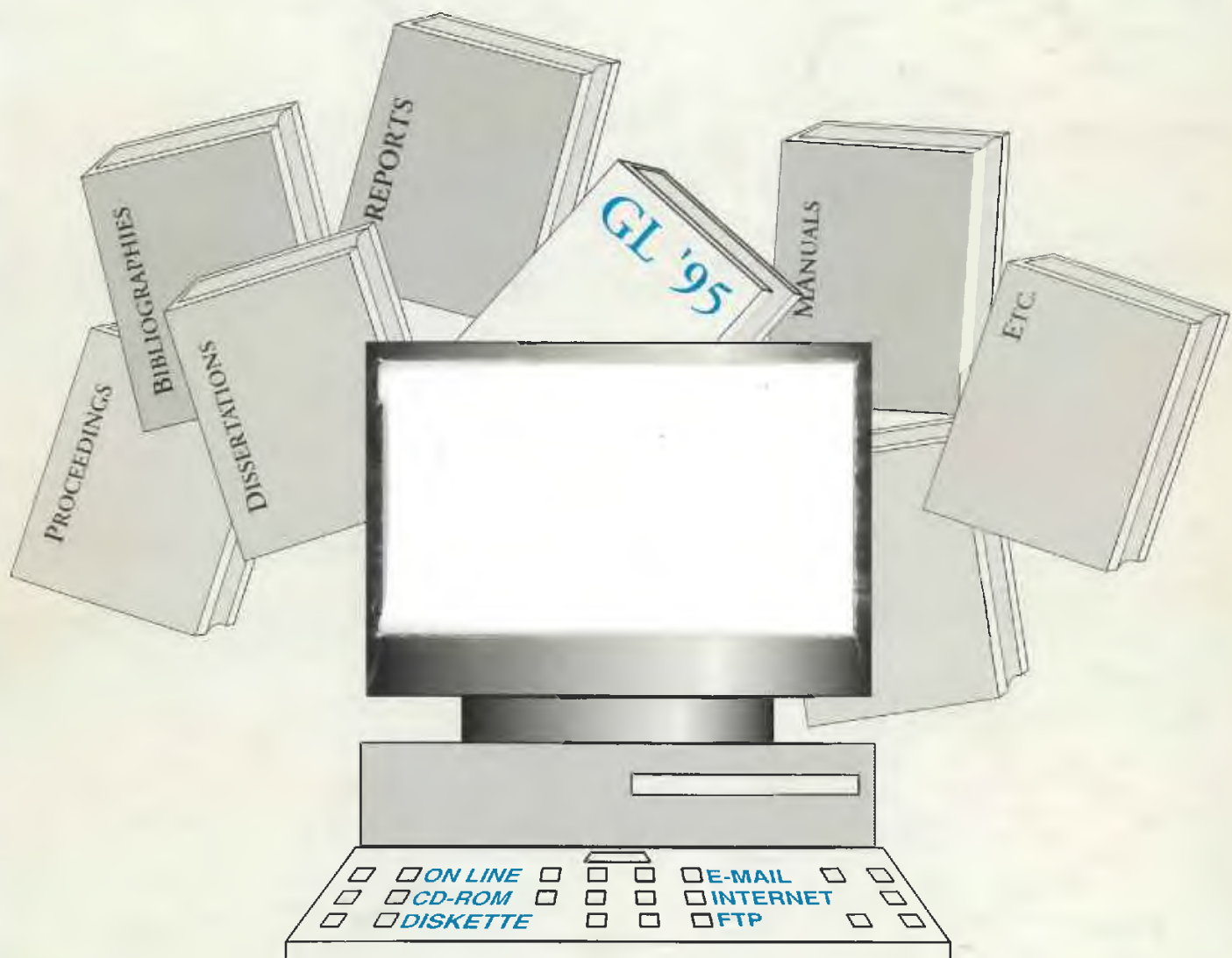


Grey Exploitations in the 21'st Century

SECOND INTERNATIONAL CONFERENCE ON GREY LITERATURE

CATHOLIC UNIVERSITY OF AMERICA
WASHINGTON D.C., USA
NOVEMBER 2-3, 1995



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Grey Exploitations in the 21st Century
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GL'95

Conference Proceedings

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In the months of preparation leading up to the Second International Conference on Grey Literature (GL'95), there was an almost inherent mission to build upon the existing body of knowledge in this field; particularly, in the area of grey literature manifested in networked environments.

GL'95 has certainly succeeded in that endeavour. 125 delegates from 20 countries worldwide met in Washington D.C., on November 2-3, 1995. Twenty-six scientific and technical papers on the topic of grey literature were presented at that forum. In the pages that follow, you will find the full text of those papers comprising the Inaugural, Plenary, and Satellite Sessions.

It is certainly appropriate here, to thank the Sponsors of GL'95 and the Program Committee Members and their respective organisations for the professional support they provided throughout the planning and preparations for this event. Special thanks go to the Catholic University of America, and in particular, to Dr. Elizabeth Aversa, Dean of the School of Library and Information Science, who was the Conference Host.

Last but not least, a sincere word of acknowledgement to the authors and speakers at GL'95, who contributed their resources and expertise in the further development of this field of information science. Hopefully, they will be encouraged to continue their efforts and provide an intellectual contribution to GL'97, The Third International Conference on Grey Literature, which will be held at the European Centre in Luxembourg on November 13-14, 1997.

Dominic J. Farace,
Conference Director

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Good morning, colleagues. I am exceptionally pleased to be here with you this morning and I want to thank the Conference organizers, especially Dominic Farace and Elizabeth Aversa, for bestowing upon me the honor of delivering the Inaugural Address. You have a full and interesting program because you, or I should say we because I count myself among your number, have a just and important cause - that of grey literature. Its proper exploitation may indeed be one of the most important events of the times as we move into a new century and millennium.

*It's a question of whether we're going
to go forward into the future, or past to
the back."*

—Former US Vice President Dan Quayle

Grey literature exemplifies and magnifies the many problems faced by today's general research libraries in coping with the rising tide of publications of all kinds, whether traditional or otherwise. The daily burden of meeting the growing expectations of users and funders grows heavier. An examination of the current information scene readily shows the body of literature is expanding at an unprecedented rate as technology alters patterns of publication and distribution. The research community must deal with increasing volumes of research materials in a variety of new and old formats as well as a host of new distribution environments. The strained situation involving research literature, including grey literature, is caused by a shrinking of the nominal core of traditional library collections as research librarians are less able to meet the costs of maintaining previous levels of collecting. At the same time, the universe of materials grows larger, which means the periphery beyond the core - where grey literature can be found - is growing. Fewer libraries collect less of the non-traditional materials. Yet, as more publications become informal or non-traditional and their channels of dissemination become increasingly electronic, research libraries have an obligation to support the user and scholar.

At this point in the development of a paper, one would define the topic of grey literature and its terminology and proceed to describe what is known and unknown about it. With your forbearance I will forego that task for two reasons. First, I am probably not well qualified to take on that role in this audience filled with eminent practitioners. Second, it has been well done and recently so by Marie-Claire Debachere, of the Institut Français du Pétrole, in a recent issue of the IFLA Journal¹. Debachere builds her article upon the predecessor conference to the one we are attending today - the First International Conference on Grey Literature held in Amsterdam in 1993. Her definition of grey literature covers the range of materials by looking at the basis for the term in European practice. She concludes that it is fuzzy, both irregular and variable. I think there is little doubt.

Debachere identifies the publishing and distribution channels for grey literature by employing words such as diverse and unconventional. As to volume, she notes that current estimates place grey literature at about 20% of the universe of unrestricted publication. Procurement is often not as great a problem as identification, which taxes all the skills of the librarian in many cases. Debachere describes a number of national and international cooperative initiatives throughout the developed and developing areas of the world. Then, she concludes with a discussion of the emergence of technology as a means to publish and distribute grey literature.

All in all, our colleague has authored an excellent article that brings us up to date on the status of grey literature, but with one significant exception. One international cooperative program, whose research collections are large, diverse and primarily comprised of grey literature, goes unmentioned and I believe it is my duty to remedy the situation. It is, after all, a substantial and long-lived model conceived and operated by the major research libraries of North America. Further, due to the nature of its programs and collections, it is incidentally one of the world's great libraries of grey literature.

Of course, I am referring to The Center for Research Libraries, which is a not-for-profit, membership organization whose mission is to make

available to the scholarly community research materials that are rarely held in North American libraries. The institutional members participate in the world's oldest, continuously-operated cooperative collection development program for research libraries. This program is supported by service functions in bibliographic access, interlibrary loan/document delivery, storage and preservation.

The reason why the Center exists is its core program of cooperative collection development. The program functions by centrally collecting, maintaining and delivering scholarly research materials so that the members avoid the costs of acquiring those materials locally. This also makes available to scholars materials that otherwise could be unavailable. The members work together through the instrument of a collection development policy at the Center, which describes the materials for which the Center takes responsibility.

The heart of the Center's cooperative collection development program is its collection which forms the basis for cooperative collection development throughout the membership. The Center currently holds over five and one-half million bibliographic volumes including 1.5 million microform units. Because all members cooperatively own and maintain these collections, a member's library resources are increased by these materials.

The Center's collections are carefully managed to complement and supplement the collections of major North American research libraries. For larger institutions, this reduces their need to collect materials that are infrequently used. For smaller institutions, this provides access to materials that would otherwise be unavailable.

The major collection components are:

Serials & Exchanges: The Center actively collects three categories of serials: (1) foreign language science and technology periodicals; (2) South Asian serials acquired through the Library of Congress' (LC) cooperative acquisition program; and (3) Southeast Asian serials also acquired through the LC program. Current subscriptions include 14,000 titles that are extremely rarely

held in North American libraries. The principal exchange program is with the Russian Academy of Sciences, which furnishes CRL a copy of all serial and monographic publications, including those with limited print-runs, except commercially published materials in the humanities and social sciences. CRL has an extensive collection of Academy publications from its inception in 1724.

Newspapers: The Center acquires in seven categories of newspapers: (1) domestic, including current subscriptions on microfilm to 54 foreign language ethnic papers, 19 African-American papers, and 37 general circulation papers to provide nationwide coverage; (2) foreign, including current subscriptions to 237 papers from 93 countries on microfilm and 41 papers in newsprint, which are filmed by CRL; (3) African, including current subscriptions to 16 papers that are filmed either by LC or in South Africa; (4) Eastern European, including 16 current subscriptions mostly in newsprint filmed by CRL and 108 alternative press papers in microform; (5) South Asian, including 78 current subscriptions to papers filmed by LC; (6) Southeast Asian, including 16 current subscriptions to papers filmed by LC and the U.S. Department of State; (7) newspapers on demand, in which CRL will acquire issues to papers already held by CRL. Beyond the current subscriptions, CRL holds extensive runs of more than 5,500 foreign newspaper titles and 500 U.S. ethnic newspaper titles.

Monographs: The Center maintains a cataloged collection of over 330,000 monographs, primarily in the history of science, medicine and technology. Additions come largely through member deposits.

Microform, Reprint Sets & Archives: The Center acquires in five categories in this component: (1) new major microform sets in literature, art, theater, music, and other fields, which now number over 300 in CRL's collection, are approved by the membership; (2) continuing major microform sets, such as census reports, that are published over time; (3) South Asian microfiche of research titles reformatted by the LC Field Office in New Delhi; (4) Southeast Asian microfiche of research titles reformatted by the LC Field Office in

Jakarta; (5) archives on demand, in which CRL will acquire microform service copies of archival material that records the activities of national governments. CRL's archival collection includes one-half of all the publications available from the U.S. National Archives and Records Administration.

Special Collections: These include research collections of college and university catalogs, national official gazettes, primary and secondary textbooks, and church records as well as lesser-known collections of railroad archives, courses of study, urban studies, and foreign central bank publications. Deposit by members is the primary means of acquisition.

Area Studies Microform Projects: Active projects carry out acquisition and preservation programs for research materials from six areas of the world: Africa, Latin America, Middle East, South Asia, Southeast Asia and Eastern Europe. In addition, CRL actively acquires materials from East Asia.

Non-US and Canadian Doctoral Theses: CRL seeks to provide comprehensive access to doctoral dissertations submitted to institutions outside the U.S. and Canada. One hundred European universities maintain exchange or deposit agreements with CRL. Russian Academy of Sciences dissertation abstracts in the social sciences are obtained on microfiche by exchange.

Non-US Documents: The Center holds official statistical serials from ten European countries as well as several hundred thousand volumes of publications from over 100 countries' government agencies. CRL's large collection of foreign official gazettes are included in this component.

U.S. State Documents: CRL maintains an extensive collection of more than 1.2 million volumes of deposited and purchased monographic and serial publications of the U.S. states' governments, including legislative journals, financial reports and research studies.

The Center's cooperative collection development programs are supported by service functions in bibliographic access, preservation, deposit and interlibrary loan/document delivery.

Bibliographic access to the Center's collection is available through **CRLCATALOG**, an online public access catalog available through the Internet; the **Handbook**, a guide to the collections; a series of pamphlets and printed bibliographies representing portions of the collection; a microfiche catalog; a machine-readable magnetic tape catalog; the OCLC and RLIN databases; and the local catalogs of a number of member institutions.

Its role as a library of rarely-held materials always has implied that the Center holds its collections in perpetuity. Through its **expanded preservation program**, the Center has formalized its preservation responsibilities. The Center has a commitment to preserving the intellectual content of the materials in its collections. Given the collection development policy, preserving its own collections often means preserving holdings that are unique in North American libraries. Endangered collections identified by staff are preserved in grant-funded projects. Deteriorated items identified in the interlibrary loan process are converted to or replaced by microform, especially to meet patron demand.

The Center's **Foreign Newspaper Micropublishing Program** (FNMP) is primarily a micropublisher for nearly 40 titles, FNMP has become a preservation program in which thousands of reels of master negative film have been produced. Under the collection development policy, the Center accepts from member libraries **deposits of materials preserved on microfilm** as well as hard copy that adds to the collection. The terms of interlibrary loan are that the Center will lend any materials from its collections in unlimited quantities for an indefinite loan period. This enables a researcher using long runs of newspapers or engaged in a long-term project to have ready access to materials. The Center will provide a **photocopy** or **telefacsimile** of an article or other portion of a work when copyright compliance is indicated on the request. Experiments are underway that are testing the digital scanning of documents and their direct delivery via the Internet.

CRL, with its millions of volumes of grey literature using the definition given us, is a cooperative model for grey literature employed by

more than one hundred major university and research libraries in North America. Recognizing that grey literature often tends to be infrequently used, the solution has been to place such material in a central dedicated-to-lending collection shared equally by the group. There appears to be no reason why this model cannot be expanded indefinitely especially as electronic storage and delivery obviates the impact of geographic separation. Other similar models exist in other parts of the world and it seems to me that an excellent opportunity exists to link together these efforts into a global network for identifying and making available grey literature.

Still, new models are needed along with the further study of existing models. One such new effort involves linkages between Japanese and North American research libraries. The Center for Research Libraries, working with the Association of Research Libraries and the Association of American Universities, is coordinating the development of a model that is beginning with traditional literature, but has the potential for improving the access to grey literature.

The goal of the project is to increase access to the scientific and technical (STI) journal literature of Japan published in Japanese. Initially the project will attempt to expand access to the target materials without expanding on-site collections in U.S. and Canadian libraries. Low use of these materials and the barriers to browsing posed by publication in Japanese have led to an "access" rather than an "acquisition" approach to expanding the availability of these materials. Every effort will be made to design a system of access so there are few or no costs to system users beyond those that may be associated with obtaining a copy of an article.

Project activities include:

- Providing network access to table of contents for Japanese STI journal literature from a variety of sources.
- Providing network access to lists of core Japanese STI serial literature.
- Providing network access to document suppliers, including the Center for Research Libraries and other libraries, CISTI, OCLC, Interlingua and

a variety of not-for-profit and commercial suppliers in North America and elsewhere.

- Providing network access to electronic text as it becomes available.
- Expanding Table Of Contents and Abstracting and Indexing coverage of the literature.
- Determining the feasibility of regularizing interlibrary lending/document supply arrangements with libraries and other agencies in Japan. The Center for Research Libraries will be a focal point of this effort.

I hope that these models give you something to think about over the next several days as you delve deeply into these issues. The next few years will be a decisive point in the quest for improved access. Good planning now along with some creative risk-taking can greatly further our cause.

Thank you.

¹ Debachere, M.C., "Problems in Obtaining Grey Literature", *IFLA Journal* (Vol. 21 (1995), No. 2) p. 94-98.

TEXT OF THE GL'95 OPENING ADDRESS

by Donald B. Simpson, President
The Center for Research Libraries, Chicago, Illinois, USA

"Grey Literature : the Challenges of an Increasingly Important Body of Research Literature"

DEFINING GREY LITERATURE FOR THE 21ST CENTURY

*by Judy C. McDermott
Chief, Overseas Operations Division
Library of Congress*

I am very pleased to be with you this morning as we begin a rewarding and informative two days of discussion and exchange of information about grey literature, a topic which is particularly timely and exciting, due to the dramatic and rapid technological changes which are currently affecting library acquisitions and collection development.

In addition to enjoying a period of exploration of new electronic opportunities for the management of grey literature, we see that the definition and scope of grey literature may itself be changing. Whether we will ultimately end up with a larger or smaller universe of grey information, I am loathe to predict. Although the electronic age has brought us powerful tools to help identify, control, organize and disseminate grey information, it has at the same time caused an explosion of yet more grey data, in both traditional and new formats, all of which requires from us a more and more aggressive response.

The stated theme of the conference, "Grey Exploitations in the 21st Century," captures the spirit of these present changes. We not only seek to obtain grey materials to augment our more traditional research collections, we also seek to share and exploit the information contained in those materials. Some of the titles of the

papers to be presented at this conference would have been totally incomprehensible to us 20, 15 or even 10 years ago, especially the frequent appearance of words such as Internet, World Wide Web, electronic publishing, and CD-ROM.

In considering this topic, I asked a number of colleagues for their definition of "grey literature." My favorite answer came from a library technician -- a very practical person -- who said, "You know you have grey literature when you can't place a standing order for it." Not a bad answer, as far as it went. It does capture what has always been the defining characteristic of grey literature: it is not available through normal book distribution channels. Acquisition of grey literature is said to be hindered by one or more of the following circumstances: it is produced in a very limited number of copies; it is by policy, or by bad fortune, subject to restricted distribution; it is not widely advertised, announced, or promoted; it is unavailable through dealers or jobbers; it is unlisted, or listed untimely, in national bibliographies or in other major bibliographic tools of the book-selling industry.

But these characteristics describe grey literature solely in terms of the difficulty we have acquiring it. It is not a useful definition of what else grey literature might actually be; nor is it likely to help us understand it in the context of the so-called normal channels of book distribution, which, along with publishing itself are rapidly changing.

Electronic publishing, Internet, World Wide Web, CD-ROM -- these words seem

more and more "normal" to us every day. Librarians and researchers rely more heavily on electronic sources of information to alert them to new titles and to information products and services. My list-serves are filled with collegial announcements about the availability of publications which otherwise would have been totally unpromoted and therefore very grey. The titles and products themselves are increasingly available -- sometimes only available -- in electronic format, mounted either by the original producer, or more likely by researchers and librarians. The ability to convert text to electronic format and share access to it is one of the solutions to the challenge of disseminating grey literature. We will hear about several such efforts during this conference, about projects which have successfully mainstreamed collections of grey literature and thus expanded access to information previously available only to a fortunate few.

Because of the explosion of information in electronic format, there has arisen a debate concerning the basic task of library acquisitions and collection development: is it our mission to acquire and store physical information, or to acquire access to information held elsewhere? It seems to me the answer is clear. No one institution - - not even the Library of Congress -- can ever hope to acquire and hold all of the information which might be required by its users. We all know we must continue to develop networks which share access to information. These cooperative attempts must become part of what we consider a "normal acquisitions channel." But what we normally acquire will increasingly be access. And more and more frequently, that access will be to information held in electronic form, rather than in print.

In this environment, defining grey literature by describing only its acquisitions difficulties misses the point. If a piece of grey literature is mainstreamed, does it not become easily accessed, and therefore no longer grey? We need to look behind those circumstances which initially make grey literature hard to acquire, and ask what is it about the nature of authorship, production, format or distribution which results in its failure to become part of the acquisitions mainstream. What characteristics might grey literature retain, even if made accessible through new technologies? What might this tell us about the likelihood of solving the grey literature problem once and for all? Could all types of grey literature be mainstreamed electronically, assuming we had enough resources?

A number of categories of grey literature suggests themselves to me. I'm sure my list is not exhaustive.

Some literature is grey very much by design and on purpose. The authors or owners don't want us to have it. Examples include interim, preliminary or draft reports; works for hire, e.g., consultant reports; and official publications of highly restrictive governments, to name some obvious ones. It is unlikely that these materials will be made freely available electronically in great numbers -- at least with the permission of their authors or producers. It is contrary to their intent, and we would re-distribute these materials at our own risk, even absent copyright protection.

One of the largest portions of grey literature is created by market forces, due

to the publications' inherent lack of profitability or the fact that they are created outside of the for-profit environment. Examples include conference proceedings, transitory works of temporary importance, publications of governments, research institutes, NGOs, and the like. Publishing, even electronically, is expensive. If the potential market is small and specialized, this publishing must be financially subsidized in some way or marketed cooperatively with the target audience itself. This is an area where the efforts of library and information professionals have made great progress in disseminating and marketing literature and information which would otherwise be grey, or which began life as a grey publication. I am thinking of efforts, well known to this group, which result in the creation of a cooperative or affordable database covering grey literature on special topics or from special categories of institutions.

Another portion of grey literature has all the characteristics of the not-for-profit type discussed above, but with the added dimension of facing the unique challenges of publishing in the developing countries of the world, countries where economic or social conditions make it difficult to support a thriving commercial publishing industry, much less support the marketing and distribution of so-called "development literature," from important but severely underfunded research sources, especially in Africa and Asia. Short print runs may be caused by the unsophisticated problem of a lack of paper. Inability to market domestically or internationally may be caused by poor performance of basic sectors of the economy such as transportation, postal systems, financial infrastructure, and telecommunications. There are less likely to be immediate technological solutions aiding the control and dissemination of this category of grey

literature, although many sincere and vital efforts are being made. A country with an unstable supply of electric power, with a poor telecommunications network, possibly exacerbated by political and economic instability, does not have the same opportunities as many developed countries to apply new technological resources to the management of the substantial amounts of grey literature they produce.

A last category is grey due to political factors: literature which is suppressed, censored or clandestine. Technology won't really help us much here either, unless people are willing to risk their personal safety. I have a happy example of this type of literature from Ethiopia. I was fortunate to be able to accompany the Library's field director in Kenya on an acquisitions trip to Ethiopia. At the Institute of Ethiopian Studies at Addis Ababa University I was shown a brand new publication, only a few days old, entitled A catalogue of clandestine literature in Ethiopia. The institute had, during the 17 years of the previous regime, collected over 10,000 pieces of clandestine or opposition literature. It was only the fall of that regime which allowed this grey literature to appear. However, I wonder if the catalog itself might not be considered grey. It was published only in 100 copies, and at the time I visited, I was not aware of any plans to mount it electronically, or to provide electronic access to the texts themselves.

The categories of materials I have just discussed -- with the exception of materials cooperatively provided by the producer upon publication for secondary electronic distribution -- still remain hard to acquire. They remain so unless or until

they are formally re-distributed (probably electronically) and unless or until information about them is widely disseminated (probably electronically) to interested acquirers. Our acquisitions problems with grey literature are not totally solved by electronic access. Even in the best of new technological worlds, there will still be old-fashioned hard-to-acquire print-format grey literature. An active, aggressive, non-routine effort to acquire gray literature will still be required, and success in obtaining it will as frequently be the result of opportunity and serendipity, as it will be the result of organized and systematic effort.

But what about new publications appearing originally in electronic format? Can any of these be considered grey literature? If we begin once more with the concept of difficult-to-acquire material, the answer most assuredly will be yes. New electronic forms of grey literature might be databases or electronic journals utilizing obsolete or incompatible technologies. You have acquired an electronic version of the information, but you can't access it. Availability requires a commitment -- from someone, somewhere -- to maintenance, updating, support, and trouble-shooting. Lost, destroyed, or unretrievable data could certainly be called a new category of grey information, perhaps not so much hard to acquire as it is hard to keep. It's frightening to think that the ever-increasing body of data that may be available to us only electronically may not be secure. [If the nature of our work may be changing from providing information to providing access to information held electronically elsewhere, it means that we can't control the stability, or even the continued existence of that information. In a certain sense, we may be returning to a pre-Gutenberg age of

unstable texts. The electronic text you consult on Monday may or may not be the same version you find on Tuesday. It may be more or less accurate than it was; it may not be there at all.

Another way in which otherwise healthy material can become grey is through poor or non-existent bibliographic control. But true grey literature, once acquired, usually poses additional problems in organization and bibliographic control. Just as traditional acquisitions methods are inadequate for obtaining grey literature, our standard rules of cataloging and classification frequently fail us in our attempts to describe and organize grey literature. The same circumstances which might cause a publication to be produced in limited or restricted quantity might also lead to intentionally obscure, or suppressed, statements of authorship or sponsorship. The same circumstances which might cause a publication to be produced in a casual or informal manner might also lead to a total lack of any of the traditional bibliographic elements which we use as access points in our catalogs. Add to this the proliferation of non-standard organization or bibliographic retrieval schemes which exist in new electronic publications and you get literature which has become grey -- if not even darker -- because no standard or logical search strategy retrieves it. Again, it was acquired, but access was not provided.

The ease with which publications and works in progress can be discussed via electronic channels is creating a larger bibliography of electronic ghosts. Aggressive acquirers try to obtain copies of titles referenced on the net, when the title never has

existed and never will.

Lastly, we begin to face greater challenges in selection, and in evaluating the quality of all prospective acquisitions, just because there is so much to select from. It becomes easier to lose good and valuable literature, mainstream or grey, in the shuffle.

The ease with which we can now produce and share information, either electronically, or in print through the use of widely-available electronic techniques, gives rise to the creation of more information, by individuals and by organizations who have never considered themselves to be authors, publishers or distributors of information before. There are more amateurs in print and on the web than ever before. Just because information can be produced and easily distributed, it doesn't necessarily mean it should have been. Conversely, just because material is grey or hard to acquire doesn't necessarily mean it's worth the effort. I am reminded of a college friend of mine who fancied himself a poet. He excitedly announced that his first book of poems just came out. I congratulated him heartily on finding a publisher. "But I didn't," he replied. "I bought a mimeograph machine." Imagine what he could have done with a desk-top publishing program, or a personal home page. I guess he's doing it right now.

2nd International Grey Literature Conference
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Washington, DC

"Grey Literature in New Packages:
Implications from the Transition to Electronic Publishing"

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In the past three years the phenomena of the emergence and development of the worldwide web (WWW) has captured all elements of society and created a new forum for grey literature as never before. The range of information now mounted on web sites ceases to amaze noone. We have seen commuter systems, especially knowledge-based systems used in various ways to support knowledge work in the most creative ways while challenging how grounded they are in traditional literatures. Grey literature (GL) responds by finally having a secure home and seeing redefinitions of its merit with enhanced options of combining text with graphics and images, links to other bodies of literature and being searchable and retrievable in very easy ways. This paper examines how libraries and scholars are forced to handle and treat the traditional and new grey literature as it becomes a very standard source in our collections, but not without difficult challenges surrounding it for librarians, publishers and users.

At the first international conference about two years ago, the definitions for and discussions about grey literature described a very different library and publishing environment. We shared common values about grey literature and were committed to preserving it. We considered new formats by identifying CD-ROM developments, introducing the concepts of virtual, electronic, spatial and just barely digital, because grey information, in particular, is not only analog. We were circumspect, considering how we could publicize our prized resources, learn why traditional libraries were resisting them in standard collections, wondering how we could offer better bibliographic control and provide access to an underrepresented

source.

Those were the days of pre-web. It has since become personally rewarding to know that those of us who have been advocates for grey literature have not been creatures of a bad habit but instead are on a cutting edge participating in a "happening occasion," for I ask your indulgence, as I suggest that the Internet has paved an information superhighway or autobahn consisting of much or endless grey literature. I can't help but recollect a passage from Gorman and Crawford's recent volume, Future Libraries: Dreams, Madness and Reality (1995): where their credo is as follows:

"Libraries serve humanity.

Respect all forms by which knowledge is communicated.

Use technology intelligently to enhance service.

Protect free access to knowledge.

Honor the past and create the future.¹

The worldwide web or WWW has singly contributed more to a global acceptance of technology and electronic publishing than any other initiative or practice familiar to those of us in the information industry. What is obviously missing from this quotation is any reference to information, but still it harks back to our memories of Ranganathan's original Five Laws of Library Science or references ingrained in us by Thomas Kuhn, in The Structure of Scientific Revolutions (1962). Perhaps the telephone, television and cable services have made similar contributions to society helping us to function in new and different ways when they were introduced but I challenge whether the acceptance was so widespread

so fast. The information and communications revolution began in the 1950s and proceeded to alter the corporate and academic realms and we have thus witnessed a restructuring of the international economy as a result.

Costs associated with installing and operating web sites and providing access vary greatly around the world. Net connections may not be easy to achieve with poor undeveloped phone services or an inability to provide high speed transmission links to every desktop. Some governments threaten intellectual freedom by believing they have the rights to monitor and control the content of messages sent across their borders. Continuing pressure from business and scientific communities will alleviate slow downs and force improvement in access due to competitive and economic pressures. Dreams of connectivity are truly being realized, but sometimes not at the pace we need when we consider other more immediate survival skills and resources.

The web's contribution to grey literature allows us as proponents of new and emerging technologies a dream to come true. We have been invigorated and charged with new capabilities, freedoms of intellectual and creative scope, an ability to exclude no one except those who choose not to learn a new vocabulary of HTML terminology and not share a wish to be connected in a very interactive way. Today we have seen an infectious society willing to risk anything to "get on the web" by mounting a homepage and having a series of URLs to identify themselves. This contagious disease has touched all segments of society in all locations,

however remote and isolated. It has empowered authors and enlightened readers and users. It has cemented a bond between recreation and scholarship, strengthened relationships between business and education communities, the profit and nonprofit sectors, private and public enterprises and the fever for it is nearly an evangelical crusade - a bandwagon composed of diversity. Until recently, providers were educational institutions and alliances, governments and corporations; but today, the greatest increase of users has been individuals registering via telecommunication services and information providers.

My ideas about how the web can be defined as the new classical grey literature are framed in the context of scientific communication and scientific literacy. My examples and cases will reflect the increasing multidisciplinary collaborative approach to science and the directions of electronic publishing in this arena.

Reasons why some scholars and scientists have become skeptical of electronic publishing still puzzle me except for the facts that they are not as pleasant to read and printing is sometimes a challenge. However electronic publications are easier to index and retain for future reference in a personal classification system which offers users a great choice in pursuing their own bibliographic and bibliometric arrangements. It is easy to understand why publishers and librarians are leery - they challenge the way we have practiced our trades for generations and it is more difficult to justify in our roles and the physical environments in which we work.

Clearly not only has the electronic information source redirected how we read, it has changed the way scientists communicate and interact with each other. You have already heard about several very key examples of building databases and what a critical mass they have become in certain professional circles. What I ask you to consider, is what value we now place on the ability to distribute and share preliminary investigations or data - just imagine if the cold fusion research was disseminated in its early stages how much less of an impact and embarrassment it would have had for those scientists who thought that they were on to something pretty spectacular and unusual.

Let us identify several publishing initiatives or examples of scholarly communication in the sciences which support the direction of electronic distribution. Some are from scholarly societies and others are from commercial publishers, who have taught us librarians what will continue to be the direction they will take. To name a few:

Institute of Physics - introducing Internet access to their publications beginning in 1996;

Academic Press - making available fulltext 30 titles of their journal list and anticipating the entire list to be searched and read online - like other publishers such as Cambridge University Press are introducing journals in multiple formats - CD-ROM, electronic mail subscriptions and on the WWW;

IEEE Project at the University of California where they have mounted on MELVYL fulltext all their publications including

conference proceedings, journals, technical reports, etc;

Elsevier Science - the TULIP program in Materials Sciences;

Springer Verlag - the RED SAGE project at the University of California, San Francisco;

Cambridge Scientific - has mounted their indexing tools via web sites and subscription via IP addresses;

US Patent Office - utilizing web sites;

CAS (Chemical Abstract Service) - exploring more end user searching via WWW;

Ei (Engineering Index) - has debuted new Electronic Library Initiative;

OCLC - FirstSearch via links on OPACs;

RLG (Research Library Group) - ArticleFirst also via OPACs;

ISI - Genuine Article - these last three are all document suppliers.

The editorial in Science (October 27, 1995) calls for a strengthening of our global commitment to science and suggests that science communication has several new methods to accelerate this effort. Surfers and readers of the web are exploring all subjects and pathways ranging from sources of funding, new academic emphases and concentrations, laboratory research and manuals, alternative careers, job opportunities, coverage and location of conferences, new curriculum, patents, technical reports, working papers, equipment inventories, shopping catalogues and other applications.² The web is the link to offer this information and make it available globally. Textbook publishing is probably one organ of academic

publishing experiencing the most phenomenal changes with custom publishing often incorporating multimedia with an anticipated short lifespan rather than in perpetuity.

With the costs of printed scientific work skyrocketing, it has become harder to locate journals in many outstanding libraries. We all know that scientific discoveries encourage the overspecialization of topics and as they proliferate, they require their own following and journal, yet the distribution channels of that journal in a print format are shrinking.

The most comprehensive study I am aware of outlining how a university library is planning to conduct their changes in collection management is one published by Columbia University in August 1993, entitled The Scientific Information Study. Done prior to wide web acceptance and release, it leads one to think that many of their information needs no longer met by onsite collections and expensive access to remote databases can be replaced by web sources.

Being a successful librarian, publisher or scientist in the 1990s is indeed difficult and requires a revisionist management orientation to accommodate rapidly changing technologies, the globalization of economic forces, unexpected competition and quick market saturation all of which create an increasingly complex and volatile professional environment. With great organizational change taking place and necessary for institutional survival, it forces new products which have a familiar and ease factor in promoting, marketing and distributing. Information products must

encourage self-sufficiency and be user-friendly to achieve the recognition they need. In response to that, the new grey literatures have a far greater chance in being incorporated in library catalogs, gopher sites and web links, but we need to be able to depend on their maintenance.

To compete successfully in the current environment the products must follow new assumptions and practices which emphasize organizational innovation, flexibility, efficiency and speed of response. Taking science to market in the traditional print stages is inordinately complex and time-delayed. The process is quickened with tools such as the web, because content can be introduced in stages, and formatting can be mastered easily and the author or contributor takes total responsibility for releasing the product, rather than a lengthy review process.

Implications in my own library include rethinking our collection development parameters - the formats are stretched to acquire standard reference materials now electronically published and strategically released on the net. We are cancelling print collections of dictionaries, directories, journals, expensive reference works and seeking alternatives available electronically that offer same if not more value-added qualities and encouraging our catalogers to add entries to our online catalog. The new MARC record has a line for the URL of a website thus bibliographic control can be readily captured as a standard.

It is not so easy to call for a rebuilding of the organizational capabilities to allow for the provision of

information services, unless the structure can practice innovation, break down barriers, challenge traditions, be flexible, efficient and move into the world, John Major characterizes as "having individual voice and public images."³ He defines this as nearly anyone can have a voice conversation with almost anyone else, anywhere, at any time. It is cordless, cellular, wireless or at least transparent to the users when computer and telecommunications function properly. Our concern is when that is undependable and delays and breakdowns occur.

The world of public images is that of integrating text, voice, sounds, with graphs, charts, picto-anything, photos, illustrative material, video and other broadband service products. Until the web was developed, newspapers, books and the majority of learning services were pretty much as they were at the turn of the century - on newsstands, in quiet read only libraries and in formal schools. Now we reach out in distance education and can practice inclusivity rather than exclusivity.

Other critical byproducts of this grey literature are that it can be captured, saved, controlled, indexed and reproduced. It can be a serious addition to collections and resources which once shunned it. The universal resource locator (URL) tells a lot about the authorship of the work - where it was done, what formatting it uses and what scheme it follows and how it references other hypertext resources. The downside of all this remains that we are not sure what condition web sites will be day to day, as one of the conference speakers noted earlier.

An ongoing discussion on a listserv exploring what distinguishes digital, virtual and electronic libraries has made for some enlightening thought. I cite some responses and urge you to consider how the new packages of grey literature support this movement.

Digital libraries are ones where you let your fingers do the walking by turning pages in old fashioned books; virtual libraries have virtually nothing that you desperately need right now and electronic libraries are ones that don't use candlelight.

Digital Library = contains digitized pictures of hard copy.
Virtual Library = collection of resources on MORE than one computer system; Electronic Library = all of the above and whatever else you can think of.

Digital Library is fast replacing electronic library only because the government is supporting a four-year digital library initiative at 6 US universities - the Library of Congress intends to be the National Digital Library.

A Library is an institution that keeps books, newspapers, recordings for people to read and use; An Electronic Library applies electronic utilities to its operations and services; A Digital Library is "resources" which contain the materials, functions and services of the library organization, including people and the networks. Virtual Library is the library without walls. By application of the Internet and the digitization, any user can use, search, retrieve and access and deliver the service or materials.

One of the more cogent definitions comes from Robert Wedgeworth, University Librarian at University of Illinois and current President of IFLA, who says: "The term digital library, as I understand it, and as it is used in my library refers to digitized files of information, cataloged, indexed and with professional assistance available to help users. These files may be comprised of original materials or may be the result of the electronic conversion from pre-existing material including, but not limited to, books, journals, manuscripts, photos, prints, videos, etc. While the term library is used somewhat casually in many instances, its use within the professional community usually requires three elements: a collection, organized according to some scheme and professional guidance in its use. However, there are many collections called "libraries" that are not organized systematically and/or do not have professional assistance

associated with them."⁴

There is a chasm developing between those excited about the future and those who seem to fear the unknown. What about the integrated library - rather than the absolute digital library? We better recognize that libraries, academic research libraries are not living up to their once laudable goals of rich, diverse inhouse collections - instead today we form consortia and depend on institutions such as the Center for Research Libraries, we depend on document supply and extend access to many external resources worldwide.

We have perhaps too large a vocabulary which inaccurately defines our preferences. Instead I urge us to consider some wisdom offered by Edward Tufte in his work, Envisioning Information (1990). If we follow his thinking, "To envision information and what bright and splendid visions can result - is to work at the intersection of image, word, number, art. The instruments are those of writing and typography, of managing large data sets and statistical analysis, of line and layout and color. And the standards of quality are those derived from visual principles that tell us how to put the right mark in the right place..."and like Tufte says, let us remember that, "The principles of information design are universal, like mathematics - and are not tied to unique features of a particular language or culture. Consequently, our examples are widely distributed inspace and time;"⁵ illustrations in his book come from 17 countries and 7 centuries, and, for that matter, 3 planets, and 1 star.

The crucial part of my paper follows rather abruptly. What does this mean for the future of grey literature. If we subscribe to what Ann Okerson suggests, "control the output by expanding an existing mechanism that is closely tied to the production end of scholarly communication."⁶ Grey literature has a home, albeit not one that has always been hospitable to all segments of it, but it has had a valuable role in scholarship and its new added values make it more popular and widespread.

Grey literature fuels the knowledge base of new and established information. With the web as its vehicle, it corrects some of the social, economic and technological inequities in our information structure - it encourages better connectivity and relationships with traditional print and nonprint bodies of literature and directs CD-ROM to be utilized for more static publishing products. The information rich and information poor are only distinguished by set-up and access; so as this kind of grey literature becomes more widespread and universally available in information kiosks, at public places, cyberspace will become a common source much like public and commercial television, or the pay as you go like in entertainment arcades. Some of the same attributes - advertising will determine the extent of freeness. Already one can not only browse information, one can shop, dialogue and study with this grey literature.

The web and CD-ROM have some things in common, such as the ability to do string searching and use boolean operators to refine a strategy and display results in a variety of ways. However, the

web does not have the shortcomings of being at the end of the road - a CD-ROM product can only be stretched so far. The web can drive the user to tap endless sources and consult or search things in very abstract ways.

Conformity does not describe this body of grey literature. Within the structure of the WWW via the Internet, grey literature can be searched using different browsers and indexing tools. The enormous growth of nearly 5,000 sites a month suggests that new finding aids are desperately needed to take user to relevant sources.

If Daniel Bell is indeed correct with his contention that "information and knowledge," not "labor," are the crucial commodities in the post-industrial era,"⁷ we can be soothed by the fact that books have a strong future, and that internet information, has deserved its recognition and that grey really is a shadow of white and black. This has challenged Lancaster's infamous discourse on the paperless society and reaffirmed that libraries have come to recognize that information from electronic sources is as legitimate a service to provide to their constituencies. No wonder so many scientific publishers have introduced so many electronic products that are now fulltext with images and available via different means and costs.

What we don't know about grey literature on the net, but as infomediaries we need clarification about: how long it will be there; how often it will be added to, revised, expanded, and will we be able to find it again; are standards coming and what about

relationships to the indexing tools - why do they remain so loose and unstructured and their retrieved results presented so arbitrarily? We have resources to now acknowledge such as brief articles, "Writing Web Page Standards" (1996)⁸. Archivability remains a critical issue - we must have full citation, from original source so that transferred or migrated material is appropriately noted.

Let me conclude that grey literature in my mind has come of age...in the electronic format it has earned its merits for serving the public good. Libraries have a strong role in managing this extensive literature and directing users how to maximize its potential. It is just another spin on the publishing cycle where there are many new participants and currently some chaos that needs straightening out and some maintenance support to let it reach its potential. We continue to experience many new developments refining the models we have now for how libraries treat grey literature, how authors create it and how users manipulate it. I hope this paper suggests the need for new and more objective approaches to the publishing and distribution arena, rather than merely obeying the dictates of the marketplace.

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The Virtual Library in Action: Collaborative International Control of High-Energy Physics Pre-Prints

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Abstract

This paper will discuss how control of the grey literature in high-energy physics pre-prints developed through a collaborative effort of librarians and physicists. It will highlight the critical steps in the development process and describe one model of a rapidly evolving virtual library for high-energy physics information. In conclusion, this paper will extend this physics model to other areas of grey literature management.

1. BACKGROUND

The Stanford Linear Accelerator Center (SLAC) Library has been acquiring and cataloging high-energy physics pre-prints for almost thirty years. While the Library maintains a suite of databases for the world wide high-energy physics community's use, its flagship database is called SPIRES-HEP (Stanford Public Information Retrieval System-High Energy Physics). SPIRES-HEP currently contains over 300,000 bibliographic entries for high-energy and related particle physics pre-prints, published journal articles, theses, and technical reports. The database grows by approximately 20,000 new entries each year and for recent years, includes abstracts and links to 27,000 papers, the electronic version of the pre-prints or articles, when available.

This database is tailored to its user community and so bibliographic entries contain information of value to the users. All authors are included with individual links to their associated institutions (the record may be 850 authors for one pre-print). The names of experiments and of the collaboration performing the experiment are indexed even when not explicitly part of the title page or the paper. Researchers can trace the effect of a paper on subsequent scholarship because all references to published journal articles or to numbered electronic pre-prints (e-prints) are included to form a 'citation index'. Physicists at the DESY Laboratory in Germany add extensive subject index terms from a controlled vocabulary developed for particle physics. Finally, a code is also added for every conference paper enabling comprehensive searches by conference long before the proceedings are published.

e-prints

SPIRES-HEP has evolved over time into a collaboration of the particle physics community libraries world-wide. Selected libraries contribute new records to the database, others simply use the database as a local catalog by entering on-line their holdings information for the pre-prints held by their library. A number of sites around the world download significant portions for use at their institutions and others run clone copies of the database to improve response time and decrease network load for the regions they serve. Some of the collaborating institutions include DESY (Germany), Kyoto University (Japan), RAL/Durham (England), Fermilab and Caltech (USA), and CERN (Switzerland).

2. CULTURE AND TECHNOLOGY SUPPORT GREY LITERATURE CONTROL

The bibliographic control of high-energy physics pre-print literature has evolved over three decades from a manually produced, weekly print publication that was mailed to libraries and physics departments world wide to an interactive database that provides on-line access and hypertext links to the bibliographic data, abstract, full text, references, and citations within literally hours of the pre-print's first appearance. Some of the key technology enabling this process was invented by physicists themselves, who together with a handful of librarians with unusual vision, repeatedly pushed the database's limits to better fulfill an ideal of comprehensive and universal desktop access to the field's literature. To understand how this process developed, and how other fields can adapt the revolution it has created to their circumstances, one must have some background in the culture and tools of high-energy physics.

High-energy physics is a relatively small community with a strong tradition of international collaboration. Most of the experiments conducted are done on large instruments called detectors located at approximately a dozen accelerator laboratories around the world. Often hundreds of physicists from many countries collaborate to propose, design, build, and run these experiments which, from inception to conclusion, may last a decade. While experimentalists form large teams, theoretical high-energy physicists are scattered thinly about the globe, at approximately 3,000 university physics departments and laboratories. As early networks were established, high-energy physicists quickly recognized their utility to share the work of widely scattered collaborators and to communicate new theoretical insights rapidly amongst colleagues.¹ Researchers in this field began to rely on the precursors of the Internet to share not only electronic mail, but also software programs, data analysis, and early drafts of collaboratively written research papers.²

High-energy physicists began to disseminate their research to colleagues in the form of paper 'pre'-prints long before they acquired or developed the tools to disseminate these pre-prints to each other electronically.³ They shared these research papers in advance of the paper's formal publication in the scholarly literature for several reasons. One of the

1. first purposes was to circulate a draft of the paper amongst many collaborators who were joint authors. A second motive was to circumvent increasingly lengthy journal publication schedules which were causing delay times of up to two years between submission and publication. Theoreticians in this field publish relatively frequently. Their papers

sometimes function as iterative discussions – provoking lively dialog both within their subfield and between them and experimentalists. Both at its inception and its conclusion, an experiment would be severely hampered by the long lead times of traditional scholarly journals. For experimentalists contemplating a particular research question, not knowing that another team was already engaged in a similar problem could prove expensively duplicative. And, when years of effort culminate in a publication that may radically alter the fundamental explanations of our universe, experimentalists are understandably reluctant to passively sit out a one to two year publication cycle before their results appear in print.

Researchers in this heavily compute-dependent field are, of necessity, extremely computer literate. Because their field is highly specialized and abstract, high-energy physicists have often written their own software and invented new computing programs and tools themselves. Newcomers to the field quickly develop a high level of computer literacy and a great deal of expertise – and faith – in using computing systems to do work faster and better. It is not surprising that these characteristics of computer literacy, networked communication, and international collaboration also created a demand for rapid, comprehensive, and widely accessible control of high-energy physics literature.

3. CONTROL OF THE LITERATURE EVOLVES

As some visionary librarians began to acquire, organize and provide access to the pre-print literature, physicists also came to recognize the value of an organized and centralized system of bibliographic control.⁴ The pioneering managers of high-energy physics grey literature, Luisella Goldschmidt Clermont from CERN, Dr. Kurt Mellentin from DESY and Louise Addis from SLAC, began to collaborate early on as they collected and organized the pre-print literature. They readily shared their efforts and innovations with each other and looked to evolving computer systems to provide ever increasing levels of information management. The SLAC library received an important boost in this effort in the early 1970's through Louise Addis' early collaboration with a Stanford researcher who began studying high-energy physicists to learn how scientists communicate.⁵ As a result of his findings, he spearheaded the development of the SPIRES (originally entitled Stanford Physics Information Retrieval System) database management system. Louise Addis led the implementation at SLAC. Originally created to help physicists communicate electronically, SPIRES evolved into a database management system used to control the pre-print literature as well as many other bibliographic and administrative databases at numerous institutions around the world.

A second important development occurred in 1979 when Donald Knuth from Stanford University invented TeX, a text markup language which quickly became popular within the field of high-energy physics because it provided a high quality mathematical text using simple ASCII characters as input. The spread of TeX and its variants gave the field an electronic *lingua franca* that set the stage for the eventual electronic transmission of pre-prints. A further development occurred in 1985 when the SPIRES-HEP database became accessible world-wide as an electronic database searchable through remote access servers.⁶ Eventually, this system was regularly accessed from over 662 nodes in 44 countries representing almost 5,000 non-SLAC remote users of the database. Clones of

the SPIRES database management system and the HEP database began to be run in different parts of the world to better serve users in those regions. Certain libraries then began contributing original cataloging of pre-prints to HEP, while other libraries used it as a miniature 'OCLC' to show users the local library's pre-print holdings. There were many other minor technological developments and hundreds of basic improvements in the SPIRES-HEP database during these two decades, brought about through the collaboration of physics librarians at various institutions and by the synergistic interaction of librarians and physicists.

A profound change in both the way scholars communicated and in the speed with which SPIRES-HEP could make bibliographic information available occurred in 1991 when a physicist at Los Alamos National Laboratory, Paul Ginsparg, radically redesigned pre-print distribution by creating an electronic submission system.⁷ Physicists could now send electronic copies of their papers written in the TeX formatting language which transmits and displays as ASCII text, to a server which stored them according to their sub-field (theory, phenomenology, etc.), assigned "bulletin board numbers", and then nightly electronically mailed lists of the prior day's pre-prints to listserver subscribers. This system of electronic pre-print (e-print) archives grew in popularity quickly. However, even with a majority of physicists ostensibly writing in the same text formatting package (TeX), the listserver subscribers experienced a significant number of problems displaying and printing the copies of the full text e-prints which they had transferred via file transfer protocol (FTP) to their computers.

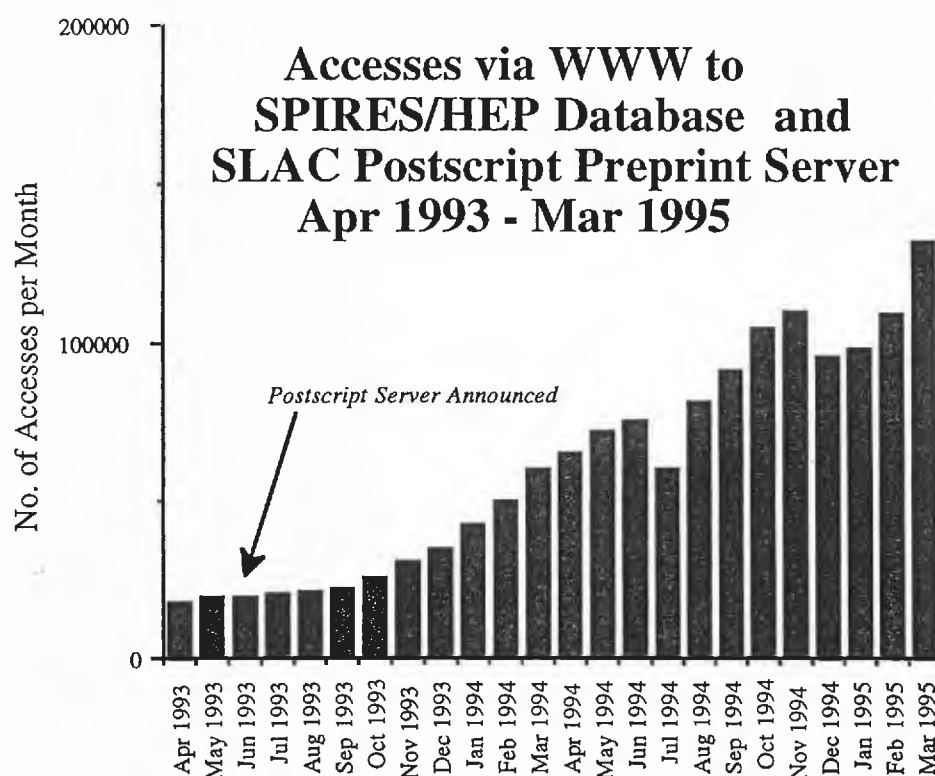
The SLAC Library quickly began including the "bulletin board" number in the bibliographic record for the pre-print when it was cataloged in the SPIRES-HEP database. Soon, physicists asked if the Library could provide an easier way to view or print these papers. The Library began providing Postscript versions of each day's e-prints. After the previous day's papers were FTP'd, a TeX processing expert re-formatted each document into a viewable, printable, Postscript version. Important parts of this service were the speed and the quality control. The majority of the papers would be processed within four to six hours of their receipt. Library staff would also test each paper's viewability and printability on common computer platforms. The growing number of papers posted to the e-print archives would have quickly overwhelmed this manual system, but SLAC was soon rescued by the creative programming of Paul Mende, a physicist at Brown University, who successfully automated the TeX/Postscript routines resulting in 80% of the papers processing automatically. Library staff then worked on the 20% of problem papers and on obtaining and processing the figure files received from authors who had not posted them along with the text of their paper to the e-print archives.⁸

TeX
e-print archives

The development of the e-print archives coincided with another invention that changed even physicists' Internet use and paved the way for fast, user-friendly access to SPIRES-HEP and the full-text of the e-prints. In late 1991 and early 1992 the World Wide Web was invented by Tim Berners-Lee and his team at the CERN Laboratory in Switzerland.⁹ The first working Web site in the United States was installed at the SLAC Library by Paul Kunz, a SLAC physicist who had obtained a copy of the Web software while at CERN, thinking it would provide a vastly improved search system for remote users of the SPIRES-HEP database. The combination of a user-friendly and rapid search system coupled with full-text access to Postscript versions of e-prints within 24 hours of their appearance on the Los Alamos e-print archives, skyrocketed the popularity of the

HEP database with its users and proved so useful that within two years of its implementation, the traditional mode of remote searching from registered nodes was discontinued – most physicists were using the Web to search, view and print from SPIRES-HEP. The following graph shows the dramatic effect these improvements in technology had on database use.

