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ABSTRACT

This pamphlet summarizes the fourth annual Forum on Federal Information Policies, which was designed to give those in the academic, public, and private sectors an opportunity to articulate concerns regarding a trend in government information policy towards cutting back on the availability of federal data and publications and limiting such information to formats that are difficult to use. Following introductions by James P. Riley and William J. Welsh, Senator Albert Gore, Jr., presented the keynote address. The first panel session, Information Policies and Public Needs, with Joseph H. Howard presiding, included discussions of Government Printing Office (GPO) issues (Donald E. Fossedal); information policy questions (Donna Demac); depository library concerns (Glyn T. Evans); and a journalist's view (Lee Edwards). Topics presented at the second panel session, Information Policies and National Interests, with Jane Bortnick presiding, included security policies (John C. Wobensmith); communications issues (Elizabeth L. Young), impacts on the science community (J. Thomas Ratchford), and a secondary publisher's view (Herbert B. Landau). Highlights of each of these papers are included in the narrative. (KM)

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Federal Library and Information Center Committee

FOURTH ANNUAL FORUM
FEDERAL INFORMATION
POLICIES:

Views of a Concerned Community

A Summary of Proceedings
Prepared by
Douglas Price

Library of Congress

Washington 1987

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On February 25, 1987, the Federal Library and Information Center Committee (FLICC) held its fourth annual Forum on Federal Information Policies in the Madison Memorial Building of the Library of Congress (LC). This forum presented the "Views of a Concerned Community" to an audience of some 140 library and information center managers, and other interested parties from both the public and private sectors.

James P. Riley, executive director of FLICC, and Ruth Ann Stewart, FLICC chair and Assistant Librarian for National Programs, LC, welcomed the participants and introduced the morning program on Information Policies and Public Needs. The afternoon session dealt with Information Policies and National Interests. Each session consisted of a presentation by a representative of a federal government agency, followed by presentations by representatives of the private sector or academe.

The Deputy Librarian of Congress, William J. Welsh, also welcomed attendees and introduced the keynote speaker, Tennessee Senator Albert Gore, Jr.

The Keynoter

In his introduction of Senator Albert Gore, Jr., Welsh noted that Gore had been elected to the House of Representatives at the age of twenty-eight and to the Senate at thirty-six. Gore, Welsh said, has been an active influence on major problems, including arms control. During his service in the House, Gore was known as one of the most thoughtful members of the Science and Technology Committee and of the Energy and Commerce Committee. In the Senate, Gore chairs the Consumer Subcommittee of the Committee on Commerce, Science, and Transportation, and is a member of the Committees on Armed Services and Rules and Administration. Welsh indicated that LC staff considered itself fortunate to have Senator Gore on the Rules and Administration Committee, which has oversight of the Library.

Senator Gore commended LC and FLICC for their foresight in sponsoring the Federal Information Policy forums and indicated his concern about the future of federal information policies. Information, he said, is a precious resource, but it is volatile, unpredictable, and impossible to control successfully. Nevertheless, it is the dominant resource of a post-industrial society, and the government cannot overlook the fact that information policy is a foundation of our democracy and a key to America's future economic strength.

Gore raised some basic questions about federal information policy. He asked how the United States could begin to design policies that will enable government to anticipate and shape change, while at the same time maintaining its competitive edge and assuring equal access for all citizens. He cited the recent interest of corporate America in participative management techniques. All of these techniques, he said, have in common the recognition that their greatest resource is the brain power of the individuals that work in an organization. By restructuring the working relationships to encourage each individual to pay close attention to the collective process in which that organization is engaged, they seek to harvest these ideas, put the best of them to work.

A democracy, Gore continued, is really very similar, in the sense that the American system was founded on the like realization that our most valuable asset is the individual minds of our citizens. Like the factory worker, the individual citizen at the grass roots level dealing with the nitty-gritty of life on a constant basis is often better capable than anyone else of realizing what needs to be changed and coming up with ideas that can inform the political process and inspire necessary change. If that system is going to work the way it is supposed to, Gore said, information must flow freely throughout the country.

Gore suggests that information technology may be our best hope to restore our lost productivity, recover world markets, and give our basic industry the flexibility to respond to the changing marketplace. He warned that our information technology itself may go overseas unless a way can be found to maintain our competitive edge, without resorting to technological or intellectual protectionism.

Using as a starting point a statement by Alvin Toffler, author of *Future Shock,* to the effect that we are approaching a time with computers when individualization will be just as cheap as mass production, Gore suggested that the techniques of automation and individualization might be applied to government activities, such as welfare. Instead of a single policy that applies to everyone, he explained, find a way to capture information about each person's particular needs and desires and feed it into the system to produce a policy tailored to that particular person, while avoiding work disincentives and opening up opportunities for growth and personal realization.

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While such a system may be beyond our vision, Gore said, it is not beyond our means, so we can reach for it, because information gives us the ability to change the relationships between government and individuals.

In the area of health care, Gore introduced in the last session of Congress legislation to create a health care data clearinghouse. This was intended to assist consumers and employers in locating and interpreting data on health care services.

"And make no mistake about it," Gore said, "a large corporation employing tens of thousands of people trying to find the best and most cost effective health care is going to go to great lengths to compare performance, and price, and quality. If the information is made available, it will drive competition in a healthy direction." So, providing the means for comparison shopping, he continued, would help to make health care more equitable, more accountable, and above all, more affordable.

Gore cited his sponsorship of a Supercomputer Network Study Act to explore the potential of using fiber optic networks to link the nation's supercomputers into one system. In response, the National Science Foundation is now exploring the issues raised by this legislation.

