

PART I

DIGITAL EDITION OF INSCRIPTIONS:
METHODS, PROBLEMS, APPROACHES

1. AXON. A Database for Greek Historical Inscriptions

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Abstract

The AXON Project has developed a database of Greek historical inscriptions, from the birth of the *polis* in the Archaic Age to 31 BC. Each entry is provided with the object's description, a complete lemma, Greek text with critical apparatus, Italian translation and commentary with keywords and indexes, and updated bibliography. New insights for data-inclusion have been developed. The database supports enlargement and offers a high degree of searchability. Our aim is to illustrate the structure, the contents and the solutions we have come up with in the development of the AXON Project. We will also offer some suggestions for teaching and academic research purposes.

Keywords: Online epigraphic editions; interoperability of digital editions of Greek historical inscriptions; images of Greekhistorical inscriptions; digital epigraphy in teaching and research

1.1. The AXON Project

AXON. A Selection of Greek Historical Inscriptions is a project conceived within the Greek Epigraphy (Director, Prof. Claudia Antonetti), and has been brought into existence with the financial support of the University Ca' Foscari of Venice (University Project 2013, Project Coordinator, Prof. Stefania De Vido; Scientific Team: Ivan Matijašić, Silvia Palazzo, Michela Socal, Luigi Tessarolo [IT Project]). Since October 2014 the members of the AXON Project have been developing a

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database which includes a great variety of Greek inscriptions of different chronology, typology, and territory of origin. The most recent advances of traditional epigraphy as well as the scientific acquisitions in the Digital Humanities have been taken into account.

The selection of texts has been made according to a broader notion of 'historical' inscription, including not only significant military, political, and institutional texts, but also those inscriptions which are essential for the social and cultural understanding of the Greek world.

AXON includes texts from the birth of the Greek *polis* in the Archaic Age¹ to 31 BC, a chronological frame traditionally related to Greek History (though a future extension of this chronological limit is not excluded). The epigraphic entries have been prearranged in order to allow a wide and well-structured description of each document. At the same time, a common and coherent lexicon has been produced, which will permit an easier indexing of significant words and will make future searches much quicker.

1.2. A unique model-entry for a great diversity of inscriptions: taxonomy and categorisation

1.2.1. Entry description

1.2.1.1. Object's description

The model-entry has been created with an eye on the object's thorough description. Here is the object's categorisation:

1. Object type
2. Material
3. Object's dimensions
4. State of preservation
5. Further descriptive elements
6. Date and context of finding
7. Finding site (modern nation, ancient region, ancient and modern name of the city, if known)
8. Actual location (modern nation, city, museum/archaeological context, inventory number)

¹ Hansen 2004, 16-22; Hansen 2006.

The great majority of these categories can be selected from a given number of options from a pull-down menu. Some categories – such as Object type, Material, or State of preservation – are directly linked with the corresponding sections in the EAGLE Vocabularies (see <http://www.eagle-network.eu/resources/vocabularies/>). Furthermore, a hyperlink has been created between the AXON-entries and Pleiades website (<http://pleiades.stoa.org>): where the finding site is known, each entry offers the geographic coordinates and a Googlemaps visualisation. This gives the possibility of rapidly gathering the information for any single ancient location and allows for searches directly from an interactive map.

1.2.1.2. Chronology

The chronological delimitation of each text is supported by many options, as you can see in Fig. 1:

1.2.1.3. Alphabet & language

The screenshot shows a web form for entering chronological data. The form is organized into sections: 'CRONOLOGIA' at the top, 'DATAZIONE' on the left, and two main input areas for 'inizio intervallo' and 'Fine intervallo'. Each input area includes a radio button for 'a.C.' (selected) and 'd.C.', a dropdown menu for 'Secolo' (currently showing '-- secolo --'), another dropdown for 'Parte' (showing '-- porzione --'), and a text input for 'Anno'. There are also checkboxes for 'Post', 'Circa', and a red question mark icon. At the bottom of the form is a field labeled 'EVENTUALE DATAZIONE ALTERNATIVA'.

Fig. 1.1. Window for the input of data, section Text/Chronology.

Each entry provides all the necessary information on the alphabet and language of each inscription:

- Type of Inscription (with link to EAGLE's Vocabularies: <http://www.eagle-network.eu/resources/vocabularies/typeins/>). The categories are those used by Guarducci 1967-1980
- Text's structure

- c) Writing (Execution technique²; different types of epichoric alphabets according to Kirchhoff's colour-coded map; Local script³; Palaeographic features and letters' form⁴; letters' heights, description and layout of the text field; Direction of Text)
- d) Language (with an option for any dialect's peculiarities)

1.2.1.4. Genetic lemma & apparatus criticus

The text of each inscription is preceded by a hierarchically arranged lemma (the so called *genetic lemma*, according to Louis Robert's definition⁵) and is followed by the apparatus criticus.

1.2.1.5. Italian translation & commentary

Each entry corresponds to an Italian translation and commentary (in .pdf).

1.2.1.6. Abstract

The Abstract – with a WYSIWYG interface – includes all the keywords for indexing and lemmatisation:

The Keywords are divided into the following categories (these categories are based on EpiDoc Community Guidelines as well as on the indexes of the Supplementum Epigraphicum Graecum, SEG):

1. Persons and names (mainly for 'historical' characters)
2. Gods and heroes
3. Place names
4. Geographical names
5. Significant words regarding the history of politics and institutions
6. Other relevant keywords
7. Ancient sources

² With link to <http://www.eagle-network.eu/resources/vocabularies/writing/>.

³ Following the categorisation in Jeffery 1990.

⁴ The letter-form and glyph-form are based on the symbols of the font Cardo (<http://scholarsfonts.net/cardofnt.html>), but many have been developed by the AXON Team on the examples of letter-form given in Jeffery 1990 (see also <http://poinikastas.csad.ox.ac.uk/browseGlyphs.shtml>).

⁵ Robert and Robert 1954.

Tra le tombe della **Necropoli di San Montano [Ischia]** (Isola d'**Ischia [antica Pitecusa]**, antica **Pitecusa [Isola di Ischia]**), la nr. 168 (fine VIII sec. a.C.) contiene i resti di un individuo di sesso maschile, di età compresa tra i 12 e i 14 anni, accompagnati da uno dei corredi più cospicui mai rinvenuti in una tomba pitecusana: 27 reperti ceramici in tutto, di cui (caso unico) 4 **crateri**, 2 **euboici** e 2 **locali**. Tra i materiali ceramici, spicca una **kytyle [vaso]** **rodia** (universalmente nota come **Coppa di Nestore**), risalente alla seconda metà dell'VIII sec. Su di essa, dopo la cottura, è stata incisa in **alfabeto euboico** un'iscrizione metrica di tre versi, in **dialetto ionico**. Nel v. 1 (**trimetro giambico**) la coppa identifica se stessa come proprietà di **Nestore [proprietario della Coppa pitecusana]** (secondo il modello delle **iscrizioni di possesso**), mentre i vv. 2-3 (**esametri**) contengono la più antica declinazione di un topos costitutivo della **poesia simposiale** **greca**, vale a dire l'associazione del vino e della **pratica simporica** con l'elemento erotico. Sin dalla prima edizione del **graffito**, ha goduto di largo consenso l'ipotesi che il **Nestore [proprietario della Coppa pitecusana]** della coppa dovesse essere identificato con il **Nestore [re di Pilo]** re di Pilo, proprietario, secondo **Omero**, Iliade 11.632-637, di una sontuosa coppa, alla quale l'autore dei nostri versi avrebbe voluto in qualche modo alludere. Più recenti orientamenti critici escludono invece questa identificazione, e propongono di riconoscere in Nestore il reale proprietario della coppa, da identificarsi nel padre del fanciullo sepolto nella tomba, o forse nel fanciullo stesso, cui essa fu offerta come estremo simbolico dono delle gioie del **simposio** e dell'amore, che gli furono precluse da prematura morte.

Inserisci nel commento

- Personaggi
- Divinità ed eroi
- Luoghi, regioni, popoli
- Nomi geografici
- Lessico politico e istituzionale
- Parole importanti
- Fonti antiche

Modifica voci inserite

Ripulisci dopo incolla

Fig. 1.2. Example of Abstract in AXON. The different colours allow a selection of words from a drop-down menu.

1.2.1.7. Bibliography

Finally, an updated bibliography highlights any previous edition for each entry, as well as all the appropriate secondary sources. SEG abbreviations have been used for epigraphic *corpora* and other publications (the section “materiali” on the website gives access to a list of all abbreviations, useful for students, as well)⁶.

1.2.2. Internal & external interoperability of the AXON database

Each entry is related – whenever it seems appropriate – to other entries in the AXON database. A hyperlink connects the entry with other digital editions of the same text (if available), or with other useful websites, possibly containing images. Wherever possible, images and/or apographs and/or squeezes of inscriptions have been included. The creation of a digital archive of images as part of the AXON website is also desirable.

1.2.3. A simple website interface for the input of data

Since the contributors to the project (i.e. the authors of the entries) are experts from different Italian and European universities (and not all of them are familiar with the Digital Humanities), and given the

⁶ <http://virgo.unive.it/venicepigraphy/axon/public/axon/pagine/materiali> (still being processed).

great number of entries planned in the near future, the necessity of a simple and easily understandable interface for the input of data was an essential issue to the project from the very beginning. Guidelines to EpiDoc have been taken into account in order to produce a clear structure for the input of data.

Our aim is to establish a growing community of experts, students, and enthusiasts to increase the number of contributors through lists of inscriptions which have not yet been assigned. At the same time it will be possible to suggest other texts which are not included in the lists. To achieve these aims, the project follows an EpiDoc-friendly structure and is compatible with European EAGLE Project, especially in the use of a common terminology.

1.3. Searchability

The website is designed to allow for many search options. Beyond the “full text” search and another based on the number, title and author of the entry (see Fig. 3), three other search-possibilities will also be available:

Ricerca 🔍 Cancella tutto

RICERCA FULL-TEXT

Cerca le schede che contengono tutte le parole ?

▼ DATI GENERALI

N° AXON Titolo tutte le parole Autore scheda -- non selezionato --

▶ **BIBLIOGRAFIA**

▶ **PAROLE CHIAVE**

▶ **SUPPORTO**

▶ **CRONOLOGIA**

▶ **TESTO**

Fig. 1.3. Search based on “Full text”, number, title, and author of the entry.

Ricerca Cancella tutto

RICERCA FULL-TEXT

Cerca le schede che contengono

► **DATI GENERALI**

► **BIBLIOGRAFIA**

► **PAROLE CHIAVE**

▼ **SUPPORTO**

Tipologia

Luogo antico di ritrovamento

Regione antica

Luogo moderno di ritrovamento

Luogo di conservazione

► **CRONOLOGIA**

► **TESTO**

Fig. 1.4. Different searching categories.

► **SUPPORTO**

► **CRONOLOGIA**

▼ **TESTO**

Cerca nel testo

α	β	γ	δ	ε	ϛ	ζ	η	θ	ι	κ	λ	μ	ν	ξ	ο	π	ρ	σ/ς	τ	υ	φ	χ	ψ	ω	
a	b	g	d	e	v	z	h	q	i	k	l	m	n	c	o	p	k	r	s	t	u	f	x	y	w

Tipologia

Struttura

Tecnica di scrittura

Colore alfabeto

Alfabeti regionali

Lettere particolari

Andamento

Dialecto

Ricerca

Fig. 1.5. Different searching categories.

1. browse all the entries according to the inscriptions' a) typology, b) chronology, and c) area of origin;
2. access the entries through an interactive map;
3. perform an advanced search based on different categories:
 - a) bibliography
 - b) keywords
 - c) object's description and preservation (see Fig. 4)
 - d) chronology
 - e) text (single words or phrases, typology, dialect, alphabet, letter-form, etc.) (see Fig. 5).

Other filters will be employed for each search result. A section entitled "tools" is also available, and it includes information on the entries' structure, tables with the contents of different categories, links to Vocabularies and websites, etc.

1.4. The AXON Project for teaching and academic research

1.4.1. Teaching

The AXON Project, as an example of a digital edition of inscriptions (see esp. genetic lemma and *apparatus*) with a high degree of clarity for contributors and users, is a useful tool for teaching Greek epigraphy as well as ancient history. Many contributors are university lecturers / professors of Greek Epigraphy, and the scientific committee includes high school teachers and instructors in classical languages, making AXON especially well-suited for educational purposes and for use by students: for engaging them, for example, in the composition of entries. The interoperability of the AXON website and the cross-references to other Digital Humanities projects are essential elements in the development of this discipline.

1.4.2. Significance for the academic community

Each entry is created by an expert contributor and is subject to double-blind peer review, thus assuring an important contribution to the scholarly community. At the same time, the hyperlinks to other websites and digital editions will make it easier for the user to check immediately all similar projects. Finally, the indexing allows for the easy discovery and use of specific information, and will be of fundamental

importance for gather together groups of documents according to particular research needs.

In conclusion, the AXON Project aims at a collaboration of expert scholars from different fields: epigraphy, ancient history, dialectology, archaeology, digital humanities. It can produce valuable results in the domain of the digital editing of inscriptions and, more generally, contribute to the advancement of classical studies, opening them up to a broader audience through the world-wide web.

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2. The Digital Edition of the Archaic Latin Inscriptions (7th-5th century B.C.)

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Abstract

The ILA project consists in the digital edition of the archaic Latin inscriptions (7th – 5th century B.C.) according to the EpiDoc Guidelines. The edition is the result of an autoptical examination of the epigraphic documents and of the text-bearing objects, together with the analysis of previous studies. In the particular case of the Forum inscription, this led to new discoveries and confirmed old hypotheses. Each text will be presented in an epigraphic chart, enriched by photos and illustrations.¹

Keywords: Archaic Latin Inscriptions, Latin Epigraphy, EpiDoc, Digital Humanities, Epigraphic Edition, Forum inscription

2.1. Generalia

The project *Iscrizioni Latine Arcaiche (ILA)* consists in the digital edition of the inscriptions found in old *Latium*² dating back to the period between the 7th and the 5th century B.C. Between the end of the 19th century and the first decades of the 20th century this *corpus* consisted of only four inscriptions of a certain length, that is the *Duenos* vase (1880), the *Fibula Praenestina* (1887), the *Forum* inscription (1899) and the *Tibur*

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¹ Giovanna Rocca is responsible for § 1 and 2; Giulia Sarullo is responsible for § 4 and Marta Muscariello for § 3.

² With the two exceptions of the *Vendia's* Urn, found in Cerveteri, and the Garigliano bowl.

pedestal inscription (1926), besides other shorter but still very interesting texts that offered important cultural information (such as the inscription from the *Regia*, REX, CIL I² 479). In the second half of the 20th century, the *corpus* grew significantly and reached the total of about eighty documents that have not been gathered in a comprehensive edition yet. The updated *corpus* includes new and crucial discoveries, some of which have already been published in a traditional way (in print), such as the inscriptions from *Satricum* and the fragments found at the *Palatinum*, whereas others are still unpublished, as in the case of the recent findings from the *Regia*. The quantitative and qualitative enrichment provided by recent new readings of the texts and the new data emerged justify and require a new publication.

Most of the inscriptions in the collection are *frustuli* or single letters: these texts, though not really relevant from the linguistic point of view, are important testimony of the use of writing in *Latium* since the 7th century B.C.

The website is then an absolute novelty in the field of digital epigraphy, since at the moment no online epigraphic collection specifically dedicated to these documents exists. It is well known that, for every kind of publication, a digital edition provides several advantages, for example: the possibility to update both the textual *corpus* and the bibliography continuously; the hypertextual structure, that allows the user to utilize the edition in different ways; the opening to a public that is heterogeneous and wider than the one a work addressed to specialists can reach. In which other ways can the web respond to the specific requirements of a peculiar *corpus* such as ours with distinguishing features, different from the later Latin epigraphy optimally reproduced in the *Epigraphic Database Rome* (EDR)?

First of all, by using the EpiDoc encoding standard, which is compatible with other encoding systems, it will be possible to transfer our data to EDR and to the EAGLE-Europeana Network (see Sec. 4).

The hypertextual structure of the edition is surely one of its assets, in that it enables the user to find information about each text (images, bibliographical references, etc.) immediately and consider the inscription in the context of its place of finding; at the same time, it encourages a direct 'in real time' comparison between texts. Moreover, this kind of structure allows us to obviate the inconvenience of an edition that presents only a specifically 'historical', 'archaeological'

or 'epigraphic' point of view, as sometimes happens in traditional editions. This is achieved thanks to cross-references to topics analyzed in depth by specialists, thus making our edition a useful research tool for various branches of learning.

Besides what has been illustrated so far, the presence of complex indexes, through which it will be possible to locate the inscription from different starting points, will allow the user to search the texts according to various parameters: dating, place of finding, object type, and textual type (see § 3).

The choice of the method to adopt as regards the interpretative transcription is problematic: it is clear that it is absolutely impossible to be completely neutral or objective. Unlike the diplomatic transcription, for which a critical apparatus can be constructed and be extremely useful, the same is not possible for the interpretative transcription: an exhaustive critical apparatus would imply a superabundance of information that could negatively influence the scientific nature and the usability of the edition, especially in the case of inscriptions that have been variously interpreted since their discovery. For longer inscriptions (e.g. *Forum* Inscription, *Duenos* vase, *Tivoli* inscription, *Garigliano* bowl), the numerous readings that have been proposed so far by scholars have been compared and verified in the light of linguistic criteria and of the new data in order to obtain an edition of the text that, although it cannot be considered the definitive interpretation and does not solve all the pending issues, poses itself as a new starting point for future research. A cross-reference to all the other interpretations will offer a complete source of information and a tool that intends to be useful and exhaustive.

The archaic Latin inscriptions play a fundamental role in the study of the first stages of the language, since they present particular features that allow us to investigate the various steps that led to "standard Latin". The language attested in our inscriptions can be considered a *Restsprache* insofar as it is not 'readable' through later Latin but it can be 'interpreted'. The linguistic commentary will be carried out, *in votis*, in the second phase of this project. Here the research focuses on the epigraphic features, that show a plurality of forms and of alphabets in such a limited *corpus*. The chronological and geographical distribution of the signs and of the variants in use in the inscriptions have been analyzed in order to offer valid elements to the study of the evolution of the alphabetic model between the 7th and the 5th century B.C.

2.2. Epigraphic news about the Forum Inscription

Thanks to the agreement and collaboration with public authorities, we were invited to take part in an extraordinary event (July 3rd 2015), that is the 3D laser scanning of the Forum Cippus (*CIL* I², 1).³ The autopsy, carried out with the help of a strong source of light, and the observation of the scanning in real time clarified, hopefully in a definite way, some controversial issues about the presence of dividing signs on face A and, at the same time, opened a new perspective on the reading of line 16 (face E).

One of the epigraphic problems concerning this inscription consisted in the absence of punctuation on face A, in comparison with the other faces in which three vertical dots divide the syntactical units. This lack was particularly suspicious in a sequence in which there are no exegetical alternatives (SAKROSESED = *sakros esed*). As a consequence, scholars tried to find an explanation for this absence: the inscription was carved by different hands; the inscription was made up of different texts, each copied from different drafts; the antigraph was in *scriptio continua* and the inscriber was not familiar with this procedure; the punctuation was not accurately assigned.

As a matter of fact, face A seems to conform to the others, showing three vertical dots after *sakros*⁴ (Fig. 1). This fact was highlighted by Gamurrini (1899) and the three dots appear in the apograph in Hülsen (1899, col. 1003), and they could also be guessed in the photograph Anderson 3192 (Archivio Alinari). Nevertheless, the *post* Goidanich (1943) *vulgata* and the difficulties in checking in person the stone, because of its almost unreachable and scarcely illuminated position that led to the publication of studies not supported by an autoptical check, perpetuated a reading influenced by the uncertainty in distinguishing between natural cavities or notches due to the nature of the stone and 'significant' holes caused by the tool used for writing.

³ Cippus of tuff found under the *Lapis Niger* by Giacomo Boni in 1899. The inscription is cut boustrophedon on the four faces of the pillar and on the edge sliced between face D and face A. The stone (late 6th B.C.) is badly damaged in the upper part so that the beginnings and the endings of the lines are lost. The text has been interpreted as a sacred law.

⁴ The details of significant portions of the inscriptions will be shown on the website with several photographs.

