Reprinted from
Journal of American Society for Information Science
Jan.-Feb. 1970 Vol. 21, No. 1

INFORMATION FOR PEACE

REMARKS

HUBERT H. HUMPHREY

Information for Peace

Remarks

to the

American Society for Information Science

San Francisco, California, October 3, 1969

by

Hubert H. Humphrey

I am honored to appear before you on this annual occasion which honors information excellence.

The recipients of your awards have achieved records which are an inspiration in advancing the "state of the art of information science." These advances, however, are not ends in themselves; rather they are the means for the higher human purposes which information facilitates.

The text for my message tonight is: A man's judgment is no better than his information. To this we might add that a nation's future is dependent in no small measure upon its ability and capacity to master and use information for high purpose.

Information is a national, yes, an international resource, which, properly disseminated, can accelerate the progress of mankind. The Information or Communication Age has made the world a "global village." Information generated anywhere can be made available everywhere.

The tremendous skills represented in this audience are able to collect information better than ever before, process and disseminate it so that users can put it to work as an active force, rather than allowing it to gather dust! The fruits of your work have been of immeasurable value in furthering scientific discovery and technical application. Your foremost successes have been in serving the physical, biological, and mathematical sciences, as well as engineering.

Now, it is my hope that information advances will have a similar impact in helping to cope with the awesome problems of the human condition. I refer to interdisciplinary efforts aimed at the conquest of poverty, the reduction of crime, improved human engineering of cities, the amelioration of racial tensions, and the modernization of welfare. These problems are part and parcel of what has been termed the crisis of the cities. The problems are so complex; so many variables interact that it will take immense interdisciplinary skills, including information capacity, to come to grips with them.

H. G. Wells once wrote: "Human history becomes more and more a race between education and catastrophe." It is you who represent a vital means whereby mankind can win that race. You can help telescope time, so that this generation can meet age-old challenges—the challenges of mass violence, of misery, of hatred, of ignorance. Your specialties have come a long way, and you have a longer and still more exciting way to go.

So much has happened since October 4, 1957, when Sputnik I started a chain reaction which led not only to Apollo 11's landing on the moon, but the flourishing of information science which made the latter and other epic achievements possible. We have no crystal balls, but we can forecast with reasonable certainty that the 1970's will witness new peaks in the revolution of information science. We can foresee the not-too-distant day when homes, offices, laboratories, schoolrooms will have at their fingertips selected treasures of knowledge which heretofore have been available only to a scholarly few after mountainous labor.

That day of instant information cannot come soon enough and it will come earlier than skeptics assume, provided your Society continues to take bold initiatives for interdisciplinary teamwork! This is it!

The strength of America is its pluralism and its cooperation. The strength of information science is the plural strength

—of Government information arms, including our great national libraries, encouraged by interested members of the Congress and their Committees;

—of dynamic private enterprise, constantly developing new commercial equipment, processes, publications, and services;

—of professional societies, ever refining their information services to their members;

—of foundations supporting needed experimentation;

—and of libraries, information centers, and other facilities seeking new ways to serve their clienteles.

All of this and many other sources, working together.

Broadly representative organizations such as COSATI (Committee on Scientific and Technical Information), the National Advisory Commission on Libraries, and others have been and must continue to be catalytic forces. Above all, there are forward-looking individuals like yourselves—researchers, practitioners, and other specialists—with a deep pride in professional standards and a zeal to increase personal proficiency and thereby make a maximum contribution.

As I have followed the development of the information field, I've been struck by many things, for example:

—The development of new generation of computer hardware and terminals that make it possible to gain access to computer support at a greatly reduced cost and from longer and longer distances.

—The development and experimentation with ingenious new techniques and systems for storing, retrieving, and distributing information and dealing in some way with the language of written records.

—The beginnings of greater use, in libraries and information centers and in our educational system, of nonbook media, such as microfilms, ultramicrofiche, and video tapes.

One of the exciting new publishing ventures of our times is Britannica's decision to produce entire libraries in microbook form. This series of libraries will run to about 20,000 volumes each with one or two books miniaturized on each individual 3- by 5-inch fiche card. The whole 20,000 volume library will fit on top of a card table and will reach the library precataloged and backed up with topical indices and bibliographical guides. It will be read with a three- or four-pound portable lap reader human engineered for maximum comfort. And all of this for less than one dollar per book!

