



# CIMEC - A Web Site for Romanian Archaeology: Dissemination by Integration

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## Abstract

Communication on the Internet is a turning point for any cultural heritage information resource. In theory, the users can get direct access to information, from anywhere, at any time, for as long as they need. Electronic publication of scientific information does not exclude the traditional printing but can be quicker, cheaper, larger and more comprehensive. Browsing, reading, querying the information, linking it with other sources and updating when needed it is obviously a better way of handling the scientific material. It is stimulating. Communication on the Internet is global. That means a better co-operation across present administrative boundaries. Especially for a country where only a small part of the archaeological research has been published, where the main archaeological journals are already fully booked until 1999, the Internet is a chance for better dissemination of archaeological information. Are the Romanian archaeologists aware of that? Most of them have no Internet access yet. CIMEC opened an Internet server in May 1996 and offers hundreds of brief archaeological excavation reports from Romania and Moldavia, plus information on archaeological museums, archaeological terminology and sites. We believe in the significant impact of the Internet in the near future, on the Romanian professional circles. Moreover, we hope that the internetisation of Romanian archaeology will be an important factor in the acceleration of the growth in the number of Net connections in Romania.

## 1 Once upon a time...

...There was a CAA conference in Leiden (1995), where the organisers had the generous idea to offer the participants free access to the Internet. I happened to be there and to enjoy my first direct contact with the Web, at a time when that sounded like science fiction for many of us. I spent many hours in the Leiden computer room surfing the Internet, visiting archaeological web sites and thus discovering a rich world of information and global communication. It was so easy to use an Internet browser! Everybody can learn that in ten minutes. It was so fascinating to click and go to Internet pages in many countries, to navigate from one place to another following the hyperlinks! The very principle of hypertext proved to be intuitive and easy to understand. The possibility to see good images was a very useful and attractive feature. Getting access to the latest browsers from the beginning, I can hardly imagine how things must have been at a time when only plain text circulated on the Net. Still, the information dissemination facilities and the global character of communication are by far the most significant features, even for novices. I was amazed by the novelty of many texts, accessible very soon after they have been written. The participants at the conference in Leiden commented on an important French discovery of a cave with prehistoric paintings, presented on the Internet, with very beautiful images, soon after the event had happened (<http://www.culture.fr/culture/arcnat/chauvet/fr/gvpda-d.htm>).

My first Internet experience showed me also the role of indexes and directories to help people find their way to pages of interest. The Dutch ArchWeb site ([http://archweb.Leidenuniv.nl/archweb\\_gb.html](http://archweb.Leidenuniv.nl/archweb_gb.html)) and its

pointers to other archaeological resources helped us find our way through an otherwise jungle-like wealth of information.

I suppose that many archaeologists had similar feelings on their first Internet day. If I write about mine, it is only to testify once more how important international meetings are for spreading new ideas. My direct contact with the Internet was more convincing than any written papers, handbooks and recommendations. I understood the real value of an Internet connection for better communication and dissemination of information. Back home, I proposed as a priority for CIMEC (the Romanian Information Centre for Culture and Heritage) to get an Internet connection before the end of 1995. I am grateful to the organisers of the Leiden CAA conference for their friendly kickstart.

## 2 The beginnings of the CIMEC web server

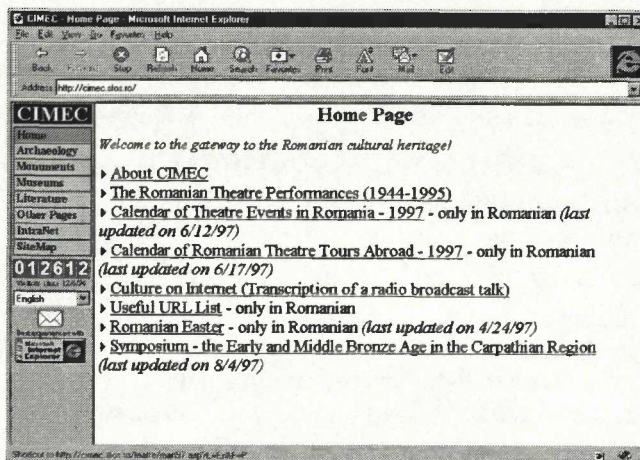


Figure 1.