3.1 Graph showing skyrocketing database use after the introduction of World Wide Web access and links to the full electronic texts of pre-prints.



The SLAC Library is in the middle of this revolution, adapting to changes these two inventions have caused and examining new applications that permit even more radical changes. Integrating these two new technologies into our control of the grey literature changed the nature and speed of our internal workflow. It also expanded the services we provide our users, enabling us to create new information resources and link our databases with other Internet-accessible resources. The result is a vastly expanded virtual library of high-energy physics information.

The first phase of this change enabled the SLAC Library to eliminate some manual effort and speed up internal processes with little increase in labor. Triggered by the nightly electronic mail sent to the e-print listserver subscribers, our automated processes stripped

out the elements of the bibliographic record and the full abstract from papers submitted to the e-print archive the day before. This processing program added a temporary record for the item into SPIRES-HEP with a hypertext link embedded in the record to both the SLAC-held abstract and the full text of the e-print. All of this was done in the early morning before cataloging staff arrived to begin their day's work. Using an ASCII version of each e-print, the processing program put a copy of each paper's references (footnotes) into a separate database, from which they were subsequently edited, indexed, and linked to the full text of the work being referred to if it were also contained in SPIRES-HEP. From this reference list is built a citation index which is searchable both forward and backward in time and has hypertext links to the full text of documents when available.

The overnight availability of a Postscript version of most e-prints linked with a temporary bibliographic record, has had the effect of increasing users' expectations for the entire SPIRES-HEP database. Users quickly began to assume that everything else about the e-print should also be immediately available. Traditional reasons for delay – printing, mailing, cataloging, etc. – which were understandable in an analog world, were assumed to be either irrelevant or trivial in the digital landscape. Our successes with automating part of the processing raised users' expectations and led to further developments to increase processing speed and make available more quickly other parts of the bibliographic information. Even with some remarkably creative efforts, not all work can be automated successfully. In certain areas, the Library must still rely on “old fashioned” manual effort which is, of course, slower. Because of these differences in processing speeds, we have had to undertake an entirely different level of user communication and intervention.

During the decades when the Library received print versions of pre-prints and cataloged them manually, most physicists using the system understood that all the information about a particular pre-print was not completely accurate until each week's conclusion. Recently we have had to include a new level of message to early morning searchers who find that certain parts of the bibliographic information, say the footnotes, are not yet available for a particular e-print that we have received through our overnight processing. Composing this new message made us realize how these profoundly changed user expectations have altered our own standards of acceptable turn-around time. Now, when a user selects the hypertext link “*See References*” for a preprint which does not yet have the footnotes entered, a program performs a calculation to determine how many tenths of a day old the bibliographic entry for that preprint is and advises the user:

“This preprint is only 0.3 days old and the SLAC Library has not completed processing it yet.”

SLAC staff such as our SPIRES database manager, Dr. Hrvoje Galic, have also created new tools using our bibliographic data as well as linking other externally-available Web resources into a more efficient information system for researchers. We have created several new directories, combining information which would have been impossible without the seamless integration that the Web permits. One directory enables a user to find information about HEP experiments and includes a bibliography of publications from that experiment from SPIRES-HEP as well as links to an experiment's own home page if one exists. Another Web page provides access to the high-energy physics home pages of all academic institutions and research organizations world-wide that have such a page available. We also provide a small program which can be implemented by these other

Web page owners to create an up-to-date bibliography from SPIRES-HEP of publications about their experiments or by authors affiliated with their institutions.

We have begun to broaden the access we provide into a continuum which further links the stages of the research process in this field. If a “grey” pre-print becomes a journal article and available on a publisher’s server, we provide a link in our bibliographic

record to that “white” literature. Also, we are discussing with our users ways to include the research information that precedes the e-print, perhaps by linking to a collaboration’s detector design technical notes or to experimental data itself.

One measure of how thoroughly our database has become integrated into the field’s intellectual work is the amount of complaints we receive when users experience access problems. One evening we made a major change to the program underlying the Web forms interface we were using. The Library’s main electronic mail address received over two dozen complaints via electronic mail before staff arrived at eight o’clock the next morning. The complaints continued until we could replicate and then solve the problem which, fortunately, only affected part of our user community. Our SPIRES database manager personally responded to hundreds of electronic mail complaints in the several days it took to resolve the problem.

4. THE CHALLENGE

The SLAC Library was uniquely poised to take advantage of the e-print archive and Web revolutions. Yet the effects of these technological inventions have flowed beyond the narrow confines of high-energy physics. The e-print archive system has already been established in other fields of scholarship and the rapid popularization of the Web has changed even the general public’s use of electronic information.^{10,11} Other managers of grey literature can use these inventions and the SLAC Library’s experiences to expand and improve their control and dissemination of grey literature.

Not only can the availability of electronic texts enable grey literature database managers to streamline traditional work and provide information much faster, but with hypertext links, managers can create new features and enhancements that will improve service to their communities and link information in new ways. Futurists speculate that the advent of these inventions may herald an information revolution as profound as that of the printing press.¹² The presence of full-text archives and Web hypertext connections are leveling the playing field not only amongst authors and publishers but amongst categories of information. Because of their extensive experience with non-traditional information, grey literature managers are better prepared to recognize the value of these emerging information landscapes and to organize them in innovative ways.

It is not clear that in a couple of years, the distinctions among grey, ‘black’ and ‘white’ literature will even be meaningful.¹³ Grey literature can now be linked to additional information that was, before this, often only accessible at a particular location or to a particular group. Connections can also be made to the other side of the spectrum, to the

full electronic texts of published journal articles, review literature, and books. This technological revolution has already presented an opportunity to provide our users with enhancements that would have been unimaginable, or at least, impossibly costly several years ago.

In fact, institutions and individuals with experience in grey literature collection, organization, and access are uniquely qualified to bring order to the chaos of Internet information resources. Working within the world of grey literature, one must often forge new solutions and operate with little traditional infrastructure or precedent. This is partly because grey literature has been traditionally ignored by established information managers such as libraries and publishers. Grey literature knowledge workers have, of necessity, developed intellectual characteristics that can help them migrate their efforts successfully into the inchoate electronic environment. They bring to this challenge a flexible, questioning approach that recognizes the value of alternative forms of scholarship and information.

Organizers of grey literature have to use unconventional means to learn about and acquire their material which often exists in formats that have been difficult to obtain, handle, and disseminate. They typically maintain a closer connection to their authors and producers than is customary when working with the traditional scholarly work of a field. With these closer connections to their user community, grey literature managers are able to learn more about how information is used in their fields and to find out from their users more about their unmet information needs. Because they can identify and value the many threads of information produced by their user communities, grey literature managers are uniquely able to weave the disparate strands of Internet information in their fields into an intelligible and useful whole.

Using as a model the revolutions experienced by the SPIRES-HEP database, one can see that technological advances, coupled with the unique combination of skills and knowledge developed through working with grey literature combine to present managers of this 'fugitive' information with an unprecedented opportunity to play a new and more central role in managing electronic information. Grey literature managers are facing a challenge that they are uniquely able to meet. They have the opportunity to play a vital role in organizing their field's traditional and non-traditional information – whether black, grey or white – into an organized and coherent "virtual library" for their researchers and users.

5. ENDNOTES

1. Work supported by the Department of Energy contract DE-AC03-76SF00515
2. R. Taylor, "Brave New Internet: Changes in Culture and Technology are Driving the Internet into the Next Millennium," *Internet World* vol. 2 no. 6 (Sept. 1994): 36–42.
3. P. Doty, et al., "Scientific Norms and the Use of Electronic Research Networks," in *ASIS '91: Proceedings of the 54th ASIS Annual Meeting*, Wash. D.C., October 27–31, 1991. Medford, N.J.: Learned Information, 1991: 24–38.

4. L. Addis, "SLAC Library Monitors Underground Physics Press," *SLAC News* (June 1971): 2–3.
5. L. Addis to P. Kreitz, email describing early participants on preprint collaboration, Nov. 1995.
6. Edwin B. Parker, Institute for Communication Research, Stanford University, was the principal investigator for the NSF grant that began SPIRES. See Stanford University, *Design of the Stanford Public Information Retrieval System (SPIRES II)*, vol. 1, 2nd ed., revised, July 1973.
7. George Crane, a physicist and SPIRES programmer, has been credited with creating the popular Q–SPIRES remote user access system to SPIRES.
8. P. Ginsparg, "First Steps Towards Electronic Research Communication," *Computers in Physics* 8:4 (Jul/Aug. 1994): 390–396.
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10. T. Berners–Lee, et al., "World–Wide Web: The Information Universe," *Electronic Networking* 2 (Spring 1992): 52–58.
11. See URL <http://xxx.lanl.gov> under "Some related and unrelated servers".
12. C. Bournellis, "Internet '95: 'The Internet's Phenomenal Growth is Mirrored in Startling Statistics,'" *Internet World* v.6, no.11 (Nov. 1995): 47–48, 50, 52.
13. A.C. Schaffner, "The Future of Scholarly Journals: Lessons from the Past," *Information Technology and Libraries* vol.13, no.4 (Dec. 1994): 239–247.
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Internet as a new distribution channel of scientific Grey Literature. The case of Italian WWW servers

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Abstract

The enormous range of information sources and communication services available on Internet today recalls the information explosion and information overload which has characterised this century. We are certainly facing new kinds of information and communication patterns, based on direct electronic communication between end-users among themselves and/or between end-users and information sources. Moreover, this new channel of communication gives the opportunity of spreading different types of information which is in some cases available only in a networked environment.

The aim of this paper is to analyse whether this new scenario has stimulated the production and the direct distribution of Grey Literature as well as changing its "traditional" features. The starting point of the study are the Italian WWW servers of the National Research Council.

Introduction

The first US network, ARPANET, allowed for collaboration among researchers working in different places who needed to share and exchange data on *non classified* projects. The network thus permitted the communication of reserved information safely (even in the event of nuclear attack) and rapidly.

The number of points of contact with Grey Literature (GL) here is striking. Especially at the outset, report literature was a channel for communicating the results of research in progress to a limited number of insiders. It thus possessed all the distinctive features of informal communication: it not only allowed the transmission of knowledge, and facilitated discussion with other researchers, but also had the merit of being reserved and rapid.

Today's scenario is of course very different from that of the ARPANET network, considering the evolution or, better still, the explosion of networked communication. Internet has in fact turned into a channel of communication of limitless access, based on direct electronic communication between end-users among themselves and between end-users and information sources. This opens

up new perspectives related both to patterns of communication and to the diffusion and retrieval of scientific information.

Even the information available on Internet displays new characteristics. It can, for example, take on a variety of forms, ranging from data, images, graphs and software to lists of resources and services. Inside a single web site, such information can combine and expand through links between different types of documents and/or information sources as well as access to external sources. Information is thus at once broken up and enhanced; the very concept of the document as an information medium turns into a series of logical and physical pointers and links. It is partly thanks to these new potentialities that the approach to information transmission is changing. We no longer search using an information retrieval language on a structured data base; we now *surf through cyberspace*. All of this has positive effects of course, but also negative ones, such as disorientation and overexposure to such an overload of information.

One final consideration on the purpose of networked communication is applicable not only to the scientific sector. As the Internet phenomenon develops and grows, there is a sharply felt need to participate in the global village. This means both giving exposure to one's own image and becoming an active partner in the networked communication process.

This study sets out to explore how this new channel of communication has affected GL. Analysing Italian World Wide Web (WWW) servers belonging to scientific and research organisations, it asks if and how these new patterns of communication and information distribution are changing the nature of 'traditional' GL. Analysis focuses in particular on the type of information presented by WWW servers to check whether networked information is difficult to retrieve on other information sources. Indirectly, the analysis highlights the way in which WWW servers use the network and their attitude in the diffusion of the GL they produce.

Research methodology

The method followed in this paper is based on two phases:

- brief analysis of Italian WWW servers to identify:
 - distribution of WWW servers according to type of organisation;
 - distribution of WWW nodes according to research organisation.
- analysis of the type of information available on the web on the basis of a sample chosen among scientific research organisations. This aims to:
 - identify new forms of GL;
 - identify 'traditional' GL documents, the way it is reported and diffused;
 - identify new ways of transferring grey information.

Data on the type of information available on WWW servers have been gathered by *visiting* all the internal links in a single web site and/or accessing to external interconnections.

To sketch a picture of the way in which the network is being used at present by the Italian scientific community, information was analysed from the point of view of its content. This served, on the one hand, to verify whether Internet is a

channel of distribution and diffusion of GL and, on the other, to find out whether a web site contains information that is difficult to retrieve on other information sources such as directories and data bases. In the first case, the WWW server is regarded as an information source with clear-cut documentary objectives, in the second, as a channel fostering communication among several interlocutors and conveying information that may be classified as *grey*.

The greatest difficulty encountered was the heterogeneity of the information presented by WWW servers. This made it necessary to select criteria which could best represent the different ways in which information is spread.

Choosing the sample

The sample chosen is the Italian National Research Council (CNR) not only because the CNR's role has been fundamental in the development of the Italian research network (GARR) [1], but mainly because it is Italy's leading research organisation, multidisciplinary in character, and operates nation-wide.

Other research organisations (the National Institute of Nuclear Physics (INFN), the National Institute of the Physics of Matter (INFM), Astronomic Observatories) have WWW nodes, but, in so far as they represent specific disciplinary sectors, they supply only partial information about scientific research in Italy. Universities, which have the most WWW servers, frequently comprise only campus-wide information and hence fail to offer a homogeneous picture comparable with that of other research organisations.

The data on CNR WWWs was gathered from the source made available by the CNR-Milan research area, which reports WWWs according to types of organisation and presents data according to their technical-scientific structure. The data gathered is updated to September 15, 1995.

An overview of Italian WWW servers

A characteristic feature of the Italian network is that it has come into being and developed within a scientific environment. It was the Ministry of Universities and Scientific Research that first activated GARR, the Group for the Harmonisation of Research Networks in 1988. The Group is made up of three national research institutions (CNR, ENEA, and INFN) and the CINECA, CILEA and Technopolis-CSATA consortia. The aim of GARR was to interconnect existing networks of Italy's leading research organisations in a single *backbone*. Through GARR Italy has been able to enter Internet. The first interconnections date from around 1990, and have increased steadily since. The number of nodes in Italy rose from 1.000 in 1991 to more than 10.000 in 1993 [2]. It is difficult to obtain official updated data for the moment. It is estimated however, that the number of Internet users is increasing by 10% every week and that two new servers are added to the network every day.

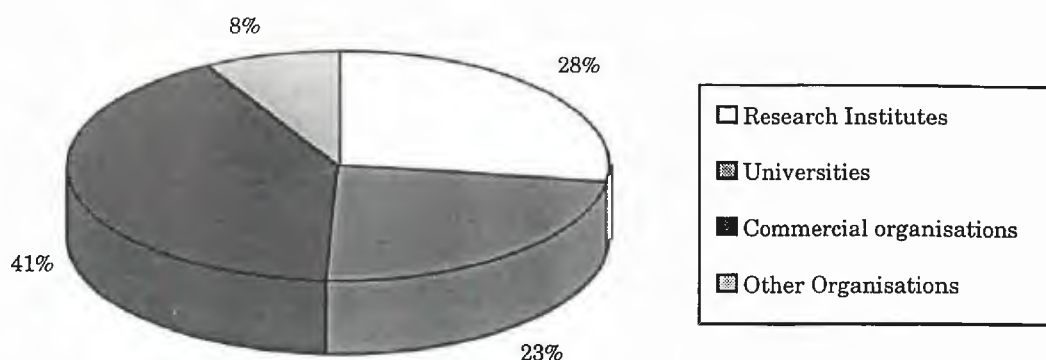


Fig. 1. Distribution of Italian WWW servers by type of organisation (Source: CNR-Milan research area)

The present distribution of Italian WWW servers by organisation type (Fig. 1) confirms that the Italian network consists largely of scientific organisations (research organisations 28%, universities 23%). In 'other organisations' there are also public bodies (e.g. The National Graphical Institute and Mint), inter-university consortia (such as the Consortium for the application of Supercalculus for Universities and Research, the Lombard Inter-university Consortium for Automatic Processing) cultural foundations (the CIME Foundation, the ENI Enrico Mattei Foundation) and international research centres based in Italy (the International Centre for Theoretical Physics, the European Space Agency). There is also a high percentage of commercial WWWs (41%). The figure, which tallies with those recorded in other countries, highlights the expansion of the network to a variety of user categories, and not only for scientific purposes.

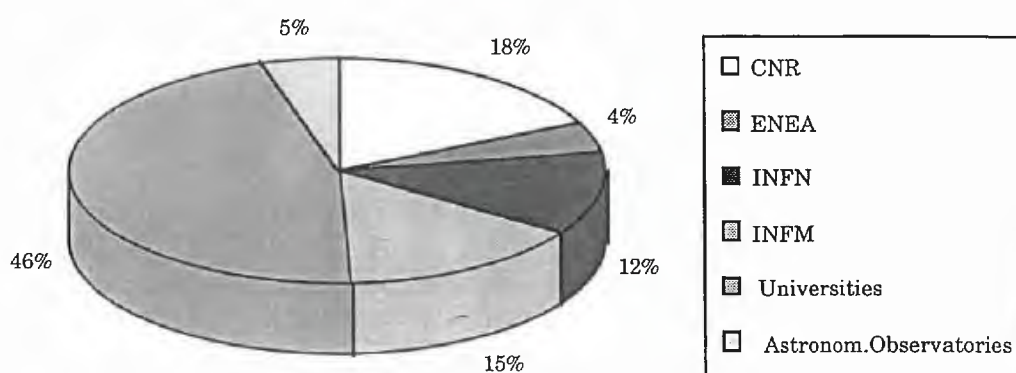


Fig. 2. Distribution of WWW servers by research organisation (Source: CNR-Milan research area)

Figure 2 shows the distribution of Italian research organisations. It reveals that universities play a preponderant role (46%), while the CNR (18%) accounts for a higher percentage than non-university bodies. The disciplinary sectors of

other research organisation are all physics-related. The only exception is the ENEA, which since 1980 has been concerned with technologies, energy and the environment.

WWW servers of the National Research Council

The internal structure of the CNR is made up of Management Boards (The President, Presidential Council, Administrative Committees, Chief Executive), National Advisory Committees, ten of which are of a disciplinary nature and five of an interdisciplinary nature, and research bodies (institutes, study centres, national groups). Since 1976, the CNR has sponsored research programmes of national interest, setting up *Finalised Projects* of limited duration in which both public and private research organisations take part. Research Areas have also been introduced to group the CNR's scientific bodies at a local level, to rationalise the use of common services and to operate as connection centres with business communities and public administration [3].

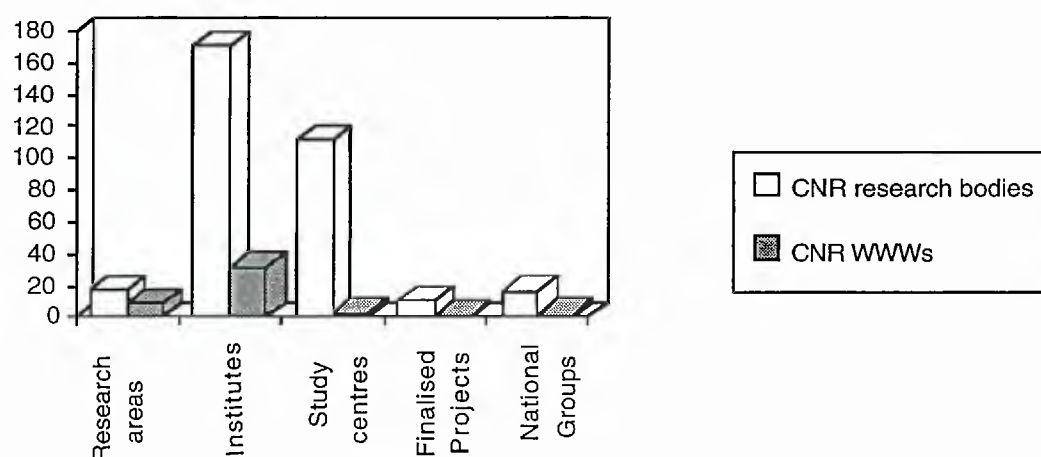


Fig 3. Distribution of CNR WWWs by research body (Source: CNR-Milan research area)

Figure 3 shows the distribution of CNR WWWs by research body. WWW nodes break down as follows: 50% of research areas (9 out of 18), 19,3% of institutes (32 out of 166), 2,7% of study centres (3 out of 111), 10% of *Finalised Projects*, (1 out of the 10 currently in progress) and 11,7% of national groups (2 out of the 17 currently operating).

19,3% of institutes and only 2,7 % of study centres are WWW nodes (Tab. 1) [4]. The disciplinary areas most represented are those in the scientific-technical field, whereas humanities-related institutes are hardly represented at all (the one exception is the Institute of Juridical Documentation belonging to the Juridical the Political Sciences Committee).

Table 1

Distribution of CNR institutes and WWW servers by National Advisory Committees (Source: CNR-Milan research area)

National Advisory Committees	Institutes	WWWs	%	Study centres	WWWs	%	TOT. %
Mathematical sciences	7	2	28.6	--	--	--	28.6
Physical Sciences	27	12	44.4	4	1	25.0	41.9
Chemical sciences	23	3	13.0	29	--	--	5.8
Biological & Medical sciences	16	1	6.3	20	--	--	2.8
Geological & Mineral sciences	11	3	27.3	13	--	--	12.5
Agricultural sciences	22	2	9.1	21	--	--	4.7
Engineering Sciences & Architecture	14	5	35.7	12	2	16.7	26.9
Historic. Philos. & Philological Scien..	5	--	--	10	--	--	--
Juridical & Political Science	5	1	20.0	1	--	--	16.7
Economic, Social & Statistical Sciences	7	--	--	--	--	--	--
Information Sciences & Technology	16	2	12.5	--	--	--	12.5
Sc. & Tech. Environments & Habitat	8	1	12.5	--	--	--	12.5
Biotechnology & Molecular Biology	6	1	16.7	1	--	--	14.3
Sc. & Tech concern. artistic heritage	4	--	--	--	--	--	--
TOTAL	166	32	19.3	111	3	2.7	

The high percentage of physics committee servers (both partial 44.4% and total 41.9%) comes as no surprise. These were the first to exploit the possibilities offered by networked communication through HepNet network, which has been active in Italy since 1987. The figure tallies perfectly with the distribution of research organisations (INFN, INFM, Astronomic Observatories).

In reality, the number of institutes on which we have information is even greater. This is because from some research areas' WWW servers it is possible to obtain information on institutes and study centres within the area. This leads, as we shall see, to a further differentiation of the information available on web.

Characteristics of CNR WWW servers and of the available *grey information*

The consideration of Internet as a channel fostering the communication process among several interlocutors brings to the fore some of its distinctive characteristics. The most evident is that information tends to be strongly personalised, and therefore very heterogeneous in both format and content. This is also partly due to the technical characteristics of the tool, the use of hypermedia and the possibility of completely modifying or updating the information and its format quickly and relatively cheaply.

Analysis of our sample suggests that research bodies *introduce themselves*: in greater or lesser detail, they provide information about their institutional aims and their technical and organisational structure (departments, personnel employed etc.). In most cases, research activities are described, but again with a high degree of differentiation, sometimes even inside a single institute. In some cases, the emphasis is laid on special projects, contributions to national or international research activities or on tools or prototypes developed *in loco*. Sometimes the presentation of research results includes information about the documentation produced. Elsewhere, such information is directly available, for example, in postscript, through FTPs or e-mail applications. Research institutes

often give details of conferences which they have organised or others of special interest for their own scientific research activity.

This information can be considered grey due to its variety, the specific nature of the contents and, above all, the joint presence of more than one type of simultaneously retrievable information from a *virtual* common site. More specifically, it has an informal editorial format, often does not reproduce a printed document and is subject to frequent updates and changes (it is *ephemeral*).

Its *greyiness* is confirmed by a brief comparison between the information retrievable on web and the information of comparable content retrievable in directories such as *World of Learning*, *Yearbook of International Organisations*, reference data base (for example, *Research Centres and Services Directory*), or data bases that can be grouped under Current Research Information Services (CRIS) [5] (e.g. *Cordis*, *CRIS/USDA*, etc.)

This comparison highlights not only differences, but also the advantages and disadvantages which they entail. In the information sources cited above, information about research organisations is of an official, institutional nature, and has the advantage of being presented uniformly. In the case of Internet, however, the official aspect takes a back seat, what counts most is personalisation and the essentially voluntary nature of the people who introduce the information.

Furthermore, information on the Internet is not always complete. This is demonstrated by the frequent use of the *work in progress* icon, so often a source of frustration for the user. The data supplied is also difficult to compare, unlike that available on structured data bases. In CRIS, for example, it is even possible to make a scientometric analysis [6] on the basis of a single structure and uniform information contained in the data base.

The fact that the authors of WWW servers have no limits of space combined with the advantages offered by multimedia allow them to introduce data of guaranteed scientific interest: for example, technical data in the form of tables, images, and specification about tools or prototypes developed. This further enhances the information available on the web with respect to the directories and data bases cited above.

One final consideration concerns interconnections with different information sources. This is the main characteristic of Internet, which can lead to further expansion in the fields of documentation and information retrieval. More particularly, access to the nodes of other thematically comparable institutions is an indirect way of making the acquaintance of the members of the *invisible college* of a given field of research. In fact, besides being useful for the user, these interconnections outline a map of collaborations and connections among research bodies.

Grey information

In our analyses of information on CNR research bodies, we made a distinction between direct and indirect access. In the first case, the information supplier (9 research areas, 32 institutes, 3 study centres, 2 national groups, 1 finalised project, a total of 47) tallies with the number of WWW server nodes. The second case comprises research areas and national groups, which provides referral information about the belonging institutes (42). Here retrievable information

may be less detailed (Tab. 2), even though it is often presented in a uniform format. This distinction is a useful one since it again highlights the role played by the information supplier. This is particularly evident in the case of 'traditional' GL, available, as we shall see, almost exclusively at CNR institutes which double as WWW nodes.

In making the distinction between information about the body itself and information about its research activity, we identified different types of descriptions. Under 'very synthetic information', we group the institutes which provide only basic data (address and telephone, fax and e-mail). Under 'detailed information' the description comprises the number of personnel units, institutional aims and sometimes a brief history of the institute itself. The same distinction applies to the description of research activities. The 'very synthetic description' applies to a straightforward list of lines of research or project titles, while 'detailed information' consists of a more in-depth description, sometimes in the form of abstracts, in other cases broken down according to aims, results, methodologies used and bibliographical references.

We also grouped information on special national and international projects under a single heading, since these are not ordinary activities, developed by external collaboration and highlighted in special *sections* of the web page. Documentation on projects such as these is often very extensive and detailed, and accounts, as we shall see, for part of the GL available on the network.

In the same way, we specify whether an institute supplies detailed technical descriptions of tools and prototypes developed, and whether it provides information about organisation of and/or participation at conferences or training courses/seminars.

Table 2

Type of information provided by CNR research bodies by direct and indirect access

	<i>DIRECT ACCESS</i>		<i>INDIRECT ACCESS</i>	
	No.	%	No.	%
<i>INFORMATION ON RESEARCH BODYI</i>				
Very synthetic description	6	12.8	27	64.3
Detailed description	32	68.1	10	23.8
No information	9	19.1	5	11.9
<i>INFORMATION ON RESEACH ACTIVITYI</i>				
Very synthetic information	10	21.3	19	45.2
Detailed information	24	51.1	16	38.1
No information	13	27.6	7	16.7
<i>SPECIAL PROJECTS</i>	12	25.5	2	4.7
<i>TECHNICAL DESCRIPTION OF TOOLS/DEVICES</i>	12	25.5	1	2.4
<i>CONFERENCE & COURSES</i>	20	42.6	0	0

Table 2 shows that when research bodies have a WWW of their own, they are keen to describe themselves in detail (68.1%). The data supplied by areas and national groups on the belonging institutes (indirect access) are mainly synthetic (64.3%). But, compared with percentage of no information at all, they are fewer (11.9%) than in the direct access group (19.1%).

This situation persists if we analyse data on research activity where the no information phenomenon becomes more accentuated (27.6% for direct access, 16.7% for indirect access).

It is worth pointing out that, in the case of direct access, other types of information (special projects, technical descriptions of tool and devices) are presented. In the case of indirect access this phenomenon is irrelevant. The figure referring to conferences confirms the trend: 42.6% in the case of direct access as opposed to zero in the case of indirect access.

Table 3
WWW giving access to other information sources

<i>Connection services available</i>	<i>No. of institutes and areas</i>	<i>%</i>
National thematic WWW	1	2.1
International thematic WWW	1	2.1
National & international thematic WWW	22	46.9
No connection	23	48.9
Local library	9	19.2
External library	5	10.6
Local & external library	4	8.5
No connection	29	61.7
Local data base	6	12.8
External data base	5	10.6
Local & external data base	2	4.3
No connection	34	72.3

There is an evident tendency for WWW nodes (46.9%) to provide connections with other nodes without differentiating between national and international connections (Tab. 3).

Connections with external and local libraries or data bases are a different matter. Here the phenomenon of lack of connection is particularly evident, affecting 61.7% of local libraries and 72.3% of data bases. The most significant figure is that of the possibility of access of local libraries (19.2% only local library, 10.6% only external libraries and 8.5% local and external libraries) which are, in our case an important source of GL documents.

Traditional Grey Literature

Besides being pioneers in the use of networked communication for *grey* purposes, the majority of scientific organisations are also the original producers of GL. The opportunity to report and even directly distribute GL would help solve the problem of both identification and retrieval, which continues to be the main difficulty in the use of non-conventional literature. This means not only "more effort by originators to make documents known and available" [7], but also acknowledging their information value and giving them wider exposure. This is why, as we gathered data, we highlighted this particular aspect by considering the way in which GL is reported on web.

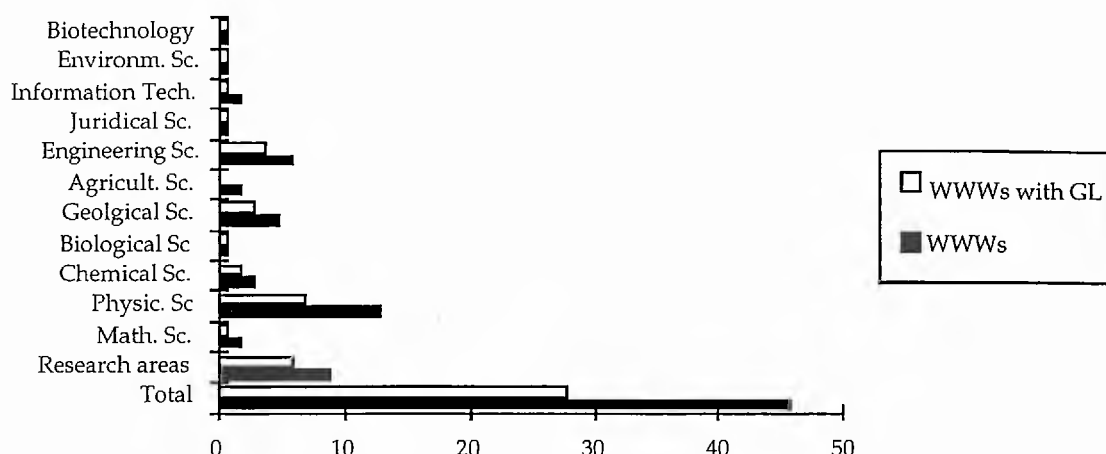


Fig. 4 Distribution of GL by research body

Figure 4 provides data on research bodies which give references to GL documents. 60.9% (28 out of 46) of research bodies report the GL they produce. Distribution by National Advisory Committee shows that the tendency is homogeneous. Committees with a higher number of institutes show percentages which range from 53% for the physical sciences (7 institutes out of 13) to 75% for the Engineering Sciences (4 institutes out of 7). Committees with a lower number of WWW servers often shows 100% (Biological and Medical sciences, Juridical and Political Sciences, Biotechnology and Molecular Biology). The only exception is the Committee of Agrarian Sciences where the two institutes' WWW nodes do not indicate GL at all. This phenomenon also extends to research areas, 67% (6 out of 9) of which report their production (mostly in the form of journals) or refer to the GL produced by their institutes.

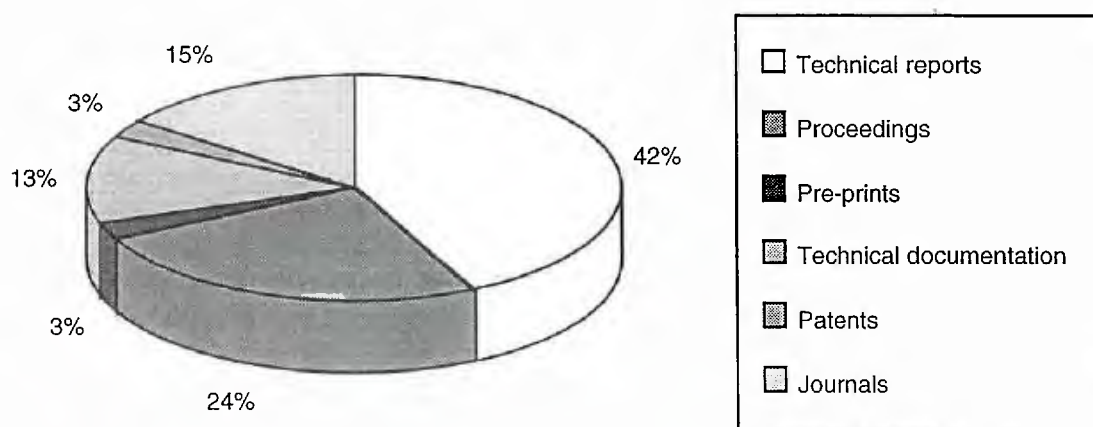


Fig. 5 Distribution of GL by document type

Figure. 5 shows which type of GL document is reported on the web. Technical reports (42%) and conference proceedings (24%) are the most cited GL documents. 13% of the GL reported on web consists of technical documentation. We have devoted a separate heading, 'technical documentation', to all the

documentary material regarding special projects (CNR Finalized Projects, European projects) retrievable on the WWW. This documentation does not come under 'technical reports' in so far as it consists of several document types: feasibility studies, survey reports, reports on the activities and results of single sub-projects, intermediate and final reports (for example, monthly reports of the projects of the European Community). This documentation is often supplied with bibliographic references to conventional and non-conventional publications which are used for the diffusion of the project results. It is worth noting that besides being very extensive, technical documentation is, as we shall see, always available in full text versions.

Table 4

Information on GL reported on web distributed by document type

<i>Types of GL documents</i>	<i>Bibliographic references</i>		<i>Abstracts</i>		<i>Full texts</i>		<i>Tables of contents</i>		<i>Total</i>
	No	%	No	%	No.	%	No.	%	
Technical reports	16	94.1	1	5.9	--	--	--	--	17
Proceedings	8	80.0	--	--	2	20.0	--	--	10
Pre-prints	--	--	1	100.0	--	--	--	--	1
Patents	2	100.0	--	--	--	--	--	--	2
Techn. documentation	--	--	--	--	5	100.0	--	--	5
Journals	2	33.3	1	16.7	--	--	3	50.0	6
Total	28	68.3	3	7.3	8	19.5	2	4.8	41

In table 4, data on document types is related with the information on GL reported on web (bibliographic references, abstracts, full texts, tables of contents). In the majority of cases (68% of total documents), the GL bibliographic reference is given. Abstracts of technical reports, pre-prints and journals are available only once. As we have seen, the full text is always available for special project documentation. The data on journals is particularly interesting. It is provided giving the bibliographic reference (33.3%) (often available from the image of the cover page of the journal) or, more frequently (50%), indicating the table of contents of the most recent issues. This presupposes that these journals are not electronic bulletin boards, but in-house printed periodicals produced and distributed by the research body independently of their diffusion on the network.

It is, however, important to point out that even when only the bibliographic reference to the GL is given, it is still easily available, since we know its source and, in some cases, also the e-mail address of the author, who can supply the document.

Table 5 distinguishes between references to GL reported in bibliographic references to research activities, those indicated in lists of editorial activities of the research bodies and specific lists of the GL. In the "Library catalogues" column, we include only cases in which the library's possession of specific GL archives is specifically stated.

Table 5
Sections of web page where GL is reported. Distribution by type of document

Type of GL Documents	References to research activities (GL & Conv. Lit.)		Lists of editorial activities (G L & Conv. Lit)		Specific GL document lists		Library catalogues		Total
	No	%	No	%	No.	%	No.	%	
Technical reports	5	31.3	1	6.2	7	43.8	3	18.8	16
Proceedings	6	60.0	1	10.0	1	10.0	--	--	8
Pre-prints	--	--	--	--	1	100.0	--	--	1
Patents	2	100.0	--	--	--	--	--	--	2
Technical documentation	5	100.0	--	--	--	--	--	--	5
Journals	4	66,7	2	33.3	--	--	--	--	6
TOTAL	22	57.9	4	10.5	9	23.7	3	7.9	38

The importance of this data is that it shows the *visibility* and value attached to GL. One hypothesis might be that GL is more visible, hence more easily available, when it is included in archives or lists devoted exclusively to this document type. In other cases (references to research activities, lists of editorial activities), the presence of bibliographic references to both conventional and non conventional literature means that GL is not always easy to identify. Moreover, through specific lists it is possible to know all the GL produced by a given research body.

Table 5 shows that only 23.7% of GL produced appears in lists containing only GL. In the majority of cases (57.9% for references to research activities and 10.5% for lists of editorial activities), GL is reported alongside conventional literature. It is worth noting that 60% of references given in the description of research activities concern papers presented at international conferences whose proceedings are not published. However, a more careful analysis of these citations reveals that researchers prefer to cite publications of their work in distinguished, authoritative periodicals (Nature, Science, IEEE etc.), thus indirectly enhancing the scientific validity of their research.

One final consideration concerns the GL available in the library catalogues. Although the percentage given in the table (7.9%) is low, the access to library catalogues (cf. table 3) may facilitate the retrieval of information on GL documents produced by the research body. In this case, however, it is necessary to know essential bibliographic references (author, title) beforehand, since the information retrieval systems on web are still relatively unsophisticated and do not allow for retrieval by document type.

New procedures of grey information transfer: an open problem

Through the network it is possible to access data transfer services, File Transfer Protocols (FTP), and services which allow synchronous and asynchronous communication among several interlocutors on particular subjects (Usenet, also known as Newsgroups or electronic conferences). Through these

services it is possible to exchange a large quantity of data, some in document form.

Through FTP, researchers working on common projects in geographically distant places often exchange work documents or forward draft for comment and/or expansion. An FTP may be anonymous - that is, open to all, - or accessible only to members of the project team through a password.

Usenet is a service which is usually open to all - following the famous rules of *netiquette* of course - but it is also easy to create discussion groups open only to certain people. A discussion on a particular subject involves sending messages to a mailing box. Messages are sometimes documents (discussion papers), they are often filed, and are hence retrievable using the search functions made available by the services [8].

Without going into further detail, it is clear that these services are suitable channels for the transmission of various shades of GL [9]: both dark grey [10], accessible only to a limited number of insiders, and light grey, accessible to anyone who knows how to access the information.

Analysis of our sample suggests that many CNR WWW servers highlight the possibility of using an FTP in their home pages. However, it would have been misleading to report this data, or, at the very least, not indicative of the effective use made of the service. In fact, both FTP and Usenet can be used independently of the Internet and irrespective of the server's functions.

What is needed at this stage is a specific survey of these new grey information transfer procedures, using different methods of analysis (questionnaires, for example), to verify not only the use, but also the type of information and document type most frequently transmitted.

Conclusions

The analysis of CNR WWW servers shows that, on the Internet, it is possible to retrieve a type of information which can be considered grey in terms of both its content and its format. The information refers to the organisation and activity of research bodies. Making use of the characteristics of the Internet, it is possible to have details of the activities and results of research carried out. This information is also available through GL documents produced by the research bodies. In the case of CNR servers, although they report their production of GL, this is not always visible. Since GL is not always listed in specific archives, information on the total production of GL by research bodies is incomplete. However, the Internet user whose main aim is to find out what has been published in a particular disciplinary sector, irrespective of types of publication, may also find it useful to obtain bibliographical references to GL pertinent to the sector of interest.

Finally, the possibility of communicating data and documents through FTP or electronic conferences poses new questions for the development of different GL document types and transfer procedures.

Any possibility for the communication, and diffusion of grey and conventional information and documentation is of great relevance in the field of scientific research. By facilitating and increasing the transmission of knowledge, it prefigures a "global research organisation" transcending geographical and ideological barriers.

Notes and References

- [1] CNR manages the GARR network through the CNUCE Institute in Pisa, which also became Italy's first Internet node in 1986.
- [2] BERRETTI, A., ZAMBARDINO, V. Internet. Avviso ai naviganti. Roma, Donzelli ed., 1995. 109 p.
- [3] MINISTERO DELL'UNIVERSITÀ E DELLA RICERCA SCINTIFICA E TECNOLOGICA. Ricerca e innovazione per lo sviluppo. Piano triennale della ricerca 1994-1996. Roma, Ist. Poligrafico e Zecca dello Stato, 1994.
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- [5] VAN DIJK, A. Current Research Information Service (CRIS) and Grey Literature. In: *First International conference on Grey Literature*, Amsterdam, 13-15 December, 1993. Amsterdam, GL'93 Organising Bureau, 1994. p.77-82.
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- [10] DI CESARE, R. The evaluation of GL impact in Physical sciences using bibliometric indicators. Preliminary results. In: *First International conference on Grey Literature*, Amsterdam, 13-15 December, 1993. Amsterdam, GL'93 Organising Bureau, 1994. p. 64-75.

NEW TYPES OF AND ACCESS TO GREY LITERATURE DATABASES GENERATED BY THE RUSSIAN NATIONAL PUBLIC LIBRARY FOR SCIENCE AND TECHNOLOGY

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Russian National Public Library for Science and Technology (NPLS&T) being one of the major country's libraries and a state depository of sci-tech literature pays great attention to acquisition of "grey literature" primary sources. Today we can state with confidence that the Library possesses one of the most comprehensive collections on "grey literature". It goes without saying that in different countries the concept of "grey literature" is still treated differently, often causing conflicts and misunderstanding among the specialists of different countries when discussing problems related to "grey literature".

In Russia and in particular in NPLS&T "grey literature" has always been regarded as publications of limited circulation (under 1,500 copies) issued by minor publishing houses, that is "hardly accessible" literature. This group consists of such types of publications as books, preprints, conferences proceedings, transactions of research institutes, theses of dissertations, scientific reports, etc. We have also included the patents and some other special types of sci-tech literature, i.e. unpublished translations, bibliographic catalogs and indices, bibliographic reviews published independently, technical manuals, documentation on standards, norms and instructions, etc.

To cut it short we have viewed as "grey literature" the documents of limited circulation which are hardly accessible in original. We have never considered the problems of commercial and non-commercial distribution, however this approach is very popular nowadays, we have assessed the primary sources by only two factors, none of them could be formalized and they can be determined just empirically. That's why in the Union Catalog of sci-tech literature - one of the country's major automated library system, maintained by NPLS&T since 1987 - the "grey literature" array has been entered from the array of national bibliography after subject selection by strict limiting to the publications of under 1,500 copies' circulation. After 1991, general deterioration of economic situation and the dominant commercial approach have led to decrease in the number of sci-tech publications and their circulation. Today the number of copies under 1,500 can not be regarded as an indicator of "grey literature" and the empirical indicator of "hard accessibility" appears to be the governing one. On the other hand, many publications, published before by major publishing houses in great number of copies nowadays have either disappeared at all, or have fallen within the "grey literature" group. Nevertheless, if a library is very careful about these (and all other types of hardly accessible) publications, making use of obligatory copies of publications (libraries which have the right to receive such copies), of target acquisitions, including direct agreements with the publishing organizations and great advantages of book exchange, it ensures the completeness of this part of its collections and thus automatically increases the active core of its collections in general. It can be easily explained by the comparatively high demand for these types of literature and often exceeds the demand for other types. In NPLS&T, for example, in 1990-1992 the requests for unpublished translations considerably exceeded those for other types of documents, and for certain subjects even exceeded the requests for foreign periodicals, traditionally regarded to be in most demand (also because they are hardly accessible, in this case due to the financial reasons - the Library has always been short of hard currency to purchase foreign literature).

Two databases generated by NPLS&T and regarded as databases on "grey literature" according to our classification are popular with domestic, and since the beginning of 90s with foreign users.

1. **"Domestic Literature"** database which is a part of the Union Catalog of sci-tech literature and includes bibliographic records on domestic sci-tech literature on pure and applied sciences, technology, medicine and agriculture as well as the addresses of libraries-stockholders. Bibliography from the Russian Book Chamber is rearranged, complemented and then entered into this database.

Today the database contains over 130,000 records (retrospective - since 1987) along with about 100 libraries addresses; the records are classified according to a number of tables, including UDC and can be exported via ISO 2709/UNIMARC - output formats. All the record entries are presented in Russian; abstracts are entered additionally for a number of subject groups upon the receipt of a corresponding primary source.

A sample database record is given below, all records contain descriptions in Russian.

RECORD NUMBER: 07700.1

NATIONAL BIBLIOGRAPHY NUMBER: 91-26462

AUTHOR: Копетман Леонид Наумович

TITLE, IMPRINT, PUBLISHER: Современные способы восстановления, нанесения защитных покрытий и упрочнения деталей/Центр. правл. ВНТО вод. трансп. -М.: В/О Мортехинформреклама.

OUTPUT DATA: 1991. -61,[1] с.: ил. - На рус.яз.

CITATIONS: с. 56-60 (80 назв.)

DOMESTIC Sci-Tech RUBRICATOR INDEX: 73.35.31

UDC: 629.12.004.67:621.793

SUBJECT HEADINGS: Судовые детали--Восстановление и ремонт

ABSTRACT: Даются практические рекомендации работникам водного транспорта в выборе способов повышения работоспособности и долговечности деталей машин и механизмов и применяющихся материалов для нанесения защитных покрытий. Даны примеры применения материалов, способы нанесения покрытий (наплавкой и напылением) и способы упрочнения рабочих поверхностей деталей судов, портовой техники на водном транспорте, а также в других отраслях; приводятся источники информации и адреса получения технической документации.

HOLDERS' CODES:

19011032 (Library of the Russian Academy of Sciences)

10017011 (Russian State Library)

19017073 (Russian National Library)

10010033 (Russian National Public Library for Science and Technology)

STOCK NUMBER: Д7-91/88875

2. Specialized database on "grey literature" - "GREY".

A local specialized database on Russian "grey" literature has been generated since 1989 according to the subject scope of the Russian National Public Library for Science and Technology. It currently includes over 15.000 records on pure and applied sciences, technology, economics, ecology, agriculture and medicine and has been updated by some 500 records annually beginning in 1991. Hardly accessible Russian domestic "grey" literature of limited circulation is a basic information source for this database. It covers books, preprints, conferences proceedings, transactions of research institutes, scientific reports and the like.

Every record in the database contains bibliographic information, subject headings, abstract, UDC number, their English version and a transliteration of the required fields.

Key words for search are authors names, subject headings, words from the title, UDC numbers and words from abstracts.

Information on "grey" literature may be presented in full bibliographic format in Russian and in English, concise format in English, MARC-type and UNIMARC format in Russian and/or English and others on user's request.

Customers receive files in the ISO 2709 standard or the database in the CDS/ISIS-M software package environment.

EXAMPLE OF RECORD

English part

DB RECORD NUMBER: 17337

NATIONAL BIBLIOGRAPHY NUMBER: 95-ap-1582

AUTHOR: Krasnozhon A.V.

TITLE: Nonstationary problems on dynamics of stratified liquids

CORPORATE: M. V. Lomonosov Moscow State University

IMPRINT: Moskva

YEAR: 1994

UDC: 532.529.2(043)

STOCK NUMBER: ДЗ-94/79041

SUBJECT HEADINGS: 1 = Stratified flows

ABSTRACT: A compound equation, describing nonstationary internal waves in strongly stratified rotating liquids is considered

TYPE OF DOCUMENT: preprint

Russian part (the same record)

НОМЕР ЗАПИСИ БАЗЫ ДАННЫХ: 17337

ИНВЕНТАРНЫЙ НОМЕР РКП: 95-ap-1582

АВТОР: Красножон А.В.

НАЗВАНИЕ: Нестационарные задачи динамики стратифицированных жидкостей

КОЛЛЕКТИВ: Московский государственный университет им. М.В.Ломоносова

МЕСТО ИЗДАНИЯ: Москва

ГОД ИЗДАНИЯ: 1994

УДК: 532.529.2(043)

ШИФР ГПНТБ: 95-ap-1582

ПРЕДМЕТНЫЕ РУБРИКИ: 1 = Стратифицированные потоки

АННОТАЦИЯ: Рассматривается уравнение составного типа, описывающее нестационарные внутренние волны в "небусинесковых" (т.е.

сильностратифицированных) вращающихся жидкостях

ТИП ДОКУМЕНТА: препринт

It should be mentioned that to date Russian National Public Library for Science and Technology has generated and maintained a number of other databases which belong to the "grey literature" group. They are less familiar to foreign users than the two above ones, because they are not included into the NPLS&T host resource. But the primary sources, contained in these databases are in great demand among the Library

users. Therefore the transfer of these databases to a new soft- and hardware environment and providing the online access to them will give additional opportunities to enhance user service.

Below are brief information and sample records of these databases.

1. Unpublished translations.

Unpublished translations are made in a very limited number of copies (1-5 copies) customized translations into Russian from foreign languages (European, as a rule) of reports, surveys, articles, reviews, pamphlets, etc. As a rule the customer is a company (an institute) and the translation is made by a large translation center or a bureau.

Until recently (till 1991) all the translations were made by one center - All-Union Center of Translations (ACT), which did some 70,000 only sci-tech translations a year. The customer got his copy, another obligatory copy was sent to Russian National Public Library for Science and Technology. These publications were in high demand among the Library patrons, the Library has supported a database. Since 1991 this scheme has ceased to exist, besides ACT the translations have been made by many other translation centers and the flow of translations to the Library collections has become irregular. Thus, total number of annual accessions which in 1991 made 70,000 in 1994 decreased to 5,000. Nevertheless these publications remain to be very popular. The Library has maintained two databases on unpublished translations: a retrospective one, containing accessions during 1988-1990 (60,000 records), and the current one as a part of OPAC, supported since 1992 and containing 12,000 records.

The structure and contents of these databases are similar. The language of the description is Russian, bibliographic description is entered in the language of the original.

A sample record is presented below.

CODE FOR ORDER: 95/133

ORIGINAL NUMBER: 058000

TITLE IN RUSSIAN: Финансирование научно-исследовательской деятельности в странах ЕС.:Руководство для лиц, подающих заявки. Набросок программ второй структурной программы

COMPANY-TRANSLATOR AND OUTPUT DATA: ВЦП.- N T-8608.-Б.г.-23 с.

ORIGINAL BIBLIOGRAPHY: EC Research Funding. A Guide for Applicants. An Outline of the Programmes of the Second Framework Programme Commission of the European Communities. Technical Report.-S.l., 1990.-Pt.4.-P.51-86

LANGUAGE OF THE ORIGINAL: англ.

DOMESTIC Sci-Tech RUBRICATOR INDEX: Г 12.75.21

SUBJECT HEADINGS: Научно-исследовательские институты - Финансы

2. Author's abstracts of dissertations.

NPLS&T receives an obligatory copy of all author's abstracts of dissertations defended in Russia within the subject scope of the Library. Abstracts of dissertations are issued in 100 copies and distributed free of charge according to the list agreed upon with the Government. By all the features this type is regarded as "grey literature" like dissertations themselves (dissertations are stored in Russian State Library, and microfiches and registration cards in All-Russian Sci-Tech Information Centre). The database has been maintained by the NPLS&T since 1993 and contains some 25,000 records. All records are in Russian, a sample record is presented below.

DB RECORD NUMBER: 002182

STOCK NUMBER: AP91-5397

AUTHOR: Цветков Н.В.

TITLE, SCIENTIFIC DEGREE: Эффект Керра в растворах жесткоцепных полимеров в полярных и неполярных растворителях: Автореферат диссертации на соискание ученой степени канд. физ.-мат. наук: 01.04.14.

OUTPUT DATA: Л.-1991.-16 с.:ил.

IMPRINT, PUBLISHER: Ленинград, ЛГУ

CITATIONS: Библиогр.: с. 16 (6 назв.).

DOMESTIC Sci-Tech RUBRICATOR INDEX: Г 61.61.096

UDC: 678.408(043)

TITLE TRANSLATION (optional): Kerr Effect in Rigid-Chain Polymer Solutions in Dipolar and Nonpolar Solvents: thesis of dissertation: 01.04.14

3. Industrial catalogs.

Industrial catalogs (IC) are a special type of publications describing the products of institutes and companies intended for industrial use. NPLS&T had a large collection on IC based on domestic and foreign accessions (over 2 mln. items). Today the collection has been given over to another institute, but the Library keeps maintaining the database and providing user service.

Initially the database was generated as a database of the countries - members of the Council for Mutual Economic Aid. Since 1991 it has been supported as a database of the Russian National Public Library for Science and Technology generated on the basis of domestic and foreign catalogs acquired by the Institute. The descriptions are given in Russian, for several years the database has contained records on the catalogs acquired by the Library Business Office. Among these are catalogs of enterprises, lists of goods and services, catalogs of products manufacturers and oth.

