TEL-ME-MOR: A Milestone on the Way to the European Digital Library

DAVID FUEGI AND MONIKA SEGBERT

David Fuegi manages the TEL-ME-MOR project. Following a degree in modern languages at Cambridge and a postgraduate diploma in librarianship, he spent many years in various management positions in public libraries in the UK. In the early eighties he joined the Civil Service as Library Adviser to the UK government, based in the (then) Office of Arts and Libraries. On leaving OAL he worked as a consultant, working with Ariane Iljon on the policy analysis that underpinned the European Commission’s first foray into libraries, The Libraries Programme. Subsequently he has worked as a consultant, mainly creating and managing large international projects to benefit libraries of various types with funding from various European Union programmes. He has also been involved for a number of years with work on library statistics and benchmarking, including the LIBECON series of projects.

Monika Segbert is the director of Eremo srl (http://www.eremo.net), which specializes in project management in the cultural heritage sector at the national, European and international level. The company deals with the design and management of research projects and networks to enhance and exploit cultural and scientific sites and resources and improve access to them. She currently also works with the eIFL.net Foundation to manage a multi-country consortium of library consortia in 50 countries in order to harness their buying power for affordable access to electronic journals; with a TEMPUS project creating a digital learning resource centre in the university library of Yerevan; and with a Mellon Foundation-funded project to provide access to the works of Leo Tolstoy held in the Leo Tolstoy Literary Estate and the Russian State library. Recently she led several library automation and retroconversion projects with Russian libraries funded by the Mellon Foundation and the European Union.

INTRODUCTION

TEL-ME-MOR (The European Library: Modular Extensions for Mediating Online Resources) is a project funded by the Information Society Technologies (IST) programme of the European Union. It started in February 2005 and will last for two years. The main aim of the action line which funds it is ‘to stimulate, encourage and facilitate the participation of organisations from the New Member States (NMS) and the Associated Candidate Countries (ACC) in the activities of IST.’ TEL-ME-MOR aims to raise awareness of opportunities for New Member States to participate in European projects within the IST programme, particularly in the areas of Cultural Heritage and Learning. TEL-ME-MOR also supports the 10 national libraries from the
New Member States to integrate their electronic resources into The European Library (http://portal.theeuropeanlibrary.org/), a service providing unified access to the digital and non-digital resources of the National Libraries of Europe managed by the Royal Library (the national library of the Netherlands) on behalf of the Conference of European National Librarians (CENL, www.cenl.org). The TEL-ME-MOR project was conceived by CENL.

CONFERENCE OF EUROPEAN NATIONAL LIBRARIANS (CENL)

Every national library of the member states of the Council of Europe is eligible to become a member of CENL. Forty-five libraries from 43 member states are currently members. CENL began in 1987 as an informal meeting once a year of a few Western European national librarians but soon it became clear that these meetings for exchange of experience, discussion of topics relevant for all national libraries and for strengthening relationships and cooperation on a personal level were very fruitful and the group grew steadily. After the breakdown of the communist world, Eastern European countries gradually became members of the Council of Europe, and CENL also opened up and invited the national librarians to join. In 1999 CENL became a foundation under Dutch law and adopted its statutes.

The members continue to meet annually and strengthen their cooperation by appointing working groups on topics relevant for all national libraries and by carrying out projects together. Currently there are three working groups in force: one being in regular contact with the Federation of European Publishers (FEP/CENL working group), one dealing with performance evaluation and benchmarking for national libraries, and the third one working on persistent identifiers and keeping contact with the International DOI Foundation, where CENL is a corporate member.

CENL is an ideal platform for national libraries to find partners for projects and TEL-ME-MOR fits into a lengthening tradition of projects undertaken by CENL members working together with support from programmes of the European Commission in pursuit of shared objectives. The most recent and arguably most important example is the collaboration in pursuit of the European Digital Library, which is currently gaining clarity and pace.

In its press release of 2 March 2006 on the results of the online consultation on the digital libraries initiative (http://europa.eu.int/rapid/pressReleasesAction.do?reference=IP/06/253&type=HTML&aged=0&language=EN&guiLanguage=en), the Commission states that:

The consultation results have helped the Commission to further define the practical set-up of the European Digital Library, which will provide a highly visible, multilingual access point, dedicated to the digital resources of Europe’s cultural institutions. It will build upon the TEL-infrastructure, currently the gateway to the catalogue records of collections in a number of national libraries, which also gives access to a range of digitised resources of the participating libraries. TEL, The European Library, was set up by members of the Conference of European National Librarians and received European Community funding in its early stage.