The most relevant news arrives from the analysis of line 16 (face E). This has been read up to now as *loiuquod()*qo (Wachter 1987), *loi{u}quiod* (Vine 1993), *LOIUQUIOD[QO]* (Baldi, 2002), *LOIUQUIOD,QO///* (Hartmann 2005),⁵ in order to explain the ‘unusual’ shape of *V* (letter no. 4) that has been recently read as *F* (Prosdocimi 2010). As the scanning showed, the first vertical stroke, read as an *I*, is much closer to the sign that looks like a *V* than it appears on the apographs and the photographs published so far; especially shots taken from an oblique and not a frontal point of view can be misleading.

This point can result fundamental in understanding how the inscriber worked on the stone and how he corrected the sign.⁶ Hypothesis no. 1 (which is also the simplest one): the sequence to write was *LOIVQVIOD* but, after he cut a first vertical stroke, the inscriber mistakenly started to cut the oblique stroke of a *V* instead of a second vertical stroke that would begin the *V*; he recognized the error and cut a vertical stroke next to the first one and finally another oblique stroke that reached the bottom of the second vertical stroke, completing the *V*. Hypothesis no. 2 presumes the same order in cutting the strokes, but for a different reason: the sequence to write was *LOVQVIOD*, the inscriber started cutting the first stroke but he found an obstacle (*i.e.* a hole in the stone), so he continued with the oblique stroke on the right (thinner than the others) but he changed his mind and cut a second vertical stroke close to the first one and joined it with a new oblique stroke. The short inner stroke has been considered as a correction, *i.e.* a deletion, and caused the expunction of the whole letter or its reading as an *F*; as a matter of fact, it is nothing else but the result of a first try to cut the oblique stroke. Of course, we could be more precise after we receive the outcomes of the scanning, that will be ready soon. The following sign (nr. 4 or 5, depending on the reading), instead, is surely a *koppa* and not an *O*.

Our reading proposal has the advantage of illustrating the sequence of the inscribing but does not solve the interpretative problems: a *louquiod* instead of a *loiquiod* / *loiquiod* (for which *lucus*, *eloquium*, *licium* and *liquidus* have been proposed) still needs to be explained and both still await a solution.

⁵ The final *QO* is based only on Goidanich 1943.

⁶ Other corrections can be found on the last line of face C (*kapia* on *kapa*) and on the second line of face D where a *V* was corrected into a *koppa*.

2.3. The Epigraphic chart

In the website, each text of the ancient Latin *corpus* is presented by an *ad hoc* designed chart in order to meet the peculiar requirements of this kind of *corpus*. The chart is organized in items that concern every important aspect regarding the material and cultural contextualization of the inscription, from the archaeological support to the epigraphic features. Such a detailed scheme contributes to making our project a research tool both as a complete source for information retrieval and as an updated starting point for the study of the texts and of the language.

In this initial phase of Latin literacy, the linguistic data are not sufficient to establish the linguistic features of this language – the *corpus* chiefly consists of *hapax*. As a consequence, the contextual data of the inscribed object results being of great help to comprehend the text. For example, the new archaeological data found during the recent excavation campaign in the *Comitium* carried on under the direction of P. Fortini are providing helpful information for the study of the Forum Inscription; in the past, the collection of all the fragmentary instrumental Latin inscriptions up to the 4th century B.C. published by G. Colonna in 1980⁷ supplied, at least partially, the extent of the alphabetization developing in *Latium Vetus*, subtracting the major inscriptions from a sort of “documental isolation”; moreover, the data concerning the interaction with other inscriptions of ancient Italy are fundamental, since these are different in languages and alphabets: besides the Etruscan examples in Rome, we can remember the case of *Satricum*, where both Latin and Volscan are attested,⁸ or the Garigliano bowl which bears, together with the Latin inscription engraved inside, an inscription in Italic alphabet and language on the external body of the vase,⁹ that has also given a hint for a particular interpretation of the Latin text.

The first item of the chart contains the ID tag assigned to the inscription in the ILA project, that identifies the text with the find-spot (using the ancient place name whenever possible) followed by a progressive number: for example, the *Tibur* pedestal inscription (*CIL* I², 2658) is denominated “Tibur 1”, the inscription on the Garigliano bowl is called “Garigliano 1”.

⁷ In Stibbe et al. 1980.

⁸ See Rocca 1995, 189-198.

⁹ On the relationship between the two inscriptions, see Antonini 2012.

Given the small number of find-spots, we decided to use the full name of the place, instead of abbreviations; possible new findings that could emerge in the future from the same site will be easily added to the *corpus* simply by increasing the number. Beside the ID tag attributed to the inscription we quote the most common names attributed to the object, stratified in time in literature and well known to the scholars (for example “*Duenos vase*” / “*Vase of the Quirinal*”). We then indicate here, in the item ‘Present collocation’, where the inscription is preserved with, when possible, the inventory number.

The chart continues with a group of three items that form the section dedicated to the ‘Archaeological data’: the ‘Description of the object’ (with the general type, the possible peculiar features, the function and the dimensions of the inscribed object); the ‘Provenance’ (that is the place where the object was found and its exact archaeological context);¹⁰ the ‘Date’, which quotes the hypotheses given by scholars about the chronological coordinates of the inscription. Concerning this item, we must keep in mind that the dating of the *antiquissimae* is often approximate, and it is based on different criteria (at times archaeological, at others epigraphic or linguistic or with convergences of two or of all these factors); in some cases, the gap is so wide to almost seem fluctuant depending on which criterion is considered. Without doubt this long-standing problem must be held in consideration, also remembering that for some inscriptions a chronological lowering to the 4th or even the 3rd century B.C. has been proposed. The difficulty in dating the objects and the rarity of the findings is surely connected to the difficulty in defining the specific features of the language testified by these inscriptions.¹¹

The charts present several photographs of the inscriptions, taken during the photographic campaign carried out by the project’s team. Enlargements of some useful or problematic details of the inscription

¹⁰ In the case of mobile objects a different place of fabrication can be presumed, as in the case of the *Vendia*’s Urn, found in Cerveteri, but considered by some to have been fabricated somewhere else in *Latium*.

¹¹ On the periodization of Latin, P. Cuzzolin and G. Haverling state: “The division of the history of a language into different periods implies that we have a rather clear picture of what language we have dealing with. At two points in the history of Latin we are not quite sure of this: the exact moments in which Latin is born and in which it is transformed into Romance are not easily determined. The problem is to determine what is Latin and what is not: unfortunately there is no overall agreement on whether all of the early inscriptions considered to provide us with early examples of Latin actually do that.” (Cuzzolin and Haverling 2009, 20).

have been added: the richness in images is related to the participation of the project in the Europeana network, a database of images of the European cultural heritage. Although the images illustrate the inscription in an optimal way, fac-similes of each text will also be provided, clearly related with the transcription elaborated by the editor. We offer two kinds of transcription, the 'Diplomatic transcription' and the 'Interpretative transcription', which provides the edition of the text. The need for a diplomatic transcription is due to the problematic nature of archaic texts: in the case of the *Duenos* vase, as it is well known, the second section of the text is almost always given by scholars in diplomatic transcription because of the difficulties in segmenting the phrases into words (but with attempts of interpretations of small portions).

In the item 'Textual typology' inscriptions are classified according to the nature of the text, taking into due consideration the peculiarities of this *corpus*. In the chronological span between the 7th and the 5th century B.C. the codification of formularies both of possession and of gift/dedication is still *in fieri* in the various linguistic branches spoken in ancient Italy (with the exception of Greek); for this reason, from a classificatory point of view an inscription can be 'anomalous' in two ways: on the one hand, it can lack the typical elements of a formulaic scheme that will be fixed later on, thus requiring a further interpretative effort in order to assign it to a specific textual category; or, on the other hand, it can result more complex than the standard formula and present elements that can be related to more than one textual typology: in this case, the object type and the archaeological context are determinant for the overall classification.¹²

A further group of items composes the 'Epigraphic data' section: the analysis begins from the 'Position of the inscription' on the object, which indicates the relationship between the text and the inscribed object, an aspect that has important consequences on the function and the fruition of the inscription.¹³ We then have 'Scriptura', where the execution technique is described; 'Direction of writing', *i.e.* right-to-left, left-to-right, *boustrophedon*, etc.; 'Dividing signs', in which the presence of punctuation and its possible function is signaled; 'Dimensions of the letters', which is important as regards the visibility of the inscription

¹² On this subject, see two recent publications, Poccetti 2009 and Maras 2015.

¹³ An important methodological point was established by Susini 1982.

in relation with the object and the observer. This section ends with the ‘Epigraphic commentary’, containing the description and analysis of the letters one by one both from the formal (shape-model of the letter) and the factual point of view (possible particular features in the execution of the inscription) and some general observations.

The ‘Notes and issues’ item gathers historical-bibliographical notes, observations and discussions on the most problematic points of each inscription: the insertion of the discussion at the end of the chart offers the advantage of having all the basic information on the object and on the inscription immediately available, while the study in depth of the issues that deserve a thorough analysis is treated in a separate section.

The chart is closed by the ‘Bibliography’ section. The ‘*Editio princeps*’ and the possible ‘First notice’ (if the inscribed object had been mentioned in a publication preceding the first edition of the text) are indicated in two separate items. Then the complete bibliography of the inscription follows in chronological order, from the most dated to the most recent publications; the chronological order, in comparison with the alphabetical one, allows us to find more easily the latest works on the inscriptions or those published in a certain period in the history of the studies.

2.4. Technical notes

An epigraphic *corpus* can be digitalized in different ways, according to the specific issues that each project intends to tackle. Unlike EDR that, as the other projects constituting the *Electronic Archive of Greek and Latin Epigraphy* (EAGLE),¹⁴ is a database, the archaic Latin inscriptions have been digitalized according to the EpiDoc Guidelines.¹⁵ This is a set of specifications and encoding tools in XML (*eXtensible Markup Language*) for the scientific edition of ancient texts based on the *Text Encoding Initiative* (TEI), a set of XML specifications designed for the digital publication of texts and manuscripts for research purposes.¹⁶

¹⁴ <http://www.eagle-eagle.it/>. The other databases related to EAGLE are the Epigraphic Database Bari (EDB), <http://www.edb.uniba.it/>, the Epigraphische Datenbank Heidelberg (EDH), <http://edh-www.adw.uni-heidelberg.de> and Hispania Epigraphica (HE), <http://www.eda-bea.es>.

¹⁵ For further information on EpiDoc and its history, see Elliot et al. 2006-2016. The guidelines are available at <http://www.stoa.org/epidoc/gl/latest/>.

¹⁶ <http://www.tei-c.org/index.xml>. See also Burnard 2016 (About these Guidelines): “The TEI encoding scheme is of particular usefulness in facilitating the loss-free

EpiDoc is becoming more and more a point of reference for digital epigraphic projects¹⁷ and it is also the standard chosen for the aggregation of the archives' data in the recently constituted network, again called EAGLE (*Europeana Network of Ancient Greek and Latin Epigraphy*),¹⁸ in which, besides the data of the EAGLE archives, the archaic Latin inscriptions *corpus* will also converge. As a matter of fact, inscriptions encoded with EpiDoc are not only compatible with other projects created according to these Guidelines, but they can also be transferred from a system into another without losing any information; actually, since XML consists in a semantic markup, that is related to the content of the information and not to its appearance, it is possible to modify the look of the final result by simply operating on the style sheet,¹⁹ not having to revise the single files. This will facilitate the integration of the archaic Latin inscriptions into wider digital collections such as EDR and EAGLE-Europeana. Moreover, since the file thus encoded can also be translated into another markup language, their survival despite any future technical evolution is guaranteed.²⁰

Furthermore, the XML edition of an inscription (or of an entire *corpus*) created according to the EpiDoc Guidelines will produce a digital edition of the text that complies to Leiden Conventions²¹ that will show the same typographical marks a printed edition following the Leiden system would have, thus being immediately comprehensible to any epigraphist.

The archaic Latin inscriptions pose various epigraphic problems, related to their antiquity, that require specific solutions also with regard to the markup. Since the EpiDoc Guidelines were originally conceived to encode in XML later epigraphic documents, it has been

interchange of data amongst individuals and research groups using different programs, computer systems, or application software".

¹⁷ On the relationship between EAGLE projects and EpiDoc see Felle 2012.

¹⁸ <http://www.eagle-network.eu>. About the new *Best Practice Network*, co-founded by the European Commission, see <http://www.europeana.eu>.

¹⁹ In XML, all information related to the formatting of the text are registered on a separate file called style sheet, see Bodard 2009, 104, 110-111.

²⁰ Tissoni 2008, 37-38 and Bodard 2009, 104-105.

²¹ On Leiden Conventions; the standard used to annotate epigraphic documents and papyri in printed editions, see Krummrey and Panciera 1980; Panciera 2006b; Panciera 2006a. About their use in EpiDoc's files see Elliot 2007; Mahoney 2006, 229; Bodard 2009, 105.

necessary to adapt these Guidelines to respond to the peculiar issues of this *corpus*.²² For this reason, some elements have been adapted and others have been specially designed, and this was possible thanks to the fact that XML is an extensible system.

The major encoding issues concern the rendering of the direction of writing and of reversed and upside-down letters. Unlike later texts, predominantly left-to-right, the inscriptions of the ILA *corpus* show a certain degree of fluctuation in the direction of writing. Besides left-to-right, right-to-left and boustrophedonic inscriptions, there are also some particular cases, such as the lamina from Lavinium (*CIL* I², 2833) and the Tibur pedestal inscription (*CIL* I², 2658), that requires a specific treatment. For these texts, it was necessary to create several new specific elements in order to render the peculiar directions in which the text was cut.²³ Reversed and upside-down letters are usually left unmarked in traditional epigraphic editions and we decided to comply to this practice. Nevertheless, the <hi> element has been used to mark up these letters, with two different values of @rend. For reversed letters, the <hi rend="reversed"> was used, a tag that in the EpiDoc Guidelines is used to encode the *litterae inversae*, enclosed in double round parentheses, such as in ((C)) for *mulier*.²⁴ For upside-down letters, a new value was provided, <hi rend="upside-down">, since none of the allowed values of @rend for the <hi> element is suitable for this issue.

XML also allows us to encode the semantic structure of the texts. This kind of markup does not influence how the text is displayed but it is essential to generate the *Index verborum* and to allow a word-based search within the *corpus*. The antiquity of the documents compelled to index the words as they appear in the inscription, because in most of the cases a lemmatization would be forcing; for the same reason, some sequences that remain difficult to interpret were not segmented and the search for a portion of text will be possible.

²² See Sarullo 2011, 162-167, where a few examples of markup are quoted.

²³ The issue of the direction of writing was the subject of much debate at the 6th EAGLE International Event *Off the beaten track. Epigraphy at the borders* (Bari, September 24th-25th, 2015). The discussion highlighted how this is a matter of great relevance both for the archaic inscriptions and the testimonies from late antiquity and the necessity to establish a common standard to encode the instances of "non-standard" directions of writing emerged. This issue is discussed in Sarullo 2016, where the newly created elements are presented.

²⁴ See Panciera 2006a, 1722.

Finally, the EpiDoc file contains all information about the text-bearing object (description, dating) and the text (critical apparatus, commentary); the encoding of these data allows us to generate the indexes that, together with the bibliographical references and the images, enrich the digital edition and make the utilization of the text more complete.

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3. I.Sicily. An EpiDoc Corpus for Ancient Sicily

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Abstract

This paper introduces the EpiDoc corpus of inscriptions on stone for ancient Sicily, I.Sicily. The project is one of the first attempts to generate a substantial regional corpus in EpiDoc. The project is confronting a number of challenges that may be of wider interest to the digital epigraphy community, including those of unique identifiers, linked data, museum collections, mapping, and data conversion and integration, and these are briefly outlined in the paper.

Keywords: Sicily, Epigraphy, Epidoc, Greek, Latin, Pleiades, multilingualism

3.1. Introduction: what is *I.Sicily*

I.Sicily is an online, open access, digital corpus of the inscriptions on stone from ancient Sicily.¹ The corpus aims to include all texts inscribed on stone, in any language, between approximately the seventh century BC and the seventh century AD. The corpus currently contains records for over 2,500 texts, and when complete is likely to contain c.4,000. The corpus is built upon a conversion from a legacy dataset of metadata in MS Access to EpiDoc TEI XML.² The XML records are held in an eXist database for xQuery access, and additionally

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¹ The corpus will be mounted at www.sicily.classics.ox.ac.uk. A public face is currently maintained via a blog at <http://isicily.wordpress.com/>, as well as on Facebook at www.facebook.com/ISicily and on Twitter via [@ISicily@Sicilyepigraphy](https://twitter.com/ISicily).

² <http://sourceforge.net/p/epidoc/wiki/Home/> [accessed 26.09.2015].

indexed for full-text search using SOLR/Lucene. The corpus and related information (museum list, bibliography) are published as Linked Data, and are manipulated through a RESTful API. The records are queried and viewed through a web interface built with AngularJS and jQuery javascript components. Mapping is provided in the browser by the Google Maps API, and ZPR (Zoom, Pan, Rotate) image-viewing is provided by the IIP image server and the OpenSeadragon javascript library.

At the time of writing (September 2015), the main conversion routine is being refined and the epigraphic texts are being collated for incorporation into the records. An ancillary database of museum collections and archaeological sites in Sicily has been constructed and bibliography is held in a Zotero library. Extensive search facilities will be provided, including map-based and bibliographic searching. Individual inscriptions and individual museums will both be provided with URIs, as will personal names and individuals; places will be referenced using *Pleiades*; epigraphic types, materials, and supports using the EAGLE vocabularies.

3.2. The motivations for and origins of *I.Sicily*

The existing epigraphic landscape in Sicily is extremely diverse in two primary regards: on the one hand, the island has a very mixed cultural and linguistic make-up, meaning that the epigraphic material is itself extremely varied, with extensive use throughout antiquity of both Greek and Latin, as well as Oscan, Punic, Sikel, and Hebrew;³ on the other hand, the publication of this material has a very uneven record and despite an excellent pre-twentieth-century tradition, the existing *corpora* are far from complete and the ability of key journals such as *SEG* or *AE* to keep pace with local publication has been limited.⁴ A limited number of museum-based *corpora* have been published in recent decades (for Catania, Palermo, Messina, and Termini Imerese, as well as the material from Lipari), but this has not greatly improved the overall situation.

³ Recent overview of much of the linguistic tradition in Tribulato 2012; and of the epigraphic material in Gulletta 1999.

⁴ For an overview of the *corpora* tradition up to the twentieth century, see De Vido 1999.

The combination of these two factors already means that locating, identifying, or working with a Sicilian inscription, or its publication record, is extremely challenging for anyone without extensive experience of the material. The situation is compounded by the universal and familiar challenges of the recording and accessibility of archaeological collections, whether held in museums, in archaeological stores, or elsewhere, and the lack of consistency in the publication of new material.

As noted in the introduction, some of the impetus for *I.Sicily* comes from a desire to exploit a substantial legacy dataset in MS Access. This consists of a single table originally constructed in MS Access 2000, and maintained erratically from the year 2000 onwards. The original purpose of this table was to gather data to assess the ‘epigraphic habit’ of ancient Sicily, and consequently the texts themselves were not the primary focus. However, the extent to which the dataset facilitated further study made increasingly clear its potential value for the study of Sicilian epigraphy.⁵

In its final form the table holds data across 39 different fields, for 2575 records. 17 of these fields detail publication history (*corpora* references and other bibliography); the other fields record information on the language, date, provenance, current location, epigraphic type, form and material of the inscriptions, together with a free-text field recording further information about the inscription and fields to record any autopsy undertaken. Almost all of this data is derived from existing publications.

The conversion from the original MS Access dataset was developed through a pipeline of known conversions going from MS Access to CSV to TEI P5 XML. The XSLT transformation of the table of data from TEI P5 XML to EpiDoc XML is the point in the process where further up-conversions of the data were made. These include the creation of the hierarchical EpiDoc XML as well as normalisation of dating and bibliographic records. This conversion is not meant to be repeated as the dataset, once converted to EpiDoc XML, will be edited in the *I.Sicily* website. While the conversion preserves the data from the MS Access dataset, it restructures and where possible improves or normalises it.