The implications here for both learning and publishing could be enormous, and Britannica sees it as a technological breakthrough capable of revolutionizing the publishing business. You'll be able to walk around with a reader and a thousand books in your attache case, carrying the 24 volumes of Encyclopaedia Britannica in your inside coat pocket. The contents of the New York Public Library could be stored in a room 20 feet square.

Then there is the development of more sophisticated techniques for studying the uses of information and for assessing the value of information tools and systems that you develop.

There are many more developments that have interested me, but I would like to confine my remarks to what I sense are a few key issues that concern this audience.

The first is: How can we improve the ways in which we generate and capture the most useful kinds of information? One of the problems here is whether to "get out the word on everything" or to "screen it" on some basis such as technical newness or literary quality.

An additional key problem is: How can we create a complete store of recorded information and some means of getting at it? The 1965 report of COSATI put it rather well. It said that the Federal Government "has the responsibility to ensure that there exists within the U.S. at least one accessible copy of each significant publication of the worldwide scientific and technical literature." As most of you know, some countries take the view that one can achieve a goal like this by creating a single great central store of recorded information.

In countries like our own, this would be very difficult to do even if we wanted to. Yet, if we don't, we have to invent and apply some other means of making a complete store out of the various partial stores of information scattered throughout our country.

The obvious precedent is the interlibrary loan system, which permits each library to restrict its own collection without cutting it off from the store of library materials in the rest of the country. But libraries are only one part of the picture, and their holdings are only one part of our rich national resource of information. If we are really to create something like a national information store—again, not necessarily in one place—we need to think very hard about how such a store could be brought about and how it would operate, once in existence.

My own view has been that the immensely varied nature of American society and of user interests can be best served by interconnecting networks—networks of data centers, of libraries, of educational communications facilities and other resources. Let me note that the specialized networks should not become a higher form of "go-it-alone" -ism; rather, they should share in developing a truly national store. This objective, however, will not come about haphazardly; it will require long-range planning by leadership that is broadly representative and thinks and acts creatively on behalf of the many constituencies involved. Ideally, this leadership should strive for the goal of a system of information systems!

We would do well to heed the recommendations of the report by the Committee on Scientific and Technical Communication of the National Academy of Sciences. One particular recommendation strikes at the very heart of our problem and points the way for future direction. That report calls for the establishment of a Joint Commission on Scientific and Technical Communication, responsible to the Councils of the National Academy of Sciences and the National Academy of Engineering.

The goal to which we always return is to serve the user—present and potential—to give him what he wants, when he wants it, in the form he wants it. The user problem, or the nonuser problem, will continue to engage the attention of many of you here. You have made progress in automatically directing certain kinds of information to particular users, through selective dissemination systems, but it is clear that their success will

hinge on ever-more-sensitive evaluation of what users really need and why.

One thing is very clear. The literature is growing, and the length of our professional work day is not. No one of us, even in a fairly limited field, can really expect to read all of the articles and reports that come out in that field, unless he doesn't plan to do anything else.

This means that we must think about some way of refining the flow of information. We can refine or restrict the flow by screening out part of the literature entirely.

This is what we all do when we have to tailor our consumption to our available time, and I think you all recognize what a haphazard process that can be.

Incidentally, I am watching with interest the plans of some professional societies to replace or supplement the current journal system with one in which individual articles are sent to special user groups. If this can be made to work, it will represent an important step in achieving more selective and pinpointed distribution of information.

The chief alternative to restricting the flow of articles and reports is, as you know, to give people some kind of condensed representation of each piece of the literature; and by condensed representations, I mean such things as simple titles, citations, sets of index terms, abstracts, and so on. Each of these is less than a full document and each allows you to infer somewhat—though not necessarily the same thing—about the parent document that you do not yet have before you.

I am aware that in some respects I have posed a rather arbitrary and unreal choice: between cutting down on the flow of full documents, and condensing them somehow instead. In actual practice, we need to use both of these mechanisms; the trick is to find out where to draw the lines—where to draw the line between documents of potential interest to a given person and those not of potential interest, and where to draw the lines between title, citations, abstracts, and other condensed representations that we will use to tell the users of information about the existence and nature of new literature.

I must mention, in passing, that there is another kind of condensed representation that seems to be growing in importance, and that is the annual review or critical review. As you know, I am pleased to be a member of the Board of Editors of Britannica Reviews, a publishing venture of Encyclopaedia Britannica. EB is the publisher of the significant *Annual Review of Information Science and Technology*.

