Centre for the Study of Ancient Documents

THE UNIVERSITY OF OXFORD | NEWSLETTER 30

SPRING 2026

# BRINGING IT ALL TOGETHER

Andrew Meadows

# CROSSREADS PIVOTS

# A KIND OF READING? TRANSLATING SEMITIC NAMES IN THE GREEK EAST



# THE JEWS OF PTOLEMAIC EGYPT



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# Bringing it all together: news from CSAD

Andrew Meadows

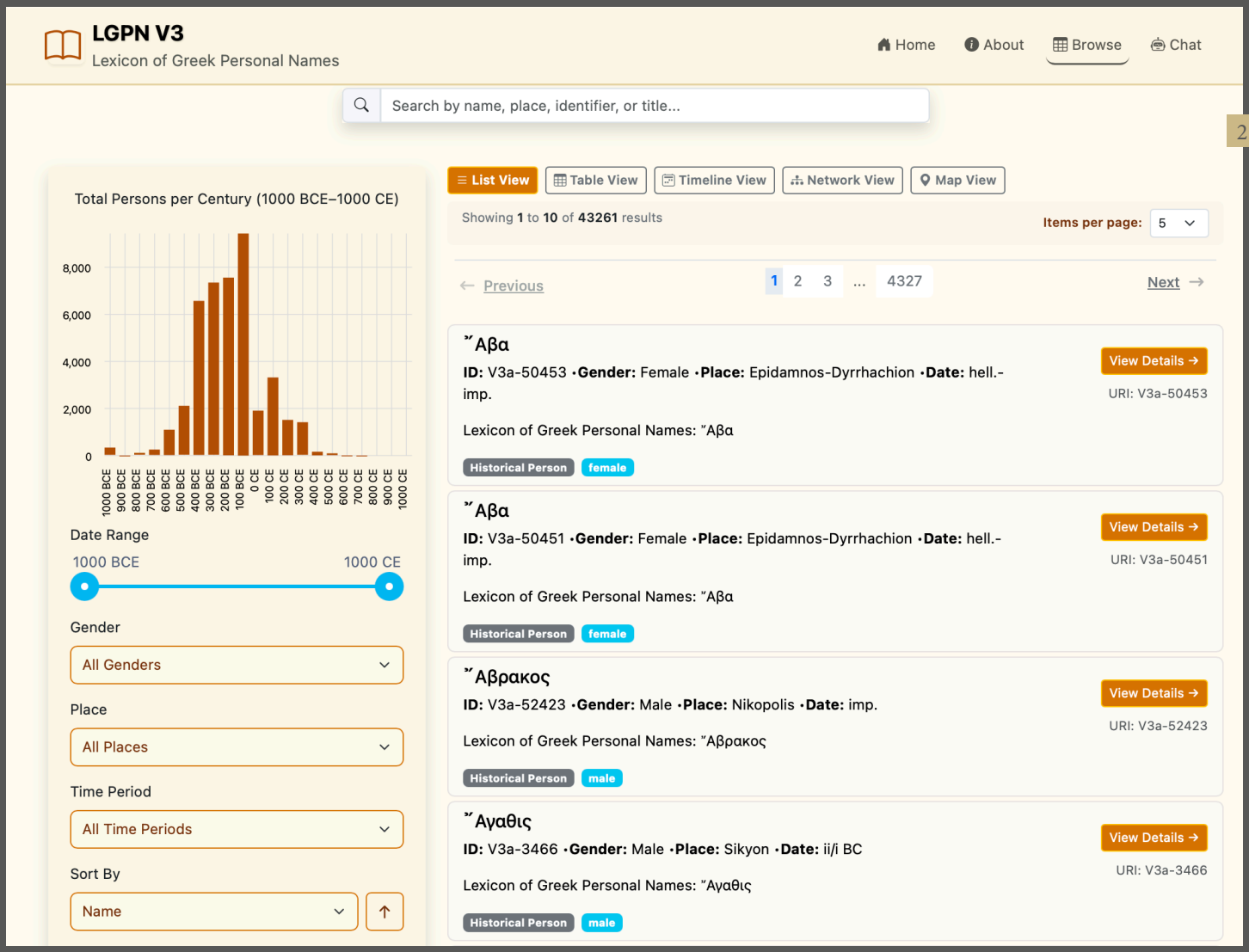
The very beginning of 2026 saw several members of the CSAD team in Istanbul for the final conference of the CHANGE project. Brilliantly organised by Chloe Colchester and perfectly hosted by our colleague Yavuz Selim Güler at the Pera Museum, the conference brought together a group of colleagues to discuss the ways in which the project's assembled data sets might help us towards a new monetary history of Anatolia (fig. 1). 25 colleagues from the UK, Austria, Belgium, France, Germany, Greece, Poland, Turkey and the United States joined us. The resulting volume, will, I believe, set us firmly on a new path to using the numismatic data alongside the epigraphic and archaeological.



I'm very grateful to all the colleagues who undertook to work with us on this in acts of true collaboration.

Collaboration lies at the heart of CSAD's approach to research projects, of course. As I write, we are in the closing phases of an important initiative, FAIR Epigraphy, led by Jonathan Prag in collaboration with colleagues at the Corpus Inscriptionum Latinarum in Mainz. Funded by a grant from the AHRC and DFG, this consolidates and extends the groundbreaking efforts of the EAGLE Europeana Project (2013-2016) and is now taking the lead in developing a new thesaurus and ontology for the serialization of epigraphic data (https://ontology.inscriptiones.org/). We very much hope to secure further funding to develop this infrastructure and begin to demonstrate its value in contributing to new research agendas.

A key element of both the CHANGE and Fair Epigraphy projects has been an internal collaboration with the Digital Scholarship at Oxford (DiSc) initiative, particularly in the partnership we have built there with Research Software Engineer, Imran Asif. Imran has been central to the development of the CHANGE project's suite of digital resources, as well as serving as a key member of the Fair Epigraphy Team. In addition, CSAD was successful in 2025 in bidding for the DiSc Research Development grant, which enabled us to begin work on the transformation of one of our legacy projects, the Lexicon of Greek Personal Names (LGPN) into a Linked Open Data Resource. Once again working with Imran,






we have been able to build on the work he has carried out on CHANGE and Fair Epigraphy, to begin to place LGPN at the heart of a network of Linked Data that will incorporate the epigraphic and numismatic data on which LGPN is largely built.

2025 saw the successful renewal of the status of LGPN as a British Academy Research Project. We remain grateful for the funding that we receive from the Academy that will allow us to continue the transformation of LGPN into a hub for the presentation of documentary data in the future. 2026 will see us consulting with stakeholders across the globe on the best strategies to develop this vision.

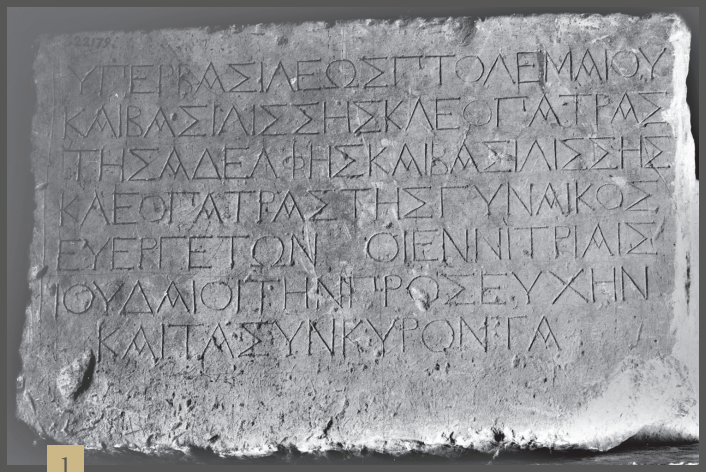
And so, as both of our large, ERC-funded projects approach a conclusion, CSAD enters a period of consolidation and planning. Both Crossreads and CHANGE have developed important research infrastructure that places the Faculty of Classics at the centre of digital developments in our disciplines. Now we are working to link those initiatives to build something larger. By bringing ever more information together in accessible and connected forms, we create the potential for the next generation of digitally enhanced researchers to ask broader and deeper questions.

*Fig. 1*
*Monetary CHANGE in Ancient Anatolia 630-30 BC*
*Finn Conway, Oliver Clarke, Leah Lazar, Marcus Chin, Noah Kaye, Andrew Meadows, Lucia Carbone, Tolga Tek, Peter van Alfen, Hüsseyin Köker, Selene Psoma, Chloë Colchester, Jarosław Bodzek, Bernhard Weisser, Aneurin Ellis-Evans, François de Callataÿ, Oğuz Tekin, Walter Shandruk, Alain Bresson, Helmut Lotz, Ulrike Peter, Frédérique Duyrat, Aliye Erol, Yavuz Selim Güler.*

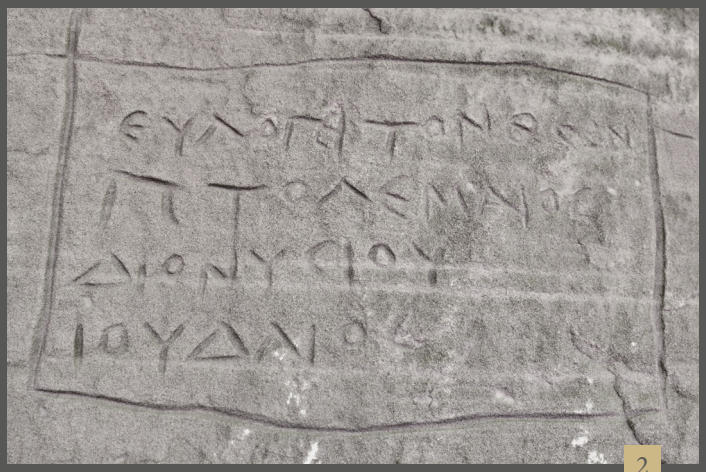
*Fig. 2.*
*Screenshot of the new interface of the LGPN website*

'CHANGE: The development of the monetary economy of ancient Anatolia 630-30 BC'
Has been generously funded by the ERC Horizon 2020 research and innovation programme, grant agreement no 86560

'Crossreads: text materiality and multiculturalism at the crossroads of the ancient Mediterranean' has received funding from the ERC Horizon 2020 research and innovation programme, grant agreement no 885040.



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# David Lewis and the Jews of Ptolemaic Egypt

**Alan Bowman**

David was a great believer in the Jewish tradition and the community, one of the products of which was that in 1964 he edited the Appendix of Inscriptions in Volume 3 of the *Corpus Papyrorum Judaicarum*. David's harvest of inscriptions for the Ptolemaic period, including Aramaic as well as Greek, in that 1964 volume was modest in quantity and perhaps does not quite emphasise the importance of the subject-matter. Since then new finds, mainly papyri but also new inscriptions, most of which have been collected in the recently published Volumes 4 and 5 of the Corpus, give us a very much richer body of evidence for the Jews in Ptolemaic Egypt, particularly the early part of the period (c. 300-140 BCE ). The Ptolemaic period is in fact the best documented era for Jews in Egypt; the quantity and quality of the evidence is not merely 'privileged' but unique and unparalleled elsewhere, even in Judaea where we have lots of evidence for the history of Judaism but much less for the history and nature of Jewish communities 'on the ground'.

After the very significant influx of Jews into Egypt from Judaea following the destruction of the first Temple in Jerusalem by Nebuchadnezzar II in 586 their continued presence can be traced at Elephantine (Aswan) and other sites through the period of Persian occupation of Egypt down to 332 BCE and beyond. Very early in the 200s BCE Judaea became part of the Ptolemaic overseas empire and remained so until the end of the third century. Josephus tells us that many 'captives' were sent to Egypt, and there is evidence in inscriptions and papyri for settlements of Jews in a variety of different locations, mainly in the Delta and the Fayum in the north, and a few in Upper Egypt.

By far the most significant new material since David Lewis compiled his dossier of inscriptions is a group of Greek papyri from Herakleopolis, at the southern apex of the Delta, dating to around the 140s BCE. These documents show that the Jews of Herakleopolis were organised in a quasi-civic body called a politeuma (as was also the case in Alexandria). This was clearly an ethnic group with administrative responsibilities, here responding to the Greek civic context and it is important to note the connection with embedded military elements, which are also known elsewhere. The adoption of Greek forms of civic government and officers is only one important part of the picture of 'hellenisation' and urbanisation in Egypt in the mid-second century BCE.

