

LRCW 4

Late Roman Coarse Wares, Cooking Wares and Amphorae in the Mediterranean

Archaeology and archaeometry

The Mediterranean: a market without frontiers

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LRCW.NET: A WEB SITE WITH A VIRTUAL LABORATORY FOR THE STUDY OF COARSE AND COOKING WARES IN THE LATE ANTIQUE MEDITERRANEAN
(<http://www.lrcw.net/>)

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This contribution presents the LRCW.net a website with a virtual laboratory intranet devoted to the study of coarse and cooking wares in the late Antique Mediterranean. It is designed as a public website with a virtual laboratory intranet. There, all institutions and researchers interested in the subject can work together towards a specific purpose such as the creation of an on-line 'encyclopedia' for these categories of ceramics. The LRCW.net website and the associated virtual laboratory are just a small part of a wider initiative that aims to create an on-line Encyclopedia for Ancient Ceramics in the Mediterranean.

KEYWORDS: LATE ANTIQUITY, COOKING WARES, COARSE WARES, INFORMATION AND COMMUNICATION TECHNOLOGIES, VIRTUAL LABORATORIES, ENCYCLOPEDIA, ARCHAEOLOGY, ARCHAEOOMETRY, TYPOLOGY, PROVENANCE

1. INTRODUCTION

Since the late 1980's, and more intensively since the 1990's, the ERAAUB has been continuously developing a programme of archaeological and archaeometric study of Late Roman Coarse and Cooking Wares in order to characterise the main fabrics with particular attention to the Western Mediterranean (i.e. Cau 1998, 2003, 2007; Cau *et al.* 2010; Macias 1999; 2003). All this research was the catalyst to organise the series of international conferences on *Late Roman Coarse Wares, Cooking Wares and Amphorae: Archaeology and Archaeometry*. The first conference was held in Barcelona in 2002 (Gurt *et al.* 2005). Later, the meetings in Aix-en-Provence (2005) (Bonifay and Treglia 2007), Parma-Pisa (2008) (Menchelli *et al.* 2010), and Thessaloniki (2011), of which this book is the outcome, consolidated the initiative as the major forum of discussion for these ceramic classes.

This long-term research on coarse and cooking wares has been recently supported by a specific project called *Archaeology and Archaeometry of Late Roman Cooking Wares in the Western Mediterranean: a holistic approach (LRCWMED)*, funded by the Plan Nacional of I+D+I of the Ministerio de Ciencia e Innovación of the Spanish Government.

Within the tasks of the LRCWMED project one was devoted to undertake a feasibility study of creating a web page for the study of late Roman coarse and cooking wares in the Mediterranean as strategic positioning in the

application of Information and Communication Technologies (herein ICT) for the study of archaeological ceramics.

In this framework, this paper summarises the idea of the *LRCW.net* as a first presentation to the scientific community. The main goal is just to explain this initiative and to encourage all those interested in the field to join the action, as we are fully aware that an enterprise such as this, if it has to be of any real use, has to involve as many research groups and scholars as possible.

2. THE INITIATIVE

This initiative was not isolated but linked to a series of initiatives aiming at building an on-line system for the research and documentation of archaeological ceramics. Linked to this initiative there was the idea to create an *on-line Encyclopedia of Mediterranean Ceramics*.

With respect to ERAAUB, the original concept began with a collaboration with PROLEG S.L. in the *Thesaurus*, a classification system linked to the software of stratigraphic register *Stratigraph 5.0*. The *Thesaurus* was the starting point of a strategic positioning versus the use of Information and Communication Technologies in pottery studies. The initial idea evolved in time with discussion and the input from other scholars, firstly P. Reynolds and then M. Bonifay— into a more ambitious target that was to try to create a single *Encyclopaedia* under the same principles and interface. This idea was

presented to the participants of the *ICREA/ESF Exploratory Workshop on Late Roman Fine Wares: solving problems of typology and chronology* held in Barcelona in November 2008 (Cau *et al.* 2011).

