (usually transliterated K) and later vocalic /e/).

DIAS

Institiúid Ard-Léinn Bhaile Átha Cliath | Dublin Institute for Advanced Studies

OGHAM IN 3D

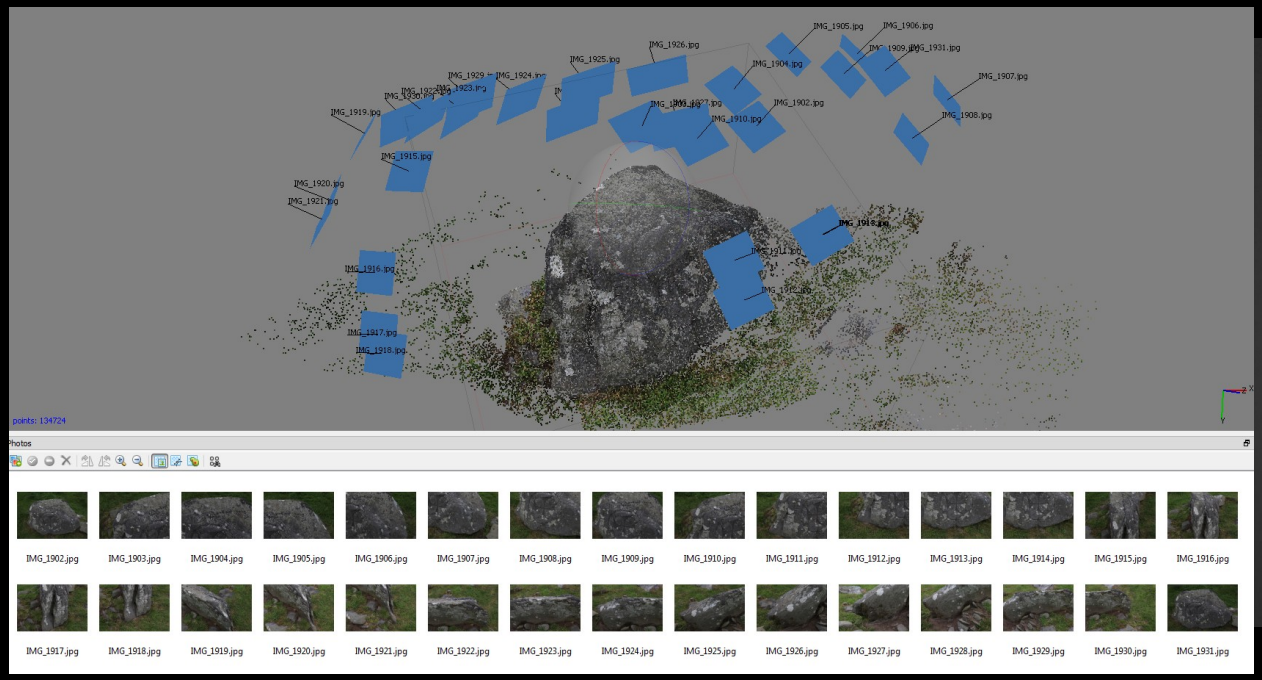
The Discovery Programme

Centre for Archaeology and Innovation Ireland

An Roinn Cultúir, Oidhreachta agus Gaeltachta
Department of Culture, Heritage and the Gaeltacht

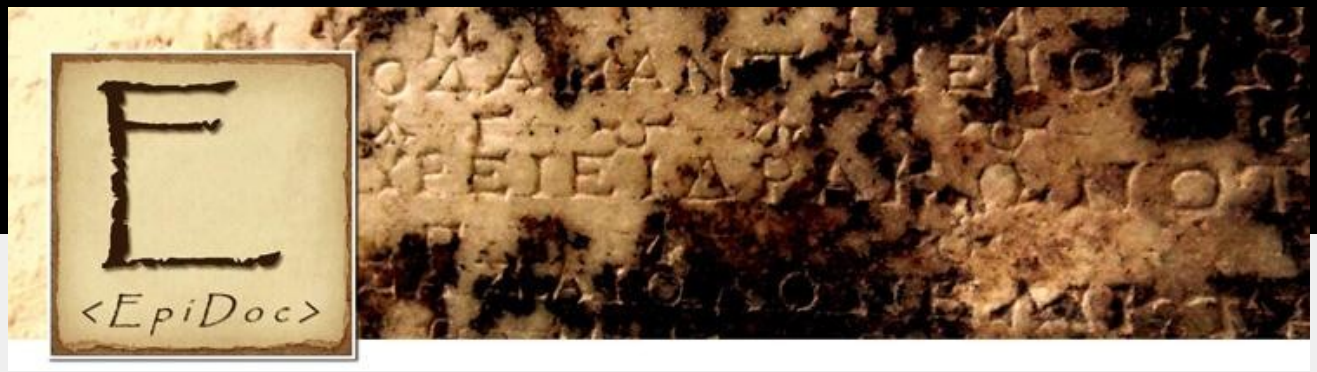
https://ogham.celt.dias.ie

Nora White · Early Irish MU



Kilcolman (*Cill na gColmán*)Co. Kerry
Structure from Motion (SfM) Photogrammetry

Encoded in XML
Following **EpiDoc** guidelines
Subset of **T**ext **E**ncoding **I**nitiative

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    <p>Unassociated</p>
</div>
<div type="description">
    <head>Description</head>
    <div type="description" n="site">
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            <date when="1945">1945</date>, <biblScope type="pp"
                >42-4</biblScope></bibl>)</ref>. </p>
    </div>
    <div type="description" n="monument">
        <head>Monument</head>
        <p>
            <rs type="material">Close-grained slate</rs>, <rs type="dimensions">
                <measure unit="metre" type="length" rend="height">2.31</measure>m x
                    <measure unit="metre" type="length" rend="width">1.75</measure>m x
                    <measure unit="metre" type="length" rend="depth">0.23</measure>m
                (Converted from <ref type="bibliog" target="#MAC1945"
                            ><bibl><author>Macalister</author>
                        <date when="1945">1945</date>, <biblScope type="pp"
                            >42</biblScope></bibl>)</ref></rs>. <q>Top broken away</q>
            <ref type="bibliog" target="#MAC1945">(<bibl><author>Macalister</author>
                    <date when="1945">1945</date>, <biblScope type="pp"
                    >42</biblScope></bibl>)</ref>.</p>
    </div>
    <div type="description" n="text">
        <head>Text</head>
        <p><q>Inscription <rs type="execution">pocked</rs> on the dexter edge of the face uppermost in the present position of the stone; condition good but worn</q>
            <ref type="bibliog" target="#MAC1945">(<bibl><author>Macalister</author>
                    <date when="1945">1945</date>, <biblScope type="pp"
                    >42</biblScope></bibl>)</ref>. The -B- of CORBI is very faint and only two of the -I's vowel notches remain. The K is also very worn and difficult
            certain of, as is the final D where only possible partial scores remain.</p>
    </div>
</div>
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    <head xml:lang="en">Transliteration</head>
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        <w type="formula" lemma="KOI"><unclear reason="worn">K</unclear>OI</w>
        <w type="formula" lemma="MAQI">MAQI</w>
        <persName><w lemma="LABRID">LABRI<unclear reason="damage">D</unclear><gap reason="lost"></gap></w></persName>
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CIIC 38. Ballyboodan, Co. Kilkenny

https://ogham.celt.dias.ie

National Monuments Service Record Number: KK031-058----

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Site Type

Unassociated

Description

Site

Originally standing upright in the field in which it is now recumbant (Macalister 1945, 42-4).

