

NETWORK PATHWAYS TO SCHOLARLY RESOURCES : LATIN AMERICAN INFORMATION ON THE INTERNET

MOLLY MOLLOY*

RESUMEN

Los recursos de Internet para los investigadores especializados sobre América Latina continúan multiplicándose por el mismo hecho de que los académicos y los profesionales alcanzan la red mundial de las redes. Los investigadores pueden alcanzar varios recursos públicos, localizar e identificar la información usando los instrumentos de navegación y búsqueda como el Gopher, el Wais, el Archie, el WWW y otros. Uno puede pensar las redes en los términos de la parábola de los ciegos y del elefante. Cada persona que navega en Internet encuentra algo diferente y puede tener una opinión individual de Internet y del tipo de información que puede proporcionarle. Debido a la naturaleza eminentemente variable y extensa de los recursos de Internet, es imposible que una persona acceda a todo el conocimiento. Sin embargo, mientras aprende cómo utilizar los instrumentos de la navegación, inscribiéndose en grupos de discusión, planteando cuestiones, los investigadores pueden conocer los recursos que corresponden a sus intereses. Esta comunicación pone en evidencia la historia de Internet y su perpetua evolución hacia un verdadero recurso global. Son presentadas en este artículo los recursos de Internet particularmente a los Latinoamericanistas : catálogos de bibliotecas, bancos de datos gubernamentales y no gubernamentales, servidores de información, periódicos y debates electrónicos, newsgroups y archivos de listas de discusión.

ABSTRACT

Internet resources for Latin Americanist scholars continue to multiply as more academics and professionals gain access to this worldwide network of networks. The researcher can access many resources in the public domain ; locate and retrieve information using resource discovery tools such as gopher, WAIS, Archie, the World Wide Web and others.

One might think of the networks in terms of the parable of «The Blind Men and the Elephant.» Every net explorer finds something different and may form a unique perception of what the Internet looks like and what kind of information it can provide. Because of the vast and mercurial nature of Internet resources, it is impossible for one person to know everything. However, by learning to use resource discovery tools and by joining discussion groups and asking questions, scholars can learn about resources most relevant to their interests.

This presentation will focus on the background of the Internet and its continuing evolution into a truly global resource. Internet resources of specific interest to Latin Americanists including library catalogues, government and NGO databases and information servers, electronic journals and conferences, newsgroups and listserv archives will be presented.

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I undertook most of the research for this paper from November 1992-June 1994. I have left more or less intact below the paper presented at ICA Stockholm in July 1994. The comments presented in this introductory section can barely begin to convey the dramatic changes that have taken place since mid-1994 in the development of Latin American networks and the active roles played by librarians, information specialists and other scholars in making new information accessible through the internet.

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**Social Sciences/Latin American Area Specialist, New Mexico State University Library, Las Cruces, NM 88001505-646-6931, mmolloy@lib.nmsu.edu

When I began to research Latin American information on the internet in 1992, nearly all sources came from the net itself--gleaned from newsgroup postings and electronic conferences, from FTP archives, from gopher servers. Beginning in 1993, articles on internet resources began to appear in academic journals in many disciplines, but 1994 saw the literal explosion of the internet into the popular press and mainstream culture. A quick keyword search of a general academic periodical index reveals :

internet & 1990	3 entries
internet & 1991	14 entries
internet & 1992	77 entries
internet & 1993	282 entries
internet & 1994	1083 entries
internet & 1995	3013 entries

The jump in numbers of articles from 1990 to 1995 indicates a 100,333% increase ; from 1992 to 1995, 3813% and from 1993-1995, the increase is still 968%. A *Books in Print* search yielded 311 titles under the subject heading «internet» ; only 77 from 1993 or before and 234 with imprints from 1994 to 1996.

The quantity of internet nodes and users has also expanded rapidly since 1993. The Internet Society reported growth of 12% per month in 1993, with full access and/or gateways for electronic mail in 126 countries. The internet was estimated to encompass more than 2 million computers in 1993, with 48% in the research sector, 20% commercial and the rest in government, education and defense. In 1994

becoming internet access providers. Networking by and for non-governmental organizations (NGOs) in the region has a long history, in some cases going back to the late 1980s, but NGO sector growth may be hindered by the same forces that spur commercial expansion⁷. The dynamic between the commercial, the academic and the not-for-profit sectors in Latin America will probably color all internet developments in the near future. If multinational corporations decide to apply significant resources to the telecommunications infrastructure needs in many Latin American countries, such investments could completely change the internetworking landscape in the region.