In fact it was not before the end of 1995, but in spring 1996 when CIMEC got an Internet connection, established an Internet server and developed its first home page (see Fig. 1 and URL <http://cimec.sfos.ro>). It took us one year because the Internet was at its very beginnings in Romania at that time. Only a couple of institutions of technical profile, and computer research centres in the country had network connections and e-mail addresses. Romania is still suffering both in terms of telecommunications infrastructure (old telephone lines which need significant investments over many years), and in terms of the number of computers and computer networks. Above all, a lack of government strategy for adjustment to the information society made any initiative a costly and risky adventure that we had to embark on on our own.

The Internet wave started to rise in our country in the summer of 1996 and CIMEC had some of the first Romanian Internet servers. The connection by telephone line proving to be impossible, we discovered a much better alternative: the coaxial cable of a CATV company, KappaNet (<http://www.kappa.ro>), which developed a metropolitan network in Bucharest. The speed is six to ten times better than on telephone lines. The alternative of TV cable use is very promising taking into consideration that Romania is second in Europe in cable TV development with two millions users. As to the costs, we got and still benefit from a sponsorship program by the Soros Foundation for an Open Society, dedicated to connecting to the Internet schools, public libraries, museums and other non-profit Romanian institutions. The foundation played an important role in promoting the Internet in Romania (<http://www.soros.ro>). As to content, the Ministry of Culture finances the development of web pages for the Romanian cultural heritage at CIMEC.

We opened our web site in May 1996 and started our Internet adventure. Our server is a Dual Pentium with Windows NT 4.0. Being the main electronic gateway for the Romanian cultural heritage, we began to systematically fill in the blank space Romania has been until recently in cyberspace.

### **3 Why has the Internet been such a high priority for us ?**

An Internet server is an investment sometimes difficult to defend when financial resources of an institution are scarce. Several reasons prompted us to consider it a priority for CIMEC:

#### **3.1 Better public access to CIMEC databases and other electronic resources**

There are institutions, organisations and services like CIMEC, that maintain national records, cultural heritage databases and other information resources in electronic format (Oberländer-Târnoveanu 1996). Without Internet, public access to these records was limited. The information systems were not friendly enough. Requests for information were frequently met with delays. Results of searches using these databases were traditionally provided either as hard copy or on diskettes. Users were mainly administrative

bodies, museums or researchers. Access was slow and the textual information boring to anyone but a very specialised client. The information dissemination was poor even when brochures were printed. For example, CIMEC annually produced an Archaeological Chronicle of the past year's archaeological campaign (brief reports) for the National Archaeological Commission, in no more than 300 copies, distributed to the participants at the Annual Archaeological Reports Meeting. The archaeological excavations database behind the brochure, and the facilities of querying by period, place, institution, archaeologist, site type remained unused.

With the Internet, for the first time we can benefit from an authentic tool for information dissemination. It came just in time for us. We began to design web versions of archaeological reports and other databases: museums, museum collections, monuments and sites, cultural and scientific events, as well as image archives.

Following the general trend to better serve the public, to improve the communication and educational function of cultural heritage institutions, organisations from Canada to England and from Norway to Romania are changing their policy and taking advantage of the new technologies to offer their information to a larger public. "More" for the public, means more democratic access to scientific data, more stories, more images and an interactive way to communicate. Now we have the means to join this trend.

#### **3.2 Electronic publication**

Internet is a good publishing medium for scientific information as well. Especially for a country where only a small part of the archaeological research has been published and where the main archaeological journals (*Dacia* and *SCIVA*) are already committed until 1999, the Internet is a chance for better and more timely dissemination of archaeological research. We want to encourage the electronic publishing of archaeological materials as an alternative or parallel route to traditional journals and books. We expect only a limited audience until sufficient Romanian archaeologists get computers and Internet connections, to truly benefit as readers and authors of electronic papers, catalogues and news. The medium of the electronic paper should eventually be acknowledged for both personal bibliography and citation in the academic world. In the meantime, we are considering producing a limited paper version of Web publications. Young researchers, authors rejected by editors because of either too narrow topics or the quantity of text and illustrations offered for publication, scientists looking for international recognition, should be our first clients for electronic publication on the Internet.

Internet is also a good medium to publish the archaeological collections and archives, either as catalogues, inventories or as scientific papers. It is cheaper than paper. The information can be refreshed as often as one wishes, can be queried interactively by the user, and may develop over time without having to wait for new editions.

### 3.3 Information exchange and world-wide communication

Communication on the Internet is a turning point for any cultural heritage information resource. Users can, in theory at least, get direct access to information from anywhere, at any time, for as long as they need. Electronic publication of scientific information does not exclude the traditional printing press but can be faster, cheaper, larger and more comprehensive. Browsing, reading, querying the information, linking it with other sources and updating it when needed is obviously a better way of handling scientific material.

