Book Reviews

Computer Ethics Tom Forester and Perry Morrison (1990). Basil Blackwell. 193 pages, £12.95 paperback, ISBN: 0 631 17242 4.

I suspect that readers of this review will be most familiar with Tom Forester in his capacity as the editor of a series of comprehensive volumes focusing on various aspects of what might be called the phenomenon of "New Technology". In this book Forester and his co-author, Perry Morrison, have produced a book which echoes these previous offerings in taking a general thesis concerning technology and society and exploring related themes in a series of self-contained chapters. In this instance the thesis is that the emergence of pervasive forms of computer technologies has created a series of qualitatively new ethical, legal and moral issues. Thus, after an introductory chapter which briefly notes the enormous and accelerating impact that computers have had on society in recent decades, the book immediately weighs in by examining the nature of computer crime. This is followed in rapid succession by chapters on software theft, hacking and computer viruses, the problems of computer reliability, the invasion of privacy, artificial intelligence and, finally, the role of computers in the work place.

The first substantive chapter on computer crime sets the tone for the book by providing a rather racy and breathless discussion of 'Great Computer Heists' of our time. When reading this chapter one might draw the conclusion that the authors have a sneaking admiration for the many named and anonymous perpetrators of the various computer 'stings' mentioned in the text. What is more, they appear to substantiate the commonly held suspicion that computer crime is much more prevalent than is reported and, even more disturbingly, we aren't being told the whole truth about it as unscrupulous bankers attempt to maintain confidence and cover up their own ineptitude. The basis for these assertions seem to be restricted to a limited amount of documentary evidence or anonymous anecdotes but despite the unconvincing nature of the arguments, you still can't help thinking they are probably right. The chapter concludes by describing a hypothetical ethical dilemma which the reader is then invited to ponder on. This device is also repeated at the end of all the subsequent chapters.

Readers of this journal might legitimately expect to find the chapter on artificial intelligence the most rewarding. However, I suspect that they might be
disappointed as the authors avoid the on-going debates in areas like cognitive psychology or even software engineering and settle for a very limited discussion on the legitimacy of artificial intelligence as a scientific goal.

On the whole, this book would provide the prospective reader with an entertaining and eminently readable treatment of what the authors define as computer ethics. However, in attempting to provide a comprehensive description of areas like computer crime or artificial intelligence, sound analysis does tend to take something of a back seat. The more I read this book the more I became convinced that the real issues at stake weren't new at all but were the perennial favourites like ownership and control, power and dependency, surveillance and privacy, security, and social justice. In the light of this, the failure of the authors to explicitly ground their arguments in social theories which have been struggling with these issues for much longer than computers have been in existence can be seen as doubly disappointing.

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*Formalism in AI and Computer Science*, Philip Leith (1990). Ellis Horwood, Chichester. 225 pages, ISBN 0-13-325549-2.

*The Computerised Lawyer: A Guide to the Use of Computers in the Legal Profession*, Philip Leith (1991). Springer-Verlag, London. 222 pages, ISBN 3-540-19658-7.

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Philip Leith has never been afraid of controversy, and has contrived to publish two related volumes within a short period of time, addressing his two previously separate audiences. For lawyers, such as my colleagues at Kingston Law School, he has performed a valuable function in demystifying the computer and showing how it can be of practical utility in their professional work and development. For computer scientists and artificial intelligence researchers he has been a provocative challenger to what he regarded as modern orthodoxies, whose challenges to the integrity and reputation of particular logic programmers ran the risk of involving the services of libel lawyers. As one of the logic programmers whose work was singled out for attack, to my considerable surprise, in *Formalism in AI and Computer Science*, I have been interested to understand more of Leith’s concerns.

Towards the end of *The Computerised Lawyer* Leith brings together the concerns of the two books, and sets them in a personal context:

"As someone whose initial studies were in sociology, and who has occupied a post in a department of computer science, but is now in exile in a school of law, it is interesting to meet with those who are still highly wedded to the discipline of computer science. By and large, their concerns are those of the technician and the mathematician – trying, for example, to handle data retrieval or to formalise computer methodology, all with little discussion of social complexity. My text *Formalism in Computer

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Science is an attempt to highlight this technicalism of computer science, and suggest – as I do here – that computer applications require understanding as much of the non-technical as the technical, and that these are the most difficult areas for computer scientists to work in.”

