of the n^{th} country problems, much as, for example, Blackett neglects them in a recent article in *Scientific American* (April 1962).

Teller gives an outline of what he hopes is the political evolution of the free nations: Protected by technical superiority (derived in part from more freedom from secrecy), and helping the underdeveloped peoples through Project Plowshare and other research, we should develop through NATO to Atlantic Union and ultimately to a world government. These ideas are all on the side of the angels, but there is no serious discussion of the problems involved in their implementation.

The personal reminiscences in *The Legacy of Hiroshima* would perhaps be more exciting if the identities of the antagonists weren't revealed so early in the book. Of course, it would have been impossible to conceal the identity of the hero, but with some effort the various villains could have been disguised longer. A model for a more dramatic presentation of this kind of material may be found in "Tom Swift and His Giant Psychosis".

The popular science writing is excellent, especially the brief clear treatment of the Einstein time dilation. Teller and Brown are exceptionally good reporters where there is a simple, unambiguous answer.

Finally, the brief discussion of education contains such thoughts as: "A great battle has been won by the Soviet Union in the schoolroom"; Scientists in America "are, in fact, considered outside the society"; and, "But Strauss' appointment as Secretary of Commerce was not confirmed by Congress, and early adoption of the metric system in our country suffered another setback."

Linear Differential Operators. By Cornelius Lanczos. 564 pp. D. Van Nostrand Co., Inc., Princeton, N. J., 1961. $12.75. *Reviewed by J. Gillis, Weizmann Institute of Science.*

THE world of scientific books has been having its population explosion and the linear differential equations family has by no means been the least fertile. In the circumstances a reviewer may hope to be pardoned a tremor or two as he picks up a new book on linear differential operators. That this reviewer was able to do it this time without any tremor at all is due to the pleasure he has derived in the past from the earlier books of the same author.

The chief theme is linear differential equations, both ordinary and partial. What is novel about the book is that, without any sacrifice of accuracy or rigor, it really concentrates on how to solve the equations. The central method is that of the Green's function. Other methods are indeed introduced, but they are all based on a Green's-function approach. Indeed this exposition of the power of the Green method as a unifying principle in linear differential equations is a striking reminder of how much we owe to the Nottingham miller who found his own way in mathematics 130 years ago.

Lanczos' presentation is painstakingly careful. It may be criticized in places where the distinction between careful and excessive exposition seems slightly blurred. But such decisions must always be questions of personal taste. Certainly the meticulous presentation can be most valuable to anybody teaching the subject and anxious for some new idea to clarify his message. He is very likely to find here just what he wants. It is not quite so obvious that the style of exposition is the best for a student, who might possibly find himself so bewildered by the mass of details that he cannot discern among them the essential idea.

Apart from the usual material, one finds in Lanczos' book a wealth of ideas and applications of the sort not normally encountered in a work on this subject. To cite a few examples, almost at random, there is the application of Green's functions to estimating the Taylor-series remainder and Lagrange interpolation error, the interesting little note on the nature of high fidelity and of the relative importance in that connection of harmonics and of transients, and the short but lucid discussion of the conservation laws of mechanics. The Sturm-Liouville set of ideas is based most naturally on Green methods, and this leads us to WKB methods, expounded with great clarity. And there is then an extremely useful account of special functions, chiefly with the idea of applying WKB to the calculation of their asymptotic properties.

Most books on partial differential equations fall into one of two classes. There are those which tell us everything about the equations except how to solve them; and the others which limp through a few routines, once more separating the variables in equations which were separated by Fourier and Poisson and have been separated so many times since then that it is difficult to see them without wincing. And so we are grateful to the author for a book which transcends both classes and really has something to say which is both useful in substance and original in presentation.

Advances in Computers, Volume 2. Franz L. Alt, A. D. Booth, R. E. Meagher, eds. 434 pp. Academic Press Inc., New York, 1961. $14.00. *Reviewed by Peter L. Balise, University of Washington.*

SINCE rapid progress is being made in so many different directions that no one can be expert in all phases of computation, it is increasingly important to be able conveniently to draw upon the knowledge of specialists. *Advances in Computers* will inform its readers about developments outside their own fields by providing introductory but not elementary presentations of advances, which may be supplemented from its large reference lists. Continuing Volume 1 (which considered programming for business applications, weather prediction, language translation, game playing, recognition of spoken words, and binary arithmetic), Volume 2 lucidly presents five additional topics.

Jim Douglas, Jr. outlines the more efficient finite-difference methods for partial differential equations