By virtue of the fact that *I.Sicily* begins from such rich metadata, to which texts, images, and further data will be added over time,

⁵ The principal results were published in Prag 2002, revised in Prag 2004, 159-188; cf. Prag 2003, 2007, 2008, 2010.

and because this is in turn being supplemented by an on-going programme of autopsy, the form and content of *I.Sicily* is intended to be more akin to that of a true corpus than simply a text-database, seeking to combine a full record of past publication and study with a fully revised edition, and potential for multiple individuals to contribute to a process of on-going revision (see Fig. 1 for a draft edition of one inscription (*AE* 1962.314 = *I.Sicily* 820)).

3.3. The aims of *I.Sicily*

We outline briefly five areas in which *I.Sicily* aims to develop, facilitate and improve the study of epigraphic material from ancient Sicily.

3.3.1. Multilingualism

Sicily is traditionally described as a ‘melting pot’, the ‘crossroads of the Mediterranean’. The negative consequences of the separation of epigraphic material according to linguistic traditions have recently been highlighted and directly confronted by the *Corpus Inscriptionum Iudaeae/Palaestinae* (CIIP), edited by H. Cotton *et al.* *I.Sicily* sets out to follow in that mould, since the different linguistic traditions of Sicily not only exist side-by-side but interact constantly throughout the island’s history, and no study of the epigraphic material can afford to ignore contemporary and parallel material in the other languages.⁷ The situation created by basic technologies such as Unicode and EpiDoc XML mean that there is now no reason not to be language agnostic in the inclusion of material (the point may be obvious, but the tendency towards language-specific *corpora* is still marked). The opportunities and possibilities offered by these technologies are considerable, even at the most basic level, since, for example, searching can be made language specific or language neutral. One obvious area where Sicilian studies are currently hampered by this partitioning is in the study of onomastics. The *Lexicon of Greek Personal Names* records most instances of Greek names for the island, but Sicily is no less rich in non-Greek names (Latin and others), and at present there is no *onomasticon* for the island.⁸ Simply by the marking-up and indexing of all names

⁶ Original notice in Cotton *et al.* 1999; presentation in Cotton and Price 2007.

⁷ See e.g. Manganaro 1993, Prag 2002, Salmeri 2004, Korhonen 2011, Tribulato 2012.

⁸ www.lgpn.ox.ac.uk/ [accessed 26.09.2015].

in the island's inscriptions, *I.Sicily* will generate a powerful tool for future study. Although *I.Sicily* in its first phase is not undertaking morphological or syntactical mark-up, the encoding of all these texts in XML constitutes the necessary first stage in such a development, and we see this as a highly desirable future project, and the possibilities for the field of historical linguistics are considerable. The incorporation of a full range of metadata on the epigraphic support, geographical location, chronology, etc. will likewise allow detailed analysis of cultural patterns and their relationship to language-use over time.⁹

3.3.2. Identification and bibliography

Sicily presents a particularly extreme version of the common problem of identifying a text and its publication record. No existing *corpus* in either Greek or Latin comes close to full coverage (*CIL X* and *IG XIV* are the largest individual traditional *corpora* for the region, but both are over 125 years old and cover less than 30% of the material now known).¹⁰ Existing online databases improve on this situation, but the results obtainable are of very varied value. The most comprehensive, in terms of the range of data recorded, is *EDR* (with which *I.Sicily* is collaborating), which currently reports 1,906 records for 'Sicilia'; but this reduces to 833 when limited to texts on stone ('lapis' or 'marmor'); contrast *I.Sicily*, with 2,563 records at the time of writing.¹¹ *Clauss Slaby* reports 4,374 records for 'Sicilia' (including Christian inscriptions, excluding 'sigilla impressa'), but the return is inclusive of all kinds of epigraphic material, without indication or discrimination, contains some duplication, is much harder to reconcile to existing records, and records only text.¹² The *PHI* database of Greek inscriptions has a rich record of published Greek texts, but is text only and limited in outputs.¹³ *SEG* references are available for 733 inscriptions on stone and *AE* references for 328 (data taken from the *I.Sicily* database and based upon comprehensive manual trawls of *SEG* and *AE*).

One major aim of *I.Sicily*, therefore, is to generate unique identifiers for each inscription – the *I.Sicily* number, in the form *ISic* 1234.

⁹ See Prag 2002 for a first effort in this direction.

¹⁰ Mommsen 1883; Kaibel 1890.

¹¹ www.edr-edr.it/ [accessed 26.09.2015]

¹² www.manfredclaus.de/ [accessed 26.09.2015].

¹³ <http://noapplet.epigraphy.packhum.org/regions/1156> [accessed 26.09.2015].

These will be maintained as URIs, of the form: <http://sicily.classics.ox.ac.uk/isicily/inscriptions/1234>

I.Sicily is well placed to do this since its initial dataset is primarily a bibliographic concordance of the lapidary inscriptions of Sicily. One of the associated outputs of the project will therefore be an online bibliography for Sicilian epigraphy, and an online Zotero library has already been created with over 700 records which are referenced in the EpiDoc files.¹⁴ A locally cached version of the bibliography will be presented at the *I.Sicily* site to facilitate detailed bibliographic searching (including the identification of inscriptions by publication) and to allow the generation of customised concordances.

A further element of bibliographic information which *I.Sicily* will include is the cross-referencing and linking to online editions of major antiquarian *corpora* of Sicilian inscriptions. A growing number of these are already available in digital format and several are already mounted in the Arachne archive, making direct page-citation possible.¹⁵

The richness of *I.Sicily's* records in this area means that *I.Sicily* is currently collaborating with both *Trismegistos* and *IDES* ('Integrating Digital Epigraphies').¹⁶ The former aims to generate *TM* numbers for all the Sicilian material (which *I.Sicily* will include); the latter is to assist *IDES* in the refining of links between, e.g., *PHI* and *SEG* records, and to improve *I.Sicily's* own recording of *PHI* numbers.

3.3.3. Identification and collections

The traditional focus of epigraphic study upon the text, rather than the epigraphic support, means that epigraphic publication in the past has frequently been relatively limited in the information which it has recorded about the object on which the inscription is inscribed. This is a familiar complaint, and one which *I.Sicily* will address wherever possible through full object description and a rich photographic record. However, a corollary of this general problem is a very low level of information regarding current location and in particular the infrequent recording of museum inventory numbers or similar information. This situation is inevitably exacerbated by the substantial

¹⁴ <http://www.zotero.org/isicily> [accessed 26.09.2015].

¹⁵ E.g. Castelli 1784, at <http://arachne.uni-koeln.de/books/Castelli1784> [accessed 26.09.2015].

¹⁶ www.trismegistos.org/ [accessed 26.09.2015] and <http://ides.io/> [accessed 26.09.2015].

(and very positive) reorganisation and redevelopment of museum collections in Sicily recent decades – including a significant increase in the number of museums and public collections.

I.Sicily is making use of the TEI <msIdentifier> element, with its associated sub-elements in order to record details of institutional collections and inventory numbers wherever possible.¹⁷ In order to maximise the value of this, we have adopted two further courses of action. In the first place, as part of the larger ambition of undertaking autopsy of every stone contained within the corpus, we are working in close collaboration with museums on the island to improve our records of individual museum holdings. Where possible we aim to include associated archival information, such as copies of inventory records. This work currently includes a major sub-project to catalogue the epigraphic collection of the Museo Archeologico Regionale Paolo Orsi at Siracusa, and we are also currently working with collections at Adrano, Halaesa (Tusa, ME), and Catania.¹⁸ It is hoped that this work will be of considerable value to the museums themselves, since access to the *I.Sicily* records should facilitate the curation, display and accessibility of the inscriptions (see below also on translations), and we welcome future collaboration with other museums on the island.

Secondly, in collaboration with Dr Michael Metcalfe, *I.Sicily* has developed a database of Sicilian archaeological collections (130 at the time of writing). This database is mounted online alongside the epigraphic corpus, in a searchable format, including map-based searching. In order to facilitate the generation of linked data, the individual museum records will be maintained with URIs, of the form: <http://sicily.classics.ox.ac.uk/isicily/museums/123>.

The linking of the epigraphic and museum databases will enable the searching and reporting of inscriptions by museum collection as well as the easy locating of the appropriate collection.

¹⁷ www.tei-c.org/release/doc/tei-p5-doc/en/html/ref-msIdentifier.html [accessed 26.09.2015].

¹⁸ We gratefully acknowledge the ongoing support of dott.ssa G. Lamagna and dott.ssa A.M. Manenti at Siracusa, as well as previous directors of the Museo Archeologico at Siracusa, dott.ssa C. Ciurcina and dott.ssa B. Basile; of dott.ssa A. Merendino at Adrano; of dott.ssa G. Tigano and dott. R. Burgio at Messina; and of dott.ssa M.G. Branciforte at Catania.

3.3.4. Location, location, location

I.Sicily is actively generating rich geo-data for the individual inscriptions, both for the original findspot/provenance and the current location (whether museum-based, on-site, or elsewhere), and we aim to provide map-based searching for inscriptions, as well as text-based searching by ancient and modern place-names. In addition to full listing wherever possible of both ancient and modern place names for epigraphic provenance, we are working to provide detailed location information for each find-spot and the inscription's current location, through a combination of library and map-based research and the use of autopsys and *GIS* recording. At present geo-data is being recorded in two forms, both through the use of explicit geographical locations in the form of longitude and latitude records in decimal degree form (using <geo> elements), and through the use of Pleiades URI references wherever possible.¹⁹ We are committed to the long-term use of Pleiades as our primary reference for ancient places, and to that end we aim to update and improve the Pleiades data for Sicilian locations, in particular name data and sub-locations, in conjunction with the editing of the *I.Sicily* records.²⁰

3.3.5. Searching

In order to support the aims outlined above, *I.Sicily* has taken a different approach to search and browse. Although standard form-based search with paged results, like that of Google, makes sense for very large result sets, the comparatively small number of records in *I.Sicily* (thousands versus the estimated 30 trillion web pages indexed in Google) lends itself to a more direct and interactive approach – a spreadsheet/grid model (similar to Microsoft Excel) that runs directly in the browser. Although it is tempting to repeat the standard web-form model, following the argument that that's what users expect, the spreadsheet approach will be much easier to use, narrowing quickly and accurately to more easily interpreted results. Further, any subset of the spreadsheet, generated from interactive filtering, can, with a single button push, be exported to CSV (comma separated values) for use outside *I.Sicily*.

¹⁹ <http://pleiades.stoa.org/> [accessed 26.09.2015].

²⁰ See e.g. Wilson et al. 2015. Valeria Vitale (KCL) is currently undertaking a significant programme of data improvement in Pleiades on behalf of *I.Sicily*; we are grateful to Tom Elliott and Jeffrey Becker for their support.

The spreadsheet interacts particularly well with maps: all findspots or museums in a filtered subset of the grid can be simultaneously shown on the map (see Fig. 2). The spreadsheet model also provides a very quick and intuitive (since so many people are familiar with spreadsheets) means for editing records (in this case, inscriptions and museums) online. This web-based spreadsheet model has only recently become feasible for the web, as web browsers have added more functionality and new javascript libraries have been developed.

3.3.6. Translations

As was extensively discussed at the first EAGLE conference (Paris 2014), the creation and availability of translations is a major goal of the EAGLE project and its collaborators, and *I.Sicily* is no less committed to that ambition.²¹ Translations are rarely available for any of the published Sicilian inscriptions.²² It is obvious that the inclusion of translations will make the material much more accessible to a wider audience both of students and the general public. Equally, provision of translations will add to the value of the database as a resource for museums and others curating the inscriptions recorded in the database. To that end, a long-term ambition of *I.Sicily* is to include translations wherever possible in both English and Italian. We see this as one obvious area where public contribution ('crowd-sourcing') will be invaluable (see below).

²¹ See Orlandi et al. 2014, Part II.

²² French translations appear in Dubois 1989 and Dubois 2008.

ISIC0820. Fragment of a base or altar, which mentions an aedes

Adriano, C2 AD, Latin



Location

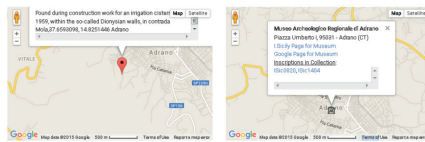
ERI

Provenance: Found during construction work for an irrigation system in 1959, within the so-called Dionysian walls, in contrada Mola, 37 659209, 14.8251448 Adriano

Original Location: Adriano

Last Recorded Location: Adriano, Italy, Museo Archeologico Regionale di Adriano, 11701

Autopsy: Autopsy: 2010.07.03



Physical Description

An irregular fragment of stone, broken on all sides, with only parts of the front and rear faces preserved. The rear presents a regular surface, picked rather than smooth. The front has the remains of a recessed panel, with part of the left margin preserved proud of the surface. The surface of the panel is lightly curved, in convex fashion along the horizontal plane, suggesting a cylindrical shape for the original block/monument from which the fragment derives. The inscribed panel is 0.115 m high at the left margin and has a maximum preserved height of 0.14 m, reducing to c. 0.095 m on the right margin, the maximum preserved width of the panel is 0.12 m.

Material: limestone

Type: part of a large circular altar or base

Dimensions: H = 27 cm, W = 19 cm, D = 21 cm

Epigraphic Description

The inscribed panel is 0.115 m high at the left margin and has a maximum preserved height of 0.14 m, reducing to c. 0.095 m on the right margin; the maximum preserved width of the panel is 0.12 m. The inscription, of which blocks of areas are visible, is set out in the recessed panel. Part of the left margin of the text is preserved, but the full extent of the text is unknown, probably continuing above, right and below.

Letter Heights

Line 1: incomplete mm

Line 2: 21 mm

Line 3: 23-25 mm

Line 4: 25 mm

Line 5: 26 mm

Line 6: incomplete mm

Letter Forms: The letters are engraved with a deep V-cut, and are of regular and squarish form, with small serifs. There is a single instance of ligature at the start of line 2: an unusual double interposed is employed in line 4 (double interposed are rare in Latin epigraphy, although not interposed is visible between the S and P of line 4, there is otherwise no point in the rest of the surviving text where one would expect an interposed to be deployed), so it is difficult to speculate as to whether the double interposed is used for a particular reason at this point in the text. Lines 4 and 5 both employ a superscript letter R to create what appears to be an unparalleled abbreviation both in form and letters: the superscript R on line 4 extends up into line 3, the superscript R on line 5 extends up to the base of line 4.

Date: C2 AD

Interpreted: Diplomatic: Epigraphic:

1. A[—]
2. AED[EM—]
3. CA[RE—]
4. S[ua]P[ro]cur[ator] D[omi]ni [—]
5. [re]c[us]u[m] [—]
6. [—]

Apparatus

Line 3 Mangano (1961: 131) asserted that 'nella linea 3 la quarta lettera è sicuramente I, mentre la sett. successiva poteva essere R, in margine alla quale si sia verticale la rotunda aeta p[ro]c[ur]ator', and went on to propose the name C[ar]inus. The fourth letter is quite clearly an E: the curvature and erosion of the stone mean that the upper and middle bars of the E are very faint, but the lower bar is absolutely clear. The traces which Mangano suggested were compatible with it at the end of the same line appear rather to belong to a letter R, in a superscript position following the D in line 4, as is more clearly visible at the end of line 5.

Line 4 Mangano did not comment on the traces of one or more letters visible below line 5. The remaining traces are most readily compatible with M or R.

Translation

Commentary

The physical form of the fragment is compatible with some sort of curved or cylindrical monument, whether a cylindrical altar (as suggested by Mangano (1961: 131) or a tablet base, or something else. The reference to an aedes ('tempio' or 'monio') suggests that the text may be linked to an act of building / inauguration (sua procurator), whether restoration or building ex novo. Mangano suggested a link to either Apollis or Adriano, since both are identified by Mangano (1961: 132); this remains the only instance, to date, of a Latin inscription from the environs of Adriano. As Mangano notes (1961: 131), repeated by the editors of *L'Année Epigraphique*, there is no obvious parallel for the form DR, although it is certainly tempting, in the context, to treat DR as an unusual form of abbreviation of the usual Decretum (Decretum), i.e. Decretum (Decretum). There is little reason to think that the letters were added later (as suggested by Mangano), since this is already an atypical form of abbreviation, and there is nothing about the engraving to suggest they are by a different hand: if the letters DR are to be expanded as decreta Decretum, then this text seems to be the last status of Mangano in the imperial period as being a Latin inscription, but it certainly is possible that the problem of municipal status in imperial period Sicily, see (other than) Vera, D.: 1996, Augusto, Povo's vecchio a la Sicilia in età imperiale. A proposito di recente scoperte epigrafiche in archeologiae ad Agrigento. *Isis* 67, 21-26. (http://dx.doi.org/10.1017/S0021871800000000). There is also a note in *Le Iste romane. Atti della XIe Rencontre sur l'Épigraphie* (Bari 8-10 ottobre 2009). Bari: Edipuglia: 305-311.

Bibliography

- AE: 1962.0314
Mangano (1961a): 130-132 fig 2

Fig. 3.1. Sample edition.



Showing 340 of 2413 inscriptions. Filtered to limestone only

Id	Date	Date Range		Place		Material	Object Type	Inscription Type	Museum
		After	Bef...	Ancient	Modern				
ISic0824	Second half of C...	250 BC	200 BC	Syracusae	Syracuse	limestone		honorific	Siracusa,
ISic0822	First half C6 BC	600 BC	550 BC	Syracusae	Syracuse	limestone		dedication / building	Siracusa,
ISic0820	C2 AD	100 AD	200 AD	Adranon	Adrano	limestone	part of a large ci...	dedication building	Museo Ar
ISic0819	C1 AD - C2 AD	0	100 AD	Netum	Noto Vecchia	limestone	altar	funerary	Noto, bit

Fig. 3.2. Screenshot of map-based searching (museum locations) and of part of the spreadsheet/grid search interface employed in I.Sicily.

3.4. Limitations and future ambitions

The scale of the enterprise, and the available resources, mean that in its current form the project has limited itself to inscriptions engraved on stone (the coverage of rupestral inscriptions/graffiti and of inscriptions painted on stone/plaster is regrettably uneven). However, there is no reason in principle not to extend coverage in future to include inscriptions on other materials. Similarly, although as noted above the current project does not include a programme to mark up linguistic features of the texts, the commitment to the long-term maintenance of the corpus and the open availability of the underlying XML records means that such a project would be entirely possible in the future. A core principal of the project is that wherever possible an inscription record should be supported by recent autopsy and not simply derived from the existing literature. Necessarily, this process is a slow one, and the majority of records at this stage consist of information derived from secondary sources (earlier editions and other publications). Individual inscription records will contain a clear indication of the editorial state

of the record (from unchecked through to fully edited) and additionally whether the record is underpinned by autopsy. In both cases, clear records will be kept of editorial responsibility, autopsy and authorship as appropriate. In order to speed up the development of the corpus, and to encourage those working on the material to take ownership of it for themselves, we aim to enable individuals to submit new records and emendations or additions to existing records (such as translations, images, location information), both in the Epigraphic database and the Museums database. To this end, we welcome collaboration with those undertaking epigraphic projects in Sicily, and aim to offer the ability for other projects to publish their editions through I.Sicily. We are also exploring the potential of the corpus as a teaching resource both for epigraphy in general and for the teaching of EpiDoc. This latter aspect has already been initiated through a Teaching Project Award (2014-2015) from the Humanities Division of the University of Oxford, and we aim to develop this further in the coming year, as part of the work of incorporation and conversion of texts into the existing dataset.

It is our long-term ambition that I.Sicily might become the default location for the publication and dissemination of Sicilian inscriptions; in the shorter term, we hope that it will serve as valuable portal in the world of Sicilian epigraphy and of ancient world open linked data, greatly improving the accessibility of Sicilian epigraphy and so enriching the study of the ‘crossroads of the Mediterranean’.

Acknowledgments

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4. Towards the Publication of ICI Siracusa: General Data and Previews

*Mariarita Sgarlata**

Abstract

This paper refers to the general track “Epigraphic edition on paper and on line”. Some researchers who has been working on the editing of the *Inscriptiones Christianae Italiae*, published from the University of Bari, contributed also to the EDR project, that collect on line the epigraphic documents of Roman Christian Period. I propose a preview of the work currently in progress, with a specific reference to the inscriptions that provide us the chronological and topographic data to study the cemetery as well as formularies linked to the society structure and to the identity-making characteristics.