The importance of telecommunications and information infrastructure were recognized in the Plan of Action signed by 34 heads of state that gathered in Miami, FL, USA 9-11 December, 1994 during the Summit of the Americas. Elaborated in Chapter 13 of the Summit's Plan of Action, this section reads (in part) :

« A country's information infrastructure -- telecommunications, information technology, and broadcasting -- is an essential component of political economic, social and cultural development. The information infrastructure development needs in the Americas are immense. The governments of the Americas intend to meet these needs by engaging in multiple actions...such as : encouraging private sector investment... ; promoting competition ; implementing flexible regulatory regimes ; stimulating diversity of content, including cultural and linguistic diversity ; providing access to information networks for service and information providers ; and ensuring universal service, so that the benefits of the information infrastructure will be available to all members of our societies. »

The plan goes on to enumerate specific actions to be taken by governments in cooperation with the OAS⁸.

An important regional meeting will take place in Lima, Peru in April 1996 to discuss recent developments and establish a strategic plan for the continuing evolution of internetworking in Latin America and the Caribbean. The V° Foro Permanente de Redes de América Latina y el Caribe will be a continuation and expansion of the cooperative efforts of regional non-profit, national and academic networks that began with the I Foro which met in Rio de Janeiro in October 1991. Since then meetings have been held in Guadalajara (December 1992), Caracas (October 1993), and Buenos Aires (November 1994). The V° Foro will focus on organizational issues that can foster a united Latin American and Caribbean presence in global internetworking activities and also examine ways that networks can foster positive social, cultural and economic changes in the region. A strategic planning workshop will address such topics as : participation in the Internet Society, the role of national networks, strengthening the ties between national telecommunications providers and networks, the role of governments, the commercialization of the internet, information content on the internet, the development of a regional backbone and issues of financial sustainability⁹.

Librarians and other scholars have taken the initiative in making sense of the vast array of resources on the internet through numerous articles in professional journals and books. Panels have been presented at recent meetings of the Latin American Studies Association (LASA) and the Seminar on the Acquisition of Latin American Library Materials (SALALM) and the ICA (where this paper was originally presented) which have highlighted internet resources for academic research as well as socio-political and economic aspects of the evolution of the internet in Latin America¹⁰.

Keeping up with internet developments in Latin America requires that one become a participant in electronic conferences and constantly gather information.

LASNET, LASPAU-L, LALA-L, REDIAL-L and other lists provide opportunities to share information about networking developments in Latin America. Several sites on the WWW currently archive information, or point to resources. The Red Científica Peruana WWW contains a wealth of information on the past, present and future of Latin American and Caribbean networking-- <http://www.rcp.net.pe>. The RCP WWW is also a repository for information in Spanish on internet tools and teaching materials. The University of Texas Latin American Network Information Center (LANIC) continues to provide the best overall access into Latin American internet sites as well as a clearinghouse for scholarly information about Latin America-- <http://lanic.utexas.edu>. My own guide, Internet Resources for Latin America, continues to evolve and provides access to many sites with brief descriptions of the content and quality of the information. The guide also contains a List of Lists with subscription information and descriptions of many ongoing discussion groups with Latin American content. I also maintain a «Biblio/Netography» of articles, books and other information resources (published and/or on the net) relating to internetworking in Latin America--

<http://lib.nmsu.edu/staff/mmolloy/laguia/lag1.html>.

WHAT IS THE INTERNET : PAST PRESENT, FUTURE ?

The Internet has been described in a variety of ways :

- a network of networks based on the TCP/IP protocols (a common language that allows all the different computers on the net to communicate with each other)
- community of people who use and develop the networks
- collection of resources that are accessible via these networks¹¹.

The Internet as it exists today is a global resource connecting millions of users that began as an experiment over 20 years ago by the US Department of Defense. This global network encompasses over 10,000 connected networks, 1.3 million computers and over 12 million users (the number of individual users grows daily). The Internet servers (or nodes) communicate with each other using standard TCP/IP protocols, but the Internet also provides gateways to other networks and services that may use different protocols, such as Bitnet, Peacenet, or Fidonet. In addition, many commercial services such as Compuserve and Dialog can be accessed via the Internet.

The Internet has no real governing body. Krol describes it as something like a church with a «council of elders» (a volunteer group known as the Internet Architecture Board or IAB) which makes policies and sets standards for how the Internet should function. As in a church, Internet «members» may express their opinions, agreement or disagreement with the Internet Architecture Board through meetings of another volunteer organization, the Internet Engineering Task Force (IETF), but to remain a «member» of the Internet, participant networks must agree to conform to the standards set by the IAB. If a network chooses not to conform (and all are free to do as they wish), then it will no longer be a part of the Internet. The Internet has no president, CEO or Pope. Individual networks may have such authorities, but there is no single authority for the Internet as a whole. Each constituent network supports itself and individual subscribers (such as universities) pay for their connections to the Internet¹².

Within the United States and globally, constituent networks may be owned by government agencies, private enterprises, non-profit organizations, universities, and/or various combinations of such entities. Networks may differ considerably in resources, goals, size and services offered. In spite of these disparities and what

seems at times to be a chaotic lack of structure or governance, the Internet has been incredibly successful in terms of growth--the number of constituent networks has doubled each year since 1990. Weis points to two major reasons for this success :

- 1) the Internet satisfies user needs ;
- 2) network technologies have developed as solutions to real operational problems¹³.