I must express a personal sympathy for Leith’s position as a hybrid academic, in which he is far from alone in the field of artificial intelligence and its applications. In his terms I could be described as someone whose initial studies were in philosophy and history, who has occupied a post in a department of computing, but is now in exile in a business school. Such career paths can facilitate misunderstanding, particularly when “applications” are concerned. Leith laments the low esteem in which work on applications problems is held, but would benefit from the insights of the veteran French computer-assisted archaeologist Jean-Claude Gardin (1989, 1990, 1991) who has distinguished examples which highlight the power of the technology from those which advance the pursuit of the knowledge domain itself.

Gardin’s work might also provide a healthy corrective to Leith’s dominant concern with the theoretical works of the medieval French philosopher and logician Petrus Ramus (Pierre de la Ramee), whose concern was for method, logical analysis and system. Leith goes so far, in Formalism in AI and Computer Science, as to say “It is striking that the method of logic programmers is identical to that of Ramus”. I was fascinated to find myself described as a Ramist, as if this was almost self-evidently a term of abuse. Leith might be interested in the work of Gardin’s logicist school, which seeks to rationally reconstruct the scholarly arguments of academics in areas of learned discourse, gaining increased insight into the nature of reasoning through progressively more refined models. My work in using logic programming in support of history teaching (Ennals, 1985) should be seen in this context of exploratory learning, not as an attempt to suggest, as he would have me do, that historical fact is unproblematic.

My work in education attracted minor wrath compared with Leith’s earlier fulminations against the work of Kowalski and colleagues in representing legislation and regulations. I have elsewhere (Ennals, 1991) sought to set this debate in a moderate context. Here I will simply pick up Leith’s argument in The Computerised Lawyer:

“Each example of computerisation can be seen to impinge upon the world in often unexpected ways. As another example, the development of logic programs which, supposedly, can give information on who is a British citizen, can unwittingly lead to the formalisation of the frequently found racism inherent in that legislation and its judicial interpretation.”

The work which provoked Leith’s anger was an exploratory model of the then newly published British Nationality Act, undertaken by a team (Sergot et. al., 1986), most of whose members failed to qualify under the Act, and whose researchers helped to highlight the racism of which Leith wrote. It was clear to those involved in the early testing of the model that there were unwritten questions, such as “Are you White?” which underlay the interrogation process, but which propriety and other current legislation prevented from being made explicit. As with the expert system at St George’s Hospital Medical School which modelled previous recruitment practice and was shown to be racist to the extent of precipitating legal action, the fault lay in the human institutions, not in the activity of modelling such institutions using tools derived from artificial intelli-
gence. Leith is right to raise our awareness of dangers, but he needs to be more
discerning in his attacks on the work of others.

Of the two books *The Computerised Lawyer* is less exciting but will age better.
It has a thoroughness and attention to detail which flows from its use in anger with
law students, and it has made a major contribution to computer teaching in the
law. The text is bilingual in that it is comprehensible to both lawyers and
computer scientists. Towards the end of the book Leith raises key issues of legal
ideology, enabling one to take a critical view of "legal systems", with or without
computers. In practical terms he sees considerable benefits to be derived from the
use of clerical systems to ease office administration: lawyers have lagged behind
the state of the art, possibly through a combination of intellectual conservatism
and confidence that the client will pay the prices charged for inefficiency.

We are left with ongoing debates on knowledge and representation in the law,
where his conclusions are antagonistic to artificial intelligence and cognitive
psychology. His penultimate page ends with the basis of an undergraduate essay
question:

"I would argue against the perspective that thought is so rule-based, and argue too against the
perspective that law is so rule-based."

and a derogatory reference to the view described by Donald Michie (1985), that:

"lawyers, for instance, specifically solicitors, could be replaced by computers and that an expert
system, albeit a very big one, could actually do the job better."

Leith, however, could surely not dispute Michie's own conclusion that:

"An improved legal service to the public would be an undoubted boon."

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