competition. This is followed by a closer look at the deregulation of AT&T and its subsequent attempts to enter the computer market. The benefits enjoyed by the consumers in consequence of deregulation were also extended to trucking and railroads.

As a consequence of integrated technology it became possible for American companies to bring back production to the domestic sector and made IBM and General Motors better equipped to compete with Japan. The author describes the organisation of Sematech as an attempt to halt the Japanese invasion of American markets. He then extols the virtues of human investment and the evolution of new management initiatives. In exploring technologies for the future Derian believes that HDTV will be a development that will need to grow within a combination of sheltered and market cultures.

On the whole the work examines a wide variety of high technology industries on the basis of a model of dual cultures and analyses the impact of the model on America's competitive advantage. European and Japanese industries have been given a fair treatment in the work and the challenges facing these countries in the future are carefully explained. The book is very readable and written in a lucid style. The political insights in the book are useful for understanding the growth of various technologies. Statistics are presented to prove some points made, without making the book too technical for the lay reader. It is a very useful work for those seeking answers to the where, why and how of technological development in America.

Meheroo Jussawalla
East West Centre

Computing Studies for Australian Schools *by Ron Day and Robert Goodwin* (Addison-Wesley, Sydney, 1990), pp. xii + 304, ISBN 0-201-19571-2.

This book is one of many texts written for computer studies courses in schools. How does it rate compared to the others, and have the authors been successful in what they were trying to achieve? On the back cover the book is described in the following way:

> *Computing Studies* for Australian Schools provides secondary and tertiary students with a highly readable and thorough introduction to the world of information technology. An Australian perspective is used throughout to heighten student's awareness of the subject and help them relate it to their own experiences.

The book is designed to be an introductory textbook on the basic computer concepts and common applications of computing, and so it assumes that the students reading it have no previous knowledge of the subject matter. Because of this it presents the work to be covered in a readable and easily understood manner. The use of metaphors to illustrate the concepts that are being presented gives the students a clear and easy understanding of the material being covered. The language that the book uses is at a level that students in the target age range would not find difficult.

One interesting feature of the book is two glossaries of terms. A full glossary is presented in its usual position at the end of the book. This is over six pages in length and so covers most terms that the students are likely to need to know.

However, as you read the text the authors have provided a second glossary in the margin of each page so that as a term is used for the first time, it is explained in a concise sentence or two. The two are however not always the same.

The book is divided into five sections. What is a Computer, General Purpose Software, Computer Applications, Computers in Society and Future Directions. As can be seen from the list of headings, the book attempts to cover all major areas of computing. The book is generally well organised with the material flowing well from one section to the next.

In the first section the authors have given a brief historical description of the development of calculating devices and computers, descriptions of how the computer works (including the CPU, data representation and data storage) and input/output devices as well as an introduction to programming and computer languages. All of this is done in a very descriptive and qualitative manner, providing basic concepts but not much detail. In the section on disk storage for example, it states "that hard disks load and save information much more quickly than floppy disks". There is no attempt however to give a comparison of the relative speeds of the different types of disks or how this is achieved except to say that the hard disk spins faster.

The section on general purpose software just covers word processing, spreadsheets and databases. In each of these areas, the history of the development of the software type is covered along with a description of the main features and uses of the software. There is no attempt to discuss or show any other software types.

Section three covers the application of computers in business and industry with robotics being separated out for individual treatment. These chapters give the reader a reasonable idea of how computers are used in these areas. There is, however, some repetition in the description of the uses of computers in industry and with that of robotics. I feel that these two areas could have been given a more balanced overview.

The computers in society section is a collection of chapters detailing some of the implications and effects of the use of computers in today's society. It looks at how computers are used in communications, in the home and marketplace, some social issues relating to the use of computers, ergonomics and computer careers. All these topics are covered in a sympathetic manner without the use of sensationalism that some other texts use.

The final section attempts to look at where computers are going over the next few years. It starts with a look at artificial intelligence giving a brief description of what it is, followed by a much fuller description of expert systems. The final chapter on computers and new frontiers is in my opinion the weakest chapter in the book. It puts too much emphasis on a science fiction type description of the use of computers in space but very little on other areas. This last section could have been used to much more effect by describing possible further developments in computing, coupled with a look at some of the developments being made at an experimental level that have not yet made it into commercial use.

Overall the book succeeds in the statement on the cover that it give a highly readable introduction to information technology, covering many of the major areas of this discipline. Its main usefulness would be in the middle to later years of secondary schooling as a student text in a general introductory computer studies subject. However, as it does not get very specific in many areas it would not be as useful in a senior secondary computer science course. Tertiary students would probably not find it very useful at all.

It compares very well with other similar texts. It is consistent in what it is trying to do and in the level of presentation. The authors obviously have a good

feel of how to present this subject matter to secondary students in a manner which they can understand. It gives an Australian perspective to information technology that is often missing in other books. *Computer Studies for Australian Schools* deserves a place on the bookshelf of all teachers working in this area, and should be seriously looked at if selecting a text for an introductory computer studies class.

Ian Penney
Melbourne High School

Information Technology and You: People, Processes and Systems *by Wendy Bell and Robert Sanderson*
(Edward Arnold, Melbourne, 1991), pp. xiv + 289, $19.95, ISBN 0-7131-8383-7.

Manuals, computer journals and text on IT applications often tend to be written for those with some technical training and expertise. It can be difficult to locate up-to-date explanations, in terms comprehensible to non-technical readers, of matters such as data communications or the characteristics of different types of software. However, this textbook on information technology, intended for use in secondary schools, provides an excellent introduction to the subject area. The book can be studied with considerable benefit also by readers other than secondary school students, for example IT users who may never have acquired an understanding of the technologies underlying the systems they employ.

In eight chapters the authors cover the theory of information and information systems, hardware and software, data processing and communications, the basics of programming, and the social and organisational aspects of information technologies. In-depth discussion of particular topics is contained within 'frames' throughout the book. Each chapter is followed by questions and exercises, and suggested 'project work'.

The lack of references or a bibliography is not likely to be a drawback in this particular context. Technologies and systems are discussed in generic terms: rapid changes in the IT area make it necessary for teachers to supplement a textbook with material covering new applications and other recent developments. In spite of the inevitable dating of certain sections almost at the time of printing, overall the book should remain topical and useful for teaching purposes for several years. The style, editing and presentation is excellent throughout. Some technical sections will of course require more concentrated study, and may not be suitable for all students.

The final chapter addresses the impact on people and organisations of information technologies. The authors suggest that concerns raised in the 1970s and early 1980s as to the likely negative effects of computer applications (unemployment, etc.) have been shown to have been largely mistaken. Examples are given of applications beneficial to the disabled, those living in remote areas, and also to workers in industry. Current issues such as the nature of changes in job design and working conditions are presented for discussion and further investigation by students. The overall impression from a reading of this chapter is of information technology as a force with a very exciting potential, with little likelihood of unwanted social and economic consequences in the longer term. It can be suggested that the perspective in this chapter is somewhat too rosy,