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C.F.  
FG 6-15-1

MEMORANDUM OF INFORMATION FOR THE FILE

DATE 10/8/76

LETTER, MEMO, ETC.

TO:

FROM:

SUBJECT: Correspondence from Barry Rath's office  
dated Aug. 1974 - Aug. 1976 re  
the Domestic Council Committee on the  
Right of Privacy

Filed C.F. Overseas Attachment #257.



CORRESPONDENCE FILED CENTRAL FILES - CONFIDENTIAL FILE

DOMESTIC COUNCIL COMMITTEE ON THE RIGHT OF PRIVACY

WASHINGTON, D.C. 20504

October 29, 1975

Honorable Philip Buchen  
Counsel to the President  
1600 Pennsylvania Avenue, N.W.  
Washington, D.C. 20500

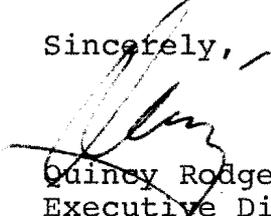
Dear Phil:

Enclosed is a preliminary transcript of the final session of the Roundtable on Privacy and Information Policy conducted by the Domestic Council Committee on the Right of Privacy. It contains the remarks of Roundtable participants as they briefed the Vice-President, in his capacity as Chairman of the Domestic Council Committee, and other Committee members.

This document is in part an acknowledgement of government's responsibility to anticipate the future problems of our society. Issues of privacy and information policy are expected to increase in importance and to require government attention to define potential problems and pose policy alternatives, although not always to provide the solutions to those problems.

We believe that the two day Roundtable contributed to an important dialogue dealing with information policy. We are sharing this transcript with you in hopes of extending and continuing that dialogue.

Sincerely,

  
Quincy Rodgers  
Executive Director



QR:mm

PRELIMINARY TRANSCRIPT OF  
THE DOMESTIC COUNCIL COMMITTEE ON THE RIGHT OF PRIVACY  
ROUNDTABLE  
ON INFORMATION POLICY

Briefing for the Vice-President and  
other Committee Members

Presentations by

Andrew Aines  
Paul Armer  
Lewis Branscomb  
William Carey  
Amitai Etzioni  
Mary Gardiner Jones  
Edwin Parker  
Oscar Ruebhausen

References to work of other Participants

Anthony G. Oettinger  
Alan F. Westin

Washington, D.C.

9 October, 1975

(This preliminary transcript is unedited and may contain inaccuracies. Inaudible or unintelligible words or phrases have been indicated by a line inserted in place of the missing words. Transcribed by Stephanie Panos, under the direction of W. T. Durr.)



QUINCY  
RODGERS

Ladies and gentlemen, thank you for coming. I'm Quincy Rodgers, Executive Director of the Domestic Council Committee on the Right of Privacy and I have just been checking with the Vice President's office and he's indicated that he would like us to begin and he'd be down as soon as he can, so I thought in the interest of time we might do that. The purpose of this meeting was to try and begin a dialog on some privacy and the right of access questions that the Vice President has indicated he is interested in. And rather than have a briefing for him by staff people to ask a number of people who have expertise on the privacy and related fields, fields of information policy, to come and sit down for a couple of days and think about what some of the issues that may be facing the nation will be. And they have done that and it is they and not I you will be hearing from.

In accordance with the procedure that we established during these two days of discussion, I have a couple of paragraphs that indicate some of the directions of commonality that people were coming from, and then the participants of the Roundtable will provide you with some of their views about policy issues.

Thus, the short paragraphs that we discussed were:

- 1) Government has a responsibility to attempt to anticipate the problems which will confront society in the short and long term, even though government's role with respect to such problems cannot always be determined at the outset.
- 2) We can anticipate that issues involving information - its use and importance to society - will be of increasing importance. Although some participants in this Roundtable view privacy as part of a set of broader and difficult policy

problems related to information generally, others see it as the central problem. You will hear from different people about their different perspectives.

- 3) There is a need for high level and broad based attention to the phenomenon of increased importance of information in our society and the social and political issues which it raises. This calls for government and the private sector to serve as a catalyst to
  - define the problems,
  - propose policy alternatives.

Also in accordance with the discussions that the people in the Roundtable had, I was asked to read some remarks that were made yesterday afternoon by Professor Alan Westin, who as many of you know is a noted expert in the privacy field and who unfortunately was unable to be here today, but there were many members of the group that were particularly taken with that perspective and thought that it was an important thing to be laid on the table. So I will take just a few minutes to do that at this time.

Professor Westin said,

First, our society has a traditional commitment to knowledge as the basis for policy making in its public sector. This grows out of the kind of ideas that were attendant to the republican tradition of government, and the respect for a useful science that people like Jefferson and others saw as the engine for rational progress in society. I think it helps to remember that the commitment to knowledge as useful information or relevant information is really deep in our society because the alternative to that is decision making about either individuals or about social questions on the basis of factors such as caste and class and race.

The second principle noted is that the commitment was to disseminate knowledge into the public because it was not to be regarded as the exclusive preserve of the savant in the society and that the whole concept of the First Amendment and the freedom of the press was that it was the dissemination of knowledge that

was going to be a major way of making the republic well governed. And that's why we err on the side of open government rather than secret government. There is a heavy commitment to keep even the worst of the free press with all of its abuses rather than trusting to any other way of getting knowledge about the affairs of government and decisions of government out to the people.

The third principle though is that this is in conflict with the idea that the individual operates with a kind of independent sovereignty as to dissemination of information about himself or herself. The ideas of John Locke, so influential in the writing of the American Constitution, tell us that your right to information about yourself is part of that kind of liberty and property which you surrender only to the extent, to the minimal extent, that you needed to, for the purpose of getting back from government on a kind of contract basis, protection against assault. That's not a bad approach because it suggests the individual's control over personal information and then works toward when it can be intruded upon. By contrast, the totalitarian approach assumes that individuals, by act of being in the society, are therefore servants of the interests and information of the institutions that run the society. What has happened in the last decade is that we've moved through acute increasing organizational development in the society. It has become a kind of gatekeeper social system. That is that every, or almost every, kind of benefit, right and opportunity that we all seek as we are growing up in society is controlled by some gatekeeper- by the educational institution, by the employer, by the trade union, by the licensing agencies of government, by the welfare agency, or by the tax agency. It's not a bad figure to imagine individuals presenting themselves at these gates and saying let me in because that suggests that what questions the gatekeeper

asks as to whether you get in or not are extraordinarily important because you don't get through the gates unless you reveal certain things about yourself. Think back just 15 years - what were the questions being asked at the gates? They weren't heavenly questions. They were about your race, your religion, your politics, and your sexual activity and a whole host of things which were legitimate for universities to ask some of them, for corporations to ask some of them, for government to ask some of them. They also involved the loyalty security questions like have you ever signed a nominating petition for the communist party. In the last 15 years the groups that were not being let into the gates and not allowed into the areas of opportunity in the society, found that privacy was a useful term with which to say that they simply demanded that we not use those criteria for excluding us from access from entry. They did so either by saying that it was illegitimate to ask the questions or by saying that if you ask us these questions we want to be very involved in how you use them. So they insisted on rights of knowledge and access to hear data directly affecting the decisions about them.

