Japan has tired of its role as an imitator and perfecter of Western technology.

over the United States in that it at least acknowledges officially that the Japanese challenge will not be met by “hand wringing, denial, and other forms of self-delusion.”

The American response is dealt with at great length. Essentially, the authors portray the American response as “no response.” This is accounted for by an IBM mentality of American industry, loss of the American vision and work ethic, the computer science crisis, anti-intellectualism, intellectual Luddites, and other reasons already covered in books with the “the Japanese are coming” theme.

The response advocated by the authors is particularly ironic because it reverses the position of the countries. They suggest that in the interests of national survival and to maintain our self-image as the leader in computer science research, America should imitate and perfect its own Fifth Generation project which would build an American KIPS under the auspices of a national center for computer knowledge and technology similar to the Japanese ICOT. You might think America’s response to Japan’s challenge should be more original, given the enormous economical, sociological, and cultural differences between the two nations.

Overall, the book seems too long and given to rambling into extraneous areas. The authors are clearly biased in favor of AI and spend as much space defending it as praising the Japanese Fifth Generation project. The writing style is breezy and personal—the authors often appear as characters in the events—and engaging. In my opinion, the book, without the digressions, praise for AI, and personal anecdotes, would have made a timely feature story for a news magazine.

Wiley R. McKinzie
Rochester Institute of Technology

Fifth Generation project. It may also explain why Japan chose AI as the vehicle for its bold adventure.

Much of the book is devoted to the Western response to the Japanese challenge. A good deal of space is devoted to England’s golden age of AI, it’s untimely demise, and the feeble attempt to revive it in the face of the Fifth Generation project. The authors characterize the British response as uninformative, bluster, and befuddled. As for France, they see its response snared in politics. They do feel Western Europe has a distinct advantage

micro-Prolog: Programming in Logic
K. L. Clark and F. G. McCabe

Logic programming is a new and different computer programming paradigm which has appeared as one approach to solving complex programming problems. Much of the current interest is due to the Japanese Fifth Generation effort to support this paradigm in hardware, but research is also being conducted in the United Kingdom, Europe, and the United States. The programming language Prolog (programming in logic) is the most successful result of this effort. There has been one book previously published on Prolog itself,1 and one book dealing with research areas in logic programming.2 This book by Clark and McCabe is an introduction to micro-Prolog, an implementation of a logic programming language for microcomputers. The implementation has been done for several machines, but most notably for the 8086/88 microprocessors running the MS/DOS operating system.

The basic programming paradigm involves three steps: (1) State facts to the micro-Prolog system about objects and their relationship to other objects, (2) State rules to the micro-Prolog system about relationships between objects, and (3) Query the micro-Prolog system about objects and their relationships.

Thus micro-Prolog is implemented as an interpreter which responds to these actions by the programmer. The emphasis of programming in this system is on specifying what needs to be done—in a conventional programming language you specify how the computer should do something. Clarke and McCabe illustrate the programming process when logic programs are the desired result. They assume no background in logic programming and the book could be used for self-study.

The text is divided into four parts. Part one is an introduction to basic concepts. This includes syntax issues, placement of facts in the database, placement of rules in the database, and queries of the database. The final chapter in this part introduces the list processing features of micro-Prolog. Examples are numerous and progress well from one to the next.

Part two introduces more complex features and includes several programs that increase in complexity. In particular, there is a program that parses sentences from a subset of the English language. This is an instructive example of the application of the logic programming paradigm. It incorporates the list processing features and the backtracking features of

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