Mr. PELL. Mr. President, we are all becoming increasingly aware that advances in technology can have a broad and unforeseen impact on the quality of our lives. It was not too long ago that advances in science were hailed almost universally and without reservation as progress, and the application of new discoveries through technology was assumed to be an unmitigated good.

We now have a more sophisticated view of the role of science and technology in our society. We still anticipate the benefits of scientific research and technological development, but through experience we have learned that science and technology will serve us well only to the extent that we insist that it do so. We are gaining a new appreciation of the need to evaluate the long-range impact of technological development.

Mr. President, Representative Cornelius E. Gallagher, of New Jersey, on March 26 addressed himself to the potential conflict between technology and society in a speech before the Chicago Chapter of the Institute of Management Sciences. Representative Gallagher spoke specifically of the threat to human privacy posed by the new technology of information handling. I commend his remarks to my colleagues, and ask unanimous consent that the text of his speech be printed at this point in the Record.

There being no objection, the statement was ordered to be printed in the Record, as follows:

TECHNOLOGY AND SOCIETY: A CONFLICT OF INTEREST?

(Speech of Congressman Cornelius E. Gallagher before the Institute of Management Sciences, Chicago Chapter, March 26, 1969)

Ameri.ca has produced the richest and most complex society the world has ever known. The major impetus toward our unparalleled prosperity has been our ability to harness resources and use the gifts we have received as a nation for the benefit of our citizens. It is not an overstatement to say that technology has created America; at least in the sense that the applications of science have created the life led by most Americans. The fundamental premise of this speech is that technology should be morally neutral—it should have no values itself other than the manner in which society chooses to apply it.

Immediately, however, there can be seen numerous objections to such a premise. For example, it has often been stated that technology opens doors for man, but does not compel him to enter. Yet, it must be realized that in the real world of free enterprise, a logic is imposed which strips such technological advance of its ideal neutrality. The first application of a new technology—the first organisation through the door—is likely to make the most money while the last is likely to find it slammed in its face. Risk-taking by industry is motivated by the profit factor: after the technology has become operative, which may already be diluted by the financial facts of its development and the rush for its deployment.

When the decision is made to exploit a new technology, major social and institutional preservatism are required to prescribe the range or the character of that change. A development and deployment decision is made after the technology has become operative, which are customarily profit, institutional advantage, or national policy in the case of federally inspired innovation. The evaluation of the second or third-order effects, such as social costs and value dislocations, only takes place after a technology has been established.

What occurs then is a virtually dictated application of an innovation and the impact upon the rest of society only becomes visible after the technology has become operative. It is only by the time a sizable investment of money, resources, and commitment have been invested in evaluating what it has already done. The innovation itself becomes a powerful reason for continuing in that direction, and the dangers must be, in large measure, either ignored or rationalized. To put it bluntly, the problems have been transferred from ones of engineering to ones of public relations.

To illustrate the current status of technology in America, let us imagine that technology is a heathen idol and that Americans are primitives. What have we, as a society, offered this God in the way of sacrifice?

First, we have given him our air. Our cities form the bottom of an airborne casseus. Our atmosphere is now polluted by chemical wastes and by exhaust from vehicles— a breath of fresh air—we must depart from our homes and our jobs. The pilgrimage to Mecca for the Sinfuls of America is the summer vacation to a place where man has not despoiled his heritage.

It is interesting to note in this connection that we have adorned the whooping crane by creating wild-life sanctuaries and imposing the strictest rules and regulations for the preservation of this species. But man, who emulates the cry that gives the whooping crane its name by his pollution inspired incineration and quite probably the fallout, makes the world livable. The "balance of terror" has certainly unbalanced something.