By the end of 2006, the European Digital Library should encompass full collaboration among the national libraries in the EU. In the years thereafter, this collaboration is to be expanded to archives and museums. Two million books, films, photographs, manuscripts, and other cultural works will be accessible through the European Digital Library by 2008. This figure will grow to at least six million by 2010, but is expected to be much higher as, by then, potentially every library, archive and museum in Europe will be able to link its digital content to the European Digital Library.

CENL’s own response to the consultation can be found at http://europa.eu.int/information_society/activities/digital_libraries/consultation/replies/consult_results/cenl_a302271.pdf.
THE EUROPEAN LIBRARY

The European Library is an activity of CENL. It is the operational result of the TEL Accompanying Measure, a Fifth Framework Programme project that successfully completed its work early in 2004 and is at the heart of the TEL-ME-MOR project. The European Library has established a professionally managed single access point to the holdings of all the partner National Libraries so that the informed citizen in any country can utilize the resources not only of his or her own national library but also, during the same search session, the resources of any other partner national libraries which may hold material relevant to his or her interest. This discovery and access tool is intended to be multilingual and support the character sets in use in CENL countries.

The European Library launched as a public service of CENL at the beginning of 2005 providing access to the founding partners’ collections (national libraries of France, Italy, Germany, Netherlands, Portugal, United Kingdom, Switzerland, Finland, Slovenia). Out of the 45 CENL member libraries, about 30 will be full partners in TEL by the end of 2007. The European Library has a staff of full-time experts and administrators (The European Library Office) located at the Royal Library of the Netherlands in The Hague. The European Library is governed by a management board consisting of the founding partners and the Chair of CENL.

In its response to the consultation on digital libraries cited above, CENL comments on the future of The European Library as follows:

We believe that TEL is a model platform and model organisational network for building the European Digital Library. The members of CENL own, as a group, Europe’s cultural published heritage – many of them according to legal deposit, many of them for the whole period of time of their nation’s history. In those cases where sections of their nation’s memory are not part of their holdings, they usually are part of a national network of libraries that, as a group, cooperatively own the whole national corpus.

No comparable structure exists in Europe for archives or museums. CENL offers to deepen existing contacts to groups of European archives and museums and to discuss the roadmap towards a European Digital Library. Joining forces and adopting a similar approach would realise pragmatically the vision of a true EDL.

TEL-ME-MOR ACTIVITIES AND PARTNERS

Activities of the present project include the following:

- identification and analysis of research needs and priorities in the cultural and learning sectors in the New Member States, to ensure they are taken into account in the shaping of future EU research programmes;
- implementation of the technical infrastructure to enable integration of the collections from the 10 New Member States’ national libraries into The European Library;
- awareness building and dissemination on EU activities and opportunities via a number of national and regional workshops, project website and newsletter, mailings, and so on.

The partners in the project are as follows and include the national libraries of all the 10 NMS:

Die Deutsche Bibliothek (The National Library of Germany) – Coordinator
Koninklijke Bibliotheek (The National Library of the Netherlands)
The British Library
National Library of Switzerland
Stichting Conference of European National Librarians (CENL)
Eremo srl, Italy (Manager)
National Library of the Czech Republic
Ministry of Education and Culture, Cyprus (Cyprus Library)
National Library of Estonia
National Széchényi Library of Hungary
National Library of Latvia
Martynas Mazvydas National Library of Lithuania

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National Library of Malta
National Library of Poland
National Library of Slovakia
National and University Library of Slovenia.

EXPECTED RESULTS

- TEL-ME-MOR will significantly contribute to increasing the participation of the New Member States in future calls for proposals within the cultural heritage and learning sectors as well as in other areas of EU-funded research.
- The European Library’s services will be made available in all the 10 New Member States’ national libraries with an interface in their local language. A wealth of resources from most national libraries in Europe will simultaneously be searchable by any user, from anywhere and at any time, via The European Library gateway. The Swiss National Development Agency has recognized the strategic importance of the work and is providing substantial financial support. At the same time other countries are making plans to join The European Library and to transform it into the heart of the European Digital Library.

In its first year of operation, TEL-ME-MOR has proved to be a dynamic and enthusiastic network. Work has been undertaken in four main areas:

- analysis of research requirements;
- preparing for the addition of the NMS national libraries to The European Library network;
- possible enhancements to multilingual searching in The European Library;
- dissemination of news of opportunities for NMS organizations in EU programmes.