"We know intuitively," Gore said, "that interactive computers probably have a greater potential for increasing the productivity of our education processes than any other invention ever made." At the present time, he noted, that potential has not been realized because too much private effort goes into staking out individual market shares. As a result, school systems and teachers are finding it virtually impossible to gain access to a large volume of high quality educational software. To correct this situation, Gore will reintroduce a National Educational Software Act to establish a public corporation to develop and distribute high quality, interactive, and useful educational software.

Gore expressed considerable concern about trends toward secrecy, restriction of access, and the vulnerability of computer transmissions. He cited an announcement by the Department of Defense of plans to review government databases for sensitive information, and perhaps one day of restricting or monitoring access. "DOD has no constitutional right to do so," Gore said. "That strikes me as a dangerous idea that would have a chilling effect on the use of information in and out of government."

His comments on the administration's computer security policy and the question of how much control the government should exercise over unclassified information zeroed in on what was to emerge as the major issue discussed by speakers that followed him at the forum.

This controversial policy, released October 29, 1986 as NTISSP 2, *National Policy on Protection of Sensitive, But Unclassified Information in Federal Government Telecommunications and Automated Information Systems*, was signed by Admiral John M. Poindexter, then National Security Adviser, acting under National Security Decision Directive (NSDD) 145. NTISSP 2 stirred up considerable comment in the nation's press regarding restricted access to government information deemed to be sensitive. [Editor's note: less than a month after the forum, Frank C. Carlucci, Poindexter's successor as National Security Adviser, announced that the administration had rescinded NTISSP 2.]

Gore ended his remarks with an expression of hope that computers may someday purge the word "bureaucracy" from our vocabulary. He wished the librarians and information people well in their effort to shepherd the federal government into the information age and noted that in the information society, those who can share the present will create the future.

Information Policies and Public Needs

The presider of the morning session, Joseph H. Howard, director, National Agricultural Library, was introduced by Riley. Howard noted that as librarians and information specialists, the attendees at the forum had "an all-consuming drive to help people provide information to others, free if possible, and if not, reasonably priced." He pointed out that the forum had been called to articulate concerns regarding trends in government information policy toward cutting back on federal data and publications and then disseminating information in formats which are difficult to use.

Howard reviewed the factors contributing to this trend which were mentioned in the issues statement and forum "call" put out by the Federal Library and Information Center Committee. These have led, he said, to tensions between the government and information providers and users, over such governmental initiatives as efforts to protect sensitive, but unclassified information in federal government telecommunications and

databases, OMB's proposal for contracting out the National Technical Information Service (NTIS), and the use of microfiche only in lieu of dual publication in both paper and microfiche.

These trends have serious implications, Howard added, for both federal libraries and their users.

Government Printing Office Issues

Howard first introduced Donald E. Fossedal, Superintendent of Documents, Government Printing Office (GPO), who discussed the cutbacks mandated by the Gramm-Rudman-Hollings Act and the increasing use of microfiche as the only copies of documents sent to depository libraries. He also gave a quick view of the costing and pricing of GPO documents in the sales program.

GPO has coped with the cutbacks in several ways, Fossedal said. Fewer titles have been coming in for GPO selection for the sales program, but at the same time, other federal agencies, faced with their own cutbacks, have asked if GPO might sell documents they could no longer afford to give away.

Nevertheless, Fossedal continued, the number of titles received as sales items declined from 3,700 in 1985 to 3,000 in 1986 and are estimated at 2,500 in 1987. Titles accepted for the sales program through the first four months of the fiscal year declined from 1,200 in 1985 to 900 in 1986, but will increase slightly in 1987 to 950.

By law, Fossedal said, GPO sales documents are sold at cost (as determined by the Public Printer) plus 50 percent. In the past, the sales program has sometimes lost money because all costs were not being taken into account.

The printing and binding cost is, according to Fossedal, only a very small portion of the price of a publication. The handling cost is much larger, he continued, including daily maintenance of some 600 mailing lists, a 400,000 square foot warehouse with a staff of 270 people, and several hundred more employees at additional GPO rental office space on the fourth and fifth floors of Union Center Plaza, "acquiring, pricing, and putting bibliographic data in the public reference file."

Until last year, Fossedal said, handling costs were included in the pricing formula by estimating the total cost for the sales program and dividing that number by the number of copies that would be sold to arrive

at a standard handling cost per copy. Since this unreasonably burdened small publications with the same handling cost as large ones, they changed the formula to be more in line with price per square inch, so the larger publications carry a greater percentage of the handling costs. This resulted in some prices going up, but Fossedal feels that many more will go down.

The final element of cost is distribution, which includes not only postage, but other expenses, including a fleet of nine trucks that stock the bookstores daily and provide direct service to the Congress.

Fossedal pointed out that when a government agency removes a publication from GPO in favor of private sector publication, GPO is left with essentially the same pool of costs and fewer books across which to distribute it. He explained that one reason GPO has been able to increase its surplus is because several agencies, most recently the Internal Revenue Service (IRS), are no longer giving away unlimited quantities of forms to tax practitioners, financial institutions, and others, but are limiting or eliminating free form distribution. With the help of the IRS, GPO, in ten weeks, put together a program to sell additional needed forms so that tax practitioners and others could obtain them for the tax season.

With regard to the increased use of microfiche, Fossedal cited as a primary reason cuts in the appropriation for "Salaries & Expenses," which includes the depository library program, from $29.9 million in 1985 to $23.6 million in 1987. In addition, this latter figure included some $700,000 for international exchange program costs previously charged back to other agencies. GPO also prepared contingency plans for an additional possible 7.6 percent cut, which would have amounted to a further $1.0 million. Fortunately this cut did not materialize.

