In the introductory chapters (250 pages) Wilson attempts to introduce a presumably uninformed reader to radiation, to radiation chemistry and to the radiation chemistry of organic compounds. That job is well intentioned and reflects both hard work and lack of personal background on the part of the author-but no reflection on the assiduity of his effort or his comprehension of what he does report. The chapters devoted to polymerization itself reflect more recent study. Unfortunately, they read as if the author compiled a thorough card catalog of his reading all of which he ultimately organized and converted to a literary form, some very useful tables and a particularly good glossary.

The book is not one in which it is easy to find the subject matter one seeks, even though its table of contents is logical and well organized. The explanation lies in the printing itself, which is by photo offset of well typed (but imperfectly proofread) original pages devoid of any visual emphasis. At its price the publisher should be able to recover his limited investment by the sale of but a very few volumesperhaps mainly to libraries with highly specialized interest. The book would have been both less expensive and more useful had it started at page 253. It cannot be recommended to serious scholars who must spend their money judiciously.

Finally, a word of clarification about the author himself. In his preface he manages to impart the notion that he is a veteran worker in the area of radiation chemistry by a word of tribute (to Farrington Daniels) for "initiation to radiation . . . chemistry at the old Metallurgical Laboratory on the campus at the University of Chicago." Neither my own memory nor his biographical sketch in American Men of Science give hint of such an experience. It is really an unimportant point but it does indicate why, on points of history, the book is not quite accurate.

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Combustion Institute European Symposium 1973. (Univ. of Sheffield, 16-21 September 1973). F. J. Weinberg, ed. 740 pp. Academic, London, 1973. £12.00

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Ion Surface Interaction, Sputtering and Related Phenomena. (Int. Conf. Proc., Munich, West Germany, 24-27 September 1972). R. Behrisch, W. Heiland, W. Poschenrieder, P. Staib, H. Verbeek, eds. 317 pp. Gordon & Breach, New York, 1973. \$27.50

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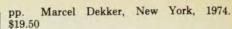
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