ANALYSIS OF RESEARCH REQUIREMENTS

In the area of analysis of research requirements, an important report has been produced. The report of the ‘Questionnaire for Analysis of Research Activities and Needs of National Libraries of the New EU Member States’ can be found on the TEL-ME-MOR site (http://www.telmemor.net/results.php) and gives considerable detail on the state of research and digitization of resources in these new member states’ national libraries. The report was commended by CENL and is being expanded to cover all of its 45 member national libraries in 2006.

The original survey revealed some of the issues faced by some National Libraries as they become actively involved in research and development programmes. The issues range from intellectual, financial and organizational to the management experience of digitized and born-digital content, the size of digital collections, application and adoption of international standards and technological infrastructure.

National Libraries have a huge role to play in the preservation and accessibility of our cultural heritage. They are often the custodians of legal deposit and the national cultural heritage. To fulfil their role in the vision of a shared European heritage the survey concludes that libraries should find a more prominent role in their national R&D programmes; that more resources need to be digitized and new funding models uncovered and that more effective systems for the management of research need to be put in place. The European Commission should help create the conditions needed for international collaborative networks and sharing of knowledge and expertise.

The gap between technological innovation and its widespread application in society, split between infrastructural, human and social elements of cultural heritage R&D, needs to be overcome at the European level.

The emerging results of the updated and expanded survey of all CENL member libraries are very interesting and challenge the usual perception that Europe can be divided into groups such as old EU members, new EU members, and others. For example, of the 39 national libraries only nine have external Internet connectivity with at least 1 Gbps. Only five of these are old EU member states on one side and two are non-EU members (Serbia and Russia-Moscow). Among
the ten national libraries with the weakest connectivity, i.e. less than 9 Mbps, three are old EU member states.

Examining the number of special systems/applications operated in the national libraries besides the catalogues, it emerges that from seven different systems at least six are used in 14 libraries, of which only 5 are old EU members, 3 are EEA states, and 3 are non-EU members.

The availability of some special technologies used in digital libraries was also investigated, such as usage of wavelet images, images servers processing data on-the-fly, application of complex SGML/XML document formats, SGML/TEI/XML structured texts, or mass storage facilities. At least four of these technologies are applied in only four national libraries in Europe (Czech Republic, Denmark, Finland, and Serbia), while at least two of such technologies are in only 12 libraries, of which only five are old EU member states and two are EEA countries, while three are non-EU members (Russia-Moscow, Serbia and Macedonia).

All this clearly demonstrates that modern communication technologies are the phenomenon that can make libraries comparable rather independently of how rich countries are or how long (if at all) they have been members of the EU.

Another interesting point is the situation in the area of digitization. The vast majority of digitally reformatted objects are found in the National Libraries of Spain and France which have more than 77% of the 82.88 million such objects (mostly page images) digitally available. Unfortunately, due to copyright, access to a greater part of them is possible only on-site. There are only six other libraries that have roughly one million or more objects. Altogether, the European national libraries possess around 83% of the quantity of digital objects produced through digitization by the Korean National Library in Seoul since the year 2000. In spite of the two leaders (mostly thanks to digitization of periodicals), the results show that Europe still lacks sufficient digitized content from national libraries and that European policy should continue to address this situation seriously. These findings very much support the need for action at both national and EU levels.

ENHANCEMENTS TO MULTILINGUAL SEARCHING IN THE EUROPEAN LIBRARY

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TEL-ME-MOR extends access to metadata, services and digital objects to users from countries using at least 10 different languages (Greek, Czech, Estonian, Hungarian, Latvian, Lithuanian, Maltese, Polish, Slovakian and Slovenian) and a variety of character sets, including Greek. To lower the barrier for all those users speaking different languages who wish to make use of the service, it needs to offer help at different levels: for the user interface, translating user input and displaying it correctly. The third goal of TEL-ME-MOR is to investigate the problems and possible solutions in all these areas and to advise on future multilingual support requirements for improved access to the collections of Europe’s national libraries, particularly for the research community. In furthering its third specific goal of enhancing multilingual search capability and developing the localization and multilingual capacities of the network in the longer term, TEL-ME-MOR has undertaken two ground-clearing studies in its first year which should lead to service improvements.

The first report, ‘Report on TEL Unicode requirements’ (available from http://telmemor.net/results.php), provides a succinct and clear exposition of the issues raised by portalling databases with different scripts, character sets or individual character processing. This analysis should help the European Library office and The European Library users to make searches more accurate and avoid retrieval failures due to misunderstandings of how characters are used.