Distrust for the gatekeepers, especially for the gatekeepers of government, is deep in the American republican tradition. The civil rights movement in relation to education is illustrative. It's clear that blacks want to get in to the universities because they understand that they're the place where futures are made. They couldn't get into the universities with the qualifications that were being held to most blacks, so they had to begin to challenge the gatekeeping function. So I would argue, says Westin, that we may very well come out of this process in a few years, let's hope, with the readjustments of the status of women, the status of minorities, the status of cultural and sexual dissenters, etc. Likewise, we were involved in the process of redefining what is appropriate to be asked. This related to a whole host of changing conceptions on social values.

We could then rebuild the confidence in our institutions if we do two things. We openly communicate to people what every organization does in collecting its information and making its judgments on the theory, and I really say this with great conviction, that a great deal of the hiding by institutions is very funny because when they disclose what they think they can't possibly live with disclosing, there's a colossal yawn in the society and they learn that in fact much can be done and that a few proper corrections and their function is really not that controversial or whatever.

Secondly principles of access and redress clearly have to be built in because the information systems that are now incorporating this decision making and gatekeeping function are getting more networked and more national in character. Therefore a mistake anywhere, intentional or accidental, in misjudging people has consequences that are awesome. Information systems are extraordinarily vulnerable and if you get enough people in the population that feel angered that they don't know what's in the systems and feel they are powerless, then they'll pull the plug. I can't think of anything that is more vulnerable than data collection systems to sabotage. So I end by saying that the way to restore confidence in institutions is to continue the process of reexamining the conditions under which people get rewards and benefits in the society.

As I indicated, the group felt that those remarks by Professor Westin were pertinent and what we thought we'd do would be to ask the various people who have been talking here for the last few days about some of these issues to take about five minutes apiece and begin to say what their perspectives on privacy and social implications of it are and what its genuine meaning is. This in keeping with the Vice President's remarks to us the other day when he spent an hour with us in which he said 'No holds barred' on discussion. The first is Professor Paul Armer.

PAUL  
ARMER

As Mr. Rodgers has mentioned, some of us felt it would be useful to expand the area we were looking at into information policy and so I have agreed to attempt to explain what we mean by that term and then to say a little bit about why we think it is a topic worthy of your attention.

By information policy we mean the policies we decide on as a nation as to how the various pieces of information industry will fit together, who will be regulated and how, what industry and government can and cannot do in the information arena with respect to individuals and organizations, what stances we'll take in international trade concerning information processing, and a variety of other topics, some of which Lewis Branscomb will be enumerating later. We throw the net broadly when we define the information industry to include not only the computer manufacturers, the organizations offering computer services, the communications industry, and the users of information processing and communication, but also TV and radio broadcasters, newspapers, book publishers, the postal service and education. There are a number of others which are contained in a chart in a publication of Harvard's, "Program on Information Technologies and Public Policy" whose director, Professor Oettinger, was with us yesterday but unfortunately could not be here today. It is a document that I recommend you read if you have a few minutes sometime.



We've recently become painfully aware of how dependent we are on energy and the importance of petroleum in that picture. The social consequences of a price change of a factor of four in oil have been tremendous. But our society is equally dependent on information. Information pervades all organized activity. It is all around us, filling our heads, our files, and the memories of our computers. In the past decade, the cost of raw computing power has changed, not by a factor of four but by a factor of a thousand - in this case it has gotten cheaper, not more expensive. In the next decade it's safe to predict that the cost will decline by another factor of a thousand. I must emphasize that while I'm talking about raw computing power, to use it usefully involves other activities which have costs associated with them. It's a bit like a loaf of bread. Even if wheat became free, a loaf of bread would not be free. But if the price of wheat fell by a factor of a thousand in the next decade, we would expect the social consequences to be great. Shouldn't we expect the reduction in the cost of raw computing power to also have important social consequences.

It is also important to realize that much of communications depends on the same microelectronics technology as the computer. Other aspects of communications technology such as satellites are also undergoing large decreases in cost, such that the overall cost of communications have been decreasing by something like 10% per year. These large decreases in the unit cost of information processing are taking place at a time when unit labor costs are increasing at a rate of at least 5% per year and thus information processing represents a

significant opportunity for increased productivity of all the elements of our economy which use information processing. The information industry is already the third largest in our country and there are prognostications saying that it will one day be our largest. Ed Parker of our group has data showing that the dominant labor activity in the U.S. has already become information processing rather than Industrial Production. Jobs in information processing occupations are approaching 50% of the total. We have become an information-rich society - both in the sense that knowledge is increasingly the source of national wealth and that information is increasingly crucial in the allocation of services and benefits to the citizens. We are moving toward a goal of a more humane and egalitarian society and our economy is shifting towards industries that make best use of our citizens' skills while minimizing raw materials imports and environmental degradation.

Yet another reason for the importance of information processing is the national and international trend to bigness, complexity, interdependence, and scale.

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Explicit or not, there's a great deal of information policy already in place. The information industries are subject to government regulation on varying scales and of varying intensities. All of that policy needs to be re-examined in light of the large changes going on in the economics of information processing and the concomitant exponential growth in our use of information processing. The decisions we make will affect not only such things as our privacy and freedom, but also our balance of trade and gross national product.

WILLIAM  
CAREY

Mr. Vice President, we were all introduced to the assembled dignitaries as experts on information or on related matters. And I'd like to make it clear that I'm in the related matters category. One thing I think it might be helpful to do is to let people know where we're from, and not why we're here because none of us really knows how we got here, but at least who we are.

I'm Bill Carey and I spent 25 years in what used to be called the Bureau of the Budget and then I went into Arthur D. Little for five more, and now I head the American Association for the Advancement of Science. How that qualifies me, I'm not sure, but that's who I am.

Mr. Vice President, there was a young fellow named Harold Anderson who worked with me in those days when we were both very young and he is now president of Ohio State and after he'd been president for a year he had to give a major speech and he titled it, "On a clear day you can see practically nothing." Today isn't very clear, but we've put two days in, and what we can see I'm not too sure.