I noted with interest, in the SATCOM report of the National Academy of Sciences and Engineering, the emphasis on sifting, evaluating, consolidation, and repackaging information and on the need for systematic reviews. I believe very much in the need for state of the art reports, annual reviews, and critical reviews, as ways of meeting the information overload problem.

I would like to suggest, however, that these tools probably do different things. I was rather surprised to discover some months ago that there have been hundreds of annual review series, but that in only one instance had anyone elected to study how they were used and what effect they had on professional communication. A society like yours can and ought to take the lead in identifying and evaluating the new and different kinds of information tools that critically analyze progress in the various disciplines and fields of interest.

As all of you know, I have spent a good deal of time in public service and in the Federal Government. Important decisions—decisions of life and death—are constantly under review or being made in the Executive and Legislative Branches. These two branches of government are sorely lacking in the systematic and sensitive use of the vast array of information that is and should be available.

Let me say a few words about the Congress. In order for the Congress to meet its own expanding responsibilities, it simply must strengthen the resources for informed decision-making. Computer technology can surely assist the Congress in mastering the almost $200 billion budget and in coping with society's interrelated problems, which defy the traditional boundaries of committee jurisdictions.

So, I look forward to the day when every Senator's and Congressman's office, as well as Congressional committees and subcommittees, will have its own terminal connections to a Federal Information Bank. By teletypewriter and by light pen and video screen, the peoples' representatives will be able to draw instantaneously upon the deposits of facts which are needed for effective evaluations and decisions.

Another frontier of opportunity is the graphic, large-scale presentation of public problems. The Pentagon finds indispensable for purposes of command and control—a war room—with giant blinking maps and moving symbols fed by computers. So, too, the Congress should consider establishing a giant computerized display, so that visitors from all over America might see—at one glance—the panoramic scope of changing problems and opportunities confronting the nation. The same concept could be applied at United Nations headquarters in the form of a "peace" room. There, both diplomats and on-lookers could grasp in one view the enormous range of ever-changing problems—security, economic, political, and others facing mankind.

There is one thing of which I am absolutely certain. It is that the hardest part of nearly every complex undertaking—and this includes mounting a program to put a man on the moon—is determining who ought to be responsible for what portion of the work and then seeing that it gets done.

The key problem in the information community—and that includes all parts of it—is finding a way in which we can identify the national and international objectives and determine who has what obligation to do what to help meet those objectives. Even after we agree on objectives and responsibilities, we will need to develop some kind of organizational machinery to execute those responsibilities.

I emphasize *international* objectives because for 11 years I have used every possible occasion to foster worldwide information teamwork, both for its direct and indirect benefits.

The direct benefits are obvious; the indirect benefits are those which I believe accrue as a by-product particularly between cooperating nations which are far apart ideologically, economically, and, yes, militarily.

In July, I met in Moscow with V. A. Kirillin, Deputy Chairman of the Council of Ministers and Chairman of the State Committee for Science and Technology, and with the Deputy Chairman, Mr. D. Guishiani. Mr. Kirillin brought me up to date on the work of VINITI, the All Union Institute for Scientific and Technological Information, an organization which I brought to the attention of the Senate and the nation a decade ago.

VINITI is based on a two-way flow of information. All printed information is processed centrally and flows downward to serve all channels of the country's information services; conversely, specialized information agencies at the low levels extract, assess, and synthesize information received directly from the laboratory bench or the design and development section and channel it upward throughout the system.

Mr. Kirillin expressed the estimate that VINITI covers 80% of all the scientific and technological publications in the world. Its staff includes 3,000 full-time and 30,000 part-time employees. VINITI has partially computerized and plans further mechanization. In response to one of my questions, the Deputy Chairman said VINITI publishes its abstracts at present only in Russian, but would discuss publication in other languages, as well as cooperation on obtaining the additional 20% of all publications.

In my view, this latter possibility should be explored on both a bilateral and a multilateral basis. The world can ill afford the waste of unnecessary duplication in scientific, engineering, and other endeavor. Agreement should be reached so that the language translation abilities, the codifying skills, the processing capacity of the Soviet Union, of Eastern Europe, yes, of mainland China should be drawn upon by the world scientific community in the common interest of human progress.