The main issues are:

- the presence of many different character sets;
- the presence of special characters that are treated differently from country to country, language to language, or even database to database, changing the input accuracy
needed, a fact that most users ignore, as well as user expectations in results presentation;

- the impossibility or difficulty for users to input these characters;
- hurdles arising from the mixture of multiple scripts.

The replies to the questionnaire documented the details of the four issues. It showed that Unicode was already widely used and the first issue above was not too serious. It confirmed the importance of the second and third issues and allowed evaluation of how strong the fourth is likely to be. The solutions envisaged to be as user-friendly as possible while dealing with these issues include:

- a move to Unicode, preferably in its UTF-8 encoding, is possible everywhere but not yet done;
- the resort to resources making a bridge between the different practices, such as shared authority files;
- a web-based input help;
- considering an optional automatic transcription between scripts.

The second report, ‘Overview of existing subject systems in NMS national libraries’ (available from http://telmemor.net/results.php), addresses the topic of multilingual subject access. Subject access is a potential tool for cross-language searching because of its widespread use in national libraries and its standardization. The report provides a basic overview of subject access tools and practice in NMS national libraries. Some areas for further study have been identified, particularly possibilities for multilingual and cross-language access. These will be studied further as TEL-ME-MOR progresses. The report contains recommendations for all European Library partners which are under consideration in the first half of 2006.

### DISSEMINATION

Dissemination activities are the fourth goal of TEL-ME-MOR and aim to raise the profile of relevant EU programmes and initiatives such as the Sixth Framework Programme, eContentplus and i2010 in the professional communities of the NMS. TEL-ME-MOR has a central website in English (http://telmemor.net/index.php) and satellite websites in the NMS languages. It also publishes regular newsletters. The main TEL-ME-MOR website provides a focus for news about the European Digital Library.

From 18 to 21 October 2006 the international TEL-ME-MOR Policy Conference will take place in Tallinn, Estonia. It aims to:

- present the achievements and results of the TEL-ME-MOR project;
- provide a forum for discussion of the latest digital library developments in Europe and in the world;
- highlight future research requirements and formulate concrete recommendations as to how the EU and international R&D agendas can lead to improving access to our common cultural heritage.

The conference will focus on the following themes:

- The European Library and its relation with other memory institutions: digitization priorities, standards and interoperability between libraries, museums and archives, multilingual interfaces and searching, etc.
- research requirements, role and perspectives of memory institutions within the Seventh Framework Programme; the digital library’s international initiatives (e.g. Google, The Internet Archive).

The event will gather together representatives of the European Commission, ministries of culture and education, research bodies, directors of libraries, museums and archives as well as those of prominent international organizations and institutions involved in digital library initiatives.

As TEL-ME-MOR progresses towards completion in 2006, the European Library and CENL will increasingly turn their attention to building the European Digital Library and all that this entails in extended sustainable activities.
**IMPACT OF TEL-ME-MOR ON THE EUROPEAN LIBRARY SO FAR**

TEL-ME-MOR has had a hugely positive influence on The European Library from the delivery of new content to improving accessibility and usability. It has also been instrumental in bettering the operational processes within the portal and by The European Library Office.

**Content**

TEL-ME-MOR adds 46 more collections to The European Library, an increase of 30% in a much shorter time scale than originally envisaged by CENL. This takes the total number of collections by the end of 2006 to over 200.

<table>
<thead>
<tr>
<th>Total number of collections</th>
<th>46</th>
</tr>
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<tbody>
<tr>
<td>Number of Browse-only/WWW collections</td>
<td>12</td>
</tr>
<tr>
<td>Number of searchable collections</td>
<td>34</td>
</tr>
<tr>
<td>– Accessible via OAI</td>
<td>15</td>
</tr>
<tr>
<td>– Accessible via SRU</td>
<td>6</td>
</tr>
<tr>
<td>– Accessible via Z39.50</td>
<td>23</td>
</tr>
<tr>
<td>Number of collections with digital content</td>
<td>32</td>
</tr>
</tbody>
</table>

**Figure 1**

By the end of 2006 TEL-ME-MOR will have increased the full partners of The European Library from 12 to 22. This represents half the membership of CENL. Three TEL-ME-MOR Libraries (Estonia, Latvia and Slovenia) are already full members and the collections of Hungary and the Czech and Slovak Republics will be live from July 2006.

**Access**

The attitude of many of the New Member States with regards to the adoption and implementation of new access mechanisms has been exemplary. Both Latvia and Hungary have been involved in the testing of a local Z39.50 to SRU conversion gateway and many of the libraries have embraced the implementation of OAI PMH.