Keywords: Sicily, Syracuse, Epigraphy, Topography, Society, Onomastic and Identity

4.1. General data about epigraphs

We are far from a complete and thorough research about palaeochristian epigraphs in Sicily. This catalogue represents the first step of a systematic study focused on the inscriptions discovered in the christian cemeteries of Siracusa.

The epigraphic research related to San Giovanni catacomb can count on certain informations about the discovery place thanks to Paolo Orsi archeological campaigns. However, looking to previous publications, sometimes it's necessary a review of the presentations made by Mommsen and Kaibel. In this perspective the main sources of the CIL and IG authors were verified so we had a deeper vision

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of the relationship between Mommsen and Kaibel and the main sources used, sometimes reevaluating the contribution of these sources. The renovated interest about funerary epigraphy generated new studies about new criteria of dating. The inscriptions dated by the indications of the “consular couple” represent an exception in the issues about chronological datings (Ferrua 1946-1947, nn. 191-208; 1989, nn. 191-208): two were discovered during the excavation conducted by Paolo Orsi (1985) and to them is associated the Latin epigraph “Sporus” (356).

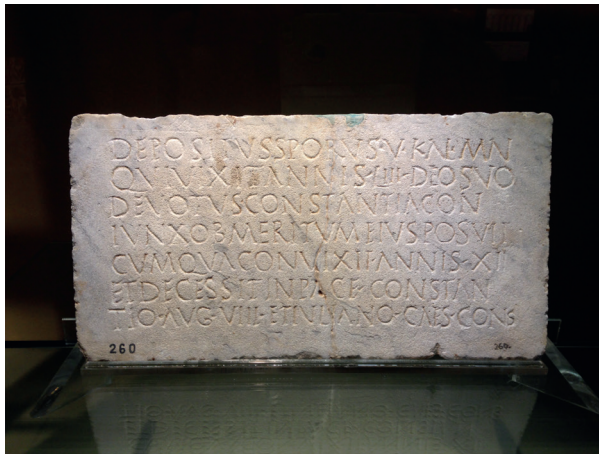


Fig. 4.1. The Sporus's inscription.

The bigger one is entitled to San Giovanni and gave back almost 800 inscriptions, now located for the most part in the Archeological and Regional Museum “Paolo Orsi” of Siracusa.; alongside will be placed the 40 headstones recovered in the adjacent hypogea of Villa Landolina, that report compatible datings and formularies.

4.2. Historical aspects of the catacomb of S. Giovanni at Syracuse

The systematic studies of collective cemeteries in Syracuse started many years ago and, beyond the archaeological surveys, the late antique funerary settlements of Syracuse proposed multiple research cues and paths, as the historical-religious, economic and social nature. Suburban cemeteries, fanned out from the area of Fusco, in the quarter of Neapolis, to the Santa Lucia area, in the southern part of Acradina,

this indicates unequivocally what the perimeter of the city must have already been in the early and mid Roman Empire. The History of the area, which was going to hold the catacombs (San Giovanni, Vigna Cassia and Santa Lucia), spanned the centuries between the classical Greek and late antique ages, gradually giving evidence of quarries (Latomie), water supply systems to the city, characterized by cisterns and aqueducts (Collin-Bouffier 1987, 682), handcraft workshops from the beginning of the 4th/3rd century BCE and burials datable to the early and mid Roman Empire. The analysis of the funerary system certifies one hand the dependence on the Roman model, and other the debt in respect of local traditions.

Several interest will be given to structural aspect of the catacomb of S. Giovanni, practice of funeral rituals, ethnic and cultural fruition's characters, transformation in the use, transformation in the way of using spaces for graves, to complete a general point of view about the phenomena of continuity and innovation as to previous sepulchral arrangements and, in the analysed periods, the facies belonging to the different settling, variegated in the committees' ideological and religious themes, in choosing monumental types (like the *rotundae*) and decorations, in self-representative aspects, in burial uses. In this perspective we will give particular importance to the study of funerary epigraphy aimed at the writing of ICI Siracusa and the overall interpretation of the monument.

Between 1893 and 1909 the archaeologist Paolo Orsi carried out a series of campaigns in the catacomb of San Giovanni. Detailed reports of those campaigns are recorded at various times in *Notizie degli Scavi*, which constitute an indefeasible starting point. The first incisive studies on Christian subterranean Sicily pertain to Joseph Führer, who dedicates many pages to the catacomb of San Giovanni, whose study is also epigraphic, is based on the previous literature, especially on Paolo Orsi's discoveries (Führer, 1897, 13-39; Führer and Schultze, 1907, 22-26; see also Orsi 1893, 276, n. 2) . In the study of Syracuse cemeteries Orsi (1900, 189) was the first to see the mixed nature of the burials and their materials (mostly gravestones), openly attesting a kind of pagan-Christian and orthodox-heterodox symbioses . Both Antonio Ferrua and Santi Luigi Agnello within the space of a few years tried to solve the problems relating to the sarcophagus of Adelfia and the more general problem, strictly correlated with the ones just mentioned, of the cemetery genesis and development.

It is necessary to record that numerous hypotheses on the genesis and development of the various sectors of the cemetery are ascribable to the account given by inscriptions. Syracuse, thanks to its prolific underground cemeteries, has the larger Christian epigraphic heritage after Rome, kept in the storage of the Soprintendenza di Siracusa.

4.3. Topographic and epigraphic data to study the cemetery

Walking across the main gallery, one can retrace the stages of Paolo Orsi's interventions, being at the entrance of the Catacomb second northern gallery, before the so-called "tomb of the Saint". This *arcosolium* is considered a privileged burial on the basis of the following reasons: most of all because of its position, but also because it is a *mensa*-type burial closed by a sole slab (Orsi 1893, 292-294). The signs of an ancient rite are easily traceable on the slab, a rite that preceded the coming of Christianity and persisted for centuries up to the present day: the rite of *refrigerium*, which literally means refreshment, cooling (Giuntella et al. 1985). In the Christian ceremony the purpose of a funeral banquet is to benefit the soul of the departed on the anniversary of death, a painful event celebrated as *dies natalis* of the soul to eternal life.

Who was buried in this sepulchre? The question is destined to remain unanswered and only an inscription found nearby could be a clue in this sense. The text says that the owners purchased the sepulchre close to the one of the bishop *Cheperion's* (Orsi 1895, 507-508; Rizzone 2011, 55-58), of whom the scanty written sources never make mention. In any case this constructed sarcophagus represent one of the most eminent burials of the catacomb. In the same gallery one cannot ignore the finding of an inscription in many fragments, which is a singular phenomenon of religious contamination.

This inscription, with a Christological monogram at the top, records *Nassiana* "Christian, who competed with Penelope in moral virtue". This inscription can only be compared with three examples in the Roman sepulchral *carmina*. The circular support of this inscription found close to the "tomb of the Saint" has been regarded as a *mensa* (table) for *refrigerium* rite (Giuntella et al. 1985, 47), whose circular form would derive in any case from an evident reuse of a marble disk of classical craftsmanship, with a laurel wreath and berries sculpted on one side (Orsi 1895, n. 234). A wall inscription painted on the extrados

of an *arcosolium* in the third northern gallery of the catacomb could be connected with Nassiana's text. Two lines of the inscription say that "Sossa outdid (other women) in conjugal love; as for handiworks, without being taught by anyone, Athena herself had taught her how to do marvelous things" (Ferrua 1940, n. 3). Both inscriptions unequivocally make use of female figures from the classical world, interpreted as a model also for Christian women either for a deep-rooted usage or making up for the absence of assimilable figures in the Church. This allows one to notice in a 4th century large community cemetery, such as San Giovanni, some phenomena of religious contamination in a period in which Christian epigraphic praxis consolidated itself by then (Sgarlata 1999, 484).

The rotunda derives its name from the deceased Antiochia recorded in the sarcophagus, set inside the ring of tombs, made of blocks and bearing an engraved and rubricated inscription. Whom did this private space belong to? To answer the question, one can rely on a suggestion provided once more by epigraphic testimonies. The grave-stones found – on which they put as a rule the deceased's name, lifespan, date of death and deposition – according to the first excavators' reports (Carini 1873, 23-45), attest that the rotunda of Antiochia could have housed women only and this would give credence to the idea that the mausoleum had been used for a female monastic community. The hypothesis needs to be verified, but it is very seductive.

It is evident that the catacomb of San Giovanni was originally a community cemetery, planned for only one type of burial: the *arcosolium* with multiple depositions, which does not require great care for decoration, only transennae. In the topographical and architectural development of the catacomb it appears clear that creating the rotundas breaks up the common burials series, destined to a socially homogeneous Christian community. These changes to the original plan – of the creation of subterranean mausolea both to the north and south of the cemetery – spring from the necessity to create appropriate spaces for the members of the Church and above all of the Empire, bringing into question the initial egalitarian choice of the *arcosolium* burials (Griesheimer 1989, 767). In the terminal part of the pious Giovanni's gallery a monumental sarcophagus, once more hewn out of the rock, can be perceived. Close to the closing wall of the same gallery an inscription was found: it bears the notification of both the consuls of the year 349; (Agnello 1953, 89).

As a rule this date marks the end of the dig works in this sector of the catacomb (Ferrua 1952, 75-76). A *arcosolium* extrados, in the eastern region, shows traces of a *palinsesto*, an overlap of paintings and epigraphs that obstruct the identification of the first person buried in this sepulchre, even if recently Vittorio Rizzone proposed the interpretation *Philadelphiea*¹. In one of the fossa tombs at the terminal stretch of the main gallery the inscription of Euterpe (IG XIV, 112) has been found, reused to cover the bottom of the tomb, which traditionally marks the end of the dig works of the catacomb (Ferrua 1952, 75-76; Agnello 1958, 79; Griesheimer 1989, 781). Beyond the deceased's biometric data, recorded as "companion of the Muses", the epigraph in the last three lines mentions the consuls' iteration, which allow us to date back to the consulate of the Emperor Constantius, consul for the tenth time, and Julian- Caesar, consul for the third time. So Euterpe died on November 27th 360 A.D. at the age of 22 years and 3 months.

In the southern region, more than in other ones, that you can note the transformations that have profoundly undermined its community spirit, which had originally inspired the creation of the catacomb. In the first rotunda of the southern region, is a private space, which was given the name of Marina due to an inscription scratched upon the extrados of the *arcosolium*, on the right of the entrance to the short gallery of the bishop Siracosio. The *arcosolium* seems to be enframed by a painted *prothyrum*, as the still visible column and capital attest, confirming the generalized use of architectural elements in this catacomb, already seen in the rotunda of Antiochia. According to the interpretation of the text, Marina could have been the wife of the *patricius* et *magister militum* Sabinianus, sent by the Emperor Honorius to Spain at the time of barbarian invasions presumably between 409 and 423 (Ferrua 1989, 21-22, 40).

This date would agree with the numerous testimonies given by the inscriptions that have been dated thanks to the notification of the two consuls in office in the year of their death. These testimonies are ascribable to the years of the Emperors Arcadius and Honorius in the first quarter of the 5th century and seem to suggest a link between a few burials of the southern region and the aristocrats' diaspora from Rome after Alaricus' advance in 410, who took refuge in Sicily and Africa as they did in other provinces of the Empire (Sirago 1989, 715).

¹ Rizzone 2012, 260-265.

It is necessary to have a look at the slab of the presumed *arcosolium* of the bishop Siracosio, recorded in one inscription found in an adjacent fossa tomb, which says that the deceased intentionally purchased the sepulchre close to the one of the bishop just mentioned (IG XIV, 123: Ἐνθάδε κίτε Πολυχ/ρόνιος καὶ Σεραπία. / Ἠγόρασεν τῶτότ/ε καιρῶ / Πολυχρονίου /αί Σεραπία ἐπὶ τῶ κυρί/ω μου ἐπισκόπῳ Συρα/κοσίῳ). It is just a hypothesis seeing in the *arcosolium* with the engraved slab, still in situ, a noble burial for a member of the ecclesiastical hierarchy, for whom, in the absence of other data, according to a letter of pope Gelasius I, an episcopate between 492 and 496 has been proposed (Narciso 1952, 223; Carletti 2008). One can clearly distinguish a Christogram with the apocalyptic letters *alpha* and *omega* and two ships in the shape of fish, regarded as making reference to the sacrament of the Eucharist, this is also suggested by the diskettes next to the fishes' mouths, assimilable to loaves of bread (Sgarlata 2013).

After reading the text of the inscription upon the sarcophagus lid (CIL X, 7123: *lc Adelfia c(larissima) f(emina) / posita conpar / Baleri comitis*), one can become aware that it refers only to the woman, not to both husband and wife: here lies *Adelfia, clarissima femina*, wife of the count *Valerius*. Who were therefore *Valerius* and *Adelfia*? The unsolved enigmas of the catacomb of San Giovanni deal with their names and most of all their identification. In reality it is possible to distinguish more than two phases of intervention, which have preceded the creation of the hole for the sarcophagus. At the beginning the internal space of the large niche was scenographically arranged in a terrace pattern with a forceful ascensional effect, not exempt from comparisons (Nestori 1993, 13-15, plate VII). The intact Latin inscription of Sporus, dated to 356, which sealed a forma in the main gallery among the ones that join the rotunda of Marina to the one of Adelfia (Cavallari 1872, 24; Agnello 1953, 90), would attest that the exploitation of the soil in the area gravitating to the rotunda of Adelfia was already underway after the first half of the 4th century, so confirming the evident anteriority of the six graves cut in the floor to the phase of monumentalization. Both the internal and the external organizations of the large niche (*nicchione*) would correspond to the first and second phases of intervention respectively, according to the current reconstruction. The problems related to the reconstruction of the third phase seem to be more complicated: the monumentalization phase started with the interment

of the sarcophagus and concluded with the acquisition of an aspect comparable to the privileged burials of Roman crypts.

The monument seems to have a less wild internal dynamics of development; the new data (archaeological, historical, epigraphical) (Sgarlata 1996, 101-108) allow the scholars to widen the syncopated weave of temporal sequences, to which the analysis of the monument has been pinned by the constant reference to *Valerius Proculus'* chronology. A new chronology and a different identification of the comes Valerius can be proposed, considering: 1) the evident reuse of the sarcophagus; 2) the topographical development of the catacomb in the area where the sarcophagus has been discovered; 3) the type of monumental intervention, which followed the Roman counterparts, datable to the second half of the 4th century (Fiocchi Nicolai 1997, 132-134). If Valerius were given a different identity, one could postpone him from the age of Constantine to that of Augustine (Sgarlata 1998, 15-51), on the basis of several accounts about the friendship between the saint from Hippo and a *comes Valerius*, whose physiognomy, is somewhat vague. This friendship, confirmed by the epistles (AUG., Ep. 200, 206, 207; Retr. II, 79 and 88) and the dedication, in 419, of the treatise *De nuptiis et concupiscentia*, is fed on the fight against Pelagianism, which in eastern Sicily had found a fertile soil. The presence of Pelagians in Sicily is attested for certain, according to *Hilarius'* account under the pontificate of Innocent (Pietri et al. 1999, 429-452) and *Honoreificentia's* letter, where a *clarissima* based at Syracuse is mentioned. On the island the spread of Pelagian movement looks like a direct consequence of the 410 sacking of Rome and the diaspora of the Roman nobility, of which Pelagius and Celestius were spiritual leaders; the short period they both spent in Sicily was not painless for Christian orthodoxy and particularly in Syracuse, as the cemeteries in the area overhanging the Greek theater, intended to serve the communities of the so-called heretics throughout the 5th century. All the data gathered seems to lead to a different identification of *Valerius* – who, even if he was not Augustine's correspondent, would be sought in the list of *Valerii* reported in the sources of the first quarter of the 5th century (PLRE II, 1143-44) – and a later chronology of the large niche monumental transformation compared to the one traditionally accepted.

Certainly it is not the case that in this catacomb the traces of the members of ecclesiastical hierarchy are so rare: where are the martyrs? Why is the evidence of bishops, presbyters and deacons so scant?

Why is this Christianized elite – to which the will to betray the communal matrix of the original project for a new particularistic conception of funerary space can be attributed – so copious?

To answer the questions will take time, which will assure a greater credibility to what so far seems just a series of suggestions, most of all fed by the re-reading of epigraphic testimonies: the episodic character of the references to burials of bishops, presbyters, deacons and noting that the most significant percentage of evidences pertains to the members of the Church, buried in Syracuse away from their own countries and recorded in wall inscriptions written in Latin – *Auxentius Hispanus episcopus* and *Superianus clerecus de Aquileia* (Ferrua 1940, 1 and 6) – as a demonstration that the official language is used by foreigners, who were high clients (the remainder of inscriptions is in Greek), these and many other clues lead to thinking of a less incisive control of the Church in the 5th century than one can commonly believe.

In the rotunda of sarcophagi is surprising the concentration of monumental burials, so that one can think members of the Church commissioned the works here too. What clues are the that could support the hypothesis that the clients belonged to a religious community? To tell the truth, they are scant and among them the epigraph of the blessed virgins Fotina and Filomena deserves to be recorded: the former lived 80 years, the latter 84 (*IG XIV*, 187; Ferrua 1989, 180). The sole dated inscription found within this chamber, which is related to the name of Eucarpio, bearing the notification of both the consuls between 339 and 360, cannot be used for dating; the discovery data, insisting on the fact that the gravestone was found overturned in a *forma* tomb (Agnello 1960, 30-31), suggest that the gravestone was reused.

The *cubiculum* of Eusebio has a structure different than other private spaces of the southern region of the catacomb. The name Eusebio derives, once more, from an inscription found on a three level monumental tomb, in the shape of exedra, visible to the left of the *cubiculum* (*IG XIV*, 111). The position and monumentality of the grand *arcosolium*, the formula “of blessed memory”, the paleographical characters, the identity of pope Eusebius month of death (exiled to Sicily by Maxentius, Eusebius died on 17 August 309 or 310) have suggested to Isidoro Carini that this *arcosolium* could be the pontiff’s temporary sepulchre, whose bones were transferred to Rome and deposited in the catacomb of Callisto. Despite the scholar’s efforts to sustain this

theory (Carini 1873, 134), the physiognomic contours of Eusebius recorded in the inscription remain hazy.

The cubiculum of Eusebio also deserves to be recorded for another testimony, which has a special value for Syracusans: an inscription found in a *forma* tomb, which testifies the worship of Saint Lucy, the patron of Syracuse..No decoration, no distinctive signs characterize the modest burial of Euskia (Orsi 1895, 299-308), one of the many graves cut in the soil of the cubiculum (Guarducci 1978, 526-528, fig. 164).

Εὐσκία ἡ ἄμενπτος, ζήσα<σα>
 χρηστῶς καὶ σεμνῶς ἔτη
 πλίο<ν> ἔλαττον κε', ἀνε-
 παύσετο τῇ ἑορτῇ τῆς κυ-
 ρίας μοθ Λουκίας, εἰς ἣν
 οὐκ ἔστιν ἐν κώμειον
 εἰπεῖν, Χρηστειανή, πισ-
 τή, τέλιος οὖσα, εὐχα-
 ριστοῦ^Ρ τῷ εἰδίῳ ἀν-
 δρὶ πολλάς εὐχαρισ-
 τίας α ω εὐομε[ίλητος]

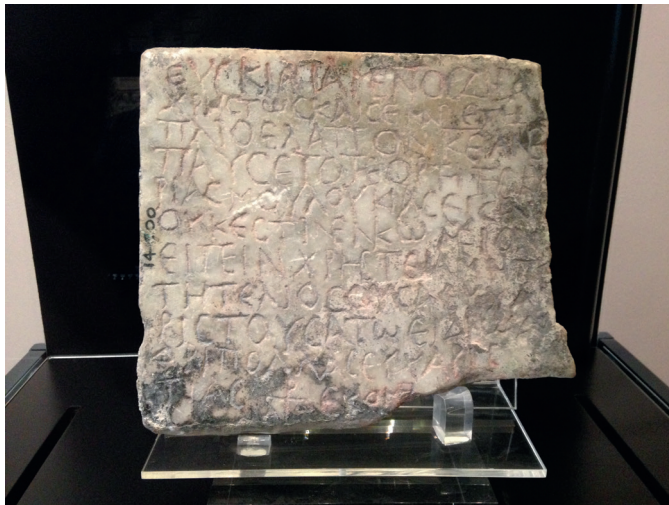


Fig. 4.2. The Euskia's inscription.