The database contains above 130,000 records, a sample record is given below.

DB RECORD NUMBER: 024931

LIBRARY CODE: Д8-93/9829 (only for Library Business Office collection)

TITLE, IMPRINT, CORPORATE: Оборудование для производства деталей из пластмасс : Информ.-коммерч. сб. /; АО "ВНИИТЭМП", Информ.-коммерч. фирма "Каталог". - М.

OUTPUT DATA: 1993.-31 с.

DOMESTIC Sci-Tech RUBRICATOR INDEX: Г 55.39.33

UDC: 678.05(085)

SUBJECT HEADINGS: Пластмассовые заводы - Оборудование - Каталоги
translation (optional):

subject headings: Plastics Plant - Equipment - Catalogs

Thus at present our Library has 5 databases which are regarded as "grey literature" databases, and only one of them ("GREY") can be supplied abroad and we do supply it. This database and its fragments is delivered to a number of foreign institutions (France, Korea, Republic of South Africa) and is in high demand.

All the above NPLS&T databases are supported in the LAN NOVELL/NETWARE environment under CDS/ISIS. The software includes a number of unique developments written in C and PASCAL languages, which significantly improve the technological and service functions of the system. The search is supported by vocabulary and thesaurus means, there is a set of specially developed user-friendly tools for efficient search. An example of user interface is presented below.

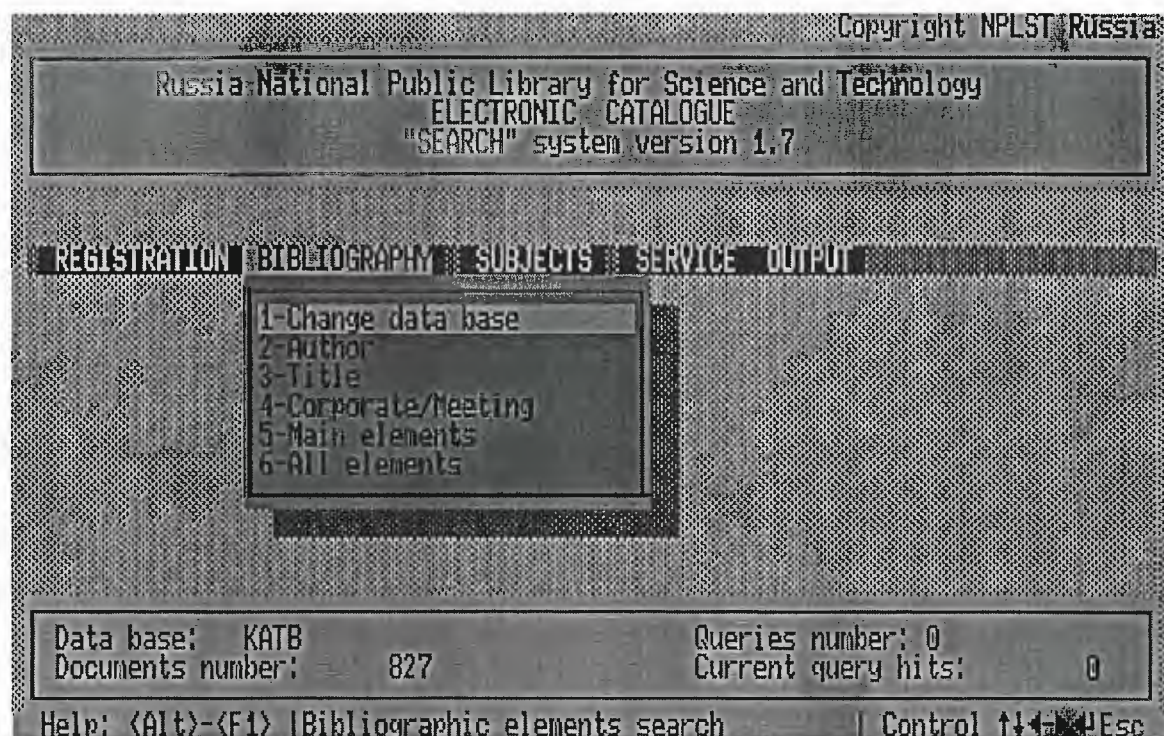


Fig. 1.

A system of telecommunication access to all information resources of NPLSaT LAN has been put into service. It is based on NAS/NC hard- and software allowing 8 concurrent users to work via a switched public telephone network and via X.25 network. As for the principal telecommunication equipment, besides network adapters, NPLSaT utilises ZyXel 1496E modems that provide for 19.200 b/s data exchange rate via V.22, V.22bis, V.32 and V.32bis (Fig. 2).

The network of RELCOM e-mail is also widely used for library technologies. NPLSaT has introduced a packet "pending request" system via RELCOM. It should be noted, that the packet mode gives access even to those resources that are still inaccessible online. At present the retrieval in NPLSaT is attended. However, the automated processing of requests on the basis of the e-mail server is under way.

At present NPLSaT is actively developing access to its resources via the INTERNET. Meanwhile for about a year the Library patrons have been provided with an opportunity to access foreign information resources via the INTERNET channels.

A unique CD-ROM recording system (a single one in Russian and FSU libraries) is created and used in Russian National Public Library for Science and Technology. It is based on DataDisk American Co software and hardware. Two CD-ROMs have been produced on this equipment - Russian Union Catalog of Scientific and Technical Literature and Transactions of International Conferences "Crimea 95" and "Crimea 96" "Libraries and Associations in the Transient World: New Technologies and New Forms of Cooperation".

Today activities are under way to prepare and produce a CD-ROM on the Grey Literature database and other English-language databases. In future it is envisioned to issue a CD-ROM containing all the databases on "grey literature".

NPLS&T goes on with enhancing its databases and generating new ones. In particular, great interest is shown to acquisitions of literature in one copy, like methodological reference book on universities, information lists with technologies description, description of experiments, etc. They are processed not individually, but in groups. This information is practically unfamiliar to foreign user and its correct

processing and support, a generated database, the right storage technique can become a new leaf in a book entitled "grey literature". This book will be neither written nor read to the end - it is constantly under development.

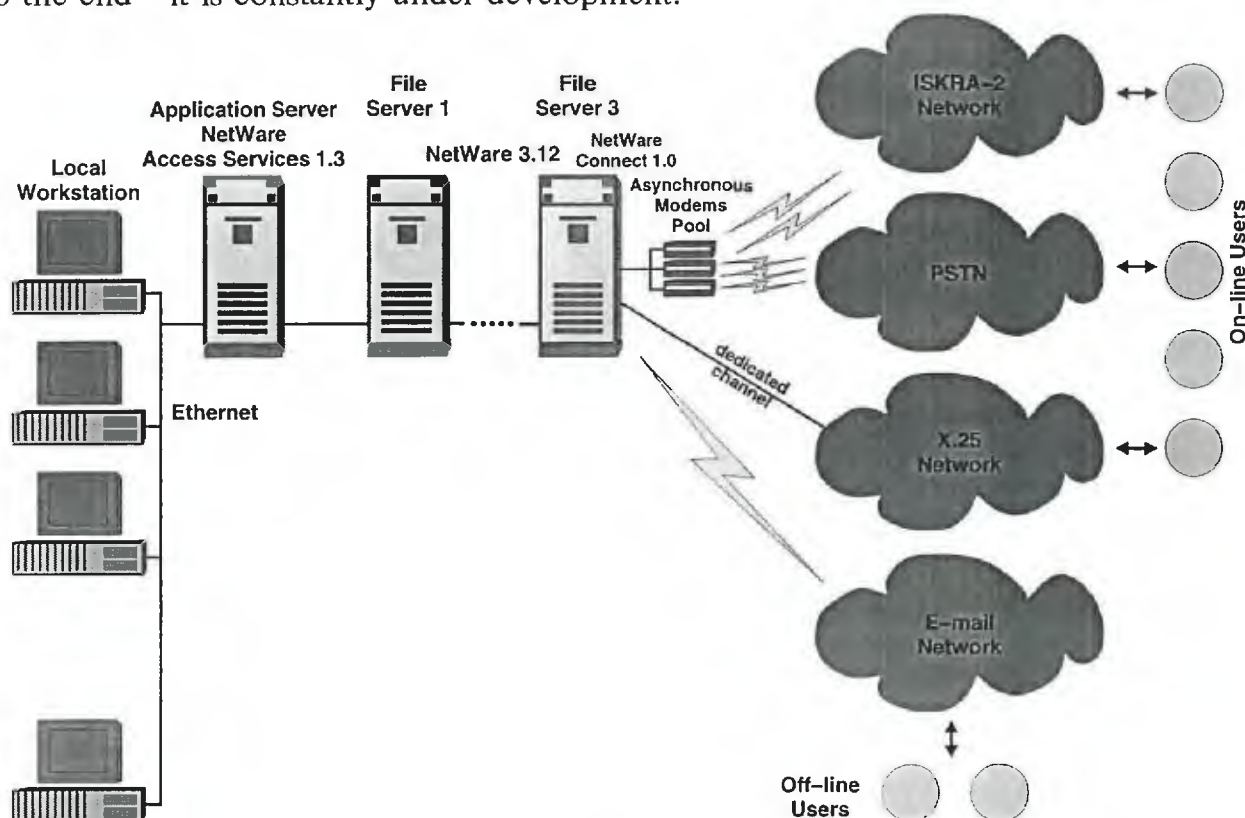


Fig. 2.

PROMOTING THE EXPLOITATION OF GREY LITERATURE IN AFRICA

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ABSTRACT

The importance of grey literature to researchers, scientists and policy makers has been extensively discussed in the literature. This is because the type of information contained in them may never be found in other types of media. However, a major problem with the use of grey literature in Africa is the lack of publicity and accessibility. Even grey literature produced within an organisation may never be known to all those who work in that organisation. In order to promote the exploitation of grey literature to the fullest in Africa, there is the need to give it more publicity than what is now practised.

The paper suggests various ways of advertising grey literature. These include the provision of international standard grey literature number (ISGLN) to all types of grey literature produced within each country in Africa. The national library of each country should be designated as the issuing agency which must keep records of all publications which have been issued numbers. The national library or centre designated for this purpose is expected to co-ordinate all activities related to grey literature in a particular country. Second, the paper suggests the designation of various types of libraries specialising in various subject areas within a country as depositories, in addition to serving as clearing houses. The regular listings of new grey literature in appropriate journals produced within each country is also suggested.

Finally, the paper recommends that the network of Pan African Development Information System, PADISNET, should include all the bibliographic citations of grey literature collected by the various countries in Africa in its database. This will effectively publicise grey literature in Africa since PADIS databases are available on -line for members of PADISNET and also has links with other electronic networks throughout the world.

1.0 Introduction

The African continent is beset with all kinds of deprivation - low agricultural production resulting in malnutrition, starvation, widespread drought and famine; inadequate health services making high infant mortality rate and low life span prevalent ; high illiteracy rate; low productivity; poorly

managed economy; inadequate foreign exchange; poor infrastructures, book scarcity among others.

Appropriate and timely information physically or bibliographically becomes very critical in meeting the challenges posed by these deprivations. It is therefore important to provide bibliographic and physical information to all those responsible for tackling the problems enumerated above. This presupposes that availability of relevant information will enhance informed decision making thereby alleviating most of the problems highlighted. Information is contained in different types of media including books, journals, reports, audio-visual materials, electronic media and so on. It is therefore important to get easy access to the various types of media containing information.

In Africa, books seem to be the most important information carrier among the literates. It occupies a pre-eminent position especially among the educated elites. Most libraries including public libraries stock mainly books as opposed to other types of media even though a large percentage of Africans cannot read and write in any language. In spite of the pre-eminence of books in our libraries, several studies have revealed that books stocked in African libraries are mainly those published outside the continent. It is estimated that only two percent of the books produced in the world come from Africa and yet Africa accounts for about 10 % of the world population. It is therefore not surprising that most books read in Africa are published outside the continent. Irele (1983) asserted that the vast majority of books read in Africa were written by foreigners and published abroad. Of course this presupposes that very little indigenous information will be used by researchers, planners and decision makers in Africa.

According to the National University Commission (1991), about 90 % of the book collection of Nigerian university libraries were foreign materials. The same proportion was observed in Kenya by Shibanda (1994) when he reported that 90% of educational/ school book market was foreign published. This is not surprising given the low number of indigenous books published in Africa. It should be said from the outset that we have enough brilliant authors who can write appropriate books but the major reasons responsible for book scarcity in Africa are the lack of financial commitment on the part of the various governments in Africa in supporting indigenous publishing of books, difficulty in getting publishers to publish manuscripts submitted by authors especially at tertiary level and the lack of paper industry (Ifidon, 1994). The next available medium for publishing books in Africa is the journal. Unfortunately most African - based journals have

all kinds of problems hence they are moribund. Many factors responsible for the failure of journal publication in Africa have been enumerated by (Azubuike, 1990; Aina, 1994a and Ifidon, 1994). Some of the factors include the high cost of production, low subscription, irregular appearance of journal, low quality of production etc. Thus another major outlet for publishing indigenous information is closed.

When African authors decide to send their manuscripts to countries outside Africa for publication they face a lot of frustrations such as studies not being relevant to the consumers of the journal, datedness of citations, poor postal communications and so on. Only a negligible proportion of African manuscripts are therefore accepted for publication in foreign journals. Of course the many scholars and professionals in Africa must report their research findings on various studies conducted. It is therefore not uncommon for most indigenous information in Africa to appear as annual reports, technical reports, conference proceedings, theses and dissertations, feasibility studies, consultancy reports, extension literature such as pamphlets, leaflets and posters etc. These media constitute the core of indigenous information in Africa, as well as the vast majority of research materials in Africa (Balabkins, 1984) and they fall into the list described as grey literature by Somidmaier (1986). According to him, grey literature consists of conference literature, university publications, patents, standards, research and development bulletins, statistical reports, posters, leaflets, teaching materials, press and radio services.

2.0 Access to Grey Literature in Africa

It is obvious from the foregoing that most indigenous information in Africa appears in the form of grey literature. One will expect this type of literature to be prevalent in most African libraries. Unfortunately this is not so. Sturges and Neill (1990) lamented the fact that most of these publications do not appear in most African national bibliographies. In a recent paper, Aina (1994b) listed many factors responsible for inaccessibility of grey literature in Africa. The major factors are that many of these publications are regarded by their producers as confidential hence they are not expected to be disseminated widely, secondly information professionals accord grey literature low priority amongst media of importance and the lack of infrastructures to support bibliographic control of grey literature in Africa. As a result of inaccessibility of grey literature in Africa, users of libraries in Africa, ranging from the highly illiterate to the most educated, hardly use grey literature as a source of information. It is therefore not surprising that extension literature produced in the various ministries of agriculture,

health, education etc in Africa can hardly be found in public libraries including those located in rural areas.

Similarly, in university and research libraries, users find it difficult to locate papers presented by their peers on various topics at seminars, conferences and workshops. The same is true of consultancy reports, feasibility studies etc. In government libraries it is very difficult to get government documents produced by the relevant government agencies.

Most experts, however, are of the opinion that grey literature is an important component of development literature needed to combat most of the deprivations we witness in Africa. It is imperative that African researchers, planners, decision makers etc must promote the exploitation of grey literature since it is the main repository of indigenous information in Africa.

In spite of being the main source of indigenous information and a proliferation of the same, users have limited access to grey literature in Africa. The question that arises is how do we promote the exploitation of grey literature so that users will be able to have access to information contained in grey literature?

The broad objective of this paper is to suggest a solution to this poser. Specifically the paper aims to (i) suggest ways of publicising grey literature produced in the continent (ii) suggest ways of sensitising researchers, students, planners and policy makers to the importance of grey literature and (iii) explore the possibility of using electronic networks for disseminating grey literature.

3.0 Publicity of Grey Literature

There is no doubt that a lot of relevant indigenous information lies buried in grey literature and for it to be exploited to the fullest, there is a need to publicise it. Two groups appear prominently for the purpose of publicising and promoting the exploitation of grey literature, these are the producers of grey literature, that is organisations that generate the literature and information professionals who are expected to provide bibliographic and physical access to grey literature.

3.1 Publicity of Grey Literature by Producers

According to Wood (1984) part of the problem responsible for accessing grey literature can be attributed to the producers themselves. They are unwilling to promote their publications. Many studies have revealed that producers of grey literature are many and varied. They include government agencies, research institutions, universities and other tertiary

institutions, manufacturing industries, financial institutions, international organisations, non-governmental organisations and so on. Most of these agencies have units and divisions solely responsible for producing grey literature within their organisations. It is therefore incumbent on these units and divisions which may sometimes be termed the public relations division, information units, libraries and documentation centres to publicise the publications that emanate from them. The most cost effective way of publicising these publications is to list on an annual basis publications that emanate from their organisations and send such lists to interested organisations within and outside the country which may find such publications useful. As a matter of policy, these lists must be made available on a regular basis to the national library located in each country or any library designated to perform such functions.

It is also important that producers make available to editors of relevant journals copies of grey literature publications produced in their organisations for publicity. Editors of relevant journals must liaise with producers of relevant grey literature publications in their fields and ensure that new publications are made available to them on a regular basis. They must provide a section in their journals where new grey literature publications will be regularly listed and how they can be located. Significant grey literature publications should be reviewed.

Grey literature publications should also be sent to indexing and abstracting agencies both within and outside Africa for coverage of such publications in their abstract and index journals.

It is imperative, however, for producers to ensure that their publications are properly organised for easy retrieval so that any requester may have access to such publications when required. In addition, it may be necessary to microfilm such publications on a five yearly basis.

The various governments in Africa have a role to play by encouraging producers to publicise grey literature produced in each country. The governments should establish national organisations that will have the responsibility for collecting and publicising grey literature. For example, the National Technical Information Service performs this role in the United States of America, so also is the British Library Lending Division in the United Kingdom and the Social Science Information and Documentation Centre of Netherlands.

3.2 The Role of Information Professionals in Publicising Grey Literature

As professionals solely responsible for all activities involved in information flow including collection, processing and dissemination, information professionals must be actively involved in the publicity of grey literature.

The treatment given to books should also apply to grey literature, such as providing subject access to the materials. In addition to subject indexing, grey literature must be regularly abstracted and sent to interested users of the library. Accession lists of grey literature must also be commonly available.

Information repackaging is another important way of publicising grey literature, that is information contained in different grey literature publications in a particular subject should be repackaged into one single document and be made available to interested users in the subject. This should be done on an annual basis.

4.0 Sensitization of Users to Grey Literature

It is important that users should be sensitized on the importance of grey literature as a useful source for indigenous information. The users need to be encouraged to consult grey literature just as they patronize books and journals. They should be made aware that most information contained in grey literature may never be found in the so-called conventional literature.

Government documents have been found to be useful sources of information to social science researchers and decision makers just as technical reports, annual reports and feasibility studies are very important to researchers in sciences. Thus users should request for such documents regularly. For example, a study on the usage of government documents among researchers of the Ibadan University library, in Nigeria in 1980 revealed that averagely only about 10% of research materials requested were government documents for a five year period (Alabi and Aina, 1980). Similarly in a citation study conducted on theses produced by agricultural researchers in Nigeria, it was found that only 14 % of the citations in the theses were ascribed to grey literature (Aina, 1987). This trend is not uncommon in other disciplines in Africa.

In order to make researchers, planners and decision makers place more importance on grey literature than hitherto, regular workshops and seminars should be provided to them by information professionals. Secondly, fliers containing

information on the importance of grey literature and the various types available in the library should be made known to users as soon as they become registered members. These leaflets should also be available at public places in the library. In order to have physical access to grey literature, some libraries specialising in different subject areas should be designated as depositories for grey literature publications in the relevant subject.

5.0. The Use of Electronic Networks in the Dissemination of Grey Literature

The Internet, a network of various computer networks throughout the world is now accessible to users in Africa. Countries are being connected to the Internet either directly or indirectly. At a recent symposium in Addis -Ababa, Ethiopia it was revealed that Zambia, Egypt, South Africa, Ghana and Algeria have full internet connection. Many other countries including Mozambique are in the process of having full connectivity (Africa Telematics Symposium Report, 1995). Other countries have indirect links through the various electronic networks. According to Jegede (1995) about 40 of the 54 countries are connected in one or way to electronic networks that have access to the Internet via the various nodes scattered all over the world.

The Internet can be a very useful medium for disseminating grey literature to users in Africa and beyond. Producers of grey literature can provide bibliographic access to their publications by using the Internet to publicise the publications. This could be through institutions that have full connectivity in their countries. Full texts of their publications could thus be made available.

6.0 Conclusion

There is no doubt that grey literature is the main source of indigenous information in Africa. Governments in Africa must therefore pay a lot of attention to its accessibility. It is hoped that national libraries of the various countries in Africa will make deliberate attempts to collect, process and disseminate information contained in grey literature to interested users throughout the world. International bodies responsible for promoting the collection and processing of information should initiate the provision of unique numbers to grey literature produced throughout the world. Thus there is a need to have the International Standard Grey Literature Number (ISGLN) which will allow countries to assign unique numbers to grey literature. Whenever such a project is initiated it will be expected that African nations will utilise it to the fullest.

PADISNET, the information network of Pan-African Development Information System (PADIS) based in Addis-Ababa, Ethiopia should endeavour to include all the bibliographic citations of grey literature produced throughout Africa in its database which can then be made available to users in member nations and those outside the continent. PADISNET will therefore be a major network for publicising grey literature since PADIS data bases are now available on-line for members of PADISNET and also available manually which can provide access to users in countries that are not connected to any electronic networks.

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Project management in grey literature: a study based on the development of the Working Papers Project at the University of Warwick.

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Abstract

The Working Papers Project at the University of Warwick has been in continuous development for over 25 years. The Project was started with one clear aim, that of providing awareness of and access to working papers in economics and management, a form of 'grey literature' which has always been of outstanding importance for researchers in this one part of the social sciences.

Three factors were identified as crucial to the success of the project, the collection and its catalogue, current awareness services, and a document delivery mechanism. The aim of this paper is to review the changes that have taken place with regard to these factors and to outline future developments. The paper will consider both the effects of technological and commercial change on the development of the project.

The paper will be based on an analysis of the documents currently received by the collection, the demand for access to the documents and the sources of information used for retrieving them

Some general conclusions will be offered on the future of 'grey literature' projects in the age of networked information.

Project management in grey literature: a study based on the development of the Working Papers Project at the University of Warwick

Introduction

The purpose of this paper is to address a major question in the development of the handling of 'grey literature' through ideas which arise from a case-study of the Working Papers Project at the University of Warwick. The Project when it started in the 1960's was one of the first attempts to collect 'grey literature' from within a subject discipline. Working papers were considered important by research economists and were difficult to access, so the possibility of an international collection at Warwick was investigated and eventually commenced. During the twenty years that have followed, the project has been sustained by a belief in the fundamental importance of a unitary collection which could provide access to, and information about, the material in the collection. Now circumstances have changed and there is a need to re-consider the rationale of the project, and by extension, the validity of this solution, the unitary one, to the problems of 'grey literature'.

Please note that I would want to make a distinction between the activities of a research university and those of a national library whose responsibilities, both legal and otherwise, will be different. Perhaps, I should also say that evaluation is not new to the managers of the Working Papers Collection. We have always had to justify the utilisation of part of the University Library's resources on a project, the benefits of which might accrue more generally to institutions other than our own.

The Changing Scenario

There are three elements in the changing scenario which cause the questions to be raised. They are the increasing multiplicity of other information providers, the changes in the behaviour of researchers, and changes in the objectives of libraries.

Let us consider the external environment first. We can see, the improving bibliographic control of 'grey literature' produced by national libraries. Secondly, research organisations have created or are creating their own network sites with information about their own research activities. Thirdly, the new electronic delivery systems, concentrating on periodical literature, will include a proportion of material covered by the Working Papers Project. Fourthly, as the number of journals continues to increase then there is more opportunity for immediate publication.

Internally, within the research community, the use of information as is currently contained in working papers is changing. Use is not made so readily, even if it ever was, of the traditional catalogue and bibliography. More information is being transferred by electronic systems and discovered by internet navigation tools. The empowerment of the researcher, through access to information systems which employ technology and software that is found attractive and everyday is a fundamental challenge to the traditional mind-set of the documentalist and indexer.

The final impetus for this question is provided by the changing nature of libraries themselves. The assemblage of material in one place begins to look anachronistic, whether stored physically or electronically. As academic libraries, including Warwick, have been persuaded that 'holdings' strategies were no longer the sole way of meeting the research obligation, so "access" strategies via networks have dominated financial allocation and service planning.

The paper will proceed by first asking what are the characteristics of working papers and their users in order to test, in the later parts of the paper, the solutions provided by the project and by the other developments arising from networked information.

Characteristics of a collection and its users

Let us first consider the characteristics of the material we are dealing with. (1)

(a) Scale of Publication

Table 1
Growth of Publication of Working Papers

	<u>Papers Received</u>
1973	2125
1978	3513
1983	4006
1988	6670
1993	6778
1994	7453
1995 (6 months)	3771

The most startling point to make is that the number of working papers continues to increase. For a medium of publication typically only 25 pages long with a flimsy cover, often duplicated, sometimes almost illegible, but always expecting to be replaced by a more permanent form of publication, the working paper has shown remarkable longevity. For many years the entire substitution by an electronic format has been predicted, yet the paper format has an healthy disregard for obituaries. This table shows the almost inexorable rise in the scale of publication.

It is true that many of the papers are now available electronically via NETEC or the Working Papers Archive, but paper still seems to be the preferred initial format. New series are being introduced all the time, not only from new areas like Eastern Europe, but also the areas where networking is more advanced. In 1973 there were about 150 series. In 1995 the number is over 400. Thus, the numbers for 1993 through to 1995 may be especially significant.

(b) Geographical Coverage

Table 2

Series by place of origin (May 1995)

Asia	9
Australia	37
Europe (exlc UK)	135
Latin America	3
North America	80
UK	<u>137</u>
	401

Working papers are a feature of the whole world of economics writing and research, from Manila and Nairobi, Prague and Budapest, as well as London and Washington. All collections must reflect this international form of literature.

(c) Lifespan

Table 3

Requests by year for papers published in 1990
(n=6415)

1990	1466
1991	2462
1992	499
1993	342
1994	177
1995	88

Our evidence supports the view that most interest in working papers occurs within the first two years of publication, and thereafter there is an evident decline. However, interest in some series like NBER and CEPR is perpetuated for several years, looking more like the usage pattern for periodicals. (2)

Characteristics of Usage

When we investigate the characteristics of usage of our collection, we are faced by a classic dilemma. Are the results a reflection of the kind of material we are dealing with, or the kind of service we provide? If the former then we may be able to continue to develop collections. If the latter, then we should recognise the imperatives of changing practices by academic and other researches. The impression is that those practices are changing more slowly than we might think or hope. The results were from a survey of all requests to borrow or copy papers made to the project 15 May 1995.

(a) Time-Dependency

Table 4

Requests by date of publication (May, 1995)
(n=440)

1992	7
1993	13
1994	270
1995	<u>150</u>
	440

Clearly almost all of the demand is for current material with very little interest in items more than one year old. This is the other side of the previous consideration of the life span of individual documents. However, as we shall see below this may simply be the result of the kinds of sources being used to identify relevant items. They may only be looking for new items and not conducting any retrospective searches. Alternatively, because CD-ROM's are used which combine databases of working papers with conventional publications (EconLit, HELECON, IMID) the researcher may select the published version of the paper because of perceived ease of access or reputation of a journal's name.

(b) Series Spread

Table 5

Requests by place of origin of papers (May, 1995)
(n=440)

Asia	1
Australia	20
Europe (excl UK)	84
Latin America	1
Middle East	1
North America	108
UK	<u>225</u>
	440

Data suggests that usage is more widely spread across the number of currently received series than is generally recognised. Of 6415 papers received in 1990, 2669 (41.6%) were borrowed at least once, generating a total of 5114 loans. Moreover, in the survey of May 1995, papers from 148 series were requested by outside institutions in one month alone.

This is emphasised by the geographic spread of the origin of papers requested. Apart from the preponderance of papers requested for UK and USA series, there were also requests for papers from all other regions.

This contradicts the view that the demand for working papers can be met from a small number of 'prestige' series that are included in selective collections. Information, like supply, will generate its own demand. Working papers across the whole range of series continue to provide much unique and valuable material.

(c) Users by institutional type

Table 6

Requests by type of institution (May, 1995)
(n=440)

Banks	88
Corporations	31
Government Depts	130
Higher Education	88
Research Organisations	93
Other	<u>10</u>
	440

Here I think, the results are quite straightforward. High quality and up-to-date research is valued across all the community, and not just by higher education and government. A similar survey conducted on users of the IMID disk showed that across the spectrum of users, many of whom were taken to be management practitioners as well as researchers, working papers were valued as the third most important database on the CD-ROM, after periodicals articles and monographs. (3)

(d) Users by reference source quoted

Table 7

Requests by reference source cited (May, 1995)
(n=440)

Current Awareness Publications	
Contents of Recent Economic Journals	195
Contents Pages in Management	3
Current Working Papers List	224
CD-ROMs	
EconLit	1
IMID Plus	5
Source not given	<u>12</u>
	440

Here, there is more difficulty in interpreting the results. One thing is clear. There is an overwhelming desire to find out the most recent publications in a particular field. The hard-copy publications which we produce and contribute to are highly successful in satisfying this. Information about new material received at Warwick is normally available within two months of receipt, and often within half that time. Also there is a benefit for the user in the link between information about a paper and systems that provide easy access. We offer a 24-hour return of requests and we provide a unique reference system for identifying the papers. This is where our reputation lies at present, for our clients in Europe, in Australia and the USA.

However, what can we infer from the lack of use of any networked source, and the low level of requests arising from CD-ROM searching? From the point of view of

supply, it is probably true that a researcher who conducts a search on NetEc or WPA would expect to use that system for delivery, just as the searcher at Warwick expects Warwick to supply. If we consider the use of networks, then it may be the lack of awareness, access, or experience that deters use. Warwick does provide, through the Computer Teaching Initiative-Centre for Computing in Economics, an e-mail SDI service to over 100 subscribers. These subscribers, however, did not appear to regard Warwick as a document source either.

I think we can summarise this part of the discussion by saying that there exists, and, continues to grow, a clearly defined set of 'grey literature' of about 8000 items per year from upwards of 400 institutions. This set of documents is used by a wide range of people in different institutions, and their interest is across a wide spectrum of the sources available. The need for current awareness of new research predominates. The market for document supply seems to be segmented according to the access point used by the researcher.

The next section of the paper will outline salient features of the working papers project to date. As have said before, the project was a 'grey literature' innovation, but as we shall see, used traditional, formal methods of collection, bibliographic control and publication to achieve its initial aims.

Building a formal model.

The Working Papers Project was started by a new University Library, looking for opportunities for collection building in the Social Sciences. Working papers offered such an opportunity because the medium was reasonably discrete, likely to be manageable in terms of resources required, and with every prospect of being well-used. Working papers were highly rated by academic and other researchers, but a classic example of 'grey literature'. The items to be collected were defined as "unpublished" results of recent research, produced for the purposes of comment, discussion and prior dissemination before final publication in a journal or monograph. Like working papers in scientific disciplines they were circulated to a small group of private contacts (known as the 'invisible college') but were considered to have a much greater general interest. They were also 'grey' in the senses that they were not normally obtainable through the usual intermediaries of the book trade, or listed in national bibliographies.

In other ways, the Project was highly innovative. Firstly it was collaborative. The project originator, John Fletcher, brought together a public sector university (Warwick), a government library (the Board of Trade) and a commercial publisher (Trans-Media, part of the Oceana Group). The University undertook the processes of collecting and storage, the government library the means of current awareness listings, and the publisher the realisation of the bibliography and microfilm.

Secondly, the Project was expected to be largely self-financing. The University did provide premises, staff and (extensively) technical support, but mainly it was a 'commercial' operation in a way that many other universities would have to explore later. These solutions generally worked well, until it was necessary to develop the Project further to meet the changing requirements of users and new output technologies, when these constraints posed great difficulties.

As would be supposed, the initial outputs were paper and microfilm based. Regular lists of accessions were produced, followed every six months by a bibliography with author, series and subject indexes. Access to the documents was by inter-library loan or by a subscription to the microfilm series. In 1978 the project adapted computer driven type setting, through more international collaboration with the NASA Industrial Applications Center, at the University of Pittsburgh, but in other ways the products stayed the same. Though there were several attempts, the database never went 'on-line' usually because the relatively small size made it unattractive to large host systems. It has only been in the 1990's, with the ending of the original commercial links and new management in the Library, that the Project has become electronic'. As a result of collaboration with the Institute of Management and its publisher Bowker-Saur, management papers appear on the IMID Plus CD-ROM. The whole database is also included in the HELECON-International CD-ROM produced by the Helsinki School of Economics courtesy of more international co-operation. The e-mail SDI service has been operational for two years and finally we have a networked database on the World Wide Web. We still plan to deliver the full text of our collection via the networks or CD-ROM, but that will require the generation of the necessary resources.

So whilst innovative in organisational terms, the Project has largely adopted solutions dependent on traditional library methods. Documents have been collected systematically and as comprehensively as possible. The collection may claim to be amongst the largest of its kind with its international dimension and its policy of including all relevant series. Documents are catalogued according to set rules and procedures, and they are indexed by means of a Thesaurus. The Thesaurus is regularly updated and maintained through international partnerships. Three sets of current awareness lists are produced containing 150 items each week. Documents are given unique reference numbers to make handling and storage of over 25,000 individual items relatively straightforward. When documents are no longer currently demanded at Warwick, usually after four years they are sent for permanent storage at the British Library.

Centralised and Decentralised Research

I have described the Working Papers Project as an example of a centralised research collection, unitary in that materials are assembled in one place and formal in the methods that are used to provide the service. Such a model has, I believe still many advantages to offer.

- (1) the collection through its reputation, its academic links, its acquisition policy, may achieve a high degree of comprehensiveness, thus reducing for the researcher the number of places or resources that need to be searched, with consequent time and cost savings.
- (2) such a collection, with consistent bibliographic standards and use of a single Thesaurus for indexing, with the scope for editorial control and other quality procedures, can enable more efficient and productive searching.
- (3) the collection can establish, through a collaborative approach, useful relationships between institutions as suppliers and institutions as users of research materials.

(4) the collection can offer a wide range of services meeting the needs of different kinds of researchers and institutions

Networked resources allow for the possibility of a decentralised model of research activity, where potentially the resources are richer since they are not bounded by the ability of a unitary institution with internal constraint on resources and procedures. Here the benefits may be circumscribed by the disorganization of the systems as a whole.

(a) networks must be able to provide the same kind of access as can be achieved by a centralised collector. The value of the network depends on the number of organisations contributing to it. Not only must they have the technical capability but also an informational incentive to contribute. In terms of working papers, the problem is the number and variety of institutions producing series, and the variety of publishing practices.

(b) networks must be able to provide the same ability to search and retrieve documents. Whilst much can be said of the advantages that come from an author providing an abstract, the same is not necessarily true of keywords or classification where they are the links between documents on the same subject. Search engines must have the same ease of use, flexibility and sophistication as CD-ROMs or on-line. Delivery systems need to be standardized, or at least more uniform. (4)

(c) users look for value-added services which save their time and serve their needs. To provide such services may require income or recompence for the host institution. Thus while costs are generally more evenly distributed, the benefits of new systems may be harder to achieve.

(d) general solutions to the problems of authorship, copyright, authenticity and evaluation arising from the existence and transmission of documents in electronic form.

Conclusion

It has been the purpose of this paper to question the continued necessity for unitary collections of research material. Reasons have been suggested why networked material may supercede collections based on the traditional ways of organizing and controlling material.

However, it has been shown that in the particular area of 'grey literature' on which the Working Papers Project is focussed, there are services which can attract use by researcher, since researchers are shown to require wide coverage and current awareness. It seems that if formal methods can be developed to provide value-added services then they will not be substituted in the next few years.

Warwick's Working Papers Project has applied many solutions to the problems of 'grey literature'. It has grown through the extensive use of co-operation, both to obtain the collection and to distribute information about it. Yet, it has also been commercial, and, it would appear, must remain so, if these services are to be developed. It has been both collector and publisher, lender and beneficiary.

I hope that in providing an insight into the management of this project, I may have unearthed some lessons for 'grey literature' as a whole.

Notes

- (1) The first study of working papers was published in 1980.
KOCH, J.E. and PASK, J.M. Working Papers in academic business libraries.
College and Research Libraries 1980 Vol. 41, No.6, pp. 517-523
- (2) This pattern of usage was discussed in a paper at the First Grey Literature Conference, Amsterdam, 1993.
ARTUS, M. Grey literature and the author/respondant relationship.
Conference Proceedings pp. 290-307
- (3) IMID User Survey, Institute of Management, 1995.
Private communication.
- (4) These issues were raised in a recent paper.
LAW, D. How microwaved is your poodle. Catalogue and Index. 1994.
No.114, pp 1-6

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**MULTICULTURAL/MULTIETHNIC GREY LITERATURE - A RICH RESOURCE:
An African-American Perspective**

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The United States has become a country that is less white, less European, and less bound by a single language. A look at the 1990 census figures shows that this country is truly multicultural for it has a greater variety of cultures than at any other time in its history. The census figures also predict that by the year 2000, no single group will be in the majority and that over 52% of the population in the United States will come from the following ethnic groups: African-American, American Indians, Asian-Americans, and Hispanics. America's minorities have become its emerging majority! These demographics will have a lasting impact on all aspects of American life, including the workforce, and workforce demographics may well become the impetus for the acceptance of ethnic and racial diversity issues.

Libraries and information centers will also be affected by these shifting demographics and therefore must gear up to meet the challenge. While issues of race and ethnicity are all sensitive subjects that most of us are uncomfortable discussing, we in the information field serve clienteles who are eager and anxious to make sense of the present, worried about the future, and hungry for information about their past. The only way to satisfy the hunger is to provide these patrons with information so that they can plan for the future, come to grips with the past, and make positive changes here in the present.

As navigators and purveyors of information, librarians can aid in this endeavor by ensuring that all Americans have access to information that helps people better understand and appreciate the rich contributions of multicultural and multiethnic communities. They must also be cognizant of the fact that one cannot solely rely upon information from regular commercial avenues, as much of this information--which is primarily grey literature--is not available through normal book-selling and distribution channels. Quite often it is this body of literature that is the most useful in recording the history and culture of people whose histories have been distorted and ignored.

The aim of the following is to detail the rich resource value of multiethnic and multicultural grey literature from an African-American perspective. This essay will attempt to present a brief description of "multicultural grey literature", detail its importance, and explore acquisitions and access issues as they relate to the black community. There will also be a discussion on the opportunities afforded in this area amidst the growing acceptance of electronic resources.

Description of Multicultural/Multiethnic Grey Literature

According to the Library of Congress subject headings, works such as reports, theses, conference papers, translations and limited circulation government documents are all subject terms for grey literature, with printed ephemera being the broader term. Ephemera is defined by Chris Makepeace in his book on the subject as:

a collective name given to material which carries a verbal or illustrative processes, but not in the standard book, pamphlet or periodical format. It has the following characteristics:

- usually flimsy or insubstantial;
- transient document produced for a specific purpose and not intended to survive the topicality of its message or event;
- may be of interest to scholars and collectors after its topicality has expired;
- acquisition, storage, classification and cataloging may not fall within the conventionally accepted methods of treatment within libraries and record offices, however is classifiable; and
- availability depended upon where produced, by whom, for what purpose, and where available from; and
- can be either primary or secondary source material (Makepeace, 1985, p. 10).

Makepeace goes on to present examples of ephemera which include: calendars, clippings, company reports, guides, information leaflets, menus, newsletters, newspapers, press releases, and society ephemera (pp. 220-223), all of which are well represented in multicultural collections. Therefore, although grey literature has now come to represent technical and government reports not accessible through regular distribution channels, the term will be expanded to include the broad category of ephemera.

The terms "multicultural" and "multiethnic" are used interchangeably in this document to refer specifically to the respect and appreciation of the diversity of experiences of all cultures and races. Thus for this piece, multicultural or multiethnic grey literature will be defined as a body of material(s), including but not limited to ephemera, theses, dissertations, limited circulation government documents, and conference and meeting papers, that explore, clarify and detail the diversity of experiences of cultures and/or ethnic groups and are not normally available through commercial publication sources.

Multicultural Grey Literature In The African-American Community

If a race has no history, if it has no worthwhile tradition, it stands in danger of being exterminated.
--Carter G. Woodson (cited in Josey, 1972, p. 120)

The issue of race dominates American society. Gunnar Myrdal in his classic study *AN AMERICAN DILEMMA: The Negro Problem and Modern Democracy*, reported that racism pervades every facet of life in the United States (Myrdal, 1944). Because so much of western scholarship was subverted by racism and cultural arrogance, it should come as no surprise that many black Americans do not know their history or at least have only a superficial view of it. Most white Americans are also ignorant as to the rich contributions of African societies to humanity as well as the contributions of African-Americans to this country. Moreover, many of us have now learned that so much of what we were taught before about Africa and Black America was either untrue or inaccurate. This lack of information or link with the past does not help but contribute to the growing feelings of powerlessness and helplessness within the black community and increases the racial and social polarization between blacks and whites.

In spite of the obvious and deliberate attempt to obfuscate an entire history of a people, it has been proved that African-Americans have meaningful histories, varied traditions, and a rich culture that is often overlooked by mainstream publishers. The study of black history and culture is now fashionable and has a new and vital role in the study of American history and life, although a short while ago, it was not considered relevant to curriculum studies. The truth is American history is incomplete without black history.

A community defined by its institutions, Black America relies heavily upon the black press and local resources to cover news about its churches, clubs, schools, associations, conferences, and other activities. It is not unusual for young

black children to get a history lesson from the back cover of a church bulletin or to attend special programs at local community schools and libraries during Black History Month, and receive calendars and posters that chronicle important events in black history. Community newsletters and newspapers report events that detail the lives of prominent African-Americans and their accomplishments. If one is fortunate enough to live near one of the 99 historically black colleges and universities, programs, flyers and brochures obtained from campus-sponsored conferences, lectures, and presentations by visiting black dignitaries from throughout the diaspora, also serve as a bonus education. Of late, black history walking tours (popular in a number of American cities) are replete with written guides full of recipes, articles and bibliographies, which highlight the lives of early African people in America. Moreover, the United States government and black organizations such as the National Association for the Advancement of Colored People (NAACP) and the Urban League regularly produce statistics and reports with data on African-Americans, as the black community has been dissected, studied, and reviewed like no other group in America.

It is to this end that the African-American community looks to these kinds of materials--multicultural grey literature--to unearth the history of a buried black past. These materials in the future will serve to authenticate, clarify, and document black antiquity.

Acquisitions and Access

If multicultural grey literature is to be of any real value it must be located, organized and made accessible to the community and to the public. Not doing so presents an injustice to multiethnic groups; and, although most of the scholarship is not new, just untapped, it serves to restore a more credible and accountable history of these communities. Librarians and libraries can play a pivotal role in this process. Unfortunately most librarians rely upon a narrow, small core of popular selection aids in building collections. The inclusion and selection of multicultural grey literature challenges this practice for the acquisition of multicultural grey literature requires active solicitation and creative and imaginative methods for locating and identifying the material.

In 1972, William Cunningham, then Director of Howard University Libraries and the former Library Services Officer, U.S. Office of Education proposed a national plan to collect black materials. He stated:

"Because of the present and projected needs of students, scholars, researchers and, above all, the black community for black materials; and because of the non-directed

development (either in kinds and types of materials, or in assemblage of such resources) to respond more effectively to these needs, a concerted program, national in scope, of the organization, collection and dissemination of black materials is long overdue" (Josey, 1972, p. 124).

While Cunningham's comments are inclusive of all materials relating to black America, he did speak directly to grey literature in that he suggested the "development of a central repository, through copy of one-of-a-kind items, acquisition of special and fugitive materials, and development of an identification retrieval system of such material in the holdings of other libraries" (p. 124). He further stated that this could not be accomplished without the joint efforts of black librarians and publishers, along with the establishment of a direct line to non-U.S. sources of black materials (especially in Africa, South America, and the Caribbean areas).

Cunningham's proposal of over twenty years ago has yet to come to fruition; however, understanding that the history of African peoples is as valuable to an informed, enriched and prosperous civilization as any other ethnic history and culture, many black librarians, bibliophiles, historians, and publishers have taken the lead in documenting and preserving artifacts, books and literature which would serve to provide access to this information more quickly and efficiently. Building upon the early efforts of the likes of David Ruggles, Jesse Moorland, Carter G. Woodson, Lewis Tappan, Arthur Schomburg, Dorothy Porter and others, museums, libraries on black college campuses, public libraries in the black community, and black cultural research centers courted black organizations, businesses, political groups, and community activists to gain access to their documents and papers. The result being a number of repositories and centers brimming with documentation on the experiences of Africans and African-Americans, prominently among them are the:

Amistad Research Center
Tulane University
New Orleans, LA

Library of Congress
Washington, DC

Fisk University Library
Fisk University
Nashville, TN

Moorland-Spingarn
Research Center
Howard University
Washington, DC

Hollis Burke Frissell Library
Tuskegee Institute
Tuskegee, AL

Schomburg Center for
Research in Black
Culture
New York Public Library
New York, NY

Vivian G. Harsh Collection
Chicago Public Library
Chicago, IL

Robert Woodruff Library
Clark-Atlanta University
Atlanta, GA

Collis P. Huntington Library
Hampton University
Hampton, VA

Ethnic publishing companies and bookstores are also excellent resources in the acquisition of multicultural grey literature. Although black owned publishing companies have existed since the second decade of the nineteenth century, the black publishing industry is experiencing a resurgence (Joyce, 1991, p. XI). Capitalizing on the growing interest in the history and culture of African-Americans, an African consciousness, and the demand for an African-American curriculum in the public schools, black publishers, distributors, and bookstore owners are sprouting up all over the country to serve this neglected but burgeoning market. While ethnic publishers and bookstore owners now compete with mainstream publishers for the 350 billion dollar buying power of the black community, the competition has increased the availability of more ethnically diverse reading materials and a wider distribution of documents detailing black history and culture.

The acquisition of multicultural grey literature demands that information professionals expand the selection resources they presently use to include a broad array of non-traditional, ethnically diverse sources. These sources may include reviews from small and independent presses, local community newspapers, organization and association newsletters and attendance at ethnic and community festivals and activities, as well as visiting bookstores owned and operated by people of color.

Electronic Medium

The electronic medium is laden with multicultural grey literature as much of what is now available on the Internet is ephemeral in nature. Through electronic mail or electronic discussion lists, a query as to the availability of materials and resources on a given topic is answered almost instantaneously. One also has the capability of searching the holdings of remote libraries by accessing their online catalogs. Moreover, vendors now make information on multicultural communities readily available in a variety of formats including diskettes, CD-ROMs, and through electronic text.

This new medium presents an opportunity for African-Americans to create new technology and to become producers of information as well as consumers. Black groups can now construct

web pages on the Internet and include information about their organizations and associations. Museums and cultural centers can now provide online, both graphical and full-text historical and cultural information on their collections and publish their journals and newsletters on international computer networks. By producing this information themselves, African-Americans can ensure that information about their community is historically correct and culturally-sensitive.

Summary

If we are to live successfully and harmoniously in a multicultural society, we cannot neglect the viewpoints, histories and cultures of any of our communities. We in the information field must bear the responsibility of identifying, locating and organizing multicultural grey literature, both in print and non-print format, so that it is accessible to all communities. This body of literature may well be the catalyst that helps people of all racial and ethnic backgrounds learn to appreciate differences and embrace the diversity of one another's experiences.

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MULTICULTURAL/MULTIETHNIC GREY LITERATURE - A RICH RESOURCE:
An African-American Perspective

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MULTICULTURAL/MULTIETHNIC GREY LITERATURE

An Asian-American Perspective

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Historical Background

The historical records show that Asians settled in the US as far back as the 18th century. The Chinese were the first major Asian group to arrive in the mid-19th century. They were Hawaiian plantation workers, workers in California's gold mines and throughout the US as builders of the Trans-continental Railroad. The Chinese were then followed by Japanese, Filipinos, Koreans and Asian Indians at the end of the 1800 and during the first two decades of 1900.

Asians did not have an easy time with their American experience. Congress passed the Chinese Exclusion Act of 1882, and the Immigration Acts of 1917 and 1924 to ban permanent settlement of Asians in the United States who were categorically designated as ineligible for citizenship. For the past one hundred years, Asian Americans experienced at one time or the other discriminatory immigration and naturalization policies, discriminatory government policy, prejudice on the part of general public, and physical violence. Only in 1965 did the US government grant Asian countries equal status in immigration laws with the countries in Europe.

The last three decades since the passage of the Civil Rights legislation in 1965 have witnessed a steady progress of Asian Americans in participating in and contributing to American society, culture, economy and democratic institutions. With a population of roughly 7.3 million, Asian Americans today make up 3% of the US population. The Asian American community is characterized by a variety of racial, ethnic and cultural subgroups. Most Japanese Americans, for instance, are descendents of Japanese immigrants who came before 1924. Even though Chinese and Filipinos were here in North America earliest and therefore largest (42% combined of total Asian American population) in number, yet interestingly 65% of these two groups are foreign born. English proficiency also varies greatly between those who are acculturated and belong to families that have been here for many generations and those who are recent refugees and immigrants from Southeast Asia.

Geographically speaking, Asian Americans are heavily concentrated in major Metropolitan areas. Coming to America

across the Pacific Ocean, 56% of the Asian Americans live in the Western States, mainly in California and Hawaii. Four other non-Western States also have significant number of Asian Americans. They are major industrial states such as New York, Texas, Illinois and New Jersey.

Low visibility of Asian Americans in Mainstream Press and Media

The mainstream press and media are the primary source of information for most Americans. They are also the major vehicles for transmitting the norms, beliefs and values of our culture. Therefore, they exert a powerful influence on the American public's perceptions, attitudes and opinions. Since the Asian American population is relatively small and concentrated in a few geographical areas, many Americans may not come into contact with Asian Americans in their daily lives. Consequently, unbalanced or insensitive press coverage of Asian Americans may foster prejudice and promote anti-Asian bias. As Senator Bill Bradley of New Jersey perceptively observed in his 1994 speech to the National Policy Center that "Asian Americans have long been viewed as a group apart from Caucasian America and have always faced an ingrained racism. For over seven million Americans of Asian and Pacific descent, life in mainstream American society can often feel like a futile struggle to find oneself in a society that only recognizes two races." Historical incidents also testify to the fact that when jobs became scarce, economic hard times make new immigrants, Asians included, an easy target of suspicion, distrust, repulsion and hatred. No matter how many generations Asian Americans have been in America or how well educated they are, Asian Americans are often rejected by the white majority fearful of "the other" and ignorant of their contributions.

Besides, American portrayal of Asians has been largely dominated by foreign images. Asians are perceived mostly as citizens of Asian nations and often in connection with the American battles in Pacific, such as World War II in China, Japan, Pacific Islands, Korean War and Vietnam War. As the economies of Japan, Korea and other Asian countries have increasingly become more competitive in 70's, Asians are more often seen as citizens of America's economic competitors. Further influenced by popular mass media such as films and television, Asians are portrayed as foreign and cast often in one dimensional stereotypes. Negative stereotyping often causes pain and ignore the diversity, richness and complexity of Asian Americans and their culture. Professor Ling-chi Wang in his 1992 Conference on the Legal, Political and Economic Status of Chinese in the Diaspora said:

"The scarcity of knowledge on overseas Chinese can be attributed directly to three major inhibiting factors in the post WWII era: the cold war conflict, the Mainland-Taiwan hostility and anti-Chinese sentiment in most post-colonial nations. The cold war ended in 1989. A new era has begun. It is now possible to move in the direction of freeing scholarship from political bondage and racial intimidation...."

Against this historical background, it is easy to understand why there are so few Asian American materials in college and public libraries. According to Wei-chai Poon, librarian of Asian American Studies Library at U.C. Berkeley, except California there are almost no academic or public libraries in other parts of US collecting or developing Asian American collections. Asian American materials are not systematically arranged and are often buried in East Asian collections or state archives throughout the country. It is common to find directors of these collections not recognizing the needs of the growing Asian American population or the needs of the larger community to become better informed about Asian Americans.

Multicultural Grey Literature in the Asian American Communities

The under-representation of Asian Americans in the mainstream publications has a great deal to do with the relatively late start of Asian American studies on American university and college campuses, that is, in the late 60's. Those that have active programs remain on the West Coast. Take the UCLA Asian American Studies Center as an example, for the past twenty-five years the Center has made its primary mission the collection and cataloging of historical documents and materials in order to capture and preserve the Asian Pacific American experience. Based on archival research, Professsor Yuji Ichioka of UCLA was able to write and publish his "Issei: The World of the First Generation Japanese Immigrants 1885-1924" in 1988.

For all other Asian Pacific American groups, their histories are still in the making and efforts would have to be made to develop archival and oral collections, media materials and books. What constitute multicultural grey literature for the study of Asian American communities? They are:

- a. Files of foreign language newspapers and newsletters
- b. Reports, announcements, directories and list of records and publications of fraternal and business organizations, schools, churches, labor unions
- c. Status reports on Asian American communities issued by

- government agencies, commissions and committees
- d. Conference programs and proceedings
- e. Papers, correspondence, informal notes and diaries of prominent individuals,
- f. Photos, pamphlets, posters, audio/visual tape recordings, maps, promotional materials
- g. un-published master theses and doctoral dissertations

Ethnic newspapers and journals continue to play an important role in Asian American communities. According to 1990 US Census figures, over half (51%) of Asian Americans aged 18-64 speak a language other than English and over 25% do not speak English very well. The fact that foreign-born Asian Americans currently outnumber American-born ones also contributes to Asian businesses' heavy reliance upon the ethnic press. The earliest Chinese newspapers, for instance, can be traced back to the weekly Golden Hills' News, founded in 1854. The postwar era also saw comings and goings of monthlies, bi-weeklies and weeklies emphasizing local community news. Asian Week founded in San Francisco in 1979 with circulation of thirty thousand aims at Asian American market is probably among the most popular and long-lived in the country.