I think we can approach this issue that we're talking about in one of two ways- That the more we proliferate safeguards, the closer we come to a no-decision kind of a society, and that's a problem. The other way to look at it is that the issues of privacy and dignity which I guess brought us here together do provide an opportunity to discover some important things about the impact of the information revolution on people and on institutions and we've had a lot of conversation about that. I think that, from my point of view, in a society of advancing interdependence, which I think is one way to



describe it, we can't settle the privacy question, as Dr. Armer has indicated, in an isolated or a disembodied way because it's embedded in all the trends toward growth and bigness and interdependence and complexity. While, you know, you don't come up with any fast and cute answers, I think again we tend to confuse what's called the right to privacy with values which we also identify with privacy and if we talk about privacy as an absolute right it troubles me because we rush to judgement. I think we view it, at least I do, as a conditioned right like the right to bear arms freely. It relates to other peoples' rights and liberties and I think we have to see it that way but it's a little hard because it's an emotional issue too. I think that the problems of privacy and the right of access to official records about which poor Bob Hampton has lots of troubles and the search for principles of accountability in information collection and handling are very unlikely to be solved, and I think we probably oughtn't try to solve them by any single spectacular organizational or legislative or technological fix because they're going to be with us for a very long while and I think that the itch to look to the federal government to solve all of them is a mistaken itch. I don't think that the federal government has that mandate and surely it doesn't have the answers to take it all on. I think it does have to put its own house in order perhaps and maybe that's more or less manageable. As we said yesterday we work in a society that has gotten used to checks and balances of different kinds and probably through the arrangement of some new kinds of checks and balances we can begin to hold the fort just a little bit and try to understand what it's all



about. In terms of particularizing what these kinds of checks and balances might be, what do you do? We're not entirely sure what you do, but it seems to me that for starters the presidency does need to emphasize policy research on information problems and should maintain a continuing oversight commission. Study the questions more. The Congress through the Office of Technology Assessment and other arrangements ought to keep a watching brief. Public interest groups can and ought to act as whistle-blowers. And I think that people ought to have an assured right, I'm interested in what Gen. Levy thinks, to bring civil class actions through an appropriate public service agency in the courts for the negotiation of privacy conflicts. I have a strong feeling that in a negotiating society this is the context at which you work things out. But people do need remedies and they need arrangements and I think that these are some of the checks and balances, along with a lively press, that can help to prevent or correct abuses. And as time passes maybe we can do better. It's also, I think, worth considering, whether government ought to take steps to apply some specific self controls on what it does to trigger demand and the requirement for more information in the distribution of personally-sensitive kinds of information. One of the steps that might be thought about, although I've been reminded by one of my colleagues that it might add to paperwork and we have a Commission that's supposed to be reducing paperwork, and so everything is circular, but we might require that when new legislation comes up

and is under consideration, there might very well be associated or attached with it not only a spending estimate, which I understand is what has to happen now, but also an assessment of its impact upon the information revolution and upon individual privacy. That kind of an assessment.

Another step might be to require federal agencies when they issue, as they always do, rules and procedures and standards dealing with eligibility or entitlements to publish in the Federal Register when they publish their regulations for comment, a statement about privacy impact. Now somebody said that could be simplified, you don't have to have a statement, you could have a certification by the agency head. I guess in 25 years in government I learned something about agency heads' certifications when these fellows are awful busy. So I would tend to lean toward internalizing in the processes through which the bureaucracy, and I say it kindly, grinds out regulations and policies and procedures, that there be something there to remind them to look at it from the standpoint of privacy and information and these measures wouldn't be failsafe, but they might help to make government a little bit more conscious on a day-to-day basis about what is going on.

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I think that reasonableness rather than fiat has to be the way to approach and negotiate these questions and this is why I look not to mandatory legislation defining this or that category of information as in the overriding public interest or totally within the area of privacy. I don't think you can get at it by gross. I think that there are delicacies concerned and there are nuances concerned. And I tend to look to a referee

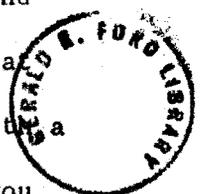


process and this is why I come to the justiciable- the process of justice in the courts and remedies and reasonable judgement. I see this all the time for example in the area where science, with which I'm now concerned and which I used to be concerned with in government although I'm not a scientist, I see how it impacts on many other interests and we have some work going on with the bar association on the interaction of science technology and the law. Well, these are blurred issues and it's just another example, and I think the only way that you can deal with them in terms of what is truth, what is objective, what is reasonable, is through some kind of a referee process. That's where I am.

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Ok, supposing you've got the social -whatever they

call it- the Social Rehabilitation Services Program over there at HEW which the Vice President helped to invent and they're dealing with a whole lot of human problems in a tremendous spectrum. Ok, so they're bound to say, ok to play this game you've got to have certain rules, certain procedures, certain requirements and that's where a lot of the trouble starts- or can start. It's a potential problem and I'm saying when you come to do that you assess the information and privacy effects of what you're doing. It's like the circular that OMB has got out now that when the federal government comes up with a new program or a policy or procedure affecting state and local, you have to consult them. You have to consult them before you do it to them. It's really that kind of a mechanism adapted to this problem.



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Within the context of the larger definition that Paul Armer gave-  
Maybe I'd better introduce myself too. I'll introduce him:

Paul Armer, who is a computer expert, who is also a social science expert and is part of the Center for Advanced Studies in the Behavioral Sciences at Palo Alto. That's at least some kind of a beginning. He used to be at Harvard.

I spent 20 years in government myself at International Bureau of Standards, was its director until 1972 under Mr. Nixon, then left and became the chief scientist of IBM. I had part of that time got into information policy through being a consultant to the Secretary General of the OECD on information policy issues and had some scientific concerns as well. And I'm a physicist.

I'd like to make a proposition which I think is perhaps obvious that the most valuable renewable resource this country has is the knowledge-producing capability of its population and the knowledge-using capability of our institutions. I think there's a unique advantage to both respects. The question is are we really making good use of that asset particularly in a world which is changing in the way Paul described in which it's clear that these characteristics must be those we rely upon as it gets more and more difficult for us to insure that we can import all the raw materials we need, it gets more and more expensive to dispose of problems of pollution, and there are certainly other governments, most notably the Japanese, who have absolutely determined that this is the ground upon which they will challenge us economically. For precisely the same reasons they need that kind of an economy worse than we do. But I submit we're not making the best use of these resources. There are many unresolved

problems of information policy that are pertinent to those impediments. But many of these areas, however, are areas of policy in which the government is, through either regulation or through incentives, trying to promote private investment in the production of knowledge and information services. In other areas the government is subsidizing the production of knowledge in the expectation that this knowledge will prove useful. And to give you some concrete examples which may be helpful in the face of the most remarkable experience I have had here which is to be invited by the Vice President to speculate on or to offer elements of philosophy on this subject. Usually it's very difficult to get a government leader to stand still for any philosophy. Maybe it's useful just to list a bunch of topics which we did not attempt to discuss. We're certainly not experts on these topics. But they give you some feeling for some optimization, if you like, of the way in which many of these policy issues are dealt with.