Euskia, the irreproachable one, who lived her life in good and pure ways for more or less twenty-five years, died on the feast of our lady Lucia, for whom no praise is adequate. She was Christian, faithful (and) perfect, well pleasing to her husband, endued with much grace, affable.

This is the text of the most important Christian epigraph in Syracuse. The formulae present the typical *elogium*, the retrospective data of the life of the deceased and the Christological monogram flanked by the apocalyptic letters, which are common elements in the inscriptions of the catacombs; it is important since Euskia had been privileged to die on the same day that was sacred to Lucia, patron of Syracusans, a martyr during Diocletian persecutions on the 13th of December 304. The sole doubt of this reconstruction lurks in the term *kyria*, which is referred to Lucia in the epigraph; does one have to interpret it as synonym of *haghia* (saint), which would assure the official character of the worship, or a simple honorary title? Whatever answer one can give, the importance of Euskia's inscription survives intact, because it testifies if not already the sanctity of Lucia, the local devotion and worship of which the woman was subject in the 5th century in Syracuse.

So this is the first attestation of the cult of Saint Lucia, which confirms the historicity of the Martyrologium Hieronymianum's account on popular devotion to the Saint, which came through the celebration of a feast from the outset. All of the other evidence refers to successive periods. It is the Greek *martyrion* dated to the end of the 5th century, whose reliability has been debated for a long time and to this day never evidently established (Milazzo and Rizzo Nervo 1988, 95-135). The inscription, ascribable to the beginning of the 5th century, so would precede the questioned *passio* and would confirm the antiquity of the cult of Saint Lucia, whose bones were presumably kept in the homonymous catacomb in Syracuse, before George Maniakes, in 1039, transported them to Constantinople. Along with the inscription of *Iulia Florentina* from Catania (Rizza 1964, 608-610), the epigraph of Euskia is the most ancient Sicilian document that one could relate to the experience of martyrdom.

4.4. Epigraphic population: formularies and identity-making characteristics

The 800 inscriptions found in the San Giovanni catacomb give us an idea about the epigraphic approach and the society of that time. One single epigraph can mention more than one person so the number

of remembered deceased is superior than the number of inscriptions; starting from this number it's possible to launch a demographic investigation to determine the expectation of life.

In Syracuse all the social classes were affected with inexorable mortality; high percentage among young people (under 20) and extremely low percentage among old people (over 60). The demographic data follow standard hypothesis: male mortality between 15 and 34 years and female mortality between 20 and 24 years (reproductive period). The life expectancy for both genders was around 29 years.



Fig. 4.3. The Fotina and Filomena's inscription.

We focus on the deceased eulogistic formulae that help to increase the study about social aspects. In our research there are few examples of nuptial terminology, all referred to female deceased: *compar*, *coniunx*, σύμβιος, συμφη. It marks a common characteristic: the priority in honoring the wives more than the husbands. Linked to this is the importance given to the sexual integrity of the dead person, in fact the concept of virginity in the nuptial context is particularly marked through the adjective *virginus*-a ο παρθενικός-ή.

² V. cat. n. XX-XXI.

The word *παρθένος* appears seven times and always referred to women. Women who chose monastic life leave behind them all the duties of nuptial life so probably they had a much longer life expectancy than married women. One impressive example is the one of “Fotina e Filomena”, consecrate virgins (80 and 84 years old, as stated above). Such a long lifespan, for the centuries under examination, finds a justification only in considering that both the women chose a monastic-type life, avoiding the slow attrition due to diverse factors: precocious age weddings, consecutive childbirths since their early adolescence, abortive practices by makeshift means and, lastly, even after the dangerous age of 25/30, the overwork that household management and hygienic-sanitary conditions involve. The biometric data recorded in the inscriptions confirmed in Syracusan sample as well (Sgarlata 1991), testify that life expectancy at birth, considering the high rates of infant mortality, was not over 30 years on average, both for men and women; this datum is not surprising, if one bears in mind that the average span life was about 45 years still in the first half of the nineteenth century.

4.5. Conclusions

The new approach to the catacomb of San Giovanni brings many things into question, such as the fideistic attitude of those, who have studied this monument and have looked at the epigraphic evidence for chronological purpose. Rereading Orsi’s excavations data unequivocally shows how itinerant are the dated inscriptions within the cemetery – with the exception of three, whose discovery data attest their permanence in the original position (Orsi 1896a, 43-50, 352-353; Agnello 1953, 90, 97) – which advises the scholars against using them to seal chronologically the diverse sectors. It would be profitable to draw a map of reuse, which is certainly the most striking phenomenon detected thus far in Orsi’s accounts, more than continuing to date the works in the galleries on the basis of dated inscriptions found in their terminal part. But, even underestimating this phenomenon, the inscriptions datable to the years around 350 and the ones, more considerable numerically, that bear the notifications of both the consuls between the end of the 4th century and the first half of the 5th century, have been seen both in the northern region and the southern one, as well as the main gallery (Sgarlata 1996, 109, n. 62), which excludes drawing conclusions on the internal development of the catacomb.

A datum, however, is worth considering: epigraphic evidence and intense exploitation of funerary space attest the vitality of the area that gravitates around the three southern rotundas after the end of the great works of excavations. What appears episodic in the other sectors of the catacomb – for example the so-called sepulchre of the Saint – becomes constant in the southern region, where diverse types of intervention on pre-existent structures and high percentage of dated inscriptions demonstrate, still in the first half of the 5th century, a special concentration of interest. During the work on the editing of ICI, the first certain fact we acquire studying the inscriptions is that the dated ones are almost always reemployed and itinerant within the catacomb, with the exceptions just mentioned. We have to make also another consideration that will allow us, once ended the work of cataloguing and copying the epigraphs, to deal with the language question in a deeper and more articulated way. Also the linguistic choice recorded in epigraphic evidence is worth considering: the inscriptions in Greek surpass by far, with a rate of about 90%, the ones in Latin. About motivations of language choice not all the researchers agree, discerning between the language example provided by the christian graveyards inscriptions and the one expressed by the whole citizenry. It is worth to mention what Kalle Korhonen affirms: “moreover, it must be painted out that even if 90% of ca. 1.100 inscriptions from the catacombs of Syracuse are in Greek, we are not allowed to conclude that 90% of the population of Syracuse was Greek from the 3rd to the 5th. It is likely that the non-Christian parts of the population, which was notable until the 4th century, were not buried in catacombs and their epithaphs have mostly perished” (Korhonen 2011, 124- 125).

Assuming this, one could state that in Sicily religious conversion is not a linguistic conversion, proving wrong the theory according to which in urban centers Christianization would bring along an early diffusion of Latin, whereas the pagus, keeping the use of Greek, would keep its distance from Christianity, at least until the early 5th century, during which signs of both linguistic and religious conversion would become a little more evident (Manganaro 1993, 545). Epigraphic documentation records, for Syracuse and its territory, as for Catania, a marked preponderance of the use of Greek still in the 5th century; so in urban centers Christianization does not bring an early diffusion of Latin, which was prerogative of high and foreign clients, as only the use

of Greek in the *pagus* does not prove the extraneousness to the process of diffusion of the new creed still at the beginning of the 5th century. The idea according to which “several signs of religious dissidence, in the 5th and 6th centuries, can be recognized only in peripheral rural areas, where the level of ecclesiastical control was slack. In these centuries conventional superstitions were slowly relegated to periphery” (Cracco Ruggini 1997-1998) needs to be dampened.

The cemetery of San Giovanni has subtly given back, even if in a more hidden way, several testimonies of ideological commixture, which do not distinguish it from other communal cemeteries in Syracuse, where phenomena of “religious dissidence” are more readable (Sgarlata 2003). The catacomb was created in different cultural and religious contexts (after the Peace of the Church). The cemeteries distribution (both of private and community law) and topography of funerary monuments in the suburban area of Acradina, between the 3rd and 5th centuries, reflect well a diversified situation within a few hundred meters radius. To understand that, one needs to take account of the relationship between paganism and Christianity, orthodoxy and heterodoxy (most of all for the 5th century) (MacMullen 1999), which is not only a Sicilian problem, even if it is strongly sensed in the island (Greco 1999, 59).

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5. EDB 2.0. How Eagle Europeana project improved the Epigraphic Database Bari

*Anita Rocco**

Abstract

This paper is dedicated to the evolution of the Epigraphic Database Bari (EDB) from the minimalistic design of its origins to its current status. Although EDB, the database of inscriptions by Christians from Rome, dates back to the late 1980s, involvement in the EAGLE – Europeana project has had a significantly positive impact on its development. In fact, maintaining its peculiar character, dictated by its own history and, mostly, by the characteristics of its documentary base, it has taken advantage of the solutions adopted to integrate different archives and purpose-built best practices.

Keywords: Epigraphic database, EDB, EAGLE Europeana, Christian inscriptions, Late antique inscriptions

5.1. Introduction

The Epigraphic Database Bari (EDB) is an ‘old’ database, it dates back to the late 1980s, when Carlo Carletti¹, inspired by Jory’s experience indexing CIL VI², started a project of digitization of the inscriptions commissioned by Christians from Rome between the third and eighth

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² CIL VI, pars VII, *Indices Vocabulorum*, I-VI; Jory 1975. The six volumes of the computerized KeyWord-In-Context index to all the approximately 40,000 texts collected in the sixth volume of the *Corpus Inscriptionum Latinarum* (CIL) are the outcome of a trailblazing work of arrangement and organization of the inscriptions in a *database*, even if limited to their textual part.

centuries, collected and edited in the 27,688 lemmas of the ICVR³. The data were stored in a data processing program, called ICVR, running under MS-DOS, later converted to a database for Microsoft Access. It was originally intended for internal use only.

Since its very beginnings the database has been designed on the basis of a conceptual model, which conveys the complexity of epigraphs even in the frame of a very simple and basic IT structure.



Fig. 5.1. The record of a bilingual inscription (ICVR V, 15147) as it appeared in data processing program ICVR in MS-DOS in 1988 and as it appears now in EDB, with the acronyms expanded, the image and the text displayed in Greek characters.

In addition to the text, the data processing program recorded for each inscription⁴: bibliographic data (Progressivo = ICVR Number), origin (Provenienza), type of support and technique of execution (Supp. e tecn.), function (Funzione), the presence or absence of Christograms (*Signa Christi*), and dating (Datazione). All this information was expressed by alphanumeric codes of few characters, according to a limitation imposed by the program. (Fig. 1)

Adding metadata to the text, even if in the minimalistic form of alphanumeric codes, accomplished the goal of describing the epigraphic

³ The *Corpus of Inscriptiones christianae urbis Romae* started in 1922 by A. Silvagni, was published, mostly, by A. Ferrua, later supported by D. Mazzoleni and C. Carletti, between 1956 and 1992. Pursuing the work of G.B. de Rossi of the mid-1800s (IC), ICVR registers the inscriptions by Christians found in the suburban area of Rome, sorted in topographic order by consular road, then by catacomb. Inscriptions found inside the urban walls or the recently discovered suburban ones aren't yet included in the ICVR volumes.

⁴ The program didn't allow the use of Greek fonts; in order to add texts in the Greek alphabet it was necessary to type Latin equivalent letters in the MS Word *Symbol* font, as you can see in Fig. 1.

object in its widest sense as an inscribed artifact. This feature, in particular relating to geographical information, was even more meaningful according to the characteristics of a large part of the inscriptions recorded in EDB. In fact, the original pertinence to a monument/container (catacomb) or to a particular area of it, allows, with reasonable certainty, to determine the patronage by a member of the Christian community and moreover to determine the chronology, even without specific references inside the text⁵. Likewise reporting the presence of Christological monograms allows us to identify them as explicit symbols of Christian faith and as chronological indicators⁶.

In the early 2000s, the ICVR database, containing more than 20,000 records, became part of the EAGLE federation of databases (Electronic Archive of Greek and Latin Epigraphy), under the patronage of the Association Internationale d'Épigraphie Grecque et Latine (AIEGL), as EDB (Epigraphic Database Bari) and extended its competencies to the epigraphic documentation of Christian patronage of the city of Rome, published after the volumes of ICVR. (Fig. 2)



Fig. 5.2. The EDB homepage in 2004 and 2009.

As a member of the federation, the database became available online through its own website and finally, thanks to the EAGLE European project, through a common portal. Obviously this step has resulted in a series of changes and adjustments that led from the original basic structure of the database to the present one.

⁵ Carletti 1994; *Id.* 1997, viii-ix.

⁶ The monogram consisting of the first two letters of the name $\chi\rho\iota\sigma\tau\acute{o}\varsigma$ can be considered the archetype of these signs. They first appear in inscriptions at the beginning of the fourth century.

5.2. The EDB structure

The current structure of EDB consists of a relational database, based on the open-source program My-SQL, with a complex scheme drafted according to the most recent advances in epigraphic methodology: reestablishing historical and material value of the object, identifying each epigraph as a complex and polysemic product consisting partially but not only of text. (Fig. 3)

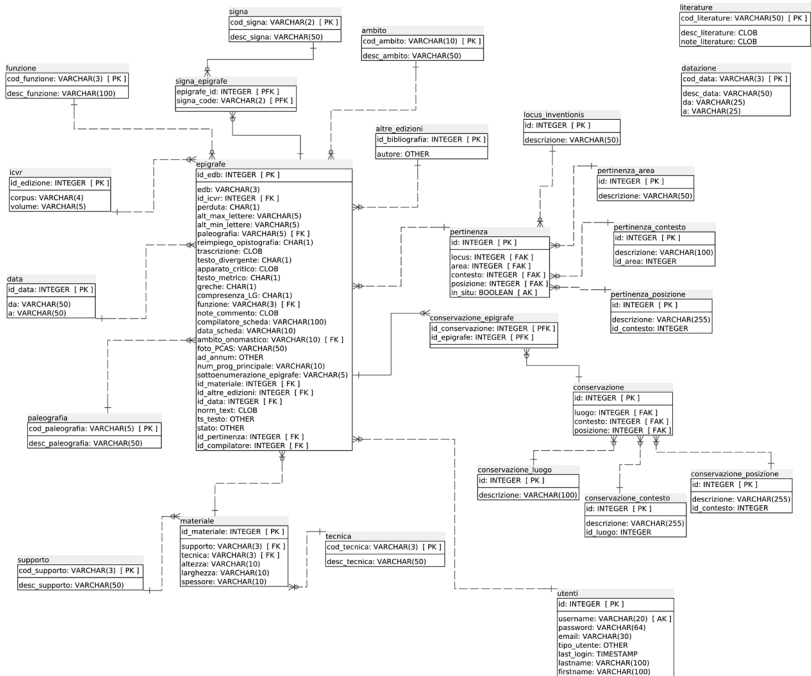


Fig. 5.3. The EDB database schema.

5.2.1. Bibliographic data

As in the past version, the first pieces of information recorded for each epigraphic document are bibliographic data.

Besides data related to the ICVR publication – volume and edition number of the inscription – now EDB is able to record other bibliographic references as well as concordances with other Corpora (CIL, IG, IGUR, IGC). (Fig. 4)

The screenshot displays the 'Bibliography' form in the EDB 2.0 interface. It is divided into several sections:

- ICR# Issue:** Fields for 'Number' (containing '15414') and 'Sub Number'.
- Bibliographic References:** A table with columns for 'Resource', 'Reference ID', and 'Relationship'. It contains one entry: 'EDB' with '20769' and 'Identity'. Below this table are 'Add', 'Remove', and 'New' buttons. A red arrow points from the 'New' button to the 'New Bibliographic Reference' header.
- References to Online Resources:** A table with columns for 'Resource', 'Reference ID', and 'Relationship'. It contains one entry: 'EDB' with '20769' and 'Identity'. Below this table are 'Add', 'Remove', and 'New' buttons.
- New Bibliographic Reference:** A form with fields for 'Type' (set to 'Journal'), 'Author's Name', 'Author's Surname', 'Name', 'Surname', 'Action', 'Contribute Title', 'Journal Title' (set to 'Analecta Romana Institutii Dacor'), 'Number', 'Year of Edition', 'Pages - From', 'Pages - To', 'File', 'URL', and 'DOI'. A 'Submit' button is at the bottom.

Fig. 5.4. Bibliographic data fields.

The whole bibliography is structured in metadata and is available both on the EDB website, and on the EAGLE BPN group of Zotero⁷, a tool for managing bibliographic data that makes it easy to export entries and to cite them. An additional field allows the user to record references and links to other online databases.

It's even possible to define the relationship between the epigraph and the cited bibliography (printed or digital): *identity*, when it is an edition; *integration*, if it's the edition of another fragment of the same inscription; *opisthographic*, if it's the edition of the inscription on the back side; *reuse*, if it's the edition of another inscription on the same support; *comment*, if it's a study on a related topic.

5.2.2. Geographic data

One key element of differentiation of EDB from other similar projects is the structuring of the topographic data.

This is due to the fact that the inscriptions of interest of EDB pertain only to the city of Rome, an area far more limited than the large geographic ones managed by other epigraphic databases, but also and above all considering that, as has been said previously, a large number of inscriptions of the Christians of Rome are still preserved in the place for which they were created, sealing a tomb of an underground cemetery. Moreover, even if a given inscription isn't still in its place on the grave, it is often still attributable to a specific area of the funerary complex.

⁷ www.zotero.org/groups/eagleepigraphicbibliography/items.

Original context

Area	Location	Position	In Situ	Add
via Ardeatina	sm. Domitillae pars inferior	F	<input checked="" type="checkbox"/>	
n.d.	Area subdiale della cataomba di Domitilla			
regio V	Basilica ss. Nerei et Achillei in coem. Domitillae			
regio VI	Coem. anonymum ad viam Ardeatinam		<input type="checkbox"/>	Action
via Appia	Coem. Domitillae pars inferior			
via Ardeatina	Coem. Domitillae pars superior			
via Aurelia	Incertum locum in coem. Domitillae			
via Cornelia	Inter vias Appiam et Ardeatinam			
via Flaminia	Tituli qui in coem. Callisti reperti traduntur			
via Labicana	Add New			
via Latina				
via Nomentana				
via Ostiense				
via Portuense				
via Prenestina				
via Salaria Nova				
via Salaria Vetus				
via Tiburtina				
Add New				

Fig. 5.5. Original context input fields.

Consequently in EDB, geographic indications require a more detailed articulation than in other databases, in which the maximum level of definition is just the city of provenance, often lacking detailed information about the inscription's discovery.

Data on the *original context* are therefore organized hierarchically in three related fields containing controlled lists. (Fig. 5)

After selecting the area of the suburb identified by the name of the consular road – or by the number of the Augustan *regio* for urban inscriptions – it's possible to select the monument from a list: a catacomb or part of it, if it is a large and multi-layered one; a church; a public building or an urban area. The third field allows access to a further associated list where the position of the epigraph inside the monument can be selected. For the catacombs in particular, it's possible to use these fields to annotate the gallery or the cubicle, named with the alphanumeric code used in the maps published in ICVR.

Is worth noting that this set of associated fields refers to the original position of the inscriptions and not to the place where they have been found, unless the two data coincide, that is in the case of inscriptions *in situ* or *suo loco adplicitae*, in accordance with the definitions of the ICVR.

To complete information on spatial data, all cemeterial contexts have been georeferenced, so that clicking on their name opens a new window in *Google Map* that shows the modern entrance to the cemetery, with the address and its coordinates.

As a case of study, for the inscriptions *in situ* pertaining to the Domitilla catacomb (Via Ardeatina) – the only cemeterial complex with a geo-referenced plan of almost its entire extension⁸ – clicking on the alphanumeric code⁹ associated to the precise position of the inscriptions, gallery or cubiculum (F04, in Fig. 6), opens the plan of the specific area (*regio*) in which the inscription is found. In every plan, the inscriptions preserved *in situ* are placed and marked by ICVR and EDB number¹⁰. (Fig. 6)

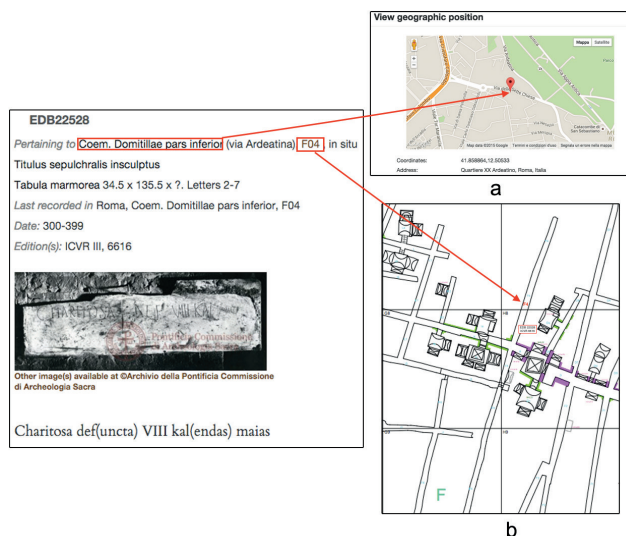


Fig. 5.6. The original context maps.

