-independent perturbation theory, the variation and WKB method) after the presentation of the broader, mathematical aspects of the theory offers a disadvantage to those who would like to present some of these topics in such a course. However, most of the material of this chapter can be followed without too much recourse to the ideas presented in the immediately preceding chapters.

The style of the writing and the arguments used in the development of a given topic are direct and clear with minimum belaboring of side issues that are unimportant to the basic aspects of the discussion. The proposition that an introductory text should seldom, if ever, use the expression "it can be shown that" is almost universally followed, and only one case of pulling an expression "out of the hat" was noted (namely, the Thomas relativistic kinematic factor of $\frac{1}{2}$). There is a summary at the end of each chapter, followed usually by a number of well-selected and instructive problems. The format and printing of the book are appealing.

The authors have produced a carefully written and accurate treatment of introductory quantum mechanics which is going to make the subject much easier, both to the instructor who teaches it and the student struggling to learn it. One can therefore predict a very successful future for it.

Eléments de Physique nucléaire. By Daniel Blanc and Georges Ambrosino. 238 pp. Masson et Cie, Paris, 1960. 30 NF. *Reviewed by Eugene P. Wigner, Princeton University.*

THIS is a short book, somewhat in the style of the early books on atomic physics which appeared soon after World War I, but dealing with nuclear physics and its applications. In 203 pages, it deals with an immense variety of subjects: atomic physics (including the periodic system and Bohr's model), wave mechanics, radioactive disintegrations, properties of nuclear radiations, nuclear reactions, properties of the neutron, fission, nuclear chain reactors, nuclear structure (including the nuclear shell model), parity violation, mesonic atoms, strange particles, controlled thermonuclear reactions including the elements of plasma physics.

It is not surprising that much of the treatment is sketchy (to say the least). Thus, Fermi's theory of β activity is given in 5 lines: "The concepts of photon emission, which accompanies the electronic transitions from one atomic shell to another, were applied by Fermi to nuclear transformations which lead to the emission of β particles. It would be pedantic (fastidieux) to give the steps of the calculation. The energy distribution of the β particles to which they lead is. . . ." This is followed by Fermi's spectral formula. Explanations of this nature do not help the reader too much toward an understanding of either the mathematical formulation or the basic ideas of the theory. There are several similar passages but they are, nevertheless, rare. On the whole, one obtains a very concise but remarkably clear and vivid description of the principal characteristics of the phenomena and of the essence of the theoretical pictures to which they led. Also more attention is paid to the historical development and to experimental detail than one would expect in a volume of this size and coverage. The book is also remarkably free from misstatements and errors. The lack of correlation between index and text is a bit trying.

Blanc and Ambrosino gave us an amusing little volume which will stimulate further interest in nuclear physics and its applications.

Mechanics (2nd ed.). By Keith R. Symon. 557 pp. Addison-Wesley Publishing Co., Inc., Reading, Mass., 1960. $10.50. *Reviewed by M. W. Friedlander, Washington University.*

INTO the vast gap between mechanics at freshman and graduate levels there needs to be put a critical course, preferably extending over two semesters. For physics majors, the foundations of dynamics need to be discussed—for example, the fundamental concepts such as gravitational and inertial mass, the laws of motion, inertial systems and frames of reference, the conservation laws, Newtonian mechanics, special relativity, and the Lorentz transformation. Within this framework there is much that can be treated: dynamics of particles and rigid bodies, oscillations and vibrations, collisions, orbital motion, and so on. At the same time, use can be made of the students' newly acquired knowledge of differential equations and complex numbers, to solve problems at a higher level of mathematical sophistication.

Many texts which cover this material also include much which is of little interest to physicists at this stage, but which engineering students might find useful. While it is good to have these sections as references, it is the opinion of this reviewer that the time of physics students is far better spent on dynamics (rather than statics), which is fundamental to much of higher physics, and where discussion is needed as each new concept is introduced.

It is refreshing to find a book which, with one major omission, does cover the essentials, and does this well. The second edition of Symon's book is to be warmly welcomed. Here we do not find the usual glib references to Galileo and Newton while the critical review of the foundations of mechanics is being swept under the rug of historical anecdote. These topics are discussed clearly; the importance of the conservation laws is stressed; the approach is always physical; clearly, this is a book by a physicist and for physicists.

However, it seems that discussion of the limitations of Newtonian mechanics and the consequent need for a more general description is necessary, and that the omission of a section on special relativity from this volume is a serious shortcoming. The Lorentz transformation and its consequences could be dealt with quite satisfactorily, and students can be referred to other books for background reading in the physics of the late