Monument

Close-grained slate, 2.31m x 1.75m x 0.23m (Converted from Macalister 1945, 42). 'Top broken away' (Macalister 1945, 42).

Text

'Inscription pocked on the dexter edge of the face uppermost in the present position of the stone; condition good but worn' (Macalister 1945, 42). The -B- of CORBI is very faint and only two of the -I's vowel notches remain. The K is also very worn and difficult to be certain of, as is the final D where only possible partial scores remain.

Transliteration

CORḄI ḲOI MAQI LABRIḌ[. . ? . .]

Translation

'of Corb here son of Labraid?'

Commentary

- The person commemorated here is *Corb* (possibly related to *corbaid* 'defiles' (McManus 1991, 107), cf. CIIC 154. Ballinrannig, Co. Kerry, where it is the second element in the name MAQQI-CORBBI and in CIIC 162. Ballintaggart VIII, Co. Kerry, where it is the name of the ancestor of the kindred, forming part of the sept name introduced by the formula word AVI (Mod Ir. *Uí Chuirb* 'grandson/descendant of Corb').

Locations

Found

In the field close to where it is now situated in the townland of Ballyboodan and barony of Knocktopher. (ORS coordinates: Z 222594

Go to inscription

Ogham in 3D

English | Gaeilge

Introduction
Ogham
Alphabet
Project
News

Browse
Search
Bibliography
Overview

Technical
Contact
Links
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Department of Arts, Heritage and the Gaeltacht

The Discovery

Search

https://ogham.celt.dias.ie

Names in inscriptions

ADDILONA(1)
AGILL...(1)
AILITHIR(1)
AKEVRITTI(1)
AMADU(1)
AMMLLONGITT?(1)

Formula words

ANM(9)
AVI(7)
CELI(1)
KOI(7)
KOI?(1)
MAC(1)

Site types

Burial ground(12)
Burial ground and probable ec
Ecclesiastical(40)
Long cist burial(1)
Possible Ecclesiastical(3)
Possible souterrain(1)

Relative chronology

first half, or the early second half, of the fifth century(17)
pre 6th century(2)
pre 6th-century(2)
latter part of 5th century(1)
end of the 5th century(4)
first half of the sixth century(12)

Locations

Keel West
(Old) Island
Achadh Deo
Aghadoe
Ahalisky
An Cheallúnach

Original Location

Find location possibly original site(34)
Find location probably original site(13)
GPS coordinates of possible original location (9)
Unknown(72)
unknown(1)

Carving technique

Chiselled(1)
boldly cut(1)
chisel cut and v-shaped(1)
chiselled(4)
cut(5)
fine(4)

(Select/Deselect multiple options by holding down "CTRL" key and clicking on multiple options in the lists)

Stone has
- [ ] cross(es)
- [ ] V-sectioned groove(s)
- [ ] Inscription with possible word division
- [ ] Latin/Roman letter inscription

Search matches :
- (•) All criteria
- ( ) Any criteria

Search

Go to inscription

Ogham in 3D

English | Gaeilge

Introduction
Ogham
Alphabet
Project
News

Browse
Search
Bibliography
Overview

Technical
Contact
Links
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Department of Arts, Heritage and the Gaeltacht

The Discovery Programme

Search results

https://ogham.celt.dias.ie

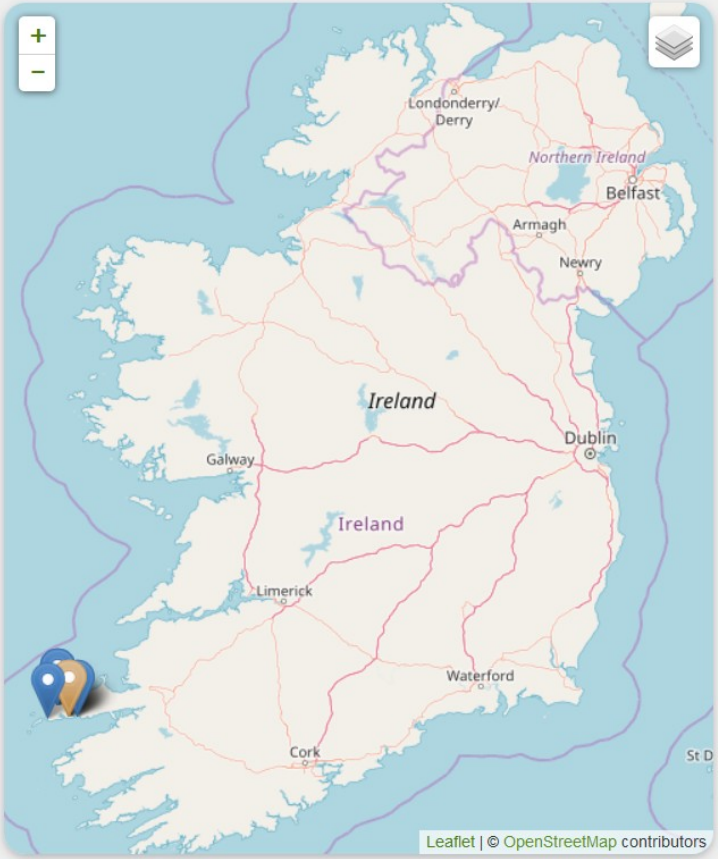
Search for all :

- Name : DOVINIA
- Name : DOVINIAS
- Name : DOVVINIA
- Name : DOVVINIAS

Results :

- Ballinrannig / 150. Ballinrannig III
  Name : DOVVINIAS
- Ballinrannig / 154. Ballinrannig VII
  Name : DOVVINIA
- Ballintaggart / 156. Ballintaggart II
  Name : DOVINIAS
- Ballintaggart / 163. Ballintaggart IX
  Name : DOVINIAS
- Colaiste Ide / 150. Ballinrannig III
  Name : DOVVINIAS
- Colaiste Ide / 175. Burnham West
  Name : DOVINIA
- Coumeenole / 178. Coumeenole
  Name : DOVINIAS

Total results : 7



Find location - Possible original location - Secondary location

Regional variation

ogham and pictish symbols

Brandsbutt, Aberdeenshire Scotland
(Allen/Anderson/1903)

Transliteration of ogham:
IRATADDOARENS(-

OG(H)AM - Harnessing Digital Technologies to Transform Understanding of ogham Writing, from the 4th Century to the 21st

(funded through the joint Irish Research Council and the Arts and Humanities Research Council in the UK-Ireland Digital Humanities scheme 2021-2024)

Researchers	Prof Katherine Forsyth (PI UK), Prof David Stifter (PI IRE) Dr Deborah Hayden (CI IRE) Dr Megan Kasten (UK), Dr Nora White (IRE) Dr Luca Guariento, Digital Officer (UK)
Universities	University of Glasgow (UK) Maynooth University (IRE)

Maynooth University
National University of Ireland Maynooth

IRISH RESEARCH COUNCIL
An Chomhairle um Thaighde in Éirinn

University of Glasgow

Arts & Humanities Research Council

Project Website: https://ogham.glasgow.ac.uk/

UNICODE

https://ogham.glasgow.ac.uk/index.php/2022/05/23/digital-ogam-implementation-and-implications-guest-blog-by-adrian-doyle/

Ogham

An Ogham font typically displays all Ogham characters with a visible stemline, representing the edge of monumental Ogham inscriptions.