Another crucially important feature is that Ptolemaic Egypt provides the earliest evidence anywhere for synagogues, the Greek technical term for which is proseuche, a house of prayer. These are attested in the Delta and Fayum; there is nothing further south except at the Temple of Onias at Leontopolis, founded in the second century, and there is nothing from Judaea. There are no identifiable archaeological remains but there is clear evidence for proseuchai in different locations from the earliest Ptolemaic period, after 300. A bilingual inscription in Greek and Latin, probably from the reign of Cleopatra records a unique grant of asylum-status for a synagogue in the Delta probably originally made in the mid-second century and later reasserted.

There are many striking examples of the adaptation and response of individual Jews to the local cultural context, both Greek and Egyptian. Personal names are very often taken from the Greek repertoire. Intermarriage between Jews and both Greeks and Egyptians is extremely common. There are examples of marriage between Jews according to both Greek and (probably) Egyptian law and a mixture of Greek, Jewish and Egyptian customs. A loan agreement between Jews from Herakleopolis was drawn up according to Greek practice, Greek style epitaphs are quite common and there are dedicatory inscriptions in the Graeco-Egyptian style, including dedications 'on behalf of' the monarchs in which Jews avoid directly designating the Ptolemies as gods (Fig. 1). Nevertheless, Jews apparently had no compunction in eulogising the god at the Temple of Pan Euodos ('Provider of Good Travel') at El-Kanais in the Eastern Desert or using the formula of obeisance to the god of a Temple of Osiris.

*Fig. 1 CPI 185 Dedication of a synagogue Nitriai (Tell el-Barnugi) c. 141–30 or c.124–116 BC 'In favour of (ὑπέρ) King Ptolemy VIII, Queen Kleopatra II, and Queen Kleopatra III, Euergetai, by the Jews of Nitria, of synagogue and appurtenances'*

*Fig. 2 CPI 556, I. Paneion 34, Proskynema of Ptolemaios, Ioudaios*

# Translating Semitic names in the Greek East

Alison Salvesen

For someone long fascinated by the form, meaning, and origin of personal names, who also works at the intersection of Judaism, early Christianity, and the Hellenistic world, the publication of the latest volume of the *Lexicon of Greek Personal Names* is particularly exciting. The geographical range of *LGPN* VI is breathtakingly wide: effectively the Near and Middle East all the way to India, but more specifically Syria, Commagene, Phoenicia, Arabia (including the peninsula), Judaea/Palaestina, and Trans-Euphrates. In contrast to previous volumes in the series, for this region there are fewer epigraphical resources available, though mosaics in churches and synagogues in the region yield some names. However, there are many literary attestations including names that appear in the Greek Bible and Josephus, and additionally graffiti, weights, coins, and ostraka.

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Although Greek was the language of communal life in the region, and many of the names recorded in *LGPN* VI are fully Greek in both form and origin, the influence on its onomastics from Hebrew, local dialects of Aramaic, and pre-Islamic forms of Arabic is striking. But Semitic languages have several phonemes that Greek can't adequately reproduce or represent.[1] For instance, Hebrew and Aramaic names contain sounds represented by the letters *heh* (h), *ḥeth* (ḥ), *waw* (w), *ṭet* (ṭ), *ʿayin* (ʿ), *ṣadeh* (ṣ), *qoph* (q), *šin* (š), and additionally there are spirantized versions of the 'begad-kephat' letters. Another issue is that Hebrew and Aramaic nouns — including names — don't inflect for case. All this is challenging for a Greek lexicographical project because of the variety of ways a Semitic name may be reproduced. In the Greek Septuagint translations of Hebrew scriptures, names tend to be transliterated, and their morphology is not adapted to create forms that can be inflected. In contrast Flavius Josephus tends to 'hellenize', i.e. adapt the Semitic names (and he provides a statement to this effect in *Ant.* 1.129).[2] Both features – difficulty in representing Semitic phonemes, whether to adapt morphogically – can be observed in *LGPN* VI. 'Abraham', a name popular among both Jews and Christians of the broad period, is represented in many different forms: Ἀβραάμ, Ἀβρααμίας, Ἀβραάμιος, Ἀβραάμις, Ἀβράαμος, Ἀβράμ, Ἀβράμης, Ἀβράμιος, Ἄβραμος. The patriarch Jacob is another biblical figure strongly associated with northern Mesopotamia, and his name also occurs several times in the New Testament (in the West, usually rendered as James), so we find both Jews and local Christians called Yaʿqob/ Ιακωβ/ Ιακωβος). Other 'biblical' names apparently borne by both Jews and Christians include Samuel, Jeremiah, Haggai, Judah, Samuel, Martha.

Moving away from the Bible, Alexander is well attested among Jews, perhaps due to the Hasmonean king Alexander Jannaeus, and among women, Salome, perhaps referencing Queen Salome Alexandra, and also Mariamme, not only the name of the ill-fated wife of Herod the Great but also Miriam's sister in Exodus. (During the Second Temple and Mishnaic Period around half of the female population of Palestine may have been called either Salome/Salomezion or Mariamme/ Maria.[3]) Abgar, the name of several kings of Osrhoene, one of whom is said by Syriac tradition to have converted to Christianity shortly after Christ's death, occurs many times in a range of sources, usually as Αβγαρος.

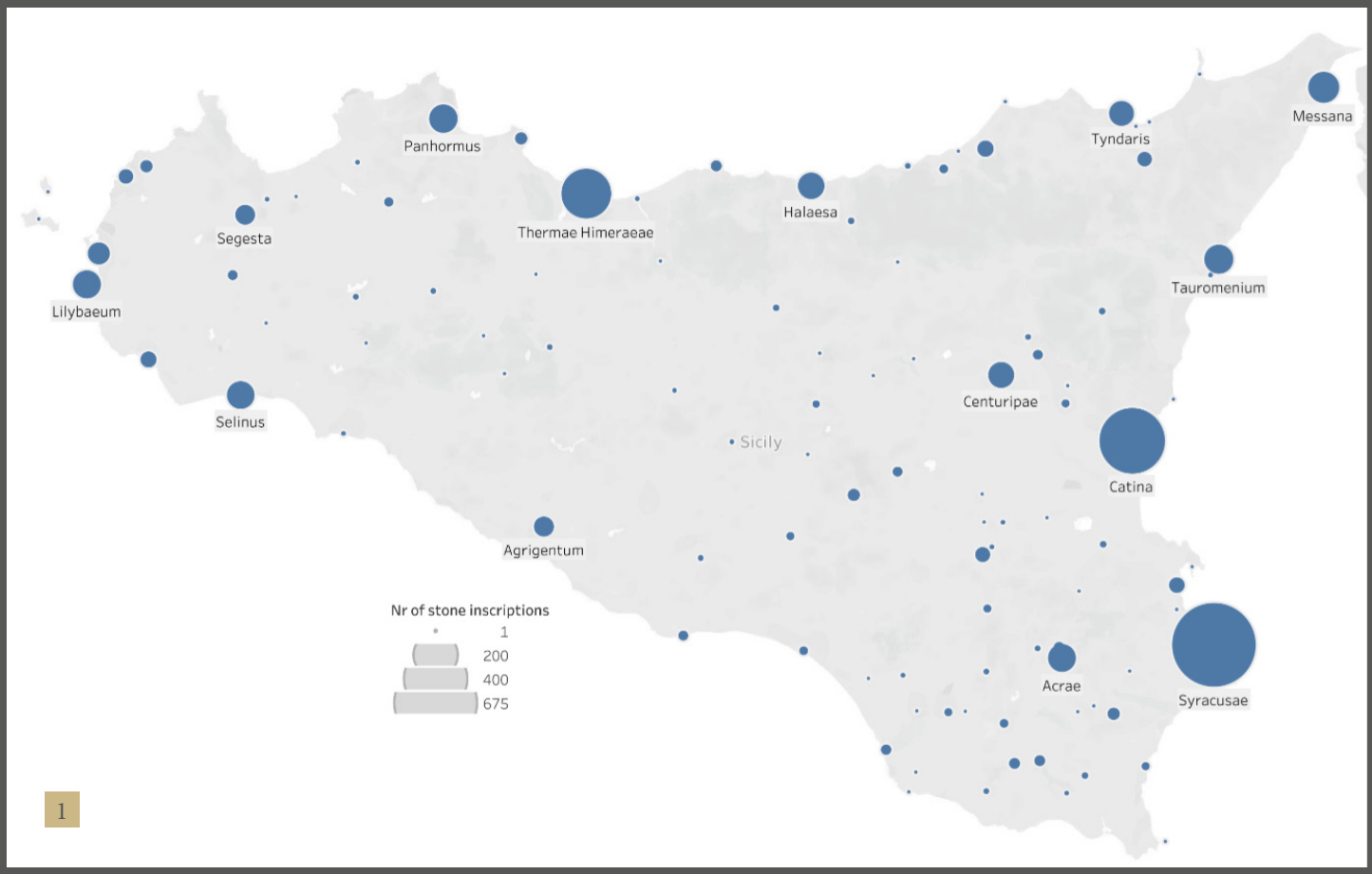
Also of particular interest in the volume are the Semitic theophoric names taking the form 'servant of X', with the element *ʿbd-* (fem. *ʾmt-* ) preceding the deity's name: hence names such as Αμαθαλλαθ, 'maidservant of 'Allat', and Αβδασαμσος, 'servant of Shamash'. All in all, *LGPN* VI is a fascinating browse and a very useful tool.

*Fig. 1*
*SEG 61 1370.12: funerary inscription in a tabula ansata from the necropolis of Perrhe in Commagene with the names Abraham (Αβραάμι[ος]) and Benjamin (Βινιαμήν).*

1 See Giulia Grassi, *Die semitischen Personennamen in den griechischen und lateinischen Inschriften aus Syrien und dem Libanon*. FoSub 13 (Berlin/Boston: De Gruyter, 2024), 13–15.

2 Robert Crellin, "What's in a (personal) Name? Morphology and Identity in Jewish Greek Literature in the Hellenistic and Roman Periods". *Postclassical Greek: Contemporary Approaches to Philology and Linguistics*, eds. D. Rafiyenko and I. Seržant (Berlin/Boston: De Gruyter, 2020), 245–82.

3 Tal Ilan, 'Notes on the Distribution of Jewish Women's Names in Palestine in the Second Temple and Mishnaic Periods', *Journal of Jewish Studies* 40/2 (1989), 186-200.




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# Crossreads: time to choose the next turn in the road?

**Jonathan Prag**

Inscriptions are one of our most important sources of evidence from the ancient Mediterranean. Traditional methods (and the limitations) of publication mean that until recently most of the emphasis was placed upon the text in isolation from its setting, but also that, for instance, Greek inscriptions and Latin inscriptions were published in different places (and good luck finding the Punic ones). It was not that epigraphers didn't realise that 'materiality' and context mattered, or that much of the ancient Mediterranean was multilingual, but everything the academy did made it more difficult to integrate such information. A major factor in the recent shift of emphasis (epigraphic studies are now being published with titles such as The Materiality of Text) is undoubtedly the digital revolution, making more information available and in new ways. The fundamental aim of the Crossreads project was to build on this idea, using the I.Sicily digital corpus of inscriptions from ancient Sicily, and to see how far we could go in exploring the epigraphic culture of one of the most multilingual regions at the heart of the ancient Mediterranean. As an EpiDoc corpus, I.Sicily made it possible to bring together very rich data about the inscriptions with a full encoding of the text, both its form and content; and such a corpus is essentially language neutral, enabling us to include Greek, Latin, Punic, Sikel, Elymian, Oscan and Hebrew. The project had three major strands: linguistic, petrographic, and palaeographic, each led by a specialist post-doctoral researcher, and described by them in more detail below. This work was accompanied by continuing fieldwork and collaboration with Regione Siciliana and the island's museums has been fundamental, continuously enriching the I.Sicily corpus, particularly with high quality photographic documentation. Although there remains much work to be done, a core dataset of 3,200 stone inscriptions is now available (rising to at least 4,000 on completion), alongside well over 1,000 on other materials. The ultimate ambition is not only to track patterns within each of these sub-projects, but to begin to see where and how they might cross over.

