

appropriate action could be taken. I am not prepared to speculate whether such a situation would increase or decrease the personal freedom of the emotionally ill person.

Already the computer is being used in conjunction with other technologies to retrieve information customarily stored in libraries. Doubtless, this use of the computer will expand greatly. Tied in with telephone lines and television cables, it will make it possible to gain access to vast areas of knowledge without leaving one's own local area. To the extent that knowledge increases the individual's opportunities for growth and effective mobility, we could say that such access at a distance will increase his freedom. This will be especially true for those who do not live near the conventional repositories of information.

It is sometimes suggested that the computer will bring back townhall democracy by making it possible for every voter to express his opinion at the time his representative needs it, merely be a pushbutton response to a teletyped or mass-media-transmitted request for the constituent's position on a given topic. The voter would gain more freedom to express himself, but that of the representative to act in terms of his own estimate of the best interests of the Nation or his district might be lessened by such ubiquitous and massive grassroots expression. If the representative were able to determine the voter's understanding of the issue in order to assess the meaning of his pushbutton vote, however, and if he had information on voters so that they could be clustered according to background, thereby allowing patterns of votes to be more fully interpreted, the representatives' ability to act in the combined interests of his various constituencies and the Nation at large could be increased. Such data also would give him a better basis for providing his constituents with the information they need in order to vote more intelligently. The biggest unknown would seem to be whether one could count on developing an intelligent and enlightened public, or whether computers used this way would simply increase the likelihood of representatives being swayed or dominated by a mass incapable of judging the meaning or implications of the complex issues it is asked to evaluate.

If it is worthwhile, the enormous capacity of computers can provide the basis for differentiating among many subpopulations. This capability could mean increased responsiveness on the part of data users and planners to the different social, psychological, and material needs of each of these populations. It could lead to more opportunities for individual expression, at least to the extent that the substance of individual expression is significantly differentiated by membership in various subgroups. In this sense, the computer could provide a greater opportunity for freedom than would be available in a large society which had to plan and operate in terms of overall averages rather than differentiated averages. But this capability for recognizing differences in populations and interest groups could also be applied to more detailed surveillance, causing a much greater loss of freedom than would result in a large population dealt with in overall averages. In the latter situation, the individual could more easily lose himself in the mass.

Behavior is internally mediated by the individual's history, personality, and physical capabilities, and externally by the constraints which environment imposes or the opportunities which it provides. Knowledge of external environmental characteristics increases the observer's ability to predict individual behavior. This is evidenced by the ability of police, military intelligence, or traffic control experts to predict, from knowledge of their environments, likely behavior of specified people or groups. Obviously, these predictions are improved greatly when added to knowledge of the environment is knowledge of the typical response of the individual to similar environments. The police capturing the criminal when he returns to the scene of the crime, the successful guerrilla ambush, the parent removing "temptation" from the child's environment, and the "lead item" sale, are all examples of how the discovery of patterns of correspondence between environment and individual behavior toward it can be used to predict and channel that behavior. Better predictions about behavior should be possible when external environment can be codified and defined in much greater detail by using computerized data and by using the computer to detect patterns of sequences and arrangements of individual acts through elaborate analysis and synthesis of the data. The resulting predictions could be used to alter an environment (inanimate or human) in order to provide more opportunities for alternative behavior to facilitate habitual behavior, or to inhibit or terminate behavior.