Besides ethnic presses, special technical reports reflecting economic status and civil rights advancement of Asian Americans are transcripts of a series of the Asian Roundtable conferences sponsored by the US Commission on Civil Rights. The Commission is an independent, bipartisan agency first established by Congress in 1957 with specific charges to advance citizens rights regardless of their race, color, religion, sex, age, handicap, or national origin.

Resource manuals produced by municipal schools and information needs assessed by the city library systems may focus on Asian American communities. They contain valuable information on Asian American cultural traits and traditions. In addition to information provided by the select Federal government agencies, publications which were compiled by local governments and research institutes with government fundings are typical examples of multicultural grey literature.

Other multicultural grey literature of which bibliographical control and access is most difficult are publications, directories and essential archival records of major Asian/Asian American organizations. How did those organizations come into being? What were their missions? Who were their leaders? When the early Chinese immigrants discovered the harsh reality of pioneer life in America, they quickly formed mutual aid associations based on their homeland affiliations. Kinship and district associations even today continue to exert great influence on immigrants' livelihood and survival in Chinatowns. Generally

speaking, members of Merchants Guilds dominated the kinship and district associations. Their modern day version, the Chinese Chamber of Commerce still serves as a communication link with world outside of Chinatown. The Chamber spoke out against hostile public policies and worked with city officials on issues such as housing, employment, health, social services and youth gangs.

The diversity of the Asian American community which is comprised of persons from nineteen different national origins, a wide range of immigration dates and statuses and socioeconomic levels means a wealth of data for us information professionals. We need to recognize these diverse subgroups in our information gathering process as a first step to meet with their respective needs.

It was predicted by W. David Penniman that the success of a futurist library to a large degree depends on its delivery system. As a information delivery system, library is also multifaceted: as a warehouse, gateway, intermediary, a channel in the scholarly communication process and a preserver of "what we know".

As an important cultural and educational institution within every school and community, the library has a unique responsibility to help all citizens of the society come to grips with multiculturalism. To deal with issues of diversity effectively, libraries must become multicultural organizations, develop multicultural knowledge bases and share what they know with their community users.

So far as multicultural and multiethnic materials are concerned, I agree with my colleague that universal access to information technology shall be the civil rights and economic issue of the 21st century. We should not let past inequities dictates what the future should look like. INTERNET presents itself as a great opportunity for people of color. Minority groups, women, religious groups, everyone can express their views on INTERNET. The INTERNET is freedom of expression extended to the maximum. Let us seize the opportunity to create and access computerized information, to use electronic resources skillfully, and to translate these skills into broad-based applications that can benefit society at large.

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Grey Literature : The State of the Marketplace

Presented at

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November 3, 1995

by

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ABSTRACT

Access to the grey literature of the Soviet Union and its satellites is becoming even more difficult as the information infrastructure continues to dissolve and reorganise on a considerably lesser scale.

Libraries continue to acquire, track, and house books and periodical, but the proceedings, technical reports, theses, dissertations, reviews, and other materials including newspapers, pamphlets, and so forth, do not follow the classic distribution channels and those which were in place are being replaced.

This paper provides statistics on the past and current infrastructure for information dissemination and acquisition. It will trace the migration of grey literature publishing and suggest models for monitoring and acquisition by country and by discipline.

WHAT IS THE GREY LITERATURE?

90% of Grey Literature is, in descending order:

- Preprints
- Deposit documents
- Proceedings
- Dissertations
- Educational materials at university
- Other

PREPRINTS

- Collections

- S&T Library from 1992
- VINITI
- 20 years on microfiche - threw out for a restaurant -
- Hanover University Tech.
- Information Center - 1993 Chepurnaya
- Tatyana
- Lubertzy has 80% - 1958 forward
- 70% in Lenin Library
- Biggest producer -
 - 50% Institute of Joint Nuclear Research
 - 90% from Academic Institutions
- Preprints can be reviewed
- Fastest growing Grey Literature Segment

THE REQUESTERS - USERS CONCERNS

- Understand literature system of the target country
- What was not grey is now
 - 15,000 historically
 - 5,000 in 1994
- Changes in emphasis
 - PhD's - 200 to 3
 - 50,000 candidates - 10,000 in FSU, now few

COST IS DEPENDENT ON:

- Difficulty of acquisition
- Quantity produced
- Value of item by holder of item
- Finding out the item exists
- Once found the cost is sunk

NEW TECHNOLOGIES

- Adds complexity
- Speeds Grey Literature production cycle
- More equipment more software needed to access
- Further separates Information "haves" and "have not's"
- New Management styles
- New Sharing styles

STANDARDS FOR GENERATION AND DISTRIBUTION

SGML	NISO/ANSI Z39.48	ISO 12086
HTML	ANSI - TAG 46	ISO
EDI	Z39.50	
SICI		
Technical Reports		
Etc.		

Seems strange to put Standards on fugitive literature?

PROCESSING

- Cost after acquisitions same as for other items:
 - Catalog - Index
 - Abstract
 - Storage - Retrieval
- Cannot use copy cataloging or share
- Cost of collection development is higher
 - Now have to buy what was free
 - Finding data is tough
 - Mail does not work - takes months
- How to find:
 - References
 - CAS
 - Bibliographies in books and articles
 - Newspaper references
- Russian Information Flow
 - Book Bibliographic Index - weekly (Russian Book Chamber)
 - Article Index (Better to go to Author directly now)
 - Newspaper Index
 - Referentivney Journal

THE AUTHORS CONCERNS

1. Rapid publishing of results rather than prestige;
2. Wide distribution primarily to their peers and colleagues;
3. Concentrate on content rather than publishers requirements;
4. True researcher is more interested in sharing the science than getting the peer review credits;
5. Heavy peer review often forces changes in the authors work - censorship (run 20 copies. Had to hand carry to);

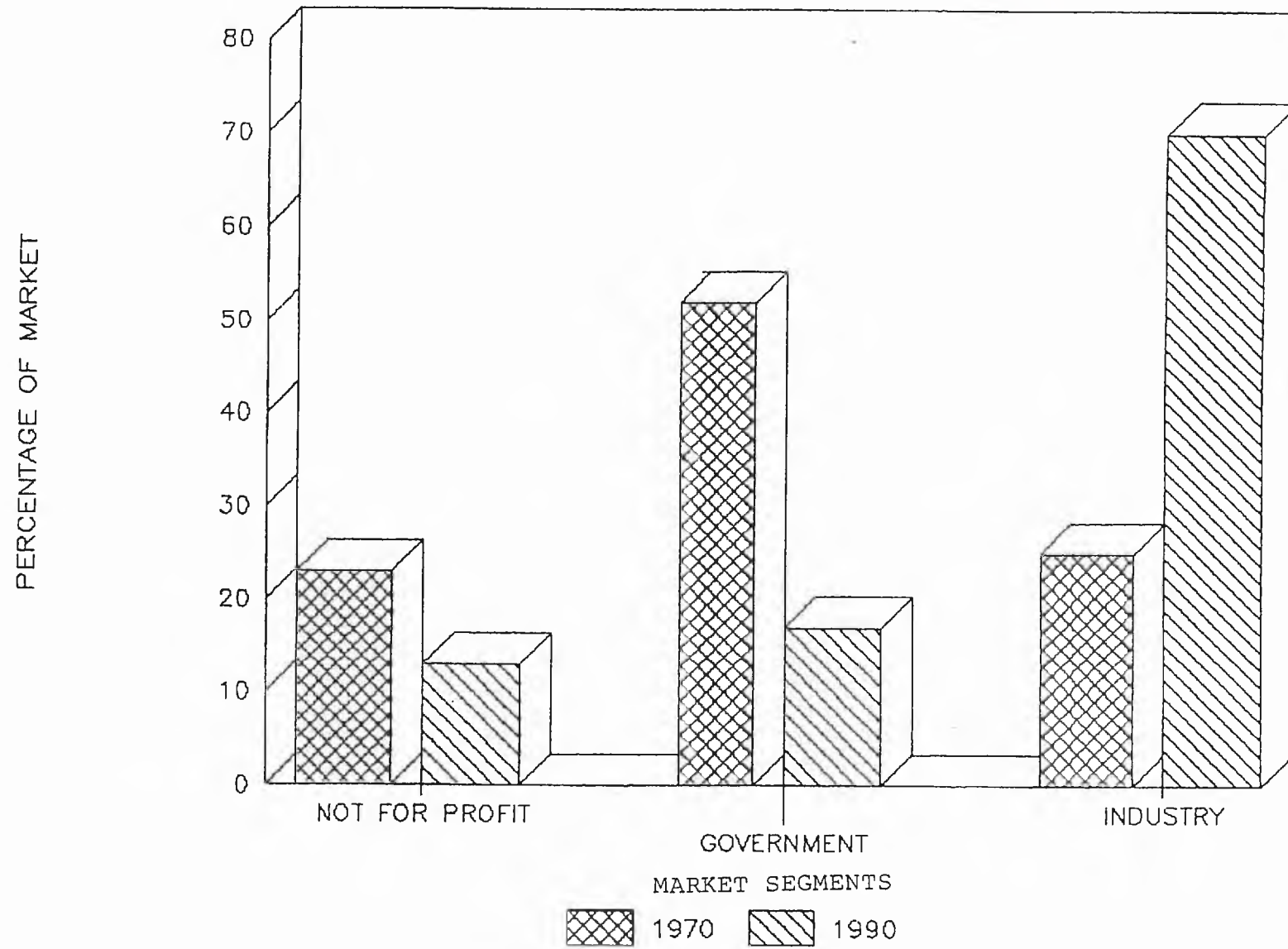
6. Russian publishing law required 19 stamps of depository approvals before publishing. It is 2 in the US for copyright;
7. Short run (small circulation publications usually ignore the law) print runs of 30 or less;
8. Desktop publishing is easy - cheap;
9. Bibliographic control is expensive.

Therefore, there is an increase in grey literature.

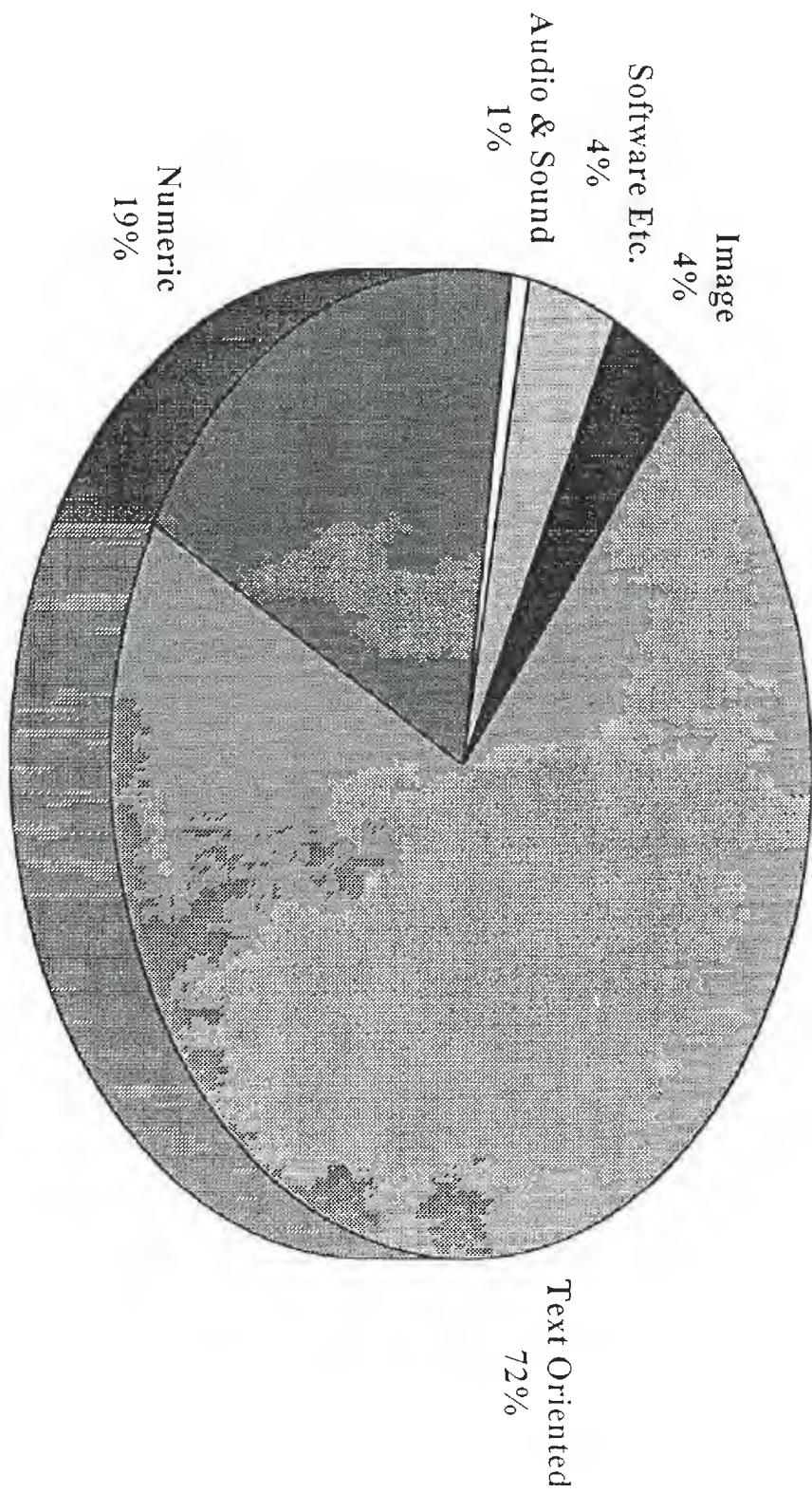
THE PRODUCERS CONCERNS

1. How to gather
 - Last year at VINITI
 - 1/3 was from respectable titles 730 journals
 - 2300-2500 is actually 2/3 grey literature
2. How to market, advertise, share
3. How to price or sell
4. How to handle orders - stock - keeping track
5. How to recover cost:
 - of production (paper, equipment, plates and vodka caps)
 - of reproduction
 - of distribution
 - Three main cities (Shadrinsk, Rybinsk, St. Petersburg)
6. How to pay for intellectual property to authors - especially in other nations like Russia, CCC OK in the US and Northern Europe
7. Be sure to get the payments first, if a document is ordered:
 - Credit card - deposit accounts
 - Advance payments

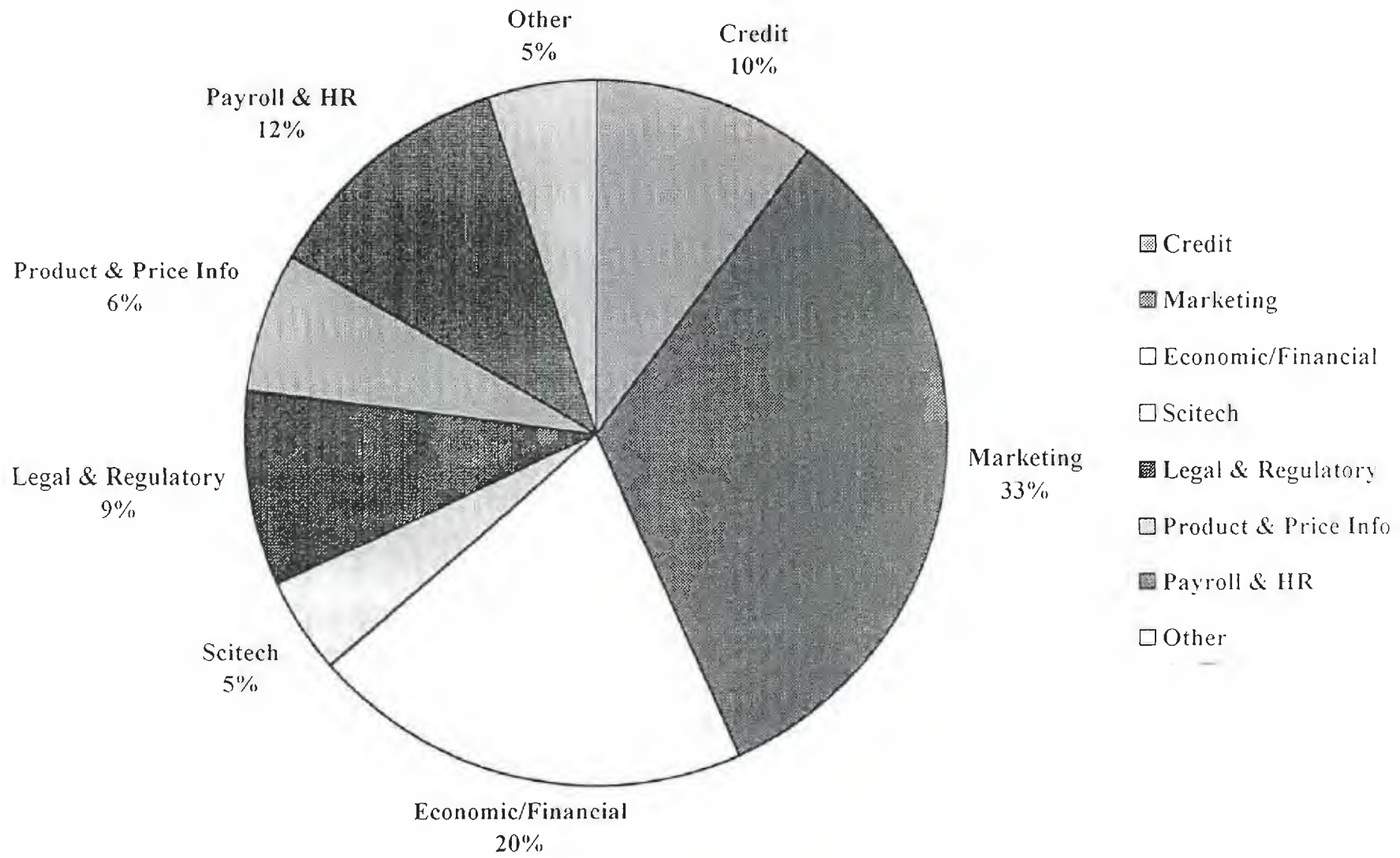
MARKET SEGMENTS



Types of Data Available 1993



1996



INTERNET PUBLISHING

- Worldwide
- Not Peer reviewed
- Moves quickly
- Easily augmented or changed
- Hard to trace to the ultimate source
- Lower quality - 20% very low
- Electronic marketing

PROBLEMS

- Finding the information
- Increasing quantity - up
- Self promotion
- Limited numbers
- Tenure track is disappearing
- Full cost of production must now be born - watch FSU - slower but same in West

BENEFITS

1. Prevent repeating research (build on existing rather than generate again as new; hard to ID the kernel of truth).
2. No more expensive to process than regular materials in the A&I process.
3. English is the language of science.
4. Translations needed to get the gist - *"Xerox into English"*

TRENDS FOR THE YEAR 2000

- Local control of data
- Natural Language front ends
- Multilingual front ends
- Less Government \$
- Merging of industry sectors (publishers and distributors, etc.)
- Content consolidation
- Document delivery integration
- Increased joint activities
- Return to local and corporate financing of libraries and information centers
- Fewer librarians - more information scientists
- Complex regulations

THE MARKET FACTORS

1. Revenue Streams by data type:
 - Publishers
 - Database producers
 - Data Hosts or vendors
2. Changes in the marketplace:
 - Things which were not grey are now (Russian Institutes reduced production)
 - Long publishing delays for traditional data (grey until published)
 - Preprints are the most popular
 - Provincial Scientists can only get noticed if published in "Metropolitan" Journals.
3. Other effects:
 - Print run sizes - Old equipment
 - Building maintenance
 - Sci-tech versus religion competition
 - Shorter time to distribution channel
4. Price of Publishing is up, therefore, the number of subscribers is down.

Development trends of the C.N.R.'s scientific research as a result of the production of grey literature.

Capture and analysis.

AnnaMaria Campanile

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Abstract

An organisation carrying out research at a scientific level, such as the National Research Council (C.N.R.), inevitably has to face two problems, namely how to publicise to the outer world the results of research carried out under its auspices and, at the same time, how to supply its researchers with information material providing an indispensable back-up for further progress.

The scientific activity of researchers implicitly defines the body's chosen course and guidelines in the realm of scientific policy, as it represents not only the "product" but also the "memory" of an activity, which places the body at the vanguard of Italian scientific research.

Publications derived from the researcher's scientific activity are the result of a study and a finalised project, while grey literature, a nonconventional document, informally describes their salient points and the targets reached, and is of particular importance with regard to the progress of work.

This explains the importance acquired by the exchanging of scientific information between collaborators, the diffusion of progress reports of Research Institutes and knowledge of any documents circulating rapidly within the scientific community.

The collection, organisation and identification of this particular type of literature, produced within the body under the direction of 15 National Committees promoting research on individual subjects, have laid the foundations of a C.N.R. grey literature documentation centre inside the Central Library, its major bibliographical structure.

An affirmative answer to this requirement at an international level has been provided by joining to two of the most famous scientific information systems for the distribution of grey literature, namely SIGLE, System for Information on Grey Literature in Europe and N.T.I.S., an agency of the U.S. Department of Commerce, for which the Central Library is the National Centre of Reference.

To this end, the Central Library functions as an authentic Italian centre of documentation for grey literature, in view of the fact that "grey" publications, such as information and reports on operative activities, and the state of the art of a particular research are significant sources of information for the body's scientific output.

If we carefully analyse the "capture" of this particular kind of literature and its organisation in terms of data retrieval for the benefit of researchers, we shall clearly appreciate the multidisciplinary nature of the body's activity; monitoring the flow of "grey" output by the technicians in charge helps to produce a clear picture of political research trends.

HISTORICAL BACKGROUND

In order to define the importance of scientific literature, and especially grey literature for a research body like the National Research Council (*Consiglio Nazionale delle Ricerche* - C.N.R.), we will provide a short introduction to this scientific organization which has such an important role in Italian research.

Set up in 1923, C.N.R. is a government body promoting and regulating research aimed at enhancing the country's scientific and technological progress.

It has approximately 7,000 employees, of whom 4,000 are researchers and technical staff, and approximately 16,000 external collaborators.

The C.N.R. scientific research activity is carried out directly by its Research Departments (approximately 300 including Institutes, Study Groups and National Research Groups) under the guidance of 15 National Expert Committees in accordance with their field of scientific interest (mathematics, physics, chemistry, psychology and medicine, geology and mining, agrarian sciences, engineering sciences and architecture, historical sciences, philosophy and philology, legal and political sciences, technological research, environment and habitat, biotechnology and nuclear biology, and cultural resources.

Science and industry are also involved in the participation in Targeted Projects which concern innovative technological research and aspects of the quality of life related to economic and social problems.

In the context of the C.N.R. intramural research, the Research Bodies are divided into 18 major Research Areas, while extramural research is supported by annual grants for thousands of research contracts with Universities, industry and private organizations.

All of this scientific activity is then reported in

publications which are the result of a working project conducted and completed by the researchers, who through scientific literature provide one of the main outputs of research activity.

Scientific and technical results are generally pursued by all members of the world scientific community and made available through channels of information, since this is the communication process providing for access to the knowledge accumulating over the years, with the distribution and consequently the advancement of knowledge.

The results acquired can stimulate further lines of research and be used in various applications, many of which are wholly unpredictable at the time research is made.

Publications can therefore be considered as an intermediate or final output of research.

Because of their very nature, it is hard to make a quality judgement on the results of research activity. Nevertheless, the availability of information suited to the trends in scientific research in various fields has become increasingly important for formulating scientific policy.

C.N.R. is thus a producer of scientific and technical information and of technological innovation.

Together with these important tasks, C.N.R. must also distribute the results of scientific research, informing potential users as soon as possible, as well as responding to the demand for innovative research coming from industrial organizations.

This can be achieved by constant dialogue and collaboration with the users of the "scientific research" product, and with all the organizations playing the role of interface with potential users.

Scientific research is characterized by the need for a rapid information system designed to convey data on the progress and results of work currently under way to the scientific community in as short a time as possible.

Researchers have always used their own channels for the diffusion of research. These channels, first wholly personal and based on correspondence, have advanced from letters to typewritten documents, photocopies and today's high-quality office automation products. New information technologies from the telefax to electronic mail facilitate exchanges of information between researchers, enabling people living in different parts of the world to write articles jointly.

One of the trends characterizing the scientific community in our time is its international integration, and to this end many institutions such as the European

Union explicitly encourage research programs and initiatives involving researchers in several countries.

Thanks to symposia, meetings, grants and international research programs, research personnel can build up a network of individual contacts as "invisible collages" extending well beyond national borders.

SCIENTIFIC LITERATURE

The scientific and technical results of a given research project are usually published in specialized journals available to all the members of the world scientific community, and the analysis of the number of publications has long been accepted and used by the scientific community as an indicator of activity.

Nevertheless, the urgent need to document scientific results obtained by institutional and industrial research has produced a nonconventional or grey literature, which although its use is limited over time, has contents with a certain value and of undoubted interest since it responds to planning, implementation and distribution criteria which provide an immediate response to communication needs.

The most widespread types of grey literature on the institutional level such as C.N.R. are projects and reports issued by a research body to become a resource for

the international scientific community.

Prepared by the work of many people, often employees of their Institute, this literature is evidence of the carrying-out of research under the scientific and financial responsibility of the organization concerned.

In particular, these reports nearly always have an institutional function and their circulation is often limited to the intellectual and scientific community; today, however, they are considered to be the most widely used means of information in the research sector and are the most preferred channel for information distribution among scientists for three reasons:

- the information they contain is nearly always new and therefore interesting;
- the information is updated and therefore fresh;
- the information indicates the level of research carried out in the country in a particular sector.

Considering the scientific validity of grey literature and the important results obtained by its distribution, many countries have made efforts to receive and distribute this information on the national and international level through the development of on-line databases or CD-Roms making it possible to identify the document.

The need to collect, organize and identify this type

of literature produced by C.N.R. under the guidance of the 15 National Expert Committees promoting research has established the basis for a documentation centre for grey literature which is linked with international information distribution systems such as SIGLE and NTIS.

This means that C.N.R., through Central Library with the headquarters of the Scientific Documentation Centre for grey literature, has become the National Data Collection Centre for nonconventional literature.

The Central Library is therefore setting up a national library for scientific grey literature, utilizing research tools making this library usable and accessible by the scientific community, assuming leadership in the distribution of information regarding grey literature.

INTERNATIONAL COOPERATION

Set up in 1980, SIGLE is the affirmative Italian response to the European initiative which being aware of the drawbacks in this field decided to create a Database, the System for Information on Grey Literature in Europe, produced by EAGLE for the acquisition, bibliographical checking and supply of grey literature documents.

SIGLE, with on-line access via Blaise and STN International, provides the multidisciplinary database with technology, and the various branches of biological,

medical and natural science, as well as economics and the social science.

Since 1985, the C.N.R. Central Library, the national reference centre, has been part of the system and has implemented the database according to standard procedures.

The NTIS (National Technical Information Service), part of the US Department of Commerce, receives and provides data on the advancement of research projects in the US and elsewhere, especially in R&D for economics and engineering.

It provides abstracts of works completed and has on-line or CD-ROM access.

With regard to this system, the Central Library has participated since 1990 by providing the reports of the C.N.R. researchers, with an abstract for each work.

THE CENTRAL LIBRARY AS A NETWORK FOR THE COLLECTION AND DISTRIBUTION OF DATA

The developed countries are aware that science and technology are the keys for scientific and technological advancement.

This conviction induces them to provide funds to increase R&D activity.

In this regard, during the last year C.N.R. has provided financing to the 18 Research Areas distributed throughout Italy as illustrated in the table below.

1994

RESEARCH AREA	MILLION LIRE
Bari research area	690
Bologna research area	1,475
Cagliari research area	80
Catania research area	515
Cosenza research area	210
Florence research area	415
Genoa research area	1,820
Lecce research area	135
Milan research area	2,322
Naples research area	1,987
Padua research area	1,728
Palermo research area	595
Pisa research area	508
Potenza research area	620
Rome-Montelibretti research area	2,920
Rome-Tor Vergata research area	2,900
Sassari research area	325
Turin research area	1,055
TOTAL	20,300

As a result, the member institutes contained in these Areas have more intensive research activity where there are more funds available. The economic commitment is often required by social reasons demanding the advancement of research.

The way in which researchers produce results and communicate is therefore reflected in the funds allocated for their scientific activity.

Since communication is the basis of science, researchers need to record and distribute the results of their work.

This explains the importance of grey literature which is the best vehicle of information for scientific progress and the spinoff in terms of economic, social and human wellbeing.

The collection and distribution of the information produced by the research bodies make them more competitive on the world market since vital information can be transferred to industrial production.

The economic requirements make it indispensable not to waste energy and the contents of research in order to avoid redundant interventions.

This is why it is indispensable to understand the results of research and its state of advancement. Economic and intellectual reasons make it all the more important to

collect grey literature, especially in the field of scientific research.

PRODUCTION OF GREY LITERATURE IN THE C.N.R. RESEARCH INSTITUTES

The C.N.R. Central Library has undertaken a documentation service for grey literature with a program for user-oriented distribution.

Since the research activity of the institutes is classified by projects, the resulting product is based on the scientific publications, many of which appear in international journals.

All the other scientific reports on the advancement of projects are distributed informally as grey literature.

The Central Library, through a program of promotion and coordination with the Research Areas, collects all the documentation and records it in the SIGLE and NTIS databases.

An examination of the literature recorded here shows a sharp increase in a variety of sectors such as education, healthcare and building, all areas with a considerable impact on society as a whole.

The table shows a sample of production of grey literature and the corresponding research activity of the

body. These figures therefore provide the parameter of current scientific activity and represent the present status of a scientific or technical problem.

It enables the researcher to establish priority in the data obtained and to prevent the duplication of work and study.

The scientific responsibility for the data is attributed to individual authors, while the body which approves and funds the project has overall responsibility for the research.

Examining the value of the 2,919 grey literature publications included in the databases up to 1994 inclusive, we can see the scientific activity of the National Committees and therefore the policy trends of the body.

	No. MEMBER INSTITUTES	No. GREY LITERATURE PUBLICATIONS RECORDED
01 - National Committee for MATHEMATICAL sciences	13	78
02 - National Committee for PHYSICAL sciences	38	252
03 - National Committee for CHEMICAL sciences	58	96
04 - National Committee for BIOMEDICAL sciences	42	179
05 - National Committee for GEOLOGICAL & MINING sciences	29	517
06 - National Committee for AGRARIAN sciences	46	34
07 - National Committee for ENGINEERING sciences & ARCHITECTURE	31	599
08 - National Committees		
09 - for HUMAN sciences		
10 - (HISTORY-LAW-ECONOMICS)	30	477
11 - National Committee for TECHNOLOGICAL & INNOVATIVE research	16	38
12 - National Committee for INFORMATION science & technology	---	---
13 - National Committee for ENVIRONMENTAL & HABITAT science & technology	13	49
14 - National Committee for BIOTECHNOLOGY & MOLECULAR BIOLOGY	7	---
15 - National Committee for the science & technology of CULTURAL RESOURCES	3	---

TOTAL	326	2,919

One can observe a discrepancy between the number of grey literature publications by researchers and the number of research institutes.

The greatest contribution is made by the institutes related to the committees for Chemical Sciences (03) and Biomedical Sciences (04), followed by the Agrarian Sciences (06) and the Physical Sciences (02).

They do not have a sufficient percentage of technical reports due to the fact that very often the researchers prevent the circulation of the results obtained unless this is through the publication of articles in scientific journals (preferably international).

It can be concluded that research and experimental activities with spinoff on the quality of life are currently kept out of the circulation of nonconventional literature, while theoretical and engineering research is well represented.

With regard to the National Committees for the Human Sciences, it should be pointed out that the considerable preponderance of publications in grey literature indicates the importance which C.N.R. attributes to the cultural facilities. With its continuously advancing research tools, the number of publications shows the considerable amount of activity in this sector.

CONCLUSIONS

In the world of scientific research there is daily pressure and need to publish.

It has been calculated that in this sector approximately 6,000 articles per day are published on 100,000 journals.

The explosion of information through traditional channels has reached such vast proportions that it is almost impossible for researchers to keep up with the publications.

In order to streamline this procedure, the system of nonconventional publications has proved to be particularly efficient and effective with useful exchanges of information, articles and reports on current activities.

Considering the fact that information has become a strategic resource which can improve the world economic system, attempts have been made use technological channels of information to organize knowledge produced by institutional researchers.

The purpose of the bibliographical facilities connected with this service is mainly to collect, conserve and transmit the ideas and information typical of professional researchers.

The C.N.R. Central Library, as the National Library

for Science and Technology and the Italian Reference Centre for the SIGLE and NTIS systems, is therefore the major tool for the collection of grey literature, and plays an active role in information distribution. The institute, aware of its particular function as the national bibliographical service of a major scientific organization, has had to provide an interface between the huge production of scientific literature and the increasingly pressing demand for access to this information.

This demand will be met with an adequate response and social commitment, recognizing the importance of information as a resource which improves the quality of life.

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GREY LITERATURE IN FRANCE: THE GRISELI PROGRAM

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GRISELI (for Littérature and GRISE in French or Gray Literature in English) is a national information system on gray scientific literature in France which was set up in 1994 by the French Research and Higher Education Ministry (MESR) within its Scientific and Technical Information and Libraries Directorate (DISTB).

The objective of the GRISELI project is to collect, index and disseminate gray literature i.e. documents such as internal or limited circulation reports, some conference proceedings, unpublished academic studies, pre-prints, etc., which do not fall within the traditional publishing channels. It is estimated that 60% of the gray literature produced in France is not indexed in traditional bibliographies and bibliographic databases. Therefore a wealth of gray documents non only of great value to research organizations but also constituting a source of strategic information for industries, remain particularly difficult if not impossible to locate. A survey of the small and medium companies and their needs for scientific and technical gray literature commissioned by the Ministry showed that this type of document is very much in demand because they are so important for technology monitoring, current awareness and for finding experts in a particular field¹.

1. THE GRISELI SYSTEM

The GRISELI system consists of a network of organizations acting as GRISELI centers which are in charge of collecting and indexing gray literature in a given field, and a centralized access point to the bibliographic references of the documents for users (cf. schema 1).

1.1 The GRISELI centers

Research organizations, technical and industrial federations, universities and major specialized documentation centers act as GRISELI centers. Today, there are 12 GRISELI centers. Each center received a grant from the Ministry to help set up the infrastructure needed to be part of the system which includes creation of a gray literature data base according to pre-defined guideline and standards, setting up a network to collect gray literature in the center's field and supplying the documents as loans, photocopies, by fax or electronically. 5 to 8 new centers are planned each year.

FIELD	GRISELI Center
Earth Sciences	BRGM (Bureau des Recherches Géologiques et Minières)
Energy	CEA (Commission à l'Energie Atomique)
Wood	CTBA (Centre Technique du Bois et de l'Ameublement)
Microtechniques	University of Franche-Comté
Agronomy	INRA (Institut National de la Recherche Agronomique)
Computer Science	INRIA (Institut National de la Recherche en Informatique et

	Automatique)
Transportation	INRETS (Institut National de la Recherche en Equipment, Transport et Sécurité)
Rubber, Plastics	LRCCP (Laboratoire de Recherche et Contrôle des Caoutchoucs et Plastiques)
Dentistry	INSERM (Institut National de la Santé et de la Recherche Médicale)
Water	OIE (Office international de l'eau) and CEMAGREF (centre national du machinisme agricole, du génie rural, des eaux et forêts)
Demography	INED (Institut d' Etudes Démographiques)
Tropical Agronomy	CIRAD (Centre de Cooperation Internationale en Recherche Agronomique pour le Développement)

List of GRISELI centers (October 1995).

1.2 A unique entry point

The Institut de l'Information Scientifique et Technique (INIST) of the FRENCH Centre National de la Recherche Scientifique (CNRS) was selected as the unique entry and access point.

INIST
41 000 reports
49 000 conference proceedings
69 000 french theses

The GRISELI centers regularly send to INIST electronic files containing their gray literature records in the GRISELI format (see below). INIST then enters all the French gray literature records into its PASCAL bibliographic database. INIST will also supply

the documents for some of the GRISELI centers through its document supply system. INIST is in charge of entering the records of French gray literature documents collected through GRISELI in SIGLE, the European Grey Literature Database of EAGLE (European Association for Grey Literature Exploitation).

Only non-confidential documents will be entered in the PASCAL database. Any document partially or wholly confidential remains in the internal database of the GRISELI center and is only handled by it.

INIST has also been appointed National International Standard Report Number (ISRN) Agency in liaison with the FIZ in Karlsruhe. INIST work for the GRISELI project has been supported by a grant from the Ministry.

GRISELI is designed to ensure the full processing cycle of French gray literature while at the same ensuring access to the documents themselves. Another center collects and disseminates reports given by administrations: the DOCUMENTATION FRANCAISE²

2. GRISELI TECHNICAL ASPECTS

To ensure a coherent processing cycle from beginning to end, GRISELI uses the SGML ISO 12083 standard, since the system is designed to become fully electronic.

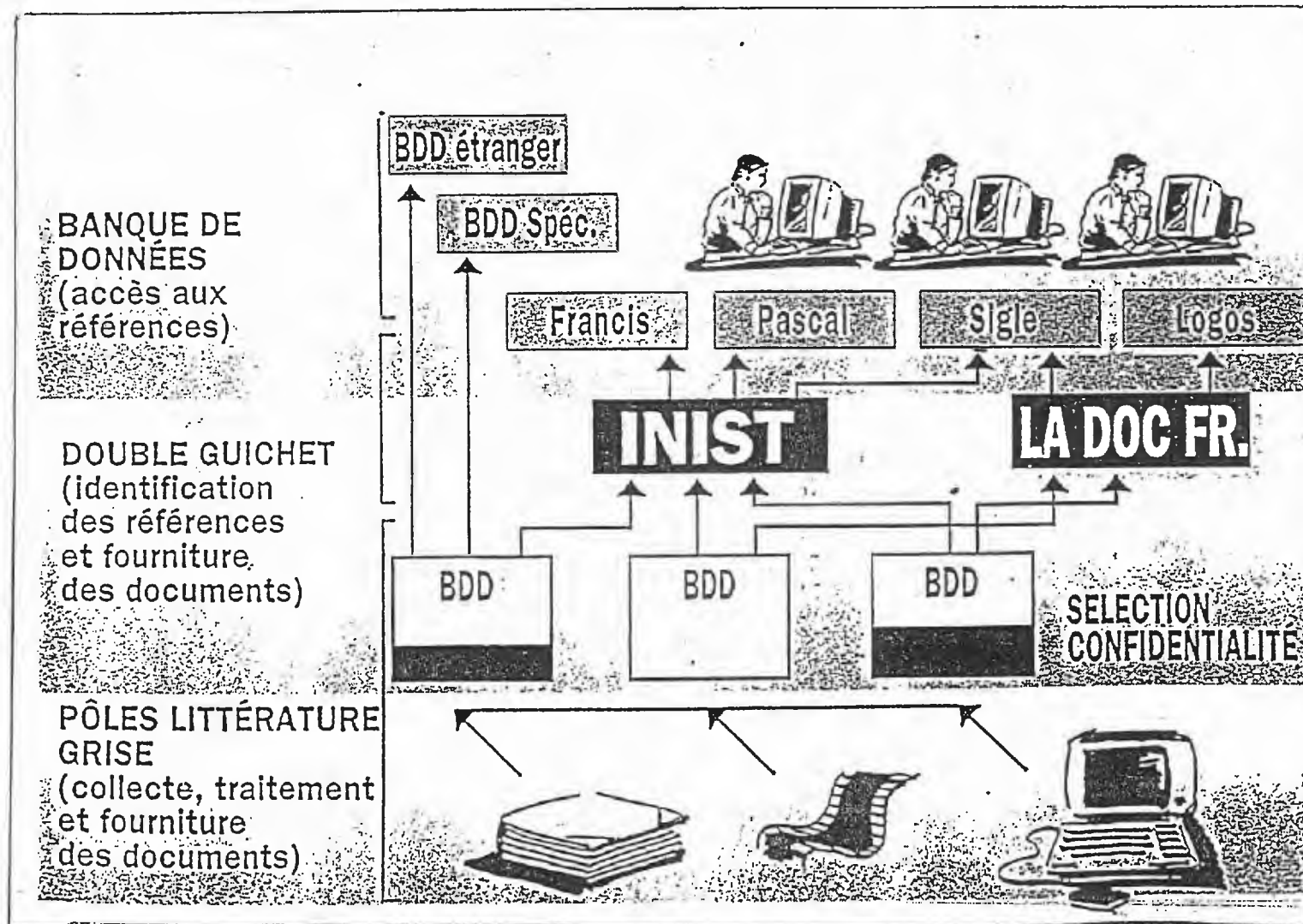
The bibliographic records comply with the ISO 12083 format which INIST is in the process of integrating into its own production line³. The GRISELI centers must

comply with this standard or at least select a record format compatible with the standard for their local gray literature database. TEXTO-SGML and UNIMARC-SGML conversion programs will probably be developed.

It is more difficult to apply the SGML standard to the documents themselves. However the Ministry is striving to find a solution since a preliminary study has been conducted to prepare for the creation of a « document type definition » (DTD) for reports. INIST with the companies JOUVE S.A. and GRIF S.A. conducted the study. Several scientific organizations are already preparing for the electronic processing of reports since they are supplying their researchers with SGML editing software to structure their texts. The objective is to encourage authors to produce their reports in an electronic structured form so that bibliographic records can be directly compiled from the text and introductions, conclusions, tables of contents, references, etc. can be extracted from the document. This will also make it possible to disseminate the reports via the Internet⁴.

To reach this objective, the Ministry envisages either to encourage the widespread dissemination of simple and userfriendly SGML editors in the research community or to develop SGML conversion tools to be used in the GRISELI centers.

MINISTERE DE
L'ENSEIGNEMENT SUPERIEUR
ET DE LA RECHERCHE



CRISELI

NOTES

¹ Ministère de l'Enseignement supérieur.- Enquête sur les besoins et attentes des entreprises françaises en matière de littérature grise scientifique et technique/INNOVATION 128.Paris,mars 1995, 45 p.

² cf. BUFFET (Pierre).- Access to administrative Grey Literature : the french experience. *First international conference on grey literature*, 1993.

³ cf. Ministère de l'Education nationale, de l'Enseignement supérieur, de la Recherche et de l'Insertion professionnelle.- Notices GRISELI. Format balisé SGML/INIST. Paris, octobre 1995. 26 p.

⁴ cf. COMBEROUSSE (Martine).- SGML et la littérature grise in *Normatique* janvier 1995, pp 7-8.

cf. COMBEROUSSE (Martine).- La littérature grise. in *Bulletin des Bibliothèques de France* t.38, n°5, 1993.

Local Government and Consultants: a Grey Literature Database on Local Reports in the Senatsbibliothek Berlin

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Abstract

Changing local government's organization and services is a goal of the newly proposed lean administration politics in Germany. Private consultants take part in organizing and downsizing local administration in hundreds of cities and towns. They prepare expertise valuation and reports on all local problems: traffic and parking, housing and environment, youth and social welfare, development strategies and privatization. The reports - financed by the local governments - are published in a number from 5 up to 20.

Senatsbibliothek Berlin got the task to collect this material as a part of the collection on community development and city planning and is preparing a special database on grey literature.

1. Senatsbibliothek Berlin - SEBI - a short introduction

Senatsbibliothek Berlin is the Library of the Berlin Senate, the government of the City of Berlin. Berlin, with its 3.8 million inhabitants is a City with a function as a Federal State. Included all districts, 230.000 civil servants are employed at the Government of the City of Berlin. The Senate Library Berlin - SEBI - is the central administrative library of the federal state and also of the districts of Berlin. On top of nearly 100 small administrative libraries of the town, SEBI, as a special library with over 450.000 volumes and about 4000 current journals, plays an important role in the information structure of Berlin government.

1.1. The library's service

Almost 70 % of the acquisition of SEBI can be classified as Grey Literature.

SEBI supplies information to the Civil Service of Berlin. There is a strong need of Literature and material on administrative law and other regulations. Therefore SEBI is an important law library and the top library in administrative law.

The Civil Service of Berlin City hands in all official and semi-official publications as deposit copy to the library. This is the core-collection of SEBI.

The third part of the collection is the one on community studies and town planning. Since more than forty years SEBI collects gray material of all cities, towns and regions of Germany. This part of the collection is financially supported by the German Science Foundation.

In SEBI you will find information material on town, village or county of the following main topics:

- Berlin Government publications
- Traffic, Energy
- Town and Regional Planning, Environmental Planning
- Construction and Preservation of Historical Monuments
- Housing and Settlements
- Building and Construction Industries / Architecture
- Waste Economy, Ecology
- Local reports
- Public Health
- Social Politics (Youth, Women, Elderly People, Minorities)
- Regional Studies, Regional Economy, Regional Tourism,
- Culture, Education, Regional History
- Local Safety (Police and Fire Brigade)
- Local political management
- National Planning concerning Community level (Federal State, Federation, European Union)

Collection on Community Studies



SEBI builds up this special collection in a joint cooperation with the German Institute for Urbanistik / Deutsches Institut für Urbanistik (Difu). Difu produces the documentation and abstracts of the current and most essential literature, that afterwards is stored in the stacks of SEBI.

Shelf numbers for a direct loan from SEBI are provided in ORLIS data base of Difu (a special database on town planning for Member-Cities of Deutscher Städtetag (DST), the biggest Federation of Germany's Cities and Towns). 33.000 call numbers of SEBI are also integrated in the RSWB-CD-ROM, a database on housing and construction. These databases consists of concrete literature

information with abstracts, but contains only a small part of the library's collection. Therefore the library has to produce its own database.

The very close cooperation between these two Institutes, Difu and SEBI, in the House of Deutscher Städtetag in Berlin, has the advantage, that the data base shows the call number and therefore allows you to get the real material you need. By phone, fax or e-mail the material can be ordered directly from SEBI.

1.2. SEBI customers

1. The most important group of customers are the people of the Civil Service in Berlin and in all other towns of Germany. For them, SEBI provides a special service, like other special libraries provides for their patrons.

From Saarbrücken to Frankfurt/Oder, from Rostock to Ulm one requires experiences and reports of other towns and municipalities. The important task of Senatsbibliothek Berlin, SEBI, is a real inter-community exchange of information and material.

SEBI has a very good reputation for her customer-oriented services to the civil service and research institutions. Because the regular interlibrary loan takes much too long, nearly 60 % of the library lending activities is direct loan, send on the desks of civil servants in the Federal Republic of Germany. We also provide this service to consultants and lawyers or city planning institutes.

Direct loan to government and research institutions is supplied regularly within a few hours by fax, or within 48 hours brought on the way by regular mail. This is the library's special service for towns and cities in Germany. It is connected to the idea that an inter-community exchange of information and material is an urgent need.

2. The senate library is accessible by the public.

Scientists and students of town planning and regional planning find concrete material of all towns and regions in Germany, which they need for their studies and research.

3. SEBI is used by citizens, who want to inform themselves about their rights, about administrative laws and regulations.

Announcements of the Berlin Civil Service are available in the Library of Berlin Senate. This is of interest to those, who wants to take part in local politics and activities for example environmental movements, parents as school-representatives and other citizen initiatives.

SEBI - CUSTOMERS

- CIVIL SERVICE OF BERLIN
- CIVIL SERVICE OF OTHER TOWNS
- CONSULTANTS AND LAWYERS
- CITY PLANNING INSTITUTES
- CITIZENS

The important information role of SEBI for local administration was broadened by the reunification of Germany. Suddenly another half of the City of Berlin joined with new districts and a Civil Service, eager to learn thousands of new regulations.

Hundreds of towns of the new Federal States in the East had to build up new local governments and administrations. They wanted to learn from the experiences of towns in the western part of Germany. Besides a very lively exchange and help program between the two parts of Germany, the library had to supply all informations about this change.

During the first three years many towns from the East become suppliers and users of SEBI and they still remain to be customers.

1.3. The library's plans of automation - an Outsourcing project

During this process of reunification the pressure on Senatsbibliothek / SEBI was strengthened. More customers, more publications, better services should be managed by a traditional organization and without additional staff.

Data processing only exists in a very small dimension. A rapid automation of the library business is the only way out of this situation.

There is no time to loose. In a very short time the library has to implement an integrated library system, train the staff and develop a concept of Change. We choosed an "Outsourcing Concept" and won the Berlin Government's support.

3 STAGES

Outsourcing

- 1 • Analysis / Consulting
- 2 • Implementation of a new information system
- 3 • System, Service, Help-desk



The Project of Outsourcing of the library automation in Senatsbibliothek / SEBI

is divided into three stages.

1. Analysis of the present condition of the SEBI carried out by KPMG-Consulting between March 1994 and September 1994. The results supported the idea of an Outsourcing- project of library automation.

This analysis became basic for the setting-up of a paper, that described the need of hardware, software and service. KPMG together with our staff choosed the VTLS Library software which has already been implemented. The consultants simultaneously worked out an economy analysis, which covered a detailed calculation and answered the question, whether the concept of outsourcing or running the system with our own staff will be cheaper. There were even other good arguments for an Outsourcing project.

2. Implementation of all parts of the information system, installed by Electronic Data System (EDS), the General Outsourcer in this project. This will last from May 1995 until May 1996.

In the Outsourcing project of library automation SEBI found a partner in EDS. EDS became a general contractor, who has to run a complex information system with hardware, library and office software, data base access, electronic mail, multimedia applications and a full day support in service. The system is financed by monthly rates.

The implementation will build up the basic function of the library automation in a nine month period with the following elements:

Network components, hardware with 40 PC's, printers and scanners, software with the library system VTLS, word processing and calculation program, special interfaces, training of the staff, CD-ROM-Net, retroconversion of the library catalogues, access to CD-ROM data bases and external data bases, security check and barcode labels for 450.000 volumes .

3. During the following years this system will be managed in full responsibility by EDS (June 1996 - May 2000).

After implementation there will be a full day service, that includes operating, help-desk, saving files etc.

If it will be successful, there has to be a new contract for the time after.

2. A collection of local reports

2.1. Why does the library collects local reports?

As a special library in community studies Senatsbibliothek Berlin has to collect what is of importance in the field of towns and villages.

Many decisions of local governments can no longer be executed by one or two departments. Many problems are very complicated. This requires acting in coordination with different experts, even consultants outside of the Civil Service.

More and more ecologists advise city and regional planning administrations as consultants. Towns need these experts. Many decisions of a town's administration need professional judgment.

These local reports, mostly prepared by consultants, are not published. They do not belong to the town's official publications which are widely distributed. A local report is printed in very few copies and normally it is not given to the library, it is really internal grey.

SEBI tries to judge a report's present value in connection with the community studies collection. This has to be a process of constant change and this affects even today's grey literature. Not only the political change which came along with Germany's reunification but also new developments in economy and computers. There is also a big change in local communities in Germany, how to decide on town and regional planning. Citizens are more conscious about it and new local political groups are set up. Senatsbibliothek therefore decides on various and changeable criteria, to make clear which local reports have to be collected.

2.2. Which reports are collected by the Senatsbibliothek?

Senatsbibliothek worked out the following concept of acquisition.

1. We collect reports on Berlin (city and districts) as government publication deposit copy. This collection depends on a special activity of Berlin's Representative House
2. We collect reports, that are ordered or financed by public institutions beneath the level of Federal States

Towns and villages order reports which are important for the library's collection. Some communities produce local reports on privatization of public services with the help of consultants. Some conditions are different in different areas, but in these reports general aspects are often touched. The library collects local reports with an exemplary touch despite other special aspects. These reports are important for intercommunity exchange and you will also find some of the following topics:

- Many local reports are connected to regional planning and ecological problems. Ecological examinations (UVP=Umweltverträglichkeitsprüfung) have to be made, before a town may decide on a plan.

- Local reports, worked out by consultants, often deal with reports about local and municipal problems: youth problems, financing of hospitals, supply of energy.....etc.
- Reports about the structure and management of local organizations deals with authorities, administrations, legal status ..etc.

3. We collect reports that are important for the libraries collection on community studies

Federal states order reports that are relevant to the community level and to a region of the Federal State.

Many private institutions order reports that, almost without exception, deals with local political or urban development. Different committees, unions and other organizations produce reports on social, economic, cultural or political topics. Many of them are customers of the library and they send their reports to SEBI as a gift.

Suppliers of such reports are for example the Chamber of Commerce (IHK) and the German Red Cross (DRK).

LOCAL REPORTS

Collected

- REPORTS ON BERLIN
- REPORTS FINANCED BY TOWNS AND VILLAGES
- REPORTS IMPORTANT FOR COMMUNITY STUDIES

These main selections, without any restriction, will produce a stream of reports and SEBI will not be able to cope with it. Further elements must be taken into account to reduce the number of items received and to select the most important ones.

An example:

Many reports about the City of Berlin are very detailed reports.

Special reports about Berlin's Underground / Metro construction and planning from the Fifties were found in Berlin's building and construction department. Berlin was not divided by the wall at that time and the department made plans for Greater Berlin.

The library has to investigate:

Do these reports deal with the Underground's network or the restoration of destroyed stations? Reports on these topics are highly explosive and important in our reunited city. Old town planning revives at many places again. The

availability of these reports are of actual interest. Such detailed reports are important.