At first sight, it might seem odd that almost no epigraphic corpus to date has been linguistically annotated. Inscriptions are an essential source of linguistic information, particularly for regional and diachronic variation and linguistic interference; and many inscriptions are available in some form online, and many linguistic corpora are available for other texts. But, as Robert Crellin's description of the work involved makes clear, the challenges involved in actually annotating epigraphic texts specifically are considerable, and it quickly becomes less surprising. As the work of Robert, and Victoria Fendel, has shown, with such information it quickly becomes

*Fig. 1.*
*Distribution of stone inscriptions in antiquity (data from http://sicily.classics.ox.ac.uk, 05.09.2025, n = 2570, islands excluded).*

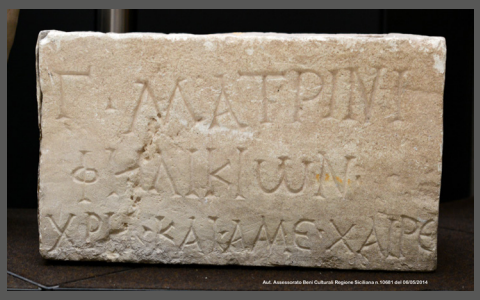


*Fig. 2*
*ISic003359*
*Cinerary urn for Caius Matrinius Felicio, Roman imperial period, Museo Archeologico Regionale Paolo Orsi, Siracusa, inv. 22226 (photo J. Prag).*



*Fig. 3*
*ISic000770*
*Dedication by M. Aimilios Rho[---], first century BCE, Antiquarium e sito archeologico di Halaesa, inv. ME 20223 (photo J. Prag).*

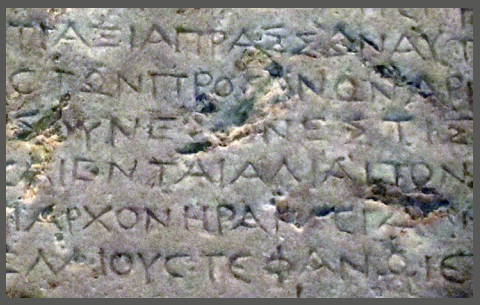


*Fig. 4*
*Detail of ISic001076, second century BCE decree in honour of a gymnasiarch from Phintias, showing mixed use of lunate and standard epsilon and sigma (photo R.J.A. Wilson)*

possible to explore, in a systematic way, questions relating to the cross-over of formulae between languages, but also more nuanced questions such as the use of abbreviations across languages or even punctuation and word-breaks. This is epitomised by the ash-chest for Gaius Matrinius Felicio (Fig. 2), combining Syracusan Greek funerary formulae (χρηστὸς καὶ ἄμεμπτος, 'worthy and blameless') with Latin abbreviation and punctuation practices, and illustrating the cultural crossover of the city in a way that the absence of 'true' biversion bilingual inscriptions all too easily conceals.

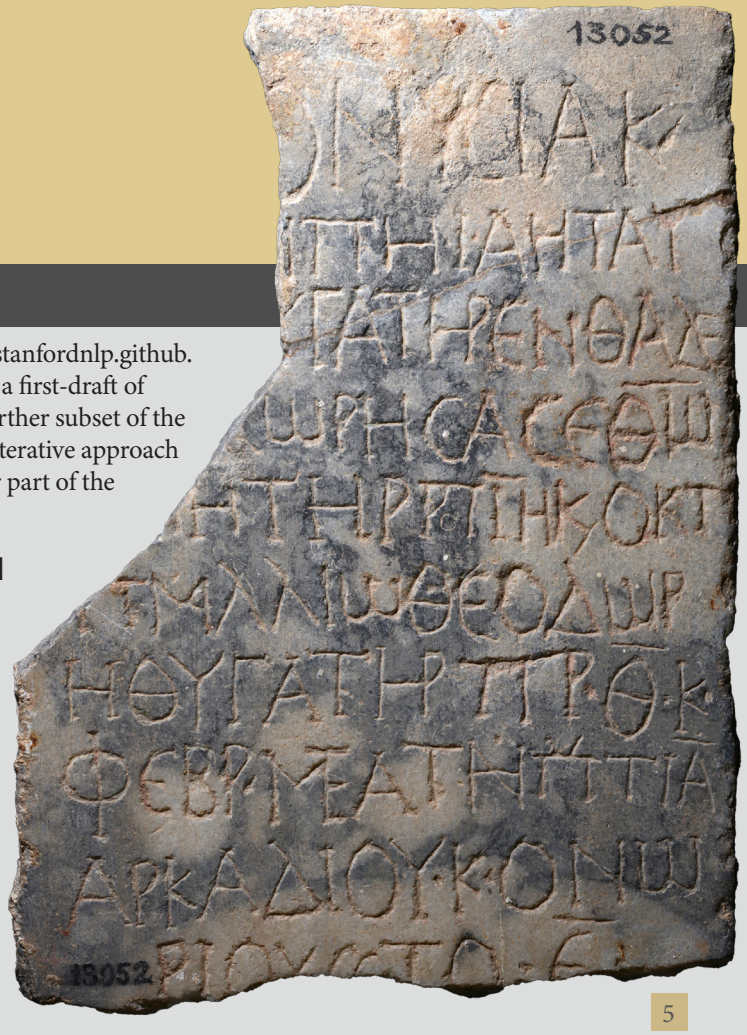
Epigraphers are notoriously bad at identifying types of rock – but as Alessia Coccato spells out, getting it right is far from trivial. A 'Marble' in the early literature often quite simply means an ancient stone, and even in the recent literature 'marble' is generally applied to any polished stone irrespective of type. A quick read of Ben Russell's *Economics of the Roman Stone Trade* brings home quite what it might entail to move stone from one end of the Mediterranean to the other. So, given that Sicily lacks true marble, getting it right quickly becomes quite important. At Halaesa on the north coast of the island, it is very obvious that the epigraphic language switches from Greek to Latin almost overnight in the Augustan age. What we can now trace alongside this, is a differentiation in the Hellenistic period between blocks of local, fine-grained marly limestone for honorific monuments and blocks or stelae of compact white limestone from elsewhere on the island for public documents; but then there is a no less sharp transition in the Augustan period to imported marble plaques, first from northern Italy, and subsequently from the eastern Mediterranean (a similar pattern to Rome). Once again, this is epitomised in a single text (Fig. 3), sitting right on this moment of transition, a dedication by a very Italic-sounding Marcus Aemilius Rhodon, son of Kipos, using a plaque of the traditional regional compact white limestone, inscribed in Greek, but with very Roman hollow triangular interpuncts - no doubt he intended to emulate the new use of marble plaques, and just before the use of Latin becomes the local cultural norm.

Another epigraphic 'tradition' is the (optimistic) assumption that we can date inscriptions by letter forms. The changing letter forms in early Greek inscriptions (not least in Sicily) are an important part of the development of the Greek alphabet, but the variations in form after c.400 BCE, or in the Latin alphabet under the Roman empire, are something of a minefield (see Fig. 4). The Crossreads project has provided the perfect forum for Simona Stoyanova and King's Digital Lab to develop a powerful new tool for the systematic annotation of letterforms, linking text with image and establishing letter typologies that can be documented and repeated across the corpus. It now becomes possible to compare the presence of letter types across time and space at the click of a button (and quickly discover that certain traditional assertions about particular letterforms are much more fragile than might have been assumed…). A new project about to begin offers the exciting possibility to scale up this very labour intensive work using AI.

Digital projects live under the permanent shadow of technical debt: the existing I.Sicily website is over 10 years old, and increasingly at risk. One of the greatest challenges has been finding ways to make this wealth of new data accessible and searchable. We have been working closely with King's Digital Lab, who have been responsible over the years for many digital epigraphy corpora, such as the pioneering Inscriptions of Aphrodisias, and we will soon be able to launch a brand new website for I.Sicily, alongside a new IIIF image server being developed here in CSAD. Together these tools will make it possible to search and browse the inscriptions and their imagery, alongside the palaeographic and petrographic information and images, while the lemmatisation will make full word-searching possible. All the data is already freely available on GitHub, but the interfaces built by KDL, including dynamic data visualisation tools, mean that anyone can now query the data for themselves in many different ways. The work of crossreading has only just begun.

# Linguistic analysis

**Robert Crellin**




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The linguistic work for the CROSSREADS project can be seen as falling under four distinct headings: tokenisation, linguistic annotation and analysis, the analysis of punctuation and abbreviation practices, and the development of digital tools.

## Tokenisation

Tokenisation is the process of turning a stream of characters--in this case on an inscription—into word-like units. (The question of what constitutes a 'word' in these contexts is actually more intricate than it at first sounds: what should one do with -que and -ve?) I decided to tokenise the corpus by writing some software, namely, PyEpiDoc, to do it. This has the advantage not only of speed and accuracy (once up and running), but also of being able to apply it to other corpora in future which have not already been tokenised, of which there are a large number.

## Linguistic annotation and analysis: Greek, Latin and Hebrew

Once you have a set of words, it is extremely helpful to be able to search over them not only by the form in which they appear on the inscription, but also by their dictionary form. This is the process of lemmatisation. Lemmatisation of the corpus was done collaboratively over the course of the project, by Dr Victoria Fendel, Dr Dmitry Dundua and myself. In the first instance this involved 'manually' attributing dictionary words to each token in a set of inscriptions. This task was made more complicated by the issues, particularly in Greek, of dialect -- which dialect do you use for your 'dictionary' forms? – and also loanwords from Latin into Greek – do you use the Latin word or the Greek word as the dictionary form? Once a subset of the corpus has been lemmatised, it was possible to leverage the work that has already been done by training a machine-learning model, using Stanford's Stanza NLP package (https://stanfordnlp.github.io/stanza/) to generate a first-draft of lemmatisations on a further subset of the corpus. I adopted this iterative approach particularly for a major part of the Latin inscriptions.

## Abbreviation and punctuation practices in Sicily and in the wider Roman world

We have been adopting a similar approach to morphological and syntactic analysis of the corpus: a considerable amount of 'manual' annotation, using tools such as Sketch Engine and my own Syntax Treebank Annotator, followed by model-training to speed up the process.

It has also been possible to apply many of these principles to treebanking in other contexts, notably Biblical Hebrew (https://doi.org/10.11647/obp.0463.04), which has yielded insights into Biblical Hebrew prosody (https://doi.org/10.11647/obp.0498.05).

We have analysed the inscriptions not only in linguistic terms, but also for what they reveal about writing practices, for example, in my investigation of punctuation practices in the I.Sicily corpus (https://doi.org/10.5281/zenodo.7913039). Related to punctuation is the practice of abbreviation: Latin inscriptions abbreviate very extensively, but, curiously, Greek inscriptions are much less liable to do this. We brought together a group of international scholars to discuss this question in the context of practices elsewhere in the ancient and medieval worlds. This provided a springboard for further work looking at the transfer of abbreviation practices from Latin epigraphic culture to its Greek counterpart across the Mediterranean, offering insights into the question of 'Romanisation' in Greek-speaking regions of the Roman world.

## Development of digital tools

At the heart of linguistic work of the project has been the development and use of digital tools: to streamline the workflows, facilitate manipulation of the data between the different formats used, and to conduct quantitative analysis. Two particularly important tools have been PyEpiDoc and the Syntax Treebank Annotator.



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*PyEpiDoc*
(https://github.com/rsdc2/PyEpiDoc)

PyEpiDoc is a Python library for manipulating TEI EpiDoc files. Its tokenizer has been a key part of the tokenization of the I.Sicily corpus, facilitating the placing of unique IDs on each token, to which analyses can be subsequently related. It also provides advanced tools for querying and analysis of EpiDoc corpora in the Python ecosystem, facilitating work on corpora such as I.Sicily in tools such as Jupyter notebooks.

This in-browser syntax annotator enables the production of treebanks in a way that is independent of any particular dependency grammatical paradigm, as well as secondary dependencies.

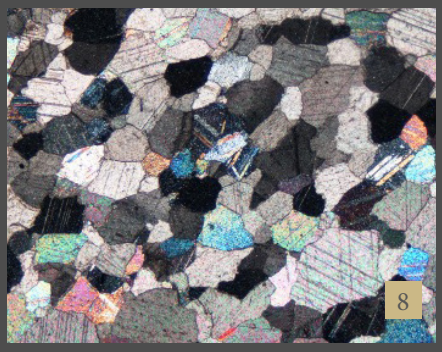
## Conclusion

While there remains much work to do, the hope is that the work here constitutes a solid foundation for future linguistic analysis not only of the I.Sicily corpus, but also of comparable corpora from the ancient world, leveraging new digital tools to maximise the potential of these corpora to tell new stories of the Greek and Roman worlds.

*Fig. 5.*
*ISic001763*
*Epitaph for Dionysia and Pompeia, 403 CE, Catacombs of S.Giovanni, Syracuse (Museo archeologico regionale di Siracusa, inv. 13052). The inscription employs all forms of abbreviation: suspension, contraction, both in combination, and initial doubling.*

*Fig. 6.*
*ISic003078*
*Imperial period epitaph for Phabios Satornilos (Museo Regionale Archeologico Pietro Griffo), with inter-syllabic punctuation. (Photo J. Prag)*


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# Petrographic and pigment analysis

**Alessia Coccato**

Surprisingly enough, the 'hard' materiality of inscriptions has scarcely been considered in epigraphic studies. The Crossreads project dedicates a full work package to petrography, as stone is one of the most widely used epigraphic supports – or at least the one that survives most frequently. Rocks are natural materials and occur everywhere, however, not all of them are suitable for carving letters (although people sometimes tried. Fig. 7). Also, not all of them have the same physical and cultural values attached to them. Inscriptions have often been carved on locally available stones, highlighting precise choices and differential use of natural resources. Nevertheless, one of the most common epigraphic supports in the ancient world is white crystalline marble, even if its natural occurrence is limited to certain regions. In fact, its distribution across the Mediterranean means that its use requires a sophisticated management of quarries and a well-established transport network. The precise identification of rocks (and therefore their provenance) is crucial for both ancient economic and cultural history. In order to perform this identification, one can resort to the analytical methods used by geologists, which may need to be adapted to meet conservation requirements.
We therefore apply a systematic fully non-destructive analytical approach to artefacts in museums and archaeological sites coupled with a limited sampling campaign for performing micro destructive geological characterizations in the lab.

