STATE OF THE PRIVACY ACT: AN OVERVIEW OF TECHNOLOGICAL AND SOCIAL SCIENCE DEVELOPMENTS

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The task this morning is to describe and characterize the cause of privacy, show where the issue has come from, what forces are driving it, and to persuade you that the issue is an unavoidable one that we must face as a society and as a country. Finally, I will describe briefly an enlarged set of topics of which privacy is one. There is similarity between privacy as a social issue and a story that speaks about the great ape strolling across the veldt one moonlit night. He glanced up and decided that it would be a challenge for him to get to the moon. With a thin overcast he could not see the moon too clearly, so he sought the tallest tree in the neighborhood. Having climbed to the top to get a better view, he still could not see his goal with complete clarity, but he mused to himself: "At least my project is off the ground." Such it is with privacy. We do see the goals of privacy reasonably clearly; we are off the ground with it through federal and some state legislation, but the full complexity of it is yet to be understood. Nor do we comprehend everything that may stand between where we are and where we will have to be, but unlike getting to the moon, privacy protection is not a problem that will yield to science and technology, although of course it does have a large technological component.

The word "privacy" for this conference is to be understood in the context of record keeping. It is important to appreciate this is a very fast developing subject matter, that my own perceptions and insights are developing almost on a daily basis, and hence I can only give you a snapshot of things as they now stand. How did we get where we are?

In part, the present situation arises from the fast pace of computer technology and the interaction of that technology with the information

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*This keynote talk was presented to the University of Southern California Conference entitled "Expanding the Right to Privacy: Research and Legislative Initiatives for the Future," held in Washington, D.C. on October 14, 1976.

demands of contemporary society. One needs a full appreciation and understanding of what computer technology has accomplished in its short history in order to realize what has happened--largely not visible--and what is before us. As has been pointed out, when something changes by a factor of 10 fundamental new effects will be created, and new problems will emerge.** The phenomenon is easy to appreciate in terms of transportation; from walking to the automobile is roughly a factor of 10, from the automobile to the jet airplane is roughly another factor of 10, and we all comprehend the implications that stem from a hundred fold increase in capability to get from one place to another. One goes on vacation to places of his choice; one has conferences like this anywhere with people from everywhere; one finds fresh food from all over the country--and world--in the market; one encounters a new phenomena known as jet lag and its implications for good decision making and for research into bio-rhythms.

Furthermore, from walking to the fastest supersonic aircraft, there is roughly a factor of a thousand, about two miles an hour to 2000 miles an hour. Extrapolating to orbital speeds, at roughly 20,000 miles an hour, there is another factor of ten. Overall transportation speeds have increased about 10,000 fold. It is not likely that another factor of 10 can be obtained. Transportation technology is at a plateau so far as speed advance is concerned. By contrast, computers started out in the 40's doing things one a second, and now machines routinely do operations at a million or so per second. In contrast to the 10,000 fold increase in transportation technology, there is already a million fold increase in computer capability and it has not and will not stop. With technology that is already understood, and is routinely dealt with in the research world, there is at least another factor of a 100 and perhaps another factor of a 1000 yet to go before we even have to look for something wholly new.*** In contrast to most things that change by a few factors of 10 over many decades, computer technology has changed by six or even eight factors of 10 in two and a half decades.

A second comment about the computer. The correct perception of it is that of a device that contains a set of rules--called a computer program--and that operates on some set of information. By way of illustration, if the

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** Impact of Computers, R.W. Hamming, American Mathematical Monthly, Volume 72, No. 2., Part 2, pp 1-7, February 1965.

*** The Ultimate Computer, W. H. Ware, Spectrum of the IEEE, Volume 9, No.3, pp 84-91, March 1972.

information is financial data and the rules are those of accounting, the computer is doing accounting; if the information is positions on a board and the rules are those of checkers, it is playing a game; if the information concerns aircraft flights and seats on flights and the rules are those for assigning seats and keeping track of them, then the computer is running a reservation service; if the information is that of temperatures or pressures or flows of liquids in a petrochemical plant and the rules are those of the chemistry of petroleum, the computer is running a refinery. If one can construct a set of rules completely and accurately for some function, then the computer can take over the job. Thus, between its staggering growth in capability--the factor of a million or the hundred million coming--and the flexibility to store and manipulate all kinds of information, it is little wonder that the computer has become so ubiquitous, become so pervasive in the affairs of people, and the affairs of organizations and government and education. I will note parenthetically that it is only the beginning; there are presently unknowable surprises ahead. One surprise of recent years has been the astounding proliferation of the hand calculator, completely unperceived five years ago. Electronic fund transfer systems are being installed; there are computers in washing machines and computers in automobiles and computers in the home.

