the American Nuclear Society, serving as chairman to the recently organized Aerospace Division; he has been chairman of the Los Angeles section of the ANS.

Proceedings of the International School of Physics "Enrico Fermi", Course 23: Nuclear Physics. G. Polvani, ed., Academic Press, Inc., New York, 1963, 186 pp., $7.50.

This type of volume can serve a very useful purpose in a rapidly developing field. The unavoidable time lag before publication of a formal text often means omission of reference to the latest developments, while the author of a conventional review article is usually restrained to present only established results. On the other hand, the various summer schools and similar institutions which have become so popular offer the opportunity for the free expression of ideas without undue restrictions, as well as a summary of current progress. It is then of advantage to make these discussions available to a wider audience. However, there are two prerequisites, firstly rapid publication, and secondly low price. The present volume is marginal on the second count, but the delay of two years between meeting and publication dates is most unfortunate. The purpose of this type of publication would be best served by issuing it in the form of a paperback of considerably less luxurious and enduring quality.

The transcripts of 5 lecture courses and 4 seminars are presented, each devoted to some aspects of theoretical nuclear physics. The first is a somewhat formal, but nonetheless rewarding, 46-page survey by F. Villars of the use of the Hartree-Fock approximation in nuclear physics. It includes discussions of the treatment of singular forces, collective motions and the introduction of quasi-particles. Next, A. de Shalit contributes a discussion of the interpretation of nuclear moments, particularly the magnetic dipole moment, in terms of the independent particle and "excited core" models. Then follows the series of lectures by C. A. Levinson on some recent developments of nuclear shell model techniques. After some introduction, the emphasis here is on the recent work, using deformed orbitals, of Levinson and his collaborators, and of J. P. Elliott, with particular application to 2s-, 1d-shell nuclei.

New insight has been gained recently on the problem of collective motions in nuclei by applying techniques previously used in solid-state physics. These are described in the lectures given by G. E. Brown, who has played an important role in their development.

The final lecture course by T. Ericson has a quite different orientation from the others. He discusses the statistical aspects of nuclear structure which may be revealed through the fluctuations with energy of the compound nucleus contributions to nuclear reactions.

The more abbreviated seminars are concerned with the "Spurious State in Connection with β-Vibration of Nuclei" (D. Bes and Z. Szymanski), the "Distribution of Nuclear Charge and Magnetization from Atomic Hyperfine Structure" (H. H. Stroke), "Effective Interactions in Deformed Nuclei" (J. Unna), and "The Interference of Compound and Direct Processes" (J. E. Young).

A wide spectrum of readers will find something of interest in this volume, from research students to experienced workers in adjacent fields. Nonetheless, as already remarked, it seems a serious mistake for material of this nature to receive such a high-quality presentation, with the concomitant long delay in publication.

G. R. Satchler

Oak Ridge National Laboratory
Oak Ridge, Tennessee 37831

About the Reviewer: After some 7 years teaching and research at Oxford University, and a year (1956-57) as Research Associate at the University of Michigan, G. R. Satchler has been associated with the Physics Division of ORNL since 1959. His chief interests have been in the theory of nuclear reactions and nuclear structure, and he is co-author (with D. M. Brink) of the book "Angular Momentum."