First is privacy and marketing policy for the results of government funded research and information services. We spend huge amounts of money creating information. We hope and pray that somehow or other it will fall into useful hands.

Second, regulatory policies for the cable television industry in the hope that if we set those policies early enough we can encourage or incent the industry to provide public services of quality in time that we think will be valuable. Similar things apply in regulation of other broadcast media.

Postal rates, and issues affecting both the economy of print media, questions of joint ownership of print and electronic media, and the like.

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Copyright and patent law as governs the protection of intellectual property. A very difficult area in which it's hard to define just what a property right in information means since the value of information is context-dependent.

The regulation of information products for foreign trade, already mentioned.

The U. S. position on communications and data processing standards at the international level, where traditionally with a small fraction of our economy in foreign trade, we have set our domestic house in order through a free enterprise voluntary standards process with minimal government interference and we have been very generous to our foreign friends at the International Standards Table by saying, you people develop your European standards, we'll have our American ones. Now we discover that the rest of the world acts in concert to isolate us, and we're going to have to become tough-minded about it. How do we be tough-minded at the international level of government leadership when we have such a tradition of voluntarism on the domestic scene?

Potentialities of new technology such as electronic mail, electronic funds transfer in banking, satellite information services, including the LANDSAT problems mentioned yesterday, the regulation of competition in the communications industry, tradeoffs between accelerated technological progress in communications areas versus the maintenance of monopoly which permits the redistribution of wealth internal to that service in order to be sure that telephone services get out to the hinterlands, and similar issues. And I think these

kinds of things illustrate first the overwhelming necessity of getting away from the philosophy and saying yes, it's good to study information policy but we can hope the government, whatever its limitations in policy-making, has even more limitations in policy implementation. Very tough to do. And therefore one needs very badly to break the problems down so they can be implemented. This point was made at lunch today by Dr. Ruth Davis who runs the Computer Institute in the Bureau of Standards and I thought it was an eloquently made point. But having decided that one must break the problem down in management pieces, now one is faced with the fact that there are threads of new values and new principles and new technologies that go all through those pieces. And if we deal with the pieces separately we may come out with incompatible principles. And therefore they do have to be looked at in the aggregate. So once again I would join Mr. Carey in a plea for looking at whatever institutional capability needs to be strengthened in addition to what I think is already some excellent policy research being funded by OTP which I believe is the one place in government that really sees the necessity for this, and at the same time take a look at the government's internal capacity to advise itself on the proper use of the technology. Here I'll make an unabashed plea for my former institution, the Bureau of Standards, where forty-two people under the leadership of Ruth Davis and under a mandate from what's commonly called the Brooks Bill, have tried manfully, or womanfully, should I say, for several - for the better part of a decade - to provide that capability with the very minimal resources. And at the same time to deal with a very large information industry. Now threading through those examples I gave are a lot of unresolved questions, one which will be spoken to a little more later does have to do with the question of what does the free market in the information field really

look like. Do market forces work or don't they work. If you listen to the Information Industries Association they'll tell you that if you're just willing to rely on market forces, information has value and the services will be provided. On the other hand, we've also discussed the importance of information services as a means of distributing opportunity in the society and it's not clear that market forces do that. And indeed if we look at the balance between government tactics regulating or operating government services on the one hand versus funding research and necessary subsidizing to some degree private services to go beyond what market forces would justify, I think we can make an argument for some rebalancing there. But it's a very strange world, this world of information, where market value depends on context, depends on ability to use the information, and where buyer and seller of information may have great difficulty in insuring whether they control what happens to it.

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I think in fact the question of the application of market forces in education is an extremely interesting one which we didn't discuss here but I've had some insights on in studying what corporations do internally in the education field and there are several billion dollars a year spent on corporations in education where they are attributing market value to education. I think there is a future in that.

But I did want to make a point about knowledge production and its role. In the past the image that most people have had of the value of research and the knowledge production producing research is that their research starts at some very fundamental abstract academic level and there's a long thirty year kind of process whereby

it evolves into applied research, technology, manufacturing, marketing, and so forth. But increasingly research is used to help somebody make a decision about how to use the technology we've already got, and what we need is not only more technological options, but we need better decisions. As the society gets more complex and as economics drives us to larger aggregations of institutions, therefore decision authority of a given decision has a bigger effect, is less reversible, has its impact quicker than was true in the past. And as Ruth Davis pointed out at lunch, all of our decision making has grown up in a world in which the objective was to make a decision in the almost total absence of information. Great executives are very good at that. Today we live in a world where there is an enormous amount of what appears to be information and the question is are the institutions that are generating and processing information serving the process of decision making as well as they might, both in the public sector and in the private sector. I would submit that the quality of decisions is the point at which these issues I'm describing which have rather more economic impact let's say than the privacy issue, nevertheless there's a connection. And the connection comes down to the citizen who may be a very average American with respect to the kinds of special social problems Westin was talking about but who nevertheless is very concerned about whether his government, or the companies he deals with make decent decisions about him and the data these organizations

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use may have no personal data about him in them at all. It has other kinds of information. But it still matters how well that's done. And I would submit if I take one example, we find that increasingly the response of an organization that can't cope with the information seems to be to do less analysis and go out and gather more facts. And that there are many situations in which the amount of fact-gathering seems to greatly exceed the amount of analysis being done. The converse of that, is that, I feel, the Congress and to a much less extent the Administration, which has pretty well kept the faith, is becoming disillusioned with federal investments in research- both in-house and grants and contracts because of a lack of confidence that the results of that research is being effectively used. And I think that if that lack of confidence has the consequence that the federal government doesn't establish clear policies to fund the programs for putting in place the mechanisms for pulling information, defining what we need, pulling it, evaluating it, disseminating it, getting it in the right users' hands, then those doubts become self-fulfilling prophecies. So I see a need here which perhaps the proposed Science Advisor or someone can pick up and work on, to take a more utilitarian approach at the whole concept of research in government which I believe will have the consequence of getting a bigger investment in basic research than the less utilitarian approach produces today.

