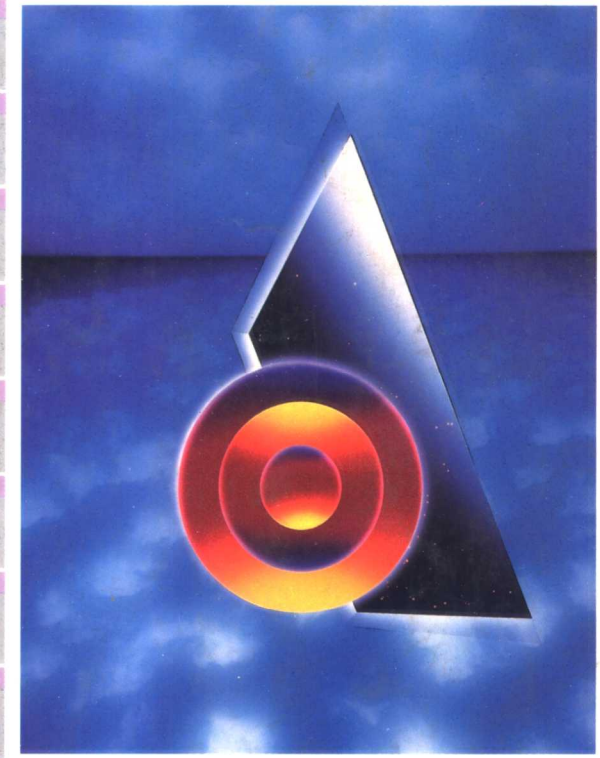
COMPUTERS AND SOCIETY

IMPACT!



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Computers and Society: IMPACT!

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ABOUT THE AUTHOR

David O. Arnold earned his B.A. at the University of Chicago, his M.A. at the University of Iowa, and his Ph.D. at the University of California, Berkeley.

He is a teacher. David Arnold is Professor of Sociology and former Chair of the Sociology Department at Sonoma State University in Rohnert Park, California, where he has taught courses in computer literacy, computers and society, computer applications, technology and social change, and other subjects, in the sociology, computer science, management, education, and liberal studies programs. He was previously on the faculty at the University of California, Santa Barbara.

He is a writer. David Arnold has published more than 100 articles in academic, professional, computer, business, and trade journals and magazines. He has authored or co-authored six previous books, including *Getting Started with PCs and Compatibles* (which has sold more than 80,000 copies) and *Information Systems Analysis and Design.*

He is a speaker. David Arnold has given speeches and seminars for numerous regional, national, and international associations, conferences, companies, and universities. He is a partner in Arnold/Rutman Associates, a speaking and consulting firm specializing in the social and organizational impact of computers and information technology. He is on the board of directors of the National Speakers Association, Northern California Chapter.

When not teaching, writing, or speaking, David Arnold likes to read, cross-country ski, run, bicycle, walk, and fly airplanes. He lives in Cotati, California, with his wife, Gail Rutman, a speaker, writer, and CPA.

PREFACE

In the new information society, being without computer skills is like wandering around a collection the size of the Library of Congress with all the books arranged at random with no Dewey Decimal system, no card catalog, and, of course, no friendly librarian to serve your information needs.

JOHN NAISBETT, *MEGATRENDS*

Success in the information age requires *computer literacy,* a concept whose meaning has changed along with the changes in the way we use computers. Earlier notions of computer literacy focused on programming ability, which then gave way to an emphasis on hands-on skills. Today, computer literacy means developing an understanding of the computer as a tool for expanding the capabilities of the human mind. The purpose of this book is to help readers increase their understanding of what computers do, how they do it, and how they are changing the world we live in.

TOPICS: WHAT DOES THE BOOK COVER?

Computers and Society: Impact! consists of 14 chapters, divided into three parts. Part I, "Computers: Past and Present," provides an overview of computer basics in Chapters 1 through 3.

This section introduces the terminology and basic concepts of the computer world. It includes overviews of computer hardware—processors and printers, bits and bytes, RAMs and ROMs, and other essential computer components—and software—programs and programming languages. At first some of the language and concepts may seem strange to readers, as often happens when visiting a foreign country for the first time. But the strangeness will quickly give way to familiarity, and learning the language will enable readers to derive maximum benefit from their visit. They will come to understand what programs do, how they work, and why one program may be easier to learn, easier to use, or more powerful than another.

Part II, "Computers: Improving Personal Productivity," includes Chapters 4 through 7. In this section readers will discover what computers can do: process words, analyze numbers, organize data and information, create graphics, and perform other tasks.

After gaining an understanding of computers (Part I) and their applications (Part II), in Part III, "Computers: Changing Society," readers will examine

the uses and impact of computers in business, industry, the job market, transportation, government, health and medicine, entertainment and the arts, and crime. They will look at how computers will affect jobs, communities, and families during the '90s; the role computers played in the last presidential election; new ethical and legal issues raised by the computerization of society; and even how computers are used by professional football and baseball teams.

