organizations regulated may properly and efficiently be viewed as large, slow data processing mechanisms amenable to 'programming' within a precise set of information transference constraints.

The popular psychology which has led to this form of social intervention in the information transference phenomenon may arise from the nature of computing itself. Weizenbaum in his work “Computer Power and Human Reason” argues that complex scientific theories subtly influence public consciousness. For example, Einstein’s Theory of Relativity, understood by few, has been taken by many to justify relative cultural values. The theory of computability, that is, theoretical concepts concerning the universality of computing applications, while not widely understood, has been taken popularly to mean that everything is potentially understandable by use of computer models and metaphors. The result is that organizations, usually thought of as 'bureaucratic machines' anyway, are conceived of as only another type of information processing system. This conception, when it yields detailed and 'programmatic' legislation, is costly in terms of decreased organizational efficiency, as well as because it undercuts the role of managerial judgment.

The costs associated with this form of social intervention arise from a misunderstanding of the function of information in organizations. The approach which restricts 'information practices' ignores the immense diversity and complexity of personal information transactions in modern society. Furthermore, it assumes all organizational modes and structures are static. The result in this form of intervention escalates internal costs of doing business; and it may even depress the formation of capital.

There is a better way to satisfactorily guarantee rights to privacy without a form of intervention which risks forfeiture of so much of the promise of computerization. Rather than rely on the inference that restrictions on 'information practices' will protect privacy, legislation should expressly establish what society means by 'privacy' and then establish rules with respect to that defined area. That is, if there is to be government intervention to protect privacy, it should be goal-oriented rather than process-oriented. The goal-oriented approach eschews establishing detailed rules over all information transference transactions. Rather, it establishes what is meant by privacy, proscribes its invasion, and then leaves managers free to organize efficiently to reach organizational goals while yet specifying those privacy interests which must not be trampled upon in reaching those goals.

Privacy in the Future Information Society

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My basic standpoint in the computer privacy issue is to set up its position and evaluate it in the context of all the development stages of an information society. Current issue of privacy will be discussed mainly in relation to the effectiveness of management control in Government and private enterprises. But as regards the future problem, this should be dealt in relation to social welfare, such as public medical care and education, and finally in relation to the individual's problem solving and opportunity development. When viewed in such a way, the characteristics of the privacy issue would be changed drastically as compared with the present one.

I will discuss computer privacy in its relation to the development of the information society from a long-range standpoint, and at the same time examine ways of coping with this issue, particularly in connection with changes in values and social and economic systems.
COMPUTER PRIVACY IN THE STAGE OF BIG SCIENCE-BASE COMPUTERIZATION

At this stage, detailed personal data must have been collected on scientists, specialist engineers, military men and civilian staff members who were engaged in big scientific projects, such as national defense and space development projects. However, these personal data files are strictly guarded by the Defense Department, or by government or military agencies directly under its control. This is because information on these persons is directly related to the maintenance of State secrets. Consequently, it may be concluded that there was no issue of 'computer privacy' at this stage of big science-base computerization.

COMPUTER PRIVACY AT THE STAGE OF MANAGEMENT-BASE COMPUTERIZATION

At the stage of management-base computerization, various kinds of personal information are recorded and accumulated in large quantities by computers in the course of the development of computerization of management control by government agencies and enterprises.

The following two measures are important in coping with computer privacy at this stage:

1. The Government should not proceed with a plan to adopt a unified national system of a code number for each citizen, unless an effective watch-dog body is established by citizens.
2. The Government, local government or an enterprise should be prohibited by law from utilizing or from permitting a third person to use personal data files originally intended for mechanization of operational management for purposes other than originally intended.

COMPUTER PRIVACY AT THE STAGE OF SOCIETY-BASE COMPUTERIZATION

At this stage, computers will be used widely in social fields, such as traffic control, pollution prevention, medical care and education; computer files on personal information concerning the abovementioned social activities will then have a direct bearing on computer privacy.

The following two measures will become important in coping with the issue of computer privacy:

1. File management and utilization of personal data on welfare matters should be placed under the control of a committee consisting of representatives of public authorities concerned and those of citizens, the latter representatives, comprising an overwhelming majority of the committee.
2. A series of social and economic measures should be provided to prevent a person from suffering any social advantages which may arise because of personal data files on welfare.

COMPUTER PRIVACY AT THE STAGE OF PRIVATE PERSON-BASE COMPUTERIZATION

At this stage, information utilities will play a leading role in the information society. Each individual citizen will be able to obtain necessary information, solve his own problems and seek to find his future possibilities by creating highly sophisticated information through connecting his home terminal to such information utilities.

At the stage of private-base computerization, the citizens' right to freedom and privacy invasion will be in a completely polarized, antinomistic relation.

The following two measures, or rather essential preconditions for preventing the serious problem of computer privacy invasion at this stage, will obtain:

1. Information utilities should be completely controlled and managed autonomously by citizens.
2. New political, economic and social systems should be introduced, which will make it possible to realize such autonomous controls on personal data files by citizens.