Space

1680 ␣ OGHAM SPACE MARK
- glyph is blank in "stemless" style fonts

→ 0020 ␣ space

Traditional letters

1681 ᚁ OGHAM LETTER BEITH
1682 ᚂ OGHAM LETTER LUIS
1683 ᚃ OGHAM LETTER FEARN
1684 ᚄ OGHAM LETTER SAIL
1685 ᚅ OGHAM LETTER NION
1686 ᚆ OGHAM LETTER UATH
1687 ᚇ OGHAM LETTER DAIR
1688 ᚈ OGHAM LETTER TINNE
1689 ᚉ OGHAM LETTER COLL
168A ᚊ OGHAM LETTER CEIRT
168B ᚋ OGHAM LETTER MUIN
168C ᚌ OGHAM LETTER GORT
168D ᚍ OGHAM LETTER NGEADAL
168E ᚎ OGHAM LETTER STRAIF
168F ᚏ OGHAM LETTER RUIS
1690 ᚐ OGHAM LETTER AILM
1691 ᚑ OGHAM LETTER ONN
1692 ᚒ OGHAM LETTER UR
1693 ᚓ OGHAM LETTER EADHADH
1694 ᚔ OGHAM LETTER IODHADH

Forfeda (supplementary letters)

1695 ᚕ OGHAM LETTER EABHADH
1696 ᚖ OGHAM LETTER OR
1697 ᚗ OGHAM LETTER UILLEANN
1698 ᚘ OGHAM LETTER IFIN
1699 ᚙ OGHAM LETTER EAMHANCHOLL
169A ᚚ OGHAM LETTER PEITH

Punctuation

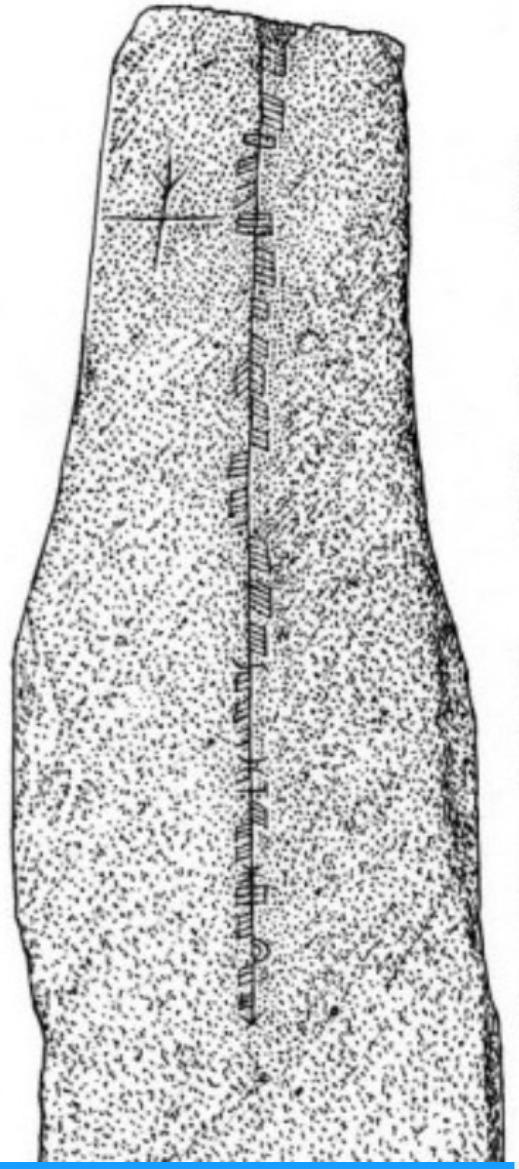
169B ᚛ OGHAM FEATHER MARK
- marks beginning of Ogham text

169C ᚜ OGHAM REVERSED FEATHER MARK
- marks end of Ogham text

https://www.babelstone.co.uk/Blog/2013/06/ogham-stones-of-scotland.html (Andrew West)

Unusual Ogham Letters

Glyph Image	Ogham Text	Description	Notes
ᚼ	ᚼ	Hammerhead A	Treated as a glyph variant of U+1690, and displayed on this page using the *BabelStone Ogham Pictish Bold* font*.
ᚽ	ᚽ	S-Shaped A	Treated as a glyph variant of U+1690, and displayed on this page using the *BabelStone Ogham Special* font*.
ᚾ	ᚾ	Angled A	Treated as glyph variants of U+1690 through U+1694, and displayed on this page using the *BabelStone Ogham Pictish Italic* font*.
ᚿ	ᚿ	Angled O	
ᛀ	ᛀ	Angled U	
ᛁ	ᛁ	Angled E	
ᛂ	ᛂ	Angled I	
ᛃ	ᛃ	Diagonal I	Treated as a glyph variant of U+1694, and displayed on this page using the *BabelStone Ogham Special* font*.
ᛄ	ᛄ	Rabbit-eared D	Treated as a glyph variant of U+1687, and displayed on this page using the *BabelStone Ogham Special* font*.
ᛅ	ᛅ	Disjoined X	Treated as a glyph variant of U+1695, and displayed on this page using the *BabelStone Ogham Special* font*.
ᛆ	ᛆ	Semicircular U	Treated as a glyph variant of U+1697, and displayed on this page using the *BabelStone Ogham Special* font*.
ᛇ	ᛇ	X-shaped P	Treated as a glyph variant of U+1698, and displayed on this page using the *BabelStone Ogham Pictish* font*.
ᛈ	ᛈ	Crosshatched Double R	Treated as a ligature of U+168F and U+168F, and displayed on this page using the *BabelStone Ogham Pictish* font*.
÷	÷	Double Dot Punctuation	Treated as the Runic multiple punctuation mark (U+16EC), which has the script property of 'common', and displayed on this page using the *BabelStone Ogham Pictish* font*.



Lunnasting, Mainland, Shetland

Inscription with bind oghams

EpiDoc Guidelines: Ancient documents in TEI XML

Tables of contents by transcription style:

- Text transcription and descriptive data following PETRAE
- Text transcription following DDbDP
- Descriptive data following APIS
- Text transcription following Krummrey-Panciera 1980
- Text transcription following Panciera 1991
- Descriptive data following HGV
- Text transcription in Egyptology
- Text transcription following Oracc
- Text transcription following Mycenaean usage (Wingspread Conventions)
- Text transcription following CEIPAC

Thematic lists of guidelines pages:

- Descriptive and historical data
- Text transcription
- Images and Figures
- Vocabularies and indexing terms

Appendices

- Gentle Introduction to Mark-up for Epigraphers (bg) (de) (es) (fi) (fr) (it) (pt-br)
- Bibliography
- Glossary (bg) (es) (fi) (fr) (it) (pt-br)
- Index of TEI elements

Externally maintained guidelines for specialized communities:

- EpiDoc Leiden Quick Reference (used in training workshops)
- Shorter Leiden and EpiDoc Quick Reference (shorter version)
- EpiDoc Structure Quick Reference (used in training workshops)
- Papyri.info EpiDoc/Leiden+ help and examples
- Digital Fragmenta Historicum Graecorum encoding guidelines (Monica Berti et al., Leipzig)
- Local Guidelines from London projects (InsAph, InsLib, IOSPE etc.)
- TEI Encoding in Egyptology and Coptology (Daniel Werning, HU Berlin)

You can also download a zipped copy of the latest Guidelines from our Files section if you need to use them offline.

