



HUMANIDADES
DIGITALES
HISPANICAS

II CONGRESO INTERNACIONAL

INNOVACIÓN, GLOBALIZACIÓN E IMPACTO

5 - 7 OCTUBRE 2015 / MADRID / LINHD - UNED

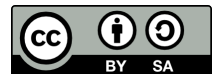


Digitalización y modelización 3D de inscripciones romanas: del Museo a los dispositivos móviles

Manuel Ramírez Sánchez, IATEX-ULPGC

José Pablo Suárez Rivero, IUMA-ULPGC

Haridian Guerra Soto, ULPGC







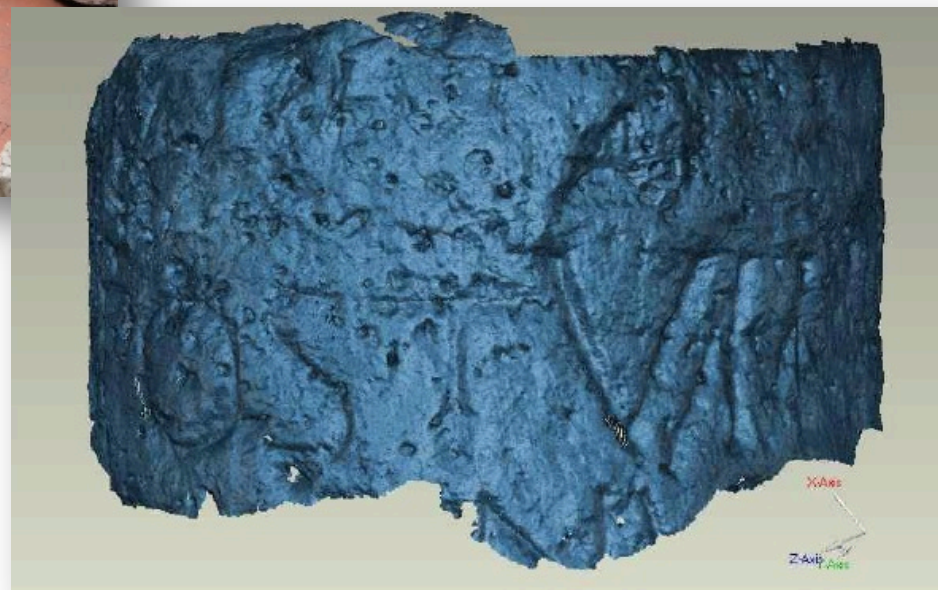
med. siglo XIX



fines s. XX



2005



© F. Pirotti; A. Guarnieri; A. Buonopane; P. Grossi

RUPRECHT-KARLS-UNIVERSITÄT HEIDELBERG



Research

Image Processing and
Modeling

Network Analysis

Medicine

Cognitive Sciences

Complex Molecules

Multi-Scale Structural
Biology

Commodity Markets and
Price Dynamics

Software Engineering

Humanities and Cultural
Sciences

Analysis of



Uni Heidelberg > IWR > Pioneering Projects > Research > Humanities and Cultural Sciences > 2D & 3D Analyses of Inscription

2D & 3D Analysis of Inscription

Inscriptions were carved into stone whenever a culture wanted to preserve a historic incidence or achievement for future generations. This ranges from early Greek law texts in Ephesos, for example, to Buddhist stone scriptures from Shandong, and includes inscriptions on tombs or buildings bearing the names of monarchs or rulers of ancient empires from long ago. The immense cultural heritage of more than 3000 years of cuneiform writing is a source for our historic self-image, but first of all has to be collected, decoded and transcribed to be available to scientists from various disciplines.

Automated Epigraphy – 2D Character Segmentation

In the case of Buddhist rock inscriptions, the scripture used to be taken from the rock by placing paper on top and rubbing the script with graphite. The result consists of white characters on a gray and rather noisy background, which makes it difficult to analyze the inscriptions: Which feature is part of a character and what is a scratch or defect caused by weathering?

After enhancing a 2D image using standard techniques, optical character recognition (OCR) still failed for most of the

Análisis 2D y 3D



The Digital Epigraphy & Archaeology project

Welcome to the Digital Epigraphy and Archaeology project

DEA is an interdisciplinary project initiated by scientists from the Digital Worlds Institute and the Department of Classics at the University of Florida. The goal of the project is to develop new open-access scientific tools for the Humanities and apply concepts from digital and interactive media and computer science to Archaeology and Classics. In our web-site you can [view our 3D collections and interact with our on-line exhibits](#), [read about our recent results](#), find interactive demos of our projects, and learn more about our future research directions.

Bringing together Digital Media, Computer Science, and the Humanities.

Digital Epigraphy Toolbox

A scientific tool for the effective study and dissemination of ancient inscriptions.

News

- Computational Archaeology in Roman statues**
Interactive 3D digitization, retrieval, and analysis of ancient sculptures in collaboration with Museo Nazionale Romano di
- Grant supports 3D digitization of estampages**
Grant award from the French Ministry of Higher Education will support a 3D digitization project of paper casts of inscriptions from
- 3D digitization of Abraham Lincoln's letters**
Embossments found on various documents of Abraham Lincoln were digitized in 3D using the Digital Epigraphy Toolbox. The documents include the Gettysburg
- The National Archives digitize exhibits in 3D**
Several important artifacts from The National Archives

www.digitalepigraphy.org

The First Online 3D Epigraphic Library

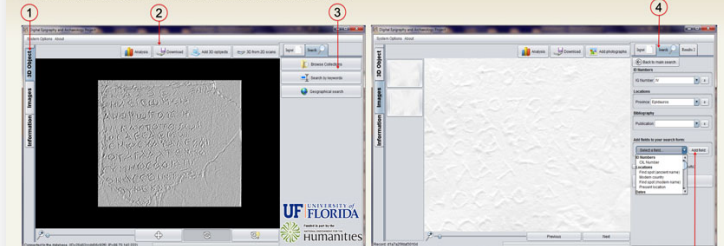
<http://www.digitalepigraphy.org>

Abstract

The goal of our presentation is to introduce the Digital Epigraphy Toolset, a novel and technologically advanced scientific tool for the effective study and comparative analysis of Greek and Latin inscriptions. This toolset provides archaeologists and epigraphists with a cost-effective and efficient method for 3D digitization of inscriptions based on images, as well as access to an online dynamic library of 3D inscriptions.