When the Depository Library Council was asked to advise which documents could be converted to microfiche only, they recommended conversions which would have saved $600,000. Even if the Depository Library Council had agreed to convert enough more paper documents to microfiche, Fossedal noted, GPO would have had to hire and train up to fifteen additional people to do the work, a process that would have taken many months; so they decided to convert documents already in dual format, both paper and microfiche, to microfiche only. Elimination of dual

format could be effected immediately, without any additional resources.

GPO's initial recommendations would have saved, Fossedal said, some $2.7 million, but Maryland Senator Charles McC. Mathias, Jr. overruled this plan. An alternative plan, saving $1.6 million was accepted, but Fossedal indicated the possibility that GPO would exhaust the 1987 funding for the depository library system before completion of distribution.

Fossedal expressed considerable satisfaction that GPO had been able to get inserted into OMB Circular A-130 two paragraphs recognizing the importance of the depository library system and requiring all executive branch agencies to ensure that their published documents were entered in the system. Since reliable sources had indicated to him that as many as 50 percent of such publications might not be in the system, he was concerned that an additional load would overwhelm GPO.

Fossedal noted that although there was an initial increase in the number of documents being sent this year to the depository libraries, the previous two months had seen a decline to the lowest level in some years. This kind of variation, he said, 's what makes it very difficult for GPO to estimate their workload in advance. They have no way of determining what the federal agencies are going to publish.

Information Policy Questions

Fossedal was followed by Donna Demac, communications lawyer and Adjunct Associate Professor, Interactive Telecommunications Department. New York University. Demac began with the statement, "There is no more fitting image of the problem that confronts the public today than Ollie North and Fawn Hall shredding and altering documents in order to revise the record."

For six years, Demac continued, we have been governed by people determined to rewrite history in order to shift fundamental goals and relationships in our society. These people, she said, have been in a hurry, more and more prone to control, and intolerant of debate, even when it could be constructive.

Demac believes that the Iran/Contra scandal was a fortunate exposure of a "pattern of behavior which becomes horrifying when you look at the escapades of certain members of the Reagan team, and in recent years, has affected nearly every sector of society." She

believes that it would be a big mistake to regard it "only as a caper." Everyone, she advised, should look at what has happened to jeopardize our values by those concerned only with deniability and obfuscation of information.

"To reclaim our policy," Demac said, "it will be necessary to examine the practical consequences of the information policies and practices that have come about since 1980." She cited examples to illustrate some of the ways that changes in information policy have brought about fundamental and undesirable shifts in our society.

Demac pointed to "a studious attempt by members of the administration to put information off limits to the American public." Classification has become a menace, she said, and reclassification of information has been authorized. Some agencies have even begun to restrict unclassified information.

National Security Decision Directive 145, Demac indicated, calls upon agencies to do more to restrict "sensitive" information, without defining the term. That single action, she noted, instituted unprecedented restrictions on unclassified information and increased the authority of agency heads to make the important decision as to what will be deemed sensitive and subject to restriction.

Additional actions Demac mentioned include new types of restrictions on the press, which have prevented them from covering such important subjects as U.S. military exercises in Central America, and executive orders and directives aimed at criminalizing the disclosure of information. She pointed out that NSDD-84 calls on officials with access to top secret information to sign lifetime prepublication agreements. Those with access to classified information must sign nondisclosure agreements, and everybody must be willing to submit to polygraph exams while leaks are being investigated.

Although it was announced in 1984 that the prepublication and polygraph provisions of this directive would be suspended, Demac asserted, this was never done. According to a September 1986 report of the General Accounting Office, she said, more than 290,000 people have signed lifetime prepublication agreements, and the number of books, articles and speeches submitted for review has risen to some 14,000 in the 1980s. In addition, the number of polygraph tests is on the rise.

Persons signing the basic nondisclosure Form 189 may do so thinking it is perfectly reasonable, but,

Demac contended, what they do not know is that according to Justice Department officials, this contract could subject them to criminal prosecution. Moreover, there is no way to determine, she said, how many people have not written speeches or articles because they did not want to go through the prepublication review process, or have been otherwise cowed by threats of punitive measures for unauthorized disclosures.

Demac expressed alarm at the recent issue of a Form 189A for government grantees and contractors, including university researchers, who have access to classified information. When asked for what purpose the form was issued, the official in charge, Steven Garfinkel of the Information Security Oversight Office said that there are two intentions here: to remind people not to disclose, and to provide evidence, should the Justice Department decide to prosecute, of a person's knowledge and consent that disclosure could result in criminal penalties.

The attempt to control information has also spread to industry, Demac said, noting recent visits by officials of the Air Force, the Central Intelligence Agency, the National Security Agency, and the Federal Bureau of Investigation to Mead Data Central in Dayton, Ohio, a database provider. All requested the identities of some 300,000 subscribers to the database and attempted to negotiate conditions whereby the company would limit access. The comment of a company official, she said, was "They want the private sector to police the customer."

Such actions, Demac feels, "clearly jeopardize both the basic groundwork of communication in our society and the competitiveness of American society." She also deprecated attempts by the government to limit distribution of publications based on unclassified research and to deny access by foreign students to various projects and technologies on campus. While there has been some recent improvement in universities' ability to limit government incursions into campus life, she acknowledged, efforts to exclude foreign students continue. Since foreign students comprise more than a third of all graduate students and their participation forms positive links between research efforts in the United States and other countries, Demac views the policy of denying them access for a purported short term advantage as self-defeating in the long term.

Turning to the subject of technology, Demac said that it obviously does not act on its own; people are

steering technology policy in the United States. The way in which technology is developed, introduced, and the conditions of access established are tightly linked to societal norms and objectives.