Networks in Latin America

There are currently Internet connections in over 70 countries and access is spreading rapidly. While the great majority of network users live in North America and Europe, many developing countries are promoting network access as a way to raise education and technology levels. Networks such as Peacenet (run by the Institute for Global Communications) provide relatively inexpensive gateways to the Internet in many developing countries¹⁴.

Speaking from the Latin American perspective, Daniel Pimienta, director of the REDALC (Red para America Latina y el Caribe) project, cites several other reasons why network communication can benefit developing countries :

- as an aid to distance education, computer communication may help to alleviate the economic crisis in education ;
- network access facilitates communication between scholars who leave to study in the US and Europe and their colleagues at home ;
- the use of networks can raise awareness of both the costs and the value of information ;
- communication via computer networks may help to reduce the effects of the brain drain from south to north as information begins to flow more freely in both directions¹⁵.

The future : privatization ; global access ; fee or free ?

The future of the Internet (at least in the United States) promises more commercial use as private enterprises realize the value of network access. More commercial use will lead to more privatization. Individuals not affiliated with universities or government research entities can now purchase Internet access from a growing number of commercial providers. Government funding of the Internet outside of the sci/tech infrastructure is now a reality in the U.S. as a part of the National Information Infrastructure (NII) which provides funds through various government agencies such as the National Telecommunications and Information Administration (NTIA) of the U.S. Department of Commerce. The US interstate highway system is often used as an analogy in discussions of government participation in the development of a truly national network in the United States. The government, in cooperation with the telecommunications industry will provide the high speed backbone of the network ; private commercial and not-for-profit entities will probably provide most of the «feeder roads» and «on ramps» to the superhighway.

The trend toward commercialization and privatization will expand as more individuals come to view network access as a necessity¹⁶. Weis points out that widespread commercial use (and financing) of the Internet will depend upon the consideration of several key policy issues. These include :

- revision of current «acceptable use» policies that restrict the use of the Internet for commercial purposes ;
- establishment of federal statutory protection for network service providers who might be found liable for libel, false advertising, obscenity, copyright violations,

etc. due to the content of information that travels over the networks. Network service providers do not function as publishers (which are able to screen material and have the responsibility to protect themselves from liability). Telecommunications carriers cannot screen the information they transmit and are accorded statutory protection against liability. Most Internet service providers cannot screen messages yet they currently have no statutory protection against liability for the content of those messages.

- integration of «development» networks employing experimental, leading-edge technologies, and heavily used «production» networks based on standard, proven technologies ;
- planning to ensure that the Internet becomes an interconnected global resource, rather than clusters of isolated networks¹⁷.

The NSF (National Science Foundation) and various corporate entities in the US, most notably AT&T, are collaborating to create network information centers, collectively known as InterNICs to provide directory information to the vast resources of the Internet, theoretically free of charge. These online directories of FTP sites, library catalogs, data archives, as well as e-mail addresses for individual net users could greatly enhance the ability of novice users to find information¹⁸.

In general, the future promises less talk of the Internet (with a capital «I») and more realization that what exists is a globally accessible universe of networked information, entertainment and services. In the subset of the global network devoted to research or scholarly information, proprietary databases such as the Latin America Data Base (LADB), Info-South, or the Hispanic American Periodicals Index (HAPI) will continue to be accessible via a direct network connection, or through commercial vendors such as Dialog or Mead Data Central. In addition, commercial vendors will continue to provide full-text access to general and specialized publications, for a price. Non-governmental organizations (NGOs) and other nonprofit groups will expand their use of the global network to disseminate information about their activities and the people they serve. Their news services and databases may be freely accessible to members ; others may have to pay for access. Public domain information (library catalogs, some government databases and publications, archives of electronic conferences and Usenet newsgroups, gopher and FTP archives, etc.) will probably continue to be available for free to anyone with access to the academic/research area of the global network. And more and more people outside of the academic/research domains will be able to purchase access to the Internet and will use these public domain resources.

To continue with the highway analogy, we might think of the Internet backbone as the interstate highway system, constructed with a mixture of public and private funds. Commercial investors will be interested in these high-speed backbones as vehicles for the provision of entertainment services, shopping and other profitable activities. The academic and research sector of the net will probably continue to count on a certain amount of government investment and support, but may have to become more self-sustaining in order to maintain high levels of service for the scholars, researchers, students and others who have come to rely on essentially «free» net access. One way to sustainability might be to charge fees for net access to non-academic customers at cheaper rates than those offered by the commercial providers. We can also hope that through a combination of public and private support, certain sectors of the net will remain available for non-big science, non-commercial activities such as community freenets, access for schools and public libraries and other actual and potential net citizens that may not be able to afford or need the high-speed commercial services. We could think of these sectors of the net

in terms of the «blue highways» on road maps. These small, two-lane, sometimes unpaved roads do not travel to the usual fancy shopping malls and fast food outlets, but rather, offer a slower and more richly varied journey¹⁹.