Aligning scripts and transcription styles with EpiDoc

Appendix: Aligning EpiDoc With ORACC

search

Description	Conventional display	ATF	EpiDoc page(s)
Correction of sign	AB$^{!}$	AB!	Correction (without specification)
Correction of sign (original shown)	AB$^{!}$(BA)	AB!(BA)	Erroneous substitution
Damage to sign	bi-⌜it-su⌝	bi-it#-su#	Ambiguous characters (Leiden underdot)
Unknown number of characters lost	[...]	[...]	Lost characters, quantity unknown
One character lost	[x]	[x]	Lost characters, quantity known
Six characters lost	[x x x x x x]	[x x x x x x]	Lost characters, quantity known
Three to six characters lost	[x x x (x x x)]	[x x x (x x x)]	(tba)
Restored lost characters	[AB]	[AB]	Editorial restoration
Uncertainly restored lost characters	[AB$^{?}$]	[AB?]	Editorial restoration, uncertain
Restoration of accidental omission	<ab>	<ab>	Supplement of omitted characters
Restoration of intentional omission	bi-it-<(su)>	bi-it-<(su)>	Abbreviation fully expanded
Characters rejected by editor	<<ab>>	<<ab>>	Superfluous characters
Unclear sign	x	x	Illegible characters, quantity known
Clear but uninterpreted sign	AB	$AB	Uninterpreted characters (Leiden uppercase)
Ligature or compound grapheme	a+na	a+na	Ligatures

Cf. also Steve Tinney and Eleanor Robson, ATF Quick Reference, *Oracc: The Open Richly Annotated Cuneiform Corpus*, Oracc, 2014.

Responsibility for this section

1. Gabriel Bodard, author
2. Eleanor Robson, author

EpiDoc version: 9.4 CR

Date: 2022-09-20

Leiden and EpiDoc Quick Reference (shorter) **Gabriel Bodard 2021-02-01**

For the full EpiDoc Guidelines see http://epidoc.stoa.org/gl/latest/

Description	Panciera/EDH	SEG/DDb	EpiDoc
Line breaks	*abc / abc*		<lb n="1"/>first line <lb n="2"/>second line
Word divided across lines	*abc/def*	αβγ- δεζ	<lb n="1"/>αβγ<lb n="2" break="no"/>δεζ
Text divisions	*abc // abc*		…
Clear but incomprehensible letters	*ABC*	AB	<orig>abc</orig>
Letters ambiguous outside context	ạbc̣	αβ̣	<unclear>αβ</unclear>
Vestiges of letters visible but illegible	+++	...	<gap reason="illegible" quantity="3" unit="character"/>
Text read by previous editor, now lost	abc		<supplied reason="undefined" evidence="previouseditor">αβγ</supplied>
Ligatured letters	a͡b		<hi rend="ligature">ab</hi>
Erased	⟦abc⟧	⟦αβ⟧	<del rend="erasure">αβ</del>
Erased and overstruck / corrected	«def»		<subst><del rend="corrected">abc</del><add place="overstrike">def</add></subst>
Text added by ancient hand	*`abc´*		<add place="above">αβ</add>
Characters lost but restored	[*abc*]	[αβ]	<supplied reason="lost">αβ</supplied>
Characters lost, lacuna	[...]	[...]	<gap reason="lost" quantity="3" unit="character"/>
Lacuna, extent unknown	[---]	[----]	<gap reason="lost" extent="unknown" unit="character"/>
Lacuna, approximate extent	[c. 5]		<gap reason="lost" quantity="5" unit="character" precision="low"/>
Line lost	[- - - - - -]		<gap reason="lost" quantity="1" unit="line"/>
Line(s) possibly lost	[- - - ?]		<gap reason="lost" quantity="1" unit="line"><certainty match=".." locus="name"/></gap>
Letters suppressed by editor	{abc}	{αβ}	<surplus>αβγ</surplus>
Omitted letters; added by editor	<abc>	<αβ>	<supplied reason="omitted">αβ</supplied>
Letters corrected by editor	⌈abc⌉	<αβ>	<choice><corr>αβ</corr><sic>βα</sic></choice>
Expansion of abbreviation	*a(bc)*	α(βγ)	<expan><abbr>α</abbr><ex>βγ</ex></expan>
Abbreviation: expansion unknown	*a*(---)		<abbr>α</abbr>
Editor's note	(!)		<note>!</note>, <note>sic</note>, <note>e.g.</note>
Space left on stone	(vac.3)	*v. ; vacat*	<space quantity="1" unit="character"/> | <space quantity="3" unit="character"/>
Numeral (Roman|Greek)	XII	α′ ; ,α	<num value="12">XII</num> | <num value="1">α</num>
Symbol	(leaf)		<g ref="#leaf"/>

Leiden and EpiDoc Quick Reference (shorter) **Gabriel Bodard 2021-02-01**

For the full EpiDoc Guidelines see http://epidoc.stoa.org/gl/latest/

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Vestiges of letters visible but illegible	+++	...	<gap reason="illegible" quantity="3" unit="character"/>
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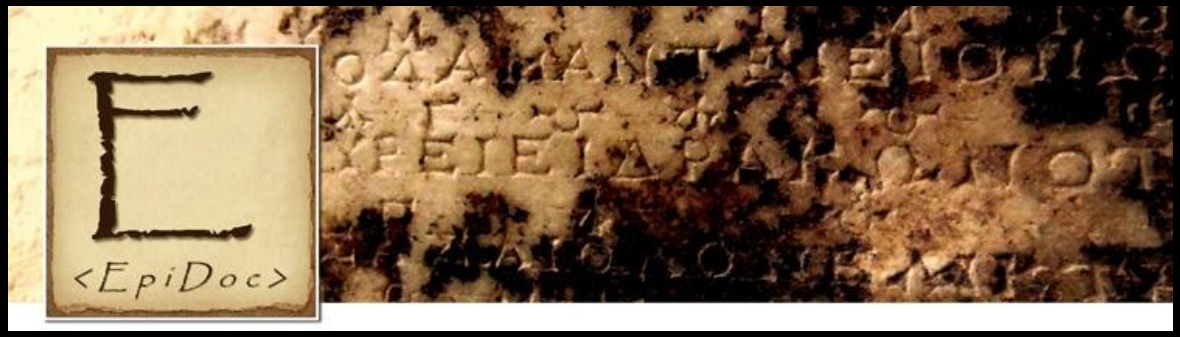
Ligatured letters	a͡b		<hi rend="ligature">ab</hi>
Erased	⟦abc⟧	⟦αβ⟧	<del rend="erasure">αβ</del>
Erased and overstruck / corrected	«def»		<subst><del rend="corrected">abc</del><add place="overstrike">def</add></subst>
Text added by ancient hand	*`abc´*		<add place="above">αβ</add>
Characters lost but restored	[*abc*]	[αβ]	<supplied reason="lost">αβ</supplied>
Characters lost, lacuna	[...]	[...]	<gap reason="lost" quantity="3" unit="character"/>
Lacuna, extent unknown	[---]	[----]	<gap reason="lost" extent="unknown" unit="character"/>
Lacuna, approximate extent	[c.5]		<gap reason="lost" quantity="5" unit="character" precision="low"/>
Line lost	[- - - - - -]		<gap reason="lost" quantity="1" unit="line"/>
Line(s) possibly lost	[- - - ?]		<gap reason="lost" quantity="1" unit="line"><certainty match=".." locus="name"/></gap>
Letters suppressed by editor	{abc}	{αβ}	<surplus>αβγ</surplus>
Omitted letters; added by editor	<abc>	<αβ>	<supplied reason="omitted">αβ</supplied>
Letters corrected by editor	⌈abc⌉	<αβ>	<choice><corr>αβ</corr><sic>βα</sic></choice>
Expansion of abbreviation	*a(bc)*	α(βγ)	<expan><abbr>α</abbr><ex>βγ</ex></expan>
Abbreviation: expansion unknown	*a*(---)		<abbr>α</abbr>
Editor's note	(!)		<note>!</note>, <note>sic</note>, <note>e.g.</note>
Space left on stone	(vac.3)	*v. ; vacat*	<space quantity="1" unit="character"/> | <space quantity="3" unit="character"/>
Numeral (Roman|Greek)	XII	α′ ; ,α	<num value="12">XII</num> | <num value="1">α</num>
Symbol	(leaf)		<g ref="#leaf"/>