The next sacrifice we have made to the God of technology is our water. All forms of pollution are dumped into our rivers and lakes, and a fresh, pure stream near an urban area is as rare today as a polluted one was earlier in our history. Raw sewage is dumped into rivers from which downstream communities take their drinking water. Lake Erie, according to many observers, can never be reformed from its toxic character, which has existed practically since time began, are now being ruined in a few years. Thus would I like to call your attention to the recent problem with offshore oil drilling near Santa Barbara. To the best of my knowledge, the crucial social question was never asked: Did America need this source of oil? Was it essential to deploy such a risky procedure at this time or could the development stage have continued without deployment? It is my hope that we will learn a great deal from this catastrophic experience. But if past history is an indication, the only lesson will be to cast doubt on the validity of the old cliché: "To spread oil on troubled waters."

In addition to our air and our water, we have not hesitated to make human sacrifices to the idol of voracious technology. Our nation's highways are nourished by the blood of our children and the reports of the mangled victims of auto accidents make even the carnage of Vietnam seem insignificant. In the contemporary conflict, the costs of the roads and highways are approximately five times as great last year as they were in 1965, and our losses in the tragic Vietnam conflict. In theory, we commit our youth to Vietnam in pursuit of a noble ideal; we destroy our young men and young women on the same road to the same goal: Drive-in.

Over all the world hangs the ultimate symbol of the God of technology—the mushroom cloud of atomic holocaust. Man, made genefacto to God every time we say we are called to a mission and to a God of law, we inure the flesh of our fellow beings with the blood of children. This is the way the world is destroyed, this is the way the world is lived. The "balance of terror" has certainly unbalanced something.

Our air and our water are polluted by the noise of our cities. Our highways are nourished by the blood of our young men and women. The pilgrimage to Mecca for the Sinfuls of America is the summer vacation to a place where man has not despoiled his heritage. How truly irrational we have become may be seen in the following hypothetical example. It is a basic assumption of the world war, at least in some quarters, that should the American way of life be fatally threatened, we should incinerate those who oppose us. This would, of course, result in our own incineration and quite probably the fallout would make our globe uninhabitable. Yet, those who advocate this course of action are acclaimed as realists and patriots. But any man who would propose that all industry stop and all autos be taken from the highways in order to make our atmosphere habitable would immediately be branded a lunatic.

Yet it is man who destroys the whole world and yet it is crazy to take extreme action to make the world livable. The "balance of terror" has certainly unbalanced something.
The bomb, as terrifying as it is, merely promises the extinction of life. All men, if they wish, have come to some individual understanding with the fact of eventual death. But the latest visitation from the shadow of the bomb contrasts in terms of less than human threat and to make us slaves. The computer demands that we pour dumb savages offer up our individuality, our dignity, and our privacy.

It is a new priesthood with a tool to drive us to our knees, to manipulate our actions, to petrify our past mistakes, and make our present actions dangle, gleaning with its promise of eventual destruction, in every American's future.

It is extremely important to emphasize that the computer, and its application, only threaten those who are guilty or who wish to conceal their past. The computer threatens right now that the state cannot exist somewhere who has never done anything he could not put on his résumé. The computer is not only a super-duper filing cabinet; it is even more than the heart of the far-flung communication systems. The application of computer technology, in its most frightening aspect, has perhaps been best described by Erich Fromm in his recently published *The Revolution of Hope: Toward a Humanized Technology*.

"Living in our midst ... A completely mechanized society, devoted to maximal material output and consumption, directed by computers; and in this social process the being transformed into a part of the total machine, well fed and entertained, yet passive, unalive, and with little feeling. We see the victory of the new society, individualism and privacy will have disappeared ..."

The shattered schemes of all the dewy-eyed utopians who litter the shores of history are now conceivable. All the beautiful ideals so earnestly turned into the dreams of fiascos can now be engineered and implemented. Technology has made the world so small that we have given men such a powerful instrument of social control, that individual dreams, which become local nightmares, can now be worldwide catastrophes.

Dr. Ira Hove, of the Space Sciences Laboratory at the University of California, has called my attention to a poem by Martyn Skinner which contains:

"Gone are the days when madness was confined

By seas or hills from spreading through mankind."  

