BOOK REVIEW

Artificial Intelligence and Psychiatry

Lee A Gladwin

dmittedly, I had some expectations prior to reading D. J. Hand's *Artificial Intelligence and Psychiatry* (Cambridge, Oxford University Press, $39.50). Judging by the title, I particularly looked forward to information on how artificial intelligence (AI) techniques are or can be employed in psychiatric analysis, diagnosis, and management of patients or disorders. Upon reading Hand's preface, my hopes turned to enthusiasm. According to the author, the goals of the book are to "outline Artificial Intelligence methods in a way which is intelligible to psychiatrists (and to others) with no knowledge of computers" and to relate AI to psychiatry in general. Although the first goal meant reviewing familiar material, the second objective was certain to make reading the entire book a worthwhile effort. After all, I reasoned, some point might well be implied in the selection of material and its order of presentation. Unfortunately, however, what the book delivers is different from what the preface promises.

Hand's book is well written and well researched. The author has taken great care in presenting previous work in detail and has quoted the earlier literature where applicable. Nevertheless, the book fails in two respects.

First, for those familiar with AI, the author does not deliver a coherent picture of why many of the book's topics are important or even relevant to psychiatry. Even with the introductory nature of the text, a selective discussion of those AI theories most relevant to psychiatry would have given the book some much needed focus.

Second, the book does not serve as an introduction to AI. No clear balance is present in the treatment of the various subject areas. Much of the book is preoccupied with methods of natural language processing, but related topics, such as expert systems, are allocated relatively few pages. Hand's discussion of computer-aided diagnosis degenerates into a verbose report on expert system design and knowledge-acquisition techniques. If these areas had been discussed in terms of their relationship to psychiatry, I would have felt much better about the book. However, the reader is faced with seemingly endless pages of general analysis studded with numerous examples of the application of these areas in various fields.

I tested Hand's approach in an introductory class on AI and expert systems. My students, having varied backgrounds in computing, found the sections on search and proof (chapter 4) and knowledge representation (chapter 2) too detailed, especially with respect to mathematics. I can only guess--but accurately perhaps-- that psychiatrists and students of psychiatry would feel the same way.

If a point is made by the author, it is about the importance of natural language understanding in patient treatment. The difficulty in interviewing patients, as opposed to the owners of failed computers, is the inexactness of answers. Mental elements such as pain or fear are highly abstract and personal, and despite my limited experience with psychiatry, I assume that interviewing patients in psychiatric

cases is at least as difficult as the patient-learning process faced by general practitioners. However, Hand does not address this issue or other related issues.

In summary, this book is perhaps best characterized as an unsuccessful attempt to reproduce an AI handbook. Its goals are lost in the effort to cover too much material in too few pages.

Hand's efforts, in my opinion, would have been much better spent in simply conveying his personal views of how AI can or should be used in treating and modeling psychiatric patients, the

---

AAAI 87

Sixth National Conference on Artificial Intelligence

July 13-17, 1987
Seattle, Washington

▨ ▨ Following the very successful format utilized at AAAI-86, the Technical Program ▨ ▨ will highlight state-of-the-art research findings in science and technology. Last year's Invited Presentation Series which included Symbolic Computing, Machine Learning, Expert Systems Project Management, will continue at AAAI-87 with a new set of relevant topics.

▨ This year's Tutorial Program will include advanced topics such as Advanced Common LISP, Expert Systems Project Management, Expert Systems Tools, Neural Nets Architecture, Truth Maintenance Systems, Blackboard Architectures, AI and Design, and Uncertainty Management, and Qualitative Simulation & Causal Reasoning.

▨ The Exhibit Program will not only include actual demonstrations of the products and services, but also will include university research demonstrations and technical presentations by the vendors.

APPLICATION FOR MEMBERSHIP

( ) New Application   ( ) Application Renewal

PLEASE TYPE OR PRINT CLEARLY

Name _____

Title _____

Address _____

City/State
Country _____ ZIP _____

Affiliation _____

Arpanet Address _____

Check as Appropriate:

MEMBERSHIP CATEGORIES:

( ) Regular Member/$25.00

( ) Student Member/$15.00
(Photo copy of student ID required)

( ) Academic/Corporate Library Subscription/$50.00

( ) Check here if you are interested in receiving information about the AAAI sub-group, Artificial Intelligence in Medicine.

All foreign members are asked to send an additional $15 for first class, air mail.

Do you wish to have your name included in a membership directory? □ yes □ no

A check for the appropriate amount should be made (AAAI. International money orders will only be accepte foreign memberships, please.

Please complete this form, cut out and send, along with a or money order for the appropriate amount, to:

AMERICAN ASSOCIATION for ARTIFICIAL INTELLIGENCE
445 Burgess Drive
Menlo Park, CA 94025

Mail List Restriction

AAAI occasionally makes its membership list availab companies and other societies for computer-related mailin you wish to restrict the use of your name for these pur please *check one* of the following.

□ AAAI announcements only

□ AAAI and other societies announcement only

Office Use Only

Check # _____ Cash _____

P.O. # _____ M.O. # _____

Bank _____