
The computer revolution, like most revolutions, concerns a change in the decision-making structure of society. Computer technology has already had a tremendous impact in industry and government, and in its relatively short lifetime, and future technological advances have the potential for bringing truly incredible changes in our way of life. The issue faced by Rothman and Mossman, an issue that we all must face, is how can we guarantee that computer technology be used to the greatest benefit of society? Certainly, we have enough examples of technological advances that have been mixed blessings to society. A case in point is the automobile. If we had known a half century ago that the automobile would be a major factor in air pollution and urban sprawl, what would we have done differently to protect the health and environment of society?

Although computer technology is still in its infancy, we have already seen some of the annoyances that people suffer at its hands. As technology advances, the capability to produce annoyances today will be replaced by the capability to do great harm to society. A National Data Bank, for example, if used improperly can influence each individual’s life much like Orwell’s Big Brother in 1984. Consequently, many people view computers with a certain amount of apprehension.

Rothman and Mossman have written this text in response to growing discussions of the role of computers in society. It undoubtedly will influence the offering of a Computers and Society course in universities and junior colleges around the country. They have done a splendid job in capturing the essential issues, and they have done so without introducing a strong bias. In fact, they are careful to remind the reader that computers are inanimate objects which respond to their instructions regardless of questions of ethics and morality that are raised by their responses. The good and evil consequences of computers are strictly in the control of people.

The text is intended for a primarily nontechnical audience, but nevertheless, Rothman and Mossman believe that the reader should have some technological knowledge of computers to understand their social implications. To this end they devote the first third of the book to a rather thorough lay treatment of computers. In a college environment this part of the text can be supplemented by programming assignments.

One chapter in this section deserves special attention because it focuses on the people who program, manage, and operate computer systems. It is here that the reader sees the steps in the design and construction of complex systems. The authors point out that inadequate programming systems can be the result of improper specification or design, or lack of testing, or poor programming, but in any case the inadequacy is due to human involvement, and not the fault of the computer. They stress, in particular, that systems must be designed to expect human errors in the input data, and they illustrate how such errors can manifest themselves as catastrophic errors in otherwise correct programs.

The core of the text is the treatment of the applications of computers and the impact of computers on today’s society. One chapter is devoted to present government applications of computers, with special emphasis on the increased effectiveness of government because of the ability to deal with massive volumes of data. The use of census data, tax information, and similar data to assist in the creation of a budget and new appropriations is one area to which computers have greatly contributed.

The negative implications of computers appear in the chapters dealing with the impact of computers. Here such questions as automation, governmental influence on the individual, and privacy are investigated. The reader becomes aware that computers can greatly affect the lives of individuals, both positively and negatively. Later chapters deal with the problems of controlling computers to eliminate the negative effects.

The major weakness of the text is its lack of depth in the crucial areas. The text is quite short, and can be read from cover to cover in a matter of a few hours. In an academic environment, the text would have to be supplemented with outside materials. The authors undoubtedly intend that the text be used this way for they greatly encourage outside exploration, and include an extensive bibliography. Their even-handed treatment of the controversial subjects is partly responsible for the lack of depth, in that they tend to gloss over points that more biased writers dwell upon to some extent. The text might benefit by the inclusion of well-reasoned, but highly opinionated essays.

The computer is quite the center of attention in the text, and the main issue is its interaction with various facets of society. The authors do include very little purely sociological material. Another possible approach for a text in this field is to examine the role of a computer in a model of a dynamically changing society, but this approach is for a much more sophisticated readership.

The text has some appeal for a nonacademic market as well as its intended academic market. The four-color artwork is particularly attractive and rather unusual for a book of this type. Certainly among the books in print that have both the words “computer” and “society” in their titles, this text is the most successful in dealing with the central issues.

Harold S. Stone