
Reviewed By
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When I received a copy of this book for review I was delighted. The book’s goal, “to serve as an elementary text and reference work on the applications of non-standard logics to artificial intelligence,” is somewhat more restrictive than what I inferred from the title, namely uses of logic in AI. Nevertheless, I thought to myself here is the text for our AI/Logic seminar.

I read the introductory chapter on predicate logic and continued to be quite impressed. It reviews classical predicate logic in a little over two pages and I thought it was wonderful, it could not have been more condensed and still done the subject justice. But as I read on, I developed several major criticisms of this book. These criticisms are of the book’s terseness, coverage, and finally, but certainly not least, its editing.

A glance at the table of contents revealed a good coverage of topics. Chapters on modal, multiple valued, non-monotonic, temporal, and fuzzy logics were included as to be expected. There was an additional chapter on institutionistic logic and its applications to the theory of types and also a section of a chapter on expert systems. But with these applications of nonstandard logics it seems that the book should include some mention of the applications of standard logic. There is no mention of “logic programming” in the entire book and the only mention to theorem proving seems to be in some of the references. While it can be argued that these are not logics in themselves (and certainly not nonstandard logics) but AI applications of standard predicate logic, their total omission seems extreme.

The terseness of the book, on reading the first couple of chapters, seemed to be a nice feature, but as I read on I realized that, to paraphrase some Unix Documentation, it was “not a feature but a bug.” I realized that I was already familiar with this material and while it was fine for a review (in fact good as a reference), it was severely lacking as an introduction. Students with little background would find the introductions to the various logics in this book inadequate.

Finally and most crucially the editing on this book is the worst that I have ever
seen. There are literally hundreds of mistakes in only 119 pages. Some of them are quite substantive. For instance, in the chapter on non-monotonic logic the book states

   Possibilitation(\text{Pos}): 'Can't infer A' then MA

where what is surely meant is "infer not A". There are other instances where there are substantive typographical errors that significantly affect the meaning. Errors of this nature would confuse a reader without previous exposure to the subject; even if the reader discovered the typographical errors their existence would undermine confidence in the rest of the text.

In conclusion the idea for this book was very good, but the disastrous editing job forces one to rate this as a poor book. One redeeming feature is that it does include a fairly good reference section. With a proper editing job and a little updating, I think that it would be quite a useful text for AI students and researchers. I anxiously await the second edition.