However, a common web-based encyclopedia seemed a difficult enterprise, mainly because many teams were already (or shortly afterwards) working more or less in a similar direction in their particular areas of expertise (both geographical and/or for ceramic classes). Of course, earlier initiatives already existed such as the data-base of CEIPAC for amphora stamps, also in Barcelona, and the *Roman Amphorae: a digital resource* of the University of Southampton.

In this context, and with the idea of a common *Encyclopedia* in mind, the *CERAMOPÔLE* initiative was created within the Maison des Sciences de l'Homme in Aix-en-Provence to systematise ceramics in Gaul.

Along the same lines, the ERAAUB in collaboration with ICAC are creating *LRCW.net*, a web page and virtual laboratory for coarse and cooking wares in the Mediterranean. This idea matched the goals of the research line on Virtual Documentation Laboratories (VDL) within the framework of ICT Technologies which the *Institut Català d'Arqueologia Clàssica* (ICAC, Tarragona) undertaken in 2009, an innovative aspect in humanities. This is why the *LRCW.net* shares a platform with the *Ex-Amphora Hispaniae* initiative, as both are part of a wider research in virtual laboratories that has three main generic objectives (Berni 2009; Berni *et al.* 2013; in press).

- To project towards ICT the scientific task of research groups with new or consolidated projects.
- To create a computer tool in the net useful for the management and access to the contents created by the scientific community. This would be linked to the project by means of an interactive space of knowledge exchange in order to increase productivity, favouring synergies between research groups and helping to strength institutional links through the network.
- To perform the VDL in such a way that it becomes a standard of reference in the research line, open to the internet for researchers, university students and archaeology professionals.

The *LRCW.net* has opted for creation of working groups by regions and/or specific ceramic classes. The system is conceived as a virtual laboratory and it will permit on-line work and continuous updating of data. If we all contribute with our 'little grain of sand', introducing the local products of our site, or the main groups of our region of study, the materials studied in our PhD's, or the material from a kiln site that we excavated in a rescue excavation in the past, then the volume of data available will increase considerably. It is important to provide the key to identify the fabrics (macroscopic and analytical if possible), typology, chronology and distribution (if

known). In doing so, we will provide a service to the scientific community. In addition, including a specific on-line library will help also the younger generation that finds it now difficult to follow the development of the discipline, as much of the enormous bibliography generated is disperse and not always of easy access.

3. A BRIEF ACCOUNT OF THE SOFTWARE ARCHITECTURE

The project promotes research and development of technologies based on free software. The whole system works with a LAMP technology, an acronym that means a set of software sub-systems needed to achieve a global solution, in this case:

- Debian GNU/Linux operating system
- Apache 2.x web server
- MySQL 5.x database management system
- PHP 5.x programming language

The public portal of the project uses Joomla!, a open source content management system (CMS) and programmed with PHP, and that requires a MySQL database. One of its biggest advantages is the great quantity of existing extensions and those are easily integrated in the CMS, as for example, the basic contact application. The open services to the Laboratory database, such as the On-line Library, are being developed by the Laboratory manager with their own extensions in Joomla!

4. PUBLIC WEB SITE

The public space consists of an Internet portal, created and managed with a Content Management System (CMS) called Joomla!, that enables the project members in charge to edit and publish the dynamic and interactive contents of the website easily (Fig. 1).

The public website of the research project has three main purposes:

- To show the Laboratory and its progress, as well as the associated research projects.
- To spread the knowledge generated in the Laboratory as an out-reach activity for a wider audience.
- To offer to the Internet public the chance of consulting our databases with the most outstanding services. For example, at this time, we can mention the Online Library on Late Roman coarse wares, from which anyone can download digital papers (Fig. 2).