High technology can be used for purposes that do not strengthen our society, Demac continued, and when it is so misused over any length of time, it will seriously undermine our ability to track what is going on. New technology creates opportunities for society as a whole as well as for individuals and groups. These technologies are capable not only of generating, storing, and processing vast amounts of information, they can also provide access to information, enhance the environment for learning and creativity, generate new opportunities for profit making and economic growth, and enhance the decision making process.

The consequences of current policies, Demac said, include a public that is less confident of statements coming from Washington, resulting in a feeling of distance and discouragement. People are concerned, she feels, not only with their First Amendment freedoms, but also with government-funded jobs and programs in their communities and on university campuses. The stakes, she added, are clearly high. The United States is at a time in its history when it needs to accommodate more interests, not less. "The country has become so pluralistic, ethnic and racially mixed," she continued, "that it is absurd to pretend that we can have an elitist government."

Demac spoke of the current schism between the goals of public education and cultural progress on the one hand and economic profit making on the other. These, she said, are supposed to come together in an intellectual property system. Demac feels that the key to a solution is to try to bring these goals back together, to realize that opportunities for generating information through new sophisticated technology must be used simultaneously to generate profit and to enhance the decision making ability of society, including providing more information to the general public.

Ms. Demac is the author of *Keeping America Uninformed: Government Secrecy in the 1980s.*

Depository Library Concerns

Glyn T. Evans, Assistant Vice Chancellor for Library Services, State University of New York and director, SUNY/OCLC Network, followed Demac at the podium. Evans discussed the reactions of some

depository librarians to the increased use of microfiche, problems with the handling of federal documents, and his observations about the future.

Evans pointed out that as Assistant Vice Chancellor for Library Services he is responsible for planning, developing, and integrating library services on the sixty-four campuses of SUNY. At the same time, as director of the SUNY/OCLC Network, he directs that network of 270 libraries.

"I am particularly drawn," Evans said, "to the suggestion that technology can, in fact, help to solve many of the libraries' problems." He cited the growth of OCLC, RLIN, and other networks, which has enabled libraries to reap demonstrable cost benefits and efficiencies. There is no reason, he believes, to assume that this growth and improvement will cease.

Evans noted that there is a push/pull relationship among the various components of the depository system, and that this masks the fact that all are linked in one totally inseparable chain. Changes in demand, effort, effect, circumstances, or ethos at any point in the chain have ramifications backwards and forwards throughout the length of the chain. The switch to microforms only, he contends, is bound, even after consultation with the Depository Council, to have very unhappy effects on the end users at the other end of the chain.

In an informal survey of depository librarians in New York State, Evans found that overwhelmingly all of them were distressed at the increased emphasis on microforms. They were distressed because of the implications of handling, increased cost, and the difficulty of providing adequate services using microforms. End users would be unhappy Evans said, because "reading microfiche is like kissing through a plate of glass."

On the other hand, Evans continued, nearly all the depository librarians agreed that if the only way to acquire federal information was on microfiche, they preferred to have it, rather than not have the information at all. If using microfiche did mean an increase in cost, then they would have to do their best to reallocate resources to meet the need.

Evans reminded his listeners that all libraries have shrinking resources. State budgets are not growing any more than the federal budget, and zero growth is the typical pattern everywhere. "I suggest," he said, "that as we begin to address the problems of linking information to the end user, we have to take that into account."

When Evans asked the depository librarians how they would feel if text were available digitally and whether that would be more acceptable to users, most agreed that well designed search systems on compact disk would not be as forbidding as microfiche. Rather than a handicap, they saw the digital format as more readable, more accessible and more usable.

Evans then discussed the problems with the way different libraries handle government documents. While many catalog the government documents and integrate them into the main collection, there are others which simply shelve them by the GPO number and force users to use the *GPO Monthly Catalog* to access the material as best they can.

"The segregation is in my view," Evans said, "inimical to good information service to the community." He posed the question of how government documents—from some point forward, if not retrospectively—can be integrated clearly and firmly in the main collection, rather than relying on the GPO number on the shelves and book catalogs. He pointed out the considerable investment made by libraries in maintaining government document collections and the valuable public service such collections provide, indicating that much more could be done to help libraries cope.

OMB Circular A-130, Evans noted, makes the assumption that the use of up-to-date information technology offers opportunities to improve the management of government programs and access to and dissemination of information. He cited one of the directives in that circular which states that agencies shall seek opportunities to improve the operation of government programs or to realize savings for the government and the public through the application of up-to-date information technology to government information activities.

Evans expressed his belief that libraries are receptive to changing technology and that they can cope readily with handling information in electronic form. He suggested that information technology used at the library end of the chain can help integrate government documents with the remainder of the collection to the benefit of both the library and the end user. That process, taken one step further, he suggests, could harness the production of the documents from their receipt to their dissemination to the use of the information into one complete chain.

Evans closed with a charge to the community, "The directives are here, the technology is here, the economic forces which have been driving them are here, the social forces that are driving us are here, and I suggest that it be done."

A Journalist's View

Lee Edwards, director of the Institute on Political Journalism, Georgetown University, was the final speaker of the morning session. He spoke about the common concerns of journalists and librarians, the need for cooperation between the public and private sectors, and his view of recent trends.

"As a journalist and teacher of students of journalism," Edwards said, "I share your concern about an apparent trend in government information policy toward reducing the availability of federal data and limiting such information to formats difficult for most Americans to use." He believes that the American people have the right to know what is going on in their government, that they cannot make intelligent political decisions without adequate information, and that the dangers of too little information far outweigh those of too much.

