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INTERNET AND COPYRIGHT OF PICTURES - AN INTERNATIONAL OVERVIEW*

By Margrethe Tøttrup

Introduction

Right now my son is sitting in an international birdwatcher station in Israel and earlier this year he was in India. When he is not counting birds, he is making reports, which are sent via the Internet to the USA or the UK. It made me think that it is interesting to imagine how pictures are received by persons in the different countries they may be travelling. The Internet signal does not always take the shortest route around the world, it takes the route, which is open at the exact moment of passing through, therefore you never know which laws it passes, when it changes nets or direction.

Most countries have long since recognized that to protect the balance in society¹ it is necessary to protect art and literature. On the one hand it is important to protect artists' right to earn their living, on the other hand it is important not to provide protection to the extent, that it is difficult to get information. Of course drum- and smoke signals were not protected, but the frescos in the old churches (made about the years 1100-1200) in a way were protected, and maybe already the cave-painters were, because even if they had several students, the students were not allowed to be painters themselves until they had developed their own style approved by the master.

International protection

The protection of literature² was not really necessary until Gutenberg in about 1440 started the printing process, which made copying easier, and the copperplate was developed about the same time. At first the problem was solved by granting a special privilege, but already in about 1720 the first laws were introduced to

* Paper presented at the pre-conference workshop of the Art Libraries Section at the 63rd IFLA General Conference in Copenhagen, 30. August 1997

1. Ophavsretsloven med kommentarer, Peter Schønning, København 1995.
2. Copyright Theft, John Gurnsey, London 1995, p.7.

protect against copying. Not until one hundred years later did the first laws to protect the artists emerge.

The first laws showed due regard to the different traditions in different countries, and the first international protection was given in the Berner Convention in 1886. The convention was drawn up because³ there are no borders for artistic works, literature and music. It is the protection of the artist, which is in focus, and the countries who have signed the convention are obliged to behave to artists from other countries in the same way as they do to their own countrymen. There is no demand for registration in the convention, it is the artistic work in itself created by a persons mind, which is under protection. 111 countries have signed the convention.

Because the Anglo-American countries had a demand for registration, these countries did not sign the Berner Convention, and so the UCC (world convention) was drawn up in 1952. The protection of the artist is less comprehensive here, as the rights are often owned by the companies, where the artists were employed. The convention were signed by about 50 countries.

The Berner Convention, which is the most important, has WIPO (World Intellectual Property Organization) as a special agency under the United Nations. Last autumn WIPO put forward a number of proposals to renew the Berner Convention.

As the problems regarding pictures and literature are problems which concern the libraries, EBLIDA, the European Federation of Library Associations, is very interested in the issues and is working out a standard for license contracts for the use by academic libraries in Europe. This EU-funded work is known as the European Copyright User Platform, ECUP.⁴ EBLIDA also paid a great deal of attention to the suggestions from WIPO last autumn.

General contents of copyright

Although the contents of copyright depend on traditions in the different countries, some main features can be mentioned. It is usual all over the world for copyright to include the exclusive right of the owner to exploit the work in whichever way he wants. Usually he has the right of reproduction, publication and public performance. Most countries agree that artistic works have their own rules, which for some of them are the same as for literature.

3. Copyright, Svensk och internationell upphovsrätt, Henry Olsson, Göteborg 1994, p. 195 .

4. The Legal and Regulatory Environment for Electronic Information, Charles Oppenheim, England 1995, p. 50.

Most countries have statutory rules for⁵

- copying for personal use
- copying for scientific, educational or other private use (read personal use)
- library privileges
- educational exemptions.

However, as far as the Internet and other electronic nets are concerned, the problem is the limitation of reproduction.

The storage on hard disk, diskette, optical or other media is considered a restricted act in all EU and most other European countries, but temporary electronic storage during acts of loading, transmission or screen display, is less clearly defined. Network distribution does not for the time being qualify as a restricted act under the Berner Convention. This issue is currently being discussed in many countries.

Pictures received in different countries

Nordic countries

If we imagine that some pictures are received in Denmark, we will very quickly find out that the law in Denmark looks like the laws in the other Nordic countries. Actually the laws are prepared in close co-operation⁶.

The laws were originally introduced in the early 1960s⁷ The Danish law was changed in 1995, but it still has the same pattern as the others. Sweden, Norway and Finland still have the original laws, and Greenland and the Faroes still use the old Danish law (because of the national affinity with Denmark) until they find the time or think it necessary to draft their own laws. In Iceland they introduced a law in 1972.

When a picture comes to one of the Nordic countries or travels between the countries via the Internet, the recipient is allowed to use the picture by looking at it on the screen and describe it, as if you were using a picture in a book or in an exhibition. He is also allowed to take a private paper copy and use it personally and in his job, but he must use the copy in that way only. He is not allowed to give it to any persons, colleagues, except for his closest family. If the admission to the

5. Copyright, document delivery and the information highway, P. Bernt Hugenholtz, Nordic Conference on Copyright Issues, 1994.

6. See number 1.

7. Nordens upphovsrättslagar, Upphovsrättsliga Föreningen rf, Nordiska ministerrådet, 1996

picture demands a downloading to get that private paper copy, it is being debated whether you are allowed to do so. The main opinion for the time being is that you are not allowed to do that and you will not get the paper copy. The conclusion is based on the fact that you are not allowed to make a digital copy of a digital message, and if you download, you will make this digital copy before you make the paper copy. In Denmark we have opened up a little bit for digital copying, but only when it is meant for blind people and people who have great difficulties with reading or hearing e.g.

The conclusion is that the recipient can look at a picture for as long as he wants, but the picture must disappear when logging out, and he will then have to find or get the picture from the mail again later.

In the Nordic countries we have special rules for libraries and archives and we hope soon to get a new law for legal deposit of both printed and non-printed publications in Denmark. In Norway and Sweden they have introduced new laws during the past few years. But the rules for the libraries and archives are almost the same in the Nordic countries, and you are allowed to make copies if it is necessary to ensure that old or damaged material is available in the library.

The UK and the USA

The laws of these countries have many things in common, because they are built on the same tradition.

In the UK Copyright Designs and Patents Act of 1988⁸ it is said, that „copying in relation to any description in works includes the making of copies which are transient or are incidental to some other use of work“ and „the permanent and temporary reproduction of the computer program by any means and in any form.....shall be subject to authorization of the right holder“. For computer programs it is clear that you are not allowed to make copies without permission from the right holder, and the conclusion seems to be that you must have permission from the right holder to take a copy of anything you receive from the Internet.

In the USA they have a rule in the Copyright Act, Public Law⁹ about what is called „Fair use“. By this is meant that you are allowed to use pictures, literature and other material subject to copyright in a fair way. In this discussion it would be nice if we could say that fair use would be used as e.g. we know from the Nordic countries, but „fair use“ is only interpreted as being a right to use the

8. See number 5.

9. Copyright, Svensk och internationell upphovsrätt, Henry Olsson, Stockholm 1994.

material for criticizing or commenting, e.g. in news or for use in education and science.

The conclusion, I am sorry to say, must be that if you receive a picture in the US you can only use it for looking at and making comments.

Russia

In Russia¹⁰ it is said that they use some regulations from the former Soviet Republics called the „Foundation of Civil Legislation of the Union of Soviet Republics and Union Republics“. These laws were federal laws. Some republics had their own laws, but as the federal law always was a main law, according to the constitution, it was easy to decide that the old law should stay. The federal law was about to be changed right before the breakdown of the union, but the law is still divided into two, one section for ideal rights and one for economic rights. When a picture is received in Russia via the Internet the recipient can look at it, and take a copy and use it, but he must never use it against the normal use of it and he must not destroy the legal interest of the owner of the copyright (the artist). It is difficult to see how the owner can exercise any control. The rules were made before the problem with digital copying arose, and nothing is said about paper copies.

China

In China¹¹ the legal interest in copyright is rather new. In 1990 a law was introduced. The country did have some kind of rules before, but they disappeared during the Cultural Revolution. The new law specifies certain rules for copying, especially copying for use in education and science, but copies are not meant for private use. Therefore the owner of the copyright must give permission to take private copies both in paper and in digital form and the recipient of a picture via the Internet can only have a look at the transmission and a common use of the picture e.g. describing it.

Japan

In Japan¹² they have changed the law several times since the first law was introduced in 1970. The changes are quite obviously, one might say, due to the technical and electronic developments. The characteristics of the rules in Japanese law are, that besides the general permission to make copies for use in education and science, everyone is permitted to take a copy of pictures for private use, at

10. See number 9.

11. See number 9.

12. See number 9

least in paper form. You are not allowed to use a public machine for copying, but you can do it any other way. If you want to take a digital copy, you must ask permission from the copyright owner, who would often be the person, who made the picture.

Other traditions in different countries

If the picture travels to the former Eastern European countries e.g. Poland¹³, the impression is that you can use it for whatever you want. Poland has for many years been a country with big economic problems, and therefore the country has had neither the strength to nor the interest in introducing a law to protect copyright. Most countries are making an excuse for countries like Poland and hope, that they will soon devote some time to this important issue.

Another country in a state of economic development is Pakistan. It is rumored that a few years ago the population was encouraged to make copies of whatever they could get and sell it, in foreign countries too. A copyright was said to be a protection for artists in Pakistan, but not for people in other countries, especially not for people in the rich countries.

The last tradition I will tell you about is the Islamic. Many of the countries in the Middle East are very rich countries, although we know, too, that many poor people live there. In the Islamic countries there is no tradition of protecting copyrights. In Saudi Arabia the government has issued an official so-called promulgation, banning the sale of illicit material. The United Arab Emirates and Egypt have introduced copyright laws, but they are not enforced as they are in other countries.

Conclusion

As you can see pictures are treated in many different ways around the world and because of the development of the Internet it is important to find means to protect the rights of the copyright owners. I hope in this paper to have been able to highlight some of the difficulties, which the copyright owners face today. To keep the balance in the society of the world it is important to find ways whereby all right owners find acceptance of their work and a way of making a living. On the other hand the importance of free information cannot be stressed enough. Free information creates better understanding around the world.

13. Copyright Theft, John Gurnsey, London 1995.

All the countries mentioned in this paper have signed at least one of the international conventions, and I think that in the near future this will result in more open discussion. In fact it has already been apparent at the latest conferences on the issue.

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THE RESEARCH LIBRARIES GROUP: NEW INITIATIVES TO IMPROVE ACCESS TO ART AND ARCHITECTURE INFORMATION*

By Katharine Martinez

History and Overview

The Research Libraries Group (RLG) is an international consortium of 150 universities, independent research libraries, archives, historical societies, museums and other institutions devoted to improving access to information that supports research and learning. RLG's headquarters is in Mountain View, California, approximately 30 miles south of San Francisco in the heart of Silicon Valley. Last year we opened an office in London. With a staff of 100, RLG maintains several on-line services:

- the Research Libraries Information Network (RLIN), a bibliographic database of 82 million records contributed by 600 institutions
- CitaDel, a citations access and document delivery service of 24 databases
- Marcadia, a copy cataloging service for retrospective conversion of cataloging records
- Arial, software that sends and receives page images of scanned documents over the Internet

These information products and services provide access to a rich array of bibliographic and archival records for books, periodicals, newspapers, articles, conference papers, Festschriften, dissertations, manuscripts, personal papers, archival collections, oral histories, auction and exhibition catalogs and visual images.

RLG was founded in 1974 by Columbia, Harvard, and Yale universities plus the New York Public Library. The initial goals of the four institutions continue to inform RLG's programs and services to its members: to build a shared on-line database of their library collections, and cooperation in acquisition, delivery, and preservation of information. Membership in RLG is open to any not-for-profit or

* Paper presented at the pre-conference workshop of the Art Libraries Section at the 63rd IFLA General Conference in Copenhagen, 30. August 1997

charitable institution with an educational, cultural, or scientific mission. Today RLG is an international alliance of 157 members, including the national libraries of Spain, Switzerland, England, Scotland, Wales, the United States, and Australia; the major research university libraries in North America and the United Kingdom; the libraries of the major art museums in North America plus the National Art Library of the Victoria and Albert Museum; independent research libraries such as the Folger Shakespeare Library, the Huntington Library, and the Newberry Library; and historical societies and archives. From RLG's inception, members have focused on identifying and resolving issues of library service that could not be addressed successfully by a single institution. Collective action is based on individual institutional strengths. RLG's members use collaboration and the operating arm provided by RLG staff to push past existing barriers and develop best practices and standards, implement new methodologies and technologies, and enlarge their users' and their own research information universe. RLG members pool their expertise and create projects to improve local and global access to research information, and to contribute to the creation and promulgation of best practices and standards in information management and delivery. There are two categories of membership:

- General members - institutions that serve a clientele of more than 5,000 faculty, academic staff, research staff, professional staff, students, fellows, and/or members.
- Special members - institutions serving 5,000 or fewer such users.

Members govern RLG through an elected board of Governors drawn from the membership. There are no non-members, benefactors, politicians, or heads of corporations on the RLG board. Many of the projects and programs of RLG are driven by program groups, comprised of members whose collections fall within certain subject categories: Art and Architecture; Primary Sources which encompasses archives, manuscripts, and special collections; East Asian Studies; Jewish Studies, Middle Eastern Studies; and Law.

The Art and Architecture Group

In 1979 the libraries of the Metropolitan Museum of Art, Art Institute of Chicago, and Cleveland Museum of Art joined RLG, and soon after formed the Art and Architecture Program Committee, the predecessor of the present Art and Architecture Group. Members of the Art & Architecture Group include museum and academic libraries in North America with specialized research collections on art, architecture, and design. Members include the National Galleries of the United States and Canada, as well as more specialized art libraries such as the

Freer Gallery of the Smithsonian Institution and the Fashion Institute of Technology. Our most recent members are the National Art Library of the Victoria and Albert Museum and the Getty Information Institute. Members of the AAG are eager to forge and strengthen communication with their counterparts in Europe and elsewhere, and to explore possible collaborations that address common concerns and needs. The AAG is managed by an elected Steering Committee, consisting of six members, and is assisted by the RLG Member Services Officer for Art and Visual Culture, Katharine Martinez. It is governed by bylaws and guided by a strategic plan.