More specifically, the Digital Epigraphy Toolset is a publicly available web-application designed to facilitate the digital preservation and electronic dissemination of both Greek and Latin inscriptions. It allows epigraphists to digitize in 3D their acquisitions, while it overcomes the limitations of current methods for digitizing epigraphic data in 2 dimensions only. This system contains several options for 3D visualization of inscriptions, as well as a set of scientific tools for analyzing the lettering techniques and performing quantitative analysis of the letterform variations. Furthermore, the users have the option to share their data and also search other uploaded collections of 3D inscriptions in a semi-supervised dynamic library. This dynamic library is organized thematically according to language, area of origin, and date and it also contains a comprehensive record of the inscription in the form of plain text, 3D model, 2D photographs, and other epigraphic information.

During our presentation we will show several illustrative examples of how we applied our method on sets of inscriptions from Epidaurus and Nemea. These examples demonstrate the efficiency of our system and promise that the development of this epigraphic software will contribute significantly and promote epigraphic research and studies.



- There are 3 modes of inscription viewing: 3D model, 2D images, and textual information.
- The user interface offers many options, such as downloading existing epigraphic records and adding new data.
- The user can browse through our collection, search for an inscription by keywords, or perform geographical search.
- The user can search by typing full or partial keywords.
- The search form can be customized by adding fields, such as IGCIL number, location, dates, bibliographical information about an inscription.
- A comprehensive list of results is generated after each search query.
- Example of a 3D object view.
- The user can zoom, move, rotate, and manipulate the lighting to achieve better viewing of the 3D model.
- This is an example of the epigraphic record view.
- Authorized users may edit the epigraphic information of an existing record.
- The epigraphic record may include links to other existing epigraphic databases.
- Additionally, the user may navigate our database via thematic browsing.

Supported operating systems: Windows, Apple, Linux, Solaris

Developed using the above technologies: PHP, XML, Java, MySQL

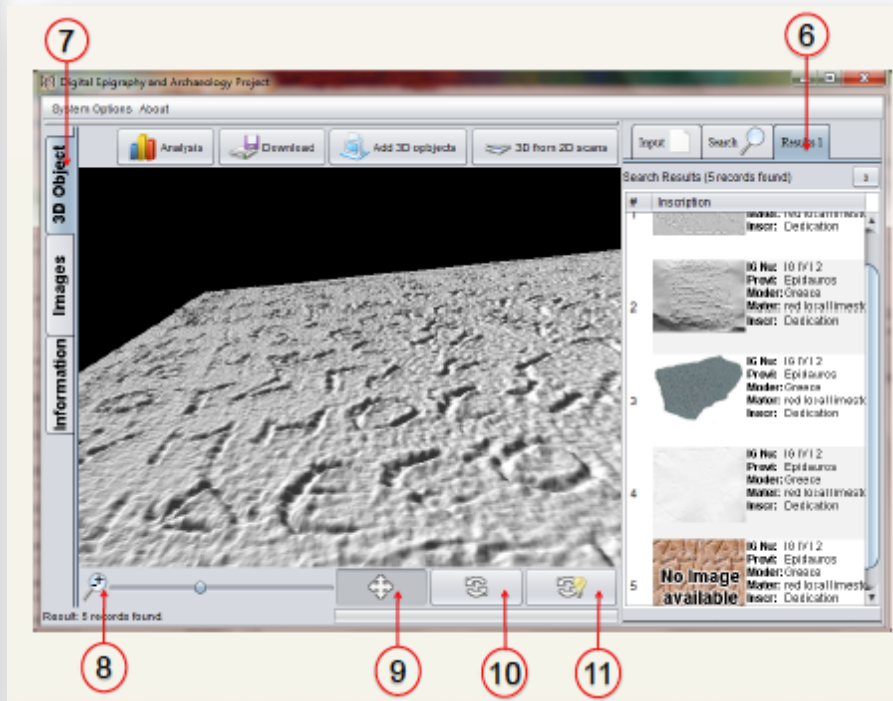
NATIONAL ENDOWMENT FOR THE HUMANITIES

Funded in part by the NEH grant HD-51214-11

Department of Classics | Digital Worlds | UF UNIVERSITY OF FLORIDA

Dr. Eleni Bozia, Dr. Angelos Barmpoutis, Dr. Robert Wagman

2012



© Eleni Bozia; Angelos Barmpoutis; Robert Wagman

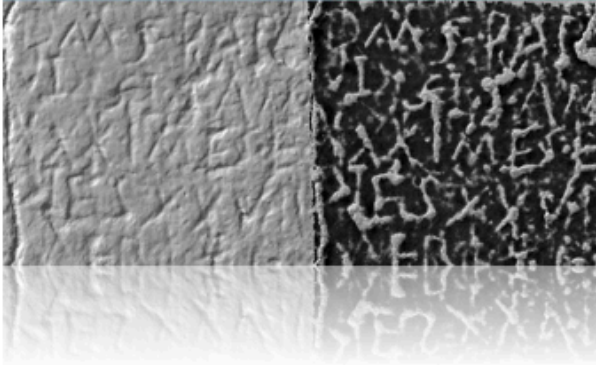
Ligar +351 229 780 134 | mail@superficie.pt