A rapidly emerging and enormously flexible technology has intersected with the information requirements of a modern country. The United States and the world reflect an environment that demands vast amounts of information to make it run. This is not a capricious or an evil development, but rather it reflects a genuine need driven by such things as the size of this country (200 plus million people leading a very complex life style creating multiple data trails in their daily affairs), the size of our social, government and educational institutions, the large social programs that function at the government level, and the accountability that goes with each of them. In these and other examples, information is the universal commodity that makes everything function. In fact, information is the thing that makes each of us as a biological organism operate. When a technology appears that grows by enormous factors, that finds pervasive application and fills an essential and waiting need, it is inevitable that there will be an enormous impact on society and its institutions. It is inevitable

that new effects will happen and it is inevitable that some of these new effects will lead to problems. One is the privacy issue.

Of all the kinds of information that a computer can deal with, information about people is one. What has happened in the last ten years or so, and especially in the last five, is a large scale proliferation of record keeping systems, computer based and dealing with information about people. In the large, such record keeping systems are not visible to the individual; they do things with information about people that are unknown to them; they make determinations about individuals in ways that are unperceived; the information in them is used in ways that are beyond the control of the data subjects; the record keeping systems acquire information from diverse sources. Therefore, we find the present situation to be this; an organization tends to use information for whatever it wishes--internal purposes, expedience, profit, convenience. It does so knowing that no right of ownership exists for the individual; it does so knowing that the individual has no legal standing by which to attempt to control the record system. Moreover, an organization tends to collect whatever information it wishes about individuals and except in a very few rare cases, personal information has no legal protection against court seizure. We have a strongly one-sided situation in which all the chips are held by the record keeping organization. In such a circumstance, there are numerous opportunities for the individual to be treated unfairly, either carelessly or accidentally or deliberately. It is as though our society used fire as a technology, but had not yet invented the fire department, the arson squad, or fire insurance. We need to create legal and institutional safeguards in order to get the privacy situation into better balance.

Such is the historical downstream perspective on informational privacy. It is now possible to stand back and identify the social goals we are trying to serve with privacy safeguards. My present perception of them is as follows.

- o We are trying to assure that the public is well informed, collectively and individually, on record keeping matters that affect people and influence citizens.
- o We are trying to strike a balance in the country between the genuine and well founded needs of government and the private

sector for information about people and the citizen, and the right to have some control over the use of information about each one.

- o We are trying to assure fair use of personal information when it is involved in making a determination about an individual. To put it another way, we are trying to safeguard individuals against harm or damage as a result of the functioning of some record keeping system.
- o We are trying to minimize unnecessary and intrusive information collection; we are trying to safeguard the citizens against revealing information about himself unnecessarily.
- o A somewhat more subtle goal, not entirely within the realm of privacy--as a country we are trying to minimize the risk of creating an all encompassing extensive set of record systems, each linked with all others, that would make usurpation possible. We must minimize the risk that the record keeping infrastructure of the country will upset the balance of power and the present structure of government and society. The last point of course is related to the social question of the universal personal identifier, plus the role of the social security number as one such. To recast the final point in a different metaphor, we as a country must take care not to create the information analog of Dr. Frankstein's monster. We must not create an ensemble of record keeping systems over which we do not have complete control. So to speak, we must be able to pull the plug if it ever becomes necessary.

As a subject of discourse and discussion, the privacy issue emerged as such in the early 70's with the books of Alan Westin, Arthur Miller and James Rule. The subject came into sharp focus when Secretary Richardson (then of DHEW) created his special advisory committee on automated personal data systems. The report of the group, "Records, Computers, and the Rights of Citizens" was published in July of 1973, and has turned out to be the definitive treatment of privacy that has strongly influenced nearly everything that has happened subsequently. The report was not only a comprehensive discussion of the subject, but it made a number of important conceptual advances. One was the notion of fairness in the use of personal information;

another, the concept of mutual interest as it relates to the interaction between a data subject and a record system--both sides have a stake in the interaction. Another advance was the set of principles that formed a general framework for the information interface between people and record systems. The report introduced the concept of fair information practice and was even so bold as to suggest a code to implement it. From it came the Privacy Act of 1974 which is an omnibus legislative approach in the sense that the Act throws a broad umbrella of agency behavior and citizen rights over all federal record keeping systems. There is a mechanism to exempt a system from the requirements of the Act, but the procedure and the reasons are in public view.

In addition, there have been other legislation that has dealt with specific aspects of privacy: the Fair Credit Reporting Act, the Fair Credit Billing Act, the Equal Opportunity Employment Act, and the Equal Opportunity Credit Act. Each addressed the collection and use of information in a specific area, and each defined "harm" in terms of a negative but unfair determination about an individual. In contrast to the omnibus approach of the 1974 Act, each is a "rifle shot" approach. There are various state laws of similar kinds.