On the other side:

Do these reports deal with technical details, such as rips in walls or ground water problems, we decide today: not important to collect.

It may be that in future the problem of ground water will become very important. These reports would have a meaning then. But these detailed reports with specifically limited aspects are not collected by the library now. May be that they will be found in the City's archives later on.

This example leads to the next criterias in the local report collection of SEBI:
Local reports that will not be collected:

- Reports with concern to a single case of a person

Many legal or medical reports, as for the recognition of handicapped people or accidents insurance pension.

- Technical detailed reports which refer in particular to the material examination

A report about rips in the wall of a house caused by an underground will not be collected. On the contrary, damages in streets or districts or in protected historical monuments may have a common interest. Such reports are collected.

LOCAL REPORTS NOT COLLECTED

- **REPORTS ON A SINGLE PERSON**

- **TECHNICAL DETAILED REPORTS
ON PARTICULAR OBJECTS**

2.3. An increasing collection on local reports

The actual acquisitions of the senate library SEBI are 10.000 volumes per year. Among our grey literature (nearly 70 %) local reports represent an increasingly important information basis. In SEBI these reports have the following origins:

SEBI collects local reports since 1948, the year of the library's foundation. The library's specialization on reports has its origin in Berlin's history. There was a special situation of the divided town and the necessary of subsidies by the Federal Republic. This produced new considerations for a better organization of

administration, management and city planning. Many local reports were produced by the administration itself. There is now a big change, when more and more consultants are involved.¹

The Deutscher Städtetag (DST), an organization of big cities and towns in Federal Republic of Germany, started to announce reports of member cities in 1971. They produced an annual "bibliography", which announced even planned reports². All towns were instructed by a circular to send the information to Senatsbibliothek Berlin. Up to 75 per cent of these reports, which are announced, are collected in the stacks of SEBI.

The bibliography was stopped in 1989 due to lack of staff. But furthermore the library collected local reports.

It was exactly the wrong moment to stop the bibliography. But who should know that the reunification would happen? And who should foresee the financial collapse of small towns in the western part of Germany?

After reunification a boom in local reports develops. Specialists, research institutes, consultants -- all of them examined the different aspects of developments in towns and villages in the East.

At the same time towns and villages in Western Germany stepped into a process of administration reforms. They hired consultants and produced many local reports, dealing with essential community tasks, new financing concepts and new organization, managing methods and participation.

In 1993 the Representative House of Berlin published an instruction, that all reports which are financed by the City of Berlin must be passed on to Senatsbibliothek Berlin. Even before a local report will be ordered by any of Berlin's administration from any consultant or research institute, there has to be an inquiry at Senatsbibliothek Berlin. The money for local reports can be controlled through the budget of Berlin City Departments.³ The departments are not allowed to use the budget of reports, before they have got the information from Senatsbibliothek back on their desks.

SEBI has to proof whether a similar or comparable report exists in the collection.

Sometimes the librarians find some reports close to the planned one. They give the information to the administrations, who may decide themselves, if they now have better information for a more precise research. But if it will be exactly the same report - this had happened already - the department is not allowed to spend the money.

In this process the library's information must have high responsibility and liability.

¹ "Gutachtenwut" der Berliner Behörden. // IN: Berliner Morgenpost: Berliner Allgemeine. - Berlin: Springer. - 21. März 1995. - S. 9

² DST-Beiträge zur Statistik und Stadtforschung: Gutachtensammlung. Köln: Deutscher Städtetag, 1971 - 1989. (Deutscher Städtetag; H)

³ Berlin: Haushaltsplan von Berlin für die Haushaltsjahre 1995/1996. - 1745 S.

*Regierung
Senat
Berliner
Presse!*

The effect is an economic approach to order local reports. Before this new approach many Berlin departments, because they did not care about the information, just spent their money.

Many local reports have very few copies. Sometimes the library get to know this after an announcement of the report.

Though it is better, if the SEBI already knows it in advance, as it is organized in Berlin. Then the library will get a copy as soon as it is produced and customers can be informed about a report very early. Sometimes copies for the library are very expensive and the departments have to tell the consultants before they order the report that one exemplar has to be reserved for the SEBI.

The representative house of Berlin has asked other States of the Federal Republic and towns and municipalities to supply their reports to the Senatsbibliothek. Through this matter one hopes for considerable reductions of costs for local reports.

The Cultural Department mentioned that they see the possibility to avoid double work in times of dramatic national household situations and avoid cost-intensive orders of local reports.⁴

Many problems are similar in different towns. The own financial expenditure for a report can be reduced considerably if one can use other reports as an advice. Then only some special aspects must be examined and money can be saved.

First of all there has been quite a good response to the initiative of the Berlin Representative House. Other Federal States send the material to SEBI. Not only local reports but even other reports that are produced by administration or consultants, dealing with organizational structure, regional planning or regional problems.

Besides a very good response in some parts, local reports are not at all easily to get for SEBI despite this support. Even Berlin Civil servants sometimes forget to ask the library for assistance. Therefore inside of Berlin's administration structure the office of finance in each department are not allowed to order or place an invoice for the work out of reports. They first have to get the answer of Senatsbibliothek.

Senatsbibliothek Berlin will coordinate this collection with the interests of Deutscher Städtetag (DST) and Deutscher Städte- und Gemeindetag to be able to collect important local reports from all towns of Germany. A student of library science produced a very good outline⁵ of a letter asking for local reports. It is

⁴ Rundschreiben über die Abgabe einer Ausfertigung aller in Auftrag gegebenen Gutachten an die Senatsbibliothek Berlin. // IN: Dienstblatt des Senats von Berlin. Teil 1 ; Inneres, Finanzen, Justiz, Wirtschaft. - 1(1995). - S. 7

⁵ Antje Blümel: Gutachten als besondere Form der "Grauen Literatur" : Probleme in wissenschaftlichen Bibliotheken, dargestellt am Beispiel der Senatsbibliothek. - Berlin, 1995. - 53 S. (Hausarbeit zur Diplomprüfung für den gehobenen Dienst an wissenschaftlichen Bibliotheken; IfBB der Freien Universität Berlin) S. 47

better to get those informations at the time, when consultants and administrations are still working on it.

Sometimes it is not at all easy to get a local report. Outside of Berlin a small town in the East for example does not want to hand in its report about a new trade area otherwise the neighbor community might use this. They fear that the neighbor town, which is governed by a different political party, will make their own profit out of this report. In this case, we talk to them but normally has to wait with patience till the report has lost its explosive character.

Sometimes the library has to handle reports secretly. Some reports by consultants or administrations are not allowed to be openly distributed for about 1 up to 5 years. We do handle this according to the wishes of our customers. If the reports are financed by taxes, most departments understand that the public should have the right to read it. But you also may find reports with the remark "for special use only" e.g. on the planning of the Olympic Games or on the police reorganization in Berlin.

The acquisition of local reports at Senatsbibliothek Berlin is much more supported by consultants and research institutes. They have great interests in providing their reports to the library. Reports that are announced in a database for the towns, are a good reference and will bring more orders from other towns and cities.

Some consultants do not even have their own archive and they are happy to find all their publications and reports stored in the library.

The senate library now receives many reports from these experts for marketing reasons. Even our own consultants KPMG, who did not really knew us before they had to work on the analysis of the outsourcing project, is now one of our best customer.

2.4. Catalogues and databases of local reports

The local reports are all included in the Alphabetical Catalogue as well as in the Systematic card catalogue of SEBI, where they create a special group. The complete card catalogue with its alphabetical and its systematic partition will become a data base during the Outsourcing project. Images of all cards are produced. They will be retrievable. These data will be available in late 1996.

An important part of these reports with specific local aspects are already found in the ORLIS data base of DIFU as well as on RSWB CD-ROM, as mentioned before.

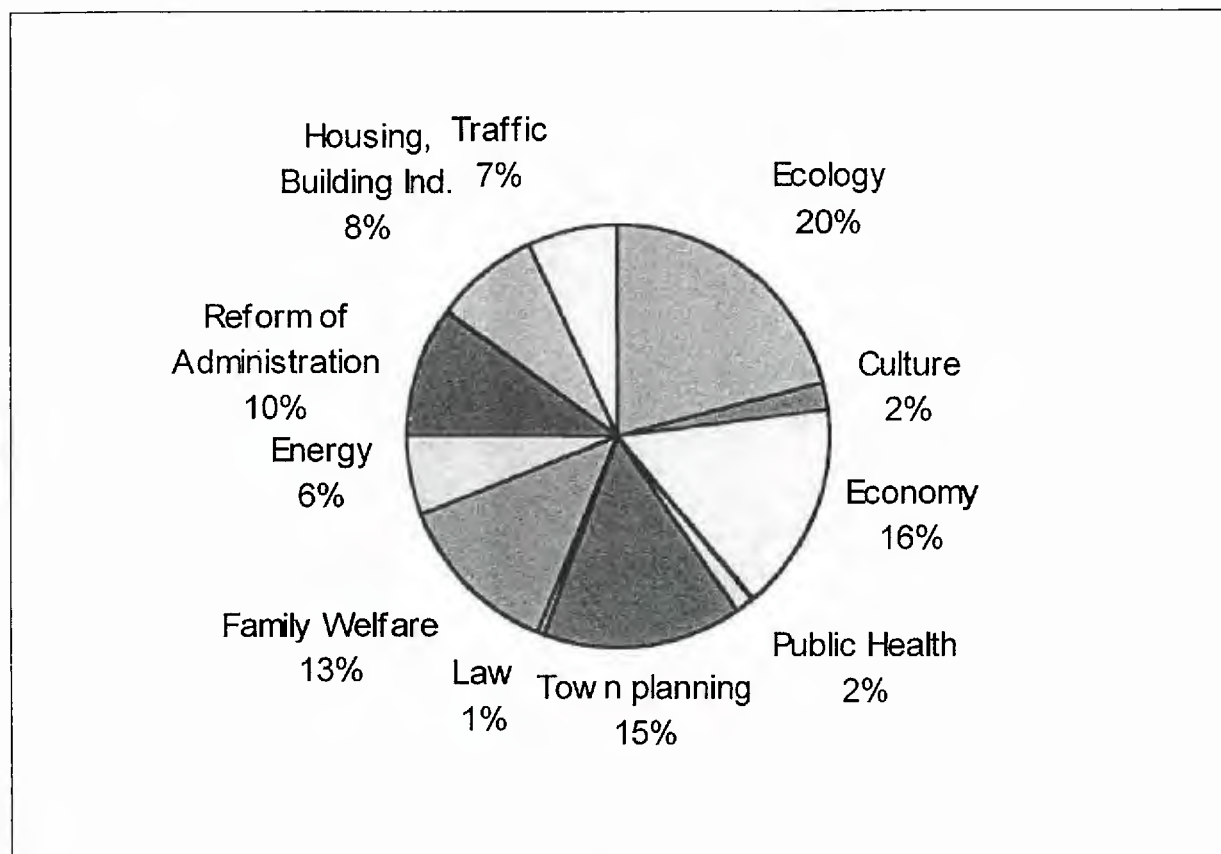
The library gets regularly local reports in the context of serials and journals. These kind of environment reports or old people's welfare plans are retrievable in

the German Serials Data Base (ZDB) on DBI-host, which also shows the library's shelf number.

A small data base using Ask Sam Software is even available in SEBI, but only on a stand-alone PC. Since 1990 all local reports, that came in, are registered and retrievable. For the year 1995 this database shows approximately 400 reports acquired between January and September 1995.

2.5. What different kind of reports came in this year 1995?

1.	Ecology	21 %
2.	Economy	16 %
3.	Town planning	15 %
4.	Family, old people welfare, youth	13 %
5.	Organization, reform of the administration,	10 %
6.	Apartments, building and construction industry	8 %
7.	Traffic	7 %
8.	Energy	6 %
9.	Culture	2 %
10.	Public Health	1,5%
11.	Law	0,5%



3. How to order these reports at SEBI?

The new information system which starts in 1996 on the basis of the library automation of the Outsourcing project will indicate the reports in a special category and give more information on these local reports.

Essential information which is not covered by simple cataloguing is entered in addition: Besides a special remark for all local reports, the name of the customers and of the consultants, who have to be mentioned, shall be integrated into the data base. Library users often know the name of the consultant, but not the local report's precise title.⁶

Now, if you became interested in local reports about Germany or any community studies in German language you may be able to find us next year in the Internet. Until then you have to use
phone: 0049(Germany) -30(Berlin) - 39987-324
or fax: 0049-30-39987-322
or e-mail: auskunft@senbibl.senkult.verwalt-berlin.d400.de.

Just ask what you are looking for and our staff is happy to serve you or your patrons!

⁶ Weitere Vorschläge für eine Präzisierung der Titelaufnahme s.

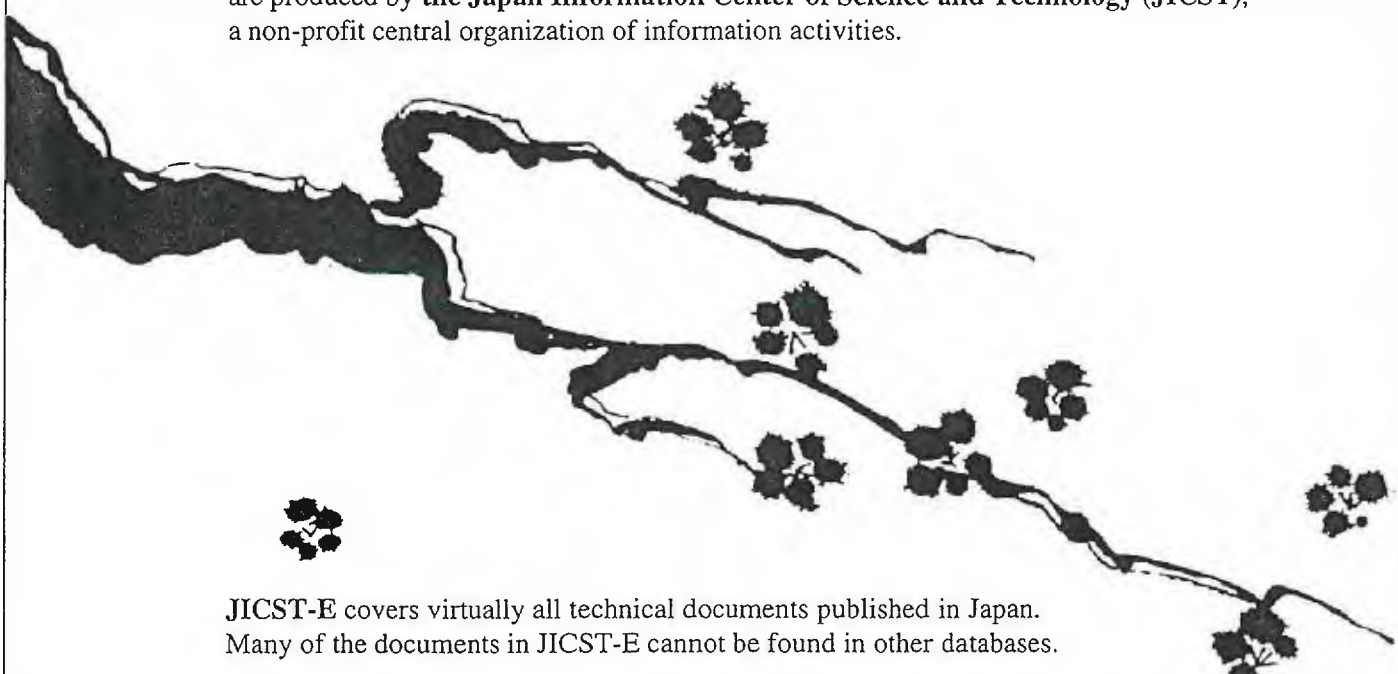
Antje Blümel: Gutachten als besondere Form der "Grauen Literatur" : Probleme in wissenschaftlichen Bibliotheken, dargestellt am Beispiel der Senatsbibliothek . - Berlin, 1995. - 53 S. (Hausarbeit zur Diplomprüfung für den gehobenen Dienst an wissenschaftlichen Bibliotheken; IfBB der Freien Universität Berlin)

JICST-E & JGRIP

Japanese information available online in English

Need information about world's most promising innovations in every field of science, engineering and technology being developed in Japan?

Search databases of **JICST-E** and **JGRIP** on **STN International**, both of which are produced by the **Japan Information Center of Science and Technology (JICST)**, a non-profit central organization of information activities.



JICST-E covers virtually all technical documents published in Japan. Many of the documents in JICST-E cannot be found in other databases.

JICST-E at a glance

Coverage: 1985 to date
File size: Approx. 1,600,000 records
Updates: Twice a month with approx. 10,000 records
Contents: Chemistry, electronics, mechanical engineering, materials science, pharmacology, the life sciences, medical science and many others
Source: Technical reports, conference proceedings, government documents and approx. 8,000 journals and periodicals

JGRIP covers ongoing and completed research projects of public research organizations in Japan.

JGRIP at a glance

File size: Approx. 40,000 records
Updates: Reloaded annually
Contents: Science and technology
Source: The results of an annual survey sent to 600 public research organizations

For accessing JICST-E on STN International, please contact the followings:

• Europe
STN Karlsruhe
TEL: (+49)7247-808-0
FAX: (+49)7247-808-555

JICST Paris Office
TEL: (+33)1-4581-1077
FAX: (+33)1-4581-1196

• USA
STN Columbus
TEL: (+1)614-447-3600
FAX: (+1)614-447-3713

JICST Washington Office
TEL: (+1)202-872-6370
FAX: (+1)202-872-6372

• Japan
JICST Overseas Service Division
TEL: (+81) 5214-8403
FAX: (+81) 5214-8430

JICST

JICST's Acquisition of Grey Literature Published in Japan

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Abstract

Grey literature collected by JICST is publications of public agencies, preprints of academic societies and associations, bulletins of educational institutions and technical reports of private companies, which accounts for about 62.5% of domestic journals collected by JICST.

We have analyzed the tendency of Japanese grey literature collected by JICST in terms of materials contents and publishing organizations.

For distributing Japanese scientific and technical information to overseas JICST provides English abstracts of Japanese literature including grey literature.

1. LITERATURE COLLECTED BY JICST

The Japan Information Center of Science and Technology (JICST) collects literature in every field of science and technology from about 60 countries around the world, processes (abstracts and indexes) them and computerizes a large amount of scientific and technical information. Computerized information is offered by online and publication.

Materials acquired by JICST in 1994 are as follows:

(foreign materials)	journals	5,600 titles
	conference proceedings (international conference)	750 titles
	technical reports (AD,DOE,PB)	37,000 items
(domestic materials)	journals	7,000 titles
	publications of public agencies	5,000 issues
	preprints of academic societies and associations	550 titles

Foreign journals collected by JICST can be seen in Fig. 1 by publishing country.

Fig. 1
Journal Titles by Country
(Foreign Journals)

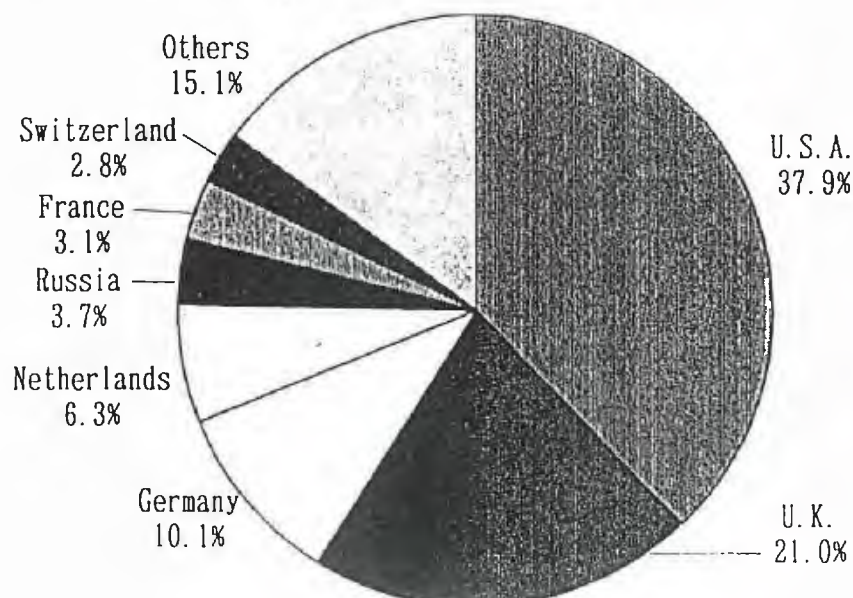


Fig. 2
Journal Titles
by Subject
(Foreign
Journals)

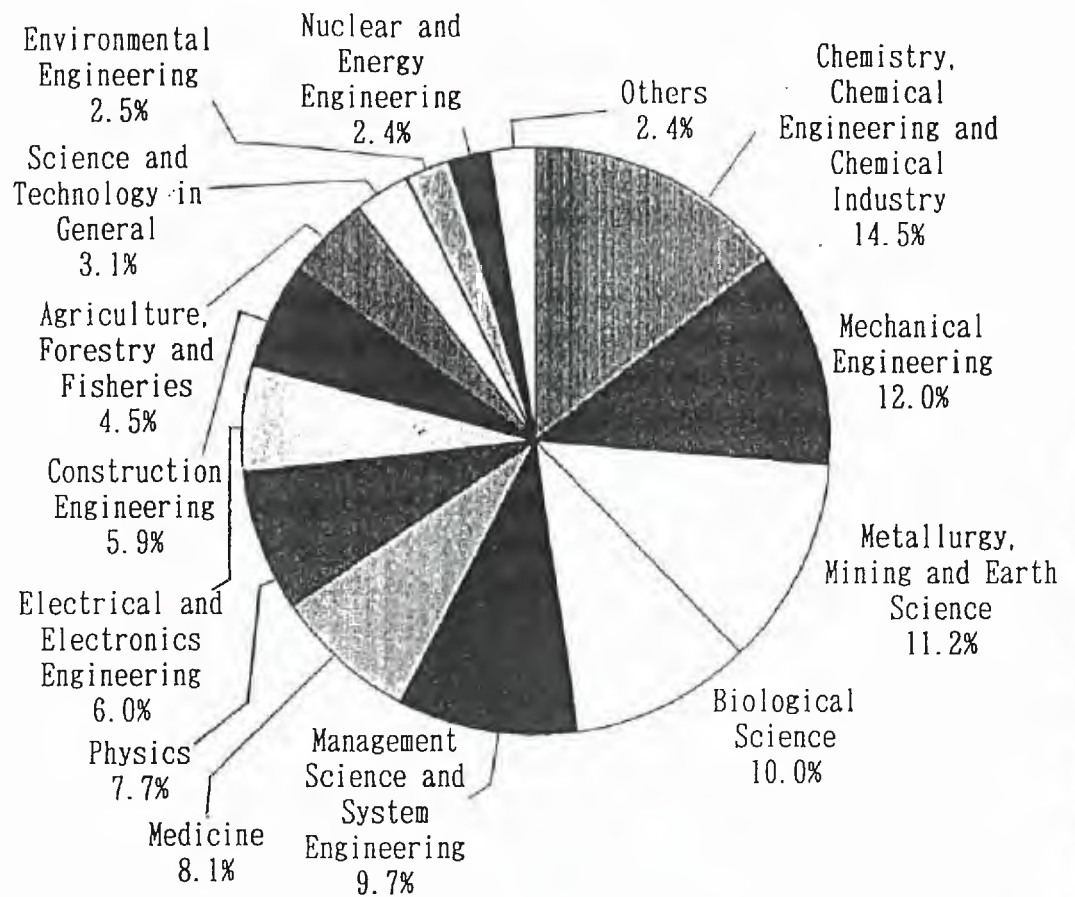
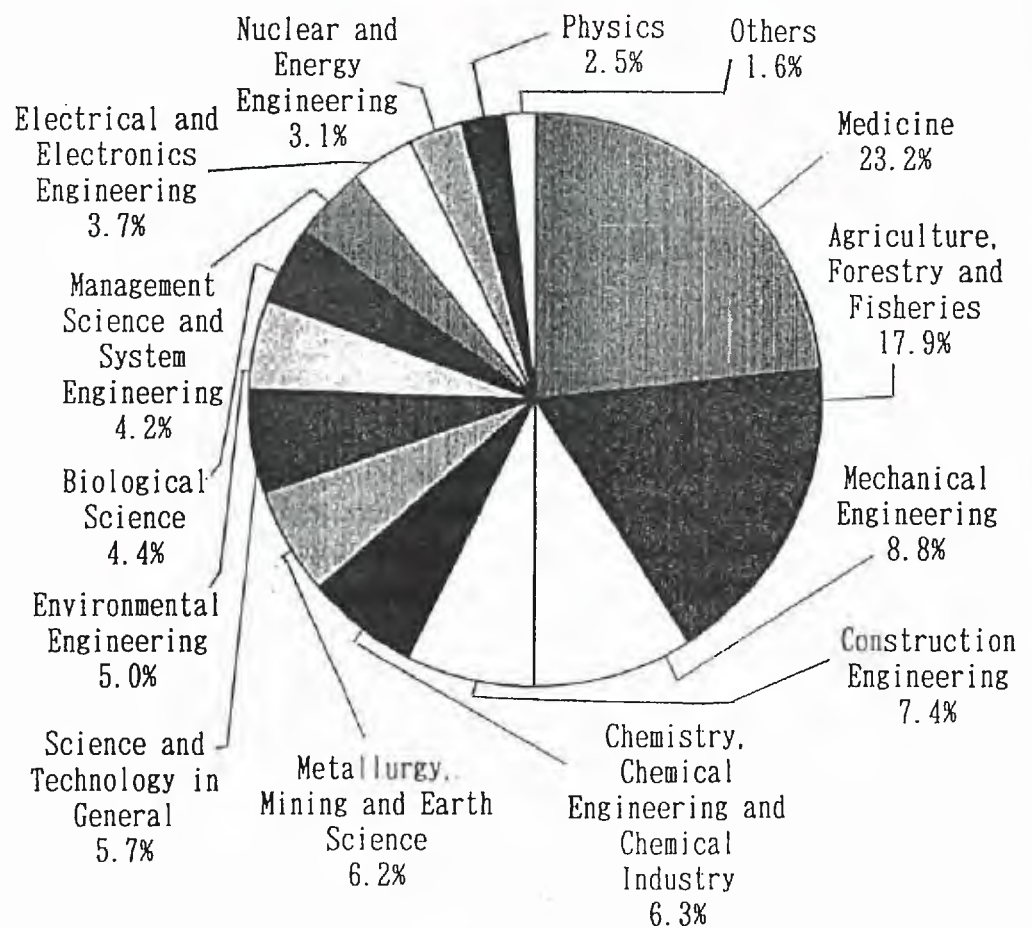


Fig. 3
Journal Titles
by Subject
(Japanese
Journals)



As regards the number of the journals collected by subject field of science and technology, those of foreign journals are shown in Fig. 2 and those of domestic journals are in Fig. 3.

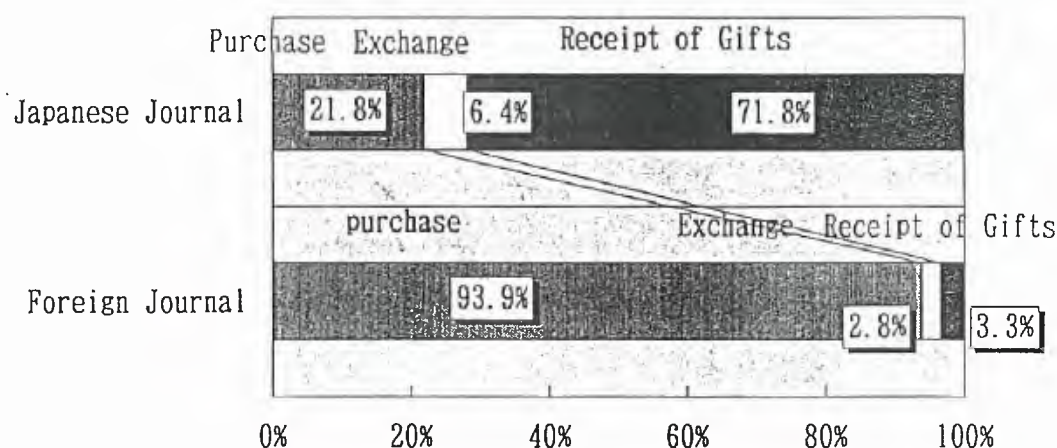
Japanese journals collected by JICST can be roughly classified into the following 4 groups by publishing organization:

- . Materials prepared and published by public agencies (central and local governments, etc.)29.3%
- . Materials prepared and published by academic societies and associations41.3%
- . Materials prepared and published by educational institutions16.6%
- . Materials prepared and published by private companies12.8%

Acquisition methods of these journals are purchase, exchange and receipt of gifts. In the case of exchange, JICST provides the "Journal of Information Processing and Management" published by JICST and obtains necessary materials in exchange from the counterpart organizations. Most of foreign journals are purchased and most of domestic journals are acquired as gift (see Fig. 4).

Fig. 4

Collection Methods of Journals



2. GREY LITERATURE COLLECTED BY JICST

Grey literature (GL) includes, in many cases, those materials which are published for specific users, have a small number of published copies, have extremely limited distribution destinations, are very often published not-for-sale and are hardly available through conventional distribution routes. When Japanese journals collected by JICST are classified by publishing organization based on this definition, GL collected by JICST is as follows (Fig. 5), which accounts for about 62.5% of domestic journals collected by JICST.

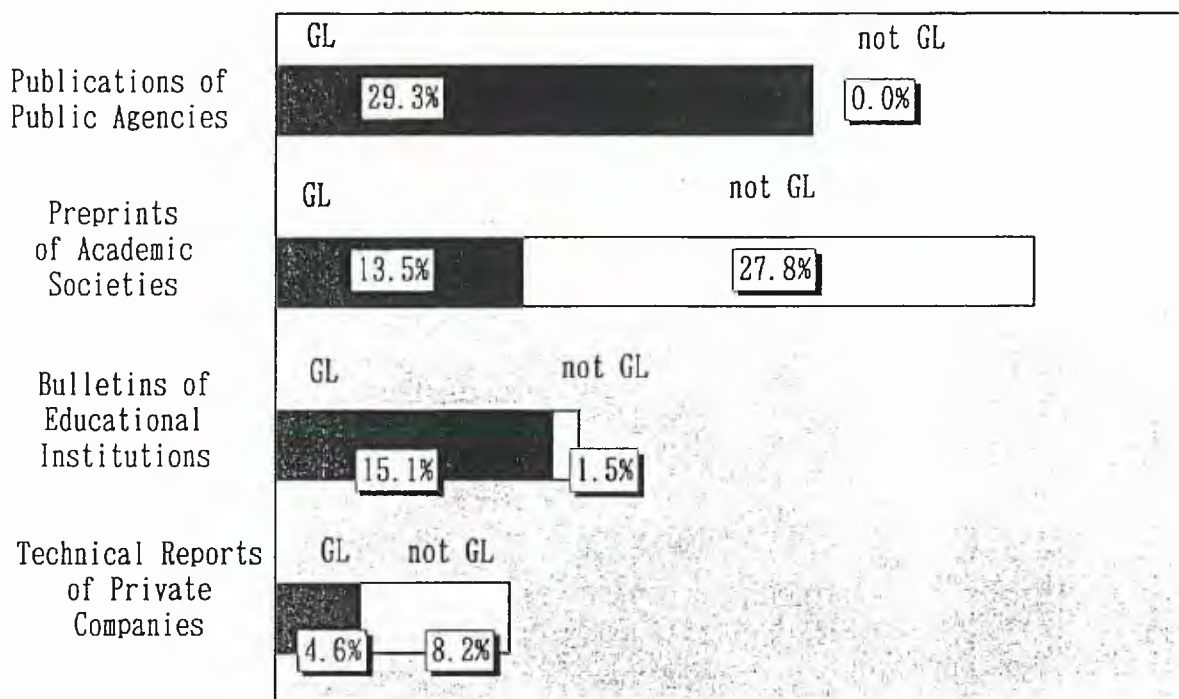
- . Publications of public agencies29.3%
- . Preprints of academic societies and associations13.5%
- . Bulletins of educational institutions15.1%
- . Technical reports of private companies 4.6%

Acquisition of GL published in Japan by JICST is made almost entirely through gifts. Although the National Diet Library receives new publications from publishers in accordance with the legal deposit. JICST asks a gift of a material by sending a letter to the publisher

and acquires it. As for publications of public agencies which are difficult to obtain by ordinary methods, JICST makes efforts to collect them, for example, by obtaining cooperation of the Science and Technology Agency (STA) in this respect and by sending a person in charge of collecting them directly to the central agency concerned.

Fig. 5

Grey Literature



Collection methods and publication frequency of GL are shown in Figs. 6 and 7 respectively.

2.1. PUBLICATIONS OF PUBLIC AGENCIES

Among publications of public agencies collected by JICST, 63.7% are research reports and 13.1% are business reports. These materials are published mainly by Central Governmental Agencies, such as STA and the Ministry of International Trade and Industry (MITI), and local governments, such as the Tokyo Metropolitan Government (Fig. 8). White papers and other materials which can be obtained through ordinary distribution routes are also collected by JICST, and they are included here in GL, because they form a very small percentage in publications of public agencies as a whole.

Breakdown of serial publications of public agencies by subject is shown in Fig. 9.

Many of publications of public agencies are monographs. One of JICST's staff is exclusively in charge of the work for location, confirmation, negotiation and acquisition of these publications.

From 1984 to 1994, JICST has collected about 37,000 monographs and at present collects about 3,000 monographs annually.

Breakdown of these monographs by subject is shown in Fig. 10.

Fig. 6

Collection Methods of GL

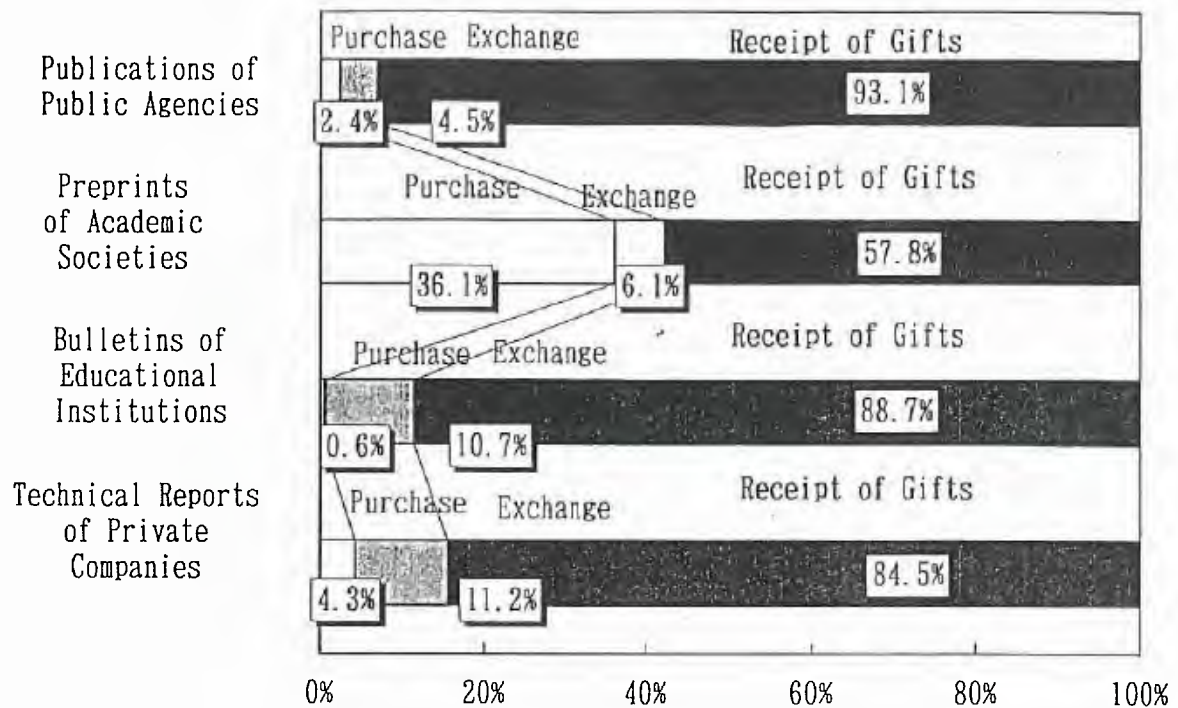


Fig. 7

Frequency of Publication of GL

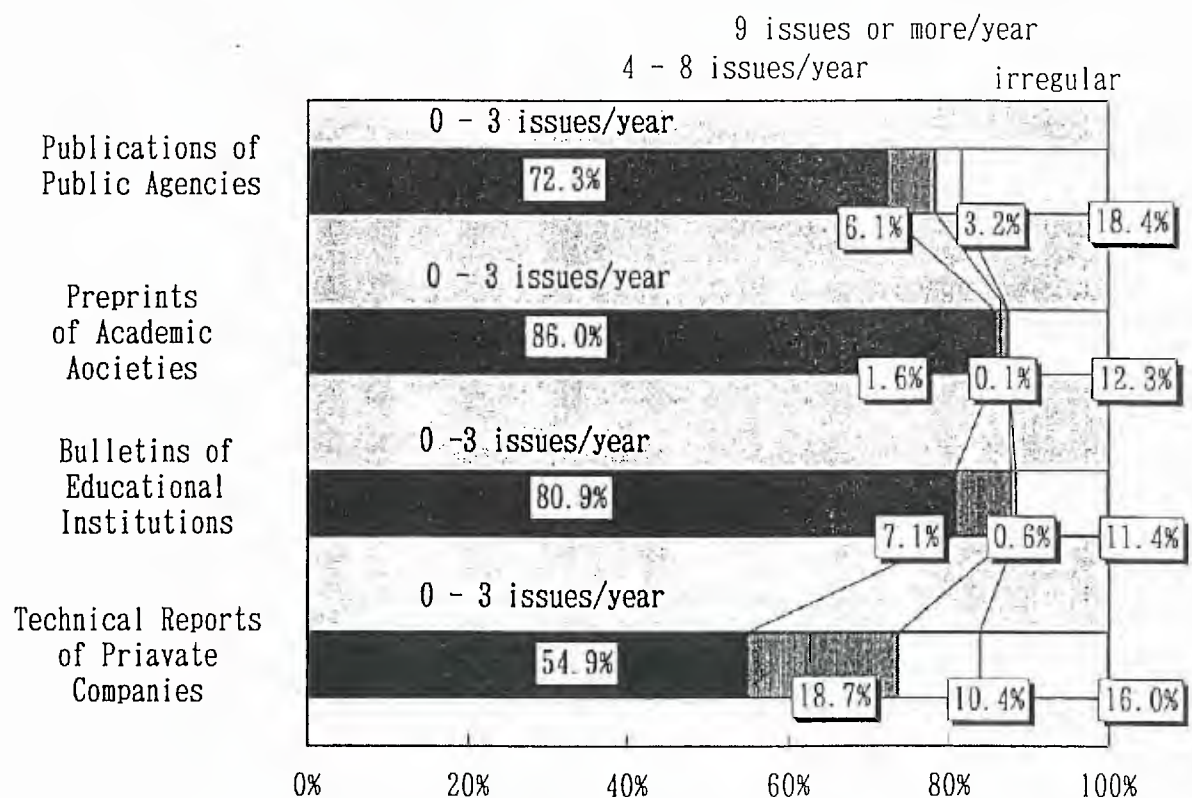


Fig. 8

Public Agencies as Sources

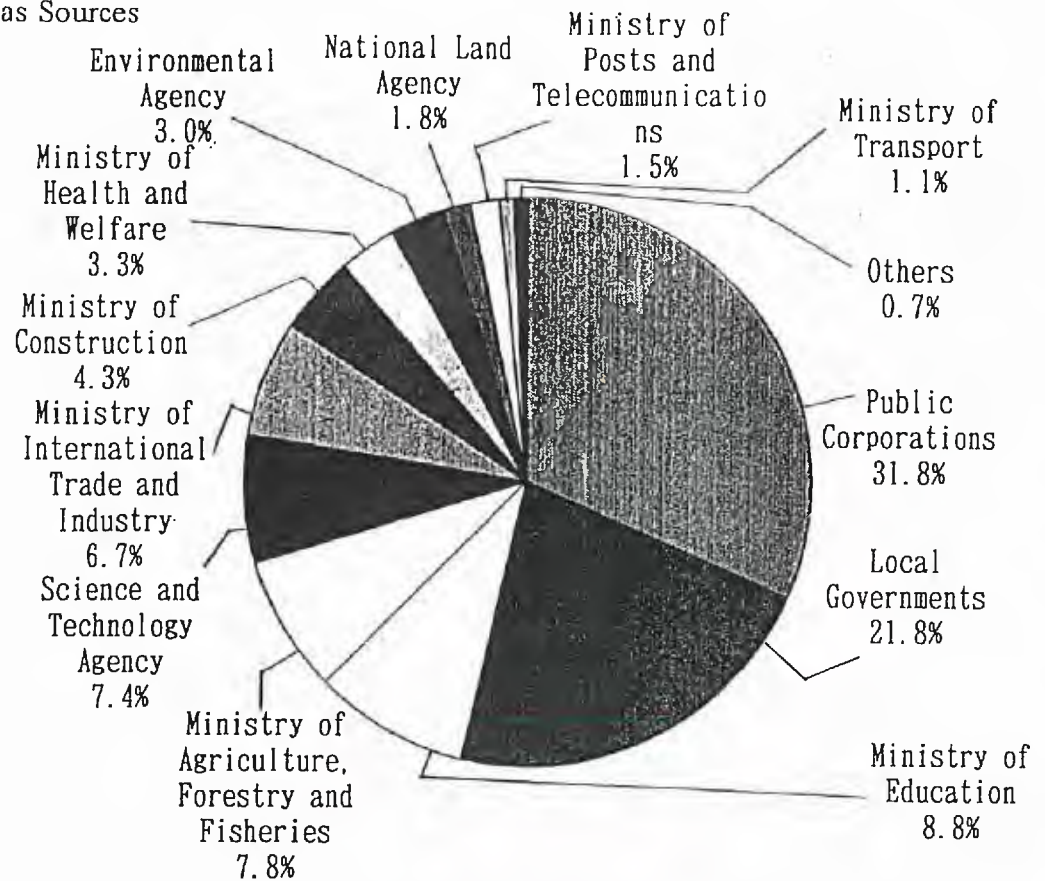


Fig. 9

Journal Titles by Subject (Publications of public agencies)

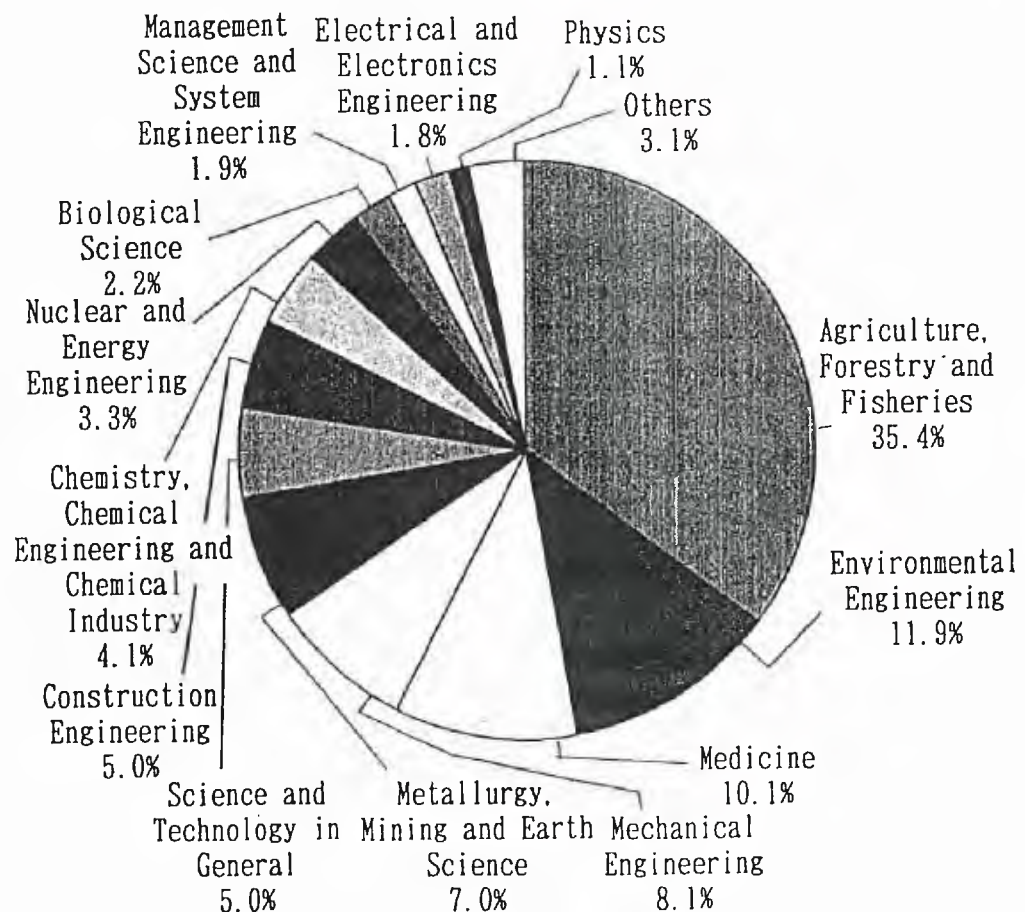
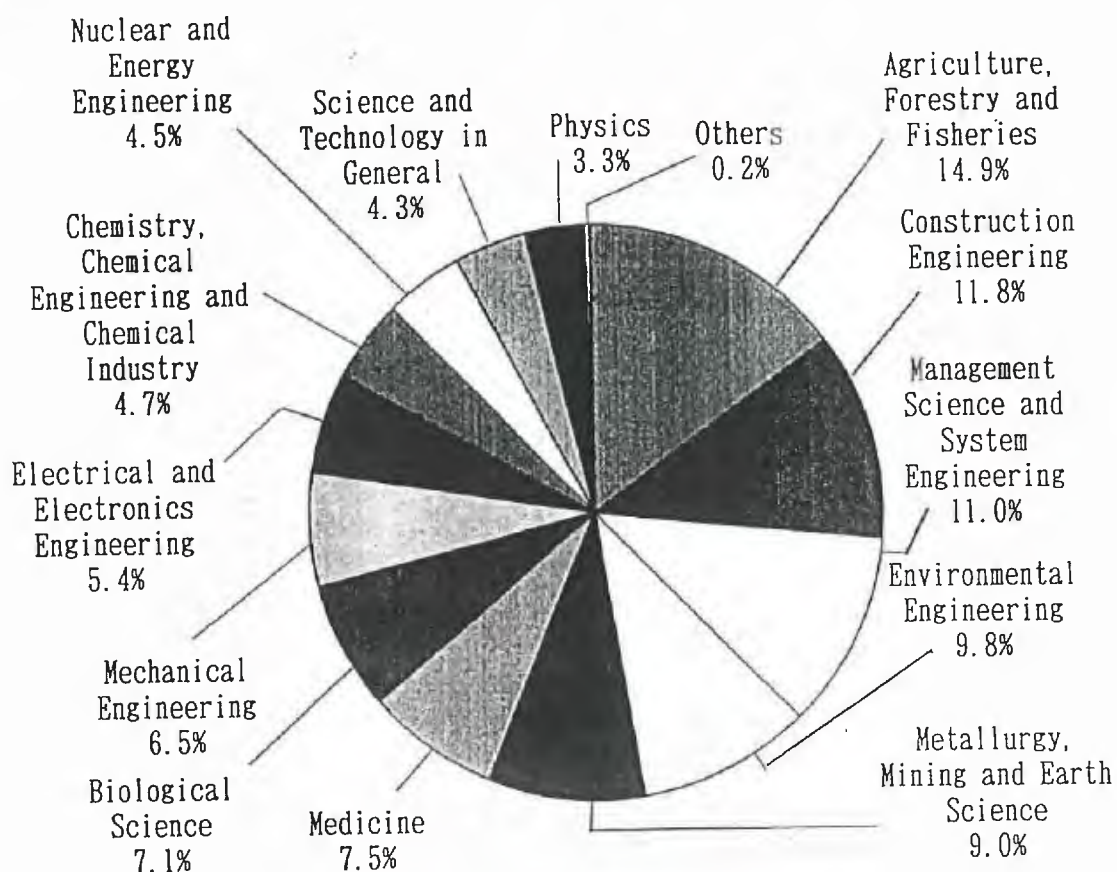


Fig. 10

Monograph Titles by Subject

(Publications of public agencies)



2.2. PREPRINTS OF ACADEMIC SOCIETIES AND ASSOCIATIONS

The materials of meetings of academic societies and associations include preprints, summaries, and proceedings. Most of them are limitedly distributed to participants of the meetings and members of academic societies and associations. JICST always checks schedules of meetings reported in bulletins published by academic societies and associations and acquires these materials.

Breakdown of these materials by subject is shown in Fig. 11.

2.3. BULLETINS OF EDUCATIONAL INSTITUTIONS

Bulletins of educational institutions are also published not-for-sale and are hardly available through conventional distribution routes. JICST contacts directly educational institutions, and collects these materials comprehensively.

Breakdown of these materials by subject is shown in Fig. 12.