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A.  
ETZIONI

I see privacy, which is going to be the focus of my brief comments, and I will fight with those who believe that the Administration should put more weight within the balance being fought which is when the concern is privacy, rather than the need to collect information. I've been travelling through this town and listening the last days to hard-working civil servants who talk to each other and I assume to you, telling you about the other side of the balance. The demand for privacy puts new burdens on them and makes their work more difficult and as dedicated civil servants they hate that part of their job. Their job is more difficult and they have no more resources, maybe fewer, and they are surely concerned with the difficulties new privacy requirements may pose. I would like to report to you to the best of my sociological knowledge and evidence available that it is not the way the people out there feel, beyond the boundaries of this town. That the majority of the American people are beginning to look for one source of evidence at the recent Harris poll, but there are many other sources of data. The majority of the American people at this point are disaffected. They are disaffected with government. It's not something generated by a few agitators, it's not a few hippies, it's not a few kids, it's the majority of the American people. Privacy, their concern with privacy has become part of this disaffection. The quick answers that this be handled by two hundred bills before Congress do not leave room for leadership from the Administration. The suggestion that it will be done by some Study Commission, or studying things, does not pay enough attention

to the need for vigorous leadership in this area in the near future. I agree with those who believe that the issue of privacy provides an opportunity - an opportunity to restore confidence in government, which is essential for successful continuation of the work of the society. It has been argued correctly that the \_\_\_\_\_ measure of distrust of government is part of the American individualism and tradition. I find the distrust at this moment is higher than it has been historically, certainly higher than it has been at any point since 1966 including 1972 and therefore I beg you to consider using this issue on the side of privacy at the cost, deliberate cost, of some increasing inconvenience to the computers and the data collectors. Now how this may be done, we cannot - certainly I cannot go into the details - this is not my job, not my talent - but the basic philosophical approach I suggest should proceed from the assumption that it not be done through another government bureaucracy, but be done through helping implement the philosophical legal concept which should be that information about a person is firstly his private property and all that the \_\_\_\_\_ to conditions some of their private property may be sliced if they are to be given away, but the starting point should be that just like an acre of land in the good ol' days, now information about his person, his acts and his thoughts is firstly his sovereign property. If that is going to be implemented through the practice of law, or through a law, or maybe, for dramatic purposes, through suggestion of a Constitutional amendment (I choose my words carefully). I don't expect it to be passed right away. That's a more technical question. Once that is established, as a basic philosophical principle, then we of course will say that some of this is to be given up for national purposes such as for the census or a clearly delineated national use. In

other cases, as a person seeks service - if he wants to be admitted to a hospital or to social security or welfare - he may have to yield some of this information only to the authority he deals with. There should be a check-off system on the forms indicating how much further the person will allow that information to travel containing his personal identification marks. For statistical and research purposes, for most of them at least, we do not require his individual identity and once it is removed, once identifying marks are removed, that information should be free to travel. But as long as it carries his personal identity, if he admits to his physician that he's a homosexual, it should not show from there on his insurance and if he admits to the insurance company that he is in financial trouble, that should not show up with his employer. In short, we need segregated area specialized data systems and individuals' consent for transmitting information from one area to the other.

Now, unfortunately we have too many laws and therefore we tend to scoff adding regulations. I don't favor adding many regulations. I favor adding some penalties. The needed measure is not how many laws will be passed for the next twelve months on abuse of privacy. For me the criteria would be, and for the public, how many people will be jailed. There are gross abuses going on - people who have been falsely categorized by some credit agencies for doing this and that. Final information is passed on to every area of their life, unable to find a job, unable to get new insurance, unable to be admitted this or that. People are in serious agony out there, and people who are not personally hit know about others who have been hit and they will not be satisfied and their trust in the system will not be restored until they see that not that minor transactions but that gross abuses are penalized unless people who continue to circulate information proven false to them will face the consequences.

Lastly, privacy has been put, through our two days of meeting, and even in the last hour, as an opposition to an efficient information system. In part this is true. I'd like to suggest though also, that a prerequisite of a better information system is a better guarantee of privacy. That the policy-makers, the law makers, and the public will not stand for instance for a national data base, for better network between computers, for statistical data, for new collection of data, all the things we badly need because we don't have enough information, and we don't have enough positive information unless they feel less fearful of what in their mind is translated into 1984 tings. So it's not a question of privacy or information, in the practical realities of the next years, I suggest, and I can be as wrong - better wrong- than anybody else, but it's my hypothesis that only with these kinds of guarantees will we be able to move in the direction we need to to have more data collection, better processing, and more nationwide network.

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I believe that a person should have the right to prevent information about one aspect of his life from travelling into the other because- I think Dr. Westin put this best- the information you must divulge in some areas of service concerns precisely information which in

other areas of service triggers prejudice. So if I'm a homosexual and I tell this to my psychiatrist that is where the information should be. Why should it go to my employer? A kind of a right-to-know principle should apply here. Does the employer who is considering hiring me, as just a security matter, need to know that? If social security numbers can be cracked - we notice at Columbia University we no longer post grades with names - we post grades with I.D. numbers to protect visibility. It's very quickly known that 072 is your next door neighbor. So it works better than a name but best, your personal sense of comfort will go the check-off mark that the underlying assumption that unless you've explicitly consented, the information you divulge is yours and you control how far it travels.

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RUEBHAUSEN

I'm a lawyer, and I guess I'm here because a number of years ago I participated in a frolic - an extracurricular frolic, interdisciplinary frolic- under the aegis of the Bar Association of New York City on the general subject of the impact of modern science and technology on privacy.

I'd like to just pick up this last conversation for a second. A number of people have tried to find some way of coding information so as to eliminate the identifying thumbprints as it were from the data. As far as I know no foolproof system has been devised but a lot of imaginative systems have been discussed, including such things as having the code deposited in a Swiss bank which is beyond the reach of our subpoenas and so on. So something might be done and the private sector is working on doing this sort of thing, but to my knowledge, none has been devised.

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P.  
ARMER

Well in fact you can prove mathematically that this cannot be done in the extreme. Let me, as long as you've brought it up again, respond to that. If a databank has demographic information about the individual in it you can use that demographic information to zero in on the individual that you're concerned with. Suppose a databank has information on me in it. You'd know that. You then look for the people who have a degree from UCLA in Computerology who were born in 1924, who live in Palo Alto, California and if that kind of information is in the bank you do not need to know the name, you do not need to know a number or anything. You can extract information from them. And there's a mathematical proof.

O.  
RUEBHAUSEN

I guess my role here is a bridge between what's gone before and what's gone after. I think I'll devote myself to a few simple notions, most of which were covered by the dialog that you had, Mr. Vice President, with Bill Carey. But it seems to me that what we're dealing with here in a discussion of the right of privacy and the right to information on whoever is described are two of the fundamental values of our society. They're both fundamental ones. The right of privacy encompasses such things as individual and human dignity and the sense that each individual has, or must have, I think, for his health, a feeling he, or she, has some measure of control over the extent of sharing or withholding of things about their feelings, about their beliefs, about their thoughts, and perhaps to a lesser extent about their actions. When you deal with

information you deal with a subject that involves the commitment of our entire society to the growth of knowledge which is an article of faith we believe in. It is also importantly related to freedom of speech, another important article of our society and almost equally important, to the sense of public accountability. Without information in a democracy you don't have that kind of public accountability that we should have. Each of these values, as is true with all other values in our society, is frequently in conflict with or competes with other values and has to be a resolution. The political system as you know better than most of us is one of the methods by which competition of values is resolved. And as the Attorney General knows, the legal system is one of the best methods by which competitions and conflicts of values get resolved. So that the fact there is a competition doesn't particularly bother me, nor do I think that the subject is one that is suited for legislation. As Bill Carey said, there is no fix that will do this. There may be some abuses that can be handled effectively by legislation, but I suspect the balance should be struck in some other ways.