"When, though a Nero fooled upon a string,

Wisdom still reigned unruffled in Peking;

And God, in welcome smiled upon Buddha's face"

"Though Calvin in Geneva preached of grace,

For now our linked-up globe has shrunk so small,

One Hitler is meand mad days for all."

To put it bluntly, all our eggs are in one basket, we can describe where we are by using a metaphor of one of man's truly great technological triumphs: we are all passengers on 'Spaceship Earth,' following a course determined by man. This then is the context in which we must consider technology and American society.

Rapid communications revolutionize the capitals of the world; we truly live in a 'Global Village.'

The shocking thing that we are talking about all men, let us consider what has already happened to many among us who have survived the machine and industrial value system. Fromm described technological men in these chilling terms: "... (H)aving lost compassion and empathy, they do not acknowledge that they can be killed. Their triumph in life is not to need anybody. They take pride in their untruthfulness and ploys..." (For this is done in criminal or legitimate ways depend more on social factors than on psychological make-up.)

With the reins of computer technology in such hands, we may very well be racing to our own destruction. Certainly a free spirit is the most obvious victim of such breathing robots, and free government, contributes to the creation of violence.

When I began my studies of privacy over fifteen years ago, I got the forceful realization of man to a depersonalized atmosphere could be expressed by a quotation from Alfred Toepell:

"Men might sink into mere routine repetition of habitual acts and accustomed social processes at a fairly low level, almost brainless, for which certain ages and certain societies even show a stable society though they have no brains."

But seeing problems by the light of the dark glasses of the expert on civil liberties, all our concepts and a re-evaluation of social and political modes. In any event, it is now clear that the "doctile clients" have become the "docile clients" envisioned by Goodman.

I am concerned with the impact of science and technology on society and the economy. He has written extensively on the problems of modernization, technological change, and economic growth patterns. In 1964, he made a statement which I feel is quite relevant to the issues I am discussing with regard to the ramifications of our hearings.

"Whether increasing violence and social disorder can fairly be laid at the door of the technology, a question as to the moral and social possibility of the development of a police state ... the generalized use of the computer as the instrument of social control does not seem, at least the right of privacy, and very probably all the present rights, of the individual."

No one is not given to making such statements lightly and it is interesting to note that he underlined the "all" in that quotation.

Two years later, in July 1966, my Special Subcommittee on Invasion of Privacy was formed with a purpose: to find out exactly what Theobald warned might happen. This was the Bureau of National Affairs, a publishing company, who have been taking data off of the Social Security Administration, the Internal Revenue Service, the Social Security Administration and the United States Bank. Those hearings have been so widely discussed that I do not feel I should go into the full story now.

Privacy and Freedom, a brilliant 1987 book by Dr. Alan Westin, and the soon to be published *The Death of Privacy*, by Dr. Jerry Rosenberg have lengthy sections which describe the ramifications of our hearings.

The general problem of computer privacy is now receiving influential attention. The American Academy of Arts and Sciences' Committee on the year 2000 has a working party on "The Social Implications of the Computer", and the National Commission on M.I.T., has informed me that at least a dozen papers will be published this year.

The Harvard University Program on Technology, and Society will publish a collection of papers this summer under the title "Information Systems and Democratic Politics. My 1968 speech, "Science, Privacy, and the Need For a Balance," is to be included.

There is one point I made at the 1968 hearings that is "The Computer and Invasion or Privacy," which seems generally misunderstood. I said that we could not be sure that the level of responsibility of the draft and the Social Security Administration, the Internal Revenue Service, and the United States Bank system would always be used by benevolent men or for benevolent purposes.

The integrity of officials connected with federal statistical programs; that is certainly not the case with the Internal Revenue Service, the Bureau of the Census, the draft, the Social Security Administration, the Internal Revenue Service, and the United States Bank system could be used by irresponsible men, and for nefarious purposes.