## Rocks

Rocks are natural materials, composed of aggregated minerals, which are in turn made up of atoms. The way atoms combine in a regular structure defines each individual mineral, and the types, proportions and properties of different minerals are used in geology to assign names to rocks, which also reflect their genesis (sedimentary, metamorphic, igneous). The traditional geological approach is minero-petrographic, which aims at identifying the minerals and their arrangement in a rock. This is typically done on a fragment of the rock, and it generally requires two non-destructive analyses (in the sense that the sample is preserved and can be re-studied): X-ray diffraction (XRD) on a powdered sample to establish its mineralogical composition, and transmitted light microscopy on a so-called thin-section of the rock to identify minerals, the grain size and shape, presence of microfossils, etc. (Fig. 8). However, this approach cannot be applied systematically to cultural heritage objects, as sampling is often not allowed. Fully non-invasive approaches used in archaeometry are therefore exploited, such as portable

*Fig. 7*
*ISic000312, Museo Civico di Catania, inv. 1335 (Photo J. Prag).*
*Block of Aetnean vesicular basalt. The texture of this igneous rock, and the presence of vesicles formed by gas bubbles in the lava, make it challenging to carve*

*Fig. 8*
*A thin section of ISic000104 under the petrographic microscope*





*Fig. 9*
*ISic002748,*
*Painted inscription Siracusa. Fully non-destructive pXRF and Raman analyses indicate the presence of a complex mixture of red pigments, including a red ochre (iron-containing), lead- and arsenic-containing pigments. Museo Archeologico Regionale Paolo Orsi, Siracusa, inv. 6381 (Photo J. Prag).*

*Fig. 10*
*Fossil-bearing Sicilian sedimentary rocks: ISic001472*

X-ray fluorescence (pXRF), which yields semi-quantitative elemental compositions, and microphotography in reflected light with a digital microscope, which can successfully highlight some minero-petrographic features of the stone support without the need to extract a sample.(Fig.10)

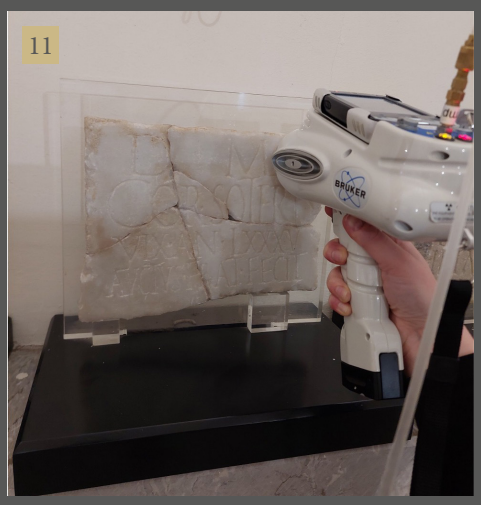
Months of petrographic fieldwork in Sicilian museums and archaeological sites, as well as extended stays at the laboratories of the Earth Sciences section of the Department of Biological, Geological and Environmental Sciences of the University of Catania (Italy) enabled me to gather detailed multi-analytical data on more than 750 inscriptions, combined with the acquisition of micro-samples from c. 250.

This enabled the interdisciplinary team to investigate the exploitation of Sicilian rocks through time and to explore the long-distance trade routes involving Sicily in antiquity. Expert advice on Sicilian geology has been provided by colleagues from the Earth Sciences department at the University of Catania, and enables us to identify which rock types were highly prized for carving letters. Alongside this, the well-established literature on the analytical identification of crystalline marbles in archaeology enables us to assess the provenance of the imported supports, whether from the Eastern Mediterranean, or from Luni-Carrara (Italy). In addition, a range of coloured stones was exploited in Sicily in Roman times, comprising both locally available and imported lithotypes.

The interpretive challenges of such a systematic petrographic approach are still unfolding as we process the data. They range from the simple volume of data processing (for example the calculation of standardized concentrations of c. 20 elements from each of the c. 3000 pXRF spectra acquired on site, using a tool developed in collaboration with King's Digital Lab, King's College London), to the development of a standardised petrographic vocabulary to ensure machine readability and reproducibility of results while minimising misunderstandings across disciplines, to the identification of the relevant rock outcrops on geological maps and in the field, to the actual comparison of data with the archaeometric literature. This latter highlighted the pioneering approach deployed in Crossreads, as limited studies are available on the historical use of specific rock types, and even fewer about materials in epigraphy.

## Pigments

The physical materiality of inscriptions is not limited to the support, but includes pigments, mostly red, which were used either to paint or to fill in the carved letters (Fig. 9). The economic and cultural value of red pigments in antiquity has already been assessed in ancient polychromy and archaeometrical studies, and is understood in the ancient literary sources, but again has scarcely been considered in the field of epigraphy. In parallel to the geological work, archaeometric analyses have been carried out on traces of pigments, revealing for the first time a similar palette for inscriptions and ancient polychromy more broadly. The availability of analytical data on materials used (from pXRF and Raman spectroscopies), and the interdisciplinary approach shared by the Crossreads team, helps to shed light on the social, cultural and economic context in which an inscription was created and displayed. The data acquired in the framework of Crossreads can be considered as a playground for developing new data treatment strategies and exploring pathways in interdisciplinary research.





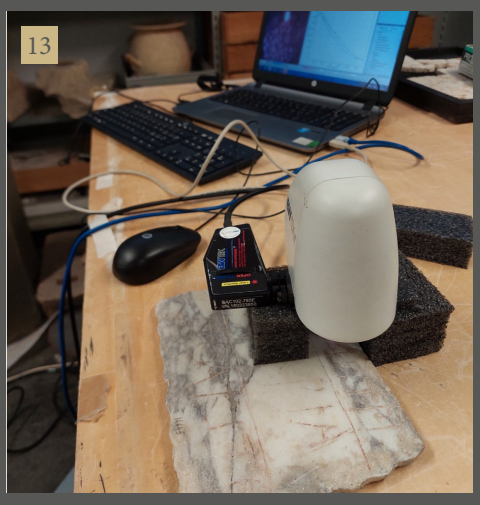
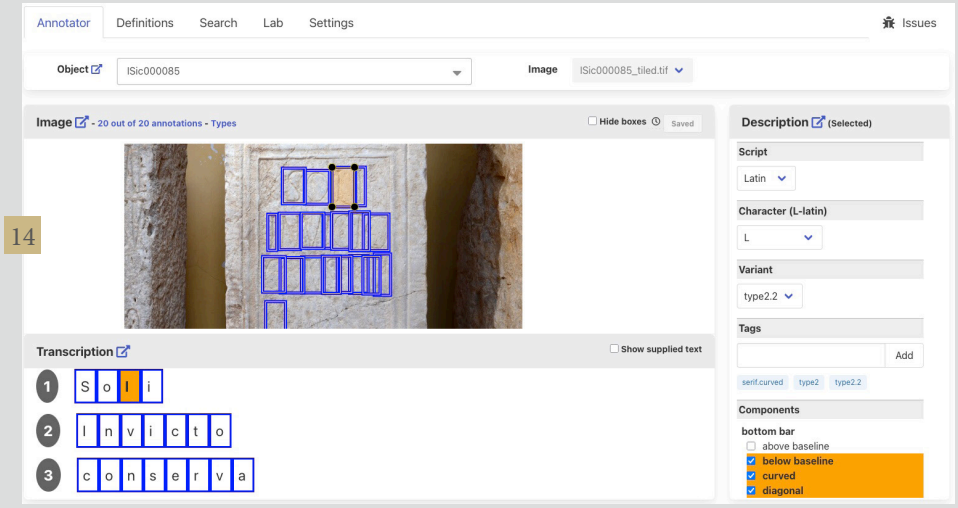



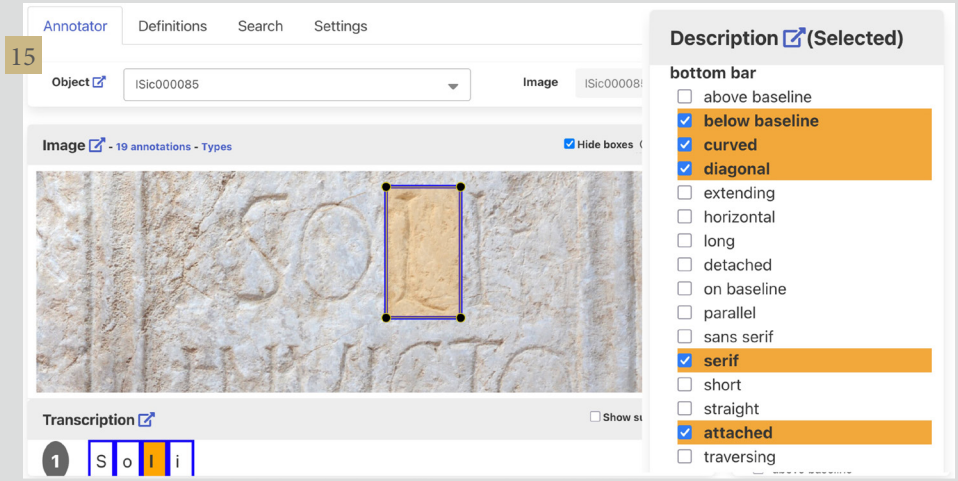
*Fig. 11-13*
*Minero-petrographic fieldwork for the characterisation of rocks (left: pXRF and centre: digital microscopy) and of pigment traces (right: Raman spectroscopy)*

# Palaeographic analysis

Simona Stoyanova




14




15

The outputs of this module include an annotation, search and exploration environment (software, documentation, dataset), a typology of Ancient Greek and Latin letter forms attested in a selection of Sicilian inscriptions, a working group of colleagues from national and international institutions, and a series of forthcoming publications.

The academic impact of our long-term sustainable approach has already been demonstrated through the creation of an international working group, which has grown steadily and encompasses colleagues working on palaeography across Ancient and Mediaeval epigraphy, ranging from North Africa to Asia Minor and Mediaeval Ireland. This has enabled us to ensure that our methods and standards are applicable far beyond the confines of classical Greco-Roman epigraphy. In our meetings we identified the need to improve and supplement the palaeography section within ongoing development of an epigraphic ontology for Linked Open Data (part of the FAIR Epigraphy project, based in the Faculty of Classics). The ontology is currently in its final review stage, preparing for publication.