The area I think where the balance can be worked out effectively in the interim is through a commitment to development of some standards. Standards in various fields. Standards for example for the acquisition of knowledge- is it necessary, is it sensitive in the personal identity sense, need it be sensitive, have we asserted the proper degree of self control? Standards also for the maintenance of knowledge- how long do we have to keep some of this information? how long do we have to keep it with identifying thumbprints or footprints? when should it be destroyed? what degree of confidentiality should be observed? Also standards on the use of the knowledge, or

access. The kinds of things that Amitai was talking about - who should get it? for what purpose? how do you restrict it for that purpose? when should it be destroyed, how widely should it go? Both of these values, information and privacy, are not absolute values at all. They yield to a supervening, perceived sense of the paramount public interest. In the case of freedom of information, we all know that there are certain areas that are hallowed by privilege established by the law- the doctor-patient one is one. Some states differ on these, but the lawyer-client is another, husband-wife is a possible other. Privacy also yields. There are many areas- the whole law enforcement area is one in which privacy has to yield to a supervening perceived sense of where the public interest lies. So that we're not dealing with absolutes at all and when we are dealing with important values, and I think if both the public and the private sector is aware of the values inherent in both, in information and in privacy, and works out as well as they can some ways of achieving their purposes but with a recognition of both of those values which are valuable, that this is the way we can make progress and enormous progress has been made, I think, in the last two decades.

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I think that the impact of science and technology, from where I sit at least, as a layman in the field, has accentuated the problem and there's an enormous volume of material that's available and the acceleration of the pace with which it's available and can be disseminated. So it can be done more rapidly, it can be done more effectively but some of the breaches and invasions- intolerable

invasions of privacy, non-permissible invasions of privacy- were far greater a decade ago. For example, employer-employee relationships. It was almost a trendy thing at one time to give personality tests of an enormously sophisticated and penetrating in-depth variety, where the unsuspecting employee did not realize the information that was being given and the assessment that was being made about him or her in the course of those tests. And they were required in order to get a job.

Now I'd like to say one other thing which is a digression from what I was trying to do, but I've always thought it was important, I say it because of the presence of the Attorney General. We have talked as a nation and mostly around the table in terms of individual privacy, which is very important and that's what is appealing to most everyone of us here. We're all concerned with it. But there is such a thing, I call it institutional privacy, but what I'm thinking about is the privacy of the decision-making process. The Attorney General made a very provocative, thoughtful, and stimulating address before the Association of the Bar, and I don't know what the reaction has been to that, sir, but I just want you to know that you're not a lonely voice in the event you thought you were a lonely voice. I think it's exceedingly important in \_\_\_\_\_ and in the study that I did, participated in a decade ago, we did not get to the point of institutional privacy, and I wish we had, because I think we might have made some progress and been of some help.

EDWIN  
PARKER

I'm professor of Communication at Stanford University and have long standing interest in communication and information policy questions. As an undergraduate I was a philosophy major and I'm not sure how that qualifies me to speak to the question you posed to us yesterday for some philosophical advice on how we might attempt to reconcile the right to know with the right to privacy.

I think we all understand that privacy in that sense is sort of a global concept that subsumes a lot of different things within it- personal privacy, confidentiality, security, perhaps the ownership property rights in information, and so on. There really is a host of things that are encapsulated by that perhaps overly simplistic label. I think the disputes over access to, or protection of information are just not going to be resolved on a once and for all basis, and ought not to be resolved on a once and for all basis. Because information can be translated into power, the basic conflicts over the distribution of resources in the society in an age of information and information technology will be fought increasingly over the rights of access to or protection of information. I think part of what's going on these days, and I think Amitai Etzioni spoke to it eloquently, is that in an age where the costs of the technology are declining as Paul Armer spoke, where it's easier and easier to get access to and manipulate information because it's cheaper, if those tools of more efficient access to information are all in the hands of the large institutions of the society, be they corporate or governmental, what rights does the little guy have to

protect his balance of power in this shifting, essentially political power situation. And in the case of inequitable or changing balance of equality or equity of access to information, there are two ways that one might attempt to redress that balance. One way is to assert a right of privacy. To build a wall. To say, hey you big guy, you can't take this information from me. The other way to help redress the balance is to make the information that the institution is using- what is it doing, its decision processes- available to the little guy. Then if we begin to use some of our information tools and techniques to increase the citizen access to the information that's being processed in the decision making rules within the institutions of the society, we may be able to have some reconciliation in the direction that more access of citizens to information as well as in the area of privacy. If there's a larger principle that can help resolve these fundamental and continuing conflicts, and I'm not sure that there are, but if there is a larger principle, it may lie in the effective use of the information resources themselves in order to increase the wealth of the society so that there's more to distribute and so that we pay attention to the equitable distribution that can result. This is not a novel concept, obviously, in fact historically education in the United States has served exactly that role to effectively increase the wealth and to do something useful about more equitable distribution \_\_\_\_\_. In an age of information the battles between access and privacy may escalate to the level of the historic and continuing debate between free trade and protection \_\_\_\_\_ in industrial societies. Those people who are trying

to protect the erosion of what they have may erect and strengthen privacy barriers \_\_\_\_\_ and others may argue for a free flow of information because they sense that there could be greater wealth for all through greater sharing of information. Now, abuses in the management of information, by both government and the private sector, will obviously have to be curbed, as Amitai has indicated, in order to have the public confidence that will permit the kind of benefits that can be obtained. Those abuses I think will have to be curbed. Whether those abuses stem from the invasion of privacy or from thwarting peoples' right to know. These are questions of fundamental civil rights and they are questions of public confidence in the collective institutions of the society. But in addition to these civil rights kinds of questions the issue of the impact on the economy of this dispute between access and privacy I think must be more carefully examined than it has been in the past. We may create or maintain privacy walls that try and protect and conserve existing distributions of wealth and power, but in the process we may inhibit the potential for growth that could make everyone better off. I don't want to press too far this analogy of access and privacy against protectionism and free trade because if you press it too far then it doesn't quite fit. The analogy I'm really trying to make is that the conflict is as fundamental and as significant in our information age as the protectionism of free trade was in the industrial age and we haven't yet really come to grips with what will become an historic debate. I think to achieve the benefits that could accrue from increased right of access analogous to free trade, it would be necessary to solve two fundamental problems because if we

don't solve these fundamental problems we won't be able to get the benefits. One is to ensure that the distribution of benefits is perceived as equitable so there are few incentives to raise the barriers that would inhibit the growth. And secondly, we need to find a way to create better incentives for the original creation and sharing of information than are now obtainable through the legal mechanisms of copyright, patent laws, and various other means. The problem essentially is that our whole economic system is geared on the basis of tangible property and in order to make information this intangible thing such that when you give it away you still have it, and if you show it to someone else he can freely duplicate it to other people and so on. In order to deal with that kind of intangible, we have had to somehow devise mechanisms to create the incentives for its original production and the incentives for its distribution so that we can all be better off. And as we all know, copyright law, patent law and so on don't really do the job as well as they might for producing the incentives for the original product and the distribution of the information and I think we need to pay attention to these kinds of basically economic questions in addition to the civil rights questions that are fundamental.