Art and Architecture Group members are heavily involved in RLG's SHARES (Shared Resources Service) Program. Interlibrary loan and reciprocal access privileges as a complement to ownership is the motivating force behind SHARES. With policies and procedures developed and refined by SHARES participants for over a decade, the unique and highly successful program allows RGL member institutions to expand and enhance their collections through access to and delivery of materials owned by other research institutions within the RLG community.

Participants in SHARES agree to expedite interlibrary loans with other participants and have created incentives for superior response and delivery. One of the benefits of participation is access to restricted, noncirculating, and special collections materials. In addition, RLG has established effective procedures for on-site privileges, giving visiting scholars, faculty and professional staff additional access to materials, resource, and many of the services accorded to their resident counterparts at the host institution.

Art and Architecture Group members have seized the opportunities RLG creates for them to get involved in collective projects, both to preserve and make accessible collections of valuable materials and to jointly develop best practices that can be used in other endeavors. Two notable projects of the AAG demonstrate the achievements that are result of collaboration. In 1979 the library directors at the Art Institute of Chicago, the Metropolitan Museum of Art, and the Cleveland Museum of Art created a union database of art auction catalogs owned by the three libraries, calling it SCIPIO, which stands for Sales Catalogs Index Project Input Online. With initial funding from the Samuel H. Kress Foundation, a special database was mounted by RLG in 1981, and other RLG libraries began to enter their records in the database. SCIPIO is the only online union catalog of auction catalog records in existence. It provides bibliographic access to valuable sources of information on the provenance of art objects and rare books, the history of collecting, and contemporary and historical market trends. SCIPIO describes art and rare books auction sales catalogs dating from the late sixteenth century to

currently scheduled auctions that have not yet been held. Records contain information on dates and places of sale, catalog title, the auction house, sellers, institutional holdings, and other information. Containing more than 200,000 records as of July 1997 with daily additions of new entries, SCIPIO consists of records for auction sales catalogs from all major North American and European auction houses as well as important private sales. In order to guarantee that current auction houses' publications are being completely recorded in SCIPIO and to guarantee that the records are entered as soon as the catalogs are received, the SCIPIO contributors have divided up responsibility for certain houses among themselves: the Metropolitan Museum of art, for example, has committed to subscribe to all the categories of catalogs offered by Hotel Druot, and to catalog Hotel Druot sales catalogs as soon as they arrive in the mail. In the current fiscal year RLG will be loading records for auction sales catalogs from the Getty's Provenance Index. Ten Art and Architecture Group members currently input catalog records for art catalogs into the SCIPIO file. This past summer RLG converted the file to the MARC format, which enables far more libraries to input their records.

The Art Serials Preservation Project is another collaboration success story for the Art and Architecture Group. Within a consortium which prides itself on facilitating access to collections, art periodicals pose enormous challenges: they are often printed on clay-coated paper that becomes brittle and damaged over time; hence they cannot be photocopied or borrowed on interlibrary loan. In 1989 a number of Art and Architecture Group members launched a project to address these preservation and access problems relating to rare art and architecture periodicals. One hundred major rare art serial titles were selected by the working group, and in 1991 RLG obtain a grant from the National Endowment for the Humanities for preservation microfilm. It has been a very complex project, that we are just completing this year. Not only were the titles rare, but in some cases no one library had a complete set. RLG staff with expertise in preservation and microfilming standards set technical requirements for the project and guided the selection process that resulted in the microfilming contract going to Mid-Atlantic Preservation Services. The project was also technically difficult since it meant microfilming text and image of varying intensities on the same page. The participating libraries all received a microfilm of their own collection titles, and RLG is about to announce a distributor, so libraries can purchase either individual titles or the entire set of over 600 reels of microfilm.

RLG Partnership with the Getty Information Institute

In order to more effectively address the current information needs of art historians and to offer researchers comprehensive and coherent sets of electronic databases and tools, RLG and the Getty Information Institute recently agreed to form a partnership. The goal of the Distributed Database Initiative, as it is called, is to achieve efficiencies in building and distributing certain Getty databases: the Bibliography of the History of Art, the Provenance Index, and the Getty vocabularies and authority files, and to harness the two organizations' infrastructures and expertise to address other challenges and opportunities. For many years RLG staff had already enjoyed a working relationship with Getty staff, developed as they worked together to mount the Avery Index to Architectural Periodicals and the Art and Architecture Thesaurus, so the partnership was briskly launched in April 1996, and by the end of the calendar year RLG and Getty staff had successfully merged RAA, RILA, and BHA into one database and offered it as an RLG subscription service available to libraries. Behind the scenes, we continue to work on interoperability between Getty and RLG servers, to design procedures to improve communication amongst the international group of contributors to the Getty databases, and to facilitate data transfer from a great variety of sources, in a variety of formats between contributors, Getty offices, and RLG. In our current fiscal year the Distributed Database Initiative will focus on mounting the Getty's Provenance Index and testing the use of Getty vocabularies as searching tools to provide enhance access to a variety of RLG databases.

Information Needs in the Humanities

Between 1985 and 1988 RLG undertook an assessment of information needs in eight humanities disciplines, and published a report that summarized the conclusions and recommendations that were the result¹. That report has significantly influenced RLG's priorities and members' projects and priorities in the years since 1988. In this paper I will focus on how RLG has worked to address the information needs described in the section of the report on art history.

In the 1988 report the following goals to address information needs in art and architecture were emphasized:

- Comprehensive cataloging of museum bulletins, auction catalogs, exhibition catalogs, artists' books, trade catalogs and art newspapers

¹ Constance C. Gould. *Information Needs in the Humanities. An Assessment* (Mountain View: The Research Libraries Group, Inc., 1988)

- Retrospective conversion of key abstracting and indexing tools, such as the Repertoire d'Art et d'Archaeology, RILA, and the Bibliography of the History of Art
- Efforts to link North American networks to European bibliographic databases
- Access to automated records for art objects, photograph collections, and architectural drawings
- Support for expanded controlled vocabularies for the arts, including the Art & Architecture Thesaurus, Union List of Artists' Names, and Thesaurus of Geographic Names, accessible on-line
- Access to the Getty's Provenance Index

Goal #1 Comprehensive cataloging of museum bulletins, auction catalogs, exhibition catalogs, artists' books, trade catalogs and art newspapers

RLG's largest database is RLIN, a bibliographic database of 82 million records contributed by 600 institutions. RLIN is both a technical processing support system and a reference resource for 10,000 active users per year. It supports Latin and non-Latin scripts. Why would an institution that is not a member of RLG contribute its records to RLIN? The answer is that libraries and archives that want their records to be available to the international scholarly community find that RLIN enables them to promote their collections in the company of peer institutions. Institutions that contribute their records to RLIN retain ownership of their records; only the owning library can change, enhance, or delete the records for their collection. Users can search RLIN by author, title, ISBN number, and any searchable MARC field. Access to RLIN is easy: an institution can open a search account by paying a \$200 access fee. Each search costs 90 cents and there is a three dollar charge for each hour you are connected to RLIN. RLG members receive reduced rates as part of their membership benefits.

For many of the museum members of RLG, membership centers around their commitment to RLIN. Because RLIN significantly extends the unique strengths of any one museum library's holdings, the RLG museum members have been particularly active in efforts to enrich the database, by defining and promoting high standards in the quality of the records. It was the art librarians' desire to establish minimal-level standards for art exhibition catalogs that led to the base-level standard for cataloging books now widely used in RLG libraries. Art and Architecture Group members have devoted significant staff time to retrospective conversion projects, some forming mini-consortiums with other RLG members to obtain foundations grants for retrospective conversion projects. As a result, RLIN is a premier resource for locating art exhibition catalogs, artists' books, art periodicals, and art auction catalogs. According to Jeannette Dixon, Librarian and

Director of Electronic Communications at the Museum of Fine Arts in Houston, „RLIN is the Cadillac of art databases.“

There are two Art and Architecture Group projects currently underway to improve access to research material that has been previously difficult to identify and locate: the Monographic Series Cataloging Project, and the Inaccessible Domain Materials Project. Coordinating collection development decisions across a membership as varied as the Art and Architecture Group has been a challenge, but the group is proud of its success in coordinating the acquisition and timely cataloging of monographic series. As we all know, monographic series are notorious as difficult bibliographic items to catalog and retrieve: they are part monograph, part serial. Individual volumes are not necessarily published in sequentially numbered order, and the parent/child relationship between a volume and the series is not always evident on the title page or its verso. To meet this bibliographic challenge, a subset of Art and Architecture Group members have each committed to acquiring certain key monographic series, and also to fully catalog each title in the series. For each series a „parent“ record is created, with information entered in the 505 field of that record that documents the individual titles in the series. The record for each individual title in a series includes a link to the parent record for the series.

A perennial topic of discussion at ARLIS conferences over the years has been how to gain bibliographic control over vertical files and ephemera collections that all art libraries collect but have no easy way to record online so that researchers know they are there. Such „Inaccessible Domain Materials“ include folders of press clippings, artists' postcards, photos, and documents that we tend to group together under names of artists or galleries. A working group of RLG members was formed in 1994 to devise a standard level of description and access for such collections that are often ignored in traditional art library cataloging priorities. The RLG working group used as starting point the work done by the RLG Archives and Manuscripts Task Force on Standards, as well as done by other „core record“ projects. The resulting Working Group Report (URL: <http://www.rlg.org/indomat.html>) proposes a MARC based collection-level cataloging record designed for use in RLIN and MARC-compatible local systems that can be enhanced easily to include item-level description.

Goal #2 retrospective conversion of key abstracting and indexing tools, such as the Repertoire d'Art et d'Archaeology, RILA, and the Bibliography of the History of Art

The Bibliography of the History of Art (BHA) is the most comprehensive and up-to-date art history bibliography available worldwide, covering European and American art from late antiquity to the present. Through collaboration between the Getty Information Institute and the French Institut de l'Information Scientifique et Technique du Centre National de la Recherche Scientifique (INIST-CNRS), BHA indexes and abstracts art-related books, conference proceedings and dissertations, exhibition and dealer's catalogs, and articles from more than 2,500 periodicals. RLG's BHA file includes and extends the coverage of its two predecessor art indexes: RAA (Répertoire d'Art et d'Archéologie) from 1973 to 1989 and RILA (International Repertory of the Literature of Art) from 1975 to 1989. BHA is updated quarterly, and contains over 425,000 records as of March 1997 with approximately 6,000 added at each update.

Abstracts are in English and French. Subject Indexing includes persons, places, institutions, buildings, works of art, and topical subjects, with most subject terms in both English and French. Searches may be limited by language, country of publication, date of publication, article type (form or genre), and source (RILA, RAA, or BHA).

BHA complements another RLG file, The Avery Index to Architectural Periodicals, which is produced by the Avery Fine Arts and Architecture Library of Columbia University with support from the Getty Information Institute. The Avery Index database covers Archeology, Architecture, Architectural design, City planning, Furniture and decoration, Historic preservation, History of architecture, Interior design, Landscape architecture, and Urban planning, indexing over 1,000 periodicals published worldwide, from 1977 to the present. The index is updated daily, with over 201,000 records as of March 1997.

Goal #3 Efforts to link North American networks to European bibliographic databases

RLG is actively working with its European members, including the National Libraries of Scotland, Wales, Switzerland, and Spain, the members of CURL, the Consortium of University Research Libraries, in the UK, the American Academy in Rome, plus the National Art Library of the Victoria and Albert Museum to design the most effective way to enable interoperability, by utilizing Z39.50² and other communication protocols so that all members of RLG can have easy electronic access to each member's records. RLG has a strategic alliance for

² Z39.50 protocol provides a standard means for a search application to submit a query to databases without regard to the kind of hardware or software the databases uses.

technical cooperation with The Dutch Pica Foundation³, a cooperative, not-for-profit organization that develops systems and services for libraries and other information providing institutions, in the Netherlands and Germany, PICA and RLG signed an agreement to codevelop a document discovery and delivery service on the World Wide Web, called WebDOC. The new service will allow end users to search WebCAT, a special catalog of bibliographic records (maintained in parallel on both the RLG and Pica host computers), via Web browsers and to retrieve documents linked to them - full text, articles, maps, images, etc. - using Web technology. WebDOC interposes a licensing and accounting server between the catalog record and access to the whole document it describes, to verify that the user is covered by an institutional license or else to debit the user's personal account. WebDOC is the first phase of a broader strategic collaboration planned to achieve streamlined access to documents in paper form as well as digitized materials - and to give the end user a single interface for information retrieval, document request, electronically assisted document delivery, and conventional interlibrary loan. RLG and Pica intend to pool development resources in creating shareable software modules and to offer integrated end-user services to libraries and their patrons on both sides of the Atlantic. RGL's new partnership with the Getty Information Institute, gives us contact with European institutions that contribute to Getty database and projects, and has also greatly facilitated communication between RLG and various projects in the UK, including the Arts Humanities Data Service⁴, particularly its Visual Arts Data Service⁵, the ADAM Project⁶, an information gateway initiative, and the Museum Documentation Association⁷.

A major step to provide access to European data was accomplished when RLG recently mounted FRANCIS, produced by Institut de l'Information Scientifique et

³ URL: <http://www.pica.nl/>

⁴ The Arts and Humanities Data Service is a national service funded by the Joint Information Systems Committee of the UK's Higher Education Funding Councils to collect, describe, and preserve the electronic resources which result from research and teaching in the humanities. It will encourage scholarly use of its collections and make information about them available through an on-line catalogue. URL: <http://ahds.ac.uk/>

⁵ The Visual Arts Data Service (VADS) will provide the UK Higher Education community with access to networked digital research data in the visual arts, to agreed standards of best practice in the creation, collection, description, delivery and preservation of such resources. URL: <http://vads.ahds.ac.uk/>

⁶ ADAM, the Art, Design, Architecture & Media Information Gateway, is a project to build a searchable on-line catalogue describing Internet resources such as web sites or electronic mailing lists. URL: <http://adam.ac.uk/adam/>

⁷ The Museum Documentation Association (MDA) is funded by the Museums and Galleries Commission (MGC) of the U.K. to encourage best practice in all aspects of museum documentation. URL: <http://www.open.gov.uk/mdocasn/>

Technique - Centre National de la Recherche Scientifique (INIST-CNRS). It covers a wide range of multilingual, multidisciplinary information in the humanities, social sciences, and economics. It is strong in religion, the history of art, and literature - with particular emphasis on current trends in European and world literature. Records in the database start in 1984 and are updated monthly. As of July 1996 there are over one million records in the database, with approximately 6,300 added at each update. 80% of records include an author abstract in French and English.