Secondly, communication on the Internet is global and stimulating too. That means a better co-operation across present administrative boundaries, a wish to contribute, to write, to answer. For people working in our organisation, the Internet is a source of learning, of professional contacts, of news, never experienced before. Joining news groups and e-mail discussion lists, visiting sites and reading electronic papers, downloading programs and searching for information related to our work, we become part of a global community, save time for documentation, and enjoy great opportunities of personal progress. In general, the quality and motivation of our work have improved.

#### 4 What does CIMEC's offer on the Internet?

Our main goal is to provide wider access to information regarding museums and their collections, monuments and sites, archaeological excavations, and scientific events; to offer Romanian versions of international documentation standards and glossaries, to publish scientific papers, reports and recent discoveries which could otherwise wait for years to be published. In short, we plan:

1. to disseminate information gathered at CIMEC during the past twenty years, with contributions by Romanian museums, libraries and National Cultural Heritage County Offices;
2. to facilitate access to other cultural resources (Romanian and foreign) by integrating their URLs in our pages, in special indexes and directories;
3. to improve cultural heritage documentation, in theory and practice;
4. to encourage the development of Internet-based communication in the cultural heritage field;
5. to facilitate communication among people and institutions.

We have a web resource of 40 MB at present, half of it downloaded and home made software useful for our users. Archaeology is well represented with the following main topics:

#### Archaeological excavations and sites:

1. 298 brief descriptions of sites, excavated during 1983 - 1992 in Romania and the Republic of Moldavia (in Romanian, with introduction and search indexes on

counties and periods in English as well) (see Fig. 2 or <http://cimec.sfos.ro/arh/situri/situri.htm>)

2. 154 descriptions and images of monuments and sites in restoration, in Romanian and English (<http://cimec.sfos.ro/scripts/her/monument/moe.idc>)
3. industrial heritage: old iron-built factories in danger of being demolished (text in Romanian and English)
4. 160 brief excavation reports for the 1995 campaign, in Romania and the Republic of Moldavia (in Romanian, with introduction menu in English) (<http://cimec.sfos.ro/arh/arh95.asp>)

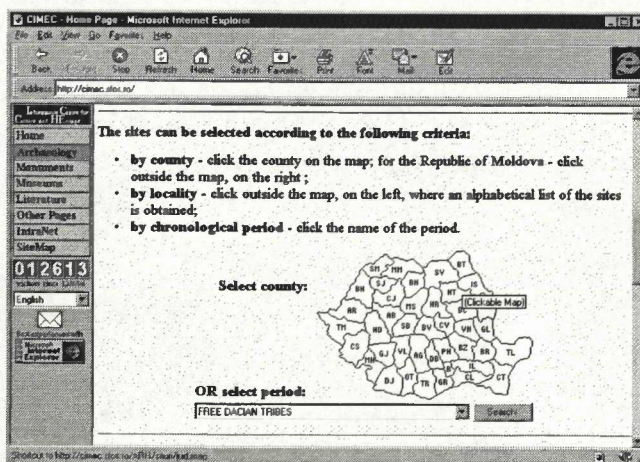


Figure 2.

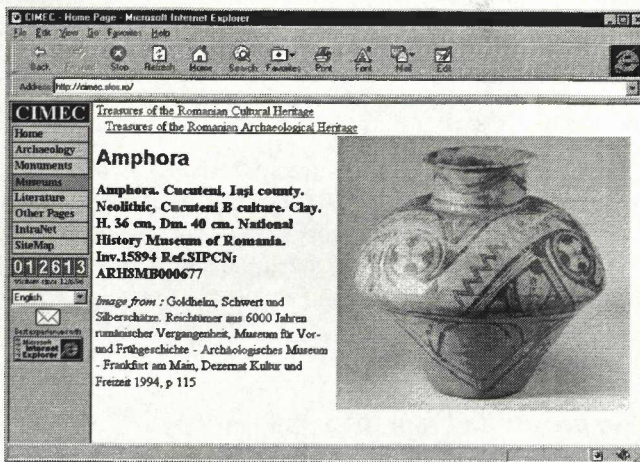


Figure 3

#### Collections, museums and persons:

1. museums with archaeological collections - more than 100 museums and collections (in Romanian and English): address, contact persons, short descriptions (<http://cimec.sfos.ro/vlmp/muzee/muzeee.htm>)
2. treasures from our archaeological heritage (22 images and descriptions of important archaeological pieces from various periods, in Romanian and English) (see Fig. 3 or <http://cimec.sfos.ro/her/PCNMobil.asp>)
3. Romanian Archaeology page: an introduction to archaeology in our country, institutions, publications and the site of Histria (in English and French) (<http://cimec.sfos.ro/arh/mircea/arhe.htm>)

