## Book Reviews

JACK KAMINSKY AND ALICE KAMINSKY. *Logic: A Philosophical Introduction.* Reading, Mass.: Addison-Wesley, 1974, pp. ix + 276 + answer section and index. $10.95 hardbound. LC 73-7106; ISBN 0-201-03576-6.

Kaminsky and Kaminsky describe their addition to the current range of logic textbooks as one which gives insight into contemporary logic, not by focusing on its relation to mathematics but on its relation to "problems of language, philosophy, literature and just plain common sense."

Besides the unusual focus of the book, the authors have chosen to use a canonical method routine for determining the validity of quantified arguments rather than a method of natural deduction. Their justification for adopting the canonical procedure is the belief that it is easier to use, that there are fewer modifications and conditions needed in presenting it, and that it (the canonical method) will eventually supersede natural deduction techniques.

The fifteen chapters are clearly intended to be covered in a typical semester; there are sets of exercises at the conclusion of sections and supplementary readings are prescribed at the end of each chapter.

The first four chapters present an informal discussion of such topics as the nature of argument, truth, language and fallacious reasoning. These are followed by an introduction to sentential logic, a standard use of truth tables, and a method of natural deduction for determining the validity of sentential arguments. Two chapters on words, their meaning and their analysis by logicians prepare the student for a brief introduction to the translation of quantified sentences and a survey of syllogistic logic. Chapters thirteen and fourteen present the canonical method and the decision procedure for determining consistency and validity. In addition, some more complex sentences are translated; especially considered are sentences using definite descriptions. A typical introductory discussion of inductive logic (the computation of probabilities is emphasized) concludes the book.

While I have some reactions to the philosophical merits of the discussions K. and K. provide, most of what I want to discuss are reactions to what I take to be the book's pedagogical weaknesses.

(i) The book lacks discipline. Much of this, I'm sure, is intentional; that logic texts do not have to mirror mathematical rigor to be rigorous is agreed. However, it is not advisable to informally, or indirectly, or obliquely raise issues of the relation of logic *to* something without being terribly clear about what logic is. Perhaps K. and K. do not want to stress the virtues of logic as a conceptual discipline, a formal system of clearly stated rules, axiomatized and systematically perspicuous; but they have not gone far in even suggesting such a conceptual discipline.

(ii) Unfortunately, the lack of organized discipline in the text results in there being too many instances of using formal terms which are not defined or formal techniques which are not fully explained (p.7, p.18, p.20, p.69, p.88, p.117, and p.131).

(iii) In some respects K. and K. overplay their claim that the book "concerns itself with the very issues which have been ignored by those who emphasize the mathematical aspects of logical inquiry." That they discuss a number of issues related to the philosophy of logic is clear. The discussion of those issues is purposely introductory and assumes no philosophical background. Unfortunately there are so many philosophical issues mentioned, and the issues are so scattered that an impression of superficiality, if not "problem dropping", is given. For example, in the space of eight pages there is discussion of words and a criterion for their meaningfulness, an analysis of first- and third-person pain statements, the use-mention distinction, ostensive definition, the intension of proper names, and the difference between logical and grammatical form. In the following chapter on predicates students are introduced to the

problem of universals, a criterion for synonymy, and the freewill vs. determinism debate.

Where these discussions do occur, they are interesting, informative and admittedly abbreviated. It is difficult to estimate whether the discussions are so brief as to generate confusion or are indeed adequate to encourage some students to pursue the topic in detail.

(iv) The presentation of normal and canonical form is the most rigorous of K. and K.'s chapters. The justification for using this procedure, and not a method of natural deduction, is essentially that it is an easier, less burdensome routine for students. The claim must be one which K. and K. can defend from their own experiences, but their case remains unconvincing. My general impression of their presentation of normal and canonical form is that it is too manipulative, a type of shuffle without an exactly prescribed format. Nor am I convinced that it is an easier method for the student. For example, on pages 222-225 K. and K. need over three pages of text to use their routine for determining the validity of their sample problem; using a reductio technique with standard natural deduction procedures, the problem is a modest one—perhaps 16 lines. An additional item dissuades me from K. and K.'s use of the canonical form procedures; the text introduces and uses a method of natural deduction when discussing sentential logic—would it not have been preferable to continue it?

(v) There are some more specific but easily alterable difficulties with the text:

a) There is no discussion of why an existential quantifier ranges over a sign of conjunction and not an implication sign (when translating existential categorical sentences).

b) K. and K. translate proper names with predicate letters so that "Harry is smart" is rendered as "(x) (Hx⊃Sx)" rather than the typical method of ascribing the property to a proper name sign without quantification (*e.g.*, "Sh"). As a result, K. and K. provide no explanation of why "Harry is smart" would not be properly translated with an existential rather than universal quantifier. (*e.g.*, "(∃x) (Hx . Sx)")

c) The supplementary readings are very uneven. If a student's interest were raised by K. and K.'s discussion of some problem or other, it is not clear that a novice in philosophy could use the cited supplemental materials with any benefit. In most cases the readings far outdistance where the students would be. For instance after the chapter on predicates, students are sent to Frege, Hempel, Loux, and Russell. A heavily annotated bibliography of readings or even recommendations to read selected essays in the *Encyclopedia of Philosophy* would have been more useful.

If a proof of a logic text is in the pudding of aiding readers to analyze arguments, then using K. and K. with its atypical rigor and canonical method may well serve as an interesting experiment. But the virtue of the book is that it takes seriously the student's curiosity in exploring problems relating logic to other areas of conceptual geography.

*Corrigenda*

p.90 (lines 8 & 9) ⊃ not "⊂"
p.116 (line 1) ⊃ not "⊂"
p.203 (line 15) note, not "not"
p.204 (line 11) A negation sign in front of the entire remark plus appropriate punctuation is needed.
p.232 (last line) sentential not "sentimental"

— *Donald W. Harward*

HENRY C. BYERLY. *A Primer of Logic*. New York: Harper & Row, 1973, pp. 560. $11.95 hardbound.

Here we have yet another hopeful competitor to Copi's *Introduction to Logic*. Its contents range over more or less similar