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Elements of the Universe. By Glenn T. Seaborg and Evans G. Valens. 253 pp. E. P. Dutton & Co., Inc., New York, 1958. \$3.95. *Reviewed by Serge A. Korff, New York University.*

THIS book is intended to acquaint school children with the principal facts pertaining to the periodic table of the chemical elements. The authors do indeed start out in this direction, and the opening chapters are a basic discussion of what elements are and how a periodic table is built up. Yet in the second chapter we find sections by prominent persons, such as a section on "How to make a cyclotron" by Ernest O. Lawrence, another on "Neptunium" by Edwin M. McMillan, and several other sections by well-known authors. The book becomes, therefore, more a history of the discovery of the transuranic elements told by the group which has done so much pioneering work in this field. By the time the reader has reached the last chapter, he encounters some quite sophisticated concepts. All of this is undoubtedly good to have recorded in this form, and will do the school children no harm, if they can follow the rapidly rising level. The photographs are interesting, the writing is good, and the current scientific history is well and simply told.

Approximate Methods of Higher Analysis. By L. V. Kantorovich and V. I. Krylov. Translated from 4th Russian Ed. by Curtis D. Benster. 681 pp. (P. Noordhoff, Netherlands) Interscience Publishers, Inc., New York, 1958. \$17.00. *Reviewed by George Weiss, Institute for Fluid Dynamics and Applied Mathematics, University of Maryland.*

IT is unfortunate that an English translation of this book did not appear some fifteen years ago because it would have certainly achieved the status, say, of Schiff's book in quantum mechanics. While there are many fine discussions of various topics in numerical analysis, the book on the whole strikes one as being outdated, both in the choice of subject matter and in the point of view. It is perhaps an interesting survey of Russian work in numerical analysis in the thirties, but many exciting developments have transpired since then, not the least of these having been the result of Russian work. All of these are necessarily absent from this volume, originally published in 1941.

The virtues of this book are simple to enumerate. They consist of the extensive, unhurried discussions on every topic treated, and the numerous detailed illustrative examples.

The subjects covered all concern the numerical solution of partial differential equations, and are written with the hand computer in mind. Perhaps the best chapter in the book is a long one on variational methods which covers the Rayleigh-Ritz-Galerkin method, which has been used extensively for elasticity problems and in quantum mechanics. There is obviously no discussion of the recent important advances made in the theory by Weinstein and Aronszajn, although the authors do describe an interesting and useful modifica-