Rationale for scholars/librarians to use Internet resources & services

Electronic communication is already well-established in academic and research communities. At present, scientific and technical fields are ahead of the humanities and social sciences disciplines, but network use is growing among students and faculty in all areas. On many campuses, students are the heaviest users of e-mail, IRC (Internet Relay Chat) and Usenet News. A survey of special librarians on their use of the Internet for reference revealed that electronic mail was the most heavily used and most popular Internet service. Respondents indicated that by using electronic mail, both personal and lists, they were able to take advantage of the specialized expertise of hundreds of colleagues and to respond more quickly to difficult questions from their clients²⁰.

One of the primary reasons that scholars will be inspired to get on the Internet is the possibility for raising current awareness. Fulfilling this need requires the willingness to explore. The adventurer soon discovers that every piece of information found, or contact made or inquiry floated can open the way to a myriad of other resources. One of the best ways to do this is to subscribe to electronic mail lists (AKA electronic conferences, listservs, discussion groups). These lists expand personal electronic mail networks to include hundreds of subscribers from all over the world with similar interests. After spending time in one subject-oriented «region» of the Internet, the user begins to know the cultural landscape, the style of communication, and some of the personalities in the region. Then, the process of «knowledge cartography» --the reconnaissance and mapping of network information sources--can begin.

Mapping the Internet

Academic librarians need to know what sources are available via the networks and how students, researchers and faculty are using the nets to get information. At present, many students use the nets primarily for interactive games and other entertainment. However, as resource discovery tools get better, more students will look to the nets for research information²¹. Librarians can take the lead in finding out about scholarly electronic conferences, Usenet newsgroups, FTP archives, gophers and other network resources in order to recommend the best of these to the students and faculty they serve.

Librarians must evaluate the resources currently available on the Internet. When, for instance, is an Internet source the best thing to use to answer a query ? For example, the *CIA World Factbook* and the *U.S. State Department Travel Advisories* are available on many gopher and WAIS servers. Depending on what server the user connects to, however, he may or may not get the most up-to-date information. There is no regime in place right now for administering or regulating the information that gets posted on the Internet. Each individual site can decide what newsgroups, databases, full-text sources, directories, library catalogs, etc. it will make available. Only at the site level is there any control over the accuracy or currency of the information posted.

Librarians who are also subject specialists, in cooperation with systems experts, are well qualified to administer and to critically evaluate Internet sources. Librarians can and should make the critical decisions concerning what information to place on the nets. What characteristics of the information should be considered ?

Is it already in the public domain, such as government documents, classics, or the Bible ?

Is it copyright protected ? If the Internet carries proprietary information paid for by an institution, for example, a commercial product such as the University of New Mexico's Latin America Database, how will access by net-users from outside the institution be controlled ?

Is the information up-to-date and accurate ? Who or what will maintain the information once it is posted onto the network ?

The critical evaluation of information that librarians can provide will be even more important in the relatively uncontrolled and «peer-review-less» world of electronic publications. While there are a growing number of refereed electronic journals²², there have been few systematic efforts to evaluate information on the networks using traditional reviewing methods or criteria.

In a technical discussion of the present and future of Internet resource discovery tools, Schwartz, Emtage, Kahle, and Neuman state that :

- In libraries, highly trained staff are responsible for organizing the available data. Library science has developed methods over hundreds of years to construct a model in which the user, with some experience, can navigate through, locate, retrieve and use the desired information. In contrast, in the Internet every user is also a potential «publisher» and «librarian.» No one expects the average user to be able to organize his or her information with such skill. Moreover, because of the decentralized control of Internet information and the difficulty of providing coherent organization in such an environment, most Internet information is only minimally organized. The challenge for the designers of information systems is to help the user find the information that is of interest²³.

Helping the user find the information that is of interest is precisely what librarians do. In addition, librarians try to provide more than «minimal organization» of information sources. Systems specialists, catalogers and reference librarians working together, can develop the access tools needed to enable users to find information on the Internet. We can become the «access engineers « and «knowledge cartographers» that Campbell refers to when he describes an essentially new role for reference librarians. Knowledge cartographers engage in continuous reconnaissance of existing and emerging sources of information and then provide knowledge maps to guide users to the information²⁴.

Looking a bit further into the development of automated resource discovery tools, Schwartz, et al. describe an automated process that sounds a lot like the traditional «reference interview» :

- Searching in a distributed environment is challenging. Brute force methods such as broadcast can pose a tremendous burden on network resources if the information being sought resides on many machines. In this case, one needs a means by which to limit the scope of searches. One means is to request «advice» from the user about promising places to search. This technique is often helpful, because users may know more about a resource being sought than they initially specify...(emphasis added)²⁵

Librarians use the reference interview to learn as much as possible about the user's information need so that the answers provided will satisfy the user. The give-and-take of the reference interview requires interpersonal communication skills that will probably never be matched by automated tools. However, their sheer numbers dictate that millions of network users will never have the opportunity to personally seek a librarian's guidance to navigate the Internet. Thus, librarians should take the lead in assisting the developers of the resource discovery tools that will continue to improve access to the current information anarchy on the Internet.