Even the geographic data relating to the place of conservation of the inscriptions are managed with a similar structure. Since not a few inscriptions, produced in Rome have been taken away and carried to other places in Italy or abroad, the information have been organized

⁸ *START-Projekt: Die Domitilla-Katakombe in Rome (Institut für Kulturgeschichte der Antike - Österreichische Akademie der Wissenschaften)*. Felle and Zimmermann 2014.

⁹ The codes are made up of a majuscule letter relating to a region of the catacomb and by another element, digit or minuscule letter, relating to a precise internal position, respectively a gallery or a *cubiculum*.

¹⁰ The plans are available on START-Projektwebsite: <http://www.oeaw.ac.at/en/ancient/research/monumenta-antiqua/early-christianity/the-domitilla-catacomb-in-rome/>. Clicking on EDB number opens a window with the EDB record.

in three related fields reporting respectively the list of the cities, the list of associated structures, such as museums, churches or catacombs; and the specific positions in the context where the object is actually preserved. (Fig. 7)

Conservation

City/Town: Catania

Location: Museo Civico

Position: magazzino del cortile

Lost:

Apognate (NO)

Agripinto:

Aix - en Provence (F)

Atvito (FR)

Anagni (FR)

Appignano (MC)

Arezzo

Avignon

Baden (A)

Baltimore (USA)

Berlino (D)

Bologna

Cagliari (PU)

Camerino (MC)

Caprarola (VT)

Caspi (MA)

Castel Gandolfo (Roma)

Catania

Catignano (FE)

Height:

Width:

Thickness:

Minimum:

Maximum:

Paleographic Notes:

action:

Onomastic Notes:

Fig. 5.7. Conservation input fields.

Adopting the best practice suggested by the EAGLE consortium, georeferencing is guaranteed even for the Conservation data, linking every City/Town to GeoNames site¹¹, which allows the user to pinpoint the location and to avoid ambiguity between homonyms. A link to the Trismegistos Collection¹², a database of papyrological and epigraphic collections, if available, also helps to identify uniquely the place of conservation, as well as to obtain additional information, included the geographic positioning¹³. (Fig. 8)

EDB29146

Partaining to Coem. Cynaceae ad s. Laurentium (via Tiburtina)

Tabula sepulchralis marmorea

Tabula marmorea 24 x 32 x 2,2. Letters 2-4

Last recorded in Napoli, Museo Archeologico Nazionale

Date: 285-425

Edizione: ICN VII, 1866; Carrozzini et al. 2006, 187, n. 528 con foto

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((clavis) domine coiugi [...])
Candide qu[ae] visit as[-]
nis biginti t[ri]bus mense un[-]
o dies un[us] [...]
mari[us] [...]

Fig. 5.8. Conservation maps and links.

¹¹ www.geonames.org.

¹² www.trismegistos.org.

¹³ https://www.eagle-network.eu/wp-content/uploads/2013/06/EAGLE_D2.2.2_Content-harmonisation-guidelines-including-GIS-and-terminologies-Second-Release.pdf.

5.2.3. The description of the epigraphic object

The nature of the inscription as material objects carrying textual information is represented by a series of attributes, responding to the questions “What?” and “How?”: type of support and measures, technique of execution, height of letters and paleographical features, and cases of reuse.

A survey of terminologies intended for description of epigraphic objects in the ICVR volumes has been carried out and has generated lists of controlled terms for some of the fields. *Type of support*, *Executing technique* and *Function* vocabularies are aimed at classifying the specific and peculiar materials, methods and functions of the inscriptions encoded in EDB, as the traditional epigraphic taxonomies do not totally adhere to their features. (Fig. 9)

Type of support	Executing Technique	Function
Ara	carbone scriptus	Terminus
Architectonica pars	crustis scriptus	Titulus
Arenatum	ex forma	Titulus a viatore scriptus devotionis causa
Cinerarium	exaratus	Titulus acclamatorius
Cippus	in sculptus	Titulus apparatus
Instrumentum	non liquet	Titulus dedicatorius
Musivum	pictus	Titulus didascalicus
non liquet	pictus et carbone scriptus	Titulus honorarius
Opus latericium	pictus et insculptus	Titulus sepulchralis
ossum	pictus et scariphatus	Titulus votivus
Sarcophagus	punctim	Add New
Stela	reversus impressione scriptus	
Tabula marmorea	scariphatus	
Tectorium	scariphatus, dein carbone scriptus	
Tectorium induens sepulchrum	signaculo scriptus	
Tofus	tessellis scriptus	
Urna	typo scriptus	
Add New	Add New	

Fig. 5.9. Controlled vocabularies for Type of support, Executing technique and Function fields.

The controlled lists have been integrated in the vocabularies of the EAGLE community¹⁴, which align, harmonize, create relations and translate into various languages the terms used by the various partners, and returns them in a format that allows the user to get a stable and unique identifier for each term, accessible and reusable by other users. (Fig. 10).

¹⁴ <http://www.eagle-network.eu/resources/vocabularies/>.

The screenshot shows the EDB486 (Edit) interface. The central panel contains the following text:

EDB486 (Edit)
 Pertaining to Coem. Trebbi Iusti (via Latini)
Tabula sepulchralis incuscripta
 Tabula marmorea 15 x 86,5 x 1,8. Letters 3,2-4
 Last recorded in Roma, Pontificia Commissione Archeologia Sacra, Magazzini
 Date: 351-389
 Edition(s): ICVR VI, 15798; Felle 2008, 185, 7-10 con foto

Below the text is a photograph of the stone inscription and the text: **Martialis Candido co[n]iugi**

Three terms are highlighted and linked to external vocabularies:

- SEPOLCRALS**: linked to a table on the left.
- Tabula sepulchralis incuscripta**: linked to a table on the right.
- TAFEL**: linked to another table on the right.

Fig. 5.10. The integration with EAGLE Vocabularies, that can be opened clicking on the highlighted terms.

5.2.4. The text

The nature of the inscription as a sequence of characters carried by a physical object is represented by a series of fields related to various features of texts: language and alphabet (Latin, Greek and the multiform combination of coexistence between them), and metrical structure.

The proper text of the inscription is stored in an apposite field, following the Krummrey - Panciera conventions¹⁵, with some adjustments to make it possible to describe specific and peculiar issues of the inscriptions encoded in EDB. In particular the so-called “aberrant” forms are not “normalized” to the “standard” model, if they are recognized as grapho-phonetic outcomes of linguistic modifications of Latin and Greek.

While the fidelity to what is written on the stone – or other type of support – respects and takes into due account the evolution of Greek and Latin languages, it compromises the comprehension of the text and greatly complicates the text-based search of terms. A standard query system, in fact, is not able to match a query with all the inscriptions containing different spellings of a word. To resolve this issue each inscription is stored in its original form and in a “lemmatized” form, where each term is actually replaced with its corresponding lemma, possibly by taking into account its inflexed forms¹⁶.

¹⁵ Krummrey and Panciera 1980; Panciera 1991.

¹⁶ On the contrary, if the compiler recognizes aberrant forms as outcomes of misstatements and material mistakes of the stonecutters, he transcribes them with the appropriate corrections, following the Krummrey - Panciera conventions. Felle 2014 and Ceci, Pio and Rocco 2014.

In EDB, as in every epigraphic database, the transcription of the text provides a real pre-edition, with systematic expansion of abbreviations, hypothesis of integration, and, if possible, an update version of the text, according to recent publications. It includes, moreover, the description of non-alphabetic signs – in double round brackets – such as figurative elements (fishes, birds, anchors, etc.) and Christological monograms. Other fields record onomastic notes, *critical apparatus* and textual comments. (Fig. 11)

The screenshot shows a web form titled "Text". At the top left is a "Switch Latin/Greek" button. Below it is a large "Transcription" text area with a rich text editor toolbar underneath. To the right of the transcription area is a "Chromatic Notes" field with a dropdown arrow, followed by a "Signa Christi" field with a dropdown arrow and "Add", "Remove", and "New" buttons. Below the transcription area are four checkboxes: "Transcription different from ICVR", "Reuse/Opiograph", "Metrical Text", "Greek language/alphabet", and "Consistence of latin/greek". A "Critical Apparatus" text area is located below the "Transcription different from ICVR" checkbox.

Fig. 5.11. Text fields in the submission mask.

A series of fields responding to the questions “When?” allows to insert a specific date, if recorded in the text, a specific time span (such as the duration of the reign of a Bishop of Rome or of an emperor), or a generic interval.

5.2.5. The images

Another meaningful improvement of EDB 2.0 is represented by the inclusion of visual representation of inscriptions. It’s evident how images dramatically enhance analysis of epigraphic materials, showing them in their manifold aspects: reference with the context, form and quality of the support, graphic forms, peculiarities of technique, layout and relationship between the text and any figurative or decorative elements¹⁷.

In the frame of the collaborations with Europeana, the largest online collection of digitized items, EDB has been encouraged to enlarge the image repository, based on a cooperation agreement established between the EAGLE consortium and the Ministry of Culture (MI-BACT) and the Pontifical Commission for Sacred Archaeology (PCAS).

¹⁷ Panciera et al. 2006.

A new uploading process allowed tripling photos, squeezes and casts to be published online in low resolution and with a visible digital watermark, respecting the restrictive Italian rules. A large portion of the digital images stored in the EDB repository have been taken by collaborators during past years, and others have been scanned from publications, while a large number come from the Photographic Archive of PCAS¹⁸.

5.3. Users, interface, search engine

The system manages three kinds of users: editors, compilers and generic, anonymous ones.

The latter of these can navigate in the descriptive section of the website (About EDB, People) and in the list of cited Publications. They also have access to the entire database using two research masks: a *Quick search* allows the user to search in only one of the following fields: identifier EDB, bibliographic data and text; an *Advanced Search* provides the opportunity to explore the database through multiple search criteria variously combined. (Fig. 12)

The image displays two search interfaces. On the left is the 'Quick Search' mask, which includes a 'Switch to Advanced Search' button and search criteria for 'ID EDB', 'ICVR Number', 'ICVR Subnumber', and 'Free Text'. On the right is the 'Advanced Search' mask, which is more comprehensive, including sections for 'What and How' (Text, Pausae/Diographic, Metrical Text, Greek language/Inphabet, Latin/Greek), 'Images' (Only with Images), 'Bibliography' (ICVR Volume, ICVR Number, Reference), 'Where' (Original Context, In Situ, Conservation, Lost), 'When' (Dating Interval, Specific span, From, To, Exact match, Date in the text), and 'Other' (Religion, Compiler, Sigma Christ). Both masks include 'Reset' and 'Search' buttons.

Fig. 5.12. Quick and Advanced Search masks.

Like today's web search engines, EDB provides an advanced text search in Latin and Greek – an integrated tool facilitates writing in the Greek alphabet¹⁹ – allowing users to obtain different results according to a default syntax, in the case of a search either for a single word or for a set of terms, in sequence or not. Additionally, it's possible to choose whether or not to consider epigraphic diacritical marks, Greek accents and spirits, and capitals. The textual search can be combined with other metadata related to bibliographic, geographic and material data, or to function, reuse, language and date, expressed in a single year or in defined intervals.

This wide range of possibilities has been designed to reach users with different needs: the occasional user looking for a particular inscription could just type one or more words that he is able to read and decipher, and the specialist user, who can access detailed information about a single epigraph or use the advanced search to query the database about groups of documents with common characteristics.

The search results are listed in a table showing the EDB identifier, bibliographic data, place of origin and place of conservation, text of the inscription and a link to the full record.

5.4. Conclusions

This paper briefly describes the growth of Epigraphic Database Bari in nearly the last thirty years, from the first experimental and minimalistic version, intended just for the use of a small group of researchers of Bari University, to the present one, open to a large public of curious individuals, students and, of course, specialists.

The involvement in the EAGLE – Europeana project, network of Ancient Greek and Latin Epigraphy, has had a significantly positive impact on the development of the database of inscriptions by Christians from Rome.

In fact, although EDB, like other partner databases, has maintained its character, dictated by its own history and, mostly, by the characteristics of its documentary base, it has taken advantage of the solutions adopted to integrate different archives and purpose-built best practices.

¹⁹ *Greek Inputter 2*, developed by J. Naughton, allows the user to write in Greek using his/her usual keyboard and to easily type various Greek diacritical marks (<http://babel.mml.ox.ac.uk/naughton/polytonic-greek-inputter.html>).

Among the improvements, it's worth mentioning

1. The inclusion of EDB bibliography, structured in metadata, in the Zotero Group, where it has been merged with those of other content providers and has been made directly and publicly available in the most reusable way, giving more exposition of the bibliographic database; allowing the integration and enrichment with other databases; allowing easy export of data in multiple formats (bibtex, bookmarks, mods, rdf, xml, etc).
2. Following EAGLE best practice suggestions, data about modern places have been enriched with links to reference resources, such as GeoNames and the Trismegistos Collection²⁰, extending the use of stable and unique identifier accessible and reusable by other users (URI).
3. With the same aim, the controlled lists of *Type of support*, *Executing technique* and *Function* have been integrated in the corresponding vocabularies of the EAGLE community. Among other benefits, such as alignment and relations between databases, clicking on specific terms opens an EAGLE vocabulary window with a translation into various languages. This feature is particularly useful in the case of EDB which, following ICVR, uses Latin for definitions, without modern language translations.
4. Encouraged by the collaborations with Europeana, EDB has tripled the number of images stored in its repository, including inedited images taken by collaborators over the years.

On the other hand, EDB, being inside Eagle since its origin, has been a bridgehead for the non standard epigraphies, proposing issues to the Eagle community and pushing to make the data model more flexible. For example, EDB asked to add more than one technique of execution for a single support and to add more than one language and / or alphabet for the same inscription, change that is indispensable to describe bilingual and/or bigraphic texts.

Other solutions adopted in EDB could be, in the future, suitable for other projects, such as the hierarchic and multi-step organization

²⁰ http://www.eagle-network.eu/wp-content/uploads/2013/06/EAGLE_D2.2.2_Content-harmonisation-guidelines-including-GIS-and-terminologies-Second-Release.pdf.

of topographic data, which could be applied to closed contexts of any age (houses, columbaria, and so on) as well as the treatment of aberrant forms and the lemmatization process, which could be applied to any non standard language.

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Corpora

CIL. *Corpus Inscriptionum Latinarum*, Berolini 1863 ss.

CIG. *Corpus Inscriptionum Greearum*, I-IV, Berolini 1828-1877

IC. *Inscriptiones christiane urbis Romae septimo saeculo antiquiores*, I-II, G.B. de Rossi (ed), Romae 1857-1861; *Supplementum*, G. Gatti (ed), Romae 1915.

IG. *Inscriptiones Graecae*, Berolini 1873 ss.

ICVR. *Inscriptiones christianae urbis Romae septimo saeculo antiquiores. Nova series*, I-X, A. Silvagni, A. Ferrua, D. Mazzoleni, C. Carletti (edd.), Romae - In Civitate Vaticana 1922 ss.

IGVR. *Inscriptiones graecae urbis Romae*, I-IV, L. Moretti (ed.), Roma 1968-1990.

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6. Visual features of inscriptions. An issue for EDB (and EAGLE)

*Antonio Enrico Felle**

Abstract

In these last years the amount of digital images of inscriptions increased very quickly: we do not need accurate textual descriptions of the so-called *anaglyphs*, because we can directly see them. But we have to build a search-by-image, using photos and drawings but also tagging them with standardized – and shared – labels.

The issue of the “illustrated inscriptions” brings us to consider more broadly all the visual features of inscriptions, that were conceived as objects to see, not only to read.

Keywords: Early Christian Epigraphy, Byzantine Epigraphy, Middle Ages Epigraphy, Images, Symbols, Signs, Paleography, Stonecutters’ workshops

6.1. “Illustrated inscriptions” by the Christians of Rome

In 2012, during a conference in Rome about Late Antique plates decorated with engravings, I presented a paper about the potentially very useful contribute that the Epigraphic Database Bari (EDB) could offer to study and to interpret the notion and the use of images (signs, symbols, figures and so on) by the Christians of Rome in Late Antiquity, by analyzing the inscriptions stored in the database (Felle 2013).

Then, the first datum was that a quarter of these epigraphs displays images or generical non-alphabetical signs (Felle 2013, p. 101) (fig. 1).

After storing in EDB other 10000 inscriptions, since 2012 to the present day, the percentage of figured inscriptions is still the same: then,

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I think that we are able to consider this datum enough sure; so we are able to partially correct the common idea that using images in written monuments is a recurrent, typical and characteristic feature of almost all the Early Christian inscriptions.

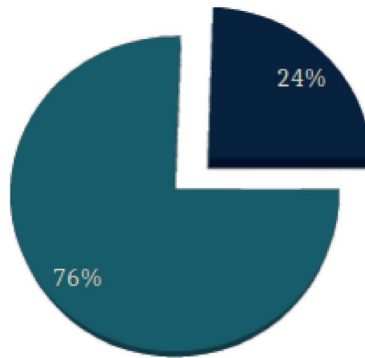


Fig. 6.1. Percentage in EDB of the “illustrated inscriptions” (chart by A. E. Felle).

The second datum defined by the 2012 survey was the proportional decreasing of the use of different kind of images from the first decades of the IV century (the age of Constantine), when a huge and pervasive use of the so-called *signa Christi* – first of all the Chi-Rho monogram, with all its variations – prevails on all the other signs and figures (Felle 2013, 101-102).

Carlo Carletti explained this phenomenon as the result of a will to display *explicit* signs of a religious identity, such the Chi-Rho monogram is (CARLETTI 2008, 68-72; FELLE 2007, 365-366). But we have to underline that the phenomenon is not exclusive of Christian patrons. We observe more and more recurrent similar “signs of identity” also among inscriptions commissioned by Jews, not only in Rome but also in other contexts in Late Antiquity world where they were (Felle 2007, *passim*; Felle).

Going back to the inscriptions by Christians, the use of *signa Christi* in form of monograms strongly reduces the use of other christological signs or figures, as for instance the anchor: this one, very recurrent during all III century, disappears completely and very quickly, already in the very first decades of IV century (Felle 2012, 103) (fig. 2).

Since its conception, EDB recorded the presence and the different kinds of various *signa Christi*, both by a checkbox and in the text field, with *standardized* descriptions, with the aim to easily retrieve them in the database and to get valuable results from structured queries about their recurrence.

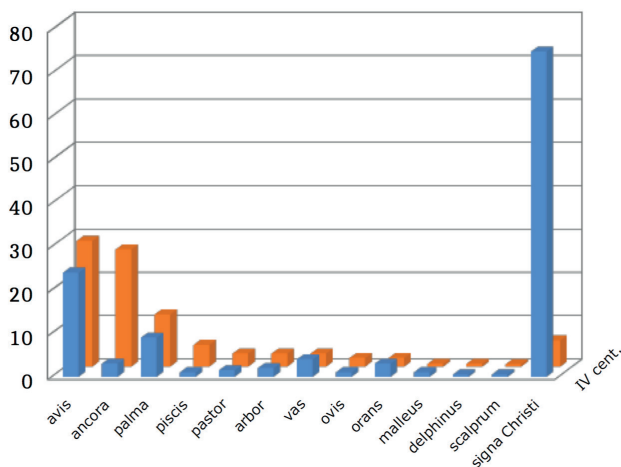


Fig. 6.2. Use of different images in inscriptions by Christians of Rome between III and IV cent. (chart by A. E. Felle).

The results of the 2012 study were mainly of *quantitative* nature; today, by the existing large repositories of images in EDB – as like in general in EAGLE and in other similar projects – we can improve the *qualitative* analysis of this and other features of Late Antique inscriptions.