Fig. 11

Journal Titles
by Subject
(Preprints of
Academic
Societies and
Associations)

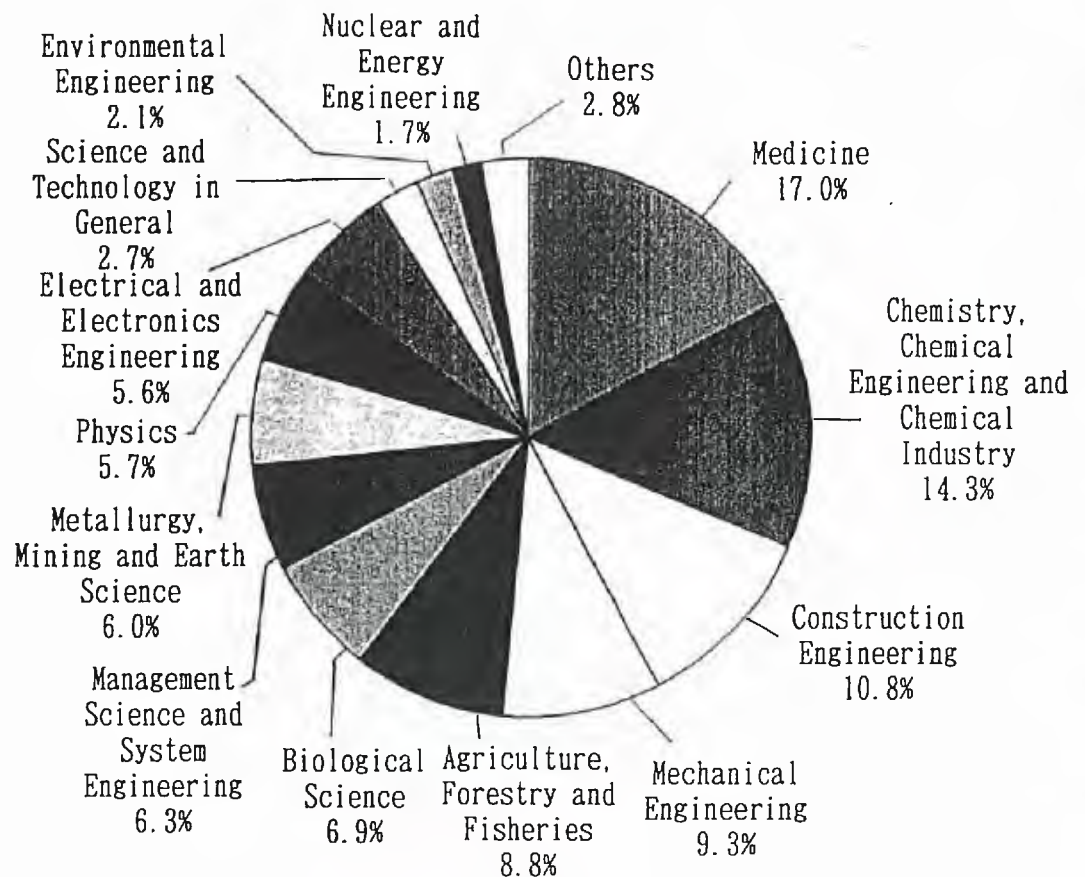
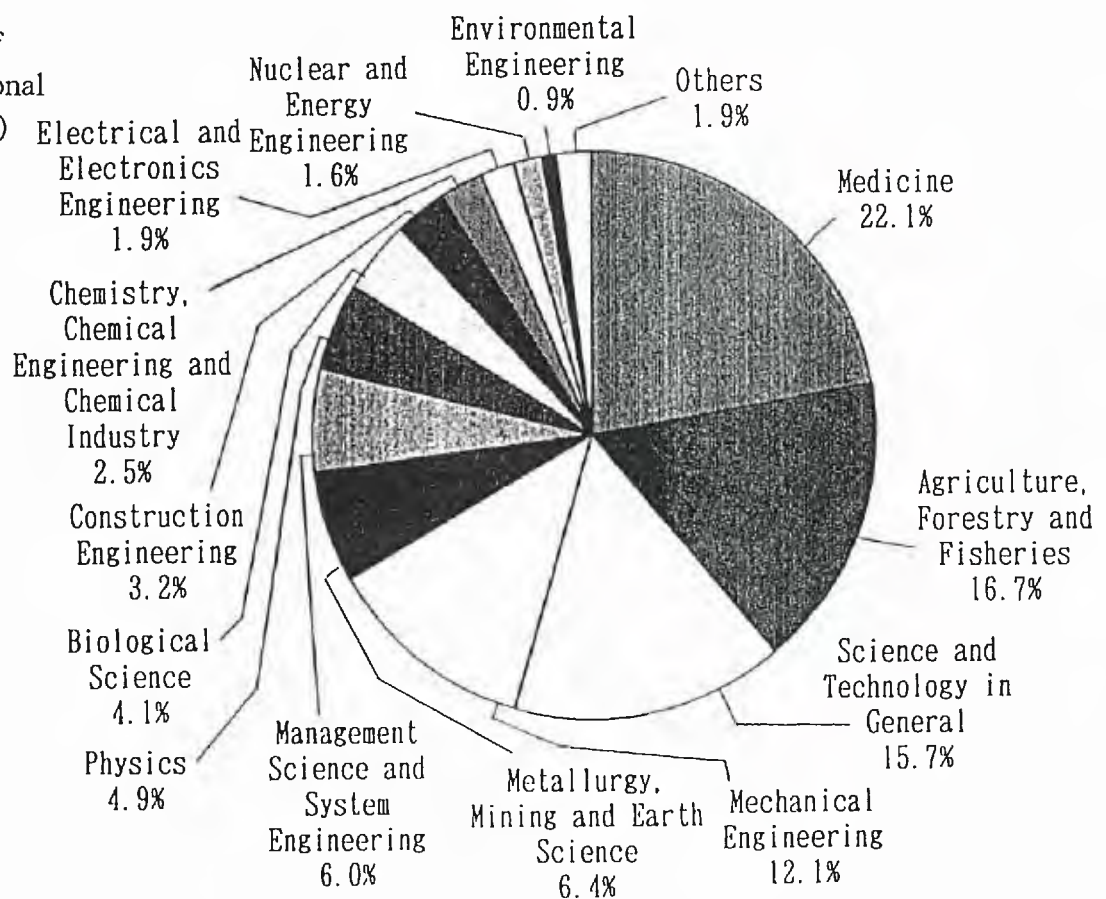


Fig. 12

Journal Titles
by Subject
(Bulletins of
Educational
Institutions)

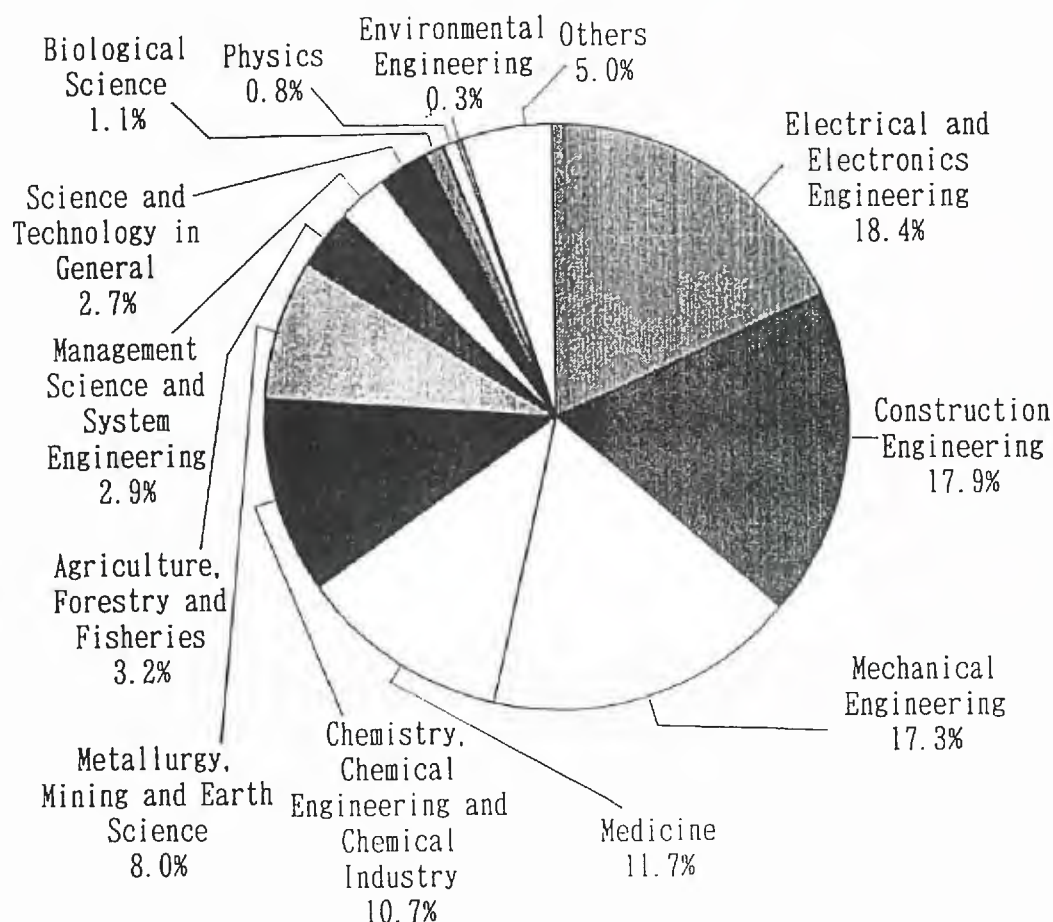


2.4. TECHNICAL REPORTS OF PRIVATE COMPANIES

With respect to technical reports and other materials of private companies, most companies give them to JICST free of charge on request unless they are confidential. It is always necessary for JICST to make efforts to investigate private companies which issue materials needed by JICST and to keep contact with them.

Breakdown of these materials by subject is shown in Fig. 13.

Fig. 13
Journal Titles
by Subject
(Technical
Reports of
Private
Companies)



3. DISTRIBUTION OF COLLECTED MATERIALS TO OVERSEAS

JICST constructs databases by abstracting and indexing articles in these collected materials, and make them available online (through JOIS, STN INTERNATIONAL and INTERNET), on CD-ROM and in printed materials.

In order to make Japanese information easily accessible from foreign countries, JICST translates into English the abstracts in these databases. For this purpose, JICST uses its recently developed Japanese-English machine translation system.

It has started recently to provide titles (in Japanese) of publications of public agencies through INTERNET. This effort seems to be useful for maintaining stable cooperative relations between JICST and public agencies.

In addition, JICST provides information of research themes of public research institutions in Japan through JOIS as JCLEARING File. An English version of JCLEARING File is also provided through STN INTERNATIONAL as JGRIP.

JICST offers Japanese information by the following products and services.

JOIS

JICST (in Japanese)
JQUICK (in Japanese)
JICST-E (in English)
JCATALOG (in Japanese)
JCLEARING (in Japanese)

STN INTERNATIONAL

JICST-E PLUS (in English)
JGRIP (in English)

INTERNET

18,000 titles of monographs of public materials (in Japanese)
80,000 titles of technical reports of private companies (in English)

Publications

Current Bibliography on Science and Technology (in Japanese)
JICST Holding List (in Japanese)

CD-ROM

Current Bibliography on Science and Technology (in Japanese)
JICST Holding List (in Japanese)
JICST-E (Test Version in English)

It is difficult for foreign countries to make access to Japanese information even if it is open to public. Under these circumstances, JICST will, as a distribution center of Japanese scientific and technical information, continue to make efforts to collect, process and distribute Japanese information by satisfying comprehensive coverage and timeliness in the future as well.

The use of grey literature in the agricultural economics field: a quantitative analysis

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Abstract

Despite the increasing attention to GL a number of methodological issues remain unsolved, basically standards of presentations and indicators for measuring GL use. The main aim of this paper is to study the use of GL in agricultural economics. This field of agricultural Science is an interesting point of observation because it represents a social Science (economics) in an applied context (agricultural). Previous studies showed that all agricultural research fields are strongly connected to agricultural economics. Current research in this field reveals the usage of various types of GL document. We identify different patterns of GL use through the analysis of citations of GL in bibliographic references for a source sample consisting of "core" journals. Cited GL documents are described by their type (report, thesis, preprint, etc.), producer and publication date. Furthermore, based on their type, they are classified into three categories (dark - medium - light grey documents) in order to account for different "tones" of grey in GL, by which we mean different levels of availability and accessibility. Moreover, we estimate the coverage of each of these three categories of GL documents for specialised libraries and Internet.

1. INTRODUCTION

The aim of the paper is to study the use of Grey Literature (GL) in Agricultural Economics (abbreviated as AE). Our research is also motivated by the application of a previous model (already used in physical sciences) to AE (Di Cesare, 1993). This field of agricultural science is an interesting point of observation because it represents a social science (economics) in an applied context (agricultural). The social sciences deal mainly with humans and human institutions and have their peculiar communication models that differ from those of the natural science. Moreover AE is a research field belonging to Agricultural sciences which have their own knowledge and technological transfer system. Agricultural Economics is a discipline separate from general economics, even if it consists largely of economics applied to agriculture. It was born in the agricultural research stations mainly as economics evaluation of technological innovations. According to the International Association of Agricultural Economists (IAAE), AE covers a wide range of topics which can be divided into three main categories:

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a) disciplinary work - improvement of theories, techniques and descriptive knowledge of economics;

b) Multi-disciplinary subject matter areas - energy, technical change, institutional change, natural resources, farm management, rural communities, marketing, human development and the environment;

c) Problem solving - the definition, solution and management of specific management problems. In the humanities and social science, journals constitute less than a half of the research literature of most disciplines (Line, 1979). In the agricultural science the journal publication system is paralleled by a system of publishing in-house occasional or serial reports, which are usually given the title "bulletins". These "reports" or "bulletins" are mainly directed towards the external audience (extension service, administrators).

Agricultural economists are more likely to identify books, monographs, and reports as an important medium for scientific communications. They, as other scientists who view reports as important media for transferring their work, are more likely to be concerned with clients' needs and demands, feedback from extension, and applied or development research.

Previous studies have found that many AE publications are issued in reports and bulletins (Busch and Lacy, 1983), because much analysis is applied research with regional or local focus and, therefore, unpublishable in international or core disciplinary scientific journals.

The objectives of the present paper are:

- to examine the impact of GL in the scientific area;
- to analyse the characteristics of GL documents cited from a sample of selected journals;
- to compare the use of GL in agricultural economics with other disciplines;
- to evaluate the availability and the accessibility of GL documents.

2. MATERIALS AND METHODS

2.1 Journal Sampled

We analysed a group of four agricultural economics journals:

- American Journal of Agricultural Economics (AJAE);
- Journal of Agricultural Economics (JAE);
- European Review of Agricultural Economics (ERA);
- Rivista di Economia Agraria (REA).

It has been observed (Rao, 1990) that these sources are part of a core list of Journals in economics (list based on a quantitative study), and important titles in AE. All of them are quarterly journals except JAE whose frequency is three times a year. They are all official periodicals of scientific associations, in which are published also the full papers of the annual congress of the society sponsoring the journal. We have considered also the "Quaderni della Rivista di Economia Agraria", special issue of the REA, which contains the full papers of the annual meeting of the Italian disciplinary association.

The paper is intended as a starting point and foundation for future work, as it presents only preliminary results. Our sample is not adequate to enable conclusions of general validity: in fact the articles published in four sources referring only to one year cannot adequately represent the whole subject of a discipline (Line, 1979). We have planned to extend the survey including additional journals and considering at least three years. Anyway, such a sample can provide us with information on GL of interest to the researchers working in the core disciplinary part of these fields. There is a difference between the literature of the field (produced by) and the literature of interest to researchers working in the field: this difference can be considerable.

For each journal we counted the total number of references and GL references. We considered only the original research articles published in 1994, excluding briefings of meetings, book

reviews, letters to the editors. For each GL reference we tried to identify:

- the typology of the document cited;
- the institution that "published" the document;
- the year of publication of the GL document;
- Self-citing: occurring when one of the authors of the GL document cited was also an author of the article examined.

We define GL as the documents "not available through the conventional, commercial distribution channels and therefore difficult to identify and obtain". It has to be recognised, however, that not all GL documents are difficult to identify and obtain (Auger, 1989) and in addition that materials are not of the same "tone" of grey. As well as considering that with "the dawn of electronic publication and electronic networking, the term GL expanded and the former definition became somewhat obsolete" (TransAtlantic, 1995). It should be noticed that besides white literature (WL) and GL documents, most articles from the Journals sampled cite many other types of document (e.g. official report, bulletin, statistic documents) which cannot be properly qualified as GL documents but nevertheless we have included it in our analysis because these types of document are considered very important in AE and extensively cited.

We have considered the following GL categories:

- * *To-be-published manuscripts* - to be published or in press journal articles;
- * *Official Reports* - reports produced, either for sale or for free distribution, with the intent to informing the general public;
- * *Internal reports* - Reports produced for the internal operation of government of the GL producers, these type of report do not have the intention of public informing;
- * *Meeting papers* - in this category we have grouped not commercially published conference papers;
- * *Legal & Legislation documents* - Recommendations, Regulation, Proposals, Directives, proposed legislative acts (draft);
- * *Theses* - Degree theses and Phd dissertations;
- * *Technical specifications and Standards* - Technical specifications, standardised methodologies, technical rules;
- * *Statistical documents* - Official and technical statistic reports;
- * *Newsletters* - Newsletters, Bulletins;
- * *Working papers* - draft papers, unpublished materials.

2.2 Definitions and indicators

To measure the impact of GL on conventional literature we used the following indicators:

- the *frequency of GL use* (i.e. the proportion of articles with GL citations, out of all the articles examined);
- the *frequency of GL citing* (i.e. the proportion of GL references out of all the references examined);
- the *Intensity of GL use* (i.e. the average frequency of GL references per article with GL).

We defined an additional indicator (the *academic in-house publishing rate*) for taking into account the origin of GL materials. This indicator is the proportion of GL references in-house printed by scientific Associations and Academies, Universities, and research Institutes. It represents the relative importance of academic circuits of production and distribution of GL and a "proxy" variable for estimating the size of the literature of disciplinary content.

We have tried to evaluate the availability of the GL documents on the basis of the bibliographic type of documents cited. We have adopted the following criteria (Rozkuszka, 1984):

* the 'official publications' are those items produced, either for sale or for free distribution, with the intent of informing the general public;

* 'documents' are those items produced for the internal operation of government of the institutions, and do not have the intention of public informing. Also this second type of document may be informative to the general public, but it is not produced for a large diffusion (Rozkuszka, 1984).

As reported in a work presented in the GL93 meeting (Di Cesare, 1993), we categorized the various types of GL by their ideal distance from the white literature. For this paper we used a slight different methodology because of the presence in AE of particular types of GL originating outside the scientific world. We classified GL documents in three categories: dark grey, medium grey and light grey documents according to their estimated availability and accessibility.

The dark grey documents are those items that may disappear without trace and usually not recorded in information systems: unpublished materials, draft documents, working papers, panel papers. The other GL types are often documented in internal or external information system. The category of medium grey is composed of documents (research, technical, internal reports, theses, etc.) that may be unnoticed by scientific communities and had not the purpose of a wide diffusion (internal documents).

The third category (light grey documents) is composed of items designed for a broad diffusion (official reports, economic and market reports, legal and legislation documents, statistics, standards) or papers of which the scientific community has been officially informed or is about to be so (meeting papers and "to-be-published" manuscripts).

Table 1
TONES OF GREY

Tones	Categories	Characteristics
Light Grey	Official reports Statistic documents Standards Newsletters Legal & Legislation Documents	Items designed for external diffusion
	To-be-published articles Meeting papers	Papers of which the scientific community has been officially informed or is about to be
Medium Grey	Theses Internal reports	Items that had not the purpose of external diffusion and may be unnoticed by the scientific community
Dark Grey	Working papers	Items that can disappear without trace and usually not recorded in information systems

3. RESULTS

3.1 GL article and references: general results

The selected journals contained 233 articles, published in the 1994, for a total of 5275 references. We found only seven articles without citations (3%). In the following analysis we have considered only articles with citations (226 articles). The average number of citations per article is 23, while the Italian journal REA has the highest number of citations per articles 41.

We found 1143 GL references, which were the 21% of all citations. Out of all GL references only 472 (46%) have been originated by scientific institutions such as Universities, Research Institutes and Scientific Societies.

For a better evaluation of the impact of GL in this sector, we compared our data with the results other surveys concerning other disciplines: Physics (Di Cesare, 1993), Health Sciences (Alberani et Al., 1990), and Information Sciences (Alberani et Al., 1994). The methodologies used in these surveys were not the same, consequently the comparisons have only an indicative value.

Table 2 shows the frequency of GL use (ie - % of articles with citations to GL) which was very high in our sample (80%) compared to the results of other survey on disciplines such us Information Science (77%), Health Science (66.7%) and Physics (57.6%). The Italian journal REA showed the highest value for this indicator.

Table 2
Frequency of GL use in our sample

Journal	Number of Articles	Number of Articles with GL citations	Frequency of GL use (%)
American Journal of Agric. Economics (AJAE)	131	97	74.0
European Review of Agric. Economics (ERAE)	29	26	89.6
Journal of Agricultural Economics (JAE)	28	24	85.7
Rivista di Economia Agraria (REA)	38	35	92.1
Total	226	182	80.5

Table 3
Total citations, citations to GL documents, Frequency of GL citing

Journal	Number of Citations	Number of GL Citations	Frequency of GL citing (%)
American Journal of Agric. Economics (AJAE)	2467	540	21.8
European Review of Agric. Economics (ERAE)	637	183	27.6
Journal of Agricultural Economics (JAE)	600	166	27.7
Rivista di Economia Agraria (REA)	1571	254	16.2
Total	5275	1143	21.7

Table 4

Frequency of GL use and citing, average citation of GL per article

Journal	Frequency of GL		Intensity of GL use
	Use %	Citing %	
American Journal of Agric. Economics (AJAE)	74.0	21.8	5.6
European Review of Agric. Economics (ERAE)	89.6	27.6	7.0
Journal of Agricultural Economics (JAE)	85.7	27.7	6.9
Rivista di Economia Agraria (REA)	92.1	16.2	7.3
Total	80.5	21.7	6.3

The frequency of GL citing (ie - the incidence of GL over other sources of information) was very high (21.7%) compared with Health Science (16%) and Physics (6%), while it was close to the value reported for Information Science (22%). In AE if we consider only the 472 GL documents produced by scientific institutions the frequency of GL citing drops to 10.1%, a value that is more comparable with the one for Physics. The average number of GL references cited per article was 6.3 (Physics 1.8; Health Science 3.5).

3.2. Characteristics of GL documents

3.2.1. Forms of materials cited

Data in table 5 show the distribution of GL references by type of document cited. 'Reports' was the typology most frequently cited followed by 'Working papers', 'Meeting papers', 'Statistics' and 'Theses'. In particular 'reports' represented 48% of all GL citations; this category includes several subtypes of documents such as: economic report, research reports, technical report. We have divided the category 'reports' in two parts "Official Reports" (materials oriented to a broad diffusion) and "Other reports" (reports aimed at internal use). Statistical documents were also frequently cited.

A characteristic bibliographic type among the official reports is the 'Economic report' that is a document concerning a socio - economic situation or event. The field of analysis can be a product, a production system or sector, a geographical area, a region, a nation. The annual relation of economic organizations can be attributed to this typology. This type of report contains a large amount of data, indicators and comments.

The greater proportion of GL documents cited (58%) are "light grey literature" (LGL) and this happens for all the journals (see Table 6). On the contrary the Fig.1, reporting the "tones of grey" of GL broken down by origin of the documents, shows a very differentiated situation.

In our sample a large part of GL documents was produced by important international organizations such as FAO, World Bank, OECD, European Union, CGIAR (Consultative Group on International Agricultural Research) and by other related bodies. All the official publications issued by these institutions are highly accessible, whereas finding 'documents' produced in the framework of day by day work may be rather difficult.

Table 5
Ranking of type of GL documents cited

Type of GL Cited	Number of references	%
Official reports	340	29.9
Other reports	212	18.6
Working papers	199	17.5
Meeting papers	131	11.5
Statistic documents	110	9.7
Theses	66	5.8
Newsletters, bulletins	37	3.3
To-be-published articles	18	1.6
Legal & Legislation documents	14	1.2
Standards	11	1.0
Total	1138	100.0

Table 6
Distribution of GL documents by category

Journal	Light grey literature %	Medium grey Literature %	Dark grey literature %
American Journal of Agric. Economics (AJAE)	56.3	24.1	19.6
European Review of Agric. Economics (ERAE)	60.1	28.4	11.5
Journal of Agricultural Economics (JAE)	56.6	25.3	18.1
Rivista di Economia Agraria (REA)	60.2	22.8	16.9
Total	57.8	24.7	17.5

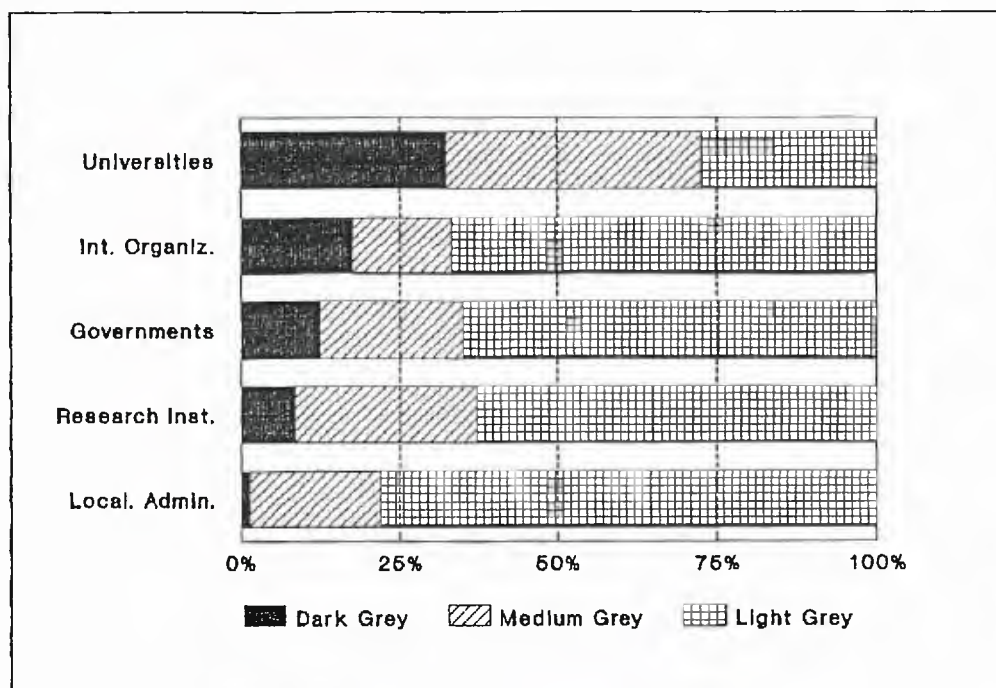
3.2.2 Origin of GL documents

78.9% of the GL documents were produced by a single nation, compared to 21.1% issued by International Organizations and International Scientific Societies. The country, whose GL documents are most used, is the USA.

Table 7 shows the number of GL documents cited broken down by the type of organization that publishes and diffuses it. A number of GL documents derive from Institutions such as: International Organizations, General Governments, local administrations. Often these GL documents do not contain original economic studies, but their concern was economic policy and development plans, technical information, statistics, market and commercial reports, etc. Nevertheless, we should not consider GL produced outside academic Institutions only as unconventional and with less original content, because many public and quasi-public bodies fund extramural or intramural socio-economic research and print the results of these studies.

Fig. 1

Tones of grey of GL broken down by origin of the documents

Table 7
GL references by type producer

GL producers	Number of GL citations	%
Scientific Societies	69	6.8
Research Institutes	118	11.6
Universities	285	27.9
International Organisations	203	19.9
Governments, Nat. Agencies, Stat. Inst.	177	17.4
Local Administrations	73	7.2
Extension Services	15	1.5
Economic Organizations, Private	51	5.0
Others	29	2.8
Total	1020	100.0

3.2.3 Date of Publication

Only 4.8% of the GL documents lacked the date of publications. We found that the majority of the citations were concentrated in the recent past (Table 8). The average age of the GL citations is five years. The *citing half-life*, defined as the number of publication years going back from the current year which account for 50% of the GL citations given by the citing journals, was four years for AE. In Physics the value of this indicator is three years. In previous surveys referring to general

Economics the number of years within which 50% of references from journals occur is six years (Line, 1977). However it is evident that GL references decay faster than other types of references.

We expected to find remarkable differences between the age distribution of the reference to GL literature for AE and Physics. If we examine Fig.2, which shows the cumulative frequency of the age of GL references cited by the two disciplines, we can argue that, even if Physics cites more recent documents, the general trends of the two research fields are not very different. This result seems to confirm that GL references cited are of recent date in both the fields considered. The GL categories that decay slowly are "Standards" and "Theses" whose cited half-life is, respectively, ten and seven years. On the contrary "Working papers" and "legal and legislation documents" decay faster.

Table 8
Dated GL documents

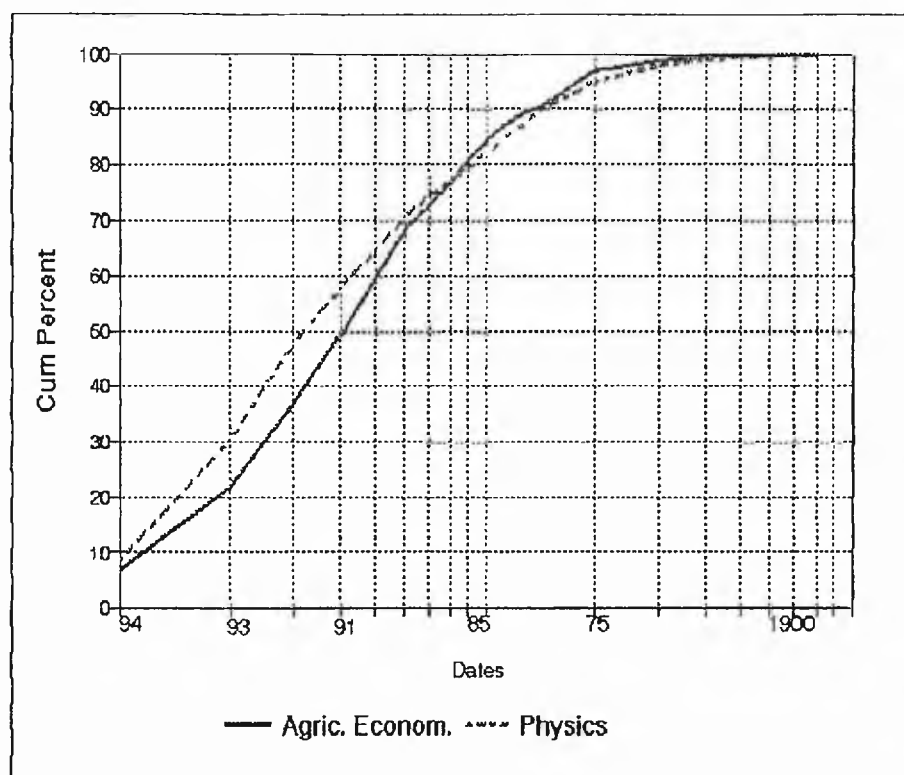
Date	Frequency	Cumulative Frequency %
1994	73	6.7
1993	162	21.7
1992	164	36.8
1991	134	49.2
1990	116	59.9
1989	91	68.3
1988	49	72.9
1987	44	76.9
1986	41	80.7
1985	40	84.4
1984	25	86.7
1983	15	88.1
1982	17	89.7
1981	9	90.5
1971-1980	73	97.2
1961-1970	19	99.0
1951-1960	8	99.7
1941-1950	0	99.7
1931-1940	1	99.8
1900-1930	2	100.0

3.2.4 Self - citing

The proportion of self-citations (8.8%) observed is low compared with the 'theoretical' range of 10-30% (Tagliacozzo, 1977). All the journals in our sample showed similar value for this indicator, which varies from 7.5% (REA) to 9.3% (AJAE and ERAE). The self-citation rate in

reports appears to be very low (5%), while it is higher for the following types of documents: theses (26%), "to-be-published" or "submitted to" articles (28%), meeting papers (15%), generic papers and draft materials (15%). Obviously the self-citing rate in GL published by scientific institutions (13.5%) was higher than those produced by other types of organizations (2.2%).

Fig. 2
Distribution of dated GL documents



4. DOCUMENTATION AND DISTRIBUTION SERVICES ON INTERNET

Several international and national associations of agricultural economists are on-line or have plans to go on-line with World Wide Web pages to publicise their activities, assist communication between agricultural economists and diffuse conference and meeting papers.

The new information technologies are changing the patterns of technical and scientific communications effecting a growth of GL, along with the widespread use of international networks, a new generation of GL is arising. In the subject areas of AE we witness at the on line distribution of new types scientific information and tools such as: economic statistics and indicators; software tools; information on current research; hypertexts; Geographic Information Systems (GIS).

On Internet there are many resources of particular interest to agricultural economists. We carried out a search on AE to analyse the role played by Internet in the distribution of GL starting from general resources such as the *Agricultural Economics Virtual Library*, which provide information under the following headings:

- general information on the Internet site related to AE subjects;

- information on AE Journals;
- AE related mailing lists;
- economic information from government services;
- agricultural market information newsgroups;
- links to Departments of AE;
- information for accessing libraries with extensive collections in agriculture.

Many international organizations are present on Internet with the description of their projects and publication catalogues. Information on these institutions and their policies is ever-increasing. Web sites with useful information on agricultural economics are: the EU sites, the FAO Waicent site, the World Bank site, the CGIAR gopher. As we expected, official reports, economic reports and statistics are provided on-line. In particular *FAO* is creating a general resource named *the World Agricultural Information Centre* (WAICENT) which includes two different subsystems - FAOSTAT: covering statistical data - FAOINFO: covering textual information. FAO is also the producer of AGRIS (International Information System for Agricultural Science and technology) the leading database service for documenting conventional and unconventional literature in agriculture.

Concerning Governments and other public bodies, we found well-established services in the USA, Canada, Australia and in the northern part of Europe (UK, The Netherlands, France, Germany). A new problem is to provide easy and effective access to Electronic Grey Literature (EGL), defined as GL which is stored in some electronic format and can be accessed through worldwide networks (Glis, 1995). New methods and standards for classifying and cataloging EGL are needed.

5. CONCLUSIONS

Our results confirm that GL is an important source of information also in AE. The focus of this field is social institutions, this is one of the reasons why it is in touch with the literature produced outside the academic sector.

The evaluation of the availability and accessibility of GL was made mainly on the basis of the type of GL documents. The analysis points out that there are some types of light GL which are not difficult of "identifying and obtaining". Moreover there are other factors that deeply affect the "tone of grey" when it comes to literature such as:

- bibliographic description;
- the purpose of the document (internal use, external diffusion);
- documentation of GL in secondary services;
- the policy and the efficiency of the documentation and delivery services of the producers of GL;
- dimension and mission of the producer;
- the target of GL (a document may be easily accessible in a community of users and very difficult to obtain for users outside this community);
- presence of GL collections in specialized libraries.
- technology (the Internet, other forms of electronic publishing).

In order to understand the nature and the relevance of GL more efforts should be focused on quantifying: the use of GL outside academic environment; the role of GL in information transfer; the production of GL in academic institutions.

It is difficult to define the limits of GL. Within different fields of work we can find different types of needed information and communication channels. Subject oriented analysis of GL have two immediate advantages: they help in studying communication patterns and in assessing the needs

of users within a particular field.

Internet offers authors a new medium of scientific and technical communication, and new paradigms of communication are emerging. We should take note that the information world is changing and that the information sources, and particularly GL, are likely to become increasingly electronic. Nevertheless, problems related to bibliographic control of GL will not be solved only by using new technologies. Therefore appropriate standards for successful identification and easy access to desired information will be more and more necessary.

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THE MANAGEMENT OF DEVELOPMENT INFORMATION PROJECTS IN DEVELOPING COUNTRIES FOR UTILIZATION OF GREY LITERATURE.

Teferi Kebede

ABSTRACT

Information is the resource of resources, i.e that on which depend all other resources as it is information which permits their identification, evaluation and utilization. Cognizant of this, many developing countries have embarked upon the design and implementation of Development Information System (DIS) Projects. However, either many of them have not yet taken off or are far from meeting the information needs (Problem Oriented Information Need) of users. Furthermore, added to the whole array of information systems and services required to support development, the problem of access to GL, advances in information technology and infact the resource input requirements have made the establishment and management of Development Information Systems a revived challenge.

The paper tries to identify the core problems of national information system projects. It looks at the impact of Global trends in DISs and recommends a strategy to ameliorate the existing problems of information systems and services in developing countries.

1. Introduction

Information is the resource of resources, i.e., that on which depend all other resources, as it is information which permits other resources to be identified, evaluated and exploited to the benefit of social and economic development. Moreover, it is the only resource which grows as it is sub-divided and spread. Under development therefore, is no more than the consequence of lack of capacity to generate information, to store it, to process, disseminate and utilize it.

Efforts by developing countries to establish a sound information system(s) (infrastructure) have been initiated and/or supported by development assistance agencies in the form of "projects" for more than 25 years. Despite this long gestation period information services in the Third World in general are far from meeting the information needs of users. Particularly Problem Oriented Information Needs of Users (POIN).

It is of course, an overgeneralization to discuss broad trends and existing situations of information systems and services in developing countries, since there are so many variations in the many geographical groups of countries. While in some countries the basic infrastructures and capacities are in place, the development of Development Information Systems (DISs) in Africa today has been and may continue to be affected by problems of infrastructure and economic conditions in most parts of the continent.

Hence, this paper focuses on DISs in Africa rather than on the broad category of developing countries as the title might indicate. However, some of the assessments and recommendations made can be applicable to others.

2. Descriptions

The descriptions below are not intended to provide definitions of the keywords in the title of this paper as such, but as an approach to identify the main areas of focus on the Management of Development Information System Projects.

Development Information Systems: are information systems geared towards the provision of library, documentation and information services in the priority areas of development of a country.

Project Management:

A project can be considered as a series of activities and tasks that had specific objectives to be completed within certain specifications, defined start and end dates, funding limits and that consume resources (money, people, equipment).

Project management on the other hand involves project planning and project monitoring while information management is an approach or policy which an organization adopts to manage its data/information resources including:

- The information holdings an organization/information system chooses to constitute its information resources.
- The information systems designed to provide the information to the various groups and individuals.

Therefore, the successful management of Development Information Systems project entails:

- a) Ensuring the establishment of information services that fit and be part of the national development plan(priority determination).
- b) meeting the desired objective(s) in a specified time and limited financial resources
- c) identifying the information needs of users and organize information resources that are of relevance to the target groups.
- d) designing and implementing an information system that is flexible enough to allow modifications necessitated by changing needs and developmental emphasis.

3. Information Systems and Services in Support of Sustainable Development

The World Commission on Environment and Development defined sustainable development as: "not a fixed state of harmony, but a process of change in which the *exploitation of resources*, the *direction of investment*, the *orientation of technological developments*, and *institutional change* are made consistent with future as well as presents needs" (OECD, 1990). Although there are many definitions of sustainable development, the definition given above

is good enough for the purpose of this paper to show on the one hand that development is a process by which a country's growth becomes self-sustaining if proper actions are taken in line with current and future developmental needs. And on the other it carries with it a dim light to uncover inevitable components of developments plans such as resource utilization, direction of expenditure, the direction of technological developments and associated changes. All of these depend on the availability of data/information at any point in time.

It is widely known that long and short-term development plans in all countries of the developing world have been in place for quite a long time. However, the separation between information resources utilization, plan formulation and implementation has rendered many of these plans to be mere statements of intent with ambiguous objectives. The same is true for Development Information Systems projects which need to be based on information and integrated with development plans.

It is worth emphasizing that the requisite for the proper formulation of development plan is a store of accurate and timely information. Such information will also continue to be required throughout the implementation period. Just to take a few examples, information on:

- Present conditions and trends in every sector and all aspects of a sector (Government reports, Consultancy reports i.e GL)
- quantity and quality of human, financial and material resources that will be available for pursuit of the plan (Government reports mostly Grey)
- environmental and social conditions now and in the various phases of the plan period (Grey and white)
- production and service possibilities, organizations, equipment, infrastructure and on conditions, whether there will be adequate rainfall or/and the probability of plan pests and diseases etc. at successive point of time (Grey, ephemeral)

As the result of the need for information at every stage of development there have been efforts to establish information systems in various priority areas of development in the third world countries. The following are some of the major ones which have been given due attention:

- Rural Development Information System
- Agricultural Development Information System
- Industrial Information System
- Health Information System
- Science and Technology Information System
- Socio-economic information System

- Environment Information System
- Geographical Information System

In addition, to this multiplicity of information systems there have been attempts to include some sectoral/subjects information systems such as education, social sciences, genetic resources etc. Again for the purpose of this paper it may suffice to see one of these systems in more detail as depicted on Figure 1. This diagram shows the central role of Development Information in the major activities of application of Science and technology to development. In the centre of the diagram is Development Information. Radial lines connect the centre to these major activities.

These activities going clockwise around the diagram are:

1. The effective sustained application/utilization of technology including its maintenance and upkeep
2. The proper search for choice and transfer of technology on terms and conditions that enhance the growth of technological capability.
3. The adaptation; to improve its sustainability to local conditions and purposes of modern technology
4. The design, supervision and implementation of projects with high technological content (which are often done by consultants at least in Africa).
5. The improvement of manpower skills at work at all levels,
6. The popularization of science and technology among population.
7. The improvement of traditional technology
8. Research and the development of innovation as well as the real life demonstration of the practical utilisability of the innovation.

Basically all these activities require information input. However, the substantial amount of the available documentary information on S&T are in the form of Grey Literature which need an effective mechanism to acquire, store, process and make it available to users.

This high rate of GL on one hand, could be attributed to the weakness of the publishing industry in Africa and on the other to the availability of adequate printing³ (Altback, PhilG, 1995) resulting in the accumulation of unpublished materials. Table 1 shows the possible nature of documentary sources for the eight major activities of S&T depicted on Figure 1 as related to GL.

Activity	Source of data/information
1	?
2	Patent documents, published documents/journals, Technology bulletins etc.
3	Local industry reports, Journals, Research reports.
4	Consultancy reports, Project documents.

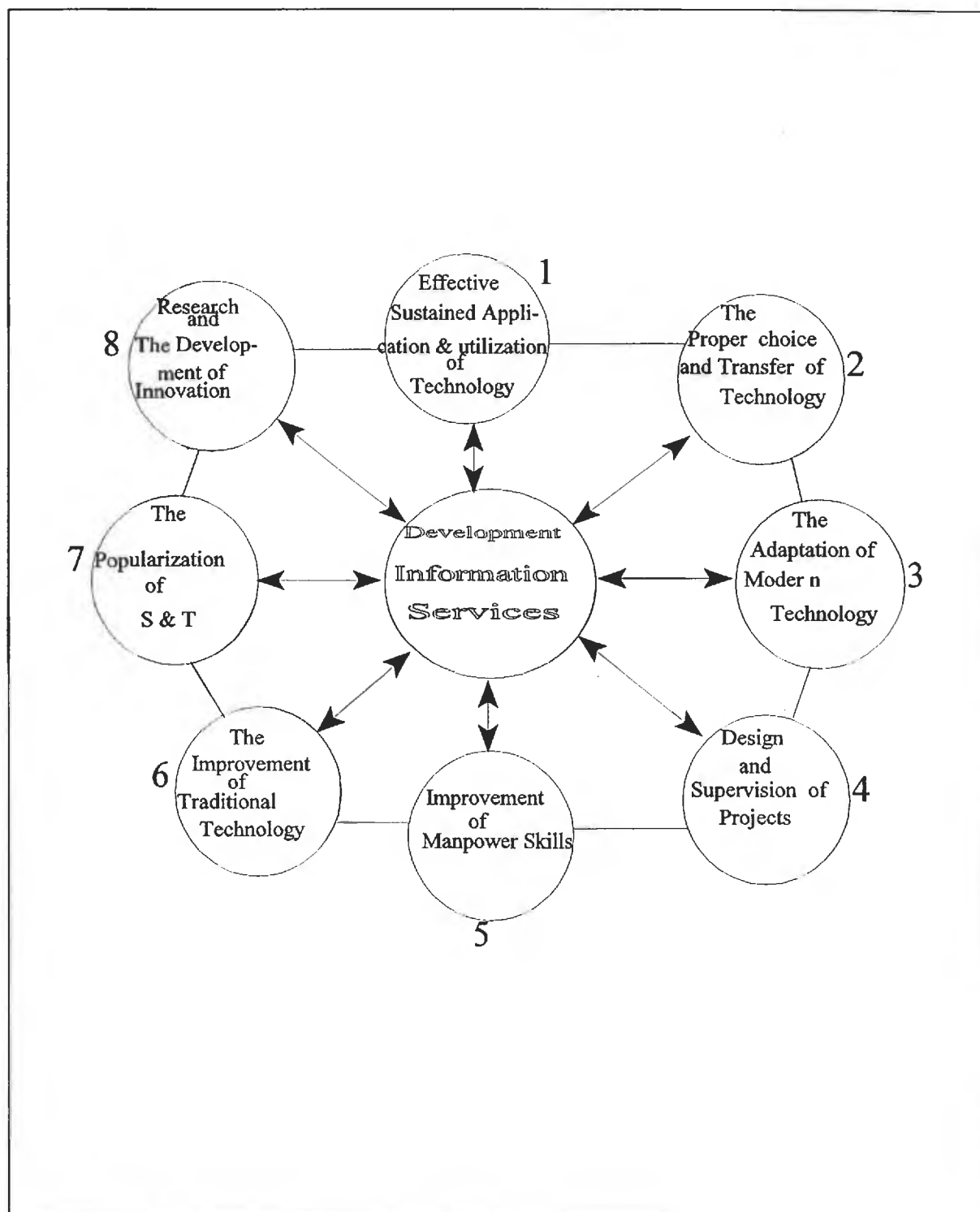


Fig. I The Role of Development Information
in the major activities of application of S & T to Development

- | | |
|---|---|
| 5 | Government personnel files, Directories of Experts, manpower study reports, manpower need assessment reports. |
| 6 | Bulletins, Brochures, Films (Video) Radio-programme manuscripts, textbooks. |
| 7 | Research reports. |
| 8 | Research reports, need assessment reports |

This shows that there are many types of GL that are required as input to a single in this case Science and Technology sector of development. Although there may not be a direct link as to the amount of GL, it is evident that there is a need for various Sub-Systems of information sources that constitute each development priority areas as listed earlier.

4. Electronic Networking

In countries where there are adequate human and financial resources in a conducive social, cultural, managerial and political environments, the "information revolution" has proved to play a significant role in development.

Advances in information and communication technologies have resulted in the creation of enormous electronic networks that indicate geographic and social barriers are now becoming less of an obstacle in information communication.

This milieu has not only changed the transfer of information but the type of services that users need. What is of interest to this conference is the impact of informative technology on the management and utilization of GL.

Needless to say that where information technology has been effectively used as a tool and channel of information generation and communication, the inevitable production of GL and grey information is on the increase. Mention can be made of digital libraries which are also not under bibliographic control, thus remain grey in terms of bibliographic control and systematic access. Generally, the evolution of information technologies has created a situation whereby certain information can now be considered grey or difficult to find and not easily accessible through normal channels. Furthermore, when seen in light of the electronic communication development in Africa, most of the digital information available in national, regional and international networks (within a specific period of time) can be termed grey in that they are not easily accessible.

At this juncture it is worthwhile looking at the general development of electronic networking in Africa which in this "information age" cannot be seen in isolation from the capacity to generate, process, disseminate, collect and utilize information resources.

As has been the case for DISs, there have been many electronic communication projects in Africa, about 30 in 1995. (Straub, 1995) for a number of reasons which are beyond the scope of this paper and the causes identified by Olugbemiro J. Jegede and Myuri Odedra-Straub (1995) most of these projects have not gone beyond personal messages via electronic mail. How will DISs in Africa be in a position to exploit the available GL information systems on Global Information Networks? I Would restrict myself only to point out that this

calls for the development of appropriate National Information Infrastructures with Regional strategy to Africa and that can eventually fit into "Global Information Infrastructure".

5. Problems of DISs in Africa

There is a concerted effort to develop a regional development information network known as Pan African development Information System (PADIS) through a project being executed by the United Nations Economic Commission for Africa. The project during the last 15 years has greatly contributed to the strengthening of national capacities in information and documentation services and has laid down a foundation for electronic communication in the region. However, it is still far from meeting the information needs of the continent. The problems related to the information systems and services of the region being mainly symptomatic of national level shortcomings, I will outline the major problems at country level which have been reported at various fora.

- Development plans and budgets often exclude and invariably underemphasize financial and policy requirements of development information systems.
- lack of coordinating body
- lack of fully fledged electronic networking
- shortage of adequately trained information manpower
- underutilization of information and the absence of offensive information marketings
- Documentary collection and information services are often inappropriate to actual needs
- the absence of a standard policy, on the confidentiality of documents

Each of these problems suggests at least a solution that is required to be put into practice to improve the situation of information Systems and Services in Africa. However, each need proper strategies of implementation which is beyond the scope of this paper. This does not mean that the problems listed above do not have impacts upon GL.

Infact, the proper collection, storage processing and creating access to Grey Literature is dependent on a well established National Information Infrastructure and hence, the problems listed above have bearings on the utilization of the bulk of information sources which are GL in Africa as noted by Sturges and Neill (1990)

What needs to be done?

There is already an awareness that electronic networking is transforming communications and the conduct of research around the world. This transformation, which is now expanding at an exponential rate in much of the industrialized word, is occurring more slowly in Africa; even so the trend clearly shows the basis for national network have been laid down. Therefore, the utilization of the already available grey literature at national, regional and international information systems can be enhanced by Development Information System projects by:

- a) Redefining the objectives of Development Information Systems Projects to

- explicitly include the collection, storage and processing of GL in all sub-systems and the National System.
- b) embarking upon the strengthening of existing National Information Infrastructures to fit into Global Electronic Networks.
 - c) bearing in mind that projects need to be targeted to specific completion date, development plan periods may be more appropriate to be used in defining the starting and ending date i.e. ensuring that such projects coincide with the development plan activities schedule.
 - d) including Sensitization programme for users of the importance of GL in the activities of the project.

Conclusions/Recommendations

Grey Literature constitutes a substantial proportion of indigenous documentary information resource in Africa. The difficulty in organizing, disseminating and utilization of GL stems from the weak national information infrastructures. The design and implementation of development of projects including DISs and electronic networks have mainly been initiated and funded by "development assistance organisations". As yet these projects have not proved to support development efforts.

In order to lessen the problems of DISs and improve the accessibility of information resource, it is recommended that the already existing institutions/bodies be strengthened in terms of the application of computer technology and resources to develop standard data bases in a networked environment.

Although there are specific problems that mainly apply to GL, I believe the overall information system infrastructure needs to be in place, before any issues related to access and utilization of specific data/information resources are addressed.

Therefore, strategies such as those enumerated above be followed with inclusion of GL access and utilization components as appropriate.

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THE PROBLEMS OF PRICING AND SELLING OF SOCIO-ECONOMIC GREY LITERATURE IN AFRICA: THE CASE OF THE NATIONAL INSTITUTE OF DEVELOPMENT RESEARCH AND DOCUMENTATION, UNIVERSITY OF BOTSWANA

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ABSTRACT

Grey literature constitutes a substantial proportion of literature produced in Africa. The major producers include government ministries and departments, universities, research institutions, multilateral and bilateral agencies and non governmental organisations.

The paper analyses some of the key problems encountered in pricing and selling grey literature produced by universities in Africa such as their specialised subject content which fail to appeal to the general public.

Discusses the role being played by the National Institute of Development Research and Documentation in building the research capacity of Botswana, conducting social science research and publishing the results of the research.

The activities of the Institute's Publication Committee in publishing socio-economic grey literature submitted for publication, the work of its Printing Unit and the author's involvement in the production, pricing and selling of the publications are also described.

Concludes that as long as academic institutions in Africa continue to produce socio-economic grey literature of specialized content, the problems of effective pricing and cost recovery will continue to rear their heads, as it were.

INTRODUCTION

The socio-economic research being carried out in Africa is yielding a great deal of grey literature which if effectively disseminated to African policy makers and planners would enable them to make decisions that would contribute to the continent's sustainable development.

In a study carried out in 1992 by Aina [1], in which he analyzed development literature produced in Botswana over a three year period, the results showed that grey literature constituted about 98 percent of all development literature produced in the country.

Grey literature has been described by Wood [2] as "the material which is not available through normal book selling channels. As well as being the subject of haphazard or specialised distribution arrangements. It also has a number of other distinguishing characteristics - small print runs, variable standards of editing and production, poor publicity, poor bibliographic control...and poor availability in libraries."

Results of social science research carried out in Africa are usually published in the form of grey literature. This includes feasibility studies, survey reports, consultancy reports, project documents, evaluation reports, research reports, research notes, minutes of meetings, data collections, conference papers, reprints, theses, dissertations, working papers, technical reports and so on.

In contrast to the developed world, Africa produces a great deal of grey literature because, most of the manuscripts are not published as conventional literature due to the undeveloped state of the publishing industry.

With the exception of South Africa, there are very few large publishing houses in Africa which have the capacity to produce good quality books. The African publishing industry is still at the rudimentary stage, and it has not attained the level of sophistication which is exhibited in the developed countries. [3].

One major problem is that publishing is generally regarded in Africa as a high-risk, low profit business and African publishers find it difficult, if not impossible to raise the necessary capital to establish publishing houses. Finance is of course particularly acute for small publishers whose capital is locked up in projects and for whom a publication may take up to two years from the time of commissioning to the finalised copy, and then takes an even longer time to sell. Therefore, the lack of capital outlay generally discourages the growth and development of the publishing industry.

Another difficulty which has severely hindered the development of the publishing industry in Africa is government restriction. Post colonial sub-Saharan Africa witnessed the emergence of one-party dictatorships and military regimes which were

intolerant of literary works and the concept of freedom of information.

These regimes strived to control the publishing industry through the issuing of operational licences, import licensing and ruthless imposition of censorship. As a result, in many African countries, publishing became a high risk business venture.

Despite all these difficulties, there is now a world-wide recognition that an appropriate and sustainable supply of publications within Africa can only be provided by a viable indigenous publishing industry. It has also been found that procurement from external sources is neither sustainable nor affordable in the long-term. It is therefore imperative that for the position of the book and other publications to improve in Africa, Africa needs to have viable and sustainable indigenous publishing industry.

In the light of the above, one may appreciate why African university presses too have not performed satisfactorily.

AFRICAN UNIVERSITY PRESSES

The establishment of university presses is relatively a new phenomenon in Africa, so also is university education itself. In the then British colonies, apart from the Fourah Bay College in Sierra Leone, no other university was established until in 1948 when universities such as the University of Gold Coast now Ghana and the University of Ibadan in Nigeria were set up. Regarding university presses, it was the University of Ibadan which began one in 1952. There are now many African universities which have established presses, including, Ghana, Kenya, Nigeria, Sierra Leone and South Africa.

The governing of universities in Africa depends heavily on the committee system, and within each committee, there are other sub-committees and ad hoc ones to handle specific problems. Their presses are usually governed by publications committees dominated by academics. Hence, there is often an over-representation of academic interest and under-representation of editorial and commercial interests; resulting in unreasonable delays in taking decisions and the lack of professionalism in handling important issues such as costing, pricing, promotion, sale and distribution of academic publications.

One cannot help, but to agree with Udoeyop [4], who stressed that,

" because publishing is a cause-effect continuum, the right policy decision must be taken, first in the editorial programme of the press and secondly about the manuscripts to accept for publication. It is from decisions relating to these two matters that the image and fortunes of the press ultimately depend. To achieve the maximum possible returns for the press, in terms of status within the publishing world and in terms of

monetary profits, the publications committee must allow itself to be guided by trained experts... in matters like the area of programme emphasis, manuscript procurement or commission, the choice of readers, the sale of foreign rights, and so on."

THE NATIONAL INSTITUTE OF DEVELOPMENT RESEARCH AND DOCUMENTATION, UNIVERSITY OF BOTSWANA

The University of Botswana established within its framework the National Institute of Development Research and Documentation (NIR) in 1975 initially as a documentation centre of the University. It became a fully-fledged research institute three years later.

The objectives of the Institute, as set out in the University of Botswana Statutes, are as follows:

- (a) to promote, co-ordinate and conduct research on issues of socio-economic, environmental and cultural development affecting Botswana;
- (b) to develop the national research capacity within Botswana, and
- (c) to conduct, publish and disseminate the results of such research.

In accordance with these objectives, the Institute has been actively engaged in launching various research projects, organizing seminars and conferences, mounting short training programmes and workshops with a view to increasing the research capacity of Botswana, and also carrying out documentation and publication activities so as to disseminate the relevant research findings.

The Institute's research activities are carried out by research units focusing on the major theme of rural development with special reference to agriculture, education, environment, health and nutrition, and women and gender issues.

In selecting projects, the Institute is guided by a number of criteria. It gives priority to research activities which:

- (a) are directly concerned with national development and aimed especially at improving the living conditions of the less privileged groups within the country;
- (b) form part of a broad multi-disciplinary approach to development;

- (c) are related to educational and training activities of the teaching departments of the University of Botswana and contain, in particular, a substantial training component for Botswana graduands and students; and
- (d) contribute to comparative research within the Southern African Development Community (SADC) region.

The Institute holds and assists in the organization of national and international seminars, workshops and conferences which serve as platforms for the discussion and dissemination of research findings related to development.

