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quantitative. According to him, it was Coulomb's law which introduced the quantitative concept in electricity. He describes in some detail Ampère's and Weber's work. While the presentation of the material is done in a scholarly fashion, I was much less attracted to his article than to the three preceding ones.

Lehrbuch der theoretischen Physik. Volume 4, Quantentheorie. By Siegfried Flügge. 450 pp. Springer-Verlag, Berlin 1964. DM 38.

Reviewed by Eugen Merzbacher, Department of Physics, University of North Carolina at Chapel Hill.

Physicists owe a debt of gratitude to Professor Flügge for his efficient work as general editor of the current *Handbuch der Physik*. It is admirable that this gigantic task has left him time to prepare the publication of a comprehensive five-volume textbook of theoretical physics. In writing such a treatise, the author follows the example of Planck and Sommerfeld, but he has set himself the task of moving quantum physics from an *Ergänzungsband* into the center of the project, where it now belongs. It is still too early to judge the success of the entire series, but the present volume (4) clearly occupies a pivotal position in the whole.

Quantentheorie I, as the book under review is entitled, can serve, independently of the other volumes, as a textbook on quantum mechanics as it is taught in this country to beginning graduate students and, with increasing frequency, to advanced undergraduates. The author need not have assured us that his exposition is the result of a long teaching career. It is apparent that he has made a great effort to teach students how to solve physical problems arising in the framework of quantum physics.

The book is divided into seven chapters, the first three of which deal with ordinary wave mechanics without spin. Chapter 4 gives the abstract formulation of quantum mechanics in Hilbert space but seems somewhat divorced from the rest of the book, perhaps because the theory of measurement receives almost no mention. The notation is like von Neumann's—no bras and kets.

In Chapter 5 the Pauli spin theory is used for several nice calculations. Time-dependent processes are treated expeditiously in Chapter 6. The final chapter constitutes as satisfactory a treatment of the one-particle equations of relativistic quantum mechanics as one can find in any general textbook of quantum mechanics.

All the topics one might expect are there, most of them presented in detail and well. I enjoyed particularly the nonrelativistic treatment of the hydrogen atom by use of the method of factorizing second-order differential operators, the pseudopotential calculation of neutrons scattered by protons bound in molecules, and the Klein paradox. Some use is made of the viewpoint which regards Schrödinger wave functions as classical fields, a notion on which F. Hund has based his book, *Materie als Feld*. However, the prevalent approach of Flügge's book is the conventional one in terms of the particle interpretation, and simple many-body problems are treated in configuration space. There is no second quantization, and the electromagnetic field is introduced only as a classical external agent.

There are no problems, presumably because of the existence of a very useful separate problem book by the author and H. Marschall.

American students who wish to practice their reading knowledge of German, while learning quantum mechanics from a sound and thorough book, will find this text to be written in a businesslike unpretentious manner. The copy editing and printing are in the best Springer tradition.

Introduction to Fluid Dynamics. By Edward B. McLeod, Jr. 232 pp. (Pergamon, Oxford) Macmillan, New York, 1963. \$6.50.

Reviewed by Allen I. Ormsbee, University of Illinois.

It is stated on the title page and in the preface that Oregon State University is located at Corvallis. With the battle between author and proof reader thus joined, the timid reader might have some trepidation about continuing into the body of the book. His concern would be well grounded: a check of ten pages chosen at random