The website will be organised and widened progressively with time, so that information concerning the project could be extended to anyone interested in knowing the research progress on Late Roman coarse and cooking wares. Sections will be open as the project advances, with

the diversified contents: scientific goals, participants, methodology applied in different study fields, scientific, technical and human resources, progress in the Virtual Laboratory, news, events, etc.

5. VIRTUAL LABORATORY INTRANET

The private space is the intranet of the Virtual Laboratory (Fig. 3) and is accessible from the portal homepage, which has an access entrance for registered users. Right now, this access will be limited to members and collaborators linked more to the technical management of the project, who will get an email invitation with the password in order to enter the Lab. Later, the Laboratory will be open to anyone who may need its services, through a registered personalised field and an application that will add the new user to the system.

For the visitor access, the Virtual Laboratory will have four kinds of profiles of registered users (director, scientific consultant, collaborator, and guest) (Fig. 4), with a different access level to the Laboratory services and database information:

Administration and consults of the database and its environment Web will have 3 levels of accessibility.

The first level will be free access for all the interested scientific community. For it will only be necessary to register with the required passwords.

The second level will be restricted to the participants and managers of database so that they can carry out the applications of maintenance and extension of the registered information, including the restricted fields to the users of the first level. For this an individual or institutional membership is necessary.

The third level is the database administrator. It is for administrators to define database content, protocols and give permission for the consultation of non-public fields of the database.

The individual membership as a researcher at *LRCW.net* is free and allows access to information and applications that, progressively, will be incorporated. Access will allow participation in the design of applications, the addition of contents and downloading shared information. Each individual researcher will be listed in alphabetical order with their institutional affiliation. The individual subscription process requires only a specific request to the webmasters. The investigators participating or collaborating in the project LRCWMED (HAR2009-08290) are automatically incorporated in the list of individual partners.

The institutional membership —such as an institution, school or research unit— must formally be made through a collaboration agreement with the University of Barcelona and the Catalan Institute of Classical Archaeology. We wish to promote the creation of a virtual laboratory of supra-institutional character where all the institutions appear in alphabetical order.

The UB and ICAC have signed an initial collaboration agreement for the creation and development of an on-line web page and virtual laboratory on Late Roman coarse and cooking wares in the Mediterranean. This document contains the precepts set out in the welcome text of the web page (<http://www.lrcw.net/>).

Institutional membership requires the participation of a researcher of the applicant organization. Institutional membership allows the incorporation of logos identifying the participating institutions.

The Virtual Laboratory, whose interface can be configured for many languages (English, Spanish, Catalan, French, Italian, German, and Portuguese), is the technological platform for collaborative work in order to develop the project. In this space there is no restriction of physical space and time, allowing free access to the information, to the management of the results of the laboratory and the data, with tools for working in groups (groupware) and of E-learning.

The intranet contains two groups of applications, so-called generic and specific. The generic are common to all the virtual laboratories, including administrative tools (users accounts, monitoring of the system, personal space of each user, etc.); the on-line library; a GIS-based engine for georeferentiation of the sites; an image catalogue; a tool to classify the different file formats (PDF, Word, Excel) in order to link extended information on a particular entry (for instance, chemical results on a specific sample or group of samples). The specific applications are designed for a particular laboratory project according to the needs and requirements of that particular research line. This is where the data are entered. The specific applications of the *LRCW.net* intranet are still under construction, as we want a general agreement on how to organise the data that will have to include information on typology, chronology, occurrence/distribution, macroscopic description, petrographic description, chemical composition, mineralogy by X-ray diffraction, scanning electron microscopy, etc., organised by fabric, ware and form.

6. CONCLUDING REMARKS

This *LRCW.net* web is allocated in a neutral server (www.lrcw.net), not identified with any particular institution, as we believe that this project belongs to all those participants willing to contribute to the creation of the data-base with the firm conviction that isolated research is not an option anymore if we really want to advance. We desire to build a public space that represents all the researchers and their respective institutions.