The annotation tool was developed in collaboration with King's Digital Lab, and is already packaged and documented for immediate use or further development in the future. It is intended for dissemination and reuse by researchers working on palaeographic analysis of historical documents at large. The tool includes an annotation interface, a list of definitions of letter forms, a rich exploration and search environment and linking back and forth to the main ISicily corpus website to provide a seamless path for comprehensive research across both the corpus and the more specialised palaeographic dataset. (Fig. 14 and Fig. 15 show details of the annotations of ISic000085)

Emerging from the palaeographic study of both Ancient Greek and Imperial Latin inscriptions from Sicily, we have also created a reference tool of attested letter forms, which crystalised into a typology. Organised in a hierarchical fashion, where appropriate (e.g. A1: A with straight crossbar → A1.1: A with straight crossbar, ascending → A1.1.1: A with straight crossbar, ascending from the baseline), each type has its own unique URI and webpage which includes a definition, thumbnail image and a list of other attested examples from the I.Sicily corpus, which leads the user back to the annotation environment for a more comprehensive overview. (Fig. 17)

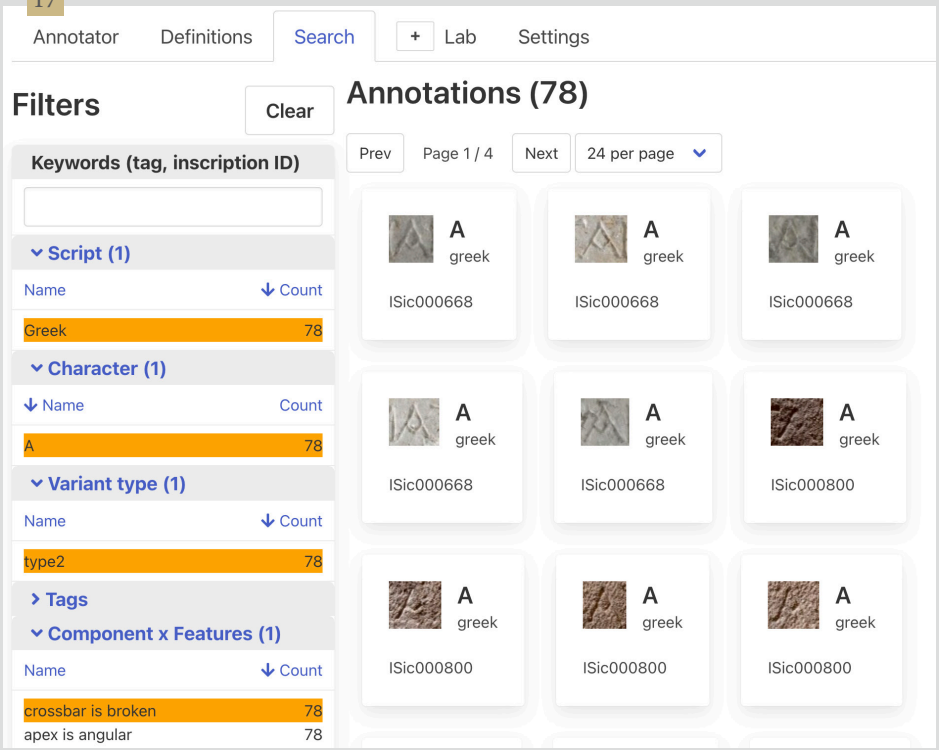
Finally, we are working on a number of publications, larger and smaller, including a forthcoming edited volume on palaeographic research on epigraphic material across the Mediterranean.

From the c. 4,700 inscriptions currently included in the I.Sicily corpus, we identified three historical subsets with good coverage of high-quality images plus recently reviewed editions: Archaic, Hellenistic and Roman Imperial. A further selection of appropriate inscriptions from each of these periods followed, the main concerns being the material state of preservation, the possibility of autopsy, the available image quality, and not least the number of

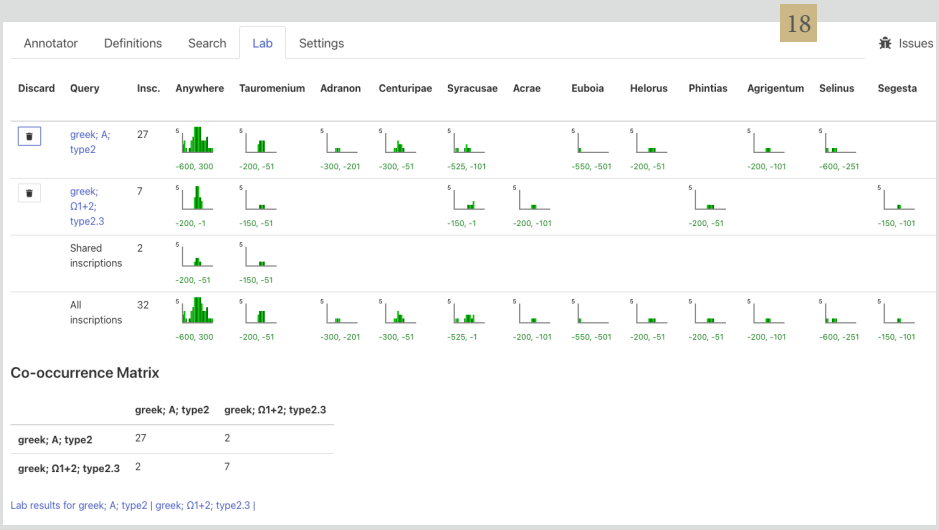
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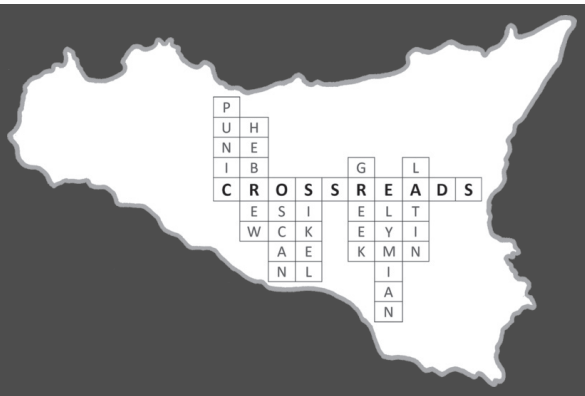

surviving letters on the inscribed surface, as too much fragmentation would not be useful.

The palaeography annotator's main functions are 1) creating an annotation by linking a section of the (IIIF) image of an inscription to the corresponding character in the (TEI EpiDoc) text transcription; 2) storing structured descriptions of letter forms and variants, organised in a hierarchical and logical way; and 3) providing a search and exploration environment across these definitions, which have crystalised into a typology (Fig 17 is the different types of alpha; Fig. 18 is the co-occurrence graph for particular types of alpha and omega). This bottom-up, systematically documented typology is intended as the foundation for a larger-scale reference source for epigraphic palaeography, where colleagues working on other corpora can link up their resources and contribute their definitions, annotations and examples following this structure.

Within the Archaic Greek material that we annotated using this methodology, we were able to track the spread of the various Greek epichoric alphabets working their way across Sicily during the 7th-century colonisation of the island and the ways in which they interacted with the local Elymian and Sikel languages, which were inscribed using Greek characters. Along with the adoption of this new technology comes also localisation and the introduction of indigenous characteristics and combinations of letter forms which do not correspond completely to the character sets of the colonising Greek cities. (Fig. 16. ISic003644, Sikel inscription exhibiting the local alpha siculum)

The focus of our research on the Hellenistic material was dating approximation, given the scarcity of securely dated inscriptions in Sicily from that period. A larger dataset than the Archaic material, this allowed us to compare more tightly dated examples to inscriptions with a two- or three-century time span, thus providing comparison data for narrowing the chronology.

A major part of the interdisciplinary ethos of Crossreads has been collaboration between the different research modules for the study of Ancient Sicily. Combining palaeographic research with material analysis from the petrography module has allowed us to identify production pipelines through various observations: suspiciously similar lettering on distinct documents where local stone was employed; patterns of reuse of material, particularly imported marble; and the use of microscopic imagery, which allowed us to see faint guidelines and other traces of preparation, otherwise impossible to observe with the naked eye.




## Ancient History Seminar Trinity Term 2026 Tuesday 5 o'clock

# Crossreads and the epigraphic culture of Sicily

### Organised by Jonathan Prag

**Week One** (28th April 2026) Jonathan Prag (Oxford): 'Crossreads and the epigraphic culture of ancient Sicily'

**Week Two** (5th May 2026) Robert Crellin (National Bible Societies): 'Charting the rise and fall of Greek abbreviations in the Roman Empire'

**Week Three** (12th May 2026) Pascal Warnking (MarDepend - Maritime Dependencies in Syracuse Project, University of Trier): 'Bean Counting: Quantifying the Sicilian Economy Using iSicily'

**Week Four** (19th May 2026) Simona Stoyanova & Charles Crowther (Oxford): 'Hellenistic palaeography: comparing approaches and exploring stylistic trends'

**Week Five** (26th May 2026) Alessia Coccato (Oxford) & Devi Taelman (Vrije Universiteit Brussel): 'Marble in Roman Sicilian Epigraphy: Material Provenance in a Mediterranean Perspective'

**Week Six** (2nd June 2026) Silvia Evangelisti (Università degli studi di Foggia) & Silvia Orlandi (Sapienza Università di Roma): 'Epigraphic Database Roma (EDR) and ISicily: Comparing Italian and Sicilian epigraphy'

**Week Seven** (9th June 2026) Valentina Mignosa (University of Ca' Foscari Venezia): 'The Materiality of Writing in a Multilingual Landscape: Epigraphic Habits in Archaic–Classical Sicily

**Week Eight** (16th June 2026) Ilenia Gradante (Istituto Centrale per il Restauro, Servizio Beni Archeologici, Roma) & Lucia Maria Orlandi (SIGN-IT, École française de Rome) 'Recent research on signacula: challenges and prospects for data modeling and analysis'

# Romano British Writing Tablets

### Alan Bowman

The *Roman Inscriptions of Britain Volume IV: the Wooden Writing-Tablets*, edited by Alan Bowman and Alex Mullen is nearing completion and is expected to be ready to go to press in the autumn of 2026. This is a large corpus containing abridged editions of all of the published tablets from Roman Britain, about 1200 in total, which mostly derive from three sites, Vindolanda, Carlisle and the Bloomberg European headquarters site in London. This is a product of the British Academy Research Project 'Romano-British Writing Tablets (co-Directors Alan Bowman and Alex Mullen), and brings together for the first time a thoroughly revised collection of these important Latin documents. Work on a fifth volume containing texts on lead and other metals, edited by Roger Tomlin, is in progress.

Two further important outcomes of this BA Research Project in which CSAD is involved are:

1. The award to Mullen of a grant from the AHRC of just over £1.4 million to lead the project *Voices of Britain under and after Rome*, in partnership with the University of Glasgow, The Classical Association, Classics for All, the British Museum, and the Roman Baths Museum. This project will involve research on the tablets, including the Bath curse tablet collection which has not been thoroughly studied since the 1980s. This will begin in October 2026.

2. Mullen has secured AHRC funding of c. £115,680.00, plus international fees from the University of Nottingham, for a Collaborative Doctoral Partnership with the British Museum *Decoding the Vindolanda tablets: Generative AI to reassemble, read and restore Roman handwritten texts*. It is hosted at the University of Nottingham, with the British Museum and the Centre for the Study of Ancient Documents as partners. This began on 1 October 2025 and will run for 4 years.

**What did the voices of Britain sound like during and after the Roman period?**

*Voices of Britain* will leverage cutting-edge technology, including bespoke AI models developed in recent projects, to analyse millions of data points and images from extensive datasets, such as *Roman Inscriptions of Britain Online* and the *LatinNow* project (both hosted by the CSAD at the Faculty of Classics). This approach aims to uncover new insights into regional and social patterns, connectivities, and the experiences of communities under and after Roman rule.

*"We have a unique opportunity in this project to combine innovative methodological approaches and large datasets to transform our understanding of language and culture in early Britain."*

*Alex Mullen*

# In Memoriam
# Barbara Levick



*Barbara Levick by Catriona Jane Cursham. Courtesy of St Hilda's College, Oxford.*

**by Katherine Clarke**

Barbara Levick's association with St Hilda's spanned sixty-six years (1957-2023), leaving it no wonder that I was introduced simply as 'Barbara's successor' for a decade after my appointment. In college, Barbara shaped the study of Ancient History with inimitable style. Her stamp was nowhere more visible than in the library over which she held sway for thirty-five years as Librarian (1956-74) and then Fellow Librarian (1974-91), resulting in an exceptionally rich collection for studying the ancient world. Occasional glimpses into her life as a tutor made clear why her pupils found her formidable, bewitching and utterly unforgettable. When, ten years after Barbara's retirement, we co-marked the most popular Roman History finals paper her sharp eye was much in evidence, and her gentle rebukes when she felt I had been hoodwinked by an over-confident bluffer – 'he's got you there' – were hard to counter! Sharing pupils and scripts with Barbara made clear not only how discerning she was, but also how much fun it would have been to work with her more often.

My first encounter with Barbara was, however, not through the college but in her faculty role as Director of Graduate Studies, when, as a new graduate, I was invited to her riverside pad in Milham Ford. The meeting was accompanied by a small glass of something delicious at a surprisingly early hour of the day. Barbara was warm, encouraging, thought-provoking, and razor sharp, the perfect adviser to a new doctoral student. Her former supervisees bear eloquent witness to her exceptional impact as knowledgeable guide, sharp but friendly critic, and generous supporter to the countless graduate students who worked with her more closely.

Barbara's impact in the faculty and beyond lay, of course, not only in the warmth and energy of her personality, but also in the formidable quality and extraordinary breadth of her scholarship. The centrality of her work to everything one wants to say when teaching Roman history remains undiminished. Whether it be distinctive or provocative propositions – Claudius as imitator of Julius Caesar, the descendants of Augustus' marriage to Scribonia being systematically bumped off by his later wife Livia, or unforgettable phrases – 'Buggins turn' to explain the Republican principle of the rotation of power, 'an heir and a spare' perfectly summing up the succession planning of the Julio-Claudian emperors, Barbara wrote brilliantly for all constituencies. Her article allowing Domitian's wife to tell her own story in the first-person singular was a masterpiece of historical insight and captivating imagination. The clarity and memorability of her work gave it both immediate and lasting impact, and underpinned both her reputation as a scholar and her effectiveness as a tutor.

