

ranged or used in any manner seen fit by the persons having access to the data.

The motives and momentum of this trend are clear and must not be underestimated or misjudged. They are the good intentions of overly zealous public servants, and their goals are attractive: an honest income tax, instant credit, better employment opportunities due to better files on individual qualifications, more closely controlled production and distribution of consumer goods and thus presumably lower prices and fewer business fluctuations, and perhaps even better mating opportunities for our young people. For the first time we have a machine capable of taking into account and evaluating our individual characteristics, assuming, of course, that these characteristics are accurately known. We may not know how to use a computer for this purpose yet, but clearly it is possible.

We all recognize the necessity for the collection of certain kinds of information, such as credit ratings, for the operation of our complex industrial society. Although we may deplore this secret collection, most credit organizations today disseminate only the barest necessary information. Can we expect the same respect of privacy by a computer?

If the information is in the machine, and if an unscrupulous programmer knows how to get it out, it may be impossible to prevent his access to it. On the other hand, if it is so difficult for a programmer to retrieve the information that it is not worth the bother, the information is secure. How can we guarantee this?

We could, of course, try to avoid this situation in the first place. We could insist that laws be passed to make illegal the collection and disclosure of private records. Although such laws may serve some purposes, and they may significantly delay the effect, I do not believe that laws alone can prevent this information collection and retrieval—any more than laws can prevent automobile accidents. Laws merely specify how individuals ought to behave. They do not enforce that behavior. Our courts punish only individuals caught in the act of illegal behavior. The problem here is that our technological environment may make it difficult or impossible to apprehend certain types of criminals. The evidence of the information contained on a reel of magnetic tape, for example, can be destroyed in a fraction of a second simply by placing it in a strong magnetic field. This can be done as simply as pushing a button, just as today a telephone caller can prevent his call from ever being traced simply by hanging up.

If a felony results from the improper use of an automobile we arrest the driver, not the automobile. Likewise, if a felony results from the improper use of a computer, we must look to the engineer or programmer. Of course, in either case the fault could be due to mechanical or electrical failure of the device. The fault would be easier to detect if the device were designed in such a manner that its operation was unlikely to result in an accidental felony. Conversely, the successful operation of a computer depends upon those who build and maintain it and those who write its programs.

For many years our society has turned only to law for the solution of problems created by our technology. I think it time to expect technology to help solve some of the problems it has created. For some of these problems the basic scientific principles for their solution