How to ?

In order to include network sources as an integral part of the accessible universe of information, scholars and librarians must become familiar with some of the sources available and the tools used to discover these sources. Some libraries, computer centers, academic departments and commercial enterprises have begun to offer workshops and courses on Internet navigation, but many more individuals are «feeling their way» onto the networks and learning by experience.

The best way for the novice user to start is to subscribe to one list that seems to have something to do with an area of interest. Soon, the announcements for new lists, related lists, new files available via FTP, new commercial databases and more, will start to flow to the user's open mailbox. Also, by getting onto a list, the new user will learn many techniques for navigating the Internet, such as how to send commands to subscribe or unsubscribe, how to find out who else is on a list, how to search the list archives (if they exist), how to retrieve files via anonymous FTP, etc. As with any new technology, the best way to learn is to start doing it. It is also part of «netiquette» or the «Internet culture» for experienced users to answer new users' questions and to keep the information flow open and courteous. If a new user posts a very basic question, he/she will usually get private mail in response with suggestions for solving the problem. But to really learn, the new user has to take the time to follow suggested procedures and learn by doing.

Using the Internet : practical considerations for Latin Americanists

There have been numerous calls for librarians to get involved in the process of «mapping» the Internet to make its resources more accessible²⁶. The rest of this paper describes some of the practical ways librarians and scholars can use the networks to facilitate communication and access to research information from and about Latin America.

Library catalogs

Hundreds of library catalogs in the United States, Canada, Europe, Australia and Latin America are now accessible via the Internet and the numbers are constantly growing. Bibliographers can use the Internet to identify materials available in the best Latin American collections, to verify bibliographic information before sending an interlibrary loan request and to alert users to the existence of research materials not held by the local institution. Researchers planning a trip can search the catalogs of possible destinations in advance and verify that the material exists ahead of time. In addition, librarians can experience searching a variety of online systems and take advantage of special features of certain systems such as keyword searching, expanded subject headings, government document access, etc. Some catalogs include local databases and access to specialized collections that may not be available through the major bibliographic utilities such as OCLC and RLIN.

Electronic mail & E-mail discussion lists

There are many electronic mail discussion lists for Latin American countries and related topics. Reading these lists can be productive and/or time-consuming and their value depends on the needs of the individual user or researcher. Many lists consist of conversations between students and others from a particular region or country, often studying or working in North America or Europe. The list may be used primarily to keep up with news and gossip from home. Other lists regularly post «hard news»

from wire services and newspapers, thus providing much more detailed and timely information from Latin America than can be obtained in the mainstream U.S. media. Some lists, such as ACTIV-L, have a clearly stated political agenda. As long as the user is aware of the bias, and evaluates the information accordingly, these lists can be an excellent source of information from popular organizations in Latin America and from a variety of international organizations and interest groups. The networks of the Association for Progressive Communications [Peacenet, Econet, Chasque (Uruguay), Nicarao (Nicaragua), Laneta (Mexico)] distribute information from grassroots human rights and environmental organizations in Latin America that is not available through mainstream sources. The APC has member networks in Mexico, Uruguay, Brazil, Ecuador, and Nicaragua. These networks may provide the only gateway to the global Internet in certain countries²⁷.

Electronic mail groups can also spark collaborative projects and lead to productive research relationships between scholars widely separated by geography and politics. For example, I received the following message from Professor Ivan Schulman of the Department of Spanish, Italian & Portuguese at the University of Illinois. [quoted with permission] :

«For more than three years now, I have been exchanging scholarly material via email with scholars at the Centro de Estudios Martianos (Havana) in connection with two projects :

- 1) the research connected to a Task Force for Scholarly Relations with Cuba (LASA) project on Martí and the United States. Four U. S. and four Cuban scholars have been involved.... ;
- 2) Research and sharing of materials for the volumes on the U.S. of the new critical edition of Martí's works being prepared at the Centro de Estudios Martianos. [This work is an example of] how scholars in the humanities and social sciences cooperate across national boundaries and in the face of the difficulties imposed by the embargo²⁸.»

As more scholars, librarians and other researchers in Latin America obtain access to the Internet, the opportunities for collaborative projects will grow. Monitoring electronic mail lists from and about Latin America is a good way to establish e-mail contacts in many Latin American countries. There may be only one Internet node in a country, thus it becomes relatively easy to find e-mail addresses once the node address is known. Librarians may be able to alert faculty and student researchers to opportunities for collaborative research and assist them in establishing electronic mail contacts with colleagues in Latin America.