But Barbara's research interests spanned far beyond core periods of Roman history, and alongside innovative, indeed pioneering, work in women's history, much of her early research was rooted in the then rapidly expanding world of documentary evidence. Her own doctorate in the mid-50s was, of course, focused on Anatolia and its epigraphy, for which Barbara made two solo trips to Turkey, placing herself in a largely male tradition of epigraphers travelling in the region. Typically, Barbara ventured off the beaten track in even this challenging and vast area, focusing on Pisidia; typically again, she was the only one of the travellers to publish a distinguished monograph as a result of her research expeditions, *Roman Colonies in Southern Asia Minor* (1967). Her intrepid travels epitomised much of the spirit of the former women's colleges, with Barbara belonging to a generation of female academics whose contributions were often under-celebrated but carried lasting impact. Barbara's expertise in this field would come to the fore again decades later in her major collaboration with Stephen Mitchell on *MAMA* IX and X, presenting over a thousand new inscriptions. Her work in Numismatics also blazed a trail for later research, her 'Propaganda and the Imperial Coinage' (1982) raising critical questions about the relationship between moneyers and their 'audiences'. Many of Barbara's polymathic interests translated into critical support for the study of documentary evidence within the university - she was instrumental in securing the release of the Greek Numismatics post and in the establishment of the Centre for the Study of Ancient Documents itself!

Barbara's legacy includes her vast, unrivalled library. Her prize-books from Brighton and Hove High School and St Hugh's College indicate her stellar academic start. The early research trips are also represented, her extensive collection of travel books, maps, and guides serving as a memorial to her bold and pioneering nature. Barbara's library also shows traces of her own illustrious academic mentors – C E Stevens and Sir Ronald Syme. Stevens, a legendary Oxford tutor, and Syme, a leading Roman historian, influenced Barbara's blend of devoted teaching and powerful scholarship. Her collection is not only a stunning teaching resource but an outstanding research library, filled with volumes that most of us would only consult once in a lifetime. And this is true not only for the core periods of Roman history, but also for prehistory, anthropology, numismatics, epigraphy, late antiquity, gender studies etc. The books are well-worn – evidently bought to be read rather than filed quietly on the shelf - and heavily annotated with summaries, hand-drawn maps, and witty, insightful criticisms. Barbara's constant engagement with her material, in sum her intellectual life, is literally inscribed in the margins, just as the collection itself tells the story of her life chapter by chapter, making it an irreplaceable monument to a towering figure in scholarship. It is utterly fitting that some of Barbara's specialist collections in documentary evidence have found a home at CSAD to be used and appreciated by colleagues and graduate students alike.

One colleague who wrote to congratulate me on my appointment wisely advised, 'replacing Barbara, our best-loved colleague, is an impossible task.' The red sports car, the exotic drinks cabinet, and the retirement 'do' in the form of a Roman triumph were just the most visible manifestations of a spectacular personality. Barbara was energetic, fun, a warm yet demanding tutor, and a very serious scholar. She set the bar for the study of Ancient History in the college, in the university and beyond dauntingly high. Being 'Barbara's successors' is a privilege for us all.

# CPI Vol. 2

Charles Crowther



*CPI 403: Funerary stelai of Aphrodisia-Hathor-iy-ti*

The second volume of the *Corpus of Ptolemaic Inscriptions from Egypt*, which brings together documents from the Fayum oasis and the Nile valley from Middle to Upper Egypt, was published on 20 November 2025. This volume has fewer examples of the great trilingual priestly synodal decrees, such as the Kanopos and Memphis (Rosetta) decrees, than the first, but offers much of interest for the interplay between Greek and indigenous cultures in Hellenistic Egypt.

Greek institutional culture is well represented in a series of public decrees from the new foundation of Ptolemais in Upper Egypt which follow the pattern of city-state resolutions from across the Hellenistic world (CPI 352–358). A group of inscriptions from villages in the Fayum oasis, which record successful appeals to the Ptolemies by priests and local sponsors to grant asylum rights for their temples, to provide sanctuary for refugees and protection against extortion by local officials, shows an adaptation of Greek *asylia* practices to Egyptian conditions. The language of the documents, which has numerous parallels in the papyri, is surprisingly modern with complaints about slanders and shakedowns by tax collectors (CPI 228–229, 244–245, 247, 271).

At Edfu, in the necropolis of Apollonopolis at el-Hassaya, the tomb of a prominent local family contains Greek and Hieroglyphic funerary inscriptions for Aphrodisia and her son Apollonios; Aphrodisia and Apollonios are commemorated on stelai with triangular pediments by Greek epigrams composed and signed by the poet Herodes, while under their Egyptian names *Hathor-iy-ti* and *Pa-shu* they are honoured separately with Hieroglyphic texts on stelai with curved lunettes enclosing relief depictions of winged solar discs and funerary offering scenes (CPI 402–404). The elevated diction of Herodes' epigrams aligns with the sentiments and the descriptive language of the Hieroglyphic texts.

The interaction of Greek and Egyptian writing traditions is also evident in monolingual monuments. Early in the first century BC a poet named Isidoros (literally 'gift of Isis') composed an elaborate series of hymns in Greek hexameter and elegiac verse celebrating the cult of Egyptian Isis which were inscribed at the entrance of a new forecourt for the pharaonic temple at Narmouthis in the Fayum (CPI 281).

Although most of the documents in the Corpus are quite formal in character, a few preserve personal insights. In the Ptolemaic period the healing cults of two deified legendary figures, Amenhotep and Imhotep, attracted visitors to the mortuary temple of the 18th-Dynasty Queen Hatshepsut (1473–1458) at Deir el-Bahari on the western side of the Nile. Polyaratos, one of these visitors, has left a dramatic testimony of his cure from a chronic lymphatic condition in February 260 BC. The surviving text, written in black ink on a smoothed limestone shard, is a draft full of crossings-out and insertions. Polyaratos writes that after failing elsewhere to find a cure he visited Deir el-Bahari to seek help from Amenothes and found it by sleeping in the sanctuary and receiving a communication from the god in a dream which itself proved therapeutic (CPI 370).

## Talia Prussin

In late March, I visited the CSAD to view squeezes and photographs of the Ikaros inscription (*I.Estremo Oriente* 421-22) from Susan Sherwin-White's archival papers. The Ikaros inscription was found on the island of Failaka in Kuwait and remains in the Kuwait National Museum. This inscription is a key part of my research into Seleucid colonization in the Persian Gulf, tying imperial investment in and around the Gulf to the Indian Ocean trade. Scholars have often used this inscription as evidence for a Seleucid military colony on the island, although the mention of synoecism on Ikaros may suggest something more. Because the lines dealing with the synoecism are highly fragmentary, my visit was principally spent studying the traces of these lines to assess the plausibility of existing supplements and make preparations for proposing alternatives. My time at the CSAD will be invaluable for the completion of my current work on the Seleucid Gulf.



*Academic visitor: TALIA PRUSSIN, Cornell University March 2026*

# TEMEA: A digital portal for the epigraphy of economy and money in Anatolia, c. 700-30 BCE

**Marcus Chin**

Are you a historian of classical and Hellenistic Anatolia who has wondered where best to look for inscriptions relating to money lending and banks? Or to the market price of oil and grain? Or which mention *chalkoi*, bronze coinage? Up to now your best bet would likely have been to look at specialised studies: the many books and articles of Leopold Migeotte, the hefty footnotes of Mikhail Rostovtzeff's magisterial *Social and Economic History of the Hellenistic World,* or John Melville-Jones' *Testimonia Numaria*. Failing that, you would have to do a trawl of the inscriptions yourself, and then rinse and repeat when you think of something else to look for. This may be a tall order for those uninitiated into the mysteries and idiosyncrasies of epigraphic research and publication. There is now available, however, a first attempt at a 'quick fix' – 'The Epigraphy of Monetary Economy in Anatolia', or TEMEA, which I developed as part of the CHANGE project: https://change.csad.ox.ac.uk/inscriptions.

This is a portal for studying Anatolian economic and monetary history through its epigraphic record, which I created by annotating its roughly 11,000 inscriptions (from Anatolia and its offshore islands) according to a machine-readable ontology of terms and concepts. The inscriptions were first planted onto an enormous Excel spreadsheet that organised their textual contents by rows and columns.



*Fig. 1: View of a section of the decree from Teos (SEG 67.792, 287-283 BCE) on raising loans for ransom payments to pirates, now in the courtyard of the Izmir Archaeological Museum.*

This spreadsheet then formed the basis for an online interface with faceted search functions, the work of the brilliant Imran Asif, which now allows for rapid topic- and theme-based queries of the inscriptions.

TEMEA allows for two main forms of search. One is more general statistical survey. As the database is essentially based on a skeleton list of all published and formally recorded inscriptions known from official corpora (e.g. *Inscriptiones Graecae, Inschriften griechischer Städte aus Kleinasien*) and bulletins (e.g. *Supplementum Epigraphicum Graecum, L'Année épigraphique*), it is now possible to gain a sense of overall epigraphic habit, by genre of inscription, region, and date. How many inscribed letters and petitions are there from this period, issued by kings, local rulers, Roman generals, cities and villages? 185, all of the Hellenistic period apart from the Darius' letter to Gadatas from Magnesia (re-inscribed in the Roman imperial period). Where have they been most frequently discovered? Kos (18), Teos (14), Magnesia (12), Labraunda (11), Sardeis (11), and Pergamon (9); and so on.

Secondly, one can perform intensive searches of textual contents relating to economy and coinage. When building the ontology, we decided that the basic unit of analysis would be the 'transaction' – acts of monetary payment, exchanges of wealth, or administrative decisions and regulations about such payments. The search filters are primarily organised by the agents initiating these transactions (e.g. cities, kings, individuals), types of transaction (e.g. plain spending, loans, acts of regulation, contractual agreements), and their purpose (e.g. for building, military expense, public office).

For instance, what are the documents relating to taxation by kings? A quick search for transactions initiated by kings and whose purpose dealt with taxation reveals 34 inscriptions, and quite a range: a fragmentary regulation from Mytilene recording the privilege granted by Leukon, king of the Black Sea Bosporan kingdom, of collecting a 1/60 customs tax (IG XII.2 3, mid-4th century); Alexander's edict addressed to Priene granting tax-exemption (I.Priene2 1); a Ptolemaic royal letter on the procedure for drawing up tax farmers (SEG 60.1536, mid-3rd century); or

*Fig. 2: The transaction types for the decree from Teos (SEG 67.792) on ransom payments to pirates, as listed in the TEMEA database. caption for the coins: Silver drachm of Teos, 310 BCE–301 BCE, with the head of Herakles and a seated Zeus. 1944.100.32120.*



tax-adjacent documents, like the letter of Attalos II from Pessinous on the possession of land-plots (*kleroi*) by a Galatian noble (SEG 64.1296).

For historians of monetary terminology, documents are now readily available, for the first time – inscriptions accounting sums in *drachmai, chrysoi, oboloi*, and adjectivally differentiated varieties thereof (e.g. 'Rhodian' or 'Alexandreian' *drachmai*). There are mystifying surprises: what are 'Phokaian staters', presumably referring to the electrum coinage of Phokaia and Mytilene minted in the classical period, occurring in a decree from Sigeion of the 2nd century BCE (*SEG* 15.751)? And why are there so few references to sigloi and cistophori (only five), two major silver coinages otherwise well-attested in the numismatic record?

Curious pockets of the social life of Asia Minor await discovery, from a curse-tablet from Knidos relating to the hiring of a murderer (*I.Knidos* 147), to a sacred law from Kos allowing married or engaged couples to avoid ritual obligations for a fee of 5 obols (*IG* XII.4 356). There are also 14 documents relating to slaves, concerning among other things monetary rewards for killing tyrants at Ilion (*I.Ilion* 25), the purchase of slaves from the donation of the benefactress Archippe at Kyme (*SEG* 33.1039), or limits on the customs dues for importing and exporting slaves in the *lex portorii* from Ephesos. While these references may have been known individually for some time, the interface now allows you to gather them and bring them into relation with one another, at the click of a button.



The ontological structuring of inscriptions has also meant that for lengthy and complex documents the TEMEA interface effectively offers summaries of their contents. If you are interested in gaining a quick sense of the transactions in the fascinating but difficult 3rd-century decree from Teos on making ransom-payments to pirates (*SEG* 67.792, see Figs.1 and 2), for instance, you will find under the entry for that decree what amounts to a section-by-section breakdown of what the inscription is saying. There may well be potential here for democratising the study of Greek epigraphy.