Edwards shares librarians' belief in the First Amendment, that the government cannot place prior restraints on the press except under very narrowly defined circumstances. "It is absolutely vital," he said, "for everyone committed to representative democracy to work to keep the channels of government information open and flowing."

The problem of assuring access to and dissemination of government information did not start, Edwards continued, with this administration. All administrations try to tailor news in a way most flattering to themselves. He quoted Helen Thomas, White House correspondent for United Press International as saying, "Information is golden, and government officials too often feel that it is their private preserve, to be dispensed at their own timing, or perhaps never."

"Another similarity in our professions," Edwards noted, "is that we are in transition, challenged by and responding, however uncertainly, to the technological revolution of the late twentieth century." The typewriters in newsrooms have been replaced by computers, the television networks have lost audience share to cable television and home video recorders, and libraries have largely discarded the card catalog.

Both librarians and journalists, Edwards said, are in the information business, gathering and disseminating information. Journalists may follow the profit motive, while libraries try to serve the public good, but he contended, "There is no such thing as *free* information—ultimately somebody pays for it, either through taxes, or fees, or some other source of revenue."

Edwards added that the distinction between the public and private sectors is becoming blurred, with large media corporations spending millions for the public good, on scholarships, for instance. On the other hand, public sector libraries are charging, or considering charging, for some of their services.

"Perhaps," Edwards suggested, "the public and private sectors of the information world really should try a little more *glasnost*, a little more openness with each other," and should cooperate with, and not confront, each other. He cited several journalistic efforts that might interest librarians. For example, John B. Oates, former editorial page editor of the *New York Times*, has stated that the press must be "*voluntarily* more accountable, as well as accessible to the public."

Further in this vein, Edwards listed a number of suggestions by Michael O'Neill, former editor of the *Daily News* and former president of the American Society of Newspaper Editors. O'Neill has suggested that newspaper journalists espouse an editorial philosophy that is more positive and more tolerant, that they be less certain that whatever journalism produces is the truth and that they sign a peace treaty with the government, which is not an adversary, but the elected or appointed representatives of the people.

Edwards feels that some of the problems being considered at the forum are almost as difficult to resolve as those of the press. He believes that the movement to protect sensitive, but unclassified information is one more variation on the government's tendency to stamp as confidential information which is potentially embarrassing, but not endangering national security.

The abuses that Demac, who spoke earlier, referred to are not, and should not, be allowed, permitted, or encouraged, Edwards said. However, he added, "I don't think that what is going on today started in 1980. It has been with us for a long time. And we have to get at the roots of the problems as well as the current practices, and try snuffing them out."

On the question of OMB's proposed contracting out of NTIS, Edwards said, "Privatization is not only here to stay in the United States, but it is spreading around the world in the most unlikely places." He mentioned as examples Turkey, Bangladesh, Ghana, and China.

Libraries must also, he noted, learn to live with microfiche, at least until it is replaced by documents in digital form. "They must establish priorities," Edwards continued, "to demonstrate to their constituencies, the people who live in their towns and cities and communities, that they want to take advantage of all this technology." He offered as role models three forward looking national libraries, LC, the National Library of Medicine, and the National Agricultural Library.

On the basis of interviews with Franklin Reeder of OMB and other government officials, Edwards is persuaded that there is no "conspiracy" on the part of the Reagan administration to promote secrecy. "They are," he said, "officials charged with protecting national security who are attempting to fulfill their responsibilities in the context of the public's right to know what their government is up to."

On the other hand, Edwards chided government officials for "trying to have it both ways—calling for privatization with one hand and classifying more information with the other hand." He indicated his willingness to join in opposing needless classification of government information and invited librarians to join him in supporting the efforts of the private sector to assume information functions "not germane to the true purpose of government."

Information Policies and National Interests

Jane Bortnick, assistant chief, Science Policy Research Division, Congressional Research Service, LC, presided over the afternoon session. She began by commenting that the national interest is easier to talk about in elegant phrases than it is to translate into specific policies and practices that work effectively in day-to-day operations.

Bortnick observed that no one would argue about the vital importance of maintaining our national security, but that there is considerable debate about how to achieve that end and at what cost. "There is," she said, "a strong consensus that the political and economic vitality of this nation depends upon a well-

informed citizenry." The problem is how to accomplish this effectively and in many instances, not what it is going to cost, but who is going to pay.

"As a result," Bortnick noted, "we are continually involved in a kind of struggle to balance competing interests, whether that be secrecy versus openness, or reducing government spending versus providing access to government information." This debate, she continued, has been fueled recently by the issuance of NSDD-145, the introduction of legislation dealing with computer security, completion of the National Academy of Sciences' study of export controls, and the OMB proposal to privatize NTIS.

There is, Bortnick said, growing concern among congressional people about the potential impact of these trends converging, as well as about specific problem areas. The growing concern about America maintaining an edge in economic and military competitiveness, Bortnick sees fueling considerable interest in our remaining competitive in the burgeoning information field.

Security Policies

Bortnick introduced the first speaker of the afternoon session, John C. Wobensmith, executive secretary, National Telecommunications & Information Systems Security Committee (NTISSC). Wobensmith explained some of the issues associated with NSDD 145, *National Policy on Telecommunications and Automated Information Systems Security,* and described the organization of the NTISSC.

The need to protect the systems which process and communicate the nation's secrets, Wobensmith said, is of vital concern, and in a democracy the effectiveness of a national security policy depends on the understanding and support of the nation's citizens. He pointed out that the present administration's information security policy is built upon a directive on protection of telecommunications issued by President Carter in 1977 and expands that protection to meet the additional threat posed by the greater use of computer systems and the growing interdependency between them and telecommunications.