List archives

Some electronic mail lists maintain archives of postings which can be searched. Searching e-mail list archives can be a very good way to retrieve relevant messages on a subject. Searching can be done interactively using listserv database commands which can be obtained by sending a request to any listserv. The user sends a «search database» command to the listserv where the list archives are stored. The listserv sends back an «index» of the hits produced by the search which contains the accession numbers, the dates and the subject lines of the messages which match the search strategy. The user sends a «print» command to the listserv that includes the accession numbers of the relevant messages. The listserv then sends all of the requested postings back to the user's mailbox in one e-mail message. [I was able to use this method to search the ACTIV-L archives for a year of human rights reports and other news items on Peru for a professor researching how popular organizations in Peru are currently affected by repression from both right and left.]

The problem with relying on list archives to search this information is that not all lists maintain remotely searchable archives. Most are selectively archived by the

moderator who chooses what is worth keeping. Others are automatically archived by the listserver which may be programmed to archive all postings for a certain period of time.

As a caveat to the above, anyone who has subscribed to electronic mail lists for any time knows that most of the lists are unmoderated and contain a lot of personal communications, gossip, verbiage and general silliness that is probably of no lasting value. As a caveat to this caveat, however, I would say that the Internet provides its users with a new means of communication which is still evolving and which has the potential to revolutionize scholarly communication. Those who participate in this evolving process will have a greater understanding of both the problems and the possibilities of this new communication paradigm.

International Organizations and NGOs

Many international organizations now provide information on the Internet. For example, the United Nations, the World Bank, the World Health Organization, the International Telecommunications Union, the Food and Agriculture Organization of the UN, the United Nations Development Program, UNICEF and others have gopher servers. The information provided by these groups varies but may include statistics, newsletters, directories of field offices and projects, and more. The United Nations web, for example, contains General Assembly and Security Council resolutions, press releases, and system directories. The UN gopher provides links to many other related gophers including (for example) the «Foreign & International Law : Primary Documents & Comments» database at Cornell University. This gopher allows the user to browse and retrieve constitutions of many countries, treaties, international conventions on the environment, aviation, trade, cultural protection and human rights.

The Institute for Global Communications gopher provides access to the information resources of several NGOs including the Conflict Resolution Center International, the Environmental Research Foundation, the Pesticide Action Network, the Rainforest Action Network, the National Network for Immigrant and Refugee Rights, the Electronic Frontier Foundation, the Center for Civic Networking, and many others. The directories, newsletters, press releases, action alerts and other documents available via the Internet may be very useful to scholars seeking information on popular organizations in Latin America and progressive groups in other parts of the world which focus on Latin American issues.

Projects

Libraries are experimenting with ways to integrate Internet sources into the research process. Many reference librarians are using the networks to seek answers to difficult questions. Reference librarians also work with systems experts to introduce network access tools to facilitate Internet navigation.

The University of Texas at Austin Latin American Network Information Center [UT-LANIC] is a gopher server announced in April 1993. The UT-LANIC gopher provides access to Latin American databases, statistics, library catalogs, FTP archives, Internet guides, lists of lists, and many other useful tools and information sources²⁹. One of the most useful databases on the UT-LANIC gopher is «Latin American and Caribbean Economic and Social Data,»--a statistical databases produced by the United States Agency for International Development (USAID). Statistics are provided on the economy, environment, health, education and many other social indicators. A menu system enables the user to find an appropriate chart.

The gopher software then allows the user to print, download or e-mail the document to any Internet mail address.

Starting January 3, 1994, I began to search various Usenet newsgroups such as soc.culture.mexico, soc.culture.native, misc.activism.progressive for information concerning the rebellion in Chiapas, Mexico. I also gathered messages from Peacenet conferences such as reg.mexico and from the Latin America Database. Each day I gathered 10-30 messages--wire stories, newspaper articles, personal experiences, press releases from human rights investigators--and then reposted the packet of information to a list of individuals and to a few electronic conferences. James Dow, the moderator of the Applied Anthropology Network, has been archiving these postings and making them available via the Oakland University (Michigan) gopher in the Applied Anthropology Network menu. The UT-LANIC gopher has also installed a pointer to the Chiapas News that links the LANIC user directly to the Oakland gopher.

As more Latin American information becomes accessible in full-text electronic form via networks, reference and systems librarians will need to work together to make this information user-friendly to students and faculty. During the summer of 1994, I worked with a group of librarians at New Mexico State University to create a library gopher that would provide access to unique local information to the internet community and offer our students and faculty an easy-to-use gateway to the global internet. I have continued to develop the Border and Latin American section of the library gopher, adding news on Mexico and the US-Mexican border gathered from various internet sources.

I like to think of the Internet in terms of the parable of «The Blind Men and the Elephant». Everyone who ventures out onto the net finds something different and may form a unique perception of what the Internet is like and what kind of information access it can provide. The parable also implies that no one will get a completely accurate view of what the Internet is and all of the information accessible via the Internet. As the story concludes :

«Each (of the blind men) had felt one part out of many. Each had perceived it wrongly. No mind knew all... All imagined something, something incorrect»³⁰.