7 PT FR EN

SUPERFÍCIE
GEOMÁTICA

TERRITÓRIO PATRIMÓNIO GEOCIÊNCIAS

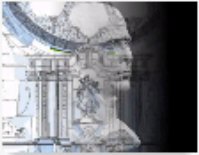
Epigrafia



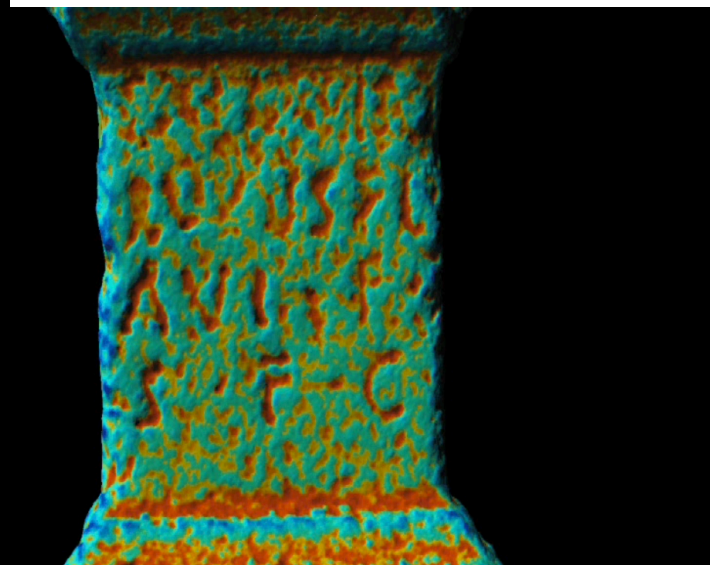
Em **Epigrafia** estudam-se inscrições antigas de épocas diversas, as chamadas "epígrafes", gravadas em materiais sólidos, nomeadamente na pedra, procurando recolher sobre elas o máximo de informação possível no sentido de as decifrar e interpretar. Também neste âmbito, a introdução das novas tecnologias se torna um factor determinante de sucesso e avanço do conhecimento ao permitir desvendar e recolher dados até agora indisponíveis através da simples observação direta. Interessa a **epigrafistas**, **arqueólogos**, **técnicos de arqueologia**, e outros estudiosos.

PATRIMÓNIO

Conhecer no presente e salvaguardar para memória futura o **património** do conjunto das sociedades humanas, incluindo as do passado estudadas pela **arqueologia**, constitui actualmente para a documentação gráfica especializada, um desafio estimulante que acompanha o rápido ritmo de evolução das novas tecnologias de registo e divulgação de resultados.



