sors of the research and respondents to questionnaires) throughout the course of the research.

Hafner, Hernon, and Slater, therefore, together offer a useful introduction to library research—what it is, how to collect data for research, how to do quantitative and qualitative analysis of data, and how to turn research into decisions.—*Kendon Stubbs, University of Virginia, Charlottesville, Virginia.*

Forester, Tom, and Perry Morrison. *Computer Ethics: Cautionary Tales and Ethical Dilemmas in Computing.* Cambridge, MA: The MIT Pr., 1990. 193p. $19.95 (ISBN 0-262-06131-7). LC 89-71358.

The computerization of society during the last twenty years has brought with it astounding gains in our ability to collect, store, manipulate, and manage information. The power of the tools that computers place in our hands has led many—one need not search long for examples—to make extravagant claims about the ability of computer technology to provide revolutionary solutions for a host of previously intractable problems, from office management to automated factories, from ATM machines to expert systems. It is against the grain of these claims that Forester and Morrison's volume attempts to work by relating in detail a constellation of problems that they believe are inherent to computers: they are subject both to malfunctions in hardware and software and to misuse by human beings. What is the downside of information storage if not the invasion of privacy, and what is the downside of information management if not the completely automated battleground of Star Wars?

Computer Ethics has its origins in Forester's and Morrison's classroom work (both teach in Australia) on the human and social context of computing. It is their attempt to highlight some of the more important social and ethical issues that arise from computerization. The book is well suited for both the classroom and for the general reader, and

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should find its place in the burgeoning number of college courses in technology and society. Although of interest to the general reader, the book is designed so that it can be used as a teaching text. It is divided into eight chapters and touches on such subjects as computer crimes, software theft, viruses, hacking, invasion of privacy, and artificial intelligence. Each of the eight main chapters contains a section entitled "Suggestions for Further Discussion." These sections are based on material covered in the chapter and set up scenarios for the classroom or provide the basis for further reflection.

The subtitle describes precisely the authorial strategy: to bring together in one place a list of facts, anecdotes, study results, and surveys that pertain to a general theme, such as computer crimes, and to let these then define the landscape for discussion. There is no attempt here to grapple with ethical issues in a structured, logical fashion. The object is rather to show both the range of social issues within a problem set and inherent difficulties in structuring clear, unambiguous positions. The value of this approach is that it places the computer back into a social structure and makes potent arguments from the sheer mass of assembled evidence. The danger of such a strategy is that it can lack coherence or that the examples chosen may be carefully filtered to reflect the political agendas of the authors.

Within this general framework, the authors also do an excellent job of presenting the problem set and technical language of computers to a nontechnical audience. For example, the chapter "Hacking and Viruses" provides an excellent differentiation among viruses, Trojan horses, logic bombs, and other arcane examples of programming with a malicious intent. The general discussion of software engineering techniques included in the section on unreliable computers should make it possible for the general reader to get a glimpse of some of the problems and difficulties of producing reliable software and hardware (although Tracy Kidder's *Soul of the New*

Machine remains the definitive, if somewhat romanticized, statement on this subject). Similarly, the brief but cogent discussion of the major positions in the current debates on intellectual property, copyright, and patents in the chapter on software theft is noteworthy.

If an agenda is at work here, then it is decidedly democratic, antitechnocratic (not antitechnical), antimilitaristic, and highly skeptical of highfalutin claims, particularly when these are offered as social solutions or make extravagant demands on the public purse. The more egregious claims and some of the epistemological underpinnings of the artificial intelligence (AI) crowd come under particularly sharp attack, as does former President Reagan's Strategic Defense Initiative (SDI), to which the authors devote a separate appendix. While one can certainly disagree with individual points of the authors' political agenda, these are fundamentally social and political issues for which computers provide tools for answers, but computers are not the answers in themselves. This work is largely successful in heightening that awareness and should prove of value to those interested in pursuing the social aspects of computing in greater depth.—*James Coleman, Research Libraries Group, Inc. Mountain View, California.*

Harris, William V. *Ancient Literacy.* Cambridge, MA: Harvard Univ. Pr., 1989. 383p. alk. paper, $35 (ISBN 0-674-03380-9). LC 89-7588.

From lead curse-tablets in archaic Greece to graffiti on the walls of imperial Pompeii, from monumental inscriptions to bills of sale, medical treatises, and epic poems, the Greeks and Romans left abundant evidence that writing, once introduced, was quickly adapted to a range of purposes. Assumptions about the level of literacy in this part of the ancient world—the title does not disclose that its subject is restricted to Greco-Roman antiquity—have varied, but have often been optimistic. In this well-documented and thorough study, William V. Harris surveys the evidence for the nature and extent of literacy in the