Goal #4 Access to automated records for art objects, photograph collections, and architectural drawings

The Avery Architecture and Fine Arts Library at Columbia University is a leading participant in RLG efforts to make visual images more widely accessible. In 1989 the library launched the AVIADOR Project (Avery Videodisk Indexing of Architectural Drawings Online in RLIN), in which they participated in the development of the MARC format for visual images, and RLG pioneered in making that format available, incorporating a new field, entitled 'Component item' which allowed Avery library staff to catalog groups of architectural drawings while providing individual access to images for them. Avery then created around 2,300 records and linked them to 41,000 images on an analog videodisk. RLG and the Avery Library are currently exploring how to create digital images of approximately 15 years of the *Journal of the Society of Architectural Historians*, and link these heavily illustrated bit-mapped pages to the records for the corresponding articles in the *Avery Index to Architectural Periodicals*.

RLG is a sponsor of the Computer Interchange of Museum Information⁸ (CIMI) Project. The CIMI Consortium consists of 16 member organizations who have agreed to work cooperatively to solve problems relating to the electronic interchange of museum information. Because the key to long-term availability and wide access to information lies in the use of standards, CIMI's mission is to promote a standards based approach to the interchange of cultural heritage information. Based on extensive previous research into the creation of a Standards Framework, CIMI is investigating two international standards: SGML (Standard Generalized Markup Language) for structuring data and Z39.50 for enabling high-quality search and retrieval, in a demonstration project entitled CHIO (Cultural Heritage Information Online).

⁸ URL: <http://www.cimi.org/>

Starting in September 1997 RLG, with Getty's assistance, is launching a new initiative to build a union catalog of museum object records. According to RLG's *Information Needs in the Humanities: An Assessment* 1988, art historians and historians want access to visual images and to information about visual images. The REACH Project is the first phase of an initiative to address those needs, (REACH stands for Record Export for Art and Cultural Heritage). The goal of the project is to export existing machine-readable data from heterogeneous museum collection management systems and analyze the research value of the resulting database when researchers use a single interface to search the database in conjunction with RLG's other resources, including bibliographic and archival records in RLIN®, auction catalog records in the SCIPPIO database, finding aids, plus abstracting and indexing tools such as the Bibliography of the History of Art.

The REACH testbed database will be comprised of at least 10,000 records from art and cultural heritage institutions. The focus of the project is on core data that accompanies and identifies museum objects, not their surrogates, including a broad range of both art objects and material culture artifacts. Some participants may additionally contribute digital images with the data. It is a given that users will expect and prefer images to accompany data. But there will always be records in the file without images, because in some cases the source of the data will not be the owner of the original object, or because the object has been lost or destroyed, and no visual record of the original remains.

In addition to the Museum Educational Site Licensing (MESL) Project, recently completed, there are currently underway other projects in the museum community that address digitizing museum collections (for the purpose of site licensing), including the Association of Art Museum Directors' Art Museum Image Consortium (AMICO) Project and the American Association of Museum's Museum Licensing Collective initiative. RLG hopes that its efforts to focus on data-related issues in the REACH Project will be applicable to those or other museum projects which involve digital images and their accompanying metadata.

The project originated as a follow-on to the Getty Information Institute's Museum Education Site Licensing (MESL) Project. The MESL project tested academic pedagogic use of digitized images and accompanying data from museum collections. For the REACH Project RLG has chosen to focus on data-related issues that were highlighted in the outcome of the MESL Project: the challenges involved when pooling data from heterogeneous museum collection management systems, and the need to continue testing the usefulness of museum information, particularly when a single search engine is available and when the data can be used within a networked environment of related resources.

RLG recognizes that there is no single standard for museum object records comparable to the MARC format for library materials, and that for the REACH Project several existing standards needed to be taken into account when designing a data element set. The fields in the REACH element set are based on fields in the following museum and cultural heritage standards: Categories for the Description of Works of Art (DCWA), Visual Resources Association's Core Categories, Dublin Core, Canadian Heritage Information Network (CHIN) Data Dictionary, MESL Data Dictionary, Consortium for the Interchange of Museum Information (CIMI) Access Points, Museum Documentation Association Standards, and the CIDOC Information Categories.

We anticipate that users will expect to search the database for information discovery and delivery purposes, as well as for technical processing. The latter will occur in two instances: first, where museums are cataloging multiples (i.e. photographs, graphic arts, mass-produced items such as toasters, etc.) in their collections and when copy cataloging may allow efficiencies in processing, and secondly, technical processing use of the union catalog will also be done by slide librarians cataloging visual surrogates in slide libraries that reproduce the original objects represented in the union catalog, in order to speed up cataloging.

There are several questions that will be explored during the REACH Project, associated with the current and likely future use of museum data by researchers. Chief among them is the question whether museum object records are useful without digital images. Art historians have traditionally relied heavily on catalogue raisonnées and inventory projects where visual surrogates may not accompany every object record, such as the Inventories of American Painting and Sculpture of the National Museum of American Art, and the Provenance Index of the Getty Information Institute. Are research practices and scholar's attitudes similar in the case of material culture object records? A second set of questions arise when considering the value and use of individual object records vs. collection records. These questions suggest that what information goes into the Notes field of a record could be enormously valuable.

REACH was initiated by RLG and Getty Information Institute staff in discussions with officers of the Museum Computer Network, the MESL participants, vendors of museum collection management systems, and museum data experts. Recently RLG staff discussed the REACH Project with museum data experts in the UK, including officers of the Museum Documentation Association, and managers of the Arts and Humanities Data Service. The project has also been discussed with members and officers of the the Art Libraries Society of North America, the Art Libraries Society of the UK and Ireland, and the Visual Resources Association.

Within RLG, members of the Art and Architecture Group will be participating in the evaluation phase of the project.

As of July 1997 participants in the REACH Project include the following museums: Berkeley Art Museum, Brooklyn Museum, The Frick Collection, Minnesota Historical Society, Museum of Fine Arts (Boston), Mystic Seaport Museum, National Museum of American Art, National Park Service, Pierpont Morgan Library, Stanford University Museum of Art, and the Walker Art Center. Collection management system vendors include Cudra Associates, Digital Arts & Sciences Corporation, Willoughby Associates, and Re:Discovery Software.

The evaluation phase will draw on the expertise of many individuals, including staff and members of: Canadian Heritage Information Network, Chicago Historical Society, CIMI, Getty Information Institute, MESL participants, Museum Computer Network, Museum Documentation Association, Smithsonian Institution, RLG's Art & Architecture Group, and the Visual Resources Association Data Standards Committee.

Goal #5 Support for expanded controlled vocabularies for the arts, including the Art & Architecture Thesaurus, Union List of Artists' Names, and Thesaurus of Geographic Names, accessible on-line.

The REACH Project will facilitate analysis of search results when certain naming standards may not be universally applied. What kinds of search results will be available if participants do not use standard vocabularies for geographic names, subject terms, and personal names, for example? Can a search engine compensate for the lack of uniformity? To address this question, RLG will undertake a pilot project to offer users „assisted searching“ of the REACH testbed database, plus the SCPIO database, using Getty's „a.k.a.“ system as model. This is an experimental searching tool designed by the Getty that uses the Art & Architecture Thesaurus (AAT) and the Union List of Artist Names (ULAN) vocabularies to provide enhanced access to portions of their databases. Here is how „assisted searching“ would work: if you select the Art & Architecture Thesaurus, the search term(s) you enter will first be searched in the Art & Architecture Thesaurus (AAT) for possible vocabulary enhancement before going on to search the REACH and SCPIO databases. Your search can consist of one or more words. If an exact match for your search term is found in the AAT, that term, along with its synonyms and variants, will automatically be used to search the REACH and SCPIO databases. Search results will then be displayed in order of „relevance“.

Goal #6 Access to the Getty's Provenance Index

The Provenance Index is a Getty project to gather and disseminate information related to the history of collecting and the provenance of individual works of art, from sales catalogues, archival records, and museum files. The project has focused on the following genres of material and geographic areas:

INVENTORIES: Unpublished archival information from pre-19th-century inventories of paintings and other works of art in Italy, Spain, and the Netherlands. A record has been created for each inventory, and in addition, individual records have been created for each object in that inventory, with links to the parent record, i.e., the inventory record. Cataloging records for the manuscripts inventories will live with other archival and manuscripts records in RLIN, while the records for individual works of art as described in the inventory will go into the union catalog of museum object records. Links will be created between records for individual works of art and the record for the inventory in which the work of art is found, and vice versa.

SALE CATALOGUES: Includes British sale catalogues (1801-1825); French, Dutch, and Belgian catalogues (1801-1810); and 17th- and 18th-century catalogues from Germany and Scandinavia. A record has been created for each sale catalogue, plus a record for each lot within the catalogue, with a link to the parent record. RLG will load cataloging records for individual sale catalogs into the SCPIO file, while records for the works of art included in each sale catalog will be loaded into the union catalog of museum object records. Links will be created between records for individual works of art and the record for the sales catalog in which the work of art is found, and vice versa.

PUBLIC COLLECTIONS: An inventory of roughly 32,000 paintings by artists born before 1900 found in many American museums, and in a substantial number of British and Irish museums, with records that document the provenance of approximately one-third of the paintings. These records will be loaded into the union catalog of museum object records, with links connecting records for individual paintings with records for previous owners of the painting.

The Provenance Index is the product of the combined effort of the Provenance Documentation Collaborative, which consists of European and US institutions. Current members of the Collaborative are National Gallery of Art (Washington, DC), The Frick Art Reference Library (New York), The Mellon Centre (London), Gemeentearchief (Amsterdam), Hermitage Museum (St. Petersburg), Rijksbureau voor Kunsthistorische Documentatie (The Hague), Musées Royaux des Beaux-Arts de Belgique (Brussels), Istituto della Enciclopedia Italiana (Rome), Fondazione Pietro Accorsi (Turin), Terza Università di Roma, Dipartimento di

Studi Storico-Artistici (Rome), Kunsthalle (Hamburg), and Bibliothèque et Archives des Musées de France au Musées du Louvre (Paris).

Conclusion

Research and learning are undergoing enormous changes, and more changes are coming, as technology offers new possibilities and as scholars continue to expand their teaching and research methods. RLG is the instrument used by its members to address these information issues that must be solved in a multi-institutional context. Our collective goal is to facilitate the discovery and delivery of information, and to meet that goal a consortial approach has proven to be most successful.

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USE OF MICRO CDS/ISIS IN PAKISTAN A SURVEY

By Khalid Mahmood

Abstract: Micro CDS/ISIS, free software developed by UNESCO, is widely being used through out the world for handling and control of bibliographic records. In Pakistan, this is the only software which is mostly being used in libraries and information centres. This paper reports a survey on the status of the use of CDS/ISIS in Pakistan. Use of the software was started in Pakistan in 1988. Cataloguing of books and indexing of periodicals are the major areas of use. Users' opinions about various features of the software are given. Problems faced by the users in using CDS/ISIS are also discussed.

Micro version of the UNESCO-developed software package CDS/ISIS was released in 1985. Since that time it has been widely used through out the world. The number of licensed users increased from 3,000 in 1988 to 15,000 at the end of 1994 (1, p.10). The software is available, for non-profit organizations, free of cost direct from UNESCO, Paris or 100+ regional and national distributors. Mentioning the aims of the package Hopkinson (2) says

UNESCO's intention in developing CDS/ISIS was to benefit developing countries in which library and information services had no easy and affordable access to software. Additionally, consonant with the aims of PGI, the division of UNESCO at which the package is now maintained, it promotes the exchange of information between different sectors in countries that may be at varying levels of development. From the introduction of the microcomputer version, it has been seen as a tool to use alongside exchange formats (p.76).

CDS/ISIS is a package that has been developed for bibliographic information; that is, information about documents such as books, journal articles, or conference proceedings. However, it has not been developed for library housekeeping applications (2, p.77). Major differentiating features, for which CDS/ISIS has become popular in libraries and information centres all over the world, include the use of variable length fields, sub-fields and repeatable fields. It is free of cost. CDS/ISIS uses advanced indexing techniques to enable faster searching of the database. Multilingual nature of the package is another important feature. Text on menus and worksheets can be changed by the user (3).

In Pakistan, the use of CDS/ISIS has been evidenced since 1988. UNESCO has appointed Pakistan Scientific & Technological Information Centre (PASTIC),

Islamabad as national distributor of CDS/ISIS software. According to Carino (4) there were 10 users of the software in Pakistan in 1992. Kips (1, p.11) mentions that this number was increased up to 51 in 1992.

CDS/ISIS in Library Literature in Pakistan

CDS/ISIS has been much described and discussed in library literature through out the world. Until April 1996 there were 139 books and monographs and 142 journal articles published in various languages (3). Information on the package began to appear in Pakistani library literature since 1990. Here we will review the literature on CDS/ISIS published in Pakistan in a chronological order.