In the field of documentation, the Institute's Documentation Unit plays a major role in providing information services to researchers both within and outside the University of Botswana academic community. Currently, the Unit has over 13,000 documents, mainly grey literature, on different issues relating to Botswana's socio-economic development, the Southern African region and Africa in that order of priority. These documents are processed, stored and disseminated to public institutions, private organisations and interested individuals.

THE PRODUCTION ACTIVITIES OF THE INSTITUTE'S PRINTING UNIT

One of the cardinal objectives of the Institute as already mentioned is to publish and disseminate the results of the research carried out by its research staff and it has over the years developed a publications programme. It publishes the results of research relevant to Botswana and the Southern African sub-region. The publications are mainly printed in the Institute's own modest Printing Unit.

As pertains in many African universities, the publications activities are managed by the Institute's Publication Committee. The Committee is responsible for all policy decisions regarding the acceptance of manuscripts, their assessment, production of publications, their sale and distribution. The actual nitty-gritty of the printing processes are supervised by the Secretary and the Chairperson of the Committee.

The production of the Institute's publications are carried by the Secretary of the Publications Committee as follows:

1. Receives and acknowledges a manuscript submitted to the Institute for publication by an author.
2. Photocopies the manuscript and distributes it to all members of the Publications Committee for preliminary scrutiny.
3. Sends the manuscript to the assessor recommended by the Committee.

4. Receives the assessor's report and requests the author to revise the manuscript in the light of the assessor's recommendations.
5. Sends a copy of the **Authorship Declaration Form** to the author for completion.
6. Receives the revised manuscript and arranges for the final wordprocessing of the manuscript.
7. Proofreads and provides the necessary bibliographic details such as date of publication, place of publication and descriptors. etc.
8. Assigns the International Standard Bibliographic Number (ISBN) to each publication.
9. Ensures that all mistakes are corrected by the staff member wordprocessing the manuscript.
10. Instructs the Institute's Printing Unit to make plates from the camera-ready copy and to produce the galley proof.
11. Does final proofreading of the galley proof and instructs the Printing Unit again to produce bound copies of the relevant number of the publications decided on by the Publications Committee, often using spiral binding.
12. Liaises with the Printer throughout the production period.

Generally, the following types of publications are produced by the Institute:

- Directories
- Discussion papers
- Indexes
- Joint publications
- Press cuttings
- Professorial inaugural lectures
- Research reports
- Research notes
- Seminar/conference/workshop proceedings
- Working bibliographies
- Working papers

PRICING OF PUBLICATIONS

Pricing is an art which involves the ability to determine the cost of a product or service in terms of organizational resources utilized in the production process and to establish an exchange rate for the product or service between the organization and the customer. The price can range from no charge, to the recovery of the full cost of production plus, in some cases, a profit margin.

Olaisen [5], has interestingly outlined five pricing models using economics as a baseline and these are:

1. Optimal pricing where substantial profit is made;
2. Pricing according to value allowing both profit and loss;
3. Full cost recovery where all costs are covered;
4. Marginal cost pricing where subsidies are needed and
5. Free distribution of services where full subsidies are needed.

Olaisen argued that marginal cost pricing of information is important so that the returns can be used to help produce new information. He further pointed out that when an important resource like information is not valued, there is always the danger that decision-makers will tend to underestimate its importance. This I think has been the case in Africa where grey literature is usually not priced but is distributed freely to all and sundry.

Similar argument is put forward by Whitehead [6], who wrote that one basic pricing principle is,

" never price below the short run marginal cost...a quite normal way of pricing is average cost pricing, that is to say, take your costs, either your short run costs or your long run costs, divided by the number of units which you expect to sell and price at that price."

The National Institute of Development Research and Documentation does not have a clearly defined pricing mechanism in determining the prices of its publications. I observed this when from 1991 to 1994, I had the privilege to serve as the Secretary to the Institute's Publications Committee. I found that the pricing of the Institute's publications was haphazard. Usually, a token fee, which is neither reflective of the full cost nor marginal cost of producing a publication is charged. This stems from the fact that the Committee lacks the expertise in the area of costing, pricing, promotion and sale of publications.

Factors that have hindered the successful pricing of the Institute's publications include:

1. Since the National Institute of Development Research and Documentation is fully funded by the University of Botswana from the subvention the University receives annually from the Government, there seem not to be any compelling obligation on the Institute to ensure that profits are made. This may explain why pricing of its publications is haphazardly handled.
2. The very specialised subject content of the Institute's publications fail to appeal to the general population of Botswana, based on which the research are carried out. One wonders how many people in Botswana would want to purchase a publication with a title like, **Malaria epidemiological case study: an assessment of attitudes of the risk population towards curative chloroquin tablets in Ngamiland, North Western Botswana**".
3. The Institute's publications are generally produced as mimeographs which affects their value and pricing.

On the whole, demand for socio-economic grey literature in Africa is very low, making its pricing difficult.

SALE OF PUBLICATIONS

The act of selling any publication involves the existence of the publication which is brought to the attention of a potential purchaser in circumstances that offer him or her the opportunity to purchase it. It needs to be recognised that one's publication is just one of the several competing for the attention and money of the purchaser. Thus, the initial impact on the purchaser is important.

In view of the aforementioned considerations, publishers rely on certain techniques to effect the sale and distribution of their publications.

Promotion

Promotion is known to be one of the critical factors influencing sales, both directly and through its influence on booksellers. Among the several promotion techniques are, advertising, direct mail, reviews, publishers' announcement, catalogues, press releases, book launches, posters, exhibitions and fairs.

Promotion activities need careful planning and budgeting at an early stage in the life of each publication and the amount of money allocated for promotion will depend greatly on the type of publishing one is engaged in. For example, a school text book

publisher will want to allocate more money for promotion than a publisher of grey literature of specialized subject content.

Since the publishing activities of the National Institute of Development Research and Documentation are not pursued in a strict commercial vein, the Institute does not have adequate funds to undertake sophisticated promotional activities for the sale of its publications.

Normally, before a publication is released, the Secretary of the Institute's Publications Committee prepares and sends advance information sheets to individuals and institutions on the Institute's mailing list and also to the Government of Botswana's daily newspaper known as The Botswana Daily News which publishes the information free of charge. Also posters are displayed on notice boards on the University of Botswana campus.

One major promotional activity which the Institute is undertaking is mounting exhibitions at the Zimbabwe International Book Fair which is held annually in Harare, Zimbabwe.

In 1993 as the Secretary to the Institute's Publications Committee, I had the opportunity of representing the Institute at the 1993 Fair. Its theme was "Reading is Development" and it focused on the need to foster literacy and to develop a reading culture among the many peoples of Africa.

There, the African Periodical Exhibit was formally inaugurated with one of its objectives being to generate business for participating publishers, through promotion and sale of their publications. The Institute contributed exhibited two of its publications, namely, Professorial Inaugural Lecture Series and Devindex Botswana: an index to literature on economic and social development in Botswana.

All the exhibits were again displayed at the African Centre in London, United Kingdom in October 1993 and also at the African Studies Association Conference in Boston, United States in December of the same year.

As a result of the Institute's representation at the 1993 Zimbabwe Book Fair, one American book agent offered to sell some of the Institute's publications both in the United States of America and Canada on commission basis.

I was able to sell some of the Institute's publications directly to the purchasers without having to give a trade discounts. Also I had the opportunity to discuss the **NIR Publications List** with researchers working in other universities from the Southern African sub-region undertaking similar research activities. Some of these universities are now either exchanging publications with the Institute or are purchasing the Institute's publications on quite regular basis.

My experience at the Zimbabwe Book Fair showed that most of the participants were more interested in visiting the stalls displaying novels, text books, children's books and reference works more than the grey literature I was promoting. Furthermore, many potential buyers at the Fair found the contents of the Institute's publications too specialised and esoteric as it were.

Distribution and Sale of Publications

The distribution of publications is an enormous challenge facing every publisher because it is inherent role of a publisher to get the products to the purchasers at the right time and at the right quantities. As emphasized by Clark [8],

" The key aspects of distribution are customer care, accuracy in order fulfilment, speed and reliability in despatch, the physical protection of the product and economies in despatch. Failing in these areas lead to lost sales, diminished retail display, increased cost to the publisher and loss of confidence by bookseller and reader and improvements give the publisher a competitive marketing edge."

At the National Institute of Development Research and Documentation, due to the nature of the publications produced, the distribution arrangement is distinctly different from the kind that operates in the commercial publishing houses. The bulk of the Institute's publications are sent to both national and international institutions as gratis. Thus, on the whole it does very little commercial distribution and sale.

In distributing and selling the remaining documents the following problems are experienced:

1. University bookshops are generally known to sell copies of publications emanating from their respective universities. On the contrary, the University of Botswana Bookshop restricts its activities to the supply of only recommended text books to students and lecturers of the University. This unfortunately denies the Institute of a potentially good avenue to sell its publications.
2. The major retailer of the Institute's publications is the Southern African Literature Society (SALS) Bookstore. It normally requests for about 50 to 100 copies of each publication, at a discount of 25 percent. The other avenues are the Botswana Book Centre, Botsalo Books Limited and Via Africa. These bookstores are usually supplied the publications on credit basis in order to allow them extra time for payment. But very often, bills are not promptly settled even where the publications are all sold.

3. Due to the specialised content of the Institute's publications, the general public often tend not to be interested in their acquisition. This has resulted in some of the bookshops returning publications to the Institute unsold. For example, the Botswana Book Centre, which is the largest bookstore in the country, has of late, stopped displaying the Institute's publications.

CONCLUSION

In this paper, an attempt has been made to outline some of the problems which contributed to the unsatisfactory state of the publishing industry in Africa.

I have also discussed factors that have hindered the pricing and selling of socio-economic grey literature in Africa with special reference to the National Institute of Development Research and Documentation (NIR) of the University of Botswana.

It is my conviction that as long as African research institutions continue to produce grey literature of specialized content, the problems of effective pricing and sale of their publications will continue to rear their heads as it were.

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Electronic Networking and Grey Literature: The Case For African Countries

By

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Introduction

Grey literature has generally been defined as material that is not commercially published and therefore not to be found in the normal channels associated with commercially published literature. There are two main distinctions of grey literature: Publications with scientific content - which include reports of studies, research reports, reports of meetings, conferences and seminars, as well as masters and PhD dissertations; Unconventional documentation material - which includes brochures published in-house by organisations, publications of associations, political party materials, etc.¹

Debachere goes on to state that identifying and actually accessing such information can be a difficult task. Firstly, the amount of materials being generated is ever increasing - studies commissioned by government and other bodies, research being conducted, reports of conferences, information leaflets, etc. Secondly, the normal channels of finding material does not necessarily apply to grey materials. In most cases finding tools employed in library and information centres usually only contain references to commercially published materials. Thirdly, there are several on-line or CD-ROM databases that specialise in the gathering of grey literature, but, once an item has been identified, it may be difficult to actually get access to the item for various reasons, such as, limited copies or perhaps the item being the only available copy.

The situation in developing countries is even more difficult. Government agencies, non-governmental organisations, consultants, etc are generators of development oriented grey literature which is usually only published for the consumption of people involved in particular projects, and therefore is never widely disseminated. Yet such materials is of vital importance in development work. Attempts have been made to harness this material at national level and at a continental level by the Pan African Development Information System through the International Development Research Centre (IDRC), of Canada, and UNECA. Attempts have been made by national libraries to establish national bibliographies through the assistance of legal deposit laws which make it imperative for researchers and anyone producing any item on the home ground to deposit with the identified institutions. For various reasons these have not been as successful as had been hoped.

With the advent of electronic networks throughout the world, African countries are now faced with another source of grey literature which they must tap, if they are not to be left even further behind in terms of socio-economic development and the information highway.

Electronic networking

Ideally electronic networks should facilitate the identification and even access to grey literature. Now, more than ever, there is access to information and data that would never have been possible before. Researchers, academics, scientists are now interconnected and can therefore exchange information more easily than before. It is now possible to down-load files from these networks so that the actual grey materials can be obtained easily. Electronic networks are primarily used by academicians, researchers and development workers - the very people who generate a vast amount of grey literature. It follows therefore that a bulk of such reports and communications will be in electronic form.

Through the Internet, which is a network of networks all over the world, all kinds of possibilities appear. If all networks are connected then the flow of information from one extreme end of the world to another should be made very simple. The world is now a global information village with the possibility of having what are called virtual libraries - libraries without walls. The Internet provides Electronic mail - scientists can therefore now communicate with each other faster and at a much lesser cost and exchange data. Access to the on-line public access catalogues of other libraries is possible, access to all kinds of databases - be it those that deal with conventional literature or those dealing with grey literature. Organisations that have vast amounts of data they wish to share set up web sites thus putting their information resources at the disposal of those wishing to utilise them. The Internet and electronic networks have provided a new avenue for gaining access to grey literature. Organisations are able to set up Web sites where information is thus readily available. Information is available through discussion groups and newsgroups covering a very wide range of subjects. For example, there is currently a discussion on information professionals' training on a discussion group called (Cristal-Ed), run by the University of Michigan and sponsored by the Kellogs Foundation. The opinions and discussions found on that group could form a useful source of information to library schools in developing their curriculum - information which would not be readily available even in bookshops.



Africa and electronic networking

Africa, as in most other spheres continues to be left behind. Africa's information infrastructure is by far the least developed in the world. Technical statistics consistently show that Africans have the smallest number of telephone lines per capita, the most restricted access to computer equipment, the most primitive information networks, and the most inaccessible media systems². Africa has the world's lowest levels of telecommunications development resulting in a scarcity of telephone lines even in urban areas. It has the world's lowest levels of spending on informatics, making computers and computing skills relatively rare. Telecommunications costs, especially for international calls are prohibitive. Despite all this, however, electronic communication does exist in Africa. There are presently some 30 electronic communications systems operating in 19 African countries. These range from national nodes in Ethiopia, Zambia and Zimbabwe with over 150 regular users each offering a range of services, to small single-user systems operating sporadically³. Table 1 provides a synopsis of what is available in certain African countries. Most of these networks are Fido based - a protocol which provides adequate data communication via the often times terrible telephone connections.

These systems do provide means of accessing grey material, specifically through Electronic Mail, File Transfer, Conferencing and Bulletin Board Systems. The Healthnet system for example, enables health practitioners to communicate with other health practitioners in Africa and elsewhere, newsletters (such as, the Healthnet Newsletter, African Medical Librarians Bulletin, WHO Digest for Africa, and the AIDS Bulletin, amongst others) are also disseminated from the Healthnet centre in the USA.

African Research Centre for Computing Network ARCNET and PADISNET are two networks which provide conferences on different aspects of development information. PADISNET also provides access to its development databases which contain citations of documents (which in the main, are grey literature since they are usually research reports, theses, annual reports, country papers, etc) contributed by all member states of the system

According to a report by Jensen⁴, at a recent conference on Telematics for Development, held in Addis, Ethiopia in April 1995, it was agreed there was urgent need to get African countries fully on the Internet. So far, only Zambia (with the exclusion of South Africa which is not typical of the other African countries) has full Internet connection through ZAMNET - the national Internet service provider. Other countries, such as Botswana only get to access the Internet through the UNINET node in South Africa.

Name	Location	Services
ENDA - Environment and Development in the Third World	Dakar, Senegal	. Environmental Training . E-Mail . File Transfer . BBS
Healthnet - Telecommunications system linking physicians and other health workers	Botswana, Cameroon, Ghana Tanzania, Uganda, Zambia, Zimbabwe, etc	. E-Mail . Health Publications
UNINET - University network in South Africa	South Africa	. Academic and Research network . E-Mail . Conferencing . File Transfer . Remote login . Internet access
SANGONET - Southern African Non-governmental network	Johannesburg, South Africa	. Nongovernmental organisations . E-Mail
PADISNET - Pan African Development Information System network	Ethiopia	. E-Mail . File Transfer . Conferences . Database Access . BBS
UNZANET - University of Zambia Network	Lusaka, Zambia	. Academic and Research . Governmental and non-governmental organisations . E-Mail . Conferences . File Transfer
MANGONET - Micro Access for NGOs network	Harare, Zimbabwe	. Non-Governmental Organisations . E-Mail . Newsgroup . File Transfer

Table 1

The list of woes does not end there, the most significant problem of all is the lack of trained expertise that would take the continent forward into the information highway. The lack of a

concerted effort by governments and ~~all~~ concerned non-governmental organisations to forge information policies to which they will not pay lip-service to, but will actually implement. As we have seen, quite a number of national networks do exist and therefore could form the basis for building of an African Highway - thus opening the way for the electronic exchange of grey literature. However, telecommunications links between African countries are in such a poor state that regional connectivity remains a conference discussion topic rather than reality.

Hope in store

Strides have been made to improve the situation. Akhtur and Lavio-Lette report that on the 2nd of May 1995, a Resolution 795 (XXX) - building Africa's Information Highway was agreed to by African Ministers responsible for economic and social development and planning. The main aim of this is to sensitise policy makers to the importance of information to the development process. The resolution is a departure to the norm in that it advocates for the combination of information technology and communication technology in what is called "National Information Infrastructures" rather than National Information Policies.

The International Development Research Centre (IDRC) of Canada, is currently funding a 3 year project - the Capacity Building for electronic Communication in Africa (CABECA), run and monitored by the UNECA's Pan African Development Information System (PADIS), based in Ethiopia. The main aim of the project is to promote electronic networking throughout the African continent. The project recognises the fact that the communications infrastructure in Africa is very poor, and therefore aims at providing a basic service - electronic mail which would at least allow researchers, development workers, business people, etc to communicate among themselves and with colleagues abroad. Objectives of CABECA include the provision of technical assistance to foster electronic networking through training people who can pass that training on to others; Enabling Africa to have full access to the Internet facilities. CABECA is now in its second phase, that of assisting with equipment and training systems operators. The most recent triumph for CABECA is the establishment of two local hosts in Chad which have regular daily connections to the Internet.⁵

The Regional Informatics Network for Africa (RINAF) is another initiative aimed at supporting existing network nodes in Africa and to assist in upgrading them to full Internet access networks. RINAF also aims at promoting professional expertise in this area, as well as to foster awareness amongst policy makers and governments on the importance of data communications.

Three organisations, ITU, RIO, and UNITAR are collaborating in a bid to bring Internet connectivity to Africa, through satellite communications, where telephone technology will not allow.

Jensen also reports of an initiative by the Internet Society - a body that oversees the utilisation and development of the Internet, who have proposed to establish full Internet connections to some 20 African countries through satellite.

A national workshop to promote Internet awareness was announced in the August/September edition of *Computers in Africa*. The workshop was organised by the Nigeria Internet Group and the theme was "Internet connectivity in Nigeria. This demonstrates the will and the efforts being made to put Africa on board the Internet.

Commercial Internet services have a presence in some of the countries (Botswana, Cote d'Ivoire, Egypt, Ghana, South Africa, Swaziland, Zambia, and Zimbabwe), and there have been reports of high demand, inspite of the financial burden having an Internet service places on the African countries.

Conclusions

Until African governments take the required steps to improve provision of computing and communication technology, it is going to fall on the shoulders of individual organisations to explore ways and means of being able to participate in the global village.

Despite the seemingly insurmountable litany of problems faced by African countries, it appears that there is more than a ray of hope. Initiatives abound to try and get Africa connected, and this then should make access to grey literature on the Internet and other networks that much easier. Non-governmental organisations, with the support of donors have taken it upon themselves to ensure connectivity, and this is a very encouraging development which seems to indicate that some solutions have, and will be found to Africa's problems.

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The World Bank as a Source of Grey Literature

Speech given at the Second International Conference on Grey Literature

Washington DC

November 3, 1995

by

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World Bank

The World Bank is an international development institution whose goal is to reduce poverty and improve living standards by promoting sustainable growth and investments in people. The Bank provides loans, technical assistance, and policy guidance to help its developing country members achieve this objective. The Bank is made up of five institutions,

- *the International Bank for Reconstruction and Development, founded in 1944.

- *the International Development Association which assists the poorest countries of the world

- *the International Finance Corporation which supports private enterprises in the developing world;

- *the Multilateral Investment Guarantee Agency (MIGA); and

- *the International Center for the Settlement of Investment Disputes.

Over the past 50 years, the World Bank has supported over 6,000 development projects in about 140 countries with more than \$300 billion in financing. The Bank supports a wide range of activities, including investment in agriculture, industry and transportation; human resource development; environmental protection; private sector development; debt relief; and emergency assistance for drought, earthquake, and post-war rehabilitation. These development projects are the basis for information the Bank collects and disseminates in its formal publications and its less formal working papers, newsletters and project materials.

I will first describe Bank publications which are readily available in paper form, then those which are less accessible in either paper or electronic form, and finally, the rapidly expanding range of materials

available through the Internet. In the past, two categories of Bank information could have been considered "gray literature"

- * timely and/or detailed information about Bank projects which was not publicly available due to its restricted nature, and

- * informal publications issued by Bank departments rather than through the Publications Department.

I am happy to report that in general, Bank materials are rapidly becoming more readily accessible to the public. I will detail some of those more accessible materials and note those which are still "gray".

FORMAL PUBLICATIONS

The World Bank publishes approximately 300 titles each year. Titles are published in English, with many translated into French, Spanish, or other major languages. Bank publications are held by some 200 depository libraries in more than 110 countries, with interlibrary loan strongly encouraged. Bibliographic data about Bank publications can be found on the NTIS database and can be accessed through BRS, DATA-STAR, DIALOG, ORBIT and STN. The World Bank Index of Publications is available in paper form and on diskette. Out-of print titles are available from NTIS in microfiche or paper format. Publications can be ordered by mail or by visiting the Bank Bookstore in Washington DC or in Paris, France. Publications can also be ordered from Bank designated distributors in individual countries - distributors and booksellers are listed at the back of the Index of Publications. Addresses of the Bookstores and other ordering information is in the Index of Publications.

PROJECT DOCUMENTS

Beginning with documents issued January 1994, certain Bank project documents are now publicly available. The Bank's Board of Executive Directors approved a policy on disclosure of information, a copy of that policy is available from the Bookstore. Under that policy, project information documents, or PIDs, provide a factual 2-page or longer summary of the main elements of the project. The PIDs are written early in the project cycle and provide information about the components of the

project, its costs and financing, environmental issues, prospective implementing agency and points of contact. Project documents issued prior to January 1994 require authorization from the relevant department.

Once a project has been approved by the Board of Executive Directors, the Staff Appraisal Report (SAR) becomes available to the public. Other project documents which become available to the public at certain points in the project cycle include country economic and sector work reports, sectoral policy papers, and a variety of environmental reports.

Project materials are not listed in the Index of Publications, but are listed in a free catalog available through the Public Information Center in Washington DC or on the Bank's Web page. There are also public information centers in Paris, London and Tokyo. Many of the field offices in some 72 borrowing member countries have public reading rooms where economic and project reports specific to that country can be read. In Kingston, Jamaica, a World Bank Public Information Center in the Library of the University of the West Indies offers combined access to Bank publications and project materials. I expect that the trend of improving access to Bank materials in developing countries will continue.

DEPARTMENTAL PUBLICATIONS

Aside from formal publications announced in the Index to Publications, there are other publications issued by Bank departments. Usually, the informal publications do not have Library of Congress CIP data, and often omit copyright information as well. Some are easier to locate than others. The Technical Department of the Bank's Africa Region has published a bibliography of its research and results of projects from July 1987 through April 1995. Materials listed in the bibliography vary from country information sheets on gender issues in specific countries to multi volume studies of specific sectors. These items are not available from the Bookstore or from Publications Distributors, but are available only from the Africa Technical Department or divisions. Copies of this bibliography are available from the Bank's Bookstore.

The World Development Report (WDR), published annually since 1978

on a different topic for each issue, is available in paper and CD-Rom. In the past, background papers cited in the WDR have been difficult to locate, even for librarians in the Bank. The list of handouts includes a phone number that you can call to get copies of background papers cited in any of the WDRs.

Other publications are listed with appropriate phone numbers in the front of the Publications Catalog. Some titles are:

- *The Bank's World
- *Development Briefs (which will shortly be available in full text on the Bank's Web page
- *Development Business
- *Environment Bulletin
- *ESMAP Papers (Energy Sector Management Assistance Program)
- *Finance and Development
- *Poverty Handbook
- *Transition Newsletter (now on the Policy Research Department's Home Page at the Bank's Web site).

WORLD BANK WWW SITE

Two years ago when I spoke at a gray literature conference, I could only talk about Bank information which was shortly to appear on the Web. Those materials are now there, and many more besides. More and more items are added to the Bank's Web page every week, so checking the "What's New" feature is quite useful. There is an incredible array of information on the Web page.

The initial screen of the Web page includes buttons connecting you to

- *information about the World Bank
- *Current events, press releases and Bank news
- *Country/project information
- *Sectoral information
- *Publications
- *Research Studies
- *The Inspection Panel
- *What's New

I would like to briefly expand on 3 of the areas I just listed - Country/project information, Publications and Research Studies.

You can click on the Country/project Information button to connect to the Public Information Center's catalog. Also available at this location are abstracts of Economic and Sector Reports, abstracts of Environmental Assessments of projects likely to have a significant impact on the environment, abstracts of National Environment Action Plans, abstracts of Sector Policy Papers, and abstracts of Staff Appraisal Reports.

Under this button is the full text of

- Project Information Documents (PIDs)

- Environmental Data Sheets

- Operations Evaluation Department (OED) Lessons and Practices

- OED Precs

- International Finance Corporation (IFC) Environmental Review Summaries

- IFC Summaries of Project Information.

The Publications Site is both colorful and informative and my favorite. You can access the regular catalog of publications. In addition you can see full text of the summaries of the most popular monographs, reviews of a variety of books, and the annotated tables of contents of four World Bank journals. The full text summaries of monographs can be purchased in paper form from the Bookstore, or you can read them for free on the Publications Home Page.

One monograph title, Bureaucrats in Business: The Economics and Politics of Government Ownership, offers an interesting twist - the ability to join an online discussion group to comment on the report. The annotated tables of contents for the World Bank Economic Review, The Research Observer, Commodity Markets and the Developing Countries, and Financial Flows and Developing Countries include listings for articles for the last 3 years. Information on how to subscribe or how to order books is provided under most buttons on the Publications page. Bookstores, depository libraries, and the exhibit schedule for Publications are also listed.

Through Research Studies you can find online collections of free publications such as Policy Research Working Papers, Economic Development Institute Working Papers, and Pink Sheets (Commodity Price Data). Finally, many publications, both formal and informal, are being moved to the Web page. While I was writing this paper, the Transition Newsletter, an excellent review of Bank projects and external commentary on the transition economies of Eastern Europe, moved to the Research Studies location on the Bank's Web page. PHNFlash, a publicly available listserv dealing with population, health, and nutrition issues in developing countries, will be present on the Web in the near future. Watch the "what's new" feature - it's changing more quickly than the weather - and bringing substantive information to your desktop.

In summary, the last two years have brought considerable change in improved public access to many World Bank formal and informal publications on the World Wide Web.

Grey Literature in the International Monetary Fund

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1. WHAT IS THE INTERNATIONAL MONETARY FUND?

The International Monetary Fund (IMF or Fund) is a specialized agency of the United Nations headquartered in Washington, D.C. The IMF was established during a conference of 44 nations held at Bretton Woods, New Hampshire in 1944. It came into existence on December 27, 1945. The Fund currently has 180 member countries, the most recent of which, Brunei Darussalam, joined on October 10, 1995. The staff of the Fund numbers approximately 2,600 from 116 countries.

The work of the Fund is in the realm of international economic activities and policy development. The Fund promotes international monetary cooperation, currency exchange stability, and orderly exchange arrangements among members. It seeks balanced growth of international trade, thereby fostering high levels of employment, income, and productive capacity within member countries. At the same time, the Fund serves as a forum for members to discuss financial and monetary issues of mutual concern. The Fund offers economic and financial advice to members. When necessary, the Fund provides short-term financial assistance to member countries to give them the opportunity to correct maladjustments in their balance of payments. The Mexican financial crisis earlier this year was a particularly newsworthy example of this type of activity.

2. WHAT WORK GOES ON AT THE FUND?

The Fund has regular contact with member countries, generally through a country's central bank and other national economic/financial monitoring and policy agencies. Such contact includes ongoing surveillance (or supervision) of the range of domestic economic policies that have bearing on the exchange rate value of the country's currency and periodic consultation visits conducted in the member country. For consultations, a small team of Fund staff typically travels to a member country to gather information on the member's overall economic position and national monetary and currency activities. In addition, discussions held with government officials review the effectiveness of current policies and identify changes anticipated or recommended in the coming year. Based on this work, the Fund team returns to Washington and prepares a report. Reports, including economic data and policy review/analysis, are presented to and discussed by the Fund's Executive Board. A permanent body based at Fund headquarters, the Board represents member countries and is responsible to supervise Fund activities on a day-to-day basis. When warranted, the Board authorizes

temporary credit to members to assist with short-term economic imbalances. While such loans represent an important activity of the Fund, the organization's primary role is that of economic policy advisor, supervisor, and coordinator.

In support of this primary function, numerous other activities are undertaken. Among these are an extensive technical assistance program through which resident experts work with member countries for a period of time, advanced training for financial officials in member countries, extensive research in the international economics, monetary, and financial areas of importance to the organization, and a wide variety of publications on international economic matters. As can be seen, the work of the Fund's staff is relatively "homogeneous" within the general international economic arena, unlike its sister institution, the World Bank, about which you will hear shortly.

3. WHAT GREY LITERATURE MIGHT BE EXPECTED FROM THE IMF?

Based on the preceding simplified summary of Fund functions, what might one guess to be the grey literature produced by the organization? Statistical and textual information on national-level economic conditions? Research on topics related to the broader international financial activities of the organization? Basic factual information on the Fund as an institution? These three areas--country-specific economic information, international economic research, and organizational information--represent the major focus of this paper.

In any discussion of Fund information sources, even grey literature, I would be remiss not to mention the wealth of textual and statistical information already known to be available from the Fund through more traditional sources. Anyone dealing with international economic research has undoubtedly used *International Financial Statistics*, the *World Economic Outlook*, or others of the authoritative publications published by the Fund. The 1995-96 publications catalog, available by telephone: (202) 623-7430, fax: (202) 623-7201, or Internet: publications@imf.org, provides content description and order information for these materials. Hot off the presses is a new Fund brochure, *Publications of the International Monetary Fund, January-September 1995* providing a quick listing of publications released during the first nine months of the year. Unlike the annual catalog which often lists series titles without elaboration, the brochure includes authors and titles for all numbers within a given series published to date.

Special mention must also be made of the newly redesigned *Annual Report* of the Fund. Although not falling within the realm of truly grey literature, the Annual Report of the Fund is a key source of information on the international economic and financial situation as well as country-specific information and, given its recently enhanced content, should not be overlooked. The report is released to the public at the time of the Fund's Annual Meeting, generally in late September or early October of each year. While many of you may be familiar with this publication which traditionally has provided a overview of the prior year's major developments in the world economy and a summary outlook for the coming year, the 1994/95 report deserves special review. As part of the Fund's efforts to improve public access to information prepared by the institution, this volume features expanded treatment of selected individual country economies.

Were I giving this talk five years ago or even within the past year, what I would have had to say would have been quite different than today. While earlier I may have mentioned a number of items in the grey literature category, most likely I would not have touched on myriad more confidential materials. I would have had little to say about electronic availability of information by and about the Fund. Recent developments have occurred in the transparency of what is publicly available from the Fund and in the information gathering role assigned to the Fund by its members. It is expected that the enhanced openness and availability will continue to expand over the next months and years--stick around!

4. COUNTRY-SPECIFIC ECONOMIC INFORMATION

new topic
In November 1994, the IMF announced that it was publicly issuing a new series called *IMF Staff Country Reports*. According to the statement published in the December 12, 1994 issue of the *IMF Survey* (p. 396):

....The reports, prepared by IMF staff teams as background information for the periodic consultation with member countries, are being made available to the public under a new policy of releasing information contained in IMF staff background reports on recent economic development and statistics annexes and appendices, which was adopted by the IMF Executive Board in July 1994. In releasing the documents for public use, confidential materials may have been deleted at the request of the member country.

IMF Staff Country Reports contain extensive background material on economic developments and trends in member countries. The reports usually include information on real sector developments (output, prices, and wages), public finance, money and credit, external sector development (exchange rate and payments systems, trade, and balance of payments), and other economic indicators. The reports are prepared in the context of the IMF's regular consultations with member countries and, under the new policy, are released to the public 30 days after the consultation has been completed by the Executive Board.

As indicated in the introduction, a key function of the Fund is consultation with member countries. Data and information gathering by Fund teams is done in-country as well as through numerous additional sources. As a result, the very most up-to-date data on the economic performance of the country is available to the team. The reports prepared by these teams include the comprehensive set of economic indicators sent forward to the Fund's Executive Board and previously considered to be confidential documents. Typically not more than three months transpire between team visits and Board papers. The Fund's new access policy means that exceedingly current data can be in your hands in a most timely fashion.

The most thorough coverage among the items in this series is found in those "Recent Economic Developments" (REDs). Generally produced biennially, REDs provide comprehensive review of factors related to national-level economics. On alternate years, report titles, contents and formats vary from country to country. Subtitles for these alternate year reports include "Background Issues", "Background Material", "Background Notes", "Background Paper", "Statistical Annexes", "Statistical Appendix", and "Statistical Update".

REDs

The new publishing policy came into effect as of September 1, 1994. It is not expected that reports produced before that date will be retroactively cleared for release. As of the end of September 1995, roughly one year into this new publication program, more than 110 Staff Country Reports have been produced.

5. RESEARCH ON INTERNATIONAL ECONOMIC TOPICS

In the area of international economic research, you should be aware of the two Fund series: IMF Working Papers and Papers on Policy Analysis and Assessment (PPAA). Papers published in these series would have earlier been true grey literature, not easy to identify or to acquire. Understanding the value of the research contained in the papers, the Fund created these two series to afford a wider public audience for the work. Papers are available on subscription. They generally represent "works in progress" and reflect the views of the individual authors. The papers may or may not later be published in the Fund's theoretical peer-reviewed journal *Staff Papers* or elsewhere. Working Papers first appeared in 1986. In 1994, 159 papers were included in the series. PPAA's debuted in mid-1992; 1994 production included 27 papers. Identification of specific author or title references from these series is not always easy. The Fund's publication catalog only mentions the series titles, not individual items. The free *IMF Working Papers and Papers on Policy Analysis and Assessment, October 1986-August 1995* (published September 1995) lists each series in numeric order only with no author/title index. The *IMF Survey* (published 23 times a year) periodically lists new titles in the two series. A quarterly listing of new numbers in each series is published at the conclusion of each issue of the quarterly *Staff Papers*. To assist with identification of specific items, papers are individually indexed in the *Journal of Economic Literature* (JEL) or in the two electronic equivalents, Dialog's File 139 (Economic Literature Index) or the CD version, *EconLit*. References to individual papers may also be found through OCLC.

A handy complement to these papers is *Research Activities of the International Monetary Fund*, a free publication providing a selective index to major research initiatives. Published in August 1994, this brochure provides an explanation of the objectives and scope of Fund research. It represents a collaborative effort by Fund departments to synthesize research undertaken between January 1991 and December 1993 into a fixed set of categories. The ten major subject areas are the international monetary system, international capital markets, inflation stabilization, structural issues, economies in transition, fiscal issues, monetary and financial sector issues, exchange rate behavior, IMF financial policies, and statistical issues. Included under each of these headings are materials drawn from a wide variety of Fund sources including *IMF Staff Papers*, *IMF Working Papers*, chapters and other sections of books, *Finance and Development*, as well as books and journal articles produced by Fund

staff but published elsewhere. Forthcoming and "mimeograph" materials are also listed. While a decision on future issues of this brochure has not been finalized yet, triennial listings such as the 1991-93 first index are under consideration.

You may find the quarterly *Staff Papers* to be a source of citations to grey literature of the Fund. Bibliographies accompanying papers frequently reference "unpublished" research of the Fund. While subsequent to the publication of the staff paper, the cited material may have appeared in another Fund publication or series, this is not always the case. To inquire about access to such materials, contact the Fund's Public Affairs Division--phone: (202) 623-7300 and fax: (202) 623-6278. Requests will be directed to the appropriate unit in the Fund for response.

6. INFORMATION ON THE FUND AS AN INSTITUTION

Materials explaining the Fund, the role it plays in the world economic community, recent organizational developments and activities by Fund staff have sometimes been difficult to locate. Basic information about the organization and its activities are explained through a series of one-page "Fact Sheets" available from the Public Affairs Division mentioned above. Fifty Fact Sheets were produced in 1994 in commemoration of the fiftieth anniversary of the organization's founding. These include information on structure, management, staff, policies, types of assistance, issues facing the Fund and general availability of Fund information. Additional Fact Sheets, on topics such as "The IMF and Multilateral Debt", "The IMF and the Mexican Crisis", "IMF Quotas and Quota Review" have been produced over the last year. Notable among these is "IMF Surveillance and Data Provision Issues" which explains initial thinking in a new public data role envisioned for the Fund and described in greater detail below. Recent press releases, speeches by senior staff, communiques from major Fund meetings, and the like are also available from Public Affairs.

As many other organizations, the Fund has begun to explore the Internet as an avenue to make information available to the public. This effort is, as I speak, in its infancy. It promises to be an important source in future but for now provides only a skeleton set of materials for your viewing. To see what is currently available, the URL for this gopher is:

gopher://gopher.imf.org. At present you will find basic information on some of the publications available from the Fund, including *IMF Staff Country Reports*, *IMF Working Papers*, and *Papers on Policy Analysis and Assessment*. Other Fund publications listed in the printed catalog are not yet referenced on the gopher. Among grey literature materials on the gopher are press releases, news briefs, and speeches given by the Managing Director. As the senior official of the Fund, the Managing Director's speeches frequently signal Fund policy and position on important international economic issues.

One choice on the Fund's initial gopher menu screen may surprise you. This is a reference to my personal favorite piece of Fund grey literature, the *Directory of Economic, Commodity and Development Organizations*. This directory, formerly an internal document of the Fund, includes basic information on approximately 125 organizations. The format for each organization's entry may include headquarters address, phone/facsimile/telex/cable, names of

senior officials, language(s) of operation, and brief information on establishment and functions, membership composition, organizational structure, and general publications.

I suggest you occasionally visit this gopher site over the next months to see what changes have occurred. Through these visits you will also be informed of other information and Internet developments the Fund undertakes.

7. JOINT BANK FUND LIBRARY NETWORK INFORMATION

The Joint Bank-Fund Library Network, comprised of 15 subject-specialized special libraries in the Fund and World Bank, provides a wide variety of information services to staff members in the two institutions. JOLIS, the Network's primary online bibliographic tool, catalogs book, and serial holdings. Library staff also selectively index over 2,200 international periodical titles and working paper series for the JOLIS database. Information on international development, global economic trends, privatization, emerging markets, monetary policy and other topics required by Fund and World Bank staff is recorded. This index provides extensive coverage of economics working papers from universities, research institutions, international organizations, and the like--a rich source for grey literature albeit not authored within the Fund. In cooperation with the Joint Library, Chadwyck-Healey makes this unique index available as a compact disc. The quarterly *IntlEc, the index to international economics, development and finance* cumulates indexing done since 1981. Further information about a subscription to this CD is available from Chadwyck-Healey, 1101 King Street, Alexandria, VA 22314 or by telephone at (800) 752-0515.

8. WHAT IMF INFORMATION DEVELOPMENTS ARE ON THE HORIZON?

It is, perhaps, prophetic in the context of this paper that the final chapter in the recently released book *International Monetary Cooperation since Bretton Woods* by Harold James is titled "From Bretton Woods to the Information Age." "The opening of many societies, and the increased importance of public discussion, also requires an increasing openness about information and about economic prescriptions; and this new openness too has been one of the features of the maturing of the surveillance process." (p. 612) The role of the IMF as both a provider of and a pointer to publicly available information on the economic situation in individual countries of the world is expected to grow and to change in the months and years ahead.

The content of the Fund's gopher site will be enhanced in a number of ways over the next 12 months. A searchable publications catalog will be available. The full text of numerous Fund gratis publications will be loaded. Included here will be the *Annual Report*, the *Articles of Agreement*, the *Summary Proceedings* of the Annual Meeting, and the *By-Laws, Rules and Regulations*. Since the gopher is a new addition to the Fund's "information family", identification of other information sources to be added to the gopher service is expected to continue for the coming period.

It should not be surprising to hear that the Fund also intends to open a site on the world wide web--soon! The IMF Home Page is in development and should be announced to the public within the next few months. The initial home page will, in all probability, be a skeleton of things to come. As other new home pages, it will bear watching as those who have information to be shared with the public become more knowledgeable on what information lends itself to this media.

As mentioned above, the Fund has taken on new responsibilities with regard to national-level economic and financial data. The October 8, 1995 Communique of the Interim Committee of the Board of Governors of the International Monetary Fund called for "the establishment by the Fund of standards to guide members in their publication of economic and financial data..." (Paragraph 6 of the Communique). Through the Interim Committee, member countries have given the Fund a new role to assist countries in the provision of economic and financial data to the public. The goal is to enhance transparency of economic policies and, in keeping with the Fund's objectives, to help avoid financial market turmoil. It is expected the Fund will establish statistical standards for coverage and periodicity, access by the public, integrity, and quality of data for official national-level economic and financial statistics. Public access should include either publication of, or otherwise access provision to, official statistics. Standards related to timely, nondiscriminatory, and ready access to statistics will be put in place. Over the next year, information gathering from appropriate government agencies relevant to these established standards will take place. It is expected the result will be an "international economics" bulletin board. As envisioned, this electronic service will provide definitions of specific economic indicator standards, identify member country publications including these indicators (or other access points for the data), and provide anticipated production schedules for these materials. Details of eventual public access for this new service have not yet been finalized.

Yet another signal of possible future information disclosure came earlier this year in a paper titled *The Exchange Rate System and the IMF: A Modest Agenda* by Morris Goldstein, a former staff member of the Fund. Mr. Goldstein suggests the IMF should consider publishing either its analyses of individual countries' policies and prospects, companion reports to the staff country reports made available in 1994, or the shortened version provided through the summary of the Executive Board discussion of the analyses. There is active discussion of this issue within the institution. Look for further action in future.

As suggested above, the Fund is moving on two parallel information fronts. On one hand, the institution is beginning to understand and take advantage of the value and power of the Internet. On the other, exploiting existing and newly created economic information sources has been judged by the international community to be a role the Fund should play. Both areas should result in increased public access to international economic data and increased ease of access. Stay tuned!

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PREPRINTS: COMMUNICATION TROUGH ELECTRONIC NETS AN EXAMPLE OF BIBLIOGRAPHIC CONTROL

by J.M. Barrueco Cruz, J.A. Cordón García, R. Fernandez López

The act of communication is inherently tied to the scientist or investigators condition. The scientist work isn't only to find out but showing the results of their investigations. Where we understand discoverings as any original formulation of information or ideas considered worthy of being permanently registered, as in Sciences as in Humanities.

That communication can use two different channels:

- The formal channel.

Weedman stands out as principals ways of formal communications magazine articles and documents from congresses, conferences, etc. organized by proffesional or academic organizations. The formal communication plays a principal role in any scientist field correctly developed and it can be considered the official status of the base of knoledge itself.

- The informal channel.

John Ziman, in Public Knolodge (1978) stressed the importance of informal communications for discussing scientific ideas while they are still incomplete and untidy before they're ready to be formalized in a published article. This communication is done throug directly or indirectly relationships between investigators that interchanges mail (postal or electronic mail), callings and, principally first draft of works that will be formally published later, that is, preprints interchange. Also called working papers, discussion papers, etc.

Among the authors that have defined the preprints we can show up John Fletcher (1983) that define working papers as a draft of potential periodical articles, papers given at a conferences or semminars or other research results, not yet in their final form for publication in conventional media.

On the other hand Dallmat, D. (et. al.)(1994) define them, in a concrete maner, as a manuscrit ready to be submitted to a conference or magazine.

All these authors, including the American Library Association, agree to afirm that preprints are a draft of a work that shows the last advances of an investigation that the author is going to publish in a nearly future, in a congress, in an specialized magazine or in a book.

This kind of drafts doesn't contains the objective of preprints, that is including other scientist opinions, ideas, suggestions about the subjet about what the author writtes.

In this way, we can advance a definition: Preprints constitute a first version of a document that shows the results of an investigation in a concrete area, that the authors close to other scientists in their same investigation area for giving their opinions and suggestions in a feedback, before sending it for it's edition trough conventional publication channels or submitting it in a congress, semminar, etc.

From this definition we can take out fundamental characteristics of this kind of publications that are directly in relation with Grey Literature characteristics.

- 1.- They contain a very important information in a concrete area or concrete investigation area.
- 2.- This information has a high degree of obsolescence until the document get published trough the conventional channels of publication or till other investigators have ratified the conclusions that are advanced in these documents.
- 3.- Normally they have a low quality edition, like simple copies in paper or similar.
- 4.- They're distributed informally. As we have said, among a close circle of investigators and scientist that work in the same area.
- 5.- From the librarianships point of view, they have difficulties to place and acces for that scientists and documentalists that aren't near to the first grade of distribution process.

Traditionally the way of distribution of this kind of documents has been made trough an small quantity of fotocopied copies that the author send to their colleagues and to a small number of libraries or specialized information centers.

The advances in electronic publishing, allowed by new international electronic nets as Internet, are causing the ending of preprints in view of advantages that electronic preprints offer. In the past, the author had to writte the text in a computer or typewriter, fotocopied it and send it by post-mail to their colleagues. Definitively, a long and boring process in which it takes to the receptor some weeks having the document.

As we have seen, one of the preprint characteristics is the high degree of obsolescence of information they contains. It's obvious that this isn't the proper way of preprints distribution.

NO X

Electronic nets have radically changed this situation. Nowadays it's possible that an investigator ends his preprint in Spain and, in a few minutes, his colleagues in U.S.A., Australia or Japan, have received through electronic-mail.

But e-mail is the basic way but not the only one. We agree with Priscilla Capland (1994) when she says: "In the most mature areas the same e-prints are made available through several channels including e-mail, FTP and gopher or WWW servers"

FTP (File Transfer Protocol) is a service of application level that make the use of protocol File TP, one of principals protocols of the joint TCP/IP. Most of the computers of the net have incorporate this service, that allows interchanges of any type of files (text, images, software) between the server computer and the client computer.

Examples of centres with FTP service to make accesible preprints are:

- Dynamics of Computation Group. Xerox Palo Alto Research Centre.

<ftp://parcftp.xerox.com/pub/>

- Economics Working Paper Archive. Washigton University of Sant Louis.

<ftp://econwpc.wutl.edu/econ.wp/>

- Centre of European Economic Studies. University of Leicester.

<ftp://ftp.surrey.ac.uk/pub/econ/workingpaper/>

[cic] *understand*
This method has an advantage in relation to the previous one, that the e-print can be teoretically recuperated by an (il)imited number of persons, while in the e-mail the number of receptors is very limited. The inconvenient is that the author needs some way of showing users his new productions. For this, the author or the manager service use an announcement of the new documents that are located in the anonymous FTP in the most usual news about the sujet, to complete it.

Almost every centre that have an FTP where they file their preprints, complete this service with a Gopher server or a Word-Wide-Web, to make easier the access.

Both of them are deceives to make easier the search and retrieval through Internet but they have great differences.

Gopher (Anklesaria. 1993) is a distributed system of supplying with information in Internet. It uses the structure client/server. This mean they're computers that save information (servers) and they're computers that make files for information to the first ones (clients).

Gopher, between this two, is a protocol that allows the communication. The advantage is that it's interface can be used by everyone, even that persons that never have used a computer.

After World-Wide-Web showing up in 1992 (Berners-Lee, 1992) and the great number of advantages, it has in comparison to gopher, cause the progressive change in all the investigation centres from gopher to web in a process where, for a time, the two system share the leading role.

The clear advantage of Web is that it's protocol make up the other protocols of Internet, even the gopher. Also web is less inflexible than gopher is because web is based on an hypertext system where user can go from document to document, can connect the documents between them and can connect with more concrete information into that documents. Also HTTP allows to work with multimedia documents where user can use at the same time text, images and sound.

Today gopher shares the leading role with WWW and in most investigation centres is being substituted for WWW definitely.

In two servers is usual that exists a document HTML (Hypertext Markup Language), the language in what Web hypertext document are written. It contains a brief quantity of bibliographic notes about every e-print. This notes hasn't any standardized format. Some of that notes can point up a word (title, name of author or any relevant word in the text). Later, this word is the key to retrieval the complete text of e-print through FTP protocol.

Text would be written in the following formats: ASCII (American Standard Code for Information Interchange); Troff (Typesetting run off); Tex or Latex; PDF (Portable Data Format); Postscript or the html itself.

The growth of electronic files that contains e-prints is useful for investigators but it produces serious problems for final users. Every time is more difficult for a scientist to be up to date about the new documents that constantly appear in the net. Even it's more difficult to find documents about a concrete subject if we think in actual dispersion. Because of this we need devices that make searching and access to e-prints easier. At this point is where librarians can play a relevant role.

The Working Papers in Economics, WOPEC, was born to face this pressing need. This enterprise can be consider the first practical example of bibliographic control of preprints in Economics.

The aim of this project is to make easier to investigators and scientists the using of electronic media to acces to the last results of investigations in Economics, allow them the identification and location of working papers published in electronic format.

WOPEC is a bibliographic database that pick up preprints records in relation to the whole text itself.

The subjet coverage embrace all aspects about Economics.

Today we have more than sixty series and nearly nine hundred e-prints. The information is stored in the Manchester Computing Center of the University of Manchester and this information is accesible to every person who use Internet without any cost.

WOPEC uses a Web server and it can be found at URC (Uniform Resource Locator).

To make easier the identification of e-prints, WOPEC uses a Wais system (Wide Area Information Servers). Wais is an electronic information divulging system that allows stock, index and offer a big quantity of information. Wais also is based on a client/server system.

The Wais databases, as WOPEC, allow to make searching using natural language. Before making the search, wais remove from the question made the no-relevant terms. It can be possible by a non-diccionario that can be elaborate by the system manager. We can also use booleans operators: "and", "or", "not", and "adj" (adjacent), used for documents with two terms together.

The server answer is composed by one or several bibliographic references ordered from main to minor, depending on relevance question terms. A document relevance can be calculate by a logarithm that changes from Wais to Wais, but, in general the main terms are those that are located in the document title, in the abstract, if they appear frecuently in the text or if they are adjacents terms.

WOPEC is concious about need of standarization/normalization of electronic working papers identification and bibliographic description. So, in this sense, we use the Internet Enginering Task Force Standards (IETF). The IETF is the organization in charge of offering a discussion forum to developpe new protocols or standards in Internet. It's main function is to developpe and select the standards from the whole of Internet Standards.

New Term
NB!
IETF

For e-prints identification in bibliographic records at WOPEC we take the Uniform Resource Name (URN) from each one of them. The URN is like an electronic ISBN and is defined as unique, location independent designation for an object or service. Where we understand for object a file in postscript format with an e-print and we understand for service a telnet session.

The URN syntax is being discussing at IETF so what we are going to show here is based on a preprint of an old standard but not modified yet. URN has the following parts:

1.- The word URN

2.- Internet Assigning Number Authority (ANA), that have given to WOPEC the number 716.

URN::/ANA:716;/ANA

3.- The e-print code.

For example: wowpeh 9502001, that is freely chosen by WOPEC. It has six letters. The first four letters identify the institution that produces the papers (WUWP= Washington University, Working Papers) and the last two letters identify the serie (eh=Economic History).

4.- Finally an order number diferent for every serie.

For example, a complete URN will be: URN:URN::/ANA:716:wuwpeh 9502001

On the other hand, for document location we use the URC (Uniform Resource Locator). WOPEC, according to Internet philosophy, to be a distributed information system, don't store the e-print whole text, but it remains in the producer institutions computers. WOPEC only make the references and add to bibliographic information the URC, it means, the whole e-print location. The URC is, trough the WEB server an hypertext link from e-print bibliographic record to the whole text.

Finally, for e-print bibliographic description we use the format proposed by IAFA work group (Internet Anonymous FTP Archive).

Is important to say that this format was no made by librarians but computer specialists so it's not made with the cataloguing rules exhaustivity.

This format only allows to describe briefly the documents and shows their disponibility. The aim is the information easy retrieval in the electronic nets without any human costs.

The IAFA format is extensible so that additional information may be offered in a similar format if the site administrator so wishes. This characteristic permits to adapt the format to WOPEC necessities.

Also keeps some electronic requirements like being applicable to different operative systems being easy to amplify and useful to present Internet methods of access and retrieval.

We can conclude that electronic nets have radically changed the preprint conventional distribution, shorting to minutes the time a working paper needs to go from the author to the user.

Now then the e-prints increasing number set-up identification and location problems. These problems, as always, in these cases, only will be solved by strict application of description standards for electronic documents. This is the main object of WOPEC project.

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GREY LITERATURE, COPYRIGHT AND NEW TECHNOLOGIES

by J.M. Barrueco Cruz, J.A. Córdón García, R. Fernandez López

The overage and extension of Legal Deposit problem is a burning question and, by now, unresolved. Although documents included under new technologies general definition are an unsettled subject in Legal Deposit legislation, most of the countries are conscious of this problem and they begin to think about modifying their respective laws in view to adapt their covering to the new documental reality. But this is not the only question to resolve. Unlike that happens with computer programs, expert systems, multimedia and electronic documents in general that have appeared with power in discussion forums about the topic and they finally would incorporate to different law systems. A very important group of publications are now in a privilege place in the technic and scientific information transfer process. This kind of publications are without legal cover to its conservation and diffusion, it means that different legislations traditionally have ignored this documents despite its importance as a primary information source. We are talking about Grey Literature, of course.