Feathermark > (unicode ⊱)	⊱	<g ref="#feathermark">⊱</g>
Feathermark > (unicode ⊰)	⊰	<g ref="#feathermark">⊰</g>
X-forfid (unicode ⸙)	X	<c type="forfid">E</c>

Encoded in XML
Following **EpiDoc** guidelines
Subset of **T**ext **E**ncoding **I**nitiative




```
Desc>
pportDesc>
 <support>
     <p>National Monuments Service Record Number: <ref target="https://maps.archaeology.ie/HistoricEnvironment/?SMRS=MA093-038001-">MA093-038001-
         <material ref="materials.xml#stone">Stone</material> <objectType ref="objects.xml#mon1">pillar</objectType>,
     described by <ref source="#MAC1945">Macalister (1945, 5)</ref> as <q>grit</q>
          (<dimensions unit="m" source="https://maps.archaeology.ie/HistoricEnvironment/?SMRS=MA093-038001-">
             <height>1.80</height>
             <width>0.60</width>
             <depth>0.35</depth>
          </dimensions>). The stone<q> has a rectangular cross-section, straight sides which taper at the top to form an asymmetrical triangular
upportDesc>
youtDesc>
 <layout>As the stone is currently leaning to an almost horizontal position, <q>the ogham inscription is, therefore, on what now presents as the
   the stone, formerly the E face when the stone was vertical</q> (<ref source="https://maps.archaeology.ie/HistoricEnvironment/?SMRS=MA093-03800
   The inscription is <rs type="execution" key="pocked" ref="https://www.eagle-network.eu/voc/writing/lod/11.html">pocked and rubbed</rs> on two
   AVI (except the distal ends of the V) and parts of some other scores are chipped away : a flake about 2-in. wide (measured at right angles to
   broken off. The space available does not confirm Rhys's contention that the second word should be AVE, not AVI</q> (<ref source="#MAC1949">1945
ayoutDesc>
tDesc>
```

Diplomatic:

Interpretive: ALATTOS MAQI BR[...]

```
<div type="edition" xml:space="preserve" xml:lang="pgl" resp="#NW">
    <ab>
        <lb n="1" style="text-direction:up"/>
        <persName><name nymRef="#ALLATUS" corresp="http://www.dil.ie/2930">AL<unclear reason="faded">A</unclear>TTOS</name></per
        <w lemma="MAQQAS" type="patronym" corresp="http://www.dil.ie/31166">MAQI</w>
        <persName><name>BR<gap reason="lost" extent="unknown"/></name></persName>
       </ab>
</div>
```

Encoded in XML
Following **EpiDoc** guidelines
Subset of **T**ext **E**ncoding **I**nitiative

```
Desc>
pportDesc>
 <support>
     <p>National Monuments Service Record Number: <ref target="https://maps.archaeology.ie/
         <material ref="materials.xml#stone">Stone</material> <objectType ref="objects.xml#
     described by <ref source="#MAC1945">Macalister (1945, 5)</ref> as <q>grit</q>
          (<dimensions unit="m" source="https://maps.archaeology.ie/HistoricEnvironment/?SM
             <height>1.80</height>
             <width>0.60</width>
             <depth>0.35</depth>
          </dimensions>). The stone<q> has a rectangular cross-section, straight sides whic
upportDesc>
youtDesc>
 <layout>As the stone is currently leaning to an almost horizontal position, <q>the ogham i
   the stone, formerly the E face when the stone was vertical</q> (<ref source="https://maps
   The inscription is <rs type="execution" key="pocked" ref="https://www.eagle-network.eu/v
   AVI (except the distal ends of the V) and parts of some other scores are chipped away :
   broken off. The space available does not confirm Rhys's contention that the second word
ayoutDesc>
tDesc>
```

Diplomatic:

Interpretive: ALATTOS MAQI BR[...]

```
<div type="edition" xml:space="preserve" xml:lang="pgl" resp="#NW">
    <ab>
        <lb n="1" style="text-direction:up"/>
        <persName><name nymRef="#ALLATUS" corresp="http://www.dil.ie/2930">AL<un
        <w lemma="MAQQAS" type="patronym" corresp="http://www.dil.ie/31166">MAQI
        <persName><name>BR<gap reason="lost" extent="unknown"/></name></persName
       </ab>
</div>
```

https://sketchfab.com/3d-models/ma073-012-kilmovee-371f70c582cb45c295bec7263c41bc38

