integral should at the very least enter into a careful discussion of why the Bochner integral does *not* mimic the Lebesgue integral with regards to the fundamental theorem of calculus. Included in such a presentation ought to be the classical results of a positive nature regarding the differentiation of vector-valued absolutely continuous functions. Many other things might be equally important for application sake, but before we get carried away with this line of thought let it be said once and for all that the book under review (no I've not forgotten it!) is *not* about the Bochner integral! I know the title says it is and many of its results pertain to the Bochner integral but the Bochner integral is not the real subject of the book.

To paraphrase Professor Mikusiński slightly, the purpose of the book is to give an approach to the theory of the *Lebesgue* integral which would be "as intelligible and lucid as possible–understandable to students in their first undergraduate courses."

The aim is laudable and, taken with a touch of reason, it is achieved. The inclusion of the Bochner integral is due to the fact that Professor Mikusiński's approach to the Lebesgue integral "extends automatically to the Bochner integral (by replacing real coefficients of series by elements of a Banach space)." To be sure, the enthusiasm expressed in the above paragraph of making the material available to first year undergraduates is excessive but with that as a goal, Professor Mikusiński attains an interesting and readable introduction to the Lebesgue integral. The book under review suffers from several glaring omissions. Most notable absence–exercises! Professor Mikusiński's approach to the Lebesgue integral is not standard (though not as novel as one might conclude from the text) and, therefore, exercises might well serve to buoy the confidence of the reader. Standard topics such as the Lebesgue spaces and Fourier series are not to be found in this book. On the other hand, Professor Mikusiński's treatment of "Changes of Variables" is noteworthy. Also, the fact that he does present the Bochner integral with so little extra work might be considered a plus for the book. Since so little extra work is needed, the failure to discuss the validity of a general fundamental theorem is an "opportunity lost."

In summary, the title of the book is misleading but the contents worthwhile. It might be that *An approach to Lebesgue integration* or even *Lebesgue integration made simple* would be appropriate as a title of the book and descriptive of the aims of the author. *The Bochner Integral* seems inappropriate in each role.

<div align="right">JOSEPH DIESTEL</div>

A course in mathematical logic, by Yu. I. Manin, Graduate Texts in Math. vol. 53, Springer-Verlag, New York, Heidelberg, Berlin, 1977, xiii + 286 pp., $19.80.

The principal aim of a graduate textbook on logic should, I think, be to enable the reader to understand the current literature in the subject. What material would such a book have to cover?