4. a database of more than 180 archaeologists working in museums
5. special pages of archaeological museums

#### Conferences:

1. the CAA'96 conference in Iasi, Romania: 55 abstracts in English, a database of 102 participants with their addresses and e-mail addresses, event information and contributions included (in English), the program of the conference and other links (see Fig. 4 or <http://cimec.sfos.ro/arh/caa96/caa96.asp>)

#### Terminology:

1. Glossary (a project of the Council of Europe): 113 Romanian terms and definitions for European Bronze Age monuments, in English and French, with their Romanian equivalents and definitions (see Fig. 5 or <http://cimec.sfos.ro/scripts/arh/bronz/bronze.idc>)

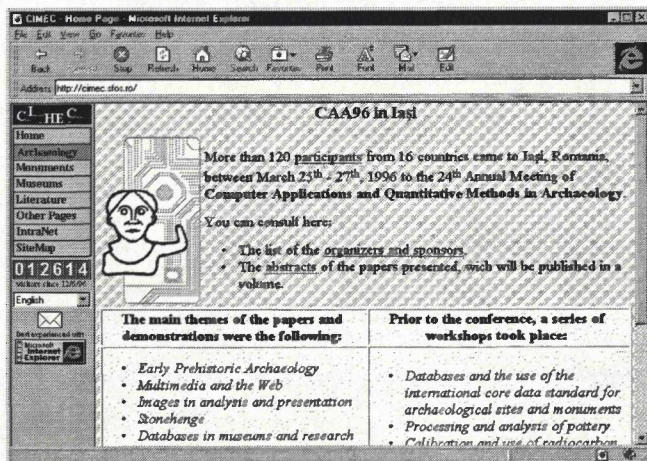


Figure 4.

We have focused on page content, and on access facilities in both Romanian and English. The interface design is simple and clear. We plan to give access to more and more information resources: archaeological papers, perhaps an electronic archaeological journal, maps and images of the most important archaeological sites, presentations of archaeological events and projects.

#### 5 Who are our Internet readers?

What is seen as a revolution from the outside – Romania is not a blank page any more – has apparently had little impact inside the country. For the moment, we have a larger audience from abroad than from our own country: of around 1000 visitors per month, 60% come from abroad (USA, England, Norway, and Italy, many for the archaeological pages or following the ICOM Virtual Library Museums Pages web links) and 40% from Romania (school students, cultural institutions, newspapers and media). Only six Romanian museums have an Internet connection (in Bucharest, Sibiu, Cluj, and Braila) and e-mail communication with CIMEC, but we hope to convince more institutions about the benefits of the Internet.

Are Romanian archaeologists aware of the potential of the Internet? In general there is little interest, computer illiteracy being still widespread among archaeologists,

beyond text editing. There is also a fear of losing control over information, and of language barriers (you must know English pretty well to become familiar with the Internet). The younger generation is more interested, but lack the means to influence decision making in their organisations; most of them have no Internet access yet. The senior generation, with few remarkable exceptions, is sceptical or even rejects the idea of using the Net. We therefore face not only the bad communication infrastructure, but also the conservative mentality of the decision makers - a fear of the democratisation of access to information. Apart from fear of improper use of the Internet, this is obviously a conflict between generations. The younger archaeologists are more familiar with computers and would undoubtedly make more use of the Internet, thus getting an independence hardly acceptable to the older generation. The recent refusal by the Institute of Archaeology in Bucharest of an offer for a free Internet connection is only one example of this.

The need for access to hardware and network connections is coupled with an even greater need for access to training. There are not enough courses and trainers.

Time works for us, and the general trend in using information technology will in the end convince reluctant institutions. We publish Internet pages in Romanian for an increasing number of Romanian users, who will find the resources already on the web when they need them. We believe the Internet will have a significant impact in Romanian professional circles in the near future. Moreover, we hope that the internetisation of Romanian archaeology will be an important factor for the acceleration of the growth of the number of Net connections in Romania. Besides, integrating a number of separate archaeological resources — as, for instance, the regional archaeological inventories — in one accessible environment will improve the dissemination of the archaeological data. In this technological context the importance of the indexes and — by extension — of the authority files is growing.