Bushra (5) claimed that the use of CDS/ISIS software was introduced for the first time in the libraries of Lahore by LABELNET project. This project was jointly sponsored by International Development Research Centre (IDRC), Canada and Lahore University of Management Sciences (LUMS) and it aimed at the resource sharing in the libraries in business and economics sector in Lahore. Using CDS/ISIS two databases were maintained. SENET was the database designed for union list of serials. The database contained 605 records. The second database, UNIC, was developed for union catalogue. Until 1990 this database had 1,800 records. Describing the library activities of Dr. A.Q. Khan Research Laboratories, Bhatti and Sultan (6) related that they got CDS/ISIS package and training from PASTIC and started library automation. „It is a matter of great satisfaction that the system has shown commendable results and the library users have widely appreciated it“ (p.105). Siddiqui (7) mentioned that Pakistan Institute of Development Economics (PIDE) at Islamabad became ISIS Resource Centre in 1979 with the technical and financial assistance from the International Development Research Centre of Canada. Under this project PIDE Library created a computerized database containing 700 records. In 1992, Sultan and Bhatti (8) described the details of CDS/ISIS use in Dr. A.Q. Khan Research Laboratories Library. They started to use CDS/ISIS on local area network. Since January 1990 the library had entered about 50% of its total documents. Functions of CDS/ISIS and its salient features were also described in the article. In a survey of 95 automated libraries of the twin cities of Islamabad and Rawalpindi, Maqsood (9) mentioned that 10 libraries were using CDS/ISIS in 1991-1992 and it was the only software that was mostly used. According to Hanif (10) „Library Automation Group (LAG)“ was formed in 1992 consisting of librarians and computer specialists of Federal Area. LAG constituted a committee to make a comparative study of two available micro software packages: Micro CDS/ISIS and INMAGIC. Then the study was published in an issue of *LAG News*. Software specifications, indexing features, deferred indexing option for maintenance, input/output

features, data validation, search features, output/display, and many other features of the both packages were compared. At the end CDS/ISIS was recommended by the committee for the use in Pakistani libraries. In an article published in *Pakistan Library Bulletin* Naqvi (11) described CDS/ISIS software in detail. He introduced various features and modules of the package with a number of examples. In another article in *Pakistan Library Bulletin* Khalid (12) described new features of CDS/ISIS that were introduced in version 3.0. This version was made specially for multi-user environments. New and easy installation procedure was adopted. Many new features in formatting language and indexing techniques were also added to the software. In 1995 Khalid (13) described the various important characteristics of CDS/ISIS that were particularly fulfill the requirements of Pakistani libraries. 29 advantages of the use of CDS/ISIS were discussed. Naqvi (14) narrated the library automation activities of PIDE. Computerization was started in 1988 with CDS/ISIS version 1.0. Three databases have been developed. LIBRI database, having 14,632 records, includes publications on South Asia. PILS contains 3,100 records of World Bank publications. HOLD database contains 458 records of periodicals holding of the library. In a survey of 40 automated libraries of Lahore, Haroon (15) mentioned that 23 libraries use CDS/ISIS for different purposes. This is the mostly used software in the city.

From the literature survey it is apparent that all the studies are either theoretical descriptions of the software or narratives of individual libraries. As CDS/ISIS is the mostly used package in Pakistani libraries and information centres, the opinion of its users should have been studied which the previous literature lacked. There is also a dire need to find out the problems that are faced by the users of CDS/ISIS.

Purpose and Scope of the Study

The purpose of this study is to find out:

- Current status of the use of Micro CDS/ISIS in Pakistan;
- Which functions have been automated with the help of CDS/ISIS;
- Opinion of CDS/ISIS users about various features of the software;
- Problems in the use of the software; and
- Suggestions of users about the support of the software.

Scope of the study covers all libraries, information centres, training centres and library and information related organizations that are using CDS/ISIS package for any purpose. It has been tried to cover institutions from all over the country.

Methodology

Survey method was adopted for this study. A comprehensive questionnaire was designed. Information about CDS/ISIS use in various institutions were obtained from different bibliographic and personal sources. The questionnaire was sent to 60 organizations out of which, during the time span of a whole year, 40 responded. The response rate is 66.66%. Most of the institutions at Lahore and Islamabad were personally visited by the author and working professionals were interviewed. Data from Quetta and Peshawar was collected with the help of Mr. Muhammad Ilyas and Syed Liaqat Ali respectively. These are the teachers at LIS departments in both of the cities. There was no response from Karachi.

Analysis of the Survey Findings

CDS/ISIS use in various provinces: Pakistan is administratively divided into four provinces Punjab, Sind, Balochistan and N.W.F.P. and Federal & Tribal Area (administered federally). The independent part of Jammu & Kashmir is also attached with the country and there is no restrictions in the movement between the two units. Out of 40 institutions studied 23 (57.5%) are situated in Punjab Province. Second area where CDS/ISIS is mostly used is Federal Capital Islamabad where 9 institutions (22.5%) use the package. For other areas see *Table 1*.

Table 1. Area wise distribution of CDS/ISIS users

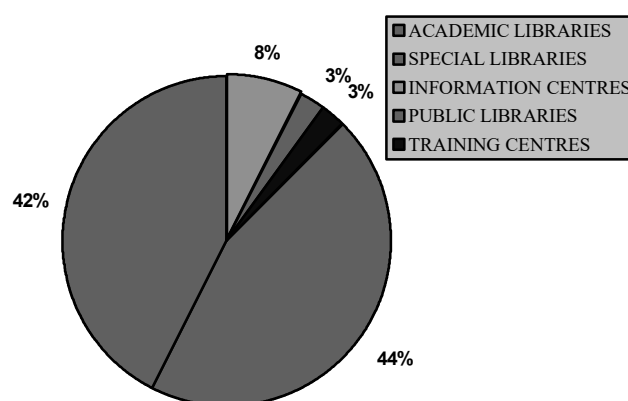
Rank	Area	Frequency	%
1	Punjab	23	57.5
2	Federal Capital	9	22.5
3	Balochistan	4	10.0
4	N.W.F.P.	3	7.5
5	Azad Jammu & Kashmir	1	2.5
6	Sind	0	0.0
	Total	40	100.0

CDS/ISIS users: Survey findings show that CDS/ISIS is mostly being used in academic and special libraries. The ratio of academic libraries is 45% while special libraries (42.5%) are at the second position in the rank order. Other users include information centres (7.5%), one public library and one training centre. See *Table 2*.

Table 2. Types of CDS/ISIS users

Rank	Type	Frequency	%
1	Academic libraries	18	45.0
2	Special libraries	17	42.5
3	Information Centres	3	7.5
4	Public libraries	1	2.5
5	Training Centres	1	2.5
	Total	40	100.0

Graph 1. CDS/ISIS Users



Versions of CDS/ISIS: It has been found that three different versions of the software are in use. Information about version is provided by 31 (77.5%) users. The latest version 3.07 is mostly used in 15 (48.3%) institutions. The second mostly used version is 3.0 which is used by 14 (45.2%) users. Version 2.3 is also being used by 2 (6.5%) institutions. See Table 3.

Table 3. CDS/ISIS versions

Rank	Version	Frequency	%
1	3.07	15	48.3
2	3.0	14	45.2
3	2.3	2	6.5
	Total	31	100.0

Software providers: All users provided information about the institutions from where they got CDS/ISIS software. Most of the users (50%) procured the package from PLA Computer Training Centres at different cities. PASTIC, the distributor appointed by UNESCO provided the software to only 8 (20%) institutions. Netherlands Library Development Project (NLDP) supplied CDS/ISIS with their integrated library software LAMP to 6 (15%) institutions. Other software providers include UNESCO (Paris), LABELNET and Pakistan University Grants Commission (UGC). For more details see Table 4.

Table 4. Software providers

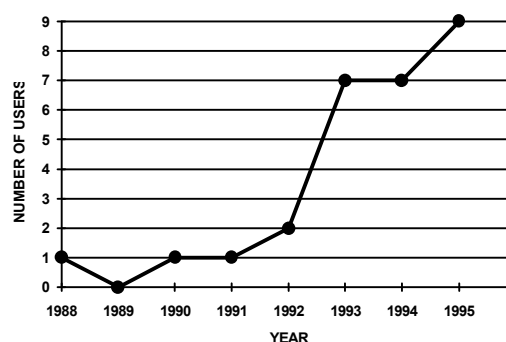
Rank	Name of Institution	Frequency	%
1	PLACTC	20	50.0
2	PASTIC	8	20.0
3	NLDP	6	15.0
4	UNESCO	3	7.5
5	LABELNET	2	5.0
6	UGC	1	2.5
	Total	40	100.0

Chronology of CDS/ISIS use: Only 29 (72.5%) users supplied the information about the year when they started the use of CDS/ISIS. In 1988, an institution used the package for the first time. Graph 2 shows that there is an increase in the use after 1991. Education of CDS/ISIS by Pakistan Library Association in various cities of the country appears to be one of the major reasons for this increase. The other reasons include the activities of LABELNET project in Lahore and the development of integrated library software LAMP which was developed by NLDP using CDS/ISIS Pascal programming language. The overall trend of library automation in the country also another reason for the increased use of a free software, i.e., CDS/ISIS.

Table 5. Chronological distribution of CDS/ISIS use

Year	Frequency	%
1988	1	3.4
1989	0	0.0
1990	1	3.4
1991	1	3.4
1992	2	6.9
1993	7	24.1
1994	7	24.1
1995	9	31.0
1996	1	3.4
Total	29	100.0

Graph 2. Chronology of CDS/ISIS use

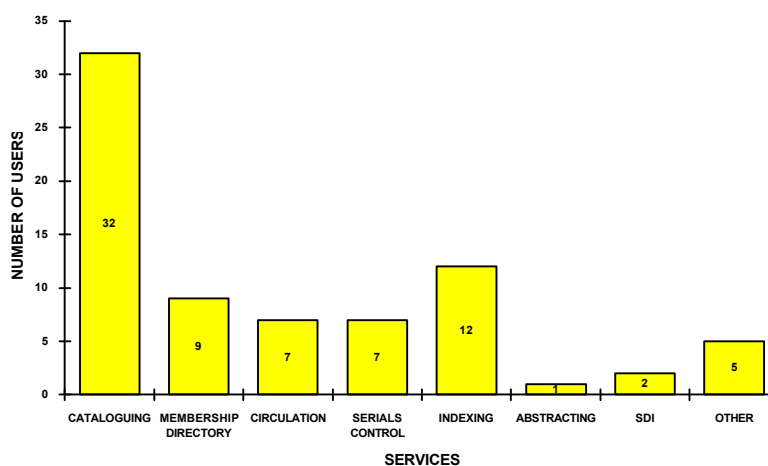


Services automated using CDS/ISIS: The package has been basically developed for the control of bibliographic records. Cataloguing service is thus easily be automated with the help of CDS/ISIS. 80% of users use CDS/ISIS to provide cataloguing services in their libraries. The second largest use of CDS/ISIS is in the field of journal articles indexing. This is another form of bibliographic work which is being done in 12 (30%) institutions. Directory of library members is the third most area of CDS/ISIS use which is in 9 (22.5%) institutions. Other examples of CDS/ISIS use include acquisition, circulation, serials control, abstracting, selective dissemination of information (SDI), stock verification, mailing lists, list of courses offered by the institution, and teaching librarians and library and information science students.

Table 6. Services automated using CDS/ISIS (N=40)

Service	Frequency	%
Acquisition	3	7.5
Cataloguing	32	80.0
Membership directory	9	22.5
Circulation	7	17.5
Serials control	7	17.5
Indexing	12	30.0
Abstracting	1	2.5
SDI	2	5.0
Other	5	12.5

Graph 3. Services Automated Using CDS/ISIS



Databases in CDS/ISIS: 34 users supplied information about 51 different databases they have designed using CDS/ISIS. 5 institutions have designed 4 databases each. Databases are of various sizes and are meant for various purposes. The maximum number of databases, i.e., 17 (33.3%) have records between 1,000 to 5,000. Three databases have more than 10,000 records each. Total number of records which have so far been entered in 51 databases is 175,217.

Table 7. Size of databases in CDS/ISIS

Maximum MFN	Frequency	%
1-100	5	9.8
101-500	12	23.5
501-1000	6	11.8
1001-5000	17	33.3
5001-10000	8	15.7
10000+	3	5.9
Total	51	100.0

Training in CDS/ISIS: 35 users supplied information about the formal training of their staff in using CDS/ISIS. 18 (51.4%) institutions have only one trained staff member each. 9 (25.7%) institutions have 2 each trained personnel. The maximum number of trained staff is 7 which is in one institute. The total number of trained professionals in 35 institutions is 73. From the introduction of CDS/ISIS in Pakistan PLA has been offering training courses on the software. Since 1992 five PLA Computer Training Centres in federal capital Islamabad and provincial headquarters, i.e., Lahore, Karachi, Peshawar and Quetta have been regularly training working professionals in the use of CDS/ISIS. According to the survey findings staff from 26 (74.3%) institutions got training from PLA Computer Training Centres. Other training courses were held by PLA (prior to PLACTC), PASTIC, LUMS, PIDE and Pakistan Institute of Nuclear Science and Technology (PINSTECH). See Table 8. Some users attended course on CDS/ISIS held in other countries like Thailand, Holland and Sri Lanka.

Table 8. Staff training (N=35)

Rank	Institution	Frequency	%
1	PLACTC	26	74.3
2	PLA (prior to PLACTC)	4	11.4
3	PASTIC	4	11.4
4	LUMS	2	5.7
5	PIDE	2	5.7
6	PINSTECH	1	2.9

Use of CDS/ISIS by library users: A question was asked from the users whether the common library patrons can use CDS/ISIS without the help of library staff or

not. Out of 40 respondents only 7 (17.5%) claimed that their users can use the software at their own.

CDS/ISIS on local area network: 13 (32.5%) institutions claimed that they use CDS/ISIS on local area network (LAN). Number of terminals ranges from 3 to 25 in different institutions. Discussing the problems regarding the use of CDS/ISIS in a multi user environment one library mentioned that 'Record locking' and 'Database locking' are the problem areas.

Consultants in CDS/ISIS: Library automation in Pakistan is in the stage of infancy. There is a dire need of consultants in using software. There is no formal consultant for CDS/ISIS. However some persons or organizations provide for free help in the use of CDS/ISIS. A question was asked whether the users consult outsiders for help in implementation or trouble shooting in CDS/ISIS. In the survey 19 users mentioned the outside helpers. A rank wise list of seven informal consultants have been given in *Table 9*.

Table 9. Consultants in CDS/ISIS

Rank	Name	Affiliation	Frequency
1	Khalid Mahmood	Dept. of Library & Information Science, Punjab University, Lahore	12
2	Sultan Mahmood	Dr. A.Q. Khan Research Laboratories, Islamabad	2
3	Zafar Javed Naqvi	PIDE, Islamabad	2
4	Bushra Riaz	LUMS, Lahore	1
5	Haseeb Ahmad Piracha	Dept. of Geology, Punjab University, Lahore	1
6	Sohail Ahmad	British Council Library, Lahore	1
7	Nisar Ahmad	PASTIC, Islamabad	1

General / support features of CDS/ISIS: In opinion about features of CDS/ISIS the response is not 100%. Out of 32 users 13 (40.6%) are of the opinion that CDS/ISIS is satisfactorily user friendly. 11 (34.4%) users think that user friendliness feature is good. CDS/ISIS is a multi-lingual package. The standard software is available in English, French and Spanish. Versions in other languages include Latin, German, Italian, Arabic, Hungarian, Korean, Thai, Tibetan, Hindi and Chinese. According to 50% users the language coverage feature of the software is good. During last 10 years UNESCO has issued various versions of CDS/ISIS. According to 33.3% users the rapid updation in versions is good. The same number of users think it satisfactory. Various manuals and handbooks are available to help the use of CDS/ISIS. 35.7% users think the publication support

of the software is good. 55.2% users are of the opinion that the training facilities in CDS/ISIS are good. 36.7% users think that consultation facility is satisfactory. For more details see *Table 10*.