Wobensmith noted that reviews of computer and telecommunications systems in the federal government revealed a woeful lack of security. In response to the known vulnerability of both, he said, President Reagan signed NSDD 145 in September 1984.

NSDD 145 directed a comprehensive approach to information systems security and broadened the information protection policy to cover not only classified information, but also sensitive, unclassified government or government-derived information, the loss of which could adversely affect the national interest. Wobensmith emphasized that NSDD 145 does not address information content, but rather protection of the systems which process or communicate that information.

NSDD 145, Wobensmith continued, provides the initial goals and objectives to assure the security of telecommunications and automated information systems and to encourage, advise, and where appropriate, offer assistance to the private sector in protecting sensitive information. A major emphasis of NTISSC, he said, is increasing private sector awareness of the vulnerability of information systems and opportunities to reduce that risk.

NSDD 145 established a cabinet-level Systems Security Steering Group (SSSG) chaired by the National Security Adviser. This group, said Wobensmith, establishes policy within the framework of NSDD 145, and provides guidance to the executive agent, who is the Secretary of Defense, and to the national manager, who is the director of the National Security Agency.

The NTISSC, an operating level interagency committee under the direction of the SSSG, the executive agent, and the national manager, continued Wobensmith, formulates policy, sets objectives and establishes priorities for telecommunications and automated information systems security in the federal government. This committee is chaired by the Assistant Secretary of Defense for Command, Control, Communications and Intelligence.

Wobensmith listed some additional responsibilities of NTISSC as establishing and maintaining an issuance system to promulgate operating policies, directives, advisories, and so forth; preparing an annual status assessment; and identifying systems which handle sensitive information. Many of these functions are handled, he said, by two permanent subcommittees: the Subcommittee on Telecommunications Security (STS), and the Subcommittee on Automated Information Systems Security (SAISS).

NTISSC has issued two National Telecommunications & Information Systems Security Policies (NTISSP), Wobensmith noted, and is considering

another. NTISSP 1, *National Policy of the Application of Communications Security to U.S. Civil and Commercial Space Systems*, is intended to prevent seizing of command and control of satellites by hostile governments, terrorists, or hackers.

NTISSP 2, *National Policy on Protection of Sensitive, But Unclassified Information in Federal Government Telecommunications and Automated Information Systems* is, Wobensmith observed, the one about which the forum attendees were most likely concerned. Again, he stressed, "The policy does not give the Department of Defense, or any other department or agency of the government, the power to restrict the dissemination of unclassified information. It does, however, require federal department and agency heads to protect telecommunications and automated information *systems* [emphasis Wobensmith's] used to store, process, or otherwise handle sensitive, unclassified, government or government-derived information."

Wobensmith assured the audience that NTISSP 2 does not affect authorized access, as for example, under the Freedom of Information Act, nor does it apply to information in the private sector. While the policy leaves the definition of sensitive information to department or agency heads, Wobensmith offered as examples company proprietary information, tax records, and personal medical records. These, he noted, have been entrusted to the government by its citizens and should be protected from misuse and abuse, even though they may not be vital to national security. NTISSC is now reviewing a draft policy, *Controlled Access Protection*, defining a minimum level of protection for automated information systems operated by the government, their contractors, grantees and licensees. This policy, Wobensmith noted, requires a minimum level of protection for multi-user systems, when all users are not authorized to access all information in the system.

In addition, NTISSC is considering a draft directive entitled *Telecommunication and Automated Information Systems Security Education, Training and Awareness*. This directive, Wobensmith said, would require federal departments and agencies to develop and implement communications and computer security education, training, and awareness programs.

NTISSC has also issued, Wobensmith added, advisory memoranda on the release of communications security material to foreign nationals, criteria for the evaluation of trusted systems, and office automation

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security. The second of these earned a very positive response from agencies asked to evaluate the applicability of the criteria to their situation, with about 90 percent responding that the criteria did fit and were needed.

"In summary," Wobensmith concluded, "the NTISSC has conscientiously tried to fulfill its responsibility to provide guidance to the federal government and has implemented what we believe are progressive initiatives to achieve the goals and objectives established in NSDD 145 to secure communications and computer systems from compromise or exploitation."

Communications Issues

The following speaker, Elizabeth L. Young, vice president, Business Development, COMSAT Maritime Services, noted that her discussion concerned areas of application of the first policy discussed by Wobensmith, NTISSP 1, *Application of Communications Security to U.S. Civil and Commercial Space Systems.* She focused on that policy because of the expanding and increasingly flexible media and delivery technology, the security of which COMSAT is concerned. She also addressed other ways in which the government plays a key role in the regulation of those delivery media, which may or may not affect the security of information.

Young described some of the "incredibly diverse number" of long distance delivery media available. There are the fixed domestic satellites, which generally transmit between fixed terrestrial terminals telephony and data for both government and civilian organizations, as well as video for broadcasters, corporations, and educational institutions.

There are also a number of what are called mobile satellites. Young noted that these are also in fixed orbits, but are designed to receive and transmit voice and video to and from terminals that move. Surprisingly, she said, these systems were pioneered not on land, but on the high seas. Since 1976, she added, the U.S. Navy, the British Navy, and increasingly, the merchant fleets of many countries, as well as many private boats have been able to use this system, which was brought into being by COMSAT. It is currently operated by a consortium of forty-eight companies and is called INMARSAT.

Within the next five years, Young predicted, in the United States, and probably in Europe and Canada,

we will see mobile satellite technology operating to and from moving vehicles on ground. In the near future, she said, this service will be expanded to aircraft and "we will be able to have full voice and data communication with all private, business and commercial aircraft that wish to equip themselves." The initial cost may be relatively high, costing commercial airlines perhaps $100,000 per aircraft, but once installed, they will permit continuous two-way communication between the crew and air traffic controllers world-wide and between the passengers and anyone else.