In addition, it is certainly not a matter solely for computer or technological experts. It has been made by Supreme Court Justice Brandeis in 1928:
"Experience should teach us to be most on our guard to protect liberty when the government's purposes are beneficial. Men born free and equal - they naturally alike resist any invasion of their liberty by estimated rulers. The greatest dangers to liberty lurk in the disguises of public security. The more complex and subtle-minded managers do not lack good will, but rather imagination and vision of a fully human kind. They are there from the standpoint of human planning, in fact, their personal decency makes them the first to doubt about the methods of their planning."

A viable democracy depends on an atmosphere in which people can go their own way for the sake of the development of their conscience and satisfaction. Freedom from either subtle or overt coercion is the birthright of our citizens. In a nation as large and as complex as America, which contains so many different ethnic and cultural heritages, no one class of men—no matter how well educated or how nobly motivated—can impose the standards of their group on the remaining population. I would like to illustrate this from a recent case before my Special Subcommittee on Invasion of Privacy. In 1966, we reviewed the premises, principles, and procedures of those who create and administer psychological tests. These were designed to serve our society and to move toward a sound, scientific explanation of interpersonal relations. No matter from what source they may come, unwarranted invasions of privacy must be identified and met under law. Our test is a foundation for a stable nation and it is my conviction that a suffocating sense of surveillance and attack on liberty and, ultimately, undermine law.

Let me speak briefly about the Bill of Rights and the problem that we have and the problem that we have. I would like to describe a plan that I heard yesterday. It was presented by the prophet, Sonny Lion, as a talent for the United States. Sonny Lion stated: "I am not a prophet, but I have a plan."

Another question which was asked on this test was: "Do you believe in the second coming of Christ?" The test was placed in the hands of a justice of the peace. I was informed, to determine the depth of religious feeling in the person taking the test. It was administered from tests administered to Jews and other religious groups, since they did not accept the United States of America. It is hardly conceivable to my expert witnesses that anyone could have values totally different from our own and I was met with all sorts of evilness.

This points up a very real danger of standardization and social rigidity which must flow from such a powerful instrument as a National Data Bank. The very same people who are actively lobbying for a truly effective system of espionage are those who devise tests which characterize Sonny Lion as a social creature and that he demands his privacy. The hours of the most unsuspected tribunal where suspicion is the only evidence will restrict liberty and, ultimately, undermine law. The Fourth Amendment states simply: "The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no warrants shall issue, but upon probable cause, supported by oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized."

I was outraged when I heard this suggestion that the sacredness of the American citizen's life into a fishbowl did not concern these social scientists; valuations, which could be gained, and the Bill of Rights. It was a man who protested their privacy, it was not relevant to the subjects of the research.

This brings to mind the words of Aldous Huxley: "Who will guard our Wards, who will engineer the engineers?"

In this sense we witnessed an interna- 

inal migration in the 19th century. Our growth into a nation which is surrounded by the borders of America. The concept of a frontier was an essential element in the expansion of the American society and, as Frederick Jackson Turner pointed out, helped shape the American character.

Commenting on the Griswold Case in The Wisconsin Law Review in 1966, Professor of Law, William Benney, states: "If privacy merely refers to a physical are8, the answer is not clear. If privacy refers, as Professor Lonzer argues, to an aristocratic or a few eccentrics who might prefer to resign from the human race, the answer is yes. The extent to which others may share in one's spiritual nature, and the ability to protect one's beliefs, thoughts, emotions and sensations from unreasonable intrusions is one of the very essence of life in a free society."

We see then that the Constitution of the United States offers a barrier against those who would turn America into a total surveillance society. It is a wall of protection for those living more at an allegedly noble pursuit or for other less admirable reasons. At the very beginning of the American nation, George Washington made a ringing declaration of which would happen to society should the Federal Government be empowered to strip away protections of the individual. In a passionate speech, he made one assertion that he condemned future actions of the government: that he did not believe in the use of force.