First of all, we have to say that in EDB we faced huge difficulties about the treatment of images other than *signa Christi*, or generally other non-alphabetical signs, or also captions related to figures on the slabs, and so on. Indeed, at the moment we are still not able to automatically obtain by EDB a *structured* index of the repertoire of the images. As in other epigraphic databases, in EDB they are recorded directly reporting their descriptions as like they are in printed editions (sometimes very old, as the first volumes of ICVR, for instance); there, in absence of pictures, the so-called *anaglypha* are concisely described by simplified and repetitive *clichées* to suggest the depicted subjects to the readers (fig. 3) or by brief descriptions in Latin in transcriptions or also in the commentaries (fig. 4).

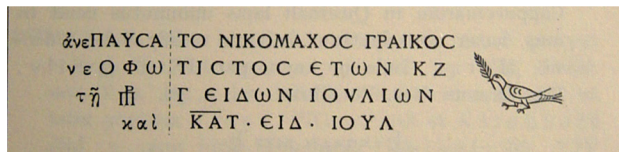
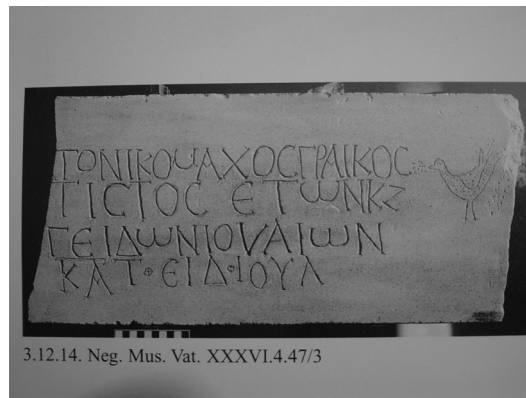


Fig. 6.3. Rome, *coemeterium Hippolyti*, now in the Vatican Museums. Photo (from *Iscrizioni* 1997, sch. 3.12.14) and edition in *ICVR*, VII 19820.

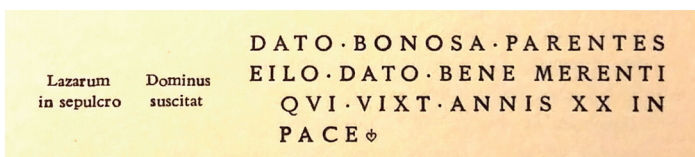
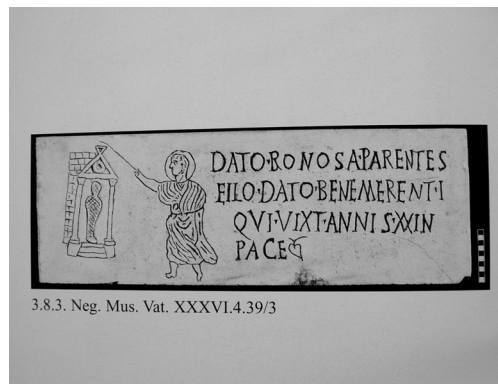


Fig. 6.4. Rome, *coemeterium Maius*, now in the Vatican Museums. Photo (from *Iscrizioni* 1997, sch. 3.8.3) and edition in *ICVR*, VIII 22407.

Often, these descriptions are different although indicating the same subjects: in the ICVR, the reason of this disomogeneity is not only the *longue durée* of the realization of the corpus (seventy years, since 1922 to 1992, when the last published volume, the tenth, appeared) but also a refined textual *variatio*. Surely it can be appreciated in printed editions but, for the aim of our digital archives, it produces real difficulties.

Some examples: in EDB different verbal descriptions about the same subject are recorded, such as *avis uvam pascitur* (e.g. ICVR, III 8114a, b, c, e), or *avis uvas pascitur* (ICVR, III 8004b); or also *avis racemum carpens* (ICVR, IX 24020), *avis racemum carpit* (ICVR V, 14157), *avis racemum pascitur* (ICVR, V 15194), *avis racemum rostro carpit* (ICVR, IV 10934): it is not easy to perceive some difference). However, this *variatio* prevents right results in retrieving data in our database.

Moreover, recording in EDB descriptions with different words for the same illustrated subject, such as “*avis, racemus*” (EDB 19827: ICVR, III 9311, see fig. 5.a) or “*avis cum racemo*” (EDB 24933: ICVR, III 8044, see fig. 5.b) we are not able to retrieve all the occurrences of this same subject, because they are recorded (both in ICVR and in EDB) in different ways.

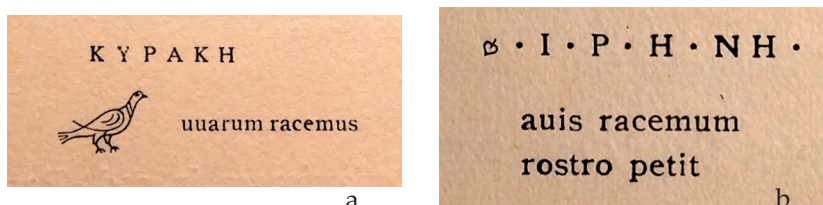


Fig. 6.5. Rome, catacomb of Domitilla. Edition of ICVR, III 9311 (a) and ICVR, III 8044 (b).

This ambiguity prevents to retrieve all the occurrences of the same illustrated subjects and then they adulterate the result of our queries: I think that we have to correct as soon as possible this ambiguity, in order to establish an unique way to describe the *anaglypha*.

One can say that the present ease to obtain and to use digital pictures of the inscriptions overtakes this issue: surely that's true. But, I do not entirely agree with this point of view.

In these last years – also with the kind help by the Photographic Archive of Papal Commission of Sacred Archaeology (<http://www.archeologiasacra.net/pcas-web/>) – the amount of images available in EDB increased very quickly: this is surely an advantage in respect to the situation of only three years ago. At the present day and more over in the future, we no longer need *accurate* textual descriptions of the *anaglypha*: we can directly *see* them. But, the possibility to easily view a photo or a drawing of an inscription does not solve the issues related to search and to retrieve inscriptions bearing given kinds of image, or specific signs, and so on.

The relative high occurrence of images in Christian inscriptions drives EDB team to try to build a search-by-image, using photos and drawings, but also tagging them with standardized labels. A “high definition” analysis of non-verbal language of the inscriptions by Christians of Rome in Late Antiquity surely needs photos, drawings, and so on, but mostly needs a logical, structured, hierarchically ordered taxonomy of all non-textual elements defined by controlled, firm and shared vocabulary: a *thesaurus imaginum*¹, that can be a suitable tool also to trail the activity of different stonecutters’ workshops that served – in the case of EDB inscriptions – the various users of the Roman Christian catacombs.

6.2. Visual features of the ‘written monuments’

The issue of the “illustrated inscriptions” brings us to consider more broadly the visual features of inscriptions overall. The ancient epigraphs are conceived not only as texts to be read (very few people were able to do it) but also – and, maybe, firstly – as objects to be seen. I think that we have to realize this perspective – common in Christian epigraphy studies after all – to understand the communication power of this communicative *medium*. Indeed, the topic has been assumed as main theme of the last International Congress of Greek and Latin Epigraphy in Berlin in 2012 (*Öffentlichkeit* 2014); very recently, a just published volume collects various essays about this same topic just about the Late Antique, Medieval (both Christian and Islamic) world,

¹ Surely the experiences of other projects can be useful to this aim: I think for instance to the solutions presented during the VIth EAGLE International Event in Bari by the lecture offered by Rebecca Benefiel and Holly Sypniewski about the *Ancient Graffiti of Herculaneum* project: see now Benefiel-Sypniewsky, 2016)

where this notion of the inscriptions as ‘written monuments’ stands out with strong evidence (see Eastmond 2015).

In our projects – we have to admit it – the notion that inscriptions are *essentially* texts is still largely prevailing: but now we can – consequently, we must – to increase our capability to represent, to record and so to investigate also other, visual features of inscriptions.

6.2.1. Positioning

First of all, I think to the positioning of the epigraphs in the contexts for which they were created. About EDB, we already presented in the EA-GLE Conference in Paris in 2014 a first attempt to record and to describe the exact positioning of the inscriptions still found in their original spot, by sharing data with the Domitilla-Projekt (by the Österreichische Akademie der Wissenschaften and the Deutsches Archäologisches Institut) focused to the frescoes of the catacomb of Domitilla along via Ardeatina, the largest one in Rome suburb (Felle - Zimmermann 2014). The positive collaboration between our two projects continued: now we are able to offer to EDB users to view on the updated map of the catacomb of Domitilla the distribution of the inscriptions still *in situ* in the four levels of the subterranean cemetery: one can use them as reliable documents to (re-) consider the history of the complex, to confirm or to deny the ideas about chronology of its excavation and of its frescoes and about the using of the different zones of the catacomb.

6.2.2. Materials and shape

Materials and shape of the written objects communicate immediately, *to all*, before the inscribed texts. Because now we can do it, we have to display to the users of our projects the real communicative power of the inscriptions, that assume much more meaningfulness when we can see them than when we can read their only texts in a library. By pictures and 3D rendering of the places where the epigraphs were arranged we should be able also to provide virtual images of inscriptions – also lost or incomplete – conceived to be seen and read exactly there. An effective example can be the dedication by pope Damasus (366-384) to the martyr *Ianuarius* in the catacomb of Praetextatus on the via Appia (fig. 6).

The bishop of Rome reaches his aim to capture the gaze also of *illiterate* faithfuls by placing a very large slab of white marble over the tomb of the martyr, well-lighted by a skylight made on purpose, in strong contrast to the darkness of the neighbouring galleries of the subterranean cemetery.

Also the text is aimed at the same goal: the dedication is brief and simple, inscribed using a special writing, very carefully carved by using a font specially elaborated for Damasus' inscriptions by the fashionable designer Furius Dionysius Philocalus. The contrast with the common inscriptions in the catacombs, often made by reused marble pieces or bricks, and very often (not always!) written with rough letters, is impressive.

The bishop's intervention is more meaningfully revealed to all by the visual features of his inscriptions than by their only (metrical or not) texts.

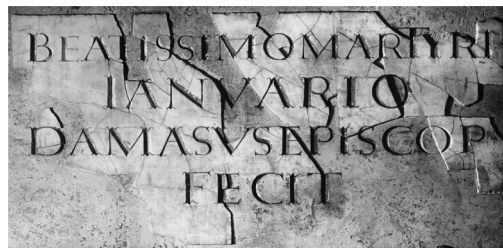


Fig. 6.6. Rome, catacomb of Praetextatus. Damasus' dedicatory inscription (ICVR, V 13871) for the martyr Ianuarius (photo: PCAS; 3D rendering: G. De Felice).



Fig. 6.7. Thessaloniki, city walls. Inscriptions in the masonry of a tower near Eptapyrgion (photo: A. E. Felle).



Fig. 6.8. Rome, basilica of the martyr Agnes on the via Nomentana. Apse mosaic with the image of the martyr with the “useless” caption *s(an)c(t)a Agnes* (photo: A. E. Felle).

This notion about written monuments is more and more diffused in Western Early Middle Ages and also in Byzantium: one has no need to read, to perceive the actual and effective messages displayed by inscriptions placed within the fabric of the walls of Byzantine cities, such as Constantinople or Thessaloniki (fig. 7).

There, the inscriptions are not carved in marble slabs or stone blocks, but they are realized with the same materials of the walls: simple bricks, but disposed to obtain letters *and* signs *and* symbols, visible also from afar. The inscriptions explain the walls; the walls speak its *raison d'être* by the inscriptions, that are in different cases rich of abbreviations, closed to the reading but open to the sight: writing appears *intrinsically* significant. In my opinion, this notion is clearly demonstrated by the unnecessary captions in the icons and in the images of martyrs (fig. 8), where – on closer view – the inscriptions are completely useless, if we continue to consider them only as texts to be read.

6.2.3. Relationship with the context

Indeed – more over in Late Antiquity and Middle Ages – readability of the texts is not the main property of inscriptions: rather, the main condition appears their relationship with their contexts. An incisive example can be offered by the Christian inscriptions bearing biblical quotations (cfr. FELLE 2006): in the middle of the bronze plating of the marble lintel over the Great Door of the Royal Gates of the Hagia Sophia in Constantinople, an empty throne is occupied by an open *codex*, according to the words by Kähler, “the only extant plastic composition dating from the founding period of the church” (Kähler 1967, pp. 29-30; 32 taff. 22; 62) (fig. 9).

On the open *codex* is inscribed a focused – but barely readable – quotation from John 10, verses 7 and 9, where Jesus indicates himself as *the gate*:

John 10.7: Εἶπεν οὖν πάλιν ὁ Ἰησοῦς, Ἀμὴν ἀμὴν λέγω ὑμῖν ὅτι ἐγὼ εἶμι ἡ θύρα τῶν προβάτων. (Therefore Jesus said again, ‘Very truly I tell you, I am the gate for the sheep’);

John 10, 9: ἐγὼ εἰμι ἡ θύρα· διὰ ἐμοῦ ἐάν τις εἰσέλθῃ σωθήσεται καὶ εἰσελεύσεται καὶ ἐξελεύσεται καὶ νομὴν εὐρήσει (*°I am the gate; whoever enters through me will be saved. They will come in and go out, and find pasture*).

This the text of the inscription (Felle 2006, n. 505):

((crux)) εἶπεν ὁ κ(ύρι)ος | ἐγὼ εἰμι | ἡ θύρα τῶν | προβάτων· | δι' ἐμοῦ | | ἐάν τις | εἰσέλθῃ | εἰσελεύσετ(αι) | κ(αὶ) ἐξελεύσετ(αι) | κ(αὶ) νομὴν | εὐρήσει.

The archeological context and the mirate positioning make tangible, concrete, the sacred words; and the real presence (not necessarily the readability) of the sacred words give proper and strong sense to their material support and to entire context, the Royal Gates of the Great Church of Constantinople (Felle 2015, p. 320 and *passim*).

6.2.4. Writing

Scarce or null readability does not imply low quality of the appearance of writing: rather, the writing appears intrinsically meaningful such as visual element of the equipment of a simple or rich funerary monument or of a cultural building. Then, we have to face the issue of the description of the writing not only from the necessary point of view of paleography (we are still waiting for a shared and controlled vocabulary of paleographical definitions), but also in order to perceive and to understand its non-verbal significance: by its disposition, direction, shape. The notion of the inscriptions in the Islamic world, where often the letters are also – and maybe firstly – images (they are used as decorative friezes, architectural ornaments, figures) and their clarity and readability are not considered as necessary, can help us to evocate this feature of the writing (fig. 10).



Fig. 6.9. Istanbul, Hagia Sophia. On the left, the Royal Gates in the narthex. On the right, the particular of the image of the throne with open inscribed codex above the lintel of the central gate (from Kähler 1967).



Fig. 6.10. Granada, Alhambra. An example of the writing as decorative frieze and architectural ornaments (photo: A. E. Felle).

6.3. Conclusions

The ancient inscriptions actually belong to civilizations where the literacy – with very few exception – was very far from our standard: to see an inscription with the same point of view of the most part of the citizens in Roman Empire – and mostly in Late Antiquity – we have to become, in some way, illiterate.

In conclusion: we have to consider in digital descriptions of the inscriptions some their “visual features” that in our projects – first of all in EDB, of course – are not too considered, although they are very significant. We need, about encoding these non-verbal features, the same positive results that by Epidoc we reached in encoding the texts: a hard challenge.

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7. Working with Text and Images: The Graffiti of Herculaneum

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Abstract

We discuss several challenges encountered by our team as we digitize ancient graffiti, handwritten inscriptions scratched into wall-plaster, for the Epigraphic Database Roma and the Ancient Graffiti Project. Here, we focus on decisions we made in editing and digitizing not only textual graffiti but also the figural examples (hand-sketched drawings) that sometimes appear alongside them. We also discuss search capabilities that will allow users both to browse and search for figural graffiti.

Keywords: Ancient graffiti, figural images, contextualization, standards, Herculaneum

7.1. Introduction

Our project is working with informal, handwritten wall-inscriptions, or ancient graffiti, which were scratched into the wall-plaster of ancient towns. Several hundred of these handwritten inscriptions have been documented at Herculaneum and more than 6000 are known from Pompeii. We are contributing these inscriptions to the Epigraphic Database Roma (www.edr-edr.it), and are creating a linked resource, the Ancient Graffiti Project (ancientgraffiti.org), that will allow users to conduct location-specific searches for graffiti.

Among the many texts written on the walls of these two cities, there sometimes also appear graffiti drawings, or figural graffiti (Fig. 1).

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Fig. 7.1. Graffito from Pompeii (CIL 4, 5215).

This graffito depicts a pair of gladiators, where the two figures are identified with their names and the number of their victories. The inscription therefore includes both text and image. It was much more common in Pompeii for someone to write a message on a wall than to sketch a drawing: people wrote their names, greetings to friends, quotations of literature, and other types of messages. However, we do find a smaller, but not insignificant number of drawings also inscribed on the wall plaster throughout the town. It is very rare to find a large scene, like the illustration of a gladiatorial contest with athletes, musicians, and perhaps magistrates, sketched by hand on a funerary monument just outside the Porta Nocera of Pompeii (CIL 4, 10237; D31 in Cooley and Cooley 2014; cf. also CIL 4, 10236 and 10238 drawn nearby). More commonly, people made small sketches on the walls around them choosing from roughly a handful of popular designs: heads in profile, boats, gladiators, birds, and geometric designs (Langner 2001).

Figural graffiti have provided us with several challenges as we digitize them for the Epigraphic Database Roma and as we design a way to search for and retrieve such drawings via the Ancient Graffiti Project search engine. In this paper we will discuss the challenges we face and some of the strategies we have developed in response.

7.2. Our material

First, a little background on figural graffiti and our sources for this data. In Herculaneum, we are fortunate that a significant number of graffiti are still extant and *in situ*, as roofing has been reconstructed for many buildings to protect them from the elements. Due to the fragile nature of wall plaster, however, especially in Pompeii, many graffiti that were recorded previously and published in *CIL* 4, have now been lost. Much of our data, therefore, comes from verbal descriptions of graffiti that have since disappeared. Furthermore, the different editors of *CIL* 4 and its supplements used different methods to denote that a drawing was present, and their practices changed over time. Working with this legacy data, therefore, presents a range of difficulties.

7.2.1. Verbal descriptions of figural graffiti found with text

A drawing could, for example, be described in the text field of an entry in *CIL* 4. This occurs in the entries below, where three drawings of human heads (*CIL* 4, 2315-2316) and two drawings of gladiators (*CIL* 4, 2319) are described in small italics, placed where the images occur alongside the textual inscriptions (Fig. 2).

<p>2315. 2316 in faucium pariete dexteriore, in tectorio rubro, litteris cursivis, M alta est 0,003 m.</p>	<p>2319 ad sinistram capitum illorum (v. 2315) inferius.</p>																								
<table style="width: 100%; text-align: center;"> <tr> <td></td> <td>2315</td> <td>2316</td> <td></td> </tr> <tr> <td></td> <td colspan="2">SIMIVS</td> <td></td> </tr> <tr> <td><i>hominis</i></td> <td><i>hominis</i></td> <td><i>hominis</i></td> <td></td> </tr> <tr> <td><i>caput</i></td> <td><i>caput</i></td> <td><i>caput</i></td> <td></td> </tr> <tr> <td></td> <td colspan="2">SIICVNDVS</td> <td></td> </tr> <tr> <td></td> <td colspan="2">HFVN</td> <td></td> </tr> </table>		2315	2316			SIMIVS			<i>hominis</i>	<i>hominis</i>	<i>hominis</i>		<i>caput</i>	<i>caput</i>	<i>caput</i>			SIICVNDVS				HFVN			<p style="text-align: center;">IANOYA[ΠIOYC] INPE PATVIRICS XI LX</p> <p style="text-align: center;"><i>gladi- gladi-</i> <i>ator ator</i></p> <p style="text-align: center;"><i>scuto et</i> <i>gladio brevi</i> <i>armatus</i></p>
	2315	2316																							
	SIMIVS																								
<i>hominis</i>	<i>hominis</i>	<i>hominis</i>																							
<i>caput</i>	<i>caput</i>	<i>caput</i>																							
	SIICVNDVS																								
	HFVN																								
<p>2316 dedi tab. XXXVII 9. Descripsi. 2316 v. 2 non expedio (nisi forte litterae sunt H, L, M, N sine ratione compositae), nec v. 1 lectionis est omnino certae, cum alienis lineis confusus sit.</p>	<p>Tab. XXXVII 8 ex meo apographo. 1 male scriptus ideoque lectionis ambiguae est, maxime in altera parte, quam uncis inclusi. — 2 VI parum clarae sunt.</p>																								

Fig. 7.2. The entries of *CIL* 4, 2315-2316 and 2319, representing figural graffiti via brief description.