These new delivery systems, Young pointed out, greatly expand our ability to keep in communication with each other, but they present their own problems of security. Remote sensing satellites are another kind that need protection, she added. LANDSAT has been in service some thirteen years, mapping vegetation, mineral resources, water pollution, and general terrain, and TIROS provides storm warnings, ocean current data, and a search and rescue package.

Young projected successful development of direct broadcast satellites in the near future, that could broadcast to small, probably roof-mounted earth terminals. While initially these satellites were thought of as being principally used for home entertainment, they are now being considered for use in countries where distribution of normal TV is difficult or impossible because of the terrain. In such an application, she believes, this technology could be extremely powerful. Direct broadcast satellites could also be used to link desktop computers.

Beyond ten years, Young sees the development and emplacement of space platforms and even space stations. In spite of interruptions, she believes that the United States is clearly moving toward a permanent manned facility in space. More importantly, she said, as we learn to better use the rather scarce radio frequencies in outer space communications and earth sensing satellites, we will begin to cluster our next generation of satellites in platforms. These will share power and be in configurations where they can be watched by the shuttle and serviced by a space station of some sort.

There are a number of other areas, Young observed, where government policy influences the availability of these distributive technologies. For example, the government is considering restricting the use of remotely sensed data from the broadcast media. Initially, broadcasters were not thought of as a market-

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place for such data, but remotely sensed data, once translated into usable and readily discernible pictures is of great interest to broadcast media. The questions arise, she said, of how much of this should be made available and who should have the right to, in effect, pre-censor the information.

The government also greatly affects the satellite communication world, Young noted, by its decisions on launch vehicles. The decision to limit the shuttle almost entirely to military, the National Aeronautics and Space Administration, and other government agencies, could put the satellite world in serious trouble. While COMSAT and other companies can extend life of some satellites, the failure of a launch vehicle or existing satellite in orbit could, she maintained, in the next five to seven years, put them in a very critical situation, where they simply would not have in space the number of channels required to move the amount of information needed.

Young reiterated her assertion that the federal government has a role, not only in the regulation of policies that have to do with security, but in policies that have to do with the availability of transmission media, with ways in which they are used, with who pays and who does not, and the degree to which the United States cooperates with foreign entities in sharing satellite facilities, such as those like INMARSAT and INTELSAT, in transborder and cross-border questions, and in policy forums.

"I think," she concluded, "that what is probably both most troubling and most positive is how rapidly changing a world this is." Someone, she said, is now writing policies that in five months or five years will dramatically affect the way in which we gain and use information. "I am not suggesting that that is all bad. I am just suggesting that we need to be aware of it."

Impacts on the Science Community

Bortnick then introduced Dr. J. Thomas Ratchford, associate executive officer, American Association for the Advancement of Science (AAAS). Ratchford discussed the dangers of limiting the free exchange of scientific information, the effects of export controls on the communication of basic research, and proposals to restrict access to electronic databases that contain basic research results.

To illustrate the first concern, Ratchford reported that Sir Ronald Mason, formerly Chief Science

Advisor to the Minister of Defense in the United Kingdom, warned at the recent annual meeting of AAAS that Western alliance nations must foster the free exchange of underlying scientific information, while protecting technology of commercial or military value. The alternative is a decline in the quality of scientific and technological progress and unnecessary duplication.

William Carey, outgoing executive officer of AAAS, commented, Ratchford said, on a draft of what became OMB Circular A-130. Carey said, "If OMB compels R&D [Research and Development] agencies to withhold the transfer of R&D results because some categories of information might attract a commercial reporting service while others might not . . . it will defeat the structured organization of information flows that the scientific community must rely on, and there will be a high likelihood of adverse effects on cost, productivity, and efficiency in R&D."

The National Academy of Sciences has mounted two important studies of export controls, Ratchford said. The first of these, chaired by former Cornell president Dale Corson, concluded that although the Soviet Union was getting important technological information from the United States, only an insignificant portion came from the open scientific literature and research universities.

A second panel, chaired by retired General Lew Allen. Jr., former member of the Joint Chiefs of Staff, Ratchford continued, claimed that national security controls cost American industry billions of dollars and cautioned against the danger of overcorrecting in our policies toward military security at the expense of economic vitality. A working group convened by the Department of Commerce recommended that open, fundamental research should be free of export control restrictions, adding that research at universities is to be presumed as fundamental in most cases.

While he believes that the present situation is "not bad," Ratchford cautioned that technology controlled under the International Traffic in Arms Regulations requires an export license. He sees indications that the Department of Defense is planning to enforce these regulations with respect to university research on high speed integrated circuits.

Life today, Ratchford observed, has become very complicated, with the distinction between national security and economic competitiveness being hard to

discern. To maintain our lead, he said, we need a system that is unfettered and efficient, where that is appropriate, but that also can protect proprietary information and intellectual property where needed.

In the case of electronic databases, Ratchford thinks that doing both may be much harder. He summarized the problem with a quote from *The Wall Street Journal*, "The government fears that private databases provide researchers who are potentially unfriendly to the U.S. with summaries of leading research [on] . . . militarily valuable subjects. Before these computerized information banks were created, such technical reports were scattered in hundreds of arcane journals and libraries. Now the database companies collect millions of documents and let customers comb through them in minutes by computer."

Ratchford is skeptical of the existence of a real problem. In a different context, he has suggested that the best policy might be "to let them sneak a core dump of everything in all the databases. With a little bit of luck, they would tie up their best analysts in droves, mining this not very rich ore. Using any reasonable cost-benefit model, we should win big on that exercise."