An important part of scientific materials are made up with this kind of literature and is increasing constantly. For example, the growth-rate of scientific articles produced in USA in the last 15 years is about 40% while the growth-rate of Grey materials, managing by NTIS (National Technical Information Service) is about 400%. Although the studies about incidence and use of grey documents have a serious lack as a whole, they can be use to base our affirmation.

Levels of production of Grey Literature changes from one discipline to other and, in one discipline itself, it varies depending on typologies. In Information Sciences, Alberani y De Castro have concluded an incidence of 22,1%, making an analysis of most significant journal references, where 1377 were Grey Literature (1). In Physics a 6% of the references were Grey Literature (12.335 references of a 39.000 references). As a Rosa di Cesare (2) shows, although a 57,6% of the total number of articles (1.480 articles) have references of Grey Literature documents. In Social Sciences, based on SIGLE databases, Michael Kluck make an study from 1984 to 1993 where show off that, of the total number of documents in SIGLE (412.572 documents), a 29% (121.334 documents) were Social Sciences documents. (3)

In the same way, if we consider this literature in international databases, we find interesting facts that shows the importance of this documental typologie.

The study (4) was made in DIALOG databases. From 274 databases, 74 of them (31,6%) contains grey information. It depends too on topics: in Social Sciences it's about a 30% and is lower in other disciplines. In every study done about this, reports, proceedings, theses, etc., were the most looked up documents. Thomas Allen, studying the search and retrieval process in Engineering showed up that informal information sources were about 55% of the documentation looked up and 74% of time spend in that information retrieval was in direct relation to them.(5)

Reports, proceedings, theses, forms a whole of documents of essential value in the joint memory of a country because through them it's possible to follow the developing of investigation activity better than in any other sources.

The problem is that this documents are not included in any legislation as a documents obliged to have Legal Deposit because Legal Deposit is for "published" documents. If we see the definition from the Congress of Paris about National Bibliographies and the Lunn document about Legal Deposit, published documents are those edited in many copies in view to their public diffusion.

Reports have a restrincted diffusion in many cases. Theses are in the same situation, except for those that are published as a book, they're only so many copies as many members are in the tribunal and proceedings, most of the times are only distributed between congress participants.

Only a few Legal Deposit legislations as the french legislation has taken into account the possibility to solve the frontier between documents published trough the elimination of one condition: Instead of saying "direct to the public" it uses one more flexible expression: "direct to a public". It means that those documents called grey literature which diffusion is pretty restrincted are under Legal Deposit obligation and protection too.

In the investigation made by Giovanni Vitiello about Legal Deposit in the European Comunity we can see that only theses are in Legal Deposit legislation and not in every conuntry. Only in Italy, Louxembourg, Holland, Portugal, Germany and United Kingdom. (6)

On the other hand it can be observed that bibliographic control is a perfect example of abandonment. In Conberousse opinion, Grey Literature publications are a breeding ground of underexploited data. (7). The only reasonable attempt in view to its collect and management is the SIGLE databases.

The growth of information in this databases has been constant and the growth-rate is estimated in 35.000 records per year. (8). The great problem of this system is the irregular share of member countries from high degree of participation of U.K., France or Germany to the low participation of Luxembourg or Spain, recently incorporated to the system or countries as Greece with no participation.

Furthermore the problem get worse with new elements added to those traditionals and that made up a mutation that is the change fruit of investigation and transfer of information practices. We are now in a world of information electronic nets of multimedia technologies. That are changing the scientific communication paradigm, where Grey Literature is taken a relevant place. Recently, Auger reflect on the increasing diversity of materials and difficulties that new ways of information transfer are created in a field already complex.(9). In the same way, Tindemans warned about the risk science that could be in danger of revert to privacy that characterized it in XVII century. (10).

On the other hand, Hugenholtz noticed about changes in author-reader communication produced by electronic nets that are changing the distribution in many Science disciplines as the use of electronic preprints (11) instead of printed articles as usually was done.

Mackenzie admit that in certain areas as scientific communication the electronic edition will be the most important way of production.(12)

Sabosik (13) put in relation the electronic revolution when press was invented in XV century. If press threw copyists out book production line and bring about a social revolution, new technologies are cause the same phenomenon(14) to traditional publishers, booksellers and librarians.

Other authors are talking , in a metaphoric sense, about the return to a new Middle Ages based on the comparison between great importance of information and audiovisual communication and oral and visual civilization before press born.(15)

In this way ,a National Science Foundation (16)study made in 1991 shows how communication models are changing from their traditional form. The quantity of formal documentation, books and magazines is decreasing. At the same time traditional ways of publishing are changing.

There's an evidence that scientists and enginners read less periodical publications and spend less time reading, also they consider the price of publication as a reason to buy or not to buy while other ways of electronic information are increasing.

The electronic communication is changing the communication models in two ways:

Electronic files transfer is replacing the formal documentation and electronic mail is replacing the oral interpersonal and post-mail communication. This growth of informal channels of communication can achieve high vlues in concrete areas of investigation as Judith Weedman demostrates. (17)

In the age of printing communication came up to one of this three models:

- 1.- Author-publisher-distributor-librarian-reader.
- 2.- Author-publisher-reader.
- 3.- Author-publisher-distributor-reader.

In the new electronic context communication between author and reader obtains degrees of versatility not known until now:

- 1.- Author-(databases)-reader.
- 2.- Author-publisher (databases)-reader.
- 3.- Author-distributor (databases)-reader.
- 4.- Author-librarian (databases)-reader.
- 5.- Author-publisher-distributor (databases)-reader.
- 6.- Author-publisher/distributor (databases)-consortium-reader-etc.(18)

Even some authors as Michael Koenig and Toni Harrell, notice about the progressive replacement or reduction of importance of publishers in an electronic nets context, despite of effords publishers could make in the opposite direction. So, in the near future the communication will be a changing model of scientific communication:

" The current mayor players, the publishers, posses no key resources that requiere that they take part in this new scenario. Undoubtedly they will try to play a central role, but they will have to play with much reduced leverage" (19)

The appearance of "highways of information" as Internet (20) where new forms of Grey Literature appear as news, forums, electronic pre-prints, multimedia displays are much more fluid elements that traditional documents and scapes from every kind of control and identification (21), represents a revolutionary method of communication and causes the ending of classic information process of transfer in exchange for fast efficient channels.

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If Artus (22) in the First International Conference in Grey Literature, in Amsterdam, said that one of the reports characteristic was the dissemination in a concrete area to be studied by a short number of scientists through the present nets, channels open that possibility to an indeterminate public that grows exponentially year by year (23). In certain way based on the availability of all that concepts, the Grey Literature concept itself could disappear to make way for "networked organizational publishing" as Mackenzie Owen define (24).

What the new ways allows is to demythologize printing vanity, making possible other works that hasn't pass a "peer-review" filter can be published (if we understand this word as its original meaning, it is, being submitted to an audience). Some authors believe that this method let down the information quality. Ann Shaffner notice about the maintenance of peer-review in view to secure the quality of a work, (25) a problem that, as Elisabeth Davenport (26) notice, can affect in the same way to the acknowledgement and the professional status of investigators, that without quality control required by academic protocols, can renounce to this way of communication. In an interesting investigation made with investigators from EEUU, Australia and U.K., Don Schauder planned what would be the contribution of professional articles to scientific investigation if they would be published by electronic media.(27)

A 67% of them considered it as important. (28) A 39% of them (in 1992) answered that they were usual users of electronic nets, being Biology and Medicine the areas where the use of that kind of sources were most important, following, Physics, Engineering, Social Sciences, Laws, Economics and finally Arts. The 80% of them told that the use of new information technologies made better all the steps of an investigation, since the information searching until writing and finishing of the complete text. (29)

According Doty and Bishop, electronic nets will produce an exceptional change of the traditional concept of publishing world, that will show creation and distribution of electronic journals, books but also will allow one's own initiatives sending of messages to discussion forums (listserv) or to a colleagues group.(30)

One of the most interesting and novel examples are preprints. A preprint is a working paper presented as a draft of a work that shows the last advances of an investigation that the author is going to publish in a nearly future, in a congress or in an specialized journals but before this, he send the document to their colleagues in order to receive suggestions and remarks about the content.

The relevant question in this process is the information originality and feed-back effect, a difficult effect where document distribution is made by copies as Artus has recently told.(31)

The advances in electronic publishing, favoured by international nets as Internet, causes the extinction of this kind of documents in printed format.(32) In some areas as High Energy Physics, preprints are the main information source. Dallman says about this: "Is a real preprint culture" with its own social structure.(33) This change have an effect on publications as books or journals(34) that are slowly changing their traditional printed format into an electronic way. The standard ISO 12083 has helped towards this change. This standard is an application of SGML Standard (Standard Generalized Markup Language) that set the code for logical structure of books, serials, articles and Math formulations.(35) To this process also contributes the lowest production cost because of the simplification of classic publishing steps.(36)

Some authors as Rawlins are clearly on behalf of electronic publishing:" In sum, electronic books will become a suitable medium of information dissemination and they will be superior to printed book both intellectually and commercially, particularly for archival, technical or scientific information."(37)

But in spite of the rise of new electronic ways the number of documents published only in electronic format are not a high quantity. About this, Rowland says that in the case of journals exists serious reticences about electronic publishing because of the printed format prestige.(38) Schaffner shows up that in a first step, electronic documents have the same structure and kind of information as printed documents although they would progressively acquire their own developing formula.(39)

McKnight has the same opinion and think that growth has been important in the last years but the expansion is still low(40) because of the technical problems. As Singh and Meadows say, these problems are the same as librarians has to resolved since it's appearance, like identification, access, searching, quality control and stocking.(41) Roger Gimson has written an article where compare the advantages and disadvantages between paper and new formats from cost, weight, presentation, accessibility, manipulation, aesthetics, etc. point of view. He concludes: "The paper medium is not in any danger of being displaced in the foreseeable future. Its quality and universality will be hard to beat, especially with the need for power-consuming devices to mediate access."(42)

But in this new information age is appearing the paradox announced by Carroll and Cotter (43) about difficulty to access to information produced. This way, the bibliographic control problems of conventional documents in the past (in the sense to provide ways to help their identification and control) nowadays causes serious problems in the enormous mass of information moving through international electronic nets.

The lack of control and identification of these documents also has an important problem of rights. This problem is constantly discussed between publishers and information professionals. If publishers are seriously conscious about legal protection of their rights in front of photocopies abuse, (44) now they are thinking about legality of copies of electronic articles. (45)

Gragan Cornish points up that this is a problem with a difficult solution because it affects to copies from paper or electronic format, to the different costs depending on the area, group, kind of publication, use, etc. (46) To solve these problems it's possible to use some systems (47) as CITED. But now it's only a project. Its development depends on the cooperation of all implicated persons: authors, publishers, distributors and users.

The juridical problems about electronic publishing of documents have given rise to celebrate seminars as the one celebrated in October of 1994, organized by XIII State Office of Lisboa, entitled "Legal aspects of multimedia on GIS. (48) There, the main discussed theme was electronic documents transfer and protection systems as CITED. Benr Hugenholtz presented a report with an interesting comparative analysis about copyright legislation in CEE countries, because of problems caused by electronic publishing. (49) In the same way as Thomas Hoeren. (50)

In February of 1995 in the National Library in Paris was celebrated other Seminar with the same topic: legal problems caused by international electronic documents transferring. There, librarians, publishers and authors noticed their worry about new technologies and its lack of control. Librarians noticed about cataloguing, retrieval, searching, obsolescence and copyright of an electronic document. Authors were worried about wholeness of texts in the nets, about contents protection. In publishers' opinion, the reproduction of electronic documents is difficult to achieve.

Bernt Hugenholtz says about this problems that is necessary to take steps as:

- a global review about author rights in european countries.
- increasing of protection of present legal rights.
- clarify the situation for users in whole Europe(51)
- the stablishing a contractual solution as licenses with publishers or rights owners, an finally,
- a technical solution as CITED.(52)

In one way or another, this good auguries about knowledge as a whole trough electronic nets have to be considered objectively as Jacobson says. (53) He demonstrates the differences about distribution between developed countries and no developed countries. Electronics has caused an approach between continents but also a new illiteracy, as Payeur says, making bigger differences between rich and poor, between those who know and those not know.(54)

The global village, that McLuhann announced in the sixties, nowadays is a reality only for a part of the population. The other part has again a discussion about New International Order of Information and Communication (NWICO) (55) by UNESCO, because of the fear to be definetively colonized by Occidental countries.

In fact they have arise proposals to create systems for investigation about new power relations caused by this new information order and can find answers to differences, by now, almost insuperables.(56)

But one thing is clear: the conventional ways of communication are being disordered by a revolution that has just begun. For our pourposes it adds new documental typologies without any control and even are considered as a future objet of control.

In the most advanced Legal Deposit Legislations, as the french one, even when new formats as CD-ROM are considered, an important part of documents, as the on-line ones, are out of this consideration. The stablished condition for this kind of documents is that " ils sont mis a disposition du public par la diffusion d'un support matériel quelle que soit la nature de ce support."(57), so any publication out of this phisic area of edition is also out of legal protection. But the problem is the same for all kind of documents as pre-prints.

All this shows up that law always walk behind reality.

By the moment, as for conventional publications, are suffering from the double edition phenomenon: conventional format and electronic format. If one of this two formats can be protected by law there's no problem but in the future probably the printed format will disappear like scientific magazines, in a process that Deschatelets defined as a progressive abandonment of material support by the information. (58) If we don't try to adapt ours laws to the new needs a big part of strategical information will be lose.

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Criteria for Selecting Grey Literature

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Abstract

Due to the scientific and technological developments of the end of the century, there has been a surge in the volume of information, particularly in the field known as Grey Literature (GL). This presentation will introduce key concepts to be considered by the producer (writer), end user and by those in charge of managing information centers as well as other important elements to develop the criteria for selection.

This article will also highlight the newly acquired importance of Grey Literature in nursing as a result of the evolution that this profession has experienced over the years. This last development has sparked a great deal of intellectual productivity and generated a great number of documents on the subject of Grey Literature. The article will underscore the interest and support of international institutions for rescuing and publishing Grey Literature produced by nurses in the region by the creation of the Centro Regional Cooperante de BIREME en Enfermería (CERCOBE) at the Pontificia Universidad Católica de Chile. The objectives of the Center and the criteria for selecting Grey Literature to published and entering to the CERCOBE/ and LILACS or other information systems will also be discussed. This presentation will finally present a selection instrument developed from general and specific criteria, defining and explaining each one of those.

1. INTRODUCTION

The scientific and technological advances have influenced considerably to the contributions of professionals and scientists around the world, which in turn has resulted into an ever increasing growth of information. Information difficult to access and hard to manage. Within this explosion of information, in the last decades, there has been a noticeable emergence of the so called Grey Literature (GL) or non-conventional.

Relevant aspects of this literature is its dynamic condition, actual, easy to handle, original, deals with innovative themes, most of them of difficult access in the market. On the last decade, has led to an increase in of intellectual output. In the case of the nursing, born a century ago and established over time

as a profession, has allowed many nurses to generate documentation that tend to be basically GL. Therefore, this writing are being recognize in sanctioned publications, showing lack of the publications in this field and scarce diffusion.

Given this situation, the authorities, preoccupied about this issues, designed a number of strategies to solved the problem. One of them, was the creation of Centro Regional Cooperante de BIREME en Enfermeria (CERCOBE) in August 1980. The CERCOBE is a joint version of the School of Nursing and Library Systems of the Pontificia Catholic University. This institution is supporter by BIREME/OPS/OMS (Centro Latinoamericano y del Caribe de Informacion en Ciencias de la Salud) y de la Fundacion W.K. Kellogg.

The goals and objectives of the CERCOBE are to:

- * Contribute to the continuous development of the nursing profession and by achieving this goal to improve the health services in Latin America.
- * Increase, optimize and disseminate nursing literature generated in Latin America.
- * Capture and process nursing books and magazines edited in Chile
- * Capture and process Spanish bibliographical materials not conventional, generated by latin american nurses, such as: thesis, technical reports, statistics, manuals, educational materials, workbook, and papers presented at congresses, seminars, workshops, etc.

The documents received are input into the databases CERCOBE and LILACS (Literatura Latinoamericana en Ciencias de la Salud), in accordance to its methodology and disseminated throughout its Latin American network.

2. BUILDING THE SELECTION TOOL

Given the fact that CERCOBE is an emerging entity, it was necessary to establish policies and standards for the administration and handling of the bibliographical materials. One of the biggest obstacles was to classify the materials since most of it was GL. (80%) In addition, the criteria for selection provided by BIREME defined only the type of materials but not its form or intellectual content.

With this scenario, the task at hand was to identify criteria to select GL based on content and format to be input the CERCOBE and LILACS database.

3. CRITERIA FOR SELECTING GREY NURSING LITERATURE

In order to solve this obstacle, a review of the handling of the GL was conducted. Based on the little information found and the empiric handling performed by the CERCOBE, a document was produced containing criteria to select this GL.

Here are some of its objectives:

- * Create an instrument for selection
- * Standardized criteria for selection
- * Orient writer of GL on format and presentation Contribute with warnings about the quality of the documentation to be input the information systems.
- * Support other databases in their quest to select the same kind of GL.

This document was developed based on the following general and specific criteria.

General Criteria:

Norms, rules and principles to facilitate the selection of grey documents that regarding basic and fundamental elements for a writing to be selected and input into the databases.

Specific Criteria:

Norms, rules and principles to facilitate the selection of grey documents regarding ethic and science that all writing should contain.

3.1 Table 1: General Criteria

THEMATIC DEVELOPMENT CRITERIA

The writing must have direct relationship to the nursing profession and must deal with current innovative subjects.

LANGUAGE

The writing must be written in Spanish.

TYPE OF MATERIAL

The writing could include the following types of documents:

- * Thesis
- * Manuals
- * Educational materials
- * Bibliographies
- * Papers presented at congresses, seminars, workshops, etc.
- * Norms
- * Any kind of document written by nurses and/or the nursing profession

EXPIRATION

The writings must be current and must not exceed a 10 year time frame, unless the topic relates to a historic theme or the subject remains valid despite this time frame set forth.

IDENTIFICATION

The writing must include the following minimum information, which will allow bibliographical description:

- * Name of the institution the author/s belong/s to
- * Complete name of the writing
- * Complete name of author/s
- * Date, place and name of writing already presented in a conference, symposium, etc.
- * Date, city, country of the writing
- * Indicate whether the writing is part of a chapter, an independent article (provide complete reference material of original source).

INTEGRITY

The writings must conform to the following elements, when applicable:

- * Tables
- * Number of pages
- * Illustrations
- * Bibliographical review
- * Must be presented typed, photocopied or printed, without mistakes or typos.

3.2 Table 2: Specific Criteria

SOLID SCIENTIFIC FOUNDATION

The writing must deal with a logical content from beginning to end, including:

- * Originality of the subject matter.
- * Structured of the subject matter.
- * Technical language clear and accurate.
- * Including evaluations and conclusions capable to be tested by others in the field.
- * Information applicable, repeatable, reliable and complete.

ETHICS

The writing must be originals:

- * Citing sources of information
- * Indicate authorship when appropriate
- * Include the professional ethics aspects in relationship to the studies that involves humans or animals.

4. SELECTING GREY LITERATURE

Based on the criteria previously mentioned, will be input into databases those writing which meet all general and specific criteria. Those writing particularly meetings the general criteria will be preselected. The materials will be return to the author for modifications. Those writing which do not meet the 2 specific criteria will be discarded.

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Organization and Development of a National Center for
Coordinating and Disseminating Scientific, Technological
and Industrial Information in Italy

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ABSTRACT

The CNR Central Library has been assigned the
role of ensuring Italian participation in the NTIS system.

This paper surveys the first developments in the
promotion of grey literature and examples of the typical
users of this resource.

The paper then examines the latest developments in
information from the institutional, organization and
policy point of view and the assessment of future criteria
for the promotion and further development of this
activity.

INTRODUCTION

The fact that grey literature is produced on an
"in-house" basis and disseminated rapidly by increasingly

sophisticated technological systems and providing technical details which for a variety of technical reasons cannot be published in reviews, has made this resource successful, mainly in the scientific and technical sector.

Grey literature has become increasingly important in science and technology because of the demand by specialized users for prompt information on the state of advancement of research. It enables the scientific community to verify, compare and assess the data provided, since the "truth" of science derives directly from this.

This means that specific bibliographies are needed in this sector in order to have rapid information on the developments.

The organization responsible for the creation of this bibliography or database must also act as an archive for the material reported to it in order to provide easy access to the document.

This brings us to the role of the National Research Council Central Library.

THE CNR CENTRAL LIBRARY: SOURCES, TYPE OF USERS, ORGANIZATION AND DEVELOPMENT OF GREY LITERATURE

Given the importance and availability of scientific

documents reflecting a wide variety of scientific and technical disciplines, the CNR Central Library can be considered as the National Library for Science and Technology.

Its institutional functions include participation in all programmes aimed at utilising the country's bibliographical resources for research purposes.

Since 1991, it has also been the depository Library for the publications produced by the European Community.

Following the agreement signed between the CNR and the National Technical Information Service (NTIS), the Central Library has had the institutional role of ensuring the dissemination of CNR grey literature on the international scientific circuits as well as the linkup with the NTIS database.

In this initial stage, it is engaged in the task of collecting all the "nonconventional" literature not available through the traditional circuits of publishers' distribution, and therefore not easily accessible. This includes primary documents such as scientific and research reports, technical notes, reports on the advancement of research, preprints, etc., all collected in the national database which is then added to the existing NTIS database.

In order to achieve this, the research Institutes have been asked to send their scientific reports to the CNR Central Library as soon as they are produced so that in accordance with the current agreements the latter can forward the bibliographical data of these reports after processing them according to specific standards.

At the same time, an attempt has been made to identify the type of users of this literature. "Typical users" identified in the survey include sophisticated information users, researcher who work on the frontiers of knowledge in given fields, teachers seeking pre-condensed information packaged in a pleasant and interesting way. Finally there are managerial staff members who not only require information on a given subject, but also data which can be useful for their tactical and strategic decisions.

The organization of today's society differs from the past above all due to the great complexity of problems which must be solved. There is a growing need for education, administration and management in facilities for transport, environmental monitoring and the distribution of consumer goods. The management of a growing amount of information is a basic element for an effective response to these needs.

Today the approach to this business must be based on an economic model in which knowledge and intelligence are used to increase and above all for the better management of the knowledge itself.

This is based on the need to use information in the best way possible, identifying the ideal infrastructure for easy access to information of any type, wherever it is located.

After this initial phase in which the CNR research Institutes have been asked to send their scientific reports to the Central Library, a database of over 1,000 records has been set up, formed by bibliographical citations of the CNR Institutes' publications; access is by the NTIS system through GARR.

Given the interest and demand for document delivery and therefore the importance for the dissemination of Italian scientific publications abroad, an agreement was made early this year between the CNR and NTIS for a contract updating providing for a royalty to the Central Library on the price of the service provided by NTIS in order to cover part of the expenses.

Following this agreement, it was necessary to set up a new organization on a scientific basis with broader and more selective identification of sources and the

reorganization of the entire information and operating system.

As the database was developed, it was necessary to search for new sources through the selection of the grey literature subjects produced by the various CNR Institutes and research Centers, based on market demand to the Central Library from the American NTIS network.

On this basis, a promotional campaign is being prepared which among other things should ensure that, where possible, each report will be accompanied by a brief abstract, possibly in English, in order to streamline the processing of bibliographical data and to prevent any inaccuracy or interpretations not corresponding to the researchers' intentions when the summaries are drawn up.

In order to make the processing of the various documents simpler and easier and to save both financial and human resources, it was decided to send to the NTIS in the US only the record regarding the report, containing the bibliographical data and the abstract. A copy of the document is sent only after it has been selected and requested.

Considering that the CNR Central Library is both a producer and distributor of the NTIS database, it has also

had to provide copyright protection.

This problem was solved by placing the following rubber stamp on each copy sent to the NTIS in the US and included in the database: "Reproduced by NTIS with the permission of the copyright holder for individual use only and not for further reproduction or sale. All rights reserved by the copyright holder".

Efforts are also being made to include other Italian scientific organizations in the database, with the Central Library remaining the point of reference and coordination.

During all the phases of the organization and development of the NTIS database, it has been recalled that the spirit of the initiative is not simply the acquisition of Italian technical and scientific information by the NTIS, but above all the circulation and distribution of information and the exchange of technologies by both countries.

The Central Library document delivery service has various stages ranging from the reporting of the most significant scientific works by Italian researchers to research on specialized databases dedicated to the creation of specific grey literature bibliographies.

CONCLUSIONS

The continuing increase and development of this type of activity are being conducted in such a way that the Central Library, in the national scientific, technical and industrial context, can become the Center for the collection and dissemination of information and advanced technologies for highly specialized and selected users.

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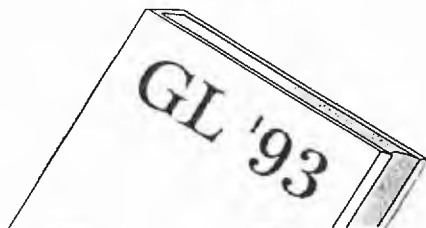
Grey Literature 1993-1996



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The First International
Conference on Grey Literature

PROCEEDINGS



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1994

"Grey Exploitations"

The Second International
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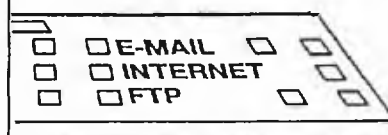
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1996

Research and Development of an International Network for Promoting Grey Literature: A case study involving the use of the Internet

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SUMMARY

The purpose of this research project is threefold: (A) to determine how well the products and services offered by GreyNet, Grey Literature Network Service, meet the needs and requirements of its target groups, (B) to make recommendations for the development of new products and services that can also be offered via the Internet, and (C) to advise on further marketing and promotional activities for such a service, as well as the costs this entails. The methodology includes an (electronic) survey conducted by means of an email/mail questionnaire. Interviews with professionals in the field, and a study of available (online) literature. The results of the various research methods are discussed and linked with previous research. The respondents to the questionnaire are mainly employed in the non-profit sector, whereas a new target-group emerging from this research is expected to operate primarily in the profit-sector. The Internet, and especially World Wide Web, are suitable tools for marketing and advertising. However, the Internet is still developing and chaos reigns. So although it can be a valuable asset for commercial use, the Internet can not yet be regarded as superior to any other medium also suited for this purpose. Database-providers must offer expertly processed and easily retrievable information, for it is to be expected that users are willing to buy Internet products only if they demonstrate added value. The increasing popularity of electronic publishing on the Internet has significant implications for the field of grey literature.

INTRODUCTION

The Grey Literature Network Service (GreyNet) was established in March 1994 as a division of TransAtlantic, an information consultancy and translation bureau serving clients in both the private and public sectors - from small and middle size businesses to academic and governmental institutions. In November 1994, the GreyNet gopher became operational via the Royal Netherlands Library Gopher Service, permitting GreyNet to offer its products and services via the Internet. This implied that GreyNet was now better able to operate on an

international market. To be able to assess at least some of the possibilities and drawbacks of this unlimited market and therefore make more effective use of it, and to find out if new products and services should be developed, TransAtlantic/GreyNet requested a research project to be carried out in cooperation with the College of Amsterdam, FEI/AHA. Information on user-satisfaction is vital for policy and planning, especially in areas of R&D and its concomitant expenditures. This research project should also provide the data needed to determine if the existing products and services meet the requirements of GreyNet's clients.

GOALS OF THE RESEARCH

The purpose of this research project is threefold: (A.) to determine how well the products and services offered by GreyNet, Grey Literature Network Service, meet the needs and requirements of its target groups, (B.) to make recommendations for the development of new products and services that can also be offered via the Internet, and (C.) to advise on further marketing and promotional activities for such a service, as well as the costs entailed. In order to operationalize these goals the following variables were formulated and incorporated in the research methodology.

Supply-Side Variables:

1. What products and services does GreyNet offer now?
2. In what way does GreyNet offer its products and services?
3. In what form can the products be obtained?
4. How much do the existing products and services cost?
5. How does GreyNet acquire the information in the area of Grey Literature it compiles?

(User)Demand-Side Variables:

6. What target-groups can be distinguished?
7. Which of the target-groups have actually submitted information since GreyNet was established? In what form?
8. Which of the target-groups have actually used GreyNet's products and services since it was established?
 - a. what products and services (per target-group)?
 - b. how often?
 - c. what method of payment did they use?
 - d. In what form do they prefer to receive information?

Supply/Demand-Side Variables:

9. What does the Internet mean for GreyNet and its target groups?

RESEARCH METHODOLOGY

The methodology initially intended to be carried out for this research was two-fold. A primary method, or in this case a questionnaire, would be designed and carried out in regard to Goals A and B, above. And, a literature review or secondary method would then be carried out in regard to Goal C. In expanding the methodology, the results of an earlier questionnaire carried out in 1993 would be compared with the results of the questionnaire designed for this study.

Early on in the actual design and implementation of this two-fold methodology, it became obvious that the methodology would have to be further expanded. In order to design the questionnaire used for the primary method an in-depth interview would have to be carried out within TransAtlantic/GreyNet itself, and owing to the limited results of the literature review, it was determined that interviews with professionals in the field would have to be carried out. Thus, both the primary and secondary methods were expanded or supplemented with interviews.

THE LITERATURE REVIEW: ABOUT THE SECONDARY METHOD

In order to address Goal C and in particular variable 9, literature available via LISA (Library Information Science Abstracts), ISA (Information Science Abstracts), and ERIC (Educational and Resources Information Centre) databases was consulted, as well as the (online) catalogues of various libraries.

The search terms used for finding literature in ERIC, ISA and LISA CD-ROM databases were: grey literature, gray literature, research and development, Internet, user(s), user studies, advertising, promotion, marketing, management, network, and information service(s). The september 1994 CD-ROM version (Silverplatter) of ISA proved to be most relevant to this search. LISA did not contain current material, ERIC provided only a small number of articles that had already been found via ISA.

After the meagre results of the initial literature search were examined, it became apparent that few articles completely covered the subject: **Research and development of a network (for grey literature) in connection with the Internet**. Although there was a sufficient amount literature on the topic of the Internet in general and to a more limited degree on the commercial use of the Internet, the articles found only described the possibilities of the Internet for commercial use (marketing, advertising) in general, and did not provide data based on experience and/or research.

As such, it was not anticipated that a search in the online versions of these databases would provide much more relevant literature. The cost factor was yet another reason not to attempt this kind of search, but instead to continue browsing the CD-ROM versions at the college library. An additional number of articles were selected from the Interactive Bulletin. A weekly bulletin containing abstracts of articles on the topics of marketing and advertising.

ISA

THE EXTERNAL INTERVIEWS: ABOUT THE EXPANDED METHODOLOGY

As it soon became obvious that findings on the actual use of the Internet were not yet documented on a large scale, it was decided to interview specific Internet users in order to address Goal C, variable 9.

Commercial use of the Internet is only gradually developing and in this phase it is not unusual that knowledge and experience are primarily exchanged via informal communication rather than via report or journal literature.

For the interviews, a selection was made from a list of persons and organisations who had recently shown an interest in grey literature. Some had attended the GL'93 conference or a seminar, others had ordered one or more of GreyNet's products. The persons/organisations to be selected were to represent different economic sectors and who used or intended to use the Internet for commercial purposes. It was finally decided to approach Elsevier Science Publishers in Amsterdam, an important producer of commercial scientific literature; Ebsco Subscription Services Europe in Aalsmeer, one of the world's largest providers of serial subscription services and electronic reference sources; and the Library of the Agricultural University in Wageningen (LUW) in The Netherlands, an institutional, large-scale user and producer of commercial and grey literature. The Main Library of LUW cooperates closely with PUDOC (the National Centre for Agricultural Publications and Documentation). Both are located in the same building and share the same staff. Finally, in an effort to gain an expert opinion on the importance of the Internet for advertising, a visit to an advertising agency was considered worthwhile. After contacting the Research and Intelligence Manager at Noordervliet & Winninghoff/Leo Burnett an interview was arranged.

Since the sales manager of Ebsco was away most of the time and could not make a definite appointment, the first interview was conducted by phone. The other interviews took place at the office of the respondents. The interviews had a semi-structured character. A list of questions for the interviews had been constructed. And, while all of the questions were asked during the course of the interview, the interviewer did not strictly adhere to a particular order of questioning. This allowed those interviewed more freedom to elaborate on a particular area they considered important.

THE INTERNAL INTERVIEW: ABOUT THE EXPANDED METHODOLOGY

In order to address Goal A and its concomitant variables 1, 2, 3, 4, 5, and 9, an interview was held with the director of TransAtlantic/GreyNet. From this interview not only was specific information obtained concerning GreyNet's existing products and services, but also the very questions used for the survey were to a great extent formulated.

THE GREYNET QUESTIONNAIRE: ABOUT THE PRIMARY METHOD

To address Goals A and B, and variables 6, 7, 8, and 9, a survey was conducted by way of a questionnaire. Considering the importance of the Internet for this research and the number of days it would take to reach all the respondents by post, it was initially decided to forward the questionnaire via email. The survey population consisted of persons who in the past 2 years had actively submitted and/or made use of one of GreyNet's products and services and as such were listed with GreyNet, i.e. approximately 350 persons. The research group was selected by purposive sampling and consisted of persons having an email address. This group amounted to 189 persons. The questionnaire was also available via a separate menu on the GreyNet gopher. The number of (possible) respondents in this case was of course beforehand unknown.

Since the questionnaire would be sent via email, a number of problems had to be tackled. Literature in this area is virtually nonexistent. Hence, it was difficult to predict how the selected group would react to this type of questionnaire. And, there was insufficient time for a proper trial.

The first problem to be encountered was the fact that a computer screen can only display a limited number of lines, much less than a printed A4 page. For instance, the letter of introduction on the first "page" of the questionnaire should not take up more than one screen, otherwise it would run the risk of discouraging the would-be respondent. It was soon obvious that a fixed page length for the email questionnaire would be difficult to maintain. Another problem to be solved was the way in which respondents would be able to indicate their choice of the given answers (a, b, c, etc.). With most text editors, it is not possible to circle an answer, so this could not be presented as an option. If respondents would have to cross out their choice it would take a lot of maneuvering on the screen to put these crosses at the right place exactly before or after the selected answer. If they would have to fill in their choice on a separate line, for instance directly under the given answers, this would require added lines and would give the impression that the questionnaire was too long. Thus, the methods generally used in printed questionnaires appeared ill suited for an email questionnaire.

It was decided to ask respondents to indicate their choice by deleting the answers that did not apply. This action is easy to perform and presents the researcher with unambiguous results. And, at the same time, the actual length of the completed questionnaire would be considerably reduced. It was also sufficiently clear what choice had been made. Respondents can reply to the open-ended questions using any number of lines they deemed necessary. The advantage of an electronic questionnaire apart from being relatively inexpensive to carry out, allows for rapid results. Respondents can comfortably work on the text directly on their screen and change it accordingly. The completed questionnaires, however, will look quite different from the ones initially transmitted. Yet, they contain exactly the information the researcher requires.

On 15 March 1995, the questionnaire was sent via email to 189 persons. A small number of questionnaires were returned completed on the same day, some even within one hour of transmission. An obvious advantage of electronic mail. This was a promising start. However, it soon slowed down to about two questionnaires a day. After a week only 11 questionnaires were received. Perhaps since electronic questionnaires are still uncommon, it could be expected that respondents would have some hesitation in answering them. It was then decided to send a reminder by regular mail with a copy of the original questionnaire in printed form.

One of the reasons for opting for an email questionnaire was that it would take far less time to reach respondents overseas, and far less time for them to respond. The printed reminder resulted in 23 responses. In total out of 189 possible respondents, 40 questionnaires were received. One questionnaire was completed via the Gopher, bringing the total response to 41 (22%). Of the total number of valid questionnaires received, 18 were via regular post and 17 via email. When the completed questionnaires were processed, respondents were often found to have used the category "other" when "no comment" was intended. (Answers to related questions proved this to be the case.) In other instances, they skipped a question altogether.

THE RESULTS OF THE LITERATURE REVIEW

The review of the literature covers several areas, including: the commercial use of the Internet, actual case studies, advertising, costs, publishers and the Internet, as well as, users of the Internet. These same or similar topics are found in the following section on the results of the external interviews. Case studies proved that companies with an educated customer base having email connectivity can definitely profit from the Internet. Particularity WWW has interesting possibilities for commercial use. To be able to take real advantage of this potential, electronic services must provide information that a substantial number of people need and want supported by a good retrieval engine. Only when clients perceive that Internet information services add value to basic products and services and therefore are more effective than regular (online) information services are they then prepared to pay for them. For further promotion newsletters or newsgroups can serve to inform about company developments and to stimulate discussions among customers.

A major drawback of the Internet is the lack of safe and proper procedures for clients to remit payment. Internet users are generally very young, but publishers and database providers are mainly interested in another group of users: namely, researchers and research oriented companies and institutions. To reach (more) users, advertising via the Net may be considered, as it is an effective method to expand markets. The advantage of this kind of advertising is that unlike printed advertisements, it enables direct contact between advertiser and customer. To achieve profitability an electronic information service might also consider

carrying advertisements from others. The manner of advertising must be adapted to the medium and its user-population. Internet users generally accept advertisements as long as they can actively search them. An effective method is to link transactions to advertisements. This can attract more and different clients. But foremost advertising must be carefully targeted, users must have affinity with the advertised products and pricing must be competitive. The cost of advertising via WWW is variable but considerably lower than that of advertising in printed form. Electronic sources are becoming increasingly important, also for the field of grey literature. However, they will never fully replace printed sources, as long as these are still in demand by users. Publishers, however, continue to promote their own commercial databases in order to counteract the ever growing amount of grey literature on the Net. But even a commercial database does not solve the biggest problem - that of the ill-digested mass of information.

THE RESULTS OF THE EXTERNAL INTERVIEWS

The interviews had a semi-structured character, and hence did not strictly follow a specific line of questioning. This allowed for a more natural flow of speech. The Internet is used for offering existing products adapted for use on the Net and for offering additional products used as marketing tools. New products generated by the Internet are rapidly being developed. One of the major issues concerning commercial use of the Internet is accessibility of information. Clients primarily need and demand good search and retrieval tools and processing of information. The Internet has improved the services rendered to clients, although most users still prefer to receive products in printed form. Getting started on the Net entails extra costs, which are passed on to the customers, or which are paid for by the suppliers of the information. Monetary transactions via the Net are still not yet feasible, due to insufficient control and security. The Internet has not yet caused a considerable increase in the demand from outside geographical borders. It is preferable to promote (Internet) products and services via WWW.

The homepage usually serves for presenting a company and its products. Internet users often prefer to navigate among various sources, therefore it is difficult to make an analysis of the intensity of use of the Internet resources serving as gateways or pointers to the products and services. Databases of grey literature are rapidly developing on the Net, especially as research institutions regard the Internet to be a convenient channel for electronic publishing. Commercial publishers try to consolidate their market position by offering integrated and controlled electronic sources. The imminent chaos on the Net is for some cause for alarm. However, this can be turned to one's advantage by providing well-ordered, easily retrievable information. Although WWW pages are preferred for promoting a company and its products, there are some drawbacks. The user must know where the page is located and is bound to call up only when interested in a particular product. Therefore a page must

have added value to ensure more regular use and it is important that users know the address or can easily look it up. To promote a WWW page, companies can send press releases to relevant journals, find WWW partners and provide the address to the Yellow Pages. The cost of PR and advertising is generally lower than may be expected.

Since the Internet is still mainly a source of information, consideration might be given to adopt a procedure for monetary transactions similar to the one used by computer host organisations. The user-population for commercial services is still relatively small, but might change rapidly with the introduction of non-academic information providers e.g. Planet Internet. It is still difficult, however, to identify (types of) users. One thing is certain and that is that few target groups can be served entirely via the Net. As such, printed products will not be abolished. In view of the ever growing amount of information on the Net, it is obvious that users need the ability to compile, as well as store and retrieve this new type of electronic grey literature. Trade and industry can also better be served by the use of these new forms of grey literature.

THE RESULTS OF THE QUESTIONNAIRE

General Information (Section A of the Questionnaire)

Most of the respondents are employed in the non-profit sector. They are often employed in organisations as librarians, in higher positions, mainly involved in information supply and/or research. The majority of the respondents heard about GreyNet from the GreyNet Newsletter. Others learned about GreyNet from the GreyNet gopher or from a colleague. About 25% of the respondents appear not to have used any of GreyNet's products and services. This is evidenced in Section B of the questionnaire related to the frequency of use and opinions about the products and services. That section was completed by a much smaller number of respondents than the other sections of the questionnaire. Also, there is no obvious correlation between the intensity of use and the period of use. 43% of the respondents began using this service about 1-2 years ago, and another 28% began as recently as six months ago or less.

About GreyNet's Products (Sections B & C of the Questionnaire)

Of all the information products only the newsletter and bibliography were used on a more regular basis. Overall users are satisfied with these products and those who paid for them, think the price is fair. A few users however, could not find the information they were looking for.

About GreyNet's Services (Sections D & E of the Questionnaire)

Less than half of the respondents attended conferences and/or seminars. The other services were unknown to most and the subsequent questions were left

uncompleted. Two respondents were not satisfied with the conferences and seminars, one of whom complained that the fee was too high. Preferred payment for products and services was by check or credit card.

Use of the Internet (Section F of the Questionnaire)

Nearly all respondents (organisations) confirm access to the Internet, half of this group have their own resources on the Internet. The majority has access to the World Wide Web. The fact that less questions were left unanswered in this section of the questionnaire, indicates the considerable interest in the Internet. The resources that were used were so diverse, that it was difficult to draw any conclusions regarding preferences or needs.

Use of the GreyNet Gopher (Section G of the Questionnaire)

The GreyNet gopher is used by one third of the respondents. One person was not satisfied, but was found to criticize only one of the menu's, not the entire gopher itself.

GreyNet's R&D Activities (Section H of the Questionnaire)

Although the majority of respondents prefer to receive information by electronic services, the number preferring postal services is still considerable. Of those having provided information to GreyNet, equal numbers submitted this in printed and electronic form. Nearly all of the respondents choose to remain informed about new products and services that are being developed.

COMPARATIVE RESULTS WITH 1993 INGLA QUESTIONNAIRE

In November 1993 the INGLA questionnaire was distributed to among others, the participants of the First International Conference on Grey Literature, GL'93. 142 persons responded to this survey. The INGLA questionnaire was designed to investigate the need for an international network for grey literature as well as the preference for specific products and services that such a network should supply. The data provided by this survey was instrumental for the development of GreyNet.

While it would seem obvious to compare the results of these two questionnaires, extreme caution must be exercised before doing so. The GreyNet questionnaire was designed for a much smaller and more defined group of persons, some of whom also responded to the INGLA questionnaire. However, it is still clear that the survey populations are far from identical. Perhaps, a more suitable way of comparing these two questionnaires would be to find out if the degree of importance respondents rated (potential) grey literature products and services is reflected in the intensity of their actual (intended) use. It might be expected that products and services that were considered of "primary importance" to an organisation in the INGLA

questionnaire are now found to be more often used, than products and services that were considered in that questionnaire to be "optional".

The results of INGLA pointed out that bibliographic services linked with document delivery and facilitating contacts by email or electronic bulletins were considered of primary importance among the services to be rendered. Among the products, the production and maintenance of databases and the provision of an international guide to organisations were considered of primary importance. Of course these products and services barely existed. The international guide is still not fully developed, but the other services and products do appear in the GreyNet questionnaire, be it in some cases under different names.

It is surprising that of the products investigated by the GreyNet questionnaire the quarterly newsletter appears to be most popular. The INGLA respondents considered this product optional. Conferences and seminars (linked in the GreyNet questionnaire) are the most popular services at the moment. INGLA investigated these separately: 29% recognized the primary importance of the International Conference and 21% the primary importance of seminars. Of the INGLA respondents it was remarked that non-librarians/documentalists were more favourable to suggested products than librarians/documentalists. The overall majority of respondents to the GreyNet questionnaire, however, consisted of librarians. It is difficult to consider the importance or popularity of products that are combined for one research and studied separately in another, but after surveying the results of these two questionnaires, it appears that although users think certain products or services are of primary importance to them or their organisation, this does not necessarily imply that they will actually use these products and services. On the other hand, it is possible that products and services formerly considered "optional" will be used on an even relatively larger scale.

CONCLUSIONS OF THIS RESEARCH PROJECT

The target-groups that were extrapolated from the respondent's answers to the question about one's profession in Section A, comprise as it were both the actual and potential users. They are mainly employed in the non-profit sector, and they are Librarians; Information Brokers; Information scientists; Information specialists; Information managers; Documentalists; Planners; Academic teachers; Researchers and Engineers. Thus part of the target group emerging from this research still consists of potential users, who are expected to operate mainly in the profit-sector, for example, those employed with marketing and advertising agencies or similar institutions. Respondents indicated regular use of the products, the newsletter is the most popular product among the users, followed by the Bibliography and the Proceedings. The services however were hardly used, with the exception of the conferences and seminars.

The categories Information scientist, Librarian, Documentalist and Academic teacher used a greater variety of products more often than other categories.

The services were mainly used by the categories Librarian and Academic teacher. The categories Researcher and Engineer did not use any of the products or services. The categories Librarian and Documentalist were also most likely found to be the suppliers of information. The overall majority of users were satisfied with the products and services. The price was considered fair. Conforming to their preferred method of payment, users paid mainly by check. A small majority of users prefers to receive information in electronic form, but the number preferring printed products is still considerable.

The Internet can be an excellent tool for marketing and advertising. For this purpose WWW is more suited than Gopher. The costs for creating a Web-site vary, as do the charges for making the Web-site available for advertising by other organisations. This should not be discounted as a means to achieve profitability. Storage and retrieval have become increasingly important for information providers using the Internet. Users prefer expertly processed and easily retrievable information; and, it is to be expected that they are willing to buy Internet products only if they perceive added value. This also applies for the WWW homepage, which should entice more regular use.

For further promotion and feedback from clients, a newsgroup or discussion list may be initiated, as well as a referral system among organisations concerned with grey literature. As long as the Internet is still rapidly developing and chaos is still perceived to reign, it may not yet be regarded as superior to traditional mediums also suited for this purpose. Hence, professional journals will continue to serve as primary sources for promotion and advertising ones information products and services.

RECOMMENDATIONS BASED ON THE RESEARCH RESULTS

Based on these conclusions, a number of recommendations can be made. These are divided according to the areas covered by this research.

Regarding the products and services:

- a. To maintain the existing products and services, given the fact that GreyNet has not been on the market long enough to effectuate regular use of all its products and services;
- b. To follow up this research on user-satisfaction and intensity of use after a period of two years;
- c. To maintain the existing price-level of the products and services;
- d. To maintain the existing methods of payment for the products (in both printed and electronic form);
- e. To maintain both the printed and the electronic formats for compiling and delivering information-products;
- f. To establish an international journal on the subject of grey literature, in imitation of the success of the newsletter, but with more graphic form and increased content, in order to entice a wider audience, as well as potential advertisers.

Regarding the target-groups:

- a. To stimulate target-groups that did not use the products and services, especially the categories of researcher and engineer. Inviting them to contribute to and make use of GreyNet's products and services. The means mentioned above regarding a professional journal and/or newsgroup/discussion-list would lend itself to this endeavor;
- b. To initiate further research into the nature, size, importance, needs and demands of the target group of potential users employed with marketing and advertising agencies and similar organisations;
- c. To initiate further research into other target-groups of potential users, especially in the profit sector, in order to promote even more the distribution grey literature in this sector;
- d. To offer information referral and support in marketing and sales of grey literature to the target-groups defined by this and future studies.

Regarding the Internet:

- a. To create a Web-site in addition to the gopher;
- b. To offer effective search and retrieval tools apart from WAIS. This is based on the fact that the information offered will continue to increase in volume;
- c. To create a simple design for the homepage with the help of a manual, using the possibilities for graphic display offered by the Web to make it more attractive. Professional services for designing can be used at a later stage, if necessary;
- d. To add value to the homepage, for instance by presenting a list of recent publications on the topic of grey literature, which would be regularly updated;
- e. To find WWW partners in the area of grey literature, to create a referral system from one homepage to the other.

Regarding Grey literature in general:

1. To initiate an international dialogue regarding the impact of the electronic highway and the Internet in particular, on the field of grey literature;
2. To counter-balance the attempts of publishers in their misrepresentation of grey literature in order to secure their own products;
3. To examine the consequences of the ever increasing amount of electronic grey literature, and suggest ways and means of channelling and organising it. Thus, preventing the imminent loss of this vital information.

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GREY LITERATURE NETWORK SERVICE

GreyNet is a division of TransAtlantic ^{D.F.} established in order to promote and support the work of authors, researchers, and intermediaries on the topic of Grey Literature (GL). This goal is achieved through the enhancement of international cooperation, through training and conference organisation, through the publication of research findings, as well as, the establishment of a worldwide information referral service. In this capacity, GreyNet actively compiles bibliographic, documentary, and factual information on persons, organisations, and their respective products and services in the area of GL.

Contact: GreyNet, Koninginneweg 201, NL-1075 CR Amsterdam, Tel/Fax 31-20-671.1818

GREYNET'S SERVICES

Email: GreyNet@inter.nl.net

The above goals are not envisaged as lofty proposals, but are implemented in well established and engineered products and services to meet the information needs of authors, librarians, teachers, researchers, publishers, database producers, information brokers, and end-users alike. For example:

- International Conference Organization
 - Grey Literature Publication, Marketing, and Sales
 - (Electronic) Mail Services
 - Seminar and Workshop Development
 - Translation and Abstracting Services
 - Information and Referral Services
-

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3. Newsletters/
4. Publications/
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PEER-MODULE

"Information transfer is a prerequisite to knowledge transfer"

PEER (Public Enterprise in Editing and Review) is a documentary information module used in the compilation and revision of bibliographic, factual and value added information.

EXAMPLE OF RESOURCES:

Bibliography on Grey Literature
International Guide in GL
Dictionary of Grey Literature

CONTEXT:

GL'93
GL'95
GL'97

INFORMATION TRANSFER VIA:

Diskette/mail
(Electronic)mail/fax
(Electronic)mail/fax (* Development Phase)

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AARP	American Association of Retired Persons	USA
-	Access Innovations, Inc.	USA
-	African Centre for Democracy and Human Rights	The Gambia
-	Battelle Memorial Institute	USA
-	Bibliothèque Nationale de France	France
BLDSC	The British Library Document Supply Centre	United Kingdom
-	Brown University	USA
CERCOBE	Centro Regional Cooperante de Bireme en Enfermeria	Chile
-	Chr Michelsen Institute	Norway
CISTI	Canada Institute for Scientific and Technical Information	Canada
CNR	National Research Council	Italy
CNRS	Centre National de la Recherche Scientifique	France
CNS-MIIS	Center for Nonproliferation Studies	USA
COSPO	Community Open Source Program	USA
CRL	The Center for Research Libraries	USA
CUA	The Catholic University of America	USA
DESIDOC	Defence Scientific Information & Documentation Center	India
EAGLE	European Association for Grey Literature Exploitation	Netherlands
EI	Engineering Information Inc.	USA
-	Embassy of Germany, Washington D.C.	Germany
-	Embassy of India, Washington D.C.	India
-	Embassy of Israel, Washington D.C.	Israel
FBIS	Foreign Broadcast Information Service	USA
FID	International Federation for Information and Documentation	Netherlands
FOA	National Defense Research Establishment	Sweden
GREYNET	Grey Literature Network Service	Netherlands
GWU	George Washington University	USA
HURIDOCS	Human Rights Information and Documentation Systems	Mexico
HVA/FEI	College of Amsterdam, Faculty Economics & Information	Netherlands
IBV/CNR	Istituto Biosintesi Vegetali	Italy
IFLA	Int Federation of Library Associations and Institutions	United Kingdom
IMF	International Monetary Fund	USA
INIST	Institut de l'Information Scientifique et Technique	France
ISAS	Institute of Southern African Studies	Lesotho
ISI	Institute for Scientific Information	USA
ISRDS	Istituto di Studi sulla Ricerca e Documentazione Scientifica	Italy
ITC	International Translations Centre	Netherlands
JICST	Japan Information Center of Science and Technology	Japan
-	Japan Information Center of S&T - Washington DC Office	USA
-	Kaman Sciences Corporation	USA

List of Participating Organisations

KUB	Tilburg University Library	Netherlands
LC	Library of Congress	USA
MICROSOFT	Microsoft Corporation	USA
-	Ministère de l'éducation nationale, de l'enseignement Supérieur	France
MRI	Mitsubishi Research Information Network Inc.	Japan
-	The Mitre Corporation	USA
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NDL	National Diet Library	Japan
NIR	National Institute of Research and Documentation	Botswana
NLC/BNC	National Library of Canada	Canada
NOAA	National Oceanic and Atmosheric Administration	USA
NPLS&T	National Public Library for Science and Technology	Russia
NPS	National Park Service	USA
NTIS	National Technical Information Service	USA
PEC	Petroleum Energy Center	Japan
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-	Rutgers University Libraries	USA
SCANDOC	Scandinavian Documentation Center	USA
-	Senatsbibliothek Berlin	Germany
SHL	Systems House Ltd., Innovations en Informatique	Canada
SISI	Scientific Information Service, Inc.	USA
SLAC	Stanford Linear Accelerator Center	USA
TCG	The Copyright Group	USA
TEC	US Army Topographic Engineering Center	USA
-	Temple University	USA
TRW	Washington Systems Engineering Office	USA
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-	University of Botswana	Botswana
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