www.superficie.pt



2012

© Hugo Pires

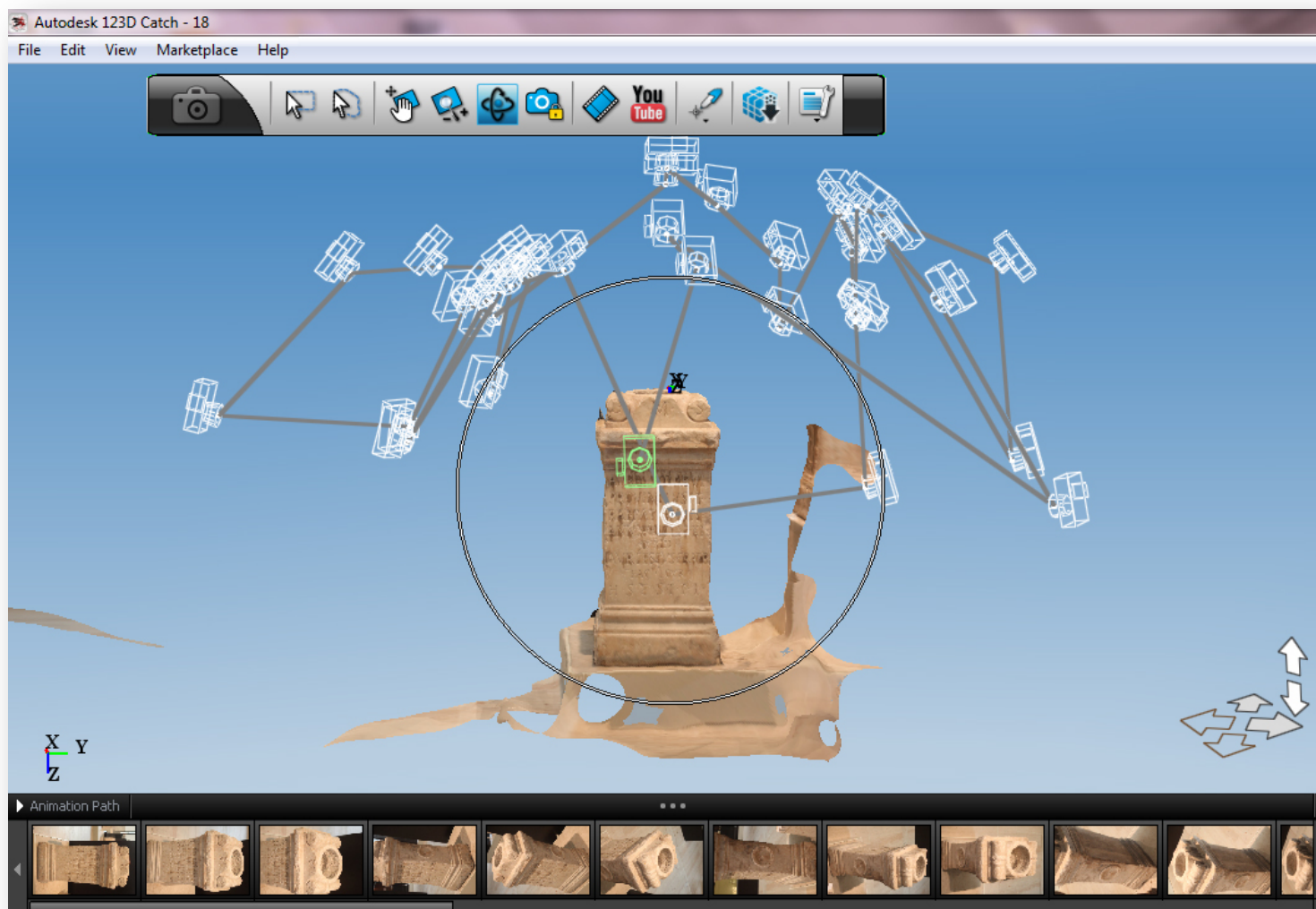


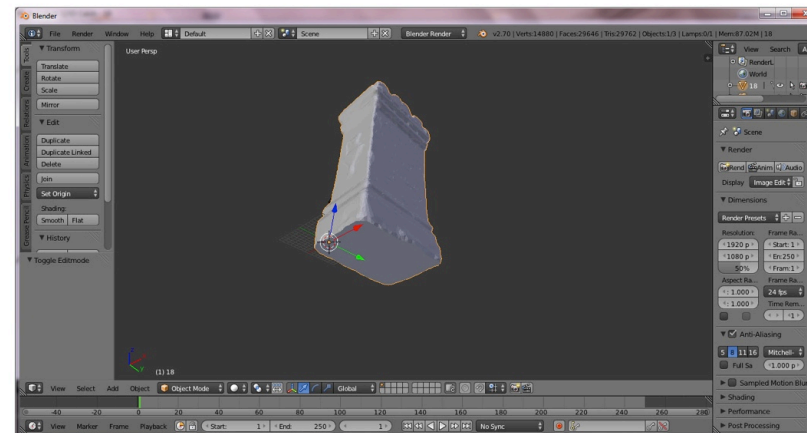
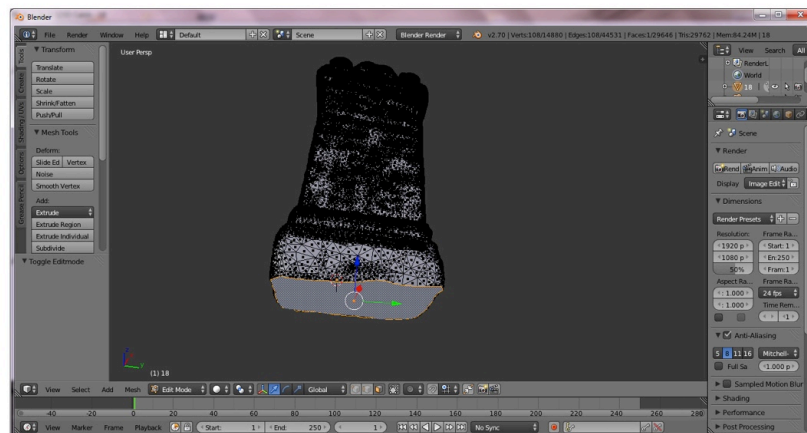
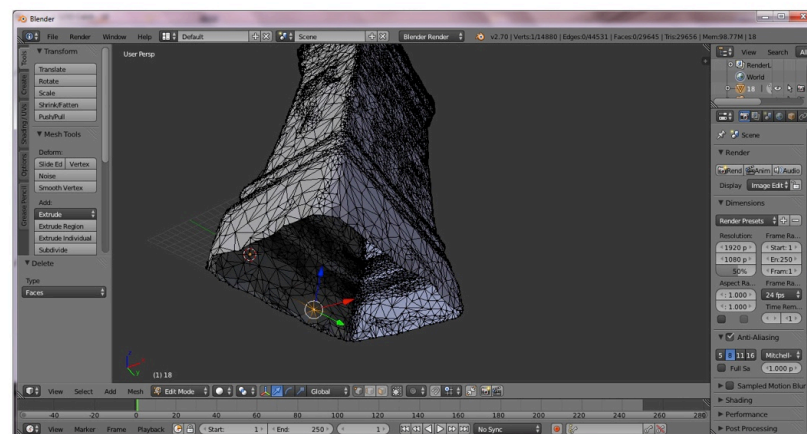
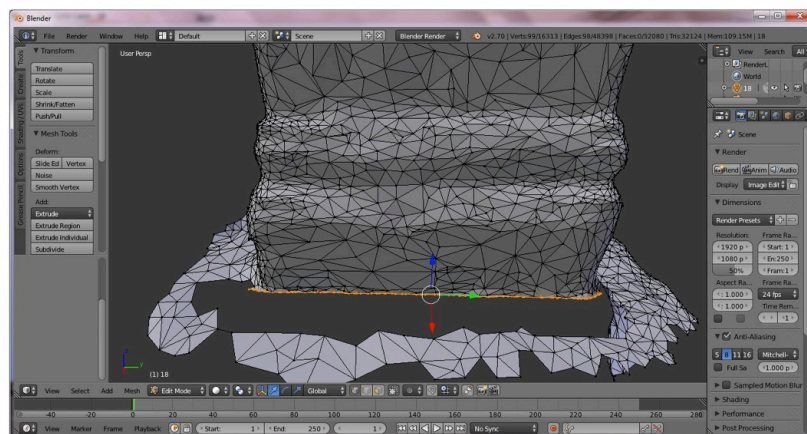
The screenshot shows the homepage of the Epigraphia 3D website. At the top, there are social media icons for Facebook, Twitter, YouTube, and LinkedIn, along with a search bar. Below the navigation bar, there is a large banner image of a Roman statue with the text "EPIGRAPHIA 3D" overlaid. The main content area features a post titled "Fotografías esféricas del patio romano del MAN" dated 31/03/2014, with 0 comments. The post text describes the reopening of the National Archaeological Museum (MAN) and the use of 3D scanning technology to create spherical photographs of the Roman courtyard. To the right of the post, there are sections for "Archivo" (March 2014), "Categorías" (Todo, Noticias), and an "RSS Feed" link.