Cooperation in nonclassified information is what I have called a "work of peace." We need Information for Peace, just as we need and have Science for Peace, Health for Peace, Food for Peace. In a "work of peace," each nation puts its differences aside, its resentments, its fears; it concentrates on putting its shoulder to the wheel, side by side with that of its neighbor in effort which is mutually beneficial and helpful to others as well.

I do not overestimate the value of information teamwork for the goal of understanding. But neither should it be undervalued.

In this City by the Golden Gate, twenty-four years ago a war-weary world brought into being the United Nations. Since that time, some hopes have been fulfilled; many have been disappointed; none can be regarded as permanently unattainable. The stakes are too high in the nuclear age to resign ourselves to bitterness or pessimism. Rather, I urge a rebirth of hope and of initiative and that you of this great organization offer your resources to the United Nations for the cause of Information for Peace.

John Dewey once wrote: "Every great advance in science has issued from a new audacity of imagination."

Let you, the leaders of information science, manifest audacity of imagination—and of action—in the cause of the Family of Man.

President
Joseph Becker -
Charles Bourne - Pres - Elect
Mrs Atherton - Pres - Elect #2

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REMARKS

BY

HUBERT H. HUMPHREY

AMERICAN SOCIETY FOR INFORMATION SCIENCE

SAN FRANCISCO, CALIFORNIA

OCTOBER 3, 1969

You have honored this City!
Swinging Convention

I am honored to appear before you on this annual occasion which honors information excellence.

The recipients of your awards have achieved records which are an inspiration in advancing the "state of the art of information science."

award winners

But these advances are not ends in themselves; rather they are the means for the higher human purposes which information facilitates.

"A man's judgment is no better than his information."
(Too much of a good thing -)

Information is a national, yes, an international resource which, properly disseminated, can accelerate the progress of mankind.

The Information or Communication Age has made the world a "global village."

Knowledge generated anywhere can be made available everywhere.

The tremendous skills represented in this audience are able to collect knowledge better than ever before, process and disseminate it so that users can put it to work as an active force, rather than allowing it to gather dust.

The fruits of your work have been of immeasurable value in furthering scientific discovery and technical application.

Your foremost successes have been in serving the physical, biological and mathematical sciences, as well as engineering.

Now, it is my hope that information advances will have a similar impact in helping to cope with the awesome problems of the human condition.

I refer to inter-disciplinary efforts aimed at the conquest of poverty, the reduction of crime, improved human engineering of cities, the amelioration of racial tensions, and the modernization of welfare. These problems are part and parcel of what has been termed the crisis of the cities. The problems are so complex; so many variables inter-act that it will take immense inter-disciplinary skills, including information capacity, to come to grips with them. ~~It would be incongruous if information expertise were to enable man to explore additional planets, to farm the seas and transform deserts, but not to help man to aid his less fortunate neighbor right here at home.~~

I urge you, therefore, to keep your sights high. Seek the broadest application of your insights, your new processes and tools including the service of the most humanistic ideals.

H. G. Wells ~~wrote~~ wrote:

"Human history becomes more and more a race between education and catastrophe."

It is you who represent a vital means whereby mankind can win that race. You can help telescope time, so that this generation can meet age-old challenges [redacted] -- challenges of mass violence, of misery, of hatred, of ignorance.

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it is the plural strength of

- dynamic private enterprise, constantly developing new commercial equipment, processes, publications and services;

the plural + multiple strength of

- professional societies, ever refining their information services to their members;

and of

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libraries, information centers and other facilities, seeking new ways to serve their clienteles; and many other sources, working together. Broadly representative organizations such as COSATI (Committee on Scientific and Technical Information), the National Advisory Commission on Libraries and others have been and must continue to be catalytic forces.

Above all, there are forward-looking individuals like yourselves -- researchers, practitioners, and other specialists -- with a deep pride in professional standards and a zeal to increase personal proficiency and thereby make a maximum contribution.

As I have followed the development of the information field, I've been struck by many things, e.g.,:

-- the development of a new generation of computer hardware and terminals that make it possible to gain access to computer support at a greatly reduced cost and from longer and longer distances.

technomics inc

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MEMORANDUM

September 26, 1969

L-590

J. Evans
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To: Tread Ruml

From: Norton Kristy and Ed Hurley

Subject: Suggested LAC Reference for Inclusion in H. Humphrey's Oct. 3 Speech at ASIS-San Francisco

"One of the exciting new publishing ventures of our times is Britannica's decision to produce entire libraries in microbook form. This series of libraries will run to about 20,000 volumes each with one or two books miniaturized on each individual 3" x 5" fiche card. The whole 20,000 volume library will fit on top of a card table and will reach the library pre-cataloged and backed-up with topical indices and bibliographical guides. It will be read with a 3 or 4-pound portable lap reader human engineered for maximum comfort. And all of this for less than one dollar per book!