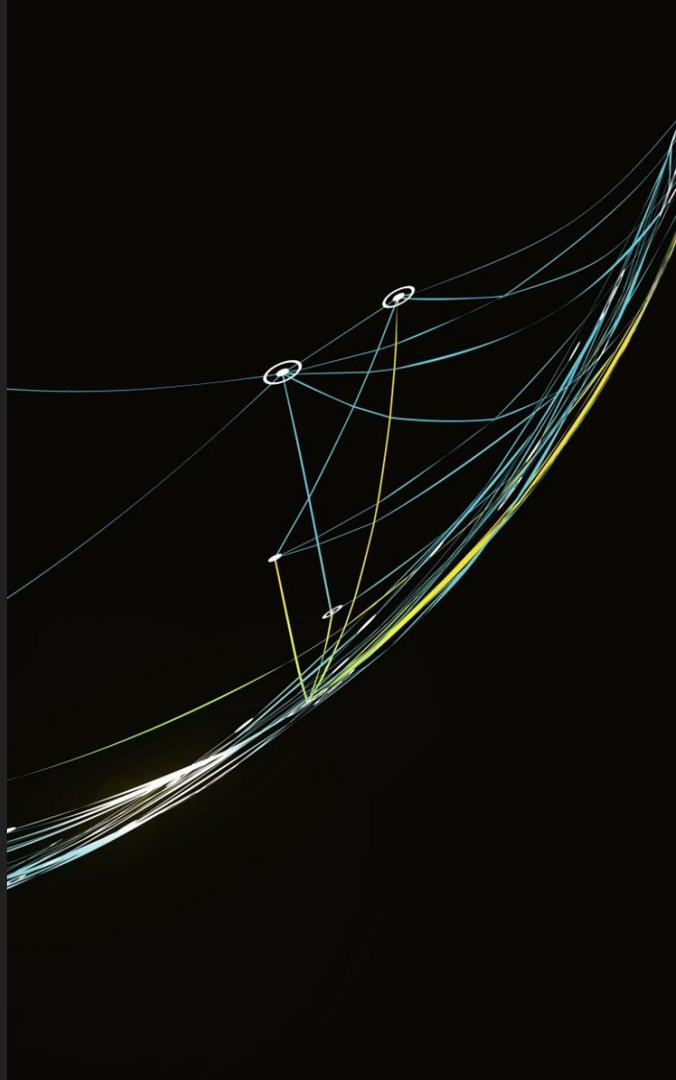
Process and metadata

Byzantine seals

Seal of Michael, vestarches and oikonomos of the Nea
https://sigidoc.raketadesign.com/en/seals/TM_05.html

DigiByzSeal: Seals as Digital Objects

- DigiByzSeal - Unlocking the Hidden Value of Seals: New Methodologies for Historical Research in Byzantine Studies (DFG/ANR 2022-2025)
- PIs: Claudia Sode, Alessio Sopracasa, Claes Neuefeind
  - in cooperation with CNRS UMR 8167 Orient et Méditerranée and Cologne Center for eHumanities (CCeH)
- Feind Collection Cologne, Seyrig, Tatış, Zacos BnF, IFEB, Zacos Geneva, Ravenna, Bulgaria + various private collections…
- Ca. 4000 seals, steadily growing



DigiByzSeal: Towards a Sigillographic Search Engine

- Creating a **meta-corpus** of Byzantine seals encoded in SigiDoc XML, each seal treated as a **digital object with a permanent ID** (SigiDoc ID)
- Perform **queries across all collections** encoded, according to search criteria outlined in the SigiDoc recommendations and guidelines
- **Fine-grained search** and **automatic indexing**
  - **Administration history**: offices (civil, ecclesiastical, military), dignities, institutions
  - **Prosopography**: forenames, surnames
  - **Linguistics**: metrical inscriptions, case, invocations
  - **Art history**: iconography
  - **Geography**: Place names

Date 400 – 1500 A.D.

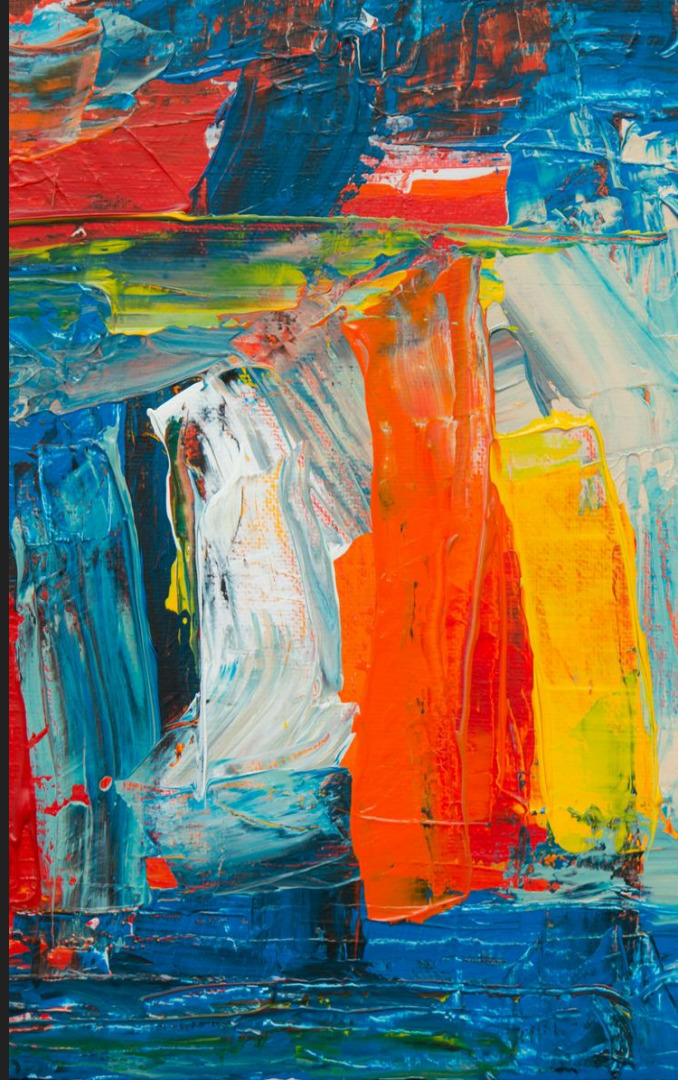
Filters

- Institution
- Collection
- Personal Names
- Family Names
- Milieu
- Place Names
- Dignities

- Civil Offices
- Ecclesiastical Offices
- Military Offices
- Titles
- Marian Terms
- Christ-related Terms
- Saints-related Terms
- Metrical
- Monogram
- Legend Case
- Iconography

The Underlying Technology: SigiDoc

- **XML-based & EpiDoc-compliant data model** for the digital scholarly edition of Byzantine seals (and other coin-like objects) and the digitally enhanced conversion of paper-published editions
- Machine- and human-readable and **machine-actionable**
- DigiByzSeal offers the much-needed **critical mass for testing** and further developing the encoding standard
- **FAIR**
- User guide and structure of the meta-corpus: https://github.com/SigiDoc



SigiDoc is made of:

-a schema, compatible with the EpiDoc and TEI_all schemas;

-a template, i.e. SigiDoc's edition structure;