Table 10. General / Support features of CDS/ISIS

Feature	Responses	Very Poor	Poor	Satisfactory	Good	Very Good
User Friendliness	32	1 (3.1%)	3 (9.4%)	13 (40.6%)	11 (34.4%)	4 (12.5%)
Language Coverage	28	1 (3.6%)	4 (14.3%)	8 (28.6%)	14 (50.0%)	1 (3.6%)
Rapid Updation of Versions	27	0 (0.0%)	6 (22.2%)	9 (33.3%)	9 (33.3%)	3 (11.1%)
Publication Support	28	2 (7.1%)	4 (14.3%)	9 (32.1%)	10 (35.7%)	3 (10.7%)
Training Facilities	29	1 (3.4%)	4 (13.8%)	6 (20.7%)	16 (55.2%)	2 (6.9%)
Consultation Facilities	30	3 (10.0%)	4 (13.3%)	11 (36.7%)	8 (26.7%)	4 (13.3%)

Technical features of CDS/ISIS: Field definition capacity in CDS/ISIS is vary high. 200 fields can be defined in a database. According to survey findings 62.1% users believe that this feature is good. Data entry screens in CDS/ISIS have various options and these are modifiable. 50% users think this feature good. Data entry module in the package have various facilities. For instance, default data entry and cut and paste facilities are provided. According to 43.8% users data entry facilities are good. CDS/ISIS has powerful indexing techniques which are really needed in a bibliographic database. According to 43.8% users this facility is good while 40.6% users have the opinion that this is very good. 50% users think that the searching speed of CDS/ISIS is good. Nearly same number of users have the similar opinion about the searching facilities. CDS/ISIS has its own display / print formatting language which facilitates the users to design different formats as needed. This language is a little bit difficult to use. 40% users thus think that this language is satisfactory. Printing features in the software are satisfactory according to 51.6% users. Data exchange facility is excellent. Data can easily be exchanged among databases even having different field structures. 46.2% users think this facility good. CDS/ISIS has its own backup facility. According to 39.3% users this facility is good. The same number of users have the idea that this facility is satisfactory. The menus of the software are also modifiable. This facility is good to 51.6% users. Since version 3.0 CDS/ISIS is working in a multi-user environment. Its networking support is good according to only 26.3% users. The same number of users have the opinion that this facility is satisfactory and the

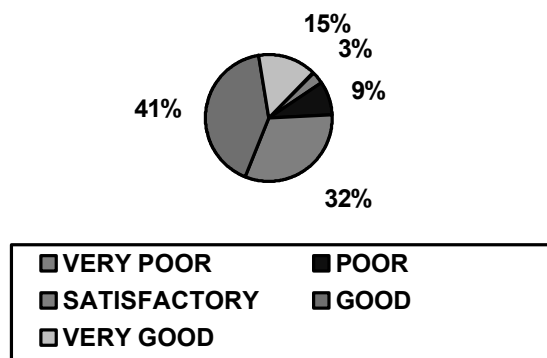
same number say that this is poor. Beyond the limitations of CDS/ISIS advanced programming is possible through ISIS PASCAL language.

Table 11. Technical features of CDS/ISIS

Feature	Responses	Very Poor	Poor	Satisfactory	Good	Very Good
Field Definition Capacity	29	0 (0.0%)	1 (3.4%)	6 (20.7%)	18 (62.1%)	4 (13.8%)
Data Entry Screens	32	1 (3.1%)	2 (6.3%)	10 (31.3%)	16 (50.0%)	3 (9.4%)
Data Entry Facilities	32	0 (0.0%)	2 (6.3%)	13 (40.6%)	14 (43.8%)	3 (9.4%)
Indexing Features	32	0 (0.0%)	0 (0.0%)	5 (15.6%)	14 (43.8%)	13 (40.6%)
Searching Facilities	32	0 (0.0%)	2 (6.3%)	6 (18.8%)	15 (46.9%)	9 (28.1%)
Searching Speed	32	0 (0.0%)	0 (0.0%)	9 (28.1%)	16 (50.0%)	7 (21.9%)
Display / Print Formats	30	2 (6.7%)	1 (3.3%)	12 (40.0%)	11 (36.7%)	4 (13.3%)
Printing Features	31	2 (6.5%)	4 (12.9%)	16 (51.6%)	6 (19.4%)	3 (9.7%)
Data Exchange Facility	26	0 (0.0%)	3 (11.5%)	8 (30.8%)	12 (46.2%)	3 (11.5%)
Backup Facility	28	0 (0.0%)	1 (3.6%)	11 (39.3%)	11 (39.3%)	5 (17.9%)
Menus	31	0 (0.0%)	1 (3.2%)	10 (32.3%)	16 (51.6%)	4 (12.9%)
Networking Support	19	1 (5.3%)	5 (26.3%)	5 (26.3%)	5 (26.3%)	3 (15.8%)
Advanced Programming Support	19	2 (10.5%)	1 (5.3%)	7 (36.8%)	5 (26.3%)	4 (21.1%)

36.8% users think that this facility is satisfactory. For details see *Table 11*. *Graph 4* shows the overall opinion of CDS/ISIS users about all features of the package. In the opinion of 41% users CDS/ISIS is good. The second largest opinion (32%) shows that it is satisfactory.

Graph 4. Users' Opinion about Features of CDS/ISIS



CDS/ISIS and library / information work: A question was asked from the users whether CDS/ISIS is able to handle all library / information work routines effectively. Total 34 (85%) users answered this question. Only 12 (35.3%) users answered the question in 'yes' while 22 (64.7%) users did not agree with the statement. The users mostly stated the following reasons for the failure of CDS/ISIS in libraries.

- Difficult in acquisition, circulation, SDI and serials control
- Not user friendly
- Difficulties in data entry and printing
- Complex searching is difficult and not user friendly
- No dynamic allocation of memory
- Indexing files are too many and too large to support a big database

Problems in using CDS/ISIS: Averagely 75% users mentioned the problems they faced in using CDS/ISIS software. Sometimes there are errors in installation of the package. 48.3% users face this problem rarely. Sometimes during working the system hangs. 53.3% users are suffering from this problem rarely. Abnormal termination of the package is rarely faced by 51.7% users. Data corruption is another problem which is frequently faced by 12.9% users and rarely by 29%. Due to unknown reasons inverted file occasionally removed. This problem is rarely faced by 41.4% users. There are errors in inverted file generation. 48.3% users face this problem rarely. 41.4% users mentioned the problems in search results.

33.3% users feel problems in printing and sorting and 29.6% users face problems in backup of data. 38.5% users have problems in importing and exporting records. Other problems indicated by the users include lack of duplication check, lack of online help, lack of data validation check, and problems in PASCAL training for ISIS users. See *Table 12*.

CDS/ISIS user groups: In other countries there are user groups of CDS/ISIS. For example, in Italy there was a user group meeting with 1,000 participants. Niger has a user group with 70 members. Thailand has an active user group with 200 institutions and about 200 individual members. The Dutch speaking user group

Table 12. Problems in CDS/ISIS

Problem	Responses	Frequently	Rarely	Never
Installation errors	29	5 (17.2%)	14 (48.3%)	10 (34.5%)
System hangs	30	2 (6.7%)	16 (53.3%)	12 (40.0%)
Abnormal termination	29	0 (0.0%)	15 (51.7%)	14 (48.3%)
Data corrupted	31	4 (12.9%)	9 (29.0%)	18 (58.1%)
Inverted file removed	29	1 (3.4%)	12 (41.4%)	16 (55.2%)
Errors in inverted file generation	29	1 (3.4%)	14 (48.3%)	14 (48.3%)
Incorrect search results	29	0 (0.0%)	12 (41.4%)	17 (58.6%)
Errors in printing / sorting	27	1 (3.7%)	9 (33.3%)	17 (63.0%)
Backup errors	27	0 (0.0%)	8 (29.6%)	19 (70.4%)
Errors in import / export	26	1 (3.8%)	10 (38.5%)	15 (57.7%)

has about 100 members (3). As in Pakistan there are so many users of CDS/ISIS and they have common problems, user groups at city, provincial and country level have strongly been recommended. For detail see *Table 13*.

Table 13. CDS/ISIS user group recommended

Rank	Level	Frequency	%
1	City	26	65.0
2	Province	22	55.0
3	Country	21	52.5

Newsletter on CDS/ISIS: As we know, at international level there are so many journals and newsletters which inform the users of CDS/ISIS with new developments and discuss the problems faced by the users. For exchanging experiences in the use of the software a newsletter has heavily been recommended by the users in Pakistan. 33 (82.5%) users are in favor of a newsletter at Pakistan level.

General impression / opinion about CDS/ISIS: 27 (67.5%) users expressed their general impressions and opinions about CDS/ISIS. A summary of them is given here.

- In the view of most of the users CDS/ISIS is a good program for libraries
- Good for novice to conceive the concept of database
- Some users say it user friendly and some say not
- It should be modified according to local needs
- It should include spell checker
- Import / export module is difficult and complicated
- It should be modified according to professional needs of libraries
- Circulation module is direly needed
- There should be a version for Windows

Conclusion

It is a bare fact that CDS/ISIS is the only software that is mostly used in Pakistani libraries and information centres. Although, in this survey, most of the users are satisfied with the software yet problems are there to be solved out. The package should be improved to cater for all the needs of libraries and information centres. CDS/ISIS may be improved in the light of the discussion in this article. As a large number of reading material in Pakistani libraries is in Urdu language, there should be an Urdu version of CDS/ISIS to handle this material. Beginning of CDS/ISIS training at PLA Computer Training Centres is a praiseworthy step. It is needed to train CDS/ISIS users at advanced level. There should be courses on programming in library services using ISIS PASCAL. ISIS user groups at all levels should be formed and a newsletter on the activities of these user groups should be published. UNESCO and PASTIC should provide funds for this purpose. PLA should arrange consultancy in the use and trouble shooting of CDS/ISIS. Although LAMP is a good effort to formulate a standard database format for Pakistani libraries which are using CDS/ISIS yet this should be improved according to the international standards, i.e., MARC, ISBD, etc. PASTIC should control the distribution of CDS/ISIS in Pakistan and should obligate the institutions to sign the license before using the software. In this regard PASTIC may contact the institutions at its own. It is also important to time

to time conduct surveys of this type to know the status of the use of CDS/ISIS and the problems being faced by the users.

References

1. Eddie Kips. *Explore CDS/ISIS, a training vehicle*. Hague : LIS Department, The Hague Polytechnic, 1994.
2. Alan Hopkinson. CDS/ISIS: UNESCO's information retrieval package for microcomputers and the Vax minicomputer. *Encyclopedia of Library and Information Science*, 57, 72-89.
3. Khalid Mahmood. The best library software for developing countries: 30+ plus points of Micro CDS/ISIS. *Unpublished*.
4. Patricia B. Carino. Status of CDS/ISIS training and use in Asia and the Pacific: a regional report. *Astinfor*, 8(1), Jan.-Mar. 1993, 7-10 -- 8(2), Apr.-June 1993, 7-10.
5. Bushra Riaz. LABELNET: development of a networking project. *PULSAA News*, 2(3), Summer 1990, 66-70.
6. Azmatullah Bhatti and Sultan Mahmood. A unique special library. *PULSAA News*, 2(3), Summer 1990, 102-105.
7. Akhtar H. Siddiqui. The PIDE Library. *Pakistan Library Bulletin*, 23(1), Mar. 1992, 2-12.
8. Sultan Mahmood and Azmatullah Bhatti. CDS-ISIS at STINFOD Library. *News Bulletin, Pakistan Library Association, Federal Branch*, Issue 26-27, July-Sept. 1992, 49-51.
9. Maqsood Ahmed. Library automation: survey of computerized library services in Federal Area (Islamabad/ Rawalpindi). In: Fida Mohammad, ed. *Challenges in Automating the Library Services*. Peshawar : Department of Library & Information Science, University of Peshawar, 1993, 47-49.
10. Sheikh M. Hanif. Comparative study of Micro CDS/ISIS and INMAGIC software for libraries. *LAG News*, 1(1), Jan.-Mar. 1993, 4-8.
11. Zafar Javed Naqvi. Mini-micro CDS/ISIS: a bibliographic information software. *Pakistan Library Bulletin*, 24(1-2), Mar.-June 1993, 16-25.
12. Khalid Mahmood Malik. Micro CDS/ISIS: what's new in version 3.0. *Pakistan Library Bulletin*, 24(4), Dec. 1993, 17-26.

13. Khalid Mahmood Malik. Why should we use CDS/ISIS in libraries? *News Forum (PLA Punjab Branch)*, 5(1-4), 1995, 7-12.
14. Zafar Javed Naqvi. Application of computer technology in PIDE Library and Documentation Division. *Pakistan Library Association Journal*, No.17, Oct. 1995-Mar. 1996, 32-40.
15. Haroon Idrees. The Library Automation in Lahore. Unpublished Master's thesis, University of the Punjab, 1995.

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NETWORKS AND NEW WAYS OF WORKING : HUMAN ASPECTS*

By Jean-Philippe Accart

Abstract: The presentation reviews the existing research on the nature and extent of networking and more precisely teleworking in USA and Europe. Teleworking is a new form of working still in a process of evolution. The article gives a large definition of teleworking (part I) and develops what kind of technology is used (part II) and what are the information workers (part III). The social and economic implications of teleworking are detailed such as transportation issues and trade and industry issues (part IV). The articles concludes on the human aspects of teleworking (part V).

I. Introduction: How to define teleworking?

Networking and by extension teleworking are not a single, easily-measured phenomenon but, on the contrary, comprises a range of different types of employment which have in common only the fact that they involve some form of relocation of work which has been facilitated by the combined use of information and communication technologies. These falls into two main categories :

1. Individualised forms of teleworking, which involve work carried out away from the employer's premises. These may include :
 - a. home-based teleworking
 - b. multi-locational or mobile working
2. Collective forms of teleworking, which take place on non-domestic premises controlled by the employer or a third party. These forms include :
 - a. the relocation of back-office functions to functionally specialised remote sites, which may be described as satellite offices or call centres
 - b. the subcontracting of work to telecottages or other organisations (which may also be known by other names such as "telecentres", "outsources centres", "community resource centres", "computer ressource centres" or "office bureaux")

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- c. the development of computer-supported distributed team working within multi-site organisations, rendering many functions which previously had to be carried out on a single site locationally independent
- d. the use of telematic links to develop collaborative working relationships between firms, creating new forms of networks and partnerships which are sometimes known as "virtual enterprises"

There is no universal definition of teleworking which can be rigorously and unambiguously applied. The word is used in a variety of different senses in different contexts. Indeed, since this is a comparatively new form of working still in a process of evolution, it would probably be undesirable to attempt to impose a rigid form upon it.