In 1981, Sociologists Irving Gottman described this basic conflict in three terms: the question of being able to come from being drawn into a wider social unit; our sense of selfhood can arise through the little ways in which we respond to the pull. Our status is backed by the solid buildings of the world, while our sense of personal identity
often resides in the cracks." The concept of space for the health of the societies of lower animals was the subject of a brilliant book by Robert Ardrey. Published in 1966, The Territorial Imperative sets forth the example of animal behavior which suggests that the physical ordering and contact over space is a basic drive. This powerful fact may in lower animals be as basic to precedent mating and demonstrated as the major way in which one individual differs from another. Ardrey makes a compelling argument that demands the conclusion that what operates so easily in lower animals is relevant to understanding human nature as well.

I would like to suggest to you that the person who sets up a psychological living space just as the body insists upon an area of physical autonomy, I believe that The Territorial Imperative in lower animals has a counterpart in man which I call The Intellectual Imperative. The Intellectual Imperative is as essential to mental health as The Territorial Imperative is to a sense of physical security. In my view, psychological integrity is as important as bodily integrity. A stable society cannot be constructed or maintained if illegal searches and seizures are permitted through a man’s ideas and beliefs while his papers and effects are protected by law.

When I first raised questions about the validity of the use of the polygraph five years ago, I called it “psychological wiretapping.” Of course, the fact that lie detectors just did not work at any reliable level of accuracy was impossible to deny. But even then it is the fact that the training of the polygraph operator was frequently so incredibly sloppy. But, there is a portion of man that we can invade without the full approval of the individual. It is the condition for employment at lower or clerical levels, which was the situation I uncovered in certain federal agencies in 1964.

In 1969, Pope Paul XII made this statement: “And just as it is illicit to appropriate another’s goods or to make an attempt on his bodily integrity without his consent, so it is not permissible to enter into his inner domain against his will, whatever the technique or method used.”

Similarly, the spread of information about a man must be under his control. Naturally, in the pursuit of a stable society, law must be maintained and the tools that science and technology have provided us must be used to preserve the rights of those who obey the law. But, as I believe I have demonstrated, technology frequently operates by its own laws which are occasionally peripheral, at best, to the purposes of society. To conduct a normal, healthy, life a man must have privacy and this means that he must have area where he is assured of protection from what Livingston called “the odious reptile tribe.”

Professor Charles Fried of the Harvard Law School puts the need for privacy in extreme terms. He says: “Privacy is the necessary context for relationships we would hardly be human if we had to do without the relationships of love, friendship, and trust. Intimacy is the sharing of ideas, beliefs, or emotions which one does not share with all and which one has the right not to share with anyone. By denuding us of privacy, society erodes the moral capital which we spend in friendship and love.”

In my concept of The Intellectual Imperative, man may choose those in whom he wishes to confide. He may discuss any issue in any terms he may desire and be assured that an indiscretion of phrases or even an insincerity of thought will remain private. A society of psychological control permits ideas to be discussed freely and openly within its territory and with the guarantee that strict public accountability will not follow. It is just this belief that The Intellectual Imperative leads to the point that you cannot love anything, if you are afraid to reveal yourself to another. The control of the flow of information about yourself, about your actions, about your beliefs, is then seen as a crucial aspect of a democratic society. Urban mass culture has destroyed for most of us the opportunity to exercise freely The Territorial Imperative; the advance of computer and other technologies threatens The Intellectual Imperative. Physically, we are constantly in a crowd; intellectually, technology has provided devices to make our forgotten actions “The problem of identifying and understanding what you don’t perceive is now a major challenge. For, basically, it challenges our faith in ourselves, it challenges our ability to use our skills in the service of man.

John Diebold has probably coined more money from the new technology than any other man; he even coined the word "autobahn." In 1964, he made the statement with which I would like to close my speech. "The problem of identifying and understanding goals to match the new means that technology provides us is the central problem of our time— one of the greatest problems. Its solution can be one of the most exciting and one of the most important areas for human activity. And the time is now."

In 1999, even more than ever, the time is now.