Although one has to admit that real international collaborative work on a large scale is still difficult to implement in Archaeology/Archaeometry, we still believe that a general platform is possible. We still think that many of the initiatives undertaken could be small parts of a larger *Encyclopedia* if we are able to organise the work and to understand that together this initiative will be stronger. There are also practical reasons for this,

such as avoiding unnecessary overlapping, so data are not entered several times in different data-bases, and to have more capacity to attract the funding required. We need to optimise resources and efforts.

So far, a large body of specialists with wide experience in the subject has joined the *LRCW.net*, both at national and international level, and we hope that more scholars will expand the research group.

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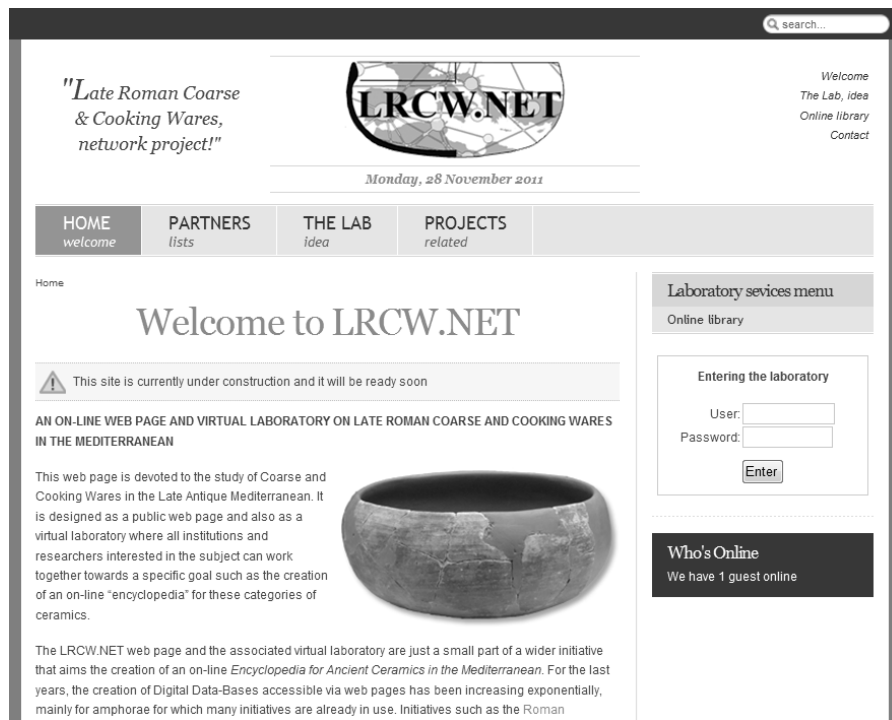