MARY  
JONES

Well, background- I practice law in New York, spent nine years on the Federal Trade Commission, spent three years in the academic world and am now in the corporate world as a vice president, so I've worn

all kinds of hats. In wearing all those kinds of hats I have inevitably come involved with actual problems of the information policy and the kinds of rights that get in the way of it. My concern and my focus is to ensure that the right to know is some meaningful concept and not just some concept in theory that we talk about. As I see the information industry emerging, I see a real need to ensure that the fruits of that information industry -- the information itself -- is in fact equitably available to all people. Now my primary concern is with the citizen's need for information in order to participate in a very real sense in the democratic process, to participate in the market place, to participate in the health, and educational and other community services that are made available to him. I see no way for that citizen to participate effectively in those services unless he has information to enable him to evaluate the quality of those services, compare them and see what his options are and make meaningful choices between them. Now, with the current economies of scale in the information industry we have at the moment limited the access to information systems primarily to large institutional users. Citizens, individual citizens, do not have the same kind of access to information. Indeed, they don't have the same information being made available to them. I suspect the vendors are there, if the channels and vehicles of distribution were available. I see a real need of government to fill in the cracks, to take up the slack where the private sector cannot

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deliver either the information or the mechanisms to make that information available to citizens. I see a role for government to facilitate and make sure that information is in fact available to the individual citizen so I have a very real concern not so much, although I share the concerns that government may in some areas exercise self restraints; I'm much more concerned that government exercise the leadership to see to it that people have equitable access to information which they need if they are going to be effective citizens and if they are not going to feel alienated and disaffected. I think that's a greater source of their feeling - disaffection - is their feeling of powerlessness. They feel powerless because they can't participate.

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In the marketplace, I can't really make the competitive system work unless I can in fact evaluate different products that are being offered to me. Therefore I need information on the durability of products, on their qualities, on their ingredients. If I am going to try and share and participate in health services I need to know if I have a particular kind of problem, what hospitals perform the most operations in this area, what doctors have done this, I can't really participate in health services unless I can evaluate their quality. You can go down your educational systems the same kind of thing. You need this kind of basic information to be able to effectively and intelligently make choices as to which service you're going to use to what extent it has value to you.

THE VICE-

PRESIDENT

Could I just interrupt there for an illustration of trying, as a government agent at one point, to make information that was essential to local communities, not individuals in this case, on categorical grant programs that were available to counties, towns, villages, cities within our state and there were over a thousand and their standards of regulations were so detailed that the application of those to the individual communities and the government had volumes of books, and we found no way that we could make this available meaningfully to a community unless we set up a computer system which would take the community's criteria for eligibility and plot it to the thousands of different categories and that would have cost us 17 million dollars to set up a computer system that would have made the information available just to the community. So government's doing so much, it's very hard to inform even communities, much less citizens, about what's available. So this is a horrendous problem.

M.  
JONES

It is a horrendous problem but we are now getting the technology to deliver it. We can have console models which you can punch and ask information and we have the technology of storing the information. We have people who are creating it. My problem is that we are delivering a lot of this kind of information to large users, who can afford it, but the individual citizen, unless we can find a way of

delivering it to them en masse, then it can become profitable. But somewhere, I think, government has to intervene to either create the delivery mechanisms or to subsidize some of the industries who are involved in this in some fashion to get this information. I think it's \_\_\_\_\_.

The second problem to make the right to know meaningful. I also have to have some assurance that the information I'm getting (and we've now made it available under some hypothesis, under perhaps your leadership) we have to ensure that it's accurate.

It's a real problem. Now, we have lots of models of ensuring accuracy of products and services. The competitive model is one obvious one. Unfortunately in the information area I don't think the competitive model is necessarily going to work because in some instances databanks are going to be natural monopolies. It would be wasteful to have two sets of them. In that sense we've got to then find some other way of assuring quality of the information that's in that databank. Again, there are a lot of ways of doing it. We can do it through a disclosure system, kind of a FCC kind of an approach, of saying that any databank must disclose the source of the information that's in there, of criteria used in selecting it, the methodology used in indexing it and making it available. These are the kinds of standards that have been talked about that I think we can impose on major databank systems which can go in some direction in ensuring quality. There are other models that we can use. Again, I see government playing an important role in setting those standards.

A third problem comes a little bit more directly, Mr. Vice President, in the question you were asking earlier about the tradeoff. I see very strong governmental needs for information about individuals if we are going to not only implement our social programs but do the things being demanded of government now and that is evaluate their effectiveness and demonstrate that they were necessary. In order to do that, we have to follow through on individual life histories. If we are trying to have an educational program, we're trying to compare one program versus another we've got to follow those students through their lives to some extent. Same thing with health programs. We're going to see what happened to them. Same thing with nutritional or any other kind of social welfare program where we're trying to increase the individual's productivity and quality of life we've got to follow it through. All right. That conflicts obviously as we well know with the citizen's concerns about don't tell, don't give any information out about me. I'd like to suggest another approach of trying to solve this tradeoff problem. Not only creating institutions for making the tradeoff but looking at it in terms of giving the citizen some chance to make his own tradeoffs in terms of his own concerns about his personal privacy, also his concerns to have effective educational systems to send his children to. My feeling is government can do a great deal to try and foster the public debate, try and create the forums in which these issues can be discussed. My guess is if we do this the political forum, which is in the last analysis where that tradeoff has to be made in the halls of Congress, will be a more informed tradeoff

because we will have developed a consensus before this. Now this means that government may have to insist that some of our typical communications channels, our TV, has to be devoted to discussion of these kinds of issues. They have to do something to create the leadership to create this kind of consensus because I think that may go a longer way to solving the tradeoff problem by perhaps eliminating it. Then government won't have to make it as often because the individual citizens will have a way of making it all for themselves. This is my concerns of information field and my hope for government leadership to start these kinds of solutions going.

THE VICE-

PRESIDENT

That's a fascinatingly comprehensive approach. There's only one last reaction I have when you talk about the logical place for this to be dealt with in the halls of Congress, and somebody earlier spoke about-maybe you did- the need for information and how do the policy makers get the information on which to make the policy.