The TEL Application Profile has been better implemented and the writing of Collection Descriptions has been more thoroughly undertaken and fulfilled by the New Member States than had been the case previously. This thoroughness led to a programme aimed at improving the standard of Collection Descriptions across the board. The usability of the portal has also been improved by several of the New Member States translating other libraries’ collection descriptions into languages other than their own and English. This helps multilingual searching, so a user may search in Latvian for a rare book and have results from the Latvian national library and the Estonian national library.

The New Member States have some advantages over the older ones in being able to leapfrog some of the infrastructures that have been put in place in big national libraries. In the ‘old world’ their systems were set up to deal with metadata rather than full text and use search protocols that have no place on the Web. For the NMS, not having had these systems in the first place means that they can start from scratch and create more open systems that allow Web access. The NMS National Libraries should be very wary of copying the systems of their Western peers; they have the chance to change the way libraries work for the better without having to take into account large legacy systems.

**Processes**

The introduction of the New Member States to The European Library highlighted a series of shortcomings such as the poor quality of the Handbook, the inaccuracies in the metadata registry and the poor quality of Collection Descriptions. This has led to several projects being put in place within The European Library aimed at improving all of these areas.

- The Handbook has been restructured so as to be more usable for the partners. It will be implemented in early summer for feedback by the autumn.
- A metadata registry group has been formed to check and validate the MARC21 and UNIMARC to TEL Application Profile records. These will be implemented by summer 2006.
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With the implementation of the NISO Collection Description standard a project to bring all the Collection Descriptions up to the same level of quality has been put in place.

The advent of TEL-ME-MOR has contributed to the ‘localization’ of The European Library. The project has allowed testing of the new local version of the Z39.50/SRU gateway. The result has been to devolve some of the issues of character set display to the individuals whose alphabet it is and who therefore know what it should look like. An additional benefit is that any inaccuracies in the source data are solved at the local level and not returned to the centre.

The ability to employ an additional developer with script expertise for creating the local version of the gateway meant that it was possible to create a server monitoring process. It is now possible to monitor the performances of all our remote targets, notifying individual libraries when there is a problem retrieving their collections. Through this mechanism we aim to ensure for the user that the content of all the participating libraries is always available.

As well as helping to clean up basic data and moving towards a more multilingual site, another net effect of needing to bring in new members from scratch has been the improvement in basic operational processes. This includes the instigation of regular phone calls with each full partner, aimed at improving the access and quality of their data and ironing out any niggles that still exist. It also helps to establish what is being digitized that we may access now and in the future.

TOWARDS THE EUROPEAN DIGITAL LIBRARY

A further expansion of national library membership of The European Library is envisaged through a new project, ‘European Digital Library’ (EDL), which is currently under negotiation as a result of the 2005 eContentplus call for proposals. Coordinated by Die Deutsche Bibliothek on behalf of CENL, EDL is expected to start in the second half of 2006 and run for 18 months. The project aims to integrate the remaining national libraries of the EU and EFTA states as full members into The European Library, namely Belgium, Greece, Iceland, Ireland, Liechtenstein, Luxembourg, Norway, Spain and Sweden. An equally important objective of the project will be to seek ways to provide access through the portal to materials of partners other than national libraries, starting with relevant and willing partners from the eContentplus 2005 call. The European Digital Library is already starting to rise on The European Library’s firm foundation.

ABSTRACT

TEL-ME-MOR (The European Library: Modular Extensions for Mediating Online Resources) is a project funded by the IST programme of the European Union. TEL-ME-MOR aims to raise awareness of opportunities for New Member States to participate in European programmes and to integrate the electronic resources of the 10 national libraries from the New Member States into The European Library (http://portal.theeuropeanlibrary.org/), a service managed by the Royal Library (the national library of the Netherlands) on behalf of the Conference of European National Librarians (CENL, www.cenl.org). TEL-ME-MOR will run till January 2007 and is producing useful reports on research and digital content in national libraries and multilingual development of the portal, which are available on the project website. TEL-ME-MOR is one of a series of projects through which CENL and the European Union have collaborated. Building on the success of the earlier TEL project and TEL-ME-MOR, the Commission has announced its intention to accord to The European Library a central role in the practical development of the European Digital Library. CENL welcomes the challenge and is currently negotiating a new project, The European Digital Library (EDL), which will bring all remaining EU and EEA national libraries into The European Library as well as content from all willing eContentplus projects. The European Library has begun its transformation into The European Digital Library.