"The implications here for both learning and publishing could be enormous and Britannica sees it as a technological breakthrough capable of revolutionizing the publishing business. You'll be able to walk around with a reader and a thousand books in your attache case, carrying the 24 volumes of Encyclopaedia Britannica in your inside coat pocket. The contents of the New York Public Library could be stored in a room twenty feet square. And maybe later on libraries will be reproducing these microbooks on the spot, letting you keep your own copy without bothering to return it."

NFK:ed

cc: E. Hurley

HRIS

HHH -
A BRIEF REFERENCE WILL BE SUFFICIENT. WE DON'T WANT TO MAKE TOO MUCH OF A SALES PITCH.

THANK YOU — John Evans

-- the development and experimentation with ingenious new techniques and systems for storing, retrieving and distributing information and dealing in some way with the language of written records.

-- the beginnings of greater use, in libraries and information centers and in our educational system, of nonbook media, such as microfilms, ultra micro fiche, and video-tapes.

-- the development of more sophisticated techniques for studying the uses of information and for assessing the value of information tools and systems that you develop.

There are many more developments that have interested me, but I would like to confine my remarks to what I sense are a few key issues that concern this audience.

The first is: How can we improve the ways in which we generate and capture the most useful kinds of information?

(1) One of the problems here is whether to get out the word on everything or to screen it on some basis such as technical newness or literary quality. The Federal Government insists on reports from its contractors, and many organizations in the private sector insist on some kind of project documentation. Should these be made available as is, or should they be lightly or heavily screened? By whom? The journals have good refereeing systems but their use, together with normal publication lag, introduces six to 24 months between availability of report or article and its visibility to the community. The challenge is to create higher quality literature without unduly interfering with its flow.

(2) Another challenge has to do with the physical capture of the document, for subsequent machine processing. One idea that I have heard was that all contractors be required to type their final (or other) reports on a typewriter whose type fonts can be read by an optical scanner.

This would involve little or no additional cost to the contractors and grantees, and if the agency subsequently wished to place all or part of it in a machine file or -- as happens frequently -- publish the report in a fancier form, it would not have to be rekeyboarded again. After the typographic instructions were added, it could go directly into a photocomposition system, for very rapid publication. Something like the same procedure could be followed for journal articles, if authors could be prevailed upon to use a typewriter with a scannable font.

(2) An additional key problem is: how can we create a complete store of recorded information and some means of getting at it? The 1965 report of the COSATI Committee put it rather well. It said that the Federal Government "has the responsibility to ensure that there exists within the U. S. at least one accessible copy of each significant publication of the worldwide scientific and technical literature." As most of you know, some countries take the view that one can achieve a goal like this by creating a single great central store of recorded information.

Library of Congress + its

National Library of Medicine
+ Ten Regional Medical libraries

New England Library information network -

Program for Acquisition + Cataloging -
Cooperates with 97 large Research
libraries in acquiring and disseminating
Catalog data

three Natl Libraries - Congress, Medicine, +
Agriculture.

Many efforts to Coordinate
Federal Library Committee of 1965 to present
Coordination of approx 2200 federal libraries

In countries like our own, this would be very difficult to do even if we wanted to. Yet, if we don't, we have to invent and apply some other means of making a complete store out of the various partial stores of information scattered throughout our country. The obvious precedent is the interlibrary loan system, which permits each library to restrict its own collection without cutting it off from the store of library materials in the rest of the country. But libraries are only one part of the picture, and their holdings are only one part of our rich national resource of information. If we are really to create something like a national information store -- again, not necessarily in one place -- we need to think very hard about how such a store could be brought about and how it would operate, once in existence.

My own view has been that the immensely varied nature of American society and of user interests can be best served by inter-connecting networks -- networks of data centers, of libraries, of educational communications facilities and other resources.

The Establishment of a Joint Commission on Scientific and Technical Communication, responsible to the Councils of the National Academy of Sciences + the National Academy of Engineering.