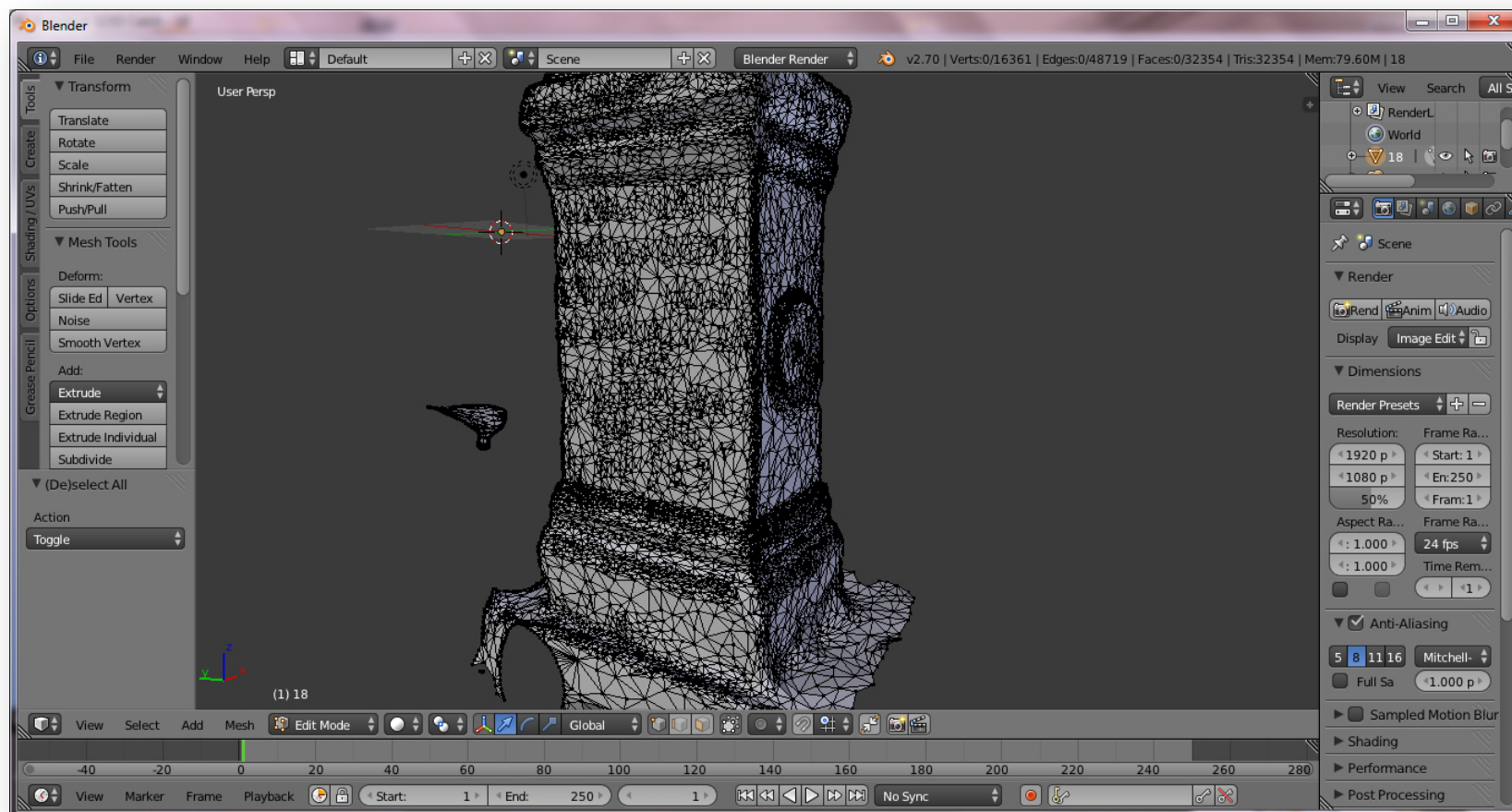
www.epigraphia3d.es



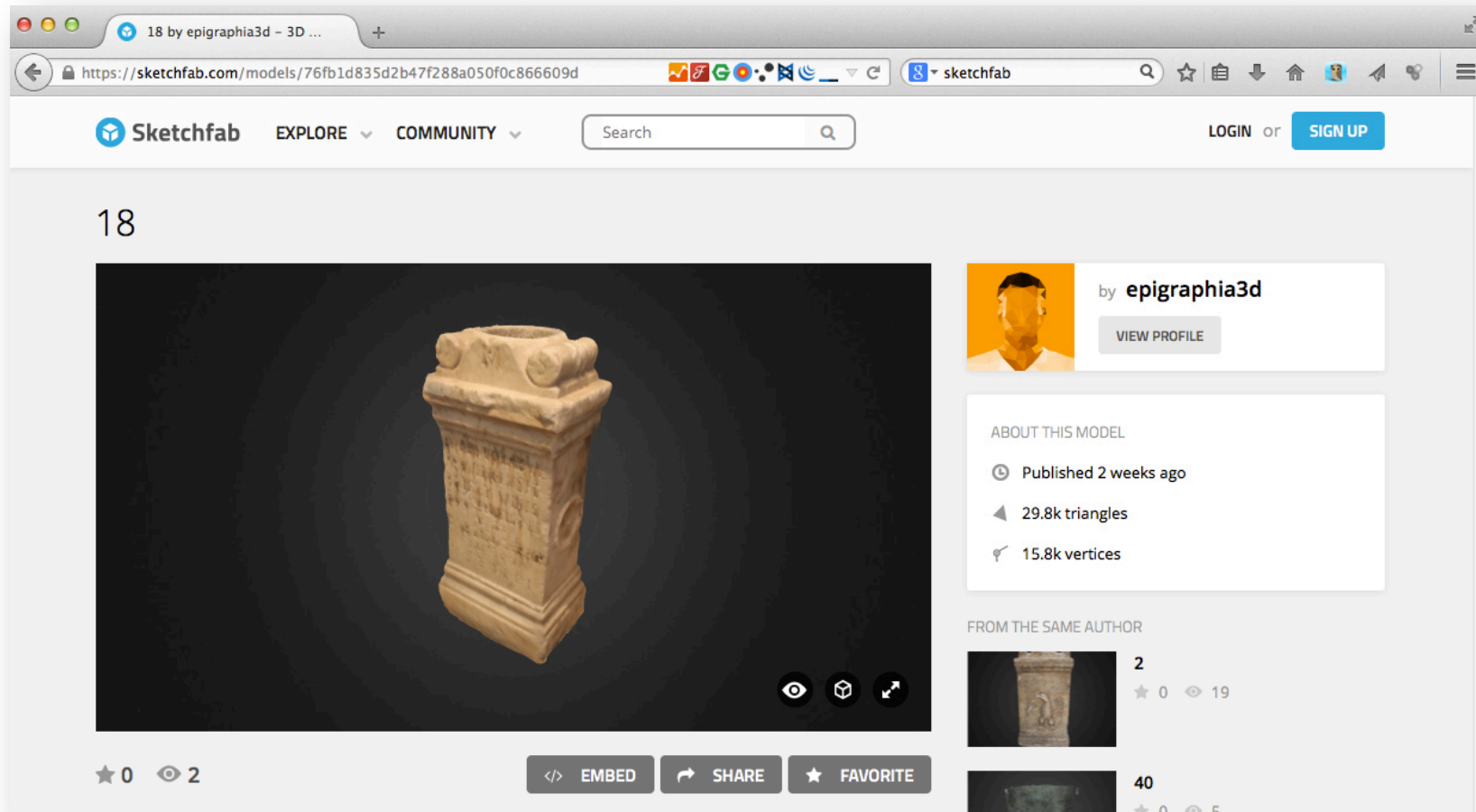


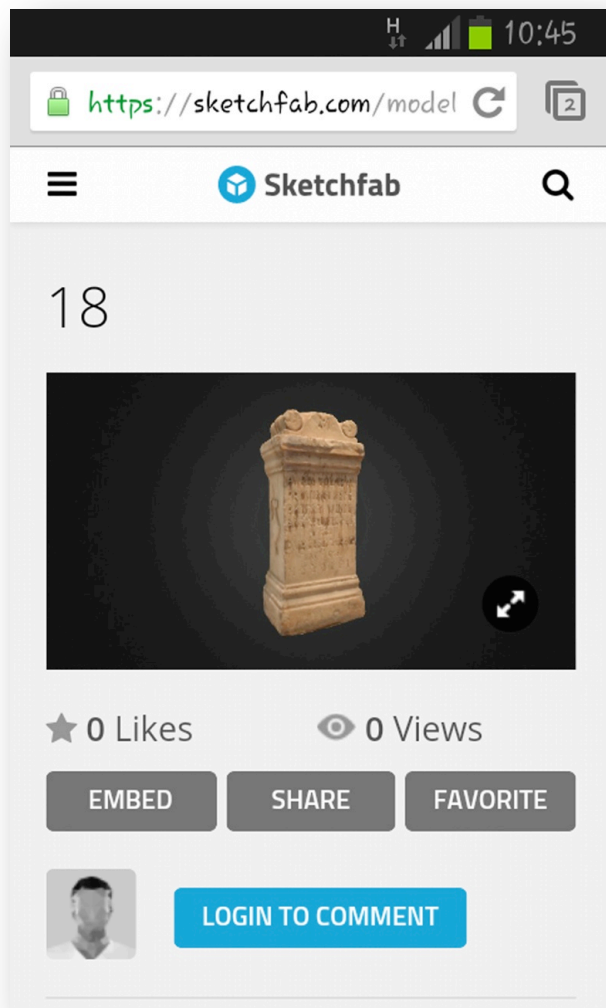


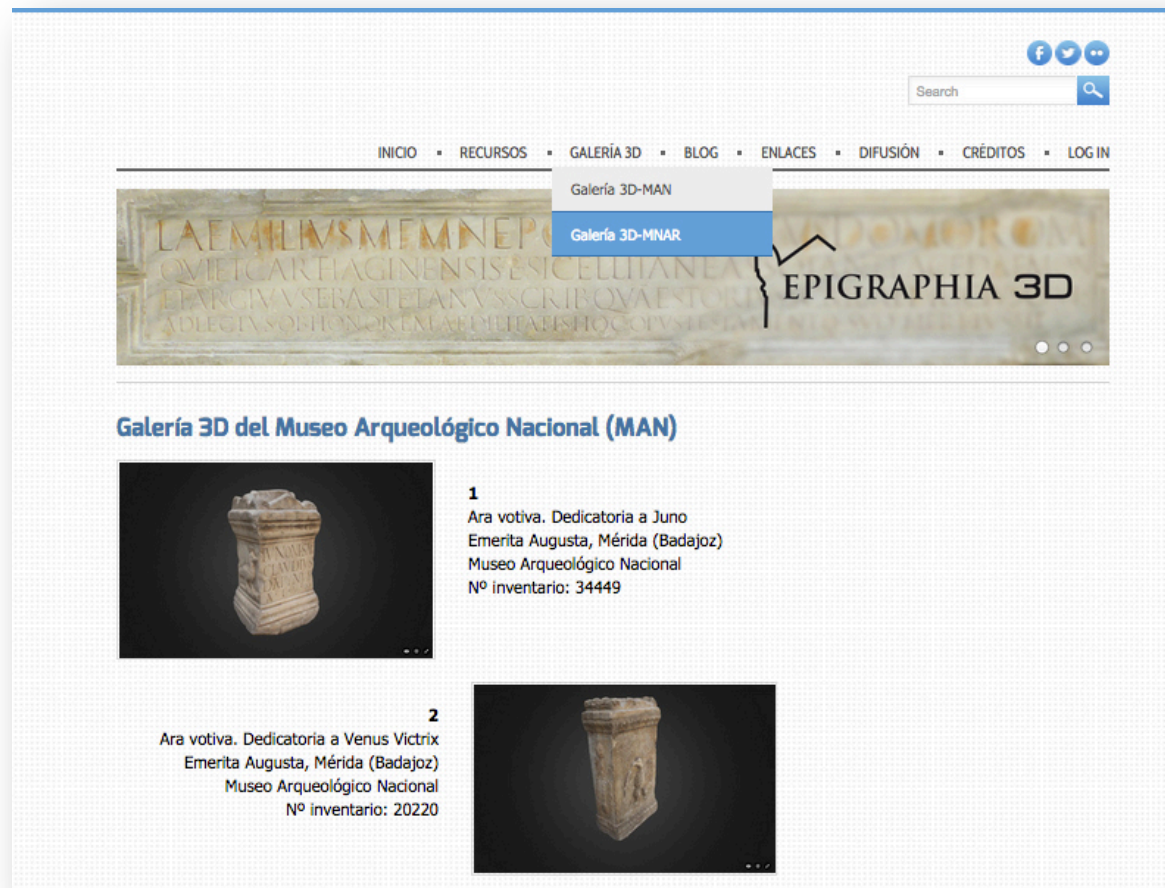










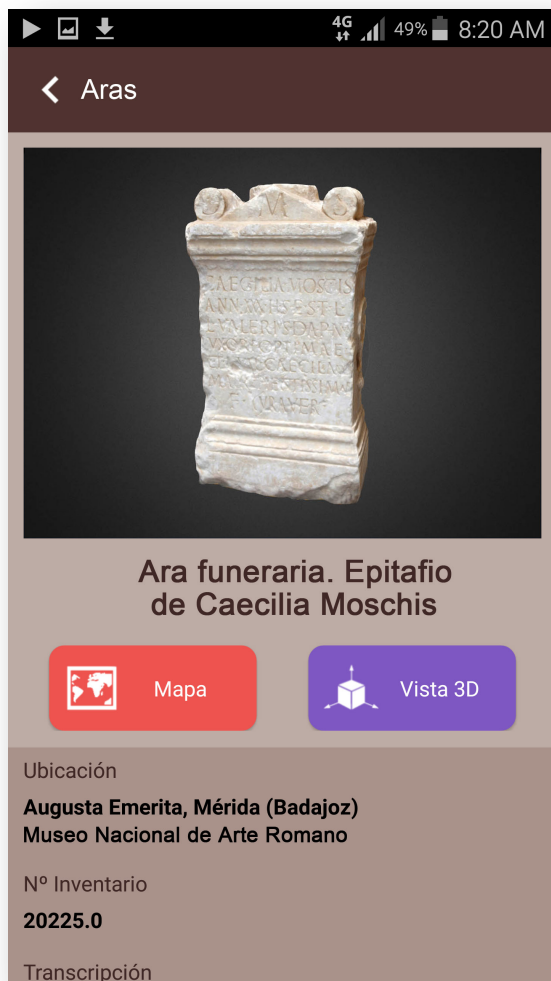


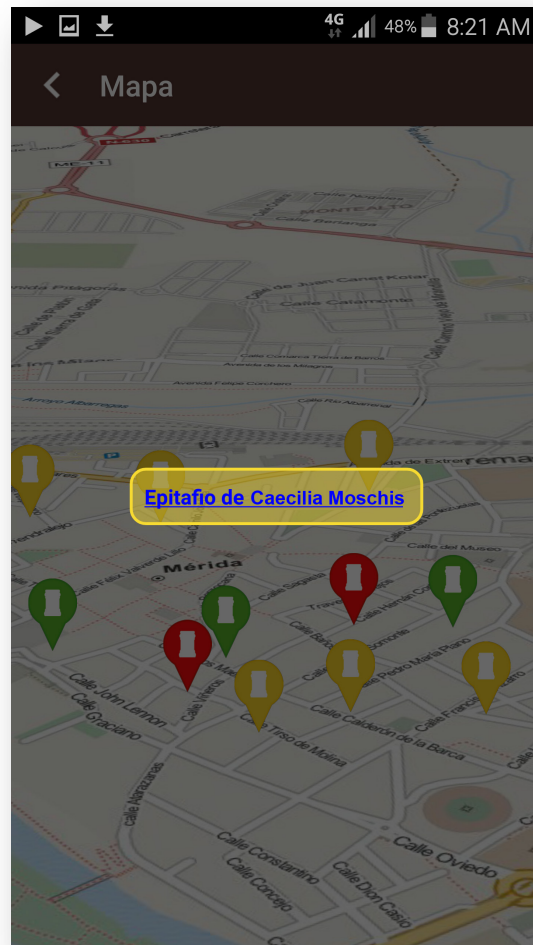
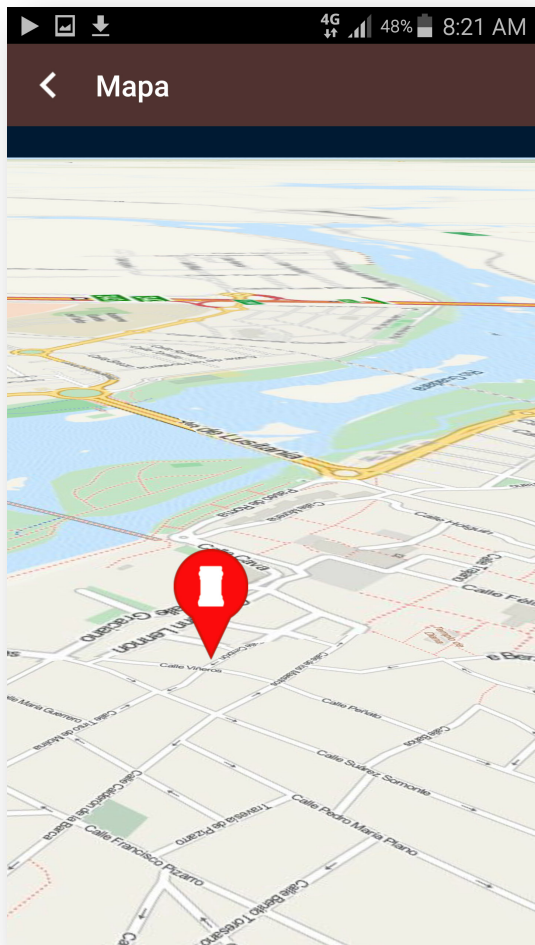
The screenshot shows the website interface for Epigraphia 3D. At the top, there is a