"Computer-aided instruction". The very first paper by J. Slocum deals with machine translation, and is very practically oriented. The second deals with EUROTRA, which is a machine translation procedure between the nine languages of the European Community, and finally the third article of part one is "Current projects at GETA on or about machine translation", presented by Ch Boitet from the University of Grenoble. Some examples of the translations achieved are provided.

Part two starts with a paper on the Basque language. This is followed by a paper dealing with the integration of a temporal framework with the NL knowledge-acquisition system. Then we come to GUAI which is a natural language interface generator, and finally, in part two we have "A practical natural language interface to databases", describing a Japanese language interface system. The system was implemented in an object-oriented language called MINERVA, and has actually been used for supermarket, library and real-estate information, and seems to show considerable promise.

Part three is simply "Databases", with four papers, and it involves the integration of AI with database systems, and especially with expert systems. One of the most interesting papers in by Yasdi and Ziarko from the University of Regina in Canada. It has a good summary of its main features:

"1 The conceptual schema and its associated rules are represented in predicate logic which can be adapted to any other application.
2 The conceptual schema is based on the semantic model, which is close to natural language.
3 Database design procedure starts with a naive description of an application and proceeds in the form of a dialogue between the system and the user.
4 We adapt a learning mechanism by which the design knowledge can be acquired from example; either rules can be generated from examples or new design rules can be added explicitly to the existing ones."

Finally, we have "Computer-aided Instruction" with just two papers. The first is on CAPRA which is made up of modules: a tutor, an expert system to build programmes, an interface for natural language dialogue, and a student model. This work, primarily on problem solving, makes good and clear reading. The last paper deals with the differences between expert systems and "intelligent tutoring systems".

The book as a whole is well-presented and well produced. The subject matter is not quite as widespread as the title of the book suggests, but is in fact rather specialized in its subject matter. All but two of the contributions are European based; of the other two, one is from Canada and one from the USA. A book well placed in the Ellis Horwood series in AI, where one of the authors is also an editor of the series. Taken together, Parts one and two of this subject matter make for a more general approach, but it is still very much concerned with applications, which casts some doubt on the appropriateness of the title. Even so, both volumes are an essential part of any AI professional's library.

Computing by Peter Salenieks (Ed.), Ellis Horwood, Chichester, 1988, pp 230, £24.95.

Reviewed by: Professor FH George, Bureau of Information Science, Seer Green, Bucks, UK.

This book is made up of articles presented at the annual conference of the Young Professionals Group (YPG) of the British Computer Society. It was held in Reading at the university in March 1988. There are 12 articles and they divide up into three groups. Part one is entitled "Technology" and contains five papers; Part two is called "Applications" and contains four papers; and finally Part three contains three papers.

The opening part on technology underlines the face that computer technology has developed at an enormous rate, resulting in ever faster and larger computers. But in spite of this, Iann Barron believes that computer architecture will not be adequate to meet the huge accumulating demands from fields like signal processing and artificial intelligence.

The fifth generation of computers is Brian Oakley's topic. He makes the point that the so-called Moore's law has been used for predicting future computer performance. This law states that the complexity on a chip doubles every year and the question is put as to whether this rate of growth of

complexity will continue at the same rate in the future. The rest of the article, significantly, is devoted to artificial intelligence, and in particular to its applications in expert systems. Alex d'Agapeyeff talks of the relative lack of success so far encountered in the use of expert systems. He says, more generally "I no longer believe mankind is ready for robots with common sense and a genuine capacity to learn from experience". Since he apparently once did believe in such things one wonders what has changed his mind. He follows this article with another on the "Practical elicitation for business applications", and here he further emphasizes the need for expertise.

Part two of the book on "Applications" naturally lays its emphasis on the way computers are used to solve problems, and uses the words "solve problems" rather generally. The papers in this part deal with the problem of systematic sea search by coastguards, the study of speech in linguistic terms as well as gestures, the visual control of intelligent robots illustrated by a number of examples, including snooker playing, and finally a paper on "Interactive Video: learning for the next generation".

Finally, in Part three, the first paper, by VS Shirley called "Computing and the competitive edge", deals with the automation of offices and the like, and the problems met particularly from "middle-aged managers who have 'always done things this way, keep your place young man—or woman'". The penultimate article in the book by Michael Jackson is on "Software Manufacture", and finally a rather unhappy article by Geoff Busby, a sufferer from cerebral palsy, who writes on "IT support for the disabled".

An appendix completes the book—one on the FRIL programming language which has been developed at Bristol University especially for use in the field of AI. Heuristics, semantics, cognitive science and logic are all catered for in what looks to be a very promising language.

The book as a whole is well produced and of great interest. In what is a vast field the contributions are nicely representative, and one realised that this sort of field could barely be covered by a set of many volumes, but the flavour has been well caught by a number of highly skilled contributors: a book to be strongly recommended.

Expert systems—a manager's guide by Karl Wiig, Management Development Series No 28, International Labour, Switzerland, 1990, pp 182, £12.50.

Reviewed by: Robert Milne, Intelligent Applications Ltd, Scotland.

In the past many books on expert systems have been written for the technologist. However, for expert system applications to be successful throughout industry, it is the manager who must take the initiative to start an expert system program and coordinate the successful development of applications.

As a result, there is a need for a book which can tell the manager what expert systems are, how to benefit from expert systems, how to get started and how to successfully develop an expert system team and expert system applications. This book is very successful at addressing that need. In a clear readable form, the book contains the information a manager needs in order to understand what the costs and benefits of expert systems are, to assemble a team, to learn what elements are needed within that team, to organize expert system projects, how to manage the development project, and how to see through the development and maintenance of knowledge-based systems.

The book does a good job of defining the basic technical terms and techniques, but without being over complicated. The writing style also makes it very easy to pick out the essential elements quickly. Extensive use of summary tables to outline the key facts and detail is made enabling the book to be used as a continuing reference guide, and helping to ensure its place on every manager's desk oriented towards expert systems.

Every book has a few areas which could be improved: the tables, although very useful, are often very wordy; the summary of expert system products and hardware is rapidly becoming out of date, although a snap shot of what is available at one time is given. Although the book contained a considerable amount of useful information, it could be made a bit more light hearted and a bit more motivating.