Let me note that the specialized networks should not become a higher form of "go-it-alone" ism; rather, they should share in developing a truly national store.

Report by Committee on Scientific Technical Communication

This objective will not come about haphazardly; it will require ~~voluntary~~ long-range planning by leadership which is broadly representative and which thinks and acts creatively on behalf of the many constituencies involved.

Ideally, this leadership should strive for the goal of a system of information systems.!!

The goal to which we always return is to serve the user -- present and potential -- to give him what he wants, when he wants it, in the form he wants it. The user problem or, ~~as it is known~~, the non-user problem will continue to engage the attention of many of you here. You have made progress in automatically directing certain kinds of information to particular users, through selective dissemination systems, but it is clear that their success will hinge on ever-more sensitive evaluation of what users really need and why.

One thing is very clear. The literature is growing, and the length of our professional work day is not. No one of us, even in a fairly limited field, can really expect to read all of the articles and reports that come out in that field, unless he doesn't plan to do anything else. This means that we must think about some way of refining the flow of information.

We can restrict the flow by screening out part of the literature entirely. This is what each of us does when we have to tailor our consumption to our available time, and I think you all recognize what a haphazard process that can be.

Incidentally, I am watching with interest the plans of some professional societies to replace or supplement the current journal system with one in which individual articles are sent to special user groups. If this can be made to work, it will represent an important step in achieving more selective and pinpointed distribution of information.

The chief alternative to restricting the flow of articles and reports is, as you know, to give people some kind of condensed representation of each piece of the literature; and by condensed representations, I mean such things as simple titles, citations, sets of index terms, abstracts, and so on. Each of these is less than a full document and each allows you to infer somewhat -- though not necessarily the same thing -- about the parent document that you do not yet have before you.

I am aware that in some respects I have posed a rather arbitrary and unreal choice: between cutting down on the flow of full documents, and condensing them somehow instead. In actual practice, we need to use both of these mechanisms, and the trick is to find out where to draw the lines -- where to draw the line between documents of potential interest to a given person and those not of potential interest, and where to draw the lines between title, citations, abstracts and other condensed representations that we will use to tell the users of information about the existence and nature of new literature.

I must mention, in passing, that there is another kind of condensed representation that seems to be growing in importance, and that is the annual review or critical review.

As you know, I am pleased to be a member of the Board of Editors of Britannica Reviews, a publishing venture of Encyclopaedia Britannica. EB is the publisher of the significant Annual Review of Information Science and Technology.

I noted with interest, in the SATCOM report, the emphasis on sifting, evaluating, consolidation, and repackaging information and on the need for systematic reviews. I believe very much in the need for state of the art reports, annual reviews, and critical reviews, as ways of meeting the information overload problem. I would like to suggest, however, that these tools probably do different things. I was rather surprised to discover some months ago that there have been hundreds of annual review series, but that in only one instance had anyone elected to study how they were used and what effect they had on professional communication.

Congress

THE CONGRESS TO MEET ITS OWN EXPANDING RESPONSIBILITIES, SHOULD STRENGTHEN THE RESOURCES FOR INFORMED DECISION-MAKING.

COMPUTER TECHNOLOGY CAN SURELY ASSIST THE CONGRESS IN MASTERING THE ALMOST $200 BILLION BUDGET AND IN COPING WITH SOCIETY'S INTER-RELATED PROBLEMS WHICH DEFY THE TRADITIONAL BOUNDARIES OF COMMITTEE JURISDICTIONS.

SO, I LOOK FORWARD TO THE DAY WHEN EVERY SENATOR'S AND CONGRESSMAN'S OFFICE, AS WELL AS CONGRESSIONAL COMMITTEES AND SUB-COMMITTEES WILL HAVE THEIR OWN TERMINAL CONNECTIONS TO A FEDERAL INFORMATION BANK. BY TELE-TYPEWRITER and by LIGHT PEN AND VIDEO SCREEN, THE PEOPLES REPRESENTATIVES WILL BE ABLE TO DRAW INSTANTANEOUSLY UPON THE DEPOSITS OF FACTS WHICH ARE NEEDED FOR EFFECTIVE EVALUATIONS AND DECISIONS.

ANOTHER FRONTIER OF OPPORTUNITY IS THE GRAPHIC, LARGE-SCALE PRESENTATION OF PUBLIC PROBLEMS. THE PENTAGON FINDS INDISPENSABLE FOR PURPOSES OF COMMAND AND CONTROL - - A WAR ROOM - - WITH GIANT BLINKING MAPS AND MOVING SYMBOLS FED BY COMPUTERS.

