Book Reviews

HELENE G. KERSHNER, *Introduction to Computer Literacy*, D. C. Heath.   ISBN 0-669-09560-5. £14.95

This comprehensive (431 pages) and very readable book serves to offer to the IT novice (or, indeed, to the absolute beginner) a useful overview of the development and current state of information technology and computing, from mainframe to micro (PC and Macintosh). The sixteen chapters provide an introduction to the history of computing, to the component parts of a computer and their function, to peripherals, to the nature of programming and languages and to the commonly encountered types of software packages; reference is also made to computer graphics, communications and networks, and to the social context of computers and computing. A useful glossary of terms is provided, as are a detailed contents listing and index which greatly facilitate usage and revision; the text is provided with numerous illustrations, including photographs and line art, and with selected extracts from journal articles that inform or extend topics being discussed.

The author's style presents material in an interesting manner and makes the text easy to follow and comprehend; the provision of a summary and sets of exercises at the end of each chapter provides ready evaluation of learning achieved at each stage, and offers suggestions for further or follow-up activity. There is effort to present topics in a balanced way: in the chapters on software packages, for example, the author includes short sections on 'pitfalls and problems', which serve to remind the reader that computers are not yet the 'be-all' tools that some enthusiasts might have the public believe.

In a critical vein, the broad spread of the book necessarily restricts it to a descriptive approach and to fairly basic explanations of the themes discussed; and it is most definitely not a manual of instruction on how to operate and use a computer (it does not seek to offer any instruction in this direction: one might thereby question the meaning of the term 'computer literacy' in the title – can one be computer-literate and not know how to use a computer? For that is the end position that a reader of this book alone might achieve). Readers might also regret the absence of any bibliography or recommendations for further reading. Finally, even for a rapidly evolving area like computing and IT, there are some surprising omissions: there is no mention, for example, of UNIX, of object-oriented approaches or of 4GLs (which might all be terms readily encountered by a newcomer to IT), while only brief mention is given to the 'relatively new phenomenon called desktop publishing'.

Such are relatively minor criticisms, however, of a book that generally achieves its goal of offering students an understanding of 'the potential and limitations of the hardware, the process of problem solving, the capabilities of today's software, and much more'. For students commencing a study of the field of IT and computing (or for others wishing to find out what IT is all about!) this book offers a broad-ranging and comprehensive introduction to basic principles and ideas; but, for a balanced development of practical skills as well as understanding, the book is best seen as a valuable companion volume to practical instruction manuals.

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ERNEST S. COLANTONIO, *A Laboratory Course in DOS, WordPerfect 5.0, Lotus 1-2-3, dBASE IV*, D. C. Heath.   ISBN 0-669-21745-X. £14.95

After a brief introduction to the practicalities of operating a microcomputer, the text moves into instructional mode. Each of the four chosen software packages is addressed in turn, working from a 'beginning' chapter through 'intermediate' to 'Advanced' features for each. A summary key terms listing, revision tests and lists of problems to suggest further work and revision conclude each chapter. The book finishes with three appendices on 'selecting a system', 'software installation' and 'command summaries', plus a lengthy glossary. For those needing them, it even contains pages of card keyboard templates for using the packages discussed. An appreciated practical feature is that the book (some 640 pp. text, plus 80 pp. appendices) comes in a large ring-bound form that keeps the pages flat and makes it easy to work with at the keyboard.

The instructional text is delivered in an easy-to-follow 'hand-holding' sequence of instructions for each function, with frequent representations in the text of the screen as it should appear at key stages (although the perceptive reader may notice some minor differences in the screen layouts, in Wordperfect for example, between this American text portrayal and the screen menus as they appear in packages loaded for UK users). Generally this works well and produces the desired result; one reservation, however, is that the reader can easily slip into a mode of operation where he/she follows the sequence relatively passively, particularly in some of the longer instruction sequences (as in advanced stages), without truly appreciating what each instruction is doing (the text's preference for alphabetic rather than numerical responses to screen menu options, in Wordperfect for example, means that sometimes the learner may not appreciate exactly which choice is being invoked).

An obvious risk with a book of this nature is that the selected software packages may not all be those that the would-be reader finds him/herself facing (although in all fairness it must be said that these packages are the current market leaders in their respective fields). Perhaps a greater risk is that individual packages may be updated, as has already happened with Wordperfect (now released as version 5.1, which renders some of the instructional sequences outmoded). But, that said, the book does offer an introduction to working with key packages, and would take the average user to a level where he/she would be able to make reasonable use of each. Obviously there are sophisticated features in packages that such a composite text cannot address, and for these specialist instruction manuals would be required; but for the beginner who seeks merely to come to terms with microcomputer softwares and their potential applications, and to make competent basic use of the packages, this book provides a suitable and compact introduction.

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D GASSILLOUD and J C GROSSETIE (eds)
Computing with Parallel Architectures – T. Node
ISBN   0 792 312 252   Kluwer   Academic Publishers Groups. £52.00

This book is the second volume in the Euro Course series which is a record of courses and educational seminars organized by the Joint Research Centre Ispra. In particular the text is based on lectures given on the Euro-course 'Computing with Parallel Architectures', Ispra, Italy, September 10–14, 1990. The volume is 214 pages long, hardback, and consists of fifteen chapters by different authors.

The material covers three areas, architecture, systems software and programming, and applications relating to the development and exploitation of the T. Node architecture developed as part of the P1085 Esprit 'Super-Node' project. The first two chapters are devoted to a good overview of the project organisation involving a number of European community partners together with a brief overview of the programming environment available. The next four chapters are devoted to the problems of mapping programs into a parallel–message passing type–architecture. A review of current synthesis techniques for the formal mapping of synchronous and asynchronous algorithms into architectures is considered. A software tool for designing transputer network applications using petri networks is outlined and methods for producing code for reconfigurable architectures discussed. Experiences in developing a compiler and distributed runtime kernal (Echidna) which can be used for applications described in the Estelle language (ISO standard) are also presented. The rest of the book is devoted to specific applications.

Particular topics are parallel algebraic computing, image synthesis and processing, porting of particle physics code onto the T. Node, and the mapping of simulated annealing and neural network simulations onto transputers.

I found the book difficult to read due to the high incidence of typographical errors such as mis-spelt, missing words, and badly structured sentences which demonstrated that the text had not been properly proof read (in fact I almost stopped reading the book before reaching the end of the second chapter). However, perseverance paid off and at the end of the text I felt that I had received a good overview of the project, capabilities of the T. Node architecture, and the kind of software and applications development that was being pursued. I would recommend this book as a suitable source for general information and a reference to more detailed work. In conclusion the text is useful possibly as an addition to a departmental library. The cost compared with the overall level of presentation and depth of coverage limits the text's appeal.

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