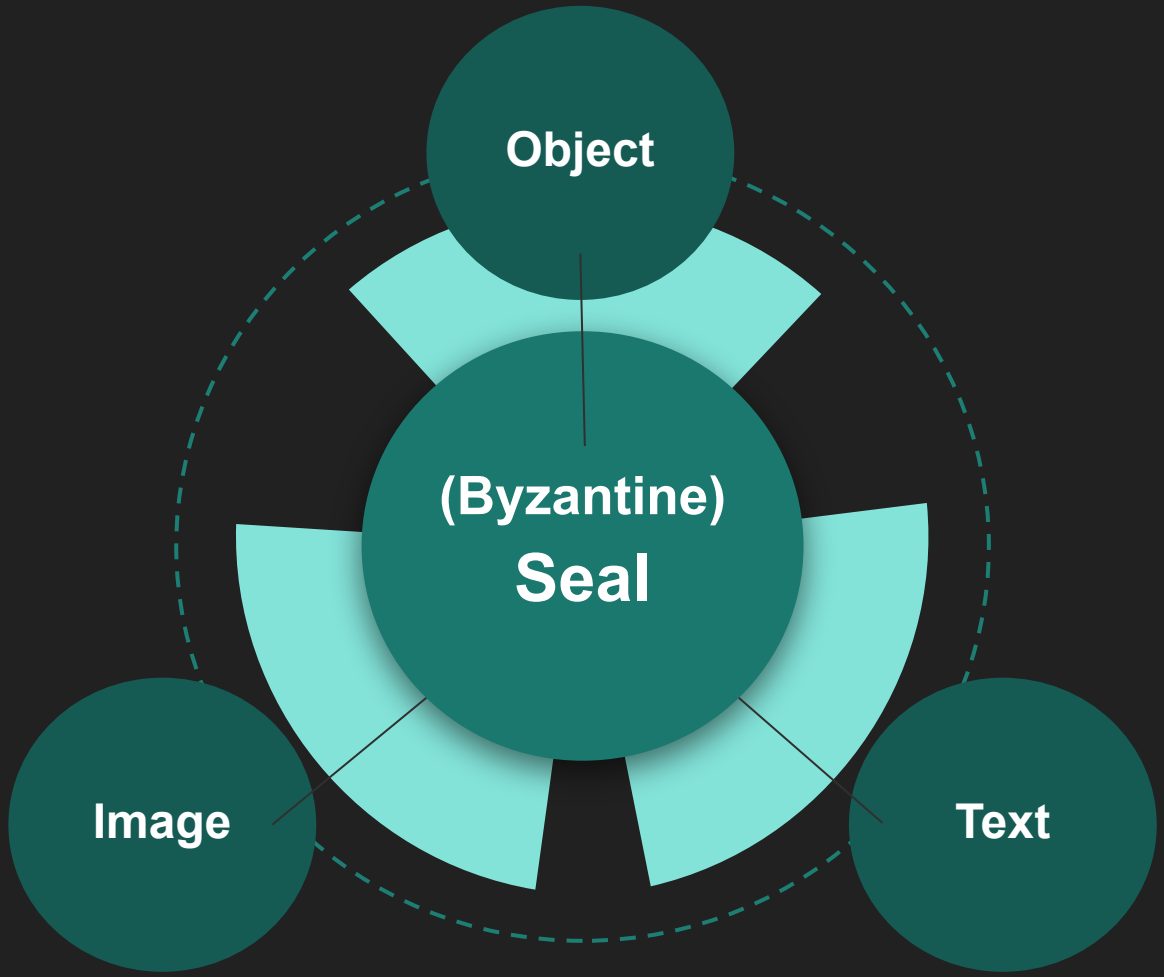
-a stylesheet for HTML transformation;

-a set of stylesheets for scholarly editions of the legends on seals;

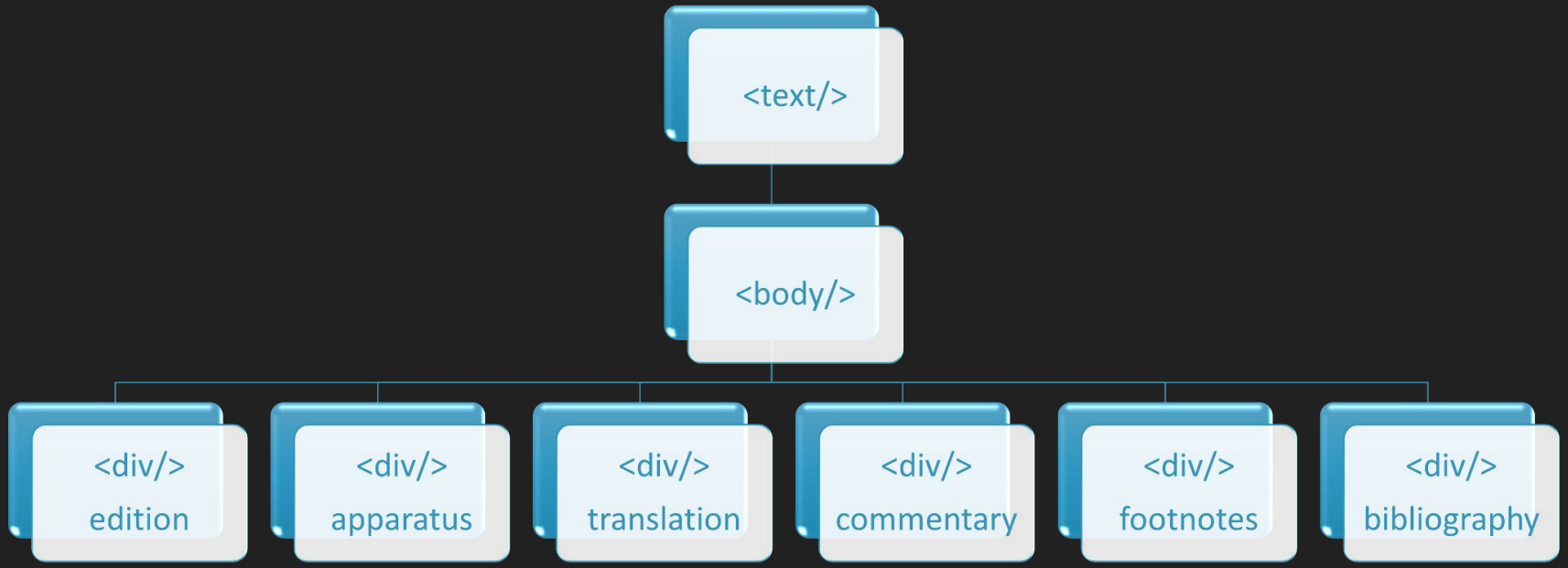
-a highly customised version of EFES;

-a set of encoding guidelines;

-a set of files intended to be shared among all future SigiDoc projects (ID lists, controlled vocabularies, authority lists, ontologies, etc.).