There is still more to do. The dataset is as complete as I have been able to make it, but omissions, mis-readings and mistakes will surely be found and need to be fixed. The search capabilities and filters will also need to be refined. Nevertheless, the epigraphy of Asia Minor pre-dating the Roman imperial period is now useable and accessible as historical evidence to a new degree. While TEMEA has come out of a project on monetary and economic history, its ontology-based approach hopefully provides a sense of how epigraphy may be exploited more generally. We invite you to explore TEMEA, and look forward to any feedback you may have.

*Silver Drachma, Teos, 310 BCE–301 BCE. 1944.100.32120*

CHANGE Home Glossary Browse Search in description/i Search

**References to monetary behaviour (34)**

| AUTHORITY | ACTIVITY | PURPOSE/FOCUS | CONTEXT/FIELD OF ACTION | LINES | Monetary Material | Commodity | Coin Denomination/Unit of Monetary Measurement |
|---|---|---|---|---|---|---|---|
| City | Spending | Loan | Uncertain | ll. 1-17 | | | |
| City | Spending | Crown | Honorific | ll. 8-10 | | | |
| City | Spending | Publication | Uncertain | ll. 17-18 | | | |
| City | Contract | Loan | Uncertain | ll. 19-29, 69-70 | Silver | | Alexandreian talent (τάλαντον Αλεξάνδρειον/Αλεξανδρείου (ἀργυρίου |
| City | Contract | Loan | Uncertain | ll. 19-29, 69-70 | Silver | | Argyrion (unspecified silver money) (ἀργύριον) |
| City | Contract | Loan | Uncertain | ll. 19-29, 69-70 | | | Dekate (δεκάτη) |
| City | Loan | Ransom | Reparation | ll. 19-29, 69-70 | Silver | | Alexandreian talent (τάλαντον Αλεξάνδρειον/Αλεξανδρείου (ἀργυρίου |
| City | Loan | Ransom | Reparation | ll. 19-29, 69-70 | Silver | | Argyrion (unspecified silver money) (ἀργύριον) |
| City | Loan | Ransom | Reparation | ll. 19-29, 69-70 | | | Dekate (δεκάτη) |
| City | Regulation | Taxation | Civic | ll. 29-32 | | | |
| City | Regulation | Crown | Honorific | ll. 29-33 | | | |
| City | Spending | Publication | Uncertain | ll. 32-34, 65-68 | | | |
| City | Regulation | Loan | Uncertain | ll. 29-34 | | | Mina (μνᾶ) |
| City | Regulation | Loan | Uncertain | ll. 35-40 | Silver | | Argyrion (uncoined silver money) (ἀργύριον ἄσημον) |
| City | Regulation | Loan | Uncertain | ll. 35-40 | Silver | | Argyrion (coined silver money) (ἀργύριον δόκιμον/ἐπίσημον) |

*Fig. 2*
*The transaction types listed in the TEMEA database.*



# An expedition to the mountains of Tajikistan in search of Middle Iranian inscriptions

**Simon Fries**

In the northwest of Tajikistan, in the barrenness of the Almosi Gorge (Fig.1) located within the Hisar Range of the Pamir-Alay, at an elevation of approximately 3000 metres, lie two rocks bearing inscriptions from the period of the Kushan Empire. The Kushans, we are told by Middle Chinese sources, were a nomadic people (descendants of one branch of the so-called Yuèzhī) who managed to establish a short-lived empire, ruling over parts of Central Asia approximately between the 1st century and the 3rd/4th century AD.

Coins, inscriptions and further archaeological evidence from this era show that the Kushan Empire was multi-lingual and characterised by an interesting syncretism of the major religions featured in the region, namely Buddhism, Hinduism and Zoroastrianism. Little is known about the languages used in the Kushan Empire as such: We know that at the time of the greatest extension of Kushan political power the linguistic landscape was dominated by Middle Indo-Aryan languages such as Gāndhārī and especially Middle Iranian languages such as Bactrian, and our knowledge of these varieties has considerably improved over the last few decades thanks to new finds of inscriptions and manuscripts, and the efforts of historical linguists around the world.

Much remains unclear and many a riddle in this field still waits to be resolved. One of these riddles has been a mysterious script featured in a number of inscriptions – some of them bilinguals – the characters of which are similar to (and at the same time quite unlike) those of the other ancient scripts used in the area, e. g. the Greek script used for Bactrian, or the Kharoṣṭhī script used for Gāndhārī. Until a recent breakthrough and partial decipherment of its character inventory, this script, which goes by several names and shall here only be called the 'Kushan script', was a complete mystery and could not be read at all.

It was only thanks to the discovery of the Almosi inscriptions (fragments of which have since been located to the National Museum of Tajikistan) and the





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publication of photographs in 2022 that the breakthrough could be achieved, because two of these inscriptions together made for a Kushan-Bactrian bilingual featuring a sequence of characters also found in another Kushan-Bactrian- Gāndhārī trilingual that had already been known but not very well understood. The comparison of these parallel sequences revealed the name of the Kushan ruler who probably issued these inscriptions, Vema Taktu, who ruled the Kushan Empire in the second half of the 1st century AD. The identification of this royal name eventually led to the partial decipherment of some of the characters of the Kushan script.

However, the decipherment remains incomplete and much remains unclear about the script that the language was intended to codify: We only know that it was a Middle Iranian language close to (and some think probably also identical with) Bactrian. It was therefore the chief aim of a linguistic and archaeological expedition to the site of Almosi at the end of August last year to gain new insights into the Almosi inscriptions, further dig the archaeological site, document the inscriptions and archaeological site as properly as possible, and ideally also uncover new inscriptions. I had the great honour of joining the expedition led by researchers from the Universities of Cologne and Würzburg in cooperation with the Tajik Academy of Sciences as an external collaborator.

Setting out from Dushanbe, the capital of Tajikistan, our first stop was a parking lot for hikers, at an elevation of ca. 2000 metres. Here, we had to leave the jeep behind and hike the remaining 1000 metres in altitude to the site accompanied by our local guides (shepherds from the region), a German TV team, our Tajik colleagues from the Academy of Sciences, and a host of three donkeys whose invaluable task was to carry most our luggage and equipment (Figs. 2 & 3).

After half a day of hiking we had ascended a few hundred metres in altitude and arrived at the first camp of our expedition. We were greeted by soldiers from the Tajik Ministry of Emergencies who were supposed to help us in finding new inscriptions with the aid of their heavy emergency equipment that could be used to upend boulders, having arrived a few days earlier.

We finally made it to the site the next day. While the feeling of modest satisfaction and gratitude for finally having reached the actual site of the inscriptions (Fig. 4) cannot be described adequately, to our dismay we discovered that one of the inscriptions had been destroyed during the attempt to excise it from a massive boulder in order to transport it to the National Museum, a sacrilege commanded by the former leader of the National Museum (Fig. 5).

We spent the following days trying to find new inscriptions, documenting and studying the remaining inscriptions as well as possible, digging the site, and figuring out how a relatively large burial ground in direct vicinity to the inscriptions could relate to this. While we did not uncover new inscriptions, we did manage to capture the remaining inscriptions photographically (partly through Reflectance Transformation Imaging) so that they are now epigraphically documented as well as possible, and we were able to gain new insights into the texts that we hope to share with the scientific community soon (an article is currently under review). By working with the actual inscriptions and objects directly I gained a completely new perspective on how the artefacts that we study come into being.



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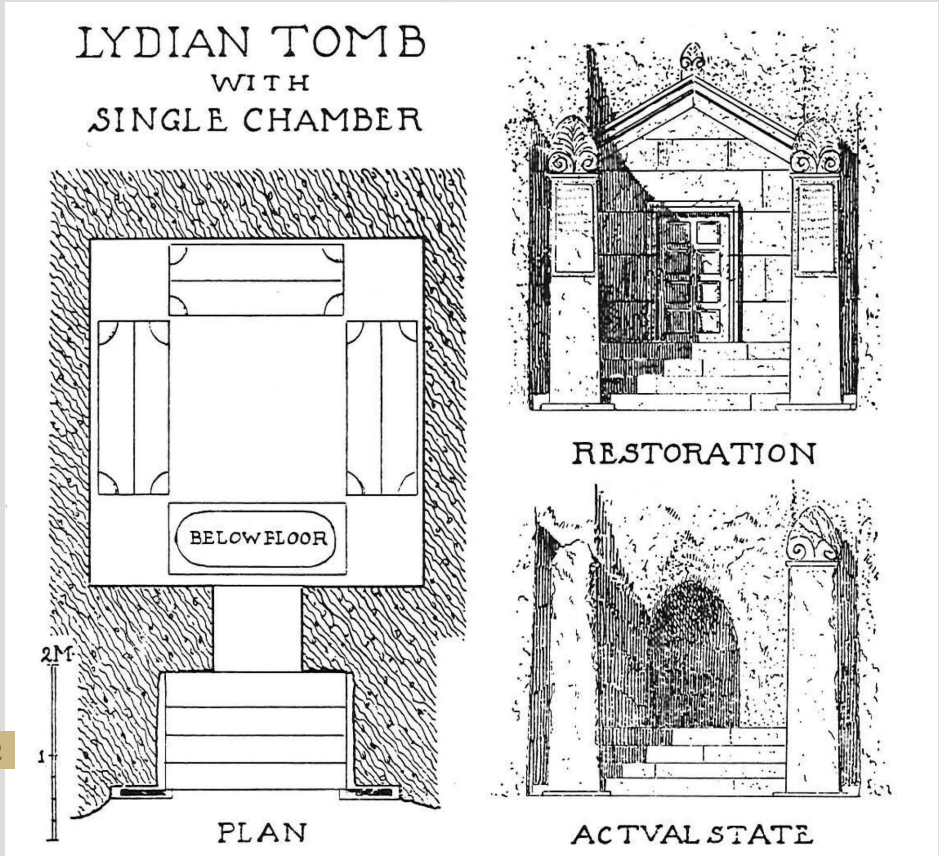
1

# Seven Hands, One Monument: When Many Hands Made... Complicated Work

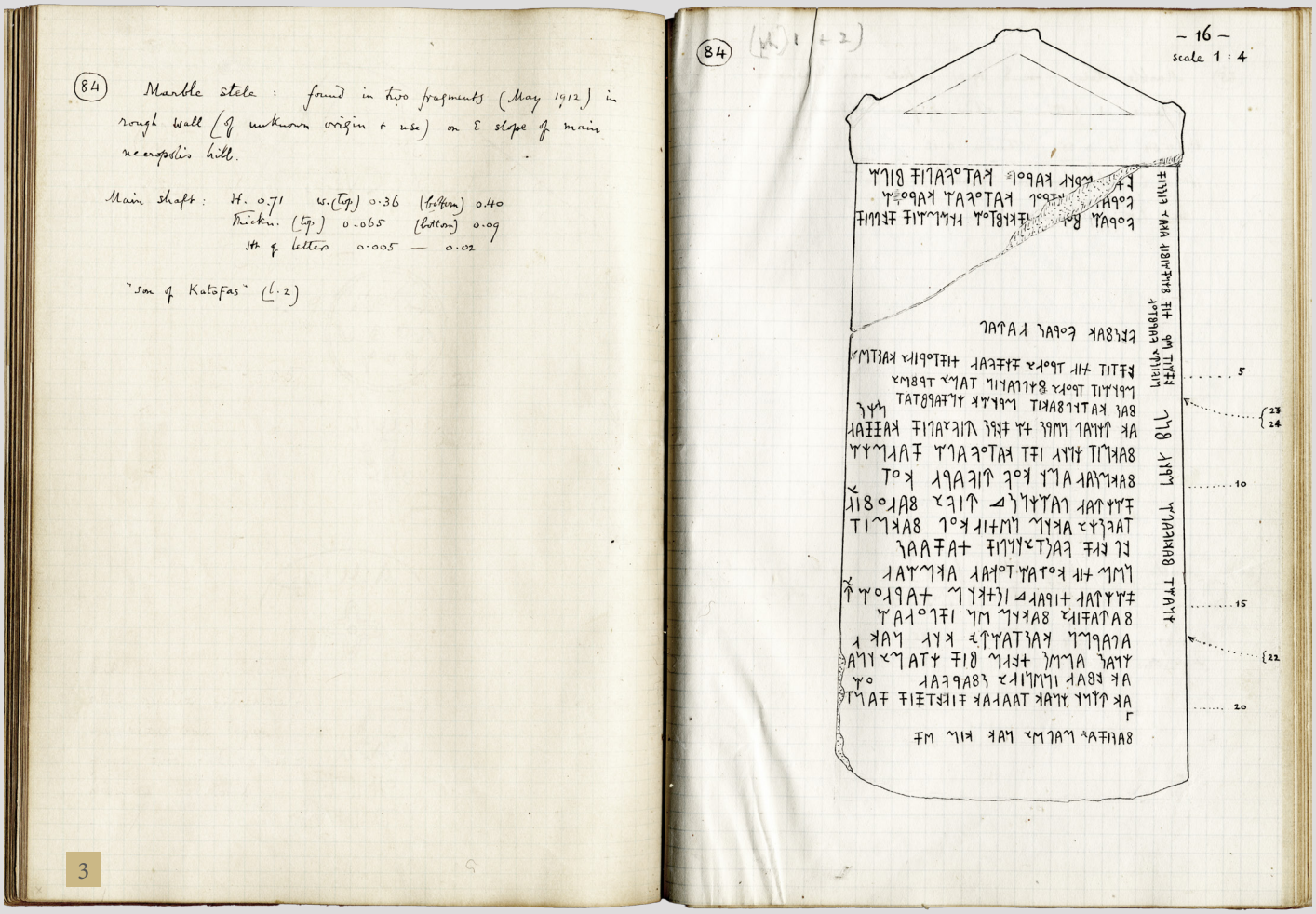
**Annick Payne**
Ca' Foscari University of Venice

The material of the Buckler archive adds valuable information for our ongoing reconsideration of the Lydian text corpus. One inscription in particular illustrates both the additional value of the Buckler material, and the not inconsiderable problems that these inscriptions still pose. LW 10 is a funerary stela, which was found on May 20 and 25, 1912, in a spolia wall on the northern slope of the Necropolis Hill at Sardis, together with eleven other Lydian inscriptions. The wall may have been built to support a monument or prevent landslides. While the original context of the inscription is unknown, it is likely that it was placed at the entrance to one of the many rock-cut chamber tombs in the necropolis, as illustrated in the drawing by Littmann (Fig. 2).