Moreover, the 1974 Act created the Privacy Protection Study Commission, whose work is presently in progress and which is scheduled to complete its task in June, 1977. In less than a year, we are to make recommendations to the Congress and to the President on the next step, legislative or otherwise. Of course, very high on our list is the entire private sector and the question of what safeguards, if any, should be legislated for it. We have held hearings on most major types of record keeping systems. We are beginning to deliberate and discuss and debate what we have heard. We are trying to understand the problems that are common from one area of record keeping to another, and trying to perceive remedies and quite another to balance them off against cost, and reach a judgement on whether the remedy justifies the cost.

At this point in time, we the Commission do not have any preconceived position on whether the omnibus approach or a specific-area approach is to be preferred, or either. One's intuition suggests that some combination might be better. We have not decided whether the thrust of the '74 Act is

appropriate to the private sector or needs amendment for the public sector. We have no position on H.R. 1984, a comprehensive omnibus bill for the public and private sector. We are just beginning the synthesis aspect of our research. I am beginning to appreciate that the Privacy Commission will not exhaust the problem and that there is a much larger issue that I can now understand somewhat. I don't have an appropriate name for it, but it is something like "public policy on information"--privacy is one aspect of it. I can share with you my insight such as it is at the moment, but I know that it is incomplete and may well change.

There is an obvious aspect that has to do with right of ownership. Do we need a right-of-ownership status for information about oneself? In a way, the problem has surfaced already in the reexamination of the copyright law. In another instnace, a hospital owns its records under California law; my name is on one or more such records but I think that it is quite clear that the hospital does not own my name. It is clear that I am free to use my name as I always have. What does ownership mean in the sense of information? Specifically, what does ownership of personal information mean? The computer has exacerbated the difficulty because the same item of information can appear as holes in a punched card, on a piece of magnetic tape, as a pattern of electrical voltages inside the computer, or as a strip of printed paper. The representation of information changes, but the information per se does not. What is it that one owns?

An airline reservation system, an electronic bank terminal, and a point-of-sale system such as found in a super-market share an interesting common characteristic; each one captures data about an aspect of human behavior. Each knows something about the whereabouts of an individual, or his buying habits, or his buying preferences, or his financial habits; therefore, by inference at least, there is an overtone of surveillance. Such systems were not created to play such a role; to do its function each captures information about people. Nonetheless there is created a body of information that is exploitable for surveillance purposes if someone is so inclined and that is bound to be of interest to many parties and organizations in and out of government. Perhaps we need a public policy for information of such kind to make certain that it does not fall into unintended surveillance or undesirable collateral usage.

A third possibility. When a physician treats a patient, he records both facts about health status and laboratory findings of the patient, but he also records his own view, insights and conjectures about the case. The comment is especially true for the psychiatrist or the psychologist. The two kinds of information are fundamentally different; one is very factual and the other conjectural, anecdotal, or episodic. One kind records historical progress of the patient through a medical treatment; the other assists the physician in his management of the patient through a course of treatment. Education records have a similar characteristic. Educational records contain largely factual information that documents the historical progress of a student through the education system--his achievements, his grades, his courses. Education records, especially in the public schools, often contain anecdotal information put there by teachers, supervisors or administrators. The intent of the latter is to assist the school system in managing the student as he progresses through the system. There is a parallel between educational records, medical records and mental health records. Perhaps we need a public policy that distinguishes clearly that one kind of information--the factual one--can be used in particular ways and controlled in appropriate ways, but that the other enjoys a special protected status, so that unfounded, conjectural, or untrue information does not leak out and inadvertently cause harm.

To put the last point in perspective let me note that other kinds of record systems collect information about people for quite different purposes, not to manage the passage of an individual through a system. Some record systems collect information because they provide a service--the airline reservation system. Other record systems collect data because a determination about individuals is to be made only once--An insurance company record system collects information to decide whether to issue a policy but having made the decision, for all practical purposes the record has no presently perceived future need. It is kept on the expectation that it might be needed in the future, not because it clearly will be needed.

Such is the broad panoply of information policy issues that I see ahead. We in the Privacy Commission have not even thought about them, much less examined them in depth. As a country, we have a lot of privacy issues ahead of us. Given the information requirements of a modern society

in a contemporary country, and given the growing affluence of society and given the invention of the computer at just the right time, it was inevitable that the whole set of concerns that we call privacy would emerge. It had to happen and we must face it as a social issue. Our whole culture and our government heritage is one of checks and balances; the record keeping situation now doesn't have them. We do not have the safeguards that properly check nor balance the many ways in which record keeping systems use information that has been collected about people.

To summarize. Privacy is a problem of many dimensions, even for the limited context in which this conference will examine it. It is a complex issue, but one set in a much broader information policy issue. Remarkably, we seem to be on top of the problem; that is both pleasing and satisfying. If we really are not wholly in command of it, at least the problem is not yet too big. We have a chance to avoid in record keeping practices the analog of environmental pollution. One should derive some satisfaction from knowing that after this country has spent 200 years learning how to make itself work, for once we seem to be satisfactorily ahead of a problem.