The most useful starting point for any research on the subject is a recognition that the introduction of new information and communication technologies has opened up a range of new options in the organisation of work. Either directly or indirectly, these have facilitated changes in :

- the location of work
- the organisation of working hours
- the combination of skills required to deliver particular tasks
- contractual arrangements
- organisational structures

Teleworking can be seen as a word which describes the results of some of these changes. It is regarded as one of a number of types of flexibility rather than any specific form of work. Five major types of teleworking appear, from the available evidence, to be significant :

1. Home-based teleworking which in turn breaks into :
 - a. teleworking which is based partly in the home and partly on the employer's premises which may be termed "part-time home-based teleworking".
 - b. teleworking which is based entirely in the home and which is carried out exclusively for a single employer or intermediary, which may be termed "full-time home-based teleworking for a single employer".
 - c. teleworking which is entirely based in the home but which is carried out by freelance workers, for a number of different employers or clients, which may be termed "freelance home-based teleworking"
2. Mobile teleworking
3. Relocated back-office functions (intra-firm teleworking)

4. Out-sourced back-office functions, whether carried out from telecottages or telecentres or by commercial sub-contractors (inter-firm teleworking)
5. The Use of telematic links between organisations

II. The technology use

Some attempts have been made in the United States to estimate the number of teleworkers from the prevalence of home-based information technology and the uses to which its owners say it is put. During the 1980s, for instance, a Gallup poll found 40 % of home computer owners saying that they used them for "business or office homework" with a smaller proportion (27%) citing "business in home use". Another survey, by Yankelovitch, Skelly and White, found 33% of home computer owners stating that their primary use was for business. An IBM survey found that 60% of its computers which sold for \$2,000 or more were being used in the home and that over half of these home computers were being used primarily for business-related purposes. A further 11 % were being transported between home and office.

Olson's survey of 598 Datamation readers found that 64,5% of these data processing professionals sometimes worked at home in addition to their regular office work, 12,4% did it as an occasional substitute and 6,2% worked exclusively from home.

More recently, attempts have been made to estimate the numbers of mobile workers from sales of portable technology (such as mobile phones and lap-top computers. In 1994, for instance, New York-based consultants Link Resources drew on such information (along with other sources) to produce their estimate that there are currently seven million mobile teleworkers in the USA, with number predicted to grow to 25 million by the year 2000.

III. The information workers

Information workers are defined by the US Department of Transportation Work as individuals whose primary economic activity involves the creation, processing, manipulation or distribution of information. Information workers are projected to increase from 73 million in 1993 to 80 million in 2002 and exceed 85 million by 2010. Onto these projections is then projected a further estimate of the likely growth in teleworking. It is furthermore assumed that the percentage of telecommuters working from home will decline from 99% in 1992 to about 50% by 2002 with a corresponding percentage increase in those working from

telecommuting centres and that the average of days per week of telecommuting will increase from between 1 and 2 in 1992 to between 3 and 4 by 2002.

IV. Social and economic implications of teleworking

1. TRANSPORTATION ISSUES

Transportation issues are of central importance in any discussion of the broad social and economic implications of teleworking. The earliest literature on the subject focused almost exclusively on the opportunities teleworking creates for substituting electronic communication for physical travel. It may comprises :

- Reduction in petrol consumption and of the number of vehicles miles, - The influence of telecommunications on traffic and transport
- The effects on energy and the environment
- The energy cost of installing the necessary telecommunications infrastructure,
- The cost of delivering physical goods and services (which might otherwise be accessed in city centre by office workers)
- Higher use of home-based distance learning, home banking, videotex, teleshopping and home-based leisure activities using multimedia computer applications

And also :

- higher use of home-based teleworking, teleconferencing and electronic data exchange

2. TRADE AND INDUSTRY ISSUES

Teleworking offers the promise of becoming an important instrument for improving competitiveness and generating new business and employment opportunities : the technologies involved can form the basis of new industries and services ; the productivity and efficiency of enterprises can be improved increasing their market share ; new forms of teamworking, collaboration or telepartnership can be open up ; relocation of work in economically deprived regions can be facilitated, diversifying local economies, creating alternatives.

V. Human aspects

The human aspects of teleworking are of different types : it has implications on working time, on unemployment, on the development of services, on productivity, and on the equality of opportunities: Indeed, teleworking can facilitate the restructuring of working hours making easier to introduce part-time working, job-sharing and other flexible forms of work. One point observed is the greater

productivity of teleworkers: the increase is about 20 %. A teleworker produces a report more quickly than a comparable worker based in an office.

- It could help to reduce unemployment and bring to the labour market groups which were previously excluded because they were unable to offer themselves for full-time work.
- The new technologies can bring about improvements in the quality of life, through the introduction of new services such as telemedicine, telebanking, teleshopping.
- Equality of opportunities are another aspect. For example :
 - Disability : people with disability are a group which stands to benefit enormously from the new opportunities to work remotely opened up by teleworking.
 - Sex equality : without the opportunities to be teleworkers many of female would not have been working at all : they combined work with their domestic responsibilities telehomeworked offering time flexibility. On the other hand, there are no promotion prospects and their pay levels are lower than for comparable on-site staff.

Conclusion

There is a strong case to be made for joint research on individual forms of teleworking, which could be satisfactorily quantified by means of a general population survey with supplementary information.

Despite an extensive literature on globalisation, the relationship between the introduction of new information and communication technologies and the relocation of employment remains an under-researched field, and that there is a need for further research in this area, including employers surveys, case-studies and secondary analysis of existing trade and employment statistics.

References

1. Gillespie A, Review of Telework in Britain : Implications for Public Policy, Centre for Urban and Regional Development Studies, Newcastle upon Tyne, 1995
2. Hirst P, Thompson G, Globalisation in Question, Polity Press, 1996
3. Huws U, Teleworking, an overview of the research, Analytica, 1996
4. Huws U, Follow up to the White Paper-Teleworking, European Commission Directorate General V Employment Task Force, September 1994

5. Huws U, Teleworking and Gender, draft report to the European Commission's Equal Opportunities Unit, DGV, 1996
6. Illingsworth MM, Virtual Managers, Information Week, June 13, 1994
7. US Department of Energy Office of Policy, Planning and Program Evaluation, Energy, Emissions and the Social Consequences of Telecommuting, US DOE, 1004
8. Warf B., Telecommunications and the Changing Geographies of Knowledge Transmission in the late 20th century, Urban Studies, vol. 32, n°2, 1995, pp 375-376

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ART IN THE ART LIBRARY: SMALL FACES OF "LIBRARY PRODUCTS"*

By Kyoko Tomatsu (in co-operation with Masaharu Taneichi)

Abstract: In the art library which treats subject of art, how the Library Products can be used effectively and alively as one of library furnishings, equipments and supplies.

In this paper, the Library Products for the art library is investigated from the art librarian's point of view. And its role and importance are presented with some examples used in Japan and other countries referring to its usage, materials, colour and form.

On the basis of this consideration, the role, the value and possibility of the Library Products in the art library are proposed.

1. Introduction

What kind of art library is an attractive library? This depends, of course, on the quality and quantity of its holdings, and also depends on excellent and warm public services. In addition to these fundamental elements, I think there are some other important factors such as architectural design, the standards of the facilities, the design of the interior, the furnishing and equipment, and "Library Products". They help to make the library's users satisfied as they use the collections and spend time in the library.

The art library has a special atmosphere and should offer an artistic environment. In the library, people have the opportunity to search, study, read and contemplate. Sometimes they dream, fumble, try to get some inspiration. Or people may find their own personal peace of mind and happiness. Afterwards they go back to their daily life with the treasures they have found in the art library.

During the time I have been working for libraries, I have always wondered how I could set up an attractive art library. If we could further enrich the time and space users spend in enjoyment of the world of art, the inspiration they derived from what is in the library would surely become more effective. Users would come

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back again and again, not only to use the collections but also to re-experience the artistic atmosphere of the library. This would lead in turn to better use of the collections and would heighten the value of the library to its users.

What kind of elements should be considered to be effective components of an attractive art library? In this paper, I focus on "Library Products" in particular as the subject to investigate. What kind of Library Products are there? What is the significance of Library Products for the art library? The role and potential of Library Products in art libraries are described below, with some examples.

2. Components of an attractive art library, and the idea of "Library Products"

When a new library and/or a renovation project is being proposed and discussed in relation to the overall environment, the program probably includes the following elements:

- Building planning
- Facility planning
- Environmental conditions
- Space allocation
- Furnishing and equipment
- Signing system, etc

In addition to these, a new element called "Library Products" might be proposed. "Library Products" is sometimes used as a general term to describe library furnishings, library equipment, library supplies and library accessories as a whole. But in this paper, the term, "Library Products" is used in the context of the following definitions:

- a. Library Products should not be seen just as decoration. Placed suitably and effectively, they form part of the overall presentation of the library's environment and its image.
- b. The art librarian should recognize the importance of Library Products as one of the elements which will contribute to the library's overall ambience and identity.
- c. The art librarian should look for Library Products which suit the colour and design of his own library, and should choose them from among ready-made library supplies and equipment, stationery and other related products.
- d. The art librarian should create new Library Products when good and suitable ones cannot be found.

Library products will be reviewed in the next section with some examples.

3. Art in the Art Library: a classification of Library Products

The following classification of Library Products in the art library is proposed, giving examples which are used in Japan and other countries in many materials, colours and forms.

- a. Library supplies and equipment
 - Bookends
 - Pamphlet box files
 - Book stands
 - Book jackets
 - Bookmarks, etc.
- b. Stationery
 - Paper weights
 - Pen stands
 - Magnets, etc.
- c. Related Products
 - Replicas
 - Museum goods
 - Easels
 - Picture-frames
 - Photo-frames
 - Poster holders, etc.
- d. Graphics
 - Posters
 - T-shirts
 - Library bags
 - Brochures, etc
- e. Seasonal decorations
 - Christmas
 - Easter
 - Halloween
 - Thanksgiving Day
 - New Year
 - Hinamatsuri (Girl's Festival)
 - Kodomonohi (Boy's Festival)
 - Tanabata (Festival of Star Vega)
- f. Art works
- g. Others

Other classifications are possible according to material, the allocation of library space, national and regional considerations, etc.

4. Conclusion

As we art librarians approach the 21st century, it is essential that we provide the most attractive and effective art library environment possible. Using Library Products effectively, we may build an attractive art library. The more attention we give to artistic detail in the art library the more exciting and stimulating it will be for both users and staff. This will bring together users and library, and lead to better use of the library's collections and facilities.

Bibliographies

1. Nihon Toshokan Kyokai. *Toshokan kenchiku zushu '79* (Library architecture and design, '79). Nihon Toshokan Kyokai, 1979.
2. Kagu to sign: *toshokan shisetsu keikaku manual* (Furnishings and sign systems). Nihon Toshokan Kyokai, 1984.
3. Kito, Azusa. *Watashi no toshokan kenchiku saho* (Concept in my library's architecture and design). Toshokan Shisetsu Keikaku Kenkyujo, 1984.
4. Honda, Akira (et al.). *Toshokan shisetsu o minaosu* (Reconsideration of library facilities and environment). Nihon Toshokan Kyokai, 1986.
5. Kurihara, Kaichiro. *Toshokan no shisetsu to setsubi* (Library facilities and equipment). Tokyo Shoseki, 1988.
6. Toshokan Keikaku Shisetsu Kenkyujo (ed.). *Mita kiita totta: America no kokyō toshokan: sono kenchiku to service* (Watching, hearing and taking pictures at American public libraries: their architectural design and public services). Toshokan Keikaku Shisetsu Kenkyujo, 1992.
7. Toshokan Keikaku Shisetsu Kenkyujo (ed.). *Hakuya no kuni no toshokan* (Libraries in Finland and Sweden). Toshokan Ryutsu Center, 1994.
8. Kito, Azusa (ed.). *Gendai kenchiku shusei: toshokan* (New concepts in the architecture and design of libraries). Meisei Shuppan, 1995.
9. Toshokan Keikaku Shisetsu Kenkyujo. *Toshokan kenchiku 22sen* (Library architecture and design in Japan: 22 selected libraries). Tokai Daigaku Shuppankai, 1995.

10. Kurihara, Kaichiro. *Obei no toshokan: kenchiku to un'ei no suijun o saguru* (European and American libraries: research on library architecture, design and public services). Maruzen, 1995.

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MEMORY OF THE WORLD - PRESERVING OUR DOCUMENTARY HERITAGE*

By Abdelaziz Abid

Abstract: The paper outlines the main features of "Memory of the World", a UNESCO Programme to safeguard endangered documentary heritage, democratize access to it, increase awareness of its significance and distribute, on a large scale, products derived from it. Criteria to list documentary heritage on the "Memory of the World" Register and to select projects are set out, together with a brief account of the Programme's technical, legal and financial framework.

A number of pilot projects are briefly described. They consist mainly in digitization programmes and a CD-ROM series featuring a selection of manuscripts from the National Library in Prague, the Radzivil Chronicle in Saint Petersburg, medieval manuscripts concerning the symbolic figure Saint Sophia, patron saint of the capital of Bulgaria, a collection of Yemenite manuscripts including the Koranic fragments at Sana'a, a preservation project of astronomical manuscripts of Kandilli Observatory in Istanbul, a selection of manuscripts from the Egyptian National Library and another selection from Vilnius University Library reflecting in turn medieval Arab and European scientific advancement, a few thousand photographs from the nineteenth century illustrating the history of some ten countries in Latin America and the Caribbean, an inventory of nineteenth century Latin American newspapers and their state of preservation and an ambitious project called "Memory of Russia".

For both individuals and peoples, memory is an integral part of existence.

The memory of the peoples of the world is of vital importance in preserving cultural identities, in linking past and present and in shaping the future. The documentary heritage in libraries and archives constitutes a major part of that memory and reflects the diversity of peoples, languages and cultures. But that memory is fragile.