SO, TOO, THE CONGRESS SHOULD CONSIDER ESTABLISHING, A GIANT COMPUTERIZED DISPLAY, SO THAT VISITORS FROM ALL OVER AMERICA MIGHT SEE - - AT

(over)

ONE GLANCE - - THE PANAROMIC SCOPE OF CHANGING PROBLEMS AND OPPORTUNITIES CONFRONTING THE NATION.

THE SAME CONCEPT COULD BE APPLIED AT UNITED NATIONS HEADQUARTERS IN THE FORM OF A "PEACE" ROOM. THERE, BOTH DIPLOMATS AND ON-LOOKERS COULD GRASP IN ONE VIEW THE ENORMOUS RANGE OF EVER-CHANGING PROBLEMS - - SECURITY, ECONOMIC, POLITICAL AND OTHERS FACING MAN-KIND.

I believe that a society like yours can and ought to take the lead in identifying and evaluating the new and different kinds of information tools that critically analyze progress in the various disciplines and fields of interest.

As all of you know, I have spent a good deal of time in public service and in the Federal Government -- and there is one thing of which I am absolutely certain. It is that the hardest part of nearly every complex undertaking -- and this includes mounting a program to put a man on the moon -- is determining who ought to be responsible for what portion of the work and then seeing that it gets done.

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And even after we agree on objectives and responsibilities, we will need to develop some kind of organizational machinery to execute those responsibilities.

I emphasize international objectives because for eleven 11 years I have used every possible occasion to foster worldwide information teamwork, both for its direct and indirect benefits. The direct benefits are obvious; the indirect benefits are those which I believe accrue as a by-product particularly between cooperating nations which are far apart ideologically, economically, and yes, militarily.

In July, I met in Moscow with V. A. Kirillin, Deputy Chairman of the Council of Ministers and Chairman of the State Committee for Science and Technology, and with the Deputy Chairman, Mr. D. Guishiani. Mr. Kirillin brought me up to date on the work of VINITI, the All Union Institution for Scientific and Technological Information, an organization which ~~had first~~ brought to the attention of the Senate and the nation a decade ago. Mr. Kirillin expressed the estimate that VINITI covers 80% of all the scientific and technological publications in the world.

Viewtli Based on a 2 way flow of information
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and flows downward to serve all channels
of the Countrys information services;
Conversely, Specialized information agencies at the
lowest levels extract, access and synthesize information
gleaned directly from the laboratory bench in the
design and development section and Channel
it upward throughout the system.

Its staff includes 3,000 fulltime and 30,000 part-time employees. VINITI has partially computerized and plans further mechanization. In response to one of my questions, the Deputy Chairman said VINITI publishes its abstracts at present only in Russian, but would discuss publication in other languages, as well as cooperation on obtaining the additional 20% of all publications.

In my view, this latter possibility should be explored on both a bilateral and a multilateral basis.

The world can ill-afford the waste of unnecessary duplication in scientific, engineering and other endeavor. Agreement should be reached so that the language translation abilities, the codifying skills, the processing capacity of the Soviet Union, of Eastern Europe, yes, of mainland China should be drawn upon by the world scientific community in the common interest of human progress.

Cooperation in non-classified information is what I have called a "work of peace." We need Information for Peace, just as we need and have Science for Peace, Health for Peace, Food for Peace.

In a "work of peace," each nation puts its differences aside, its resentments, its fears; it concentrates on putting its shoulder to the wheel, side by side with that of its neighbor in effort which is mutually beneficial and helpful to others as well.

I do not overestimate the value of information teamwork for the goal of understanding. But neither should it be under-valued.

In this City by the Golden Gate, 24 years ago a war-weary world brought into being the United Nations.

Since that time, some hopes have been fulfilled; many have been disappointed; none can be regarded as permanently unattainable.

The stakes are too high in the nuclear age to resign ourselves to bitterness or pessimism.

Rather, I urge a rebirth of hope and of initiative and that you of this great organization offer your resources to the United Nations for the cause of Information for Peace.

John Dewey once wrote:

"Every great advance in science has issued from a new audacity of imagination."

Let you, the leaders of information science, manifest audacity of imagination -- and of action -- in the cause of the Family of Man.

# # #

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