The stone as preserved is broken into two, separating it diagonally across the uppermost quarter, yet causing only the loss of and damage to a few signs in lines 1-3. Even from a distance, it is immediately obvious that the stone must have been inscribed by more than one hand, as the inscription separates into several sections with distinctive style and layout: letter size, depth of groove, letter forms, letter formation consistency, baseline slope, and spacing differ significantly across these sections, as already noted by Buckler in his edition of 1924. The Buckler archive at CSAD preserves a squeeze, notebook entry (Fig. 3) and printed photo (Fig. 1). Note that the photo cuts the monument off just above the lower edge of the




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*akroterion*, whereas the squeeze and Buckler's drawing preserve the shape of the monument.

The top of the inscription-bearing part shows a large, uninscribed space between lines three and four. We assume that, originally, there may have been a painting here which has not been preserved, either depicting a funerary scene or a decorative motif. It is located between two separate sections by different hands: section 1 describes a certain Karos setting up the monument for his son, Katowa; section 2 mentions a dedication by "the good son" – we infer that this is the aforementioned Katowa. Sections 1 and 2 were engraved by different hands, which suggests that this happened at different times.

The many hands involved attest to the monument's complex inscription history. To date, its content is still only partially understood. I am currently studying the inscription and preparing a new edition together with Dr Michele Bianconi; results cited here are necessarily preliminary. Beyond improving the current understanding of the text itself, we are asking ourselves what the process of inscribing the monument might have been like: what is the relationship between the different hands and text sections? Is it possible to date any of the sections on epigraphic grounds?

Study of all individual letter shapes, as attested on the squeeze and the photo, seems to agree with the hypothesized seven hands, yet dating the monument or its sections beyond a general 5th-4th century BC date will likely fail because of too little firm comparative data within the Lydian corpus; this is not helped by the lack of any text-internal date or relevant archaeological context. At the same time, it is plausible and in agreement with the content that the order of inscribing went in sections from top to bottom, before moving onto the right edge. We reconstruct the following sections, each engraved by a different hand: (1) setting-up by tomb owner; (2) dedication of son; (3) mention of bones and stele; (4)-(5) uncertain; (6) protective curse; (7) dedication to mother of Pakiwa. In general, the inscription shows content typical of Anatolian funerary inscriptions: ownership of tomb, extended to family members; obligations or prohibitions, with possible fees; protected by curse formulae. What is unusual is that it arrives at this structure through a series of separately inscribed sections. This affords us a limited window into how the act of inscribing forms part of one family's funerary practices in ancient Lydia.

**Bibliography**

W. H. Buckler et al., 1924. *Sardis Volume VI: Lydian Inscriptions, Part II: A Collection of the Texts in Lydian Script Found at Sardis and Elsewhere*

Enno Littmann, 1916. Sardis Volume VI: Lydian Inscriptions, Part I

CAncAn has received funding from the European Union's **ERC-2022-Consolidator Grant** programme under the **European Research Council (ERC)** grant agreement No.101088363. The project has just launched Cracking the Code. An Adventure in Writing (CodeAW) to increase public awareness and understanding of ancient writing systems.



# Anna Heller

I am Professor of Ancient History at the university of Tours, France, and am staying as an academic visitor at the Faculty of Classics for one month. My main field of research is the social and institutional history of the Greek cities under Roman rule, especially in Asia Minor, with a particular interest in applying quantitative methods to epigraphic sources. My recent research explored public honours as mirrors of civic societies in the Imperial period. On this topic I have published the co-edited volume *The Politics of Honour in the Greek Cities of the Roman Empire* (2017) and the monograph *L'âge d'or des bienfaiteurs. Titres honorifiques et sociétés civiques dans l'Asie Mineure d'époque romaine* (2020). Among my latest co-edited volumes is also *The Oxford Handbook of Greek Cities in the Roman Empire* (2024). Currently I am working on two new projects: a reconstruction of civic careers and a study of kinship ties attested in different types of inscriptions (both raising important methodological issues).

# Finn Conway

Since the last newsletter, I have continued to work on typologically identifying coins from published coin hoards. At this stage, the process is almost finished, with all hoards in the *Inventory of Greek Coin Hoards* (1974) complete, as well as most of the hoards listed in *Coin Hoards* 1–10. For the latter alone, this includes 552 individual hoards and nearly 90,000 coins. A final tranche of work remains for just over a hundred hoards, after which the hoards portion of the CHANGE project will be finished.

During this work, I have identified a number of hoards that require republication. One, *Coin Hoards* 8.255, I noticed had been inaccurately described in the original publication, resulting in a misleading hoard record. Having properly identified the coins in the hoard, it is now clear that several early posthumous issues of Alexander the Great must be redated some twenty years earlier, broadening our understanding of royal coinage in the 290s BCE. My republication of this hoard is currently under review with the *Numismatic Chronicle*.

Owing to my work on the CHANGE project, I was also invited to participate in the conference held in Istanbul in January. There, I presented some early findings on the representativeness of Ionian bronze coinages in the project's core museum collections (London, Paris, Berlin, Copenhagen, Oxford). By comparing the number of specimens in those collections with published die-studies, I demonstrated that, where the numbers are sufficiently large, there is a strong and persistent correlation between the core collection sample and the observed number of obverse dies in a die-study. This suggests that, because of the collections' long history and universal scope, they may collectively overcome sampling biases that usually make such comparisons impossible. In the absence of many die-studies for bronze coinages, this therefore gives us some confidence that the representation of mints and particular coinages in these collections may be used as a rank signal for their original size. The full data and argument will be available in the proceedings of the conference.

# Oliver Clarke



The IRIS database is still constantly being updated, as new studies, and new coins, come to light. My own research recently has been focused on the coinage of Magnesia on the Maeander, in Western Asia Minor, at the boundaries of Ionia, Lydia and Caria. There have been a couple of recent studies on the coinage of the city, by Sheedy and Von Mosch, that update and expand the typology of the earliest, 5th century BC coinage of Magnesia, issued by the exiled Athenian general Themistocles, and his son (and possibly a generation after that). Not many of these coins are known, and mostly came to market in the 1990s onwards, so very few are in the core collections that are the foundation of the IRIS database. I recently identified one, that belongs to a type that still needs to be created in the Ashmolean's collection (HR108109), with the very clear **AM** legend for Magnesia on the reverse (written retrograde), and just visible on the right hand side of the obverse, the **P** of an original **[A]-P** legend standing for Archepolis.





There are also coins which so far have not been published anywhere, which probably (though not certainly) belong with Magnesia on the Maeander's issues, such as this type of a man standing with a horse on the obverse, and a flying eagle on the reverse (illustrated with a type sold in 2024 at CNG Electronic Auction 558, Lot 111, © CNG, www.cngcoins.com) – types for this coin, and many others, will come to IRIS soon.



## Practical Epigraphy Workshop 2025:

# Corinium Museum, Cirencester

**Peter Haarer**

The 2025 Workshop was held at the end of March in the Corinium Museum with fourteen participants, nine of whom are studying in Oxford, eight reading for an undergraduate degree, and nine female. The majority worked on Latin inscriptions while, for those working on Greek inscriptions, Charles Crowther brought with him an excellent array of squeezes, as ever chosen with meticulous care to match with the specific interests of the applicants. The practical aspects of recording inscriptions were dealt with by Roger Tomlin (drawing—though the remit has increasingly included digital methods), Henning Schulze (photography) and Charles Crowther (squeeze-making). The chance arrival of some lead documents allowed us to include an additional session on inscriptions made in this medium and also on the problems of curating such objects (a choice between prioritising the integrity of the object or modifying this chemically to preserve the integrity of the text). The sun shone upon us (literally) making our explorations of Roman Cirencester during the early evening, between the Museum closing its doors and dinner, very pleasant. Proceedings closed with a visit to Chedworth Roman villa. Our thanks, as ever, to the dedicated team of instructors, Chloe Colchester, for helping with the administration of the course, and to Oliver Turney for his invaluable assistance with teas, coffees, lunches and much more. We are also most grateful to the Craven Committee and the British Epigraphy Society for their generosity in supporting the Workshop, and to Emma Stuart and Caroline Morris at the Corinium Museum for hosting us. The Workshop has always proven in equal measure both hard work to organise but immensely rewarding to deliver. At the conclusion of fourteen iterations, we have worked with and, we hope, inspired 214 budding epigraphers.





We are delighted to announce that Professor Nikolaos Papazarkadas will be delivering the 28th David Lewis Memorial Lecture on **'The Inscribed Bronze Tablets of Thebes: New Insights into Early Theban History.'**

The lecture will be held on Wednesday the 27th of May at 5 o'clock in the Lecture Theatre of the Ioannou Centre and will be followed by drinks. As always, all are most welcome to attend.





## Oxford Epigraphy Workshop

Term Card HT 2026

**Week 1** (April 27th): Thomas Stranex (Oxford): 'Re-editing CPI 259: tree-crime in Ptolemaic Egypt', James Durden (Oxford): 'Kasen Dedications and Roman Sparta's Political Renaissance in the 1st century AD' (two 15-minute talks)

**Week 2** (May 4th): Shoni Lavie-Driver (Oxford): 'Language in Roman Caesarea Maritima'

**Week 3** (May 11th): Pawel Nowakowski (University of Warsaw): 'Strokes and bars, serifs and cornices: the cultural transfer in the epigraphy of the sanctuary of Hecate at Lagina, western Anatolia'

**Week 4** (May 18th): Tom Britton (University of Groningen): 'IG II3 1.1323: Communicating Civic Honours to Distant Monarchs'

**Week 5** (May 25th): Olivia Macfarlane (Oxford): 'The date of the Dophitis inscription from Chios', Madeleine Riskin-Kutz (Oxford): 'Bilingualism as Protection and Resistance on an Egyptian Jewish *Proseuche*' (two 15-minute talks)

**Week 6** (June 1st): Romeo Gassega (Oxford): 'Translating Latin epigraphic formulae in Roman Anatolia: reflections and case studies'

**Week 7** (June 8th): No meeting

**Week 8** (June 15th): Leah Lazar (University of Manchester): 'Epigraphic perspectives on Rhodian power and coinage in Hellenistic Asia Minor'


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Prof. A. Benaissa (Papyrology)
Prof. J.R.W. Prag (Crossreads)
Prof. A. Mullen (Romano British Writing Tablets)
Prof. P Thonemann
Dr C. Kuhn
Dr R.S.O. Tomlin
Dr Marcus Chin (ECR Rep)


### Circulation and Contributions

This is the thirtieth issue of the Centre's Newsletter. The Newsletter is also available online (**https://www.csad.ox.ac.uk/newsletter**).

We invite contributions to the Newsletter of interest to scholars working in the fields of the Centre's activities — epigraphy, papyrology and numismatics understood in the widest sense. Contributions, together with other enquiries, should be addressed to the Centre's Administrator.


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*Cover: ISic 000096 Honours for Cn. Pollienus*

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