FEATURES: WHAT'S SPECIAL ABOUT THIS BOOK?

Most introductory computer books are like the person who, when asked for the time, tells you at great length how watches are made. Filled with details of hexadecimal notation, instruction registers, hashing techniques, and the like, they are appropriate for computer science majors, but not for the bulk of students who are increasingly signing up for courses with titles such as Introduction to Computers, Computer Literacy, or Computers and Society. By overloading their readers with technical specifics, these books actually leave them with less technical understanding instead of more, because they intimidate and confuse readers rather than encourage and reassure them. Furthermore, in the authors' passion to impart details of design and operation, their books too often give short shrift to the wide range of computer applications and to the impact of computers throughout society.

I wrote *Computers and Society: Impact!* because neither I nor my readers were satisfied with any of the available texts. I know of many students who, with high expectations, signed up for a beginning computer course, only to have their hopes dashed during the first few weeks. Many college textbooks are written by people who can't remember what it was like to not be knowledgeable about their subjects. As a result, they are unable to successfully bridge the gap between where *they* are and where their students are. My focus while writing this book was to reach out to readers, to communicate not only information about computers, their applications, and their impact, but also to get them *excited* about these topics. The writing style, emphasis, and pedagogical basis all contribute to the goal of successfully reaching students.

Style

- The writing style is conversational and uses the active voice to help involve readers in the reading process.
- Extensive use of metaphors and analogies help explain the new in terms of the familiar.
- I have purposefully interjected humor; just because a subject is important doesn't mean learning it can't be fun.
- Throughout, I have attempted to make the material alive and relevant by including both real-life examples and plausible scenarios.

Emphasis

Mainframes, minis, micros, desktops, laptops, IBMs, Macs—what should the emphasis be?

Once upon a time, long, long ago—say, 1975—there were no personal computers. Not long before that there were no minicomputers, either; *computer* meant mainframe, a mysterious monster known only to the fraternity of professionals who built, programmed, and operated them. Today, computers are spreading faster than a waistline at a chocolate shop. We have desktop computers, laptop computers, notebook computers, and even pocket computers. We have hundreds of brands, many of which have their own commands and software.

My approach in terms of emphasis has been to give a balanced presentation of the many differences, providing what I hope instructors and students alike will feel is fair and adequate coverage of each. Since most students, both in college and after graduation, will deal primarily with microcomputers, I have devoted the greatest attention to PCs. At the same time, wherever appropriate, I have included material on larger computers. I have also attempted to balance the presentation of various brands of hardware and software.

Pedagogical Features

Like a good computer program, a good textbook must be both powerful and friendly. *Computers and Society: Impact!* fulfills these criteria for readers who are new to computers and computing, as well as for those who have been clicking keys, moving mice, and juggling joysticks since preschool.

Coverage is thorough, accurate, and up-to-date, and is aided by a number of practical, pedagogically based features.

- *Key terms* are listed at the beginning of each chapter, printed in boldface the first time they appear, and defined in the text and the glossary.
- The *glossary* provides a clear definition of every key term in the book.
- An *outline* and a *list of objectives* at the beginning of each chapter assist readers in approaching new material.
- Clearly marked *subheadings* guide the reader through the material.
- The *four-color* interior helps maintain interest, emphasize key concepts, and enhance learning.
- *Review questions* cover the main topics and concepts presented in each chapter.
- *Activities and Discussion Questions* offer thought-provoking activities and questions designed to stimulate critical thinking.
- *Boxed material* presents information on fascinating applications, tips, people, and issues relating to computers, their use, and their social and organizational impact.
- *Suggested readings* at the end of each chapter, titled "Words with Impact!," summarize books and articles appropriate for further reading, in a manner designed to encourage students to actually read these materials.

SUPPLEMENTS: WHAT IS AVAILABLE WITH THE BOOK?

An extensive supplement package accompanies *Computers and Society: Impact!* to support instructors and students:

For the Instructor

The *Instructor's Manual*, written by me and Gail Rutman, a professional writer, seminar leader, and information technology expert, includes these features:

- chapter summaries
- comprehensive lecture outlines
- practical teaching hints
- answers to the Review Questions at the end of each chapter in the text

Also available is a packet of 40 overhead transparency masters.

The *Test Bank*, with more than 1150 true-false, multiple-choice, and completion items, is available in both printed and computerized versions.

A variety of applications software tutorials for the IBM and Macintosh are available through McGraw-Hill representatives.

For the Student

The *Study Guide* to accompany *Computers and Society: Impact!*, written by Lorraine J. Laby, an instructor of computer courses and writer of computing tutorials and technical documentation, includes these elements:

- chapter emphasis (statement of the focus of the chapter)
- chapter objectives
- chapter summary, with key terms in boldface type
- key terms review
- study questions ("Test Yourself") with true-false, multiple-choice, and completion items
- answer key to questions

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David O. Arnold
Cotati, California
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