#### 6 Internet - a moving target: old problems in a new environment

The Internet has a serious impact on both people and institutions. One must expect to reconsider, as we did, all current projects. Although the Internet tools are not yet entirely satisfactory and need further development, all documentation projects must be Internet oriented in view of being accessible with an Internet browser sooner or later. That implies changes in the record structure, in image processing, in programming and applications design, in terminology control etc. The organisational structure of the institution may need to be revised to accomplish new tasks and jobs in connection with the Internet, such as Web mastering, Internet page design and programming. Our staff had to learn a lot of new things in a short time. New relations are developing among those responsible for the content of the projects - historians, archaeologists, art historians - and the technical staff. With using the Internet, a range of new problems arise and old ones must be solved in a new environment: How to organise the information? How to promote it? Updating regularly, advertising,

planning the development of the web site, browsing the Net for new links may become critical in terms of time and costs.

## 6.1 Organising

When you have more than five entries on your web page, you already face an organisation problem. Pointers to information are not enough. A short introduction is needed to explain the value of the resource pointed at. The need for proper organisation of web pages in order to facilitate the route to the actual information drove us to try out various solutions, from thematical folders and frames to a site map. We still are not fully satisfied and changes are being made while the site continues to grow. The problem is made more difficult by the large variation in both computer types and Internet browser versions used by the visitors.

## 6.2 Updating

Refreshing page content regularly is one of the great challenges of the global network. Most of the activity on the Internet is based on voluntary work of many enthusiasts. Few institutions with web pages seem to have understood the need to regularly maintain their web pages and to allocate the required financial resources for that purpose. It is so frustrating to visit obsolete pages, last updated a year or more ago! If we want to make use of the Internet, news must be presented quickly, that being one of the basic principles of network communication. Another problem is: once you have made web pages, how do you let people know that you exist and have something new to offer? Publicity becomes more important - you can't just wait to be discovered. We saw the positive effect of announcing by e-mail our pages to administrators of specialised networks such as ARGE (Archaeological Resource Guide for Europe, <http://www.bham.ac.uk/ARGE>), on discussion lists such as CIDOC-L, and to web masters of large organisations.

## 6.3 Retrospective work

The Internet electronic library is in its early stages. Browsing through, or looking for a specific topic, the general feeling is mixed. Following indexes you meet a variety of good and poor links, "poor" not necessarily in terms of quality of information, but in terms of its scarcity. Firstly, it is frustrating to find, lumped together on the same page, primary, secondary and tertiary sources, archaeological reports and short notices - the last ones prevailing. Moreover, the URL addresses of these sources change quite often and without proper notice.

Secondly, most of the bibliography remains outside the Net. So do the great names in various humanistic fields. Why do the best scientists in humanistic disciplines remain mostly

outside the Internet? Maybe they have neither the skills nor the time to produce electronic papers (or web versions of their printed works). The lions' share of important contributions to archaeology have of course occurred prior to 1994, the year of the rapid expansion of the Internet, and as a consequence also remain outside the Internet. This very fact diminishes the complexity and the integrity of the virtual library on the Internet. Who should do something about it? Are the most recent papers also the most important? Usually in humanistic fields changes in concepts take time. The presence of scientific authorities is stimulating for other scientists to contribute too. The Internet needs that aura of quality in order not to remain like a newspaper one browses through once and then throws away. One of the potential solutions are projects of retrospective electronic publishing of important works in each country and discipline. We are considering such a project named 'Golden Pages of Romanian Archaeology'.

## 6.4 Indexes

As web resources are expanding in number, it is more and more difficult to find your way through the Net. Search engines like Alta Vista, Lycos, and Yahoo return thousands of links for a single search. Who should catalogue these web pages and sites, just as classic publications are catalogued? The large traditional libraries are concerned with their own collections and have not yet developed a professional interest in cataloguing web pages. An important role is played by thematic and regional indexes and directories: ARGE, the WWW World of Archaeology (<http://www.he.net/~archaeol/wwwwarky/wwwwarky.html>) and many others maintained in large universities, research centres, cultural administrative bodies and organisations. They are useful places to check for both beginners and experienced Internet users. Not only do you get the links you need, but also they are trustworthy places to visit. Should those responsible for the specialised pages and directories become censors? Should they make a selection? The balance between freedom of information and the need to prevent valuable information from mixing with less valuable information is delicate.

## 7 ... And they lived happily on the Internet many years after

We believe in the future of electronic publishing. The Internet has changed our life in only one year. The life of many other institutions and of archaeology in Romania and also world-wide will certainly change in the near future. The CIMEC team has many plans and wants to play an active role in those changes.

## Bibliography

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