A considerable proportion of the world's documentary heritage disappears through "natural" causes: acidified paper that crumbles to dust, leather, parchment, film and magnetic tape attacked by light, heat, humidity or dust. The cinema, for instance, is in danger of losing most of the works that have made it the art of the

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century. Thousands of kilometers of film could just fade away unless they are restored and preserved as soon as possible. Nitrate fires in France and Mexico, for example, have caused important losses.

As well as insidious causes of decay, accidents regularly afflict libraries and archives. Floods, fires, hurricanes, storms, earthquakes... the list is very long of disasters which are difficult to guard against except by taking preventive measures. The recent catastrophe in Japan immediately comes to mind. One thinks also of the earthquake which did such heavy damage to Japan in 1923, including the destruction of 700.000 volumes of the Imperial University Library in Tokyo. Among the losses were records of the Tokugawa Government and many manuscripts and old prints. Worldwide distress was also caused in 1966 in Italy when the river Arno flooded library basements in Florence. More than two million books suffered water damage and restoration is still under way.

It would take a very long time to compile a list of all the libraries and archives destroyed or seriously damaged by acts of war, bombardment and fire, whether deliberate or accidental. The Library of Alexandria is probably the most famous historical example, but how many other known and unknown treasures have vanished in China, Constantinople, Warsaw, or more recently in Cambodia, Bucharest, Saint Petersburg and Sarajevo? There are so many more, and sadly the list cannot be closed - not to mention holdings dispersed following the accidental or deliberate displacement of archives and libraries.

There is no help against the destructive forces of nature: you cannot stop an earthquake or a flood, but it is a sad reflection that the most grievous losses have generally been the result of human action, whether through neglect or through willful destruction.

Preservation and Access

Recognizing that urgent action was required to stem the disappearance of vast parts of the world's documentary memory, in 1992 UNESCO launched the "Memory of the World" Programme to protect and promote that heritage.

The first objective of the Programme is to ensure the preservation, by the most appropriate means, of documentary heritage which has world significance and to encourage the preservation of documentary heritage which has national and regional significance. A twin objective is making this heritage accessible to as many people as possible, using the most appropriate technology, both inside and outside the countries in which it is physically located.

Preservation of the documentary heritage and increased access to it complement one another. Access facilitates protection and preservation ensures access. For

example, digitized materials can be accessed by many people and demand for access can stimulate preservation work.

Another element of the Programme is to raise awareness in the Member States of their documentary heritage, in particular aspects of that heritage which are significant in terms of a common world memory.

Finally, the Programme seeks to develop products based on this documentary heritage and make them available for wide distribution, while ensuring that the originals are maintained in the best possible conditions of conservation and security. High quality text, sound and image banks could be compiled and made available on local and global networks and reproductions could be derived in all sorts of forms such as compact discs, albums, books, postcards, microfilms, etc. Any proceeds from the sale of related products will then be ploughed back into the Programme.

Programme scope and structure

The scope of the Programme is, therefore, vast and involves a variety of partners, ranging from students, scholars and the general public to owners, providers and producers of information and manufacturers of end products. An International Advisory Committee for the "Memory of the World" Programme was appointed by the Director-General of UNESCO to guide the planning and implementation of the Programme as a whole and make recommendations concerning fund-raising, the allocation of funds and the granting of the "Memory of the World" label to the projects selected, including those not receiving financial support from the Programme. The Statutes of this Committee, approved by the Executive Board of UNESCO in May 1996, provide in particular for close co-operation with competent NGOs such as IFLA and ICA and stress the need to facilitate access to endangered documentary heritage by the greatest number, using state-of-the-art technology. The Committee held two meetings (Pultusk, Poland, September 1993 and Paris, France, May 1995). It recommended, at its first meeting that the concept of documentary heritage be extended to include, besides manuscripts and other rare and valuable documents in libraries and archives, documents in any medium: in particular, audiovisual documents, computerized recordings and oral traditions, the importance of which varies from region to region. In all these fields there is a need for protection, sometimes as a matter of urgency if we are to prevent collective amnesia and set up world cultural exchange.

The Programme should make governments aware of the need to protect their documentary heritage, release potential for action, support the activities of

professional, national, regional and international organizations and stimulate initiatives.

At the national level, it is recommended that a committee be appointed, firstly to select projects according to the criteria agreed upon and submit them to the International Advisory Committee and, thereafter, to follow them up. The committee membership should include experts able to make an active contribution to the projects and users' representatives. Persons submitting projects must ensure that the rights of the owners of the holdings or collections are protected. In addition, each project will set up its own scientific committee of specialists to determine the general thrust of the project and to supervise its organization. "Memory of the World" National Committees have been set up in 26 countries (Austria, Belarus, Bulgaria, Canada, Cape Verde, China, Colombia, Croatia, Cuba, Finland, Hungary, Lithuania, Malawi, Mauritania, Mauritius, Nepal, Pakistan, Poland, Romania, Russian Federation, Slovakia, Sweden, Tanzania, Thailand, Venezuela and Zaire) and others are considering the creation of such a Committee. Jordan and Syria have indicated that national institutions are already performing the role of National Committee.

Lastly, whenever the need arises, a regional committee may select projects of a regional nature, taking local characteristics into consideration, with a view to submitting them to the International Committee.

An example of efficient regional follow-up to the establishment of the Programme is the Experts meeting held in December 1994, in Kuala Lumpur for the definition of an Asian component of the "Memory of the World" Programme. Participants from 20 countries discussed problems facing custodians of national documentary heritage materials which are generally endangered because of neglect, adverse physical and climatic conditions, political instability... The meeting agreed to take steps to ensure that Member States establish a mechanism at the national and regional levels to identify projects receivable under the "Memory of the World" Programme, as well as to establish individual country inventories of documentary heritage materials, prepare a programme for preservation and conservation of such materials, and promotion and marketing strategies to generate resources to finance the programme.

Similar conclusions were reached by a Sub-regional meeting on the "Memory of the World", held in Budapest from 9 to 10 March 1995. The meeting was attended by participants from Austria, Croatia, the Czech Republic, Hungary, Romania and Slovakia. While digitization is a powerful tool to facilitate access and thereby help to preserve the originals, participants stressed that it has limits and could not replace conventional preservation work. During the meeting, a co-operative sub-

regional project was designed. It is expected that the project will enable the participating institutions to test digitization techniques and equipment and assess the related financial, legal and dissemination aspects. A training session took place in this context in the National Library in Prague in November 1996.

The First International Conference on "Memory of the World" was held in Oslo from 3-5 June 1996. Some 150 delegates from 65 countries participated in the Conference, which highlighted the results achieved by the Programme and the need for regional and national plans for preservation and access. The Conference adopted a resolution urging all countries to establish "Memory of the World" Committees and to become active participants in the Programme. The Proceedings are available from UNESCO and can also be copied from its Web Site.

"Memory of the World" Register

The participants in the Second Meeting of the International Advisory Committee, held in Paris in May 1995, agreed that a "Memory of the World" Register be developed. This Register will list all documentary heritage which has been identified by the Committee as meeting the selection criteria for world significance, similar in some ways to UNESCO's World Heritage List. However, the nomination and registration of documents under the "Memory of the World" label will have no legal or financial implications.

The "Memory of the World" Register, a compendium of documents, manuscripts, oral traditions, audiovisual materials, library and archive holdings of universal value, will be a significant document in itself, as well as an inspiration to nations and regions to identify, list and preserve their documentary heritage.

Individual countries are encouraged to set up their own documentary heritage registers in parallel to the "Memory of the World" Register. National registers identify the documentary inheritance of the nation. The national registers will increase awareness of the importance of the national documentary heritage and the need for a co-ordinated and integrated policy to ensure that endangered documentary heritage is preserved. Groups of nations like the Scandinavian countries or the Baltic States may compile regional registers to list documentary heritage which is integral to their collective memory.

A nomination form was sent out on 2 February 1996 to all UNESCO's Member States and international professional associations, inviting them to identify documentary heritage nominated for the "Memory of the World" Register. 33 countries have proposed the nomination of elements of their documentary heritage for the Register.

Selection criteria

Each register - World, Regional and National - must be based on clearly-defined criteria for assessing the cultural value of documentary heritage. Documentary heritage is of world significance if it has had a major influence on the history of the world, transcending the boundaries of a national culture; if it reflects in an outstanding way a period of momentous change in world affairs or makes an outstanding contribution to our understanding of the world at a particularly important time in its history; if it contains important information about a place which made a crucial contribution to major developments in world history or culture; if it has a special association with the life or works of a person or people who have made an outstanding contribution to world history or culture; if it gives particularly valuable information on an important subject or major theme of world history or culture; if it is an important example of an outstanding form or style; if it has outstanding cultural and social or spiritual value which transcends a national culture.

In addition to these seven major criteria, two further criteria should be taken into account. These may enhance the world significance of documentary heritage, though they are not sufficient in themselves to establish its value: the significance of documentary heritage may be enhanced if it has a high degree of integrity or completeness or if it is unique or rare.

The criteria will be tested by the International Advisory Committee and weighting factors will be developed to reflect the relative importance of the criteria. The criteria for documentary heritage to be entered on National or Regional Registers are to be decided by the relevant National or Regional Committees. It is recommended, however, that the World Register criteria be used as a model.

Proposals for documentary heritage to receive resources through the "Memory of the World" Programme may be made by National and Regional Committees, Governments, NGOs, the International Advisory Committee or other professional bodies in the country or region. Documentary heritage proposed for support will be of World Register status. Support will require the documentary heritage to meet criteria to be set by the International Advisory Committee.

Restrictions on access to documentary heritage will not systematically prevent entry on a Register but may reduce the possibility of receiving support through the "Memory of the World" Programme.

Furthermore, the Pultusk meeting recommended that some degree of priority be given to operations affecting several countries, national projects with a regional or international dimension and projects carried out in co-operation or in partnership,

while not overlooking minorities and their cultures. Particular attention will be paid to reconstructing the memory of peoples in the case of collections or holdings that have been displaced or scattered.

Pilot projects

1) Prague

A digitization programme was launched by the National Library in Prague, in co-operation with a private firm, Albertina Ltd. A demonstration CD-ROM was first published in 1993, featuring some of the most precious manuscripts and other documents in the historic collections of the National Library, with annotations in Czech, English and French. In addition, a CD-ROM series has been starting with the release of the first two discs in early May 1995. Digitizing the most beautiful manuscripts and old prints of the National Library will facilitate access to these treasures without exposing the originals to heavy use, thus contributing to their preservation. In addition, while colours and ink react with paper, parchment, silk and other traditional media, digital information does not fade with the passing of time and could be easily transferred from CD-ROM to more durable media to come in the future.

2) The Radzivill Chronicle

Written in old Russian, this monumental work reveals the history of Russia and its neighbors from the fifth to the early thirteenth century in pictorial form, representing events described in the manuscript with more than six hundred colour illustrations. Known to the scholarly community according to its ownership in the seventeenth and eighteenth centuries, the Radzivill, or Kenigsberg Chronicle, is the most ancient surviving example of the art of Russian illuminated chronicle. It is a fifteenth century copy of a thirteenth century archetype held by the Library of the Russian Academy of Sciences in Saint Petersburg (BAN). The Radzivill Chronicle's combination of text and illustration places this manuscript in the company of such acknowledged masterpieces as the Madrid copy of the Greek Illuminated Chronicle of Ioann Scilipa, the Vatican copy of the Bulgarian Translated Chronicle of Konstantin Manassia, the Budapest copy of the Hungarian Illuminated Chronicle, and the copies of the Big French Chronicles. Among these, the Radzivill is distinguished for the richness and quantity of its illustrations.

The increasing fragility of the original manuscript, together with its preeminence in the Russian literature, has left BAN to share a dilemma faced by libraries around the world charged with the care and wise use of cultural treasures. Handling of the Radzivill Chronicle, itself, must be restricted to preserve its

material well-being. At the same time, the scholarly and scientific enterprise to which the Library is dedicated argues for access to this important document for serious research. This is why the Library has turned to a digital medium - to display the manuscript in full color while preserving the original. A prototype Photo CD is produced with the support of UNESCO and the Library of Congress, as a pilot project and a demonstration of the use of digital media in the service of preservation.

3) Saint Sophia

Devised by a group of Bulgarian and French writers, the "Saint Sophia" project is an attempt at a multimedia edition of Bulgarian manuscripts on an interactive compact disc. The disc evokes the symbolic figure of Saint Sophia, patron saint of Sofia, capital city of Bulgaria, in Bulgarian history, literature and civilization from the eleventh to the seventeenth centuries.

The documents selected include primarily the facsimile reproduction, in the form of digital images, of Bulgarian manuscripts, including the oldest one known: the eleventh-century *Book of Apostolic Epistles of Enina*. They are supplemented by reproductions of illuminations, frontispieces and decorative motifs, and by photographs of various historic and archaeological sites. There are also printed transcriptions in Old Bulgarian of some manuscripts and their translations into modern Bulgarian, English where such translations exist, and French.

4) The Sana'a manuscripts

In 1972, after heavy rain, a section of the wall of the Great Mosque of Sana'a collapsed. Work on the roof brought to light manuscripts which had been concealed in the ceiling in ancient times. They are parchment and paper fragments representing approximately one thousand different volumes, the oldest of which date back to the first century of the Hegira. Most are extracts from the Koran and are of considerable interest for the linguistic, religious and paleographic study of the literature of the early centuries of the Hegira and of the Arabic language. The fortuitous and extraordinary discovery of these documents and their unique character make this find a remarkable event which will mobilize efforts and expertise on an international scale. Thanks to the active participation of Germany, a plan of work on the fragments was begun, which led to the construction of a House of Manuscripts, the restoration of some 12,000 fragments of parchment (out of 15,000), their storage, identification and classification and the training of Yemeni restorers and photographers.

Research work on illuminated fragments and on bindings was carried out with a grant from the Getty Institute. This work, together with papers read at congresses and articles in academic journals, shows just how remarkable the collection is.

The Yemeni authorities concur in the view that the collection is the equivalent of a historic building of exceptional heritage quality. A UNESCO mission visited Sana'a at their request to consider including a pilot project on the Yemeni collections in the "Memory of the World" Programme.