Perhaps it would be better to say that each individual's knowledge is incomplete. Considering the vast and mercurial nature of the Internet, it is impossible (and thankfully unnecessary) to know everything. No one would really want the whole elephant on their desktop anyway. What is necessary is for each scholar/librarian to use the resource discovery tools now available to explore the network to find the resources most relevant to their research and clientele.

As librarians, we should lead the way in resource discovery by working with the technical experts to develop better ways to search the Internet. We should actively communicate with our constituents (networked and otherwise) about net resources by producing «network cartographies,» in addition to bibliographies on student and faculty research interests. Every subject specialist can claim a region of the Internet to explore in depth, and then by working collaboratively, we can become the «knowledge cartographers» and «access engineers»³¹ that are needed in the electronic library environment

NOTES

- ¹ RUKOSKI, Tony. «State of the Internet.» *Internet Society*, September 1993, quoted in an article by Alberto CABEZAS, «Internet : Potential for Services in Latin America.» *IFLA Journal* 21(1) 1995 : 11-14.
- ² Statistics from the Internet Society, quoted in a presentation by Yolanda Rivas, «The Cyberspace Challenge for Latin America.» talk presented at the Henry J. FAULK Conference on the First Amendment in Cyberspace, Austin, Texas, April 18, 1995.
<http://www.actlab.utexas.edu/~seagull/hjfaulk.html>.
- ³ NEUBARTH, Michael. «Editorial.» *Internet World* 7(1) January 1996, 8.
- ⁴ «Internet survey reaches 6.6 million internet host level--first half 1995 growth is 37percent.» Internet Society press release, 2 August 1995.
<http://info.isoc.org/infosvc/press/020895press.txt>.
- ⁵ HAHN, Saul. «Recent Advances of the RedHUCyT Project and Networking in Latin America and the Caribbean.» Paper prepared for presentation at the XIX International Congress of the Latin American Studies Association, Washington DC, September 28-30, 1995. Brief outline of the RedHUCyT project sponsored by the Department of Scientific and Technological Affairs of the OAS. For more information consult the RedHUCyT website at : <http://ichu.rcp.net.pe :80/RedHUCyT>
- ⁶ SORIANO, Jose. «Red Troncal (Backbone) para America Latina--Red Cientifica Peruana.» URL : <http://apu.rcp.net.per/rcp/presentaciones/RCP-BACKBONE>. An excellent analysis of the technical, socio-political and economic factors influencing the development of internet access in Latin America with specific reference to Peru and the Red Cientifica Peruana.
- ⁷ CONROY, Michael. «InterNet-working for NGOs in Central America : The History and State of the 'Net and Prospects for Improvement.» Paper prepared for presentation at the XIX International Congress of the Latin American Studies Association, Washington DC, September 28-30, 1995. Presents an overview of history and development of networking in the region ; obstacles and opportunities for NGO access in a fast-changing telecommunications environment.
- ⁸ Summit of the Americas, Plan of Action. Obtained from the Internet Society web site March 1995 : <http://www.isoc.org/infosvc/international/summit94-plan-eng.html>.
- ⁹ Detailed information about the V° Foro can be obtained at the website of the Red Cientifica Peruana. This site also includes many documents from previous FOROS and is an excellent resource for the study of network development in the region : <http://apu.rcp.net.pe/V°FORO>.
- ¹⁰ «The Electronic Library Environment : Latin American Information on the Internet.» Seminar on the Acquisition of Latin American Library Materials (SALALM) 38th Annual Conference, Guadalajara, Jalisco, Mexico, May 19, 1993. Primarily focused on resources and implications for bibliographers and instruction librarians.
«Demystifying the Internet : An Invaluable Resource for Latin Americanists.» Latin American Studies Association (LASA) 18th International Congress, Atlanta, GA, March 10-12, 1994. Demonstrations of a variety of scholarly resources from and about Latin America including LANIC, IGC networks and others.
«Scholarly Worlds in Collision : Economics ON & OF the Internet in Latin America.» SALALM XL, April 29-May 3, 1995, Athens, Georgia. Presented the perspectives of librarians from the U.S. and Mexico, scholars, electronic publishers and network systems managers faced with the growing commercialization of the internet and changing roles of information producers and consumers in the networked environment.
«Electronic Resources for Academics.» Latin American Studies Association (LASA) 19th International Congress, Washington, DC, September 30, 1995. Presented at the Library of Congress, this panel showcased several resources including the ARL Latin American Serials project, the continuing evolution of the University of Texas LANIC system and its importance to Latin American studies, fee-based and other commercial databases for Latin American research the use of HTML in teaching, and new efforts to bring original source documents to the World Wide Web.
«The New Internet World Order : Future of Internetworking In Latin America.» Latin American Studies Association (LASA) 19th International Congress, Washington, DC, September 30, 1995. This panel discussed different models of internetworking development in Latin America--the national network model (Red Cientifica Peruana), the NGO model (IBASE-Brasil), international support (the Red HUCyT project of the OAS, the future of NSF support for Latin American networking) and Central American network developments.
- ¹¹ E. KROL and E. HOFFMAN, *Internet Draft : What is the Internet ?* (Internet Engineering Task Force FTP document, March 1993), 1. See also John Markoff, «The Staggering Scope of the Internet.» *Digital Media* (April 20, 1992), 19-24.

