

One often hears the remark that computers can do only what they are told to do. While this may be essentially true, it is practically false. Such a statement completely ignores the speed and complexity of problems that can be handled by a modern digital computer. It is, in a sense, like saying that an automobile won't take you anywhere you can't walk. Now, an automobile is about 15 times faster than walking. A modern computer is about a million times faster than paper and pencil.

However, a computer is a machine, not an animate being. As an automobile performs no better than the skill of its designers and driver, a computer performs no better than the skill of its engineers and programmers. Some of these programmers are extremely skillful and sophisticated. They can write programs which give the computer a kind of "artificial intelligence." In such programs the computer is allowed to operate in a simulated random manner, to evaluate the effects of these random operations, and to modify its own operating program. As a result, the computer can literally write its own programs for the direct solution of a difficult problem. By such means it is sometimes said that computers "learn." After a short time even the programmer has little knowledge of what the machine is actually doing, and he may be unable to predict the future behavior of the machine. The machine is able to learn because it was programmed to do so according to a specific learning theory. In this way the intellect of the programmer is still operating.

Computers now under construction will be able to process pictures as readily as present computers process linguistic information. A whole new era of information handling is upon us. It is quite reasonable to speculate that within the next 10 years computer terminals will be as commonplace as color television sets are today.

There can be little doubt that the establishment of a Federal data center could bring greater economy and efficiency to Government operations. It could do much more. It could make available to the executive branch immediate and up-to-date information summaries on all aspects of our national, business, and personal lives. Whether this can be done without violating the rights of individuals seems difficult at best and unlikely at least.

On the other hand, if the Internal Revenue Service is allowed access to the census data, and if the Federal Bureau of Investigation is allowed access to social security data, and so forth, or if these data are contained on magnetic tape so that they can be easily transmitted from one Government computer installation to another—as they are now or soon will be—then such a data center could come into existence in effect even if not in name.

Because of the rapid advances now being made in computer hardware and programming systems and in methods for handling large data files, the need for concerted activity devoted to the protection of the rights of the individual citizen has become increasingly urgent. The establishment of a Federal data center containing line item information about every man, woman, and child in this country is well within current technology. By line item information, I refer to information such as you might supply in filling out any form or questionnaire: an income tax, census data, an employment application, a security questionnaire, personality tests, etc. This information could be ar-