navigation bar with links: INICIO, RECURSOS, GALERÍA 3D, BLOG, ENLACES, DIFUSIÓN, CRÉDITOS, and LOGIN. Below this is a search bar and social media icons. The main header features a large image of a Roman inscription with the text "EPIGRAPHIA 3D" overlaid. A dropdown menu is open under "GALERÍA 3D", showing options for "Galería 3D-MAN" and "Galería 3D-MNAR". The "Galería 3D del Museo Arqueológico Nacional (MAN)" section is displayed, featuring two items:

- 1**
Ara votiva. Dedicatoria a Juno
Emerita Augusta, Mérida (Badajoz)
Museo Arqueológico Nacional
Nº inventario: 34449
- 2**
Ara votiva. Dedicatoria a Venus Victrix
Emerita Augusta, Mérida (Badajoz)
Museo Arqueológico Nacional
Nº inventario: 20220

www.epigraphia3d.es





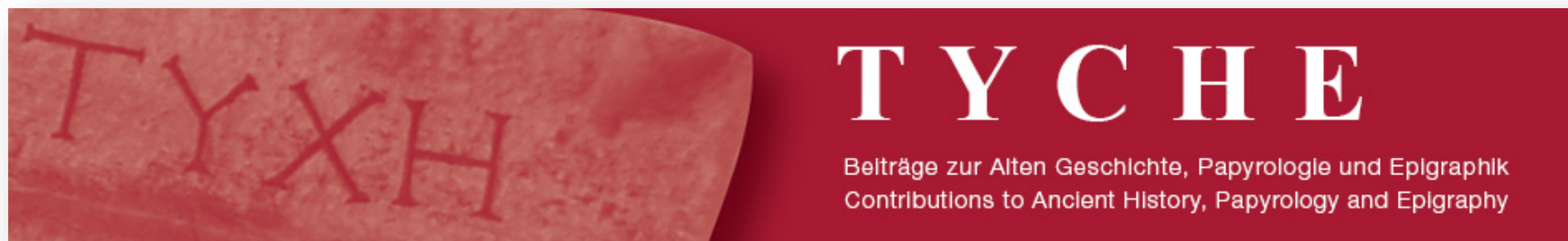
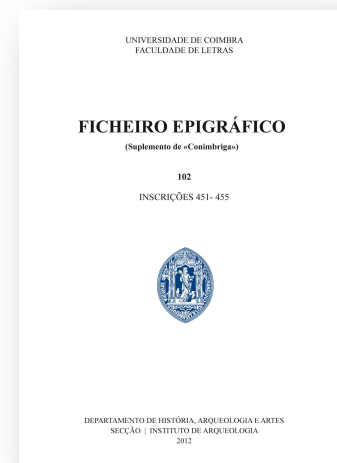
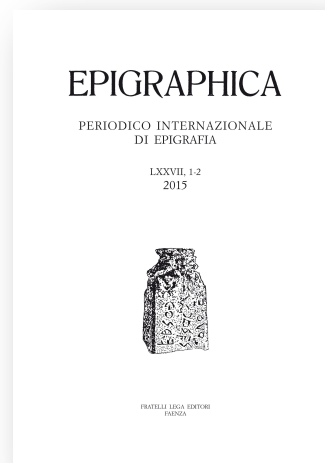




www.facebook.com/Epigraphia3d



2014





Manuel Ramírez Sánchez

Universidad de Las Palmas de Gran Canaria
Instituto Universitario de Análisis y Aplicaciones Textuales
@manuelramirez

José Pablo Suárez Rivero

Universidad de Las Palmas de Gran Canaria
Instituto Universitario de Microelectrónica Aplicada
@josepablosuarez

Haridian Guerra Soto

Universidad de Las Palmas de Gran Canaria