- ¹² KROL and HOFFMAN, *Internet Draft : What is the Internet*, 5-6.
- ¹³ Allan H. WEIS, «Commercialization of the Internet.» *Electronic Networking : Research Applications, & Policy* 2 (3) September 1992, 7.
- ¹⁴ Association for Progressive Communications, *Global Communications for Environment, Human Rights, Development and Peace*, GNET Archive, 1993. [FTP document, see bibliography for FTP address and instructions.] See also Graham LANE, *Communications for Progress : A Guide to International E-Mail* (London : Catholic Institute for International Relations, 1990).
- ¹⁵ Daniel PIMIEN, *La Comunicación Mediante Computador : una Esperanza para el Sector Académico y de Investigación del Tercer Mundo*, (GNET Archive, May 1993), 3.
- ¹⁶ Susan M. ELDRED, «Commercialization of the Internet/NREN : Introduction.» *Electronic Networking : Research, Applications, & Policy* 2 (3) Fall 1992, 2-4 ; See also Jean ARMOUR POLLY, «NREN for All : Insurmountable Opportunity.» *Library Journal* 118 (February 1, 1993), 38-41.
- ¹⁷ Weis, «Commercialization of the Internet,» 10-11, 15.
- ¹⁸ InterNIC Directory and Database Services, electronic mail message, April 8, 1993 details the various services provided by InterNIC including Database Services, Directory of Directories, and Server Access. For more information, send an electronic mail query to <admin@ds.internic.net>.
- ¹⁹ The «blue highways» analogy comes from the 1982 best-seller by William Least Heat Moon, *Blue Highways : A Journey into America*. New York : Ballantine, 1982.
- ²⁰ Sharyn J. LADNER and Hope N. TILLMAN, «Using the Internet for Reference», *Online* 17 (1 January 1993), 45-51.
- ²¹ Thomas KINNEY points out that librarians should consider the importance of entertainment technologies in bringing networked information to the general public. See Thomas KINNEY, «Memex meets Madonna : Multimedia at the Intersection of Information and Entertainment,» *Electronic Library* 10 (3) June 1992, 133-138.
- ²² Michael STRANGELOVE, *Directory of Electronic Journals and Newsletters* (Ottawa : University of Ottawa, 1993). Available as an electronic mail file from <listserv@uottawa.bitnet> or an FTP document from <137.122.6.16> in the /pub/religion directory. For more information on retrieving the file contact Michael STRANGELOVE at <441495@acadvm1.uottawa.ca>.
- ²³ Michael F. SCHWARTZ, Alan EMTAGE, Brewster KAHLE, and B. Clifford NEUMAN, «A Comparison of Internet Resource Discovery Approaches,» *Computing Systems* 5 (4) Fall 1992, 463-464.
- ²⁴ Jerry CAMPBELL, «Shaking the Conceptual Foundations of Reference,» *Reference Services Review* 20 (4) Winter 1992, 32-33.
- ²⁵ Schwartz, EMTAGE, KAHLE and NEUMAN, «A Comparison of Internet Resource Discovery Approaches,» 464.
- ²⁶ See for example, G. H. BRETT, «Accessing Information on the Internet,» *Electronic Networking : Research, Applications & Policy* 2 (1) March 1992, 10-12.
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- LADNER and TILLMAN, «Using the Internet for Reference»
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- ²⁷ Association for Progressive Communications. *Global Computer Communications for Environment, Human Rights, Development and Peace*, (GNET Archive, Brochure of the Association for Progressive Communications, 1993) [FTP document available from <dhvx20.csudh.edu> Directory <global_net> Filename <apc_brochure.txt>].
- ²⁸ Ivan SCHULMAN, personal electronic mail communication, May 5, 1993.
- ²⁹ UT-LANIC : Latin American Network Information Center. Austin : University of Texas, Institute of Latin American Studies. [Access via telnet <telnet.lanic.utexas.edu> Login <lanic> You can also access via any gopher server with a menu system that allows access to «all gophers in the world.» Choose North America, Texas, etc. For more information contact : Ning Lin, LANIC Technical Director <nlin@bongo.cc.utexas.edu> or Carolyn POAGE <carolyn@emx.utexas.edu>.]
- ³⁰ Idries SHAH, *World Tales : the Extraordinary Coincidence of Stories Told in all Times, in all Places*, (New York : Harcourt Brace JOVANOVIĆ, 1979), p.84.
- ³¹ Jerry CAMPBELL, «Shaking the Conceptual Foundations of Reference,» 32-33.