Object
(Byzantine)
Seal
Image
Text

Text-Bearing Object

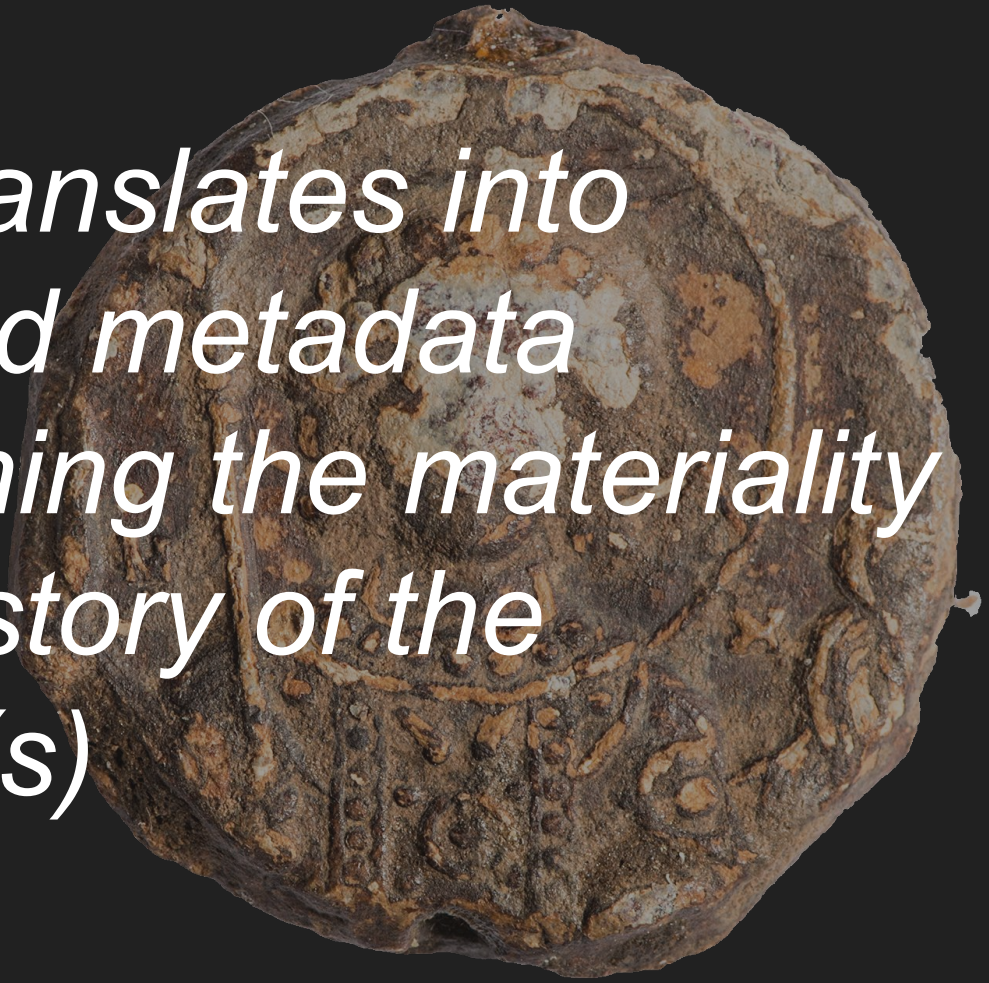

<text/>
<body/>
 edition
 apparatus
 translation
 commentary
 footnotes
 bibliography

Different text-bearing objects (often) have different editorial needs

Text-Bearing ***Object***

<teiHeader/>
<fileDesc/>
<encodingDesc/>
<revisionDesc/>
<titleStmt/>
<editionStmt/>
<publicationStmt/>
<sourceDesc/>
<msDesc/>
<msIdentifier/>
<msContents/>
<physDesc/>
<history/>
<msPart/>s

This translates into detailed metadata explaining the materiality and history of the object(s)



- ❑ Type
- ❑ General layout
- ❑ Matrix
- ❑ Medium
- ❑ Material
- ❑ Shape
- ❑ Dimensions (mm)
- ❑ Weight (g)
- ❑ Axis (clock)
- ❑ Overstrike orientation (clock)
- ❑ Channel orientation (clock)
- ❑ Execution
- ❑ Countermark
- ❑ Condition
- ❑ Date
- ❑ Internal date
- ❑ Dating criteria
- ❑ Alternative dating
- ❑ Seal's category
- ❑ Issuer
- ❑ Issuer's milieu
- ❑ Place of origin
- ❑ Find place
- ❑ Ancient findspot
- ❑ Modern findspot
- ❑ Find date
- ❑ Find circumstances
- ❑ Modern location
- ❑ City
- ❑ Country
- ❑ Institution and repository
- ❑ Collection and inventory
- ❑ Acquisition
- ❑ Previous locations
- ❑ Modern observations

Contextual and Processual Metadata in the Output

- ❑ Type
- ❑ General layout
- ❑ Matrix
- ❑ Medium
- ❑ Material
- ❑ Shape
- ❑ Dimensions (mm)
- ❑ Weight (g)
- ❑ Axis (clock)
- ❑ Overstrike orientation (clock)
- ❑ Channel orientation (clock)
- ❑ Execution
- ❑ Countermark
- ❑ Condition
- ❑ Date
- ❑ Internal date
- ❑ Dating criteria
- ❑ Alternative dating

- ❑ Seal's category
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- ❑ **Find circumstances**
- ❑ **Modern location**
- ❑ **City**
- ❑ **Country**
- ❑ **Institution and repository**
- ❑ **Collection and inventory**
- ❑ **Acquisition**
- ❑ **Previous locations**
- ❑ **Modern observations**

Contextual and Processual Metadata from the Raw XML

- licence of publication
- reusability potential
- funding
- conflict of interest
- permissions

etc.

Digital editions play a crucial role in promoting **formal openness** and **transparency** across various dimensions, fulfilling **social**, **ethical**, and **academic** objectives.

Enhancing Transparency in Digital Editions

- **Machine-Actionable Encoding**
  - Enables **sorting**, **filtering**, **indexing**, and **visualization**.
  - Enhances engagement for a **diverse audience**.
- **Comprehensive Object Description**
  - Essential for a detailed **understanding of the material**.
  - Enhances accessibility for readers with impairments.
  - Contributes to transparency by **avoiding ambiguity**.
- **Optimizing Presentation and Accessibility**
  - Clear presentation of **text edition**.
  - Digital medium allows **multiple views** efficiently.

Openness through Documentation of Digital Standards

- **Incentivizing Openness**
  - Implementation of **open digital standards** encourages transparency.
  - Scholarly commitment to explicit **information sharing**.
  - Consistent use of **digital standards** and **well-documented practices**.
- **Documentation of Digital Standards Features**
  - Transparency of **practice and code**.
  - **Consistency** in usage.
  - Training, dissemination, development, and sustainability.
    - *Example*: **EpiDoc** community's practices in epigraphic encoding and digital publication, including **detailed guidelines**, **open-source code** repositories, and **versioning** practices for transparency and accountability.

Building a Broad Community of Practice

- **Importance of Dissemination and Training**
  - Digital standards require wide adoption and dissemination.
  - Community-driven efforts enhance inclusivity and accessibility.
- **EpiDoc Community's Training Approach**
  - Participative, learner-focused, and practice-oriented.
  - Diverse delivery settings, multi-authored materials, and reusable licenses.
  - Inclusive efforts for accessible training materials.
  - Open Educational Resources, like this slideshow.

Transparency and Sustainability in Digital Projects

- **Sustainability Practices**
  - Sustainability depends on **maintenance**, **renewal**, and **community engagement**.
  - Building on existing solutions and **avoiding bespoke tools**.
  - **Diversity in hosting and archiving** enhances sustainability.
- **Infrastructure for Sustainability**
  - Digital humanities centers, labs, and publishers provide necessary expertise.
  - Sustainable digital publications require **diverse infrastructure**.
  - Transparency in addressing the **project's life cycle** to avoid digital wastelands.
- **Contributions to Scholarship Beyond Publication**
  - **Open licensing** is essential for sustainability.
  - Datasets licensed for download foster comprehensive access and support unforeseen research avenues.

Ethical Considerations in Digital Editions

- **Addressing Inconsistencies and Complexities**
  - Print editions lack explicit recording of creation and origin details, causing inconsistencies.
  - Digital editions should prioritize transparent and explicit documentation of scholarly processes, origins, and publication history.
- **Acknowledgment of Permissions and Denials**
  - Recognition of historical and contemporary permissions.
  - Authors and publishers bear responsibility to avoid vague formulations.
- **Ethical Impact of Publication Rights**
  - Ethical imperative to make (official and) unofficial agreements explicit.
  - Importance of institutional archives for transparent practices.