

formations corresponding to charge and isospin conservation. Next, three chapters are devoted to electron-nucleon scattering, and in this connection the properties of the electromagnetic current of hadrons, with respect to Lorentz transformations, the discrete symmetries, P, C and T and the internal isospin symmetry, are examined. In addition a very lucid account is given of the application of dispersion theory to the electromagnetic form factors. Thereafter the main interest turns to weak interactions and the many intriguing features of weak currents are treated. The book ends with short sections on current algebra, phenomenological Lagrangians and CP violation.

The level of the book is apparently that of advanced students of elementary-particle theory, and it should prove very valuable. The presentation is not completely systematic, but the topics dealt with are treated with clarity and at considerable depth. On the debit side, one could fault the discussion of charge renormalization on pages 43-45, the arguments given on pages 136 and 128 and the treatment of isospin for nucleons on pages 31-33. In addition, there is considerable confusion with regard to the definition of the leptonic current L_μ (see equations 8.5, 9.9 and 9.10). Furthermore, the expression 14.50 for the second-order mass formula is certainly not the whole story. However, these defects and some others of a more minor nature ought not to detract from the merit of the book as a whole. The author in the preface suggests that his book may encourage someone else to write a better one, but that, I feel sure, might prove no easy task.

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No unifying synthesis

THE ENCOUNTER BETWEEN CHRISTIANITY AND SCIENCE. Richard H. Bube, ed. 318 pp. Eerdmans, Grand Rapids, Mich., 1968. \$5.95

by Fred L. Wilson

This book, addressed to those "who fear and distrust modern science as an obstacle to Christian faith," is a collection of 10 essays by six scientists and edited by Richard Bube, professor of



materials science and electrical engineering at Stanford University. The writers, whose fields range from solid-state physics through psychology to social science, have good credentials in their specialties and are widely published writers on science and religion. Each has tried to outline briefly his discipline, discuss conflicts between his field and Christianity and explain how he personally has resolved these apparent conflicts.

Bube writes half of the essays. He opens with a brief discussion of the nature of science, emphasizing causality's downfall in modern science. He next sums up Christianity, but in a rather subjective and assertive way.

Intelligent people are repelled by a Christianity often pictured in a mythological setting, as a reward economy, or as a defender of the status quo. Bube does a good job of pointing out these favorite and false caricatures.

Walter R. Hearn's essay on biological science and F. Donald Ecklemann's essay on geology point out poignantly the tensions that often exist between scientific and Christian thought, particularly for those of a conservative, fundamentalist, Christian view. "Social Science" by David O. Moberg and "Psychology" by Stanley Lindquist could serve some real good. A case for social awareness needs to be made among conservative Christians who often seem far more interested in man's soul than in man. Among this group a widespread distrust of psychology is rampant.

For most people the vituperative debate between science and Christianity is past. Yet the tensions of incompatible attitudes, particularly for those with a fundamentalist upbringing, are still very real and probably will remain

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809C916C	60004770	811C9101	60054710	808447F
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so for a long time. Ultimately this book fails to remove these tensions. Although the "encounter" is discussed, the scientist's and the Christian's way of seeking truth remain logically incomparable, for the book fails to provide a unifying synthesis for the two.

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Emission, absorption and scattering

RADIATION PROCESSES IN PLASMAS. By G. Bekefi. 337 pp. Wiley, New York, 1966. \$15.75

by Howard H. C. Chang

A decade ago, Project Sherwood, the US program in controlled thermonuclear fusion, was declassified and all of its findings were made public. This prudent decision has resulted in a fruitful international exchange of information and coöperation and will undoubtedly greatly hasten the joyful day when man will reach the El Dorado of controlled nuclear fusion. A by-product of declassification has been the publication of a veritable torrent of papers and books on plasma physics.

This important book deals with the emission, absorption and scattering of electromagnetic waves in gaseous plasmas. Solid-state plasmas, which are likely to be degenerate and require quantum-mechanical treatment, are not discussed at all. It is elementary in that only changes in the external motions of the constituent electrons,