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JONES

Let me add one footnote to that. I use the halls of Congress because it's at that point that that social goal decision is made. It's when that legislation is passed that we've decided we want to put this program in, so it's at that point that the tradeoffs will be made where people will come in yelling privacy or people will come in yelling social cost or people will come in arguing for the need for the social program and it's exactly what I had in mind that I want to get to the people beforehand so when they come in expressing their points of view they've had more of a chance to look at both that short range interest they have and the long range.

The other comment I'd like to make, and I'm sure you know it -- you've been before Congressional committees, but I really have tremendous respect for the work of the Congressional committees. I see those senators and congressmen really well informed. True, their staffs do a great deal of the work. That was one of the first things that impressed me when I came to Washington- how able the staffs were, but on the other hand that's also the measure of the man - or the woman - that he hires able staff, and I really feel that where those bills are whacked up is in those committees and they do work hard.

ANDREW  
AINES

I will not try to hold you too long. I recognize that time is moving. If I had to entitle what I'm going to say I think I'd call it "The New Awareness." The fact that we're all being reprogrammed in the way we handle knowledge. People, institutions, government, all groups. The enormity of the reprogramming unfortunately has not been fully understood or appreciated. For example consider the sensitivity of the media for things dealing with information. I took with me a number of headlines appearing in the last few days: "8,000 Record Systems Used by the U.S." (Washington Post); "Full House Support of Spy Probe Asked" (L.A. Times); "IRS Inquiry Seeking \_\_\_\_\_ Documents" (Washington Post); "Mortgage Disclosure Bill Gains" (Washington Post); "FCC Chairman to Support Televised Political Debate" and on and on. If you look carefully at the papers you find at least 5 to 10 items a day which indicate the sensitivity of the media and this perhaps explains a little bit of

the attitude they've shown about information processes in the last few years. Additionally, the number of bills that appear in Congress that deal with information \_\_\_\_\_. Seemingly they no longer trust the federal agencies to create the proper information processes, they tell us- title after title comes in. Mr. Vice President, when you testified on 4461 I had the honor of listening, and you recall Title Four of that article, do you, Information Corporation, which fortunately disappeared when it became 9058 and however they did put a phrase in there that the Science Advisor would be required to do certain things in the information area. This indicates an attitude, as does the fact that there are about ten national commissions now working or involved one way or another with information. I happen to be a member of one of these commissions and I recognize the responsibility we have in this area. I think too it's appropriate that I say something about the information area because the federal agencies are the world's largest generators, handlers, and disseminators of knowledge. I'm very proud to say that I'm a product of that community and I think there will be many people who will be able to say the same and more in years to come. Therefore some of my comments are made lovingly to my friends in the government and perhaps at times because I'm reaching that age maybe sometimes a little bit sternly.

I'd like to make a few points, then, that I think are important. The proliferation of knowledge. The \_\_\_\_\_ study for OECD showed an increase of four to seven fold for the year 1985. The statement he made was, "No system in any country today is sophisticated enough to be able to handle that volume of knowledge."

Second point. Although we are in an age of this extraordinary explosion of knowledge, every decision maker, every problem solver, policy maker cries for requisite information that he cannot get. One reason for it is that virtually all information resources today, the ongoing systems, have been designed for specific user groups- chemists, just name the groups- rather than for users that must draw from multiple sources. So we're off kilter somehow or other. The information systems we've constructed simply are not being brought to the point of sensitivity and service that are required. We're moving, but oh so slowly.

Another point is that the capital outlay from public and private sources needed to develop and maintain these systems, mechanized systems, that are serving greater groups of users, including, Mary, the people that you referred to earlier, who want, or I expect who want, to be part of the system. These are growing rapidly and the costs are zooming - if you have to buy some documents from the Government Printing Office or the National Technical Information Service, where just 2,3, or 4 years ago they were in the vicinity of \$3, you'll find some of them go up to \$30 and \$40. It's getting to be beyond the capability of a lot of individuals to buy knowledge created by the government. To make the new systems work effectively more highly trained information managers and specialists are required. Universities are not training people for this type of thing. For example, when we have a LANDSAT operation, where do people get the kind of requisite knowledge to operate such a system successfully.

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What do you do with these large scale computerized systems that are spreading everywhere if you have people who come out of library schools and information science schools who've never been taught management. They have to come from other fields. And that's what's happening. But it's regrettable that we're not training these people for that purpose.

Another point I'd like to make deals with the information and data networks that are proliferating in the United States and abroad. Hundreds of them; perhaps thousands. Virtually all international organizations have become hyperactive in this area. Most countries in the world have made the development of information systems extremely high priority on a national basis at the highest level .....(changing tape) ..... it appears to me that what they have to do is do a bit more in bringing together a number of groups that are involved in information activities at high levels and create some kind of a high level of concern and interest by virtue of perhaps councils. I'm not talking about new commissions. I'm talking about the active people - the performers in the field and the government and outside, who would come together because in a pluralistic society like ours we simply can't afford to have one blueprint that in effect tries to control the information process. It would never be bought, it would never be sold. The other way then is to follow the other course of getting a dialog. While the United States has become more aware of the need for information policy at the highest levels - and I know this is true because I'm the U.S. representative to the Information Policy Group in OECD.

I see some need there for bolstered efforts, and I'm very pleased to see that John Eger has now entered into this arena and I'm hopeful we can do a lot more, John, in this department.

Now there's one other area that I'd like to mention and this is a sudden growth of the for-profit information sector. It should be understood that if you move into an information society in a post-industrial world, a post-industrial society, in effect a lot of people will be selling and handling information. We already have major organizations doing this type of thing. Now we're getting such things as interactive networks where people can query and get information about 30,40,50 databanks. These are now growing rapidly and the number of people using them is also large. I expect they're going to grow more rapidly. But what we have found is that many of the data bases that are generated as a result of federal agency programs, not the least of which is the National Library of Medicine's MEDLARS program which is an international program used throughout the world, has suddenly become very much desired on the part of a private entrepreneur. I see no problems with that, but there's a battle going on between the two groups in terms of who owns the databanks. Now I argued strongly that this is the beginning-- we're going to have a lot of this happening and government, I believe, ought to look at this very carefully, not in terms of protecting itself against the private sector, but I believe in helping the private for-profit sector to play considerable role in the area and at the same time making sure there's sufficient teamwork so that we're able, on a world wide posture, to sell our products.

I will end by saying there are two major products the United States has. To make them simple, I call them grains and brains. The grains, because we're the world's largest grainery. The brains- information, high technology, equipment. Consumer items are no longer wanted- those that are made in the United States. Now if this be true, if the exportation of our huge research and development programs are the key to one of the future areas of concern for the country, then there has to be a wiser, more stronger effort made to understand how we're going to handle at least the information side. And with those words, sir, I'd better stop.

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