The italics make clear that those descriptions are not part of the texts of the inscriptions themselves, which are represented in capital letters.

This practice is common in the original volume of *CIL* 4, when it seems that the editors documented textual and figural graffiti that were in close proximity, or that were in some way related to each other.

In later supplements, line-drawings for figural graffiti were sometimes included when the drawings and text were obviously understood as one inscription, as shown in Fig. 1 above. Perhaps due to the complications with preparing and printing such illustrations, however, it also remained common practice to represent figural graffiti with very brief description in italics (e.g. *CIL* 4, 4822, 4823, 5264, 5275, 6624, 6672, 6889).

7.2.2. Figural graffiti described in notes or apparatus

The most common strategy, however, for documenting figural graffiti in *CIL* 4 is by including brief mention of a drawing in the editorial note that introduces a graffito or in the apparatus that follows it (Fig. 3).

10711 In aedibus V · 35, in alae (B apud Maiuri I p. 378 fig. 308) pariete meridionali, iuxta novem galeas gladiatorias et parvum phallum graphio delineata

0,87

A B C D I I F G H I L M N O P Q

0,08

Della Corte p. 267 n. 321. Signa quaedam cernuntur, quae iam intellegi nequeunt.

Fig. 7.3. *CIL* entry for an alphabet near figural graffiti (*CIL* 4, 10711).

Note that the editorial comment above the entry mentions drawings nearby (*novem galeas gladiatorias et parvum phallum*), but the text is presented without illustration. This mode becomes more common in the fascicles of *CIL* 4 produced in the later twentieth century and so the figural graffiti from Herculaneum are usually represented this way (cf. *CIL* 4, 10532, 10568, 10586).

A fourth possibility exists as well, namely, when figural graffiti were not even mentioned in *CIL*. In each of the previous scenarios, the editors of *CIL* include a description of a figural graffito when it was close to a textual inscription. In contrast, figural graffiti found in isolation tended to be excluded altogether, due to the focus of the *Corpus* on text. Fortunately there is now a useful resource devoted to figural graffiti: Martin Langner's *Antike Graffitizeichnungen*, a monograph and accompanying database of figural graffiti from across the Mediterranean. His catalog includes some 600 graffiti drawings from Pompeii and 60 from Herculaneum, including 200 that are not mentioned in *CIL*.

In addition, whenever possible, Langner will provide a line-drawing of the graffito, either his own or one found in an earlier source; therefore, his database includes many line drawings that are not included in *CIL* even when a drawing is described. However, certain motifs are omitted from Langner's catalog. While he does catalog the more interesting *Phalluskopfen* examples, he generally omits simple drawings of *phalli*. He also leaves aside the decorative elements of *coronae* and *palmae*, which are sometimes mentioned in *CIL*. This means that an accurate total of all figural graffiti in Pompeii and Herculaneum can only be reached by working through the collections of both Langner and *CIL*. To create the most comprehensive resource possible for figural graffiti, we include *all* known drawings in the AGP search engine.

7.2.4. Documenting extant figural graffiti

Since the verbal descriptions of figural graffiti provided by legacy data are limited and vague or exceedingly general (e.g. *caput*), the best circumstance under which to digitize a graffito is when the drawing itself still remains extant. In such cases, we will use any published data as a starting point, but we are also able to make our own editorial decisions about the subject matter of the drawing, how to describe it, and its relation to any text that is nearby. The material with which we are working, therefore, includes a range of different information about the figural graffiti of Pompeii and Herculaneum: from brief verbal descriptions to line-drawings, to the best case scenario when an inscription is still extant.

7.3.1. Challenges in working with text and images

Several challenges, therefore, arise when making decisions about how to edit and digitize figural graffiti. These can depend on how a drawing may or may not relate to a textual graffito, whether or not a drawing is extant, and how to interpret and standardize legacy data.

Three of our main questions are:

1. How to define an entry? (Where for example does one entry stop and another begin? Do we catalog series or clusters of graffiti, or individual images? How do we account for or represent the larger context?)
2. How to describe a drawing? (Here, there arise issues both of standardization and of interpretation, or over interpretation.)

3. How can we make drawings searchable? (Ideally, we would like to make it possible for users both to browse and to locate specific images.)

7.3.2. How to define an epigraphic entry?

One of the first challenges we face in working with figural graffiti is deciding how to define an entry, that is, to consider whether or not multiple elements should be part of the same EDR record or should be given separate entries. First, we must ask: *can we be assured* that certain elements were meant to be understood together? There might be an issue of accretion or accumulation, where additional graffiti have been added subsequently. A related challenge is then, if we create individual entries for separate elements, how do we avoid losing information about the relationship among the graffiti? This collection of drawings including six textual graffiti illustrates our challenge (Fig. 4).

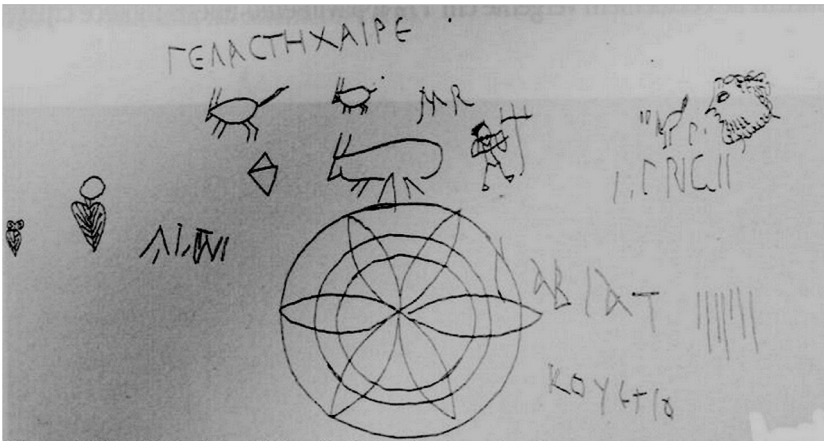


Fig. 7.4. Line-drawing displaying a collection of textual and figural graffiti (CIL 4, 8383-8386; EDR148730); unpublished sketch of Matteo Della Corte from the archives of the Corpus Inscriptionum Latinarum at the Berlin-Brandenburg Academy of Science and Humanities.

You can see a number of different images here including a small gladiator with trident, a face in profile, leaves, several animals, and geometric shapes as well as the name "Atini" and the greeting "Γελαστή χαιρε." Such a collection raises many interpretive questions. What is the relationship, if any, between the figural and the textual graffiti? How should that relationship be best represented? Fortunately,

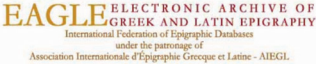
we have available with this sketch an overall view of the spatial relationships of this group of graffiti. Because the *CIL* entries are focused on text, the figural graffiti are associated with and described in the entry of nearby textual inscriptions. For this cluster, we have decided, instead, to give each element on the wall a unique identifier. First, it is not clear that the texts are clearly linked to any of the drawings. Secondly, if we create individual entries, the field for measurements in EDR permits us to give the measurements for each individual element. Thirdly, EDR has provided an additional solution to the issue of representing context with the use of hyperlinks to other nearby inscriptions, created by including EDR record numbers in the apparatus field. Additionally, we have decided to upload a series of images to EDR, including detail illustrations and the composite sketch of all graffiti, to give the context of the entire cluster and the relationship of the graffiti to each other.

In an example from Herculaneum (Fig. 3, above), the entry for *CIL* 4, 10711 notes that in addition to a graffito of the alphabet, a series of nine gladiator helmets and a small phallus were also drawn on the wall. During our field season in Herculaneum in 2014, we were not successful in finding the small phallus, but we did locate eight of the nine helmets. Here too we have devoted a separate database entry for each helmet. By making individual records, we have a unique identifier for each image, in the form of the EDR number, so that users can cite a *specific* parallel precisely. Again, we can record the precise measurements for each image. Yet, since separating each image can obscure how the images relate to one another in the group, as with the previous example, we also upload to EDR an overall image of the group of helmets together for every individual entry (cf. EDR143634).

In these two cases, we are fortunate to have contextual data that informs our understanding of how text and image may relate. More often, we are left with only legacy data, with brief mention of a figural graffito in the apparatus of a *CIL* entry and without illustration. Yet, proximity does not always indicate a relationship between the text and image. Indeed, there may be no relationship at all between the figural and textual graffiti; therefore, putting the two graffiti in the same EDR record may suggest a relationship where none exists. Given these circumstances, we prefer to create separate EDR entries for the text and the image and to use the EDR hyperlinks to note that each is found near the other.

7.3.3.1. How to describe drawings?

A second challenge occurs when we must decide how much interpretation to offer when we describe a graffito for a database entry. When *CIL* has included mention of a drawing, we generally incorporate that description directly into our entry. With figural graffiti documented by Martin Langner, we must create a summary in Latin and when doing so, we attempt to give as full as possible a description of the elements of the image. With this camel (Langner 2001, n. 1443), for instance, we offer a full description in Latin that accounts for all the features of the drawing: *camelus dromedarius cum cauda, lodicem gerens, ad dextram incedens* (Fig. 5).



Schedae numerus: EDR144514
 Regio antiqua: LaC
 Regio nostrae aetatis: I
 Urbs antiqua: Herculaneum
 Urbs nostrae aetatis: Ercolano (Napoli)
 Locus inventionis: Ercolano (Napoli), Insula V.1, Casa Sannitica
 Locus adseruentionis: Ercolano (Napoli), Insula V.1, Casa Sannitica
 Rerum inscriptarum distributio: aedificium
 Rei materia: tectorium
 Mensurae: alt.: 21.00 lat.: 25.80 Crass./Diam.: 0.00 lit. alt.: ?
 Status tituli: ix. ineger
 Scriptura: lit. scariph.
 Lingua:
 Titulorum distributio: cetera
 Virorum distributio:
 Editiones: M. Langner, *Antike Graffitizeichnungen: Motive, Gestaltung und Bedeutung*, Wiesbaden 2001, n. 1443 (Esel/camel) (1)
 Textus:
 ((camelus dromedarius cum cauda, lodicem gerens, ad dextram incedens))

Apparatus: Textus secundum (1), Contulerunt Beall, Bey IV, McCrooy, Opdenhoff, Tomasi, Zimmermann Damer a. 2014.
 Tempus: 1 d.C. / 79 d.C. (archaologia)
 Schedae scriptor: Erika DAMER Tempus schedae: 25-11-2014 (16-11-2015)




Fig. 7.5. Example of an entry for a figural graffito not found in *CIL* (EDR144514).

7.3.3.2. Questions of interpretation through description

As one might imagine, issues of interpretation can arise even with simple descriptions of images. In truth, we have encountered more difficulties with interpretation in the case of drawings that have been described by *CIL*. The first example comes from a shop in Pompeii and represents text and a drawing (*CIL* 4, 8185). The plaster has clearly broken off, so we do not know if this was part of a larger scene. What remains are two lines of text and just one figure, which would seem to be a drawing of a person facing forward and rendered with head and shoulders. *CIL* describes it thus: *herma muliebris prospiciens* (Fig. 6).

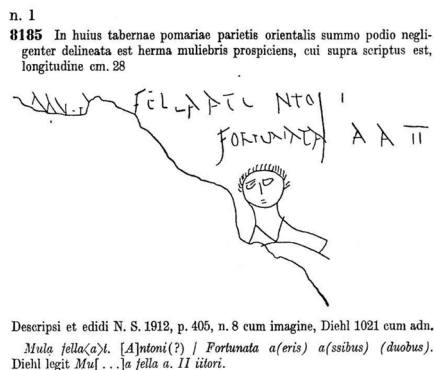


Fig. 7.6. CIL entry for textual and figural graffiti (CIL 4, 8185).

Is this drawing clearly depicting a female? It is difficult to argue from either the hairstyle or the clothing that the figure is female. Here, we can only assume that the editors of *CIL* identified the image as female because the text above mentions the female name Fortunata. But are we sure the image is meant to illustrate the text? Or that the image and text are meant to be read together? Since the figure is clearly not enacting the verb of the text, could this be either Fortunata or Antonius?

The head of a woman, described with a textual graffito from the Suburban Baths in Herculaneum (CIL 4, 10676), raises similar problems with verbal descriptions of figural graffiti. In this case, *CIL* does not reproduce an image of the sketch; it only notes that the four-line inscription of CIL 4, 10676 appears below a drawing of a female (*infra mulieris imaginem*). In this instance, too, the text nearby includes two names, one female and one male. The drawing has appeared in multiple publications (Della Corte 1960, Deiss 1989, Maulucci 1993) (Fig. 7).



Fig. 7.7. Apograph of figural graffito referred to in the note at CIL 4, 10676 (Langner 2001, n. 309).

Again, we might question whether this figure should be identified as female. In fact, we not certain that we had located the correct apograph for the drawing. There is considerable discrepancy between the description of the drawing in *CIL* 4, 10676 as female, with no mention of the long nose, and this line-drawing.

Another reason we suspected there might be a mistake was that Martin Langner had catalogued the drawing associated with *CIL* 4, 10676, describing it as a “Phalluskopf.” There was no mention of gender. And he categorized this drawing among several examples of drawings of heads with phallic features. The graffito is in a room that is sealed off, with no access, so we were unable to view it in person. Eventually, however, a photograph published by Antonio Varone in his recent two-volume work providing images of extant ancient graffiti (Varone 2012, 509) allowed us to confirm that this *is* indeed the correct graffito drawing – somewhat above but also drawn partly *through* the text of *CIL* 4, 10676.

Neither description offered by *CIL* or by Langner, however, seems altogether satisfactory. There are no obvious markers of female identity and even the description of *Phalluskopf* is less than transparent. Thus this one drawing has two published descriptions that vary greatly and that each lead to a very different understanding of the graffito. What should we then do in such situations? Do we repeat the identification of *CIL*? Or do we offer a less specific description, merely labeling this a *hominis figura*? In the end, our solution is to offer our own description, which is detailed but less interpretative, with an emphasis on specific features of the image that are readily identifiable. We also document Langner’s description and *CIL*’s earlier identification in our entry for EDR, but we note our hesitation with such identification by labeling the image: *gryllus?* (“caricature?”). We are aware, however, that we also introduce an interpretation with the tentative suggestion this drawing might be a caricature.

The issue of interpretation arises most often in relation to identification. Other examples concern identifying the particular *types* of gladiators or the species of animals, who are assuredly quadrupeds but in some drawings could be any type of animal with four legs (stags, boars, dogs). In such cases, our solution is to describe a drawing with more generic, yet accurate, terms such as “gladiator,” without further specification, or “animal” rather than *cervus*, *aper*, or *canis*. Similarly, if we cannot determine male or female, we prefer to describe the drawing as “*facies hominis*.”

In the AGP search engine we can then indicate possible but not certain identification with a descriptor, or tag, that comes with a question mark: e.g. “stag?”

7.4. How to search for drawings?

The third challenge that we face is how to search efficiently for inscriptions that are not just text but either are images or include images. In the AGP search engine, we aim to complement the capabilities of EDR by providing another way to search for these non-textual, figural graffiti. Since we describe the content of the figural graffiti in the Textus field of EDR, it is possible for a user to locate a graffiti drawing. However, with text-based searching, a user would need to know the vocabulary used to describe the drawing. Would someone ever think to search for “*camelus*” without prior knowledge that there is a figural graffiti of a camel in Herculaneum? Similarly, if you search for “*gladiator*”, the text field will give you results for all inscriptions that mention gladiators as well as drawings where we have described gladiators. If, however, we’ve described the gladiator more specifically as a “*retiarius*” or we have gladiatorial equipment, such drawings will be omitted from the list of search results.

We are therefore designing AGP with the capacity for locating figural graffiti through a two-prong solution: with both browsing and searching possibilities.

7.4.1. Browsing capabilities in AGP

For browsing, we have defined nine general categories, which together cover all the types of figural graffiti we have encountered so far (Fig. 8).

At this point, one can browse by choosing a category, which will return all examples in that category. So, for example, the category of “Gladiators/equipment” will return sketches of individual gladiators, gladiators fighting in pairs, and gladiator equipment such as helmets. The category of “Animals” will return all figural graffiti that include drawings of animals. As we process greater numbers of figural graffiti, the results of these categories will become larger.

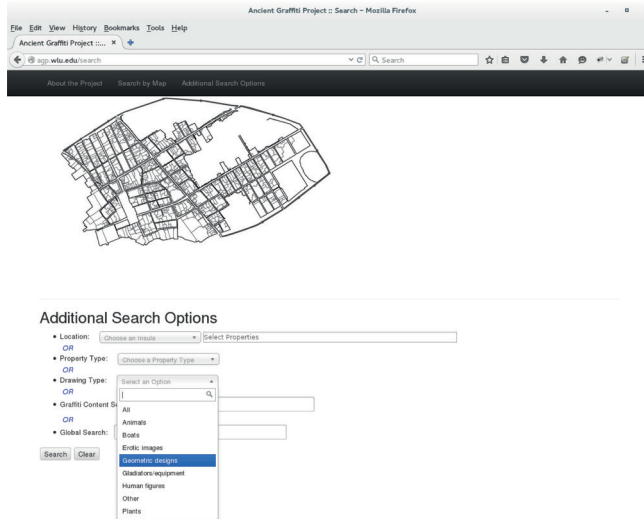


Fig. 7.8. Screenshot of AGP search engine showing browsing capabilities.

7.4.2. Limiting search results in AGP

It is therefore necessary to design a way to limit results, so that a user could find only gladiatorial equipment, or graffiti depicting only boats but not graffiti depicting other animals. We are developing a method of filters and tags that will allow a user to move beyond browsing. These filters will allow a user 1) to limit an initial return of results, 2) to retrieve more specific results, or 3) to perform a secondary level of search. It will certainly be helpful to refine results of an entire category to include only a subset of that category, for example, only pairs of gladiators instead of all gladiators and their equipment.

To allow for this, we are creating a list of tags that we can apply to figural graffiti to allow for greater specificity of searching. By using tags, we can also assign multiple terms to a single image, e.g. stag and dog. Our goal is ultimately to enable searches by these tags as well, so a user can directly find all drawings with dogs.

The search capacity will allow a user to search the tags or the Latin description, so both “*navis*” and “*boat*” will return hits. Again, standardization is necessary. We are currently developing a list of tags that is comprehensive and flexible enough to cover all graffiti, but that includes a level of standardization so that the list of tags offers extensible terms.

We are also creating a system of filters to allow a user to limit the initial results or to move directly to a desired graffito. So, a user can search all graffiti drawings and then limit the search results, for example, to find all the drawings in a particular property (Fig. 9).

Or, it will be possible to do a broad search for all drawings of animals, and then filter to limit the results to find what kind of animals are drawn in taverns, for example, but not public buildings or houses.

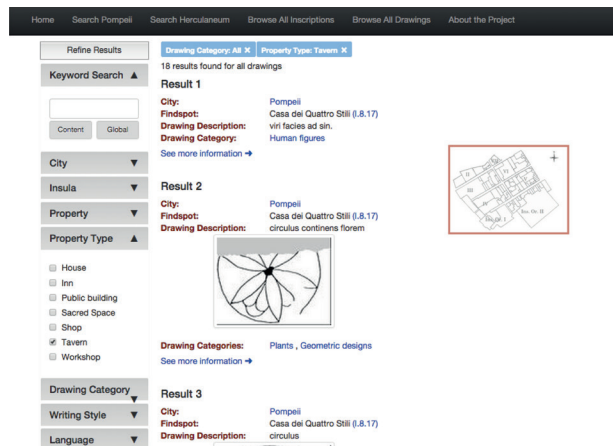


Fig. 7.9. Screenshot showing filters in AGP.

7.5. Conclusion

This system of tags and filters is in the early stages of the design process. These are our proposed solutions for confronting the challenges of working with text and image, and our ideas for creating a resource to complement the strengths of EDR with search capabilities for characteristics that are specific to these heterogeneous, individualized handwritten inscriptions.

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