A National Committee for the project has been set up to identify the most suitable documents. A demonstration disc based on a selection of manuscripts including some of the Koranic fragments has been published, in co-operation with the Regional Information Technology and Software Engineering Centre (RITSEC), Cairo, Egypt. This CD-ROM offers an introduction to the Arabic calligraphy illustrated by Yemenite manuscripts, especially the Koranic fragments. Descriptions and comments are provided in Arabic, English and French.

5) Memoria de Iberoamerica

The project, submitted to UNESCO by the "Asociación de Bibliotecas Nacionales de Iberoamerica" (ABINIA) is concerned, in its first stage, with protecting the nineteenth-century press published in Latin America and improving access to it for historians and interested members of the public.

ABINIA had previously organized a series of activities on the occasion of the Five Hundredth Anniversary of the Encounter between Two Worlds, in response to the desire to encourage appreciation of the documentary heritage of the Iberian world.

Among these activities was the compilation of a database indexing 90,000 books from the sixteenth to the eighteenth centuries, a traveling exhibition and the reissue of the most important historical works in the context of the Five Hundredth Anniversary. The national libraries of twelve countries (Brazil, Chile, Colombia, Costa Rica, Cuba, El Salvador, Mexico, Nicaragua, Puerto Rico, Peru, Portugal and Venezuela) are taking part in the project on the nineteenth-century press. It has led to the drawing up of a computerized inventory of some 6,000 newspaper titles and other press organs.

The second phase of the project is to arrange for the conservation of the listed collections and their transfer to microfilm and digital form with a view to exchanges between national libraries, the organization of exhibitions and special publications.

6) Manuscripts of Kandilli Observatory

The aim of this project is the preservation of a collection of about 1300 works on astronomy in three languages (Turkish, Persian and Arabic) held in the Library of Kandilli Observatory and Earthquake Research Institute at Bogaziçi University in Istanbul.

UNESCO's contribution covered the preparation and publication of the catalogue of these manuscripts and the production of a CD-ROM consisting of the catalogue and sample pages from most of the manuscripts.

7) Memory of Russia

This project deals with preserving and improving access to the collection of XVth and XVIth Century Slavic manuscripts held by the Russian State Library in Moscow. It also includes the archives of many of the major Russian authors such as Dostoevsky and Pushkin.

8) African Postcards

The old postcards chosen for this project constitute a pictorial treasure and are related to the 16 countries of the Economic Community of West African States (ECOWAS). These postcards are very rare because they are scattered in many countries, mostly in Europe. Only their presentation on a CD-ROM or a Web Site could bring them together, at least partially, under one theme or in an historical and geographical framework. The CD-ROM, prepared in collaboration with the Association Images et Mémoires and ICG-Mémoire Directe, features 3.000 postcards, which represents only a small part of the 50.000 which exist for the same period (1890-1930) and the same countries. This first achievement should show the way to even more sophisticated ones.

9) Treasures of Dar Al Kutub

This project, reproducing on CD-ROM a selection of precious manuscripts of the National Library in Cairo (Dar Al Kutub), offers a guided tour among the splendors of the Arab culture and its contribution to the enhancement of knowledge in numerous scientific fields.

10) Manuscripts of Vilnius University

This project is in many ways similar to the preceding one. It concerns collections of manuscripts, incunabula and old atlases kept at the Vilnius University Library and its aim is to illustrate, through a series of CD-ROMs and on Internet, European contributions to scientific advancement between the XVth and the XVIIIth century.

11) Photographic collections in Latin America and the Caribbean

The huge number of photographic collections scattered around the world led the promoters of this project to limit its scope, in a first stage, to Latin America and the Caribbean and to public collections of the XIXth century held in national archives and libraries.

Through the prints stored in the stocks, often in inadequate preservation conditions, it is the whole life of the nations which resurges with its important moments and the portraits of those who have influenced the course of history.

The coupling of a CD-ROM containing 3.000 to 5.000 prints illustrating the main stages of the history of some ten countries of Latin America and the Caribbean and of a presentation on the Web of a representative sample of images (video quality) with comments in English, French, Portuguese and Spanish, will enhance the value of this fragile heritage, in danger of disappearing. It is hoped that this will then help libraries and archives to ensure that preservation of their photographic collections is a priority.

All these projects were funded under the UNESCO Regular Programme. A number of other projects received funding under the Participation Programme. These include the safeguarding of manuscripts of Antonin Dvorák and Bedrich Smetana, held by the Museum of Czech Music in Prague; provision of equipment and training in Algeria, Cuba, Poland, Venezuela; reproduction and repatriation in Antigua of historical records held in foreign repositories; publication of "Libro de los Pareceres de la Real Audiencia de Guatemala 1573-1655"; reproduction of the hand-written card file of the 11th-17th century Russian language to CD-ROM to promote access to this collection...

Some thirty other projects are under consideration. These include, for example, a project in Albania, the restoration and preservation of 7000 hours of audio materials of Chinese folk music, preservation of Tamil palm-leaf manuscripts in India, preservation of Vietnam film heritage, preservation of Lao manuscripts, preservation of a Jewish musical collection in Kiev, safeguarding of manuscripts of ancient cities in Mauritania... Extrabudgetary funding for some of these projects is being negotiated. This includes Norwegian funding for the preservation of, and enhanced access to, the slave trade archives in Africa and funding from the European Union for the preservation and promotion of heritage collections in a number of Mediterranean countries. The last project will be implemented by the Centre de conservation du livre à Arles, France, in close co-operation with UNESCO.

Technical framework

From the examples mentioned above, it emerges clearly that the two basic principles which guide the "Memory of the World" Programme are the preservation of documents, holdings and collections and the democratization of access to them. The two principles are intrinsically linked, since access is conducive to protection and preservation ensures access.

The essential steps for carrying out any project in the "Memory of the World" programme are: selecting and preparing the documents, ensuring that they are placed in a suitable physical environment, photographing them where necessary, digitizing them, describing and annotating them, providing the staff to perform these tasks with appropriate ad hoc training where necessary, translating bibliographical descriptions where necessary, or even the texts themselves, and ensuring that the resultant product is distributed as widely as possible.

Provision has been made for the establishment of two sub-committees, the first to make regular assessments of the technology that might be used by the Programme and the second to study methods for marketing and selling the Programme's products throughout the world. The first Committee held three meetings devoted to digitization of documents. It reviewed recent developments in digitization and prepared preservation standards and technical guidelines with a table showing, for each type of carrier (texts and still images on the one hand and sound and moving images on the other hand) the recommended digitization standards for access and preservation. It was suggested that a programme of digitization of documents is the best compromise between the conflicting demands for wider access to collections and for greater protection of the documents.

The Sub-Committee also recommended that digital copies of manuscripts and old printed material under "Memory of the World" use the Hypertext Markup Language (HTML 2.0) as the basic presentation tool in order to provide the widest possible access.

As to the preservation of the originals, a publication will compile annotated lists of the most relevant standards. It will cover:

- Paper, leather, parchment, palm-leaves...
- Photographic material
- Micrographic material
- Audiovisual material
- Electronic records
- Electronic publications

Each brochure will discuss the general problem, draw the list of relevant standards, relating them to each other and pinpointing gaps, provide implementation guidelines and checklists and discuss Third World issues such as climatic and financial conditions, grassroot and traditional preservation techniques and minimum standards.

Lastly, so that UNESCO can play its role to the full as co-ordinator and catalyst, three inventories in the form of regularly updated databases are being created in

co-operation with IFLA, ICA and other competent professional bodies such as FID, FIAF, FIAT and IASA.

- 1) *Inventory of library collections and archive holdings which have suffered irreparable destruction since 1900*: This inventory, published as "Lost Memory - Libraries and archives destroyed in the twentieth century" (CII-96/WS/1), is an attempt to list major disasters that destroyed or caused irreparable damage to libraries and archives during the present century. Thousands of libraries and archives have been destroyed or badly damaged in the course of fighting during the two world wars, notably in France, Germany, Italy and Poland. War has also been the cause of untold destruction to libraries and archives more recently in former Yugoslavia and in many other countries.

The document, prepared by J. van Albada (ICA) and H. van der Hoeven (IFLA) lists lost documentary heritage in more than 100 countries. This inventory is not meant to be a sort of funerary monument but is intended to alert public opinion and sensitize the professional community and local and national authorities to the disappearance of archival and library treasures and to draw attention to the urgent need to safeguard endangered documentary heritage.

- 2) *World list of endangered library collections and archive holdings*: To date more than 60 countries have proposed collections and holdings to be included in the list of endangered documentary heritage. The International Association of Sound Archives has conducted a survey carried out by George Boston, in the context of this exercise, that shows that the most endangered carriers are not necessarily the oldest. In the audio domain, substantial numbers of acetate discs and tapes are lost each year. All unique acetate recordings at risk need to be copied swiftly to a new format.
- 3) *Inventory of ongoing operations to protect documentary heritage*: Documentary heritage has been lost in the past and will continue to disappear in the future. The aim of "Memory of the World" is to ensure that significant material is identified and saved. Today's technology enables us to identify the location of important documentary heritage and gain access to it. This inventory, prepared under contract with IFLA by Jan Lyall, list major preservation activities currently in progress. The information in this document (CII-96/WS/7) was obtained through a questionnaire which was widely distributed in English, French, German, Japanese and Spanish, using the IFLA Preservation and Conservation (PAC) network. The survey was intended to collect information from libraries with collections of national significance in order to identify problems in various parts of the world and to obtain a

snapshot of current preservation activities. More than 200 responses were received and input into the computer.

This database, as well as the previous one, running on CDS/ISIS, will be updated regularly and the data analysis facilitated by use of IDAMS, a statistical package developed by UNESCO and featuring an interface with CDS/ISIS. The two lists will constitute the indispensable basis for the Programme along with the "Memory of the World" Register.

Furthermore, in recognition of the impact of cinema on the world, it was decided, as part of the centenary celebration, to compile and publish, in the context of the "Memory of the World" Programme, a list of approximately 15 films each country considers to be representative of its most significant film heritage. This list is available at not cost from PGI under the title "National Cinematographic Heritage" (CII-95/WS/7).

Finally, UNESCO has published recently guidelines on the Programme's technical, legal and financial framework and its working structures. This text is to be available in all UNESCO official languages, free-of-charge, under the title "Memory of the World - General Guidelines to Safeguard Documentary Heritage " (CII-95/WS-11).

Legal and financial context

Working in partnership in an international context means that a legal framework is an absolute necessity if "Memory of the World" is to be managed in a properly accountable manner. The framework must nevertheless remain sufficiently flexible to guarantee the originality of each project and take account of the diversity of national legislation.

It is essential that the rights of the owners of the collections and holdings in a project are respected and that the relationship between the owners and the technical and commercial partners is clearly defined, particularly with regard to the division of rights among the various parties, the allocation of rights of ownership to the images produced and the sharing of the profits from the sales of products made from images. It also seems clear, however, that excessive protection which might limit access to the documents would run counter to one of the Programme's fundamental principles. The International Advisory Committee recommended, at its second meeting, that UNESCO pay careful attention to legal questions affecting the intellectual heritage in the new context of increasing use of electronic storage media in libraries and archives, in particular to provide for freedom of access within the limits set by national and international legislation.

INFOethics, an International Congress on Ethical, Legal and Social aspects of Digital Information was held from 10 to 12 March 1997, in Monaco. The Congress proposed, in particular, the setting-up of an international commission on INFOethics, the launching, under the auspices of UNESCO, of a large-scale co-operative effort among all professions concerned with the archiving, preservation and conservation of digital information, an initiative that would result in the elaboration of a professional code of conduct; it stressed the importance of authors moral rights in the new environment of global flow of digital information. UNESCO's objective here is to develop a scale of values in cyberspace, to reinforce the free flow of information and to head off any over-reaction that might lead to excessive regulations of the communication networks.

Finally, with regard to financial support, an international fund is being set up within UNESCO to finance some of the Programme's projects. These will include, as a priority, projects with a regional or international dimension. Other projects which meet the agreed criteria could use the "Memory of the World" label without necessarily receiving aid from UNESCO or the fund. A UNESCO special account has been opened for the "Memory of the World" (Ref. 406 INT 61).

Each "Memory of the World" project will be an entity in itself, especially as far as finance is concerned. While profit can never be a prerequisite for carrying out a project, each project must strike a financial balance between, on the one hand, the investment needed for digitizing, reproducing, and distributing products and for preparing the reproduced collections and holdings for conservation and, on the other, initial contributions from local or outside funds and royalties from possible sale of products. This balance will not be achieved without the participation of sponsors and technical and financial partners. The search for partners is an important, not to say decisive, phase of all "Memory of the World" projects.

The Sub-Committee on Marketing held its first meeting in Oslo, in July 1996. The Group outlined a fund-raising strategy for the Programme, together with a promotional and marketing plan and a legal framework. The meeting agreed that there was a possibility for "Memory of the World" to seek partnership with major companies active in creating and preserving memory and knowledge. It was also stressed that the Programme needed to be marketed first for the professions, through their associations and publications. The participants also suggested that famous writers and winners of literary prizes should be invited to rally the Programme and publicize its aims and achievements.

Conclusion

As soon as it was launched, the "Memory of the World" Programme began to arouse great interest. Requests for assistance, sometimes even appeals for help,

regularly reach UNESCO. It is a daunting task and only the mobilization of all the parties concerned can translate declarations of intent into a vast world workshop to rescue, reproduce and disseminate endangered documentary treasures.

For further information, please visit UNESCO's web site:
<http://www.unesco.org/cii>

Sources:

"Memory of the World" Programme - First Meeting of the International Advisory Committee, Pultusk, Poland, 12-14 September 1993. Final Report. Paris, UNESCO, 1993 (PGI-93/WS/17)

"Memory of the World" Programme - Second Meeting of the International Advisory Committee, Paris, France, 3-5 May 1995. Final Report. Paris, UNESCO, 1995 (CII-95/CONF.602/3)

"Memory of the World" - General Guidelines to Safeguard Documentary Heritage. Paris, UNESCO, 1995 (CII-95/WS-11)

"Memory of the World" - Lost Memory - Libraries and Archives destroyed in the Twentieth Century. Paris, UNESCO, 1996 (CII-96/WS/1)

"Memory of the World" - A survey of current library preservation activities (CII-96/WS-7)

Proceedings of the First International "Memory of the World" Conference, Oslo, 3-5 June 1996. Edited for UNESCO by Stephen Foster. Oslo, 1996

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