Fig. 1. Main page of the LRCW.net

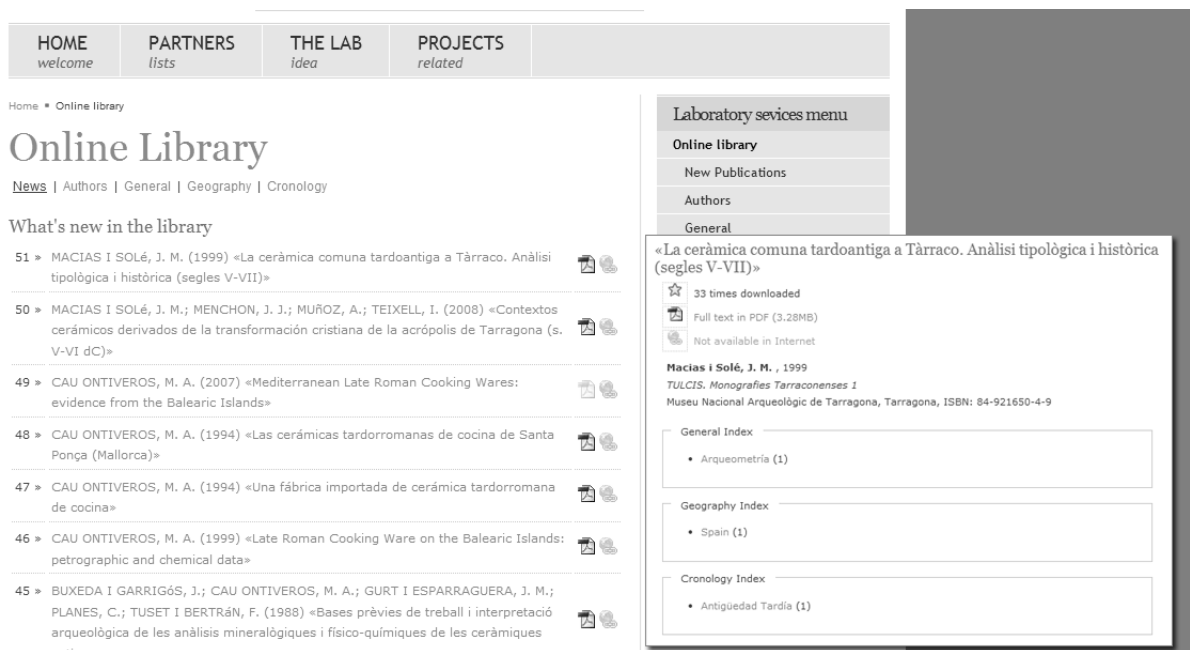
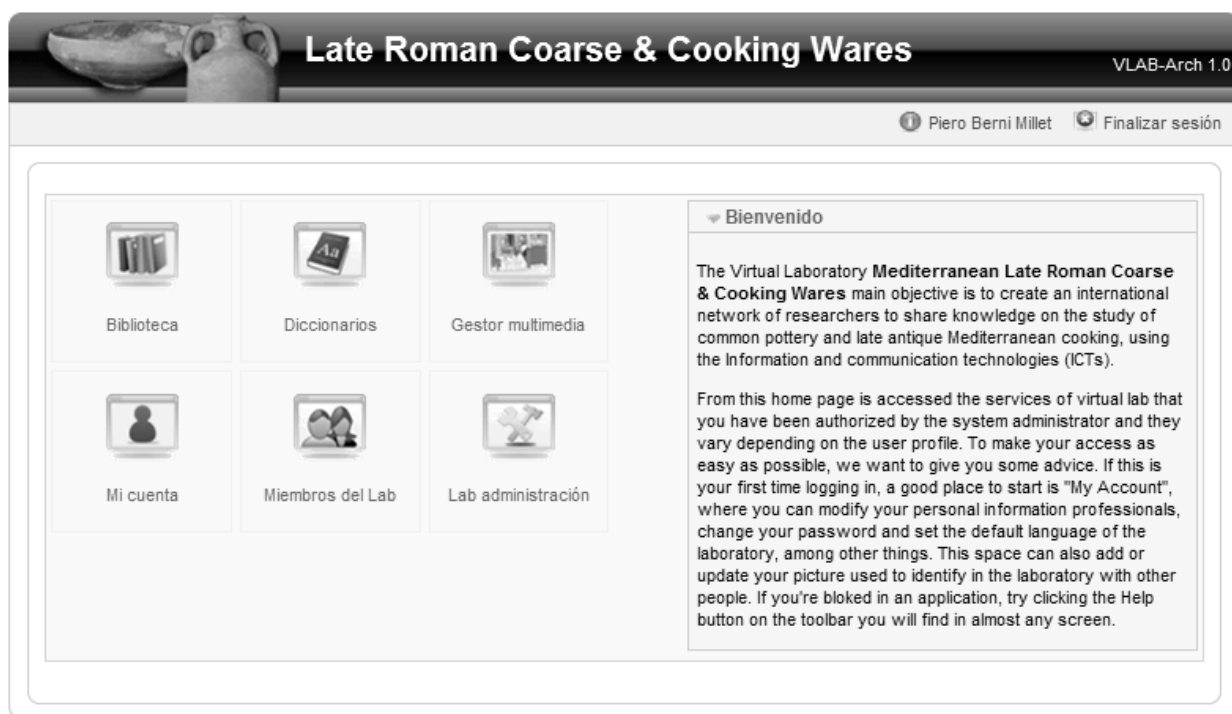
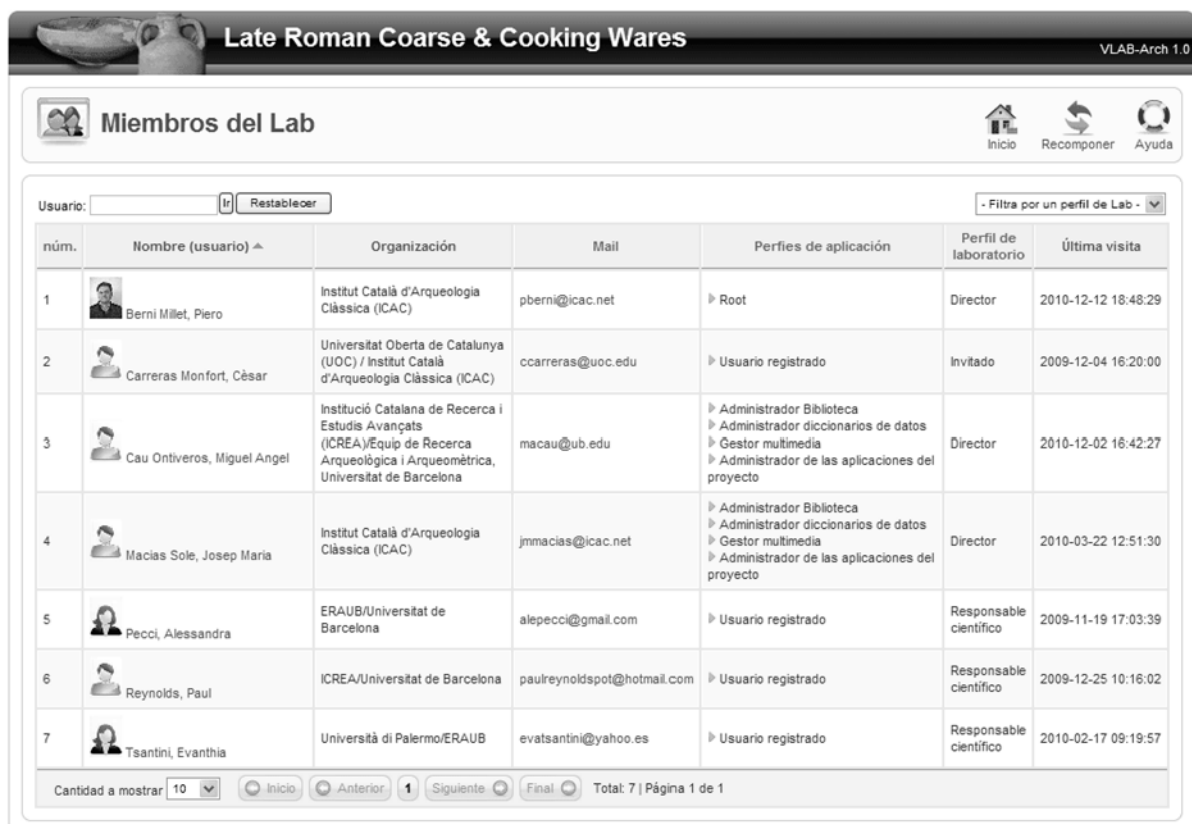


Fig. 2. Public Service of the on-line Library with downloadable bibliography



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Fig. 3. Initial page of the intranet



VLAB-Arch 1.0 © - by Piero Berni Millet

Fig. 4. Specific application for the administration of users.