As a final point, Ratchford noted an increasing interest in improving the acquisition of foreign scientific information for the benefit of American researchers and other interested parties in universities, government and industry. "The U.S. is not the leader in all areas of science and technology," he said, "nor can it expect to be in the future." Corrective action is needed.

To that end, the National Science Foundation's (NSF) Advisory Committee on International Programs, of which Ratchford is the chair, has issued a report addressing several ways in which United States foreign policy might be buttressed, including the acquisition of foreign scientific and technical information. The committee, he said, has recommended that NSF establish an in-house group to analyze selectively collected foreign information and disseminate only the information which, in the best judgment of experts in each field, is worth reading.

Ratchford closed by asking the audience to look for a way "in which the very real talents of the management and staff of federal information centers and libraries could be brought to bear on this question of quality of scientific and technology information."

A Secondary Publisher's View

The final speaker of the afternoon was Herbert B. Landau, president, Engineering Information, Inc. and president, National Federation of Abstracting and Information Services. Mr. Landau discussed the absence of an overall national policy, the lack of support and recognition of the private sector, government overlap and competition with the private sector, and barriers to free information flow. He then suggested elements of a national information program.

The lack of an overall national policy, coordination or leadership, Landau indicated, is demonstrated, in part, by the expansion of federal agency information programs on one hand, while, on the other hand, other (and sometimes the same) agencies are formulating policies to reduce the flow of federal information to the private sector. The lack of central leadership, he feels, is a serious handicap in the world policy and business arena.

Landau argues that if action is not taken soon, the United States will stand out among high-technology nations in its lack of a logical information policy. He cited the United Kingdom and Japan as nations developing cohesive information efforts and suggested that S. 786, the Information Age Commission Act, sponsored by Senators Sam Nunn and Frank Lautenberg, be supported as addressing a broad view of information.

Landau mourned the demise of the federal-private sector relationship in which federal grants and contracts provided seed money to enable many American information services to get started. He mentioned Chemical Abstracts Service and Engineering Information as being among the not-for-profits who were helped through hard times by federal grants and contracts.

Not only is the federal government not cooperating with private sector information services, Landau said, some federal agencies, reacting against published policies (e.g. OMB Circulars A–76 and A–130) and in response to funding cuts and pressures to become more self-supporting, are becoming more aggressive in their marketing to the public at large. He gave as an example of this growing competition the failure of the federal government to help private attempts to provide access to Japanese information, in favor of a number of agencies pursuing in-house efforts independent of the private sector and of each other. He cited as a

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positive example of a more balanced policy, FEDLINK's use of commercial online vendors to provide services to their network of over 1,000 federal members and participants. FEDLINK is the operating network of the Federal Library and Information Center Committee (FLICC).

Beyond the failure to recognize the value of private sector services, Landau continued, the federal government is in the process of establishing barriers to free information flow. Since many secondary services rely on federally generated documents as a major source of input, any reduction in the quantity of federal literature or use of less accessible media is of major concern. While private information providers may be wary of government competition in the dissemination area, he said, most are opposed to reduction in federal primary document and report publishing efforts.

The proposed rules for protecting sensitive, unclassified information are, according to Landau, of great concern to the private information community, as well as the science community and academe. He fears that attempts to control private and federal information flow will backfire and lead to a major decline in our domestic information industry, loss of United States control over its own information infrastructure, and retaliation by other nations.

Landau questions whether any gain in security obtained from such restrictions will offset the sharp decline in the competitiveness and value of American information products as export commodities, giving foreign services an opportunity to capture what is now the U.S. market share. If foreign information providers retaliate by cutting U.S. users off from access to their information, he pointed out, both U.S. information providers and users will find themselves isolated.

Further, Landau finds it ironic that the federal government is proposing to control foreign access to information when so much of the United States' private information industry is now foreign owned. He listed seven major online vendors, six secondary services, twenty-three book publishers and nine journal publishers that are foreign controlled.

Landau noted that some abstracting and information services are "a bit overwhelmed" at the volume of unevaluated federal information. Much could be gained, these services feel, if the government would provide a filtering mechanism to help them identify relevant government information and do more and

more objective syntheses and analyses of information to ensure its reliability.

To correct these shortcomings, Landau said, "our national response should be aimed at three primary needs: development of a comprehensive, cohesive national information policy; establishment of a focal point for national information policy development and program definition; and recognition and nurturing of our nation's information resources."

Landau feels that a comprehensive and cohesive information policy statement is urgently required. It should recognize the existence of a multi-dimensional and linked information services spectrum, view the role of government as supportive and not competitive, provide incentives, rather than unnecessary barriers to information export, encourage exploitation of the newest information technologies, and ensure the continued information independence of the United States.

In addition, Landau said, the policy statement should encourage information entrepreneurs, encourage the development of national and international standards, ensure copyright protection and equitable compensation for owners of intellectual property, and finally, be flexible to adapt to the emerging information society.

Landau insisted that the focal point for information policy development be established at the highest government level. He would like to see a full cabinet level position, but feels that an assistant secretary position is a minimum.

Landau recommended a National Information Resource Program, which would perform a national inventory of all valuable information resources, designate critical information collections as National Information Resource Centers, link the bibliographic records of the three national libraries in an online network and eliminate redundancy, orient the national libraries and information resource centers toward serving the needs of the nation, and designate new national libraries in areas of critical national need and interest.

Landau closed with an assurance that the private information community wants to work with the government in developing national information policy. "Let us," he said, "renew the waning federal-private partnership and mutual trust to ensure that the United States will continue as the world's information leader and center of excellence."