

quarters, and its main arguments have been adduced by archiepiscopal and episcopal authority in evidence of the value of revelation. Dr. Whatley, sometime archbishop of Dublin, paraphrases Hume, though he forgets to cite him; and Bishop Courtenay's elaborate work, dedicated to the Archbishop, is a development of that prelate's version of Hume's essay."

"...We must conclude this Preface with a word of warning to the reader. Let him not be misled by the opening and closing paragraphs of Hume's essay into supposing that the great sceptic deferred to the authority of Revelation. They are only his ironical bows to orthodoxy. He indulges in the same gestures in his *Essay on Miracles*. This has brought upon him, as it brought upon Gibbon, a charge of disingenuousness. But both of these masters of irony were perfectly aware that every sensible man understood them. If they wore a mask, it was transparent, and did not conceal their features; and those who upheld the Blasphemy Laws for the persecution of Freethinkers, had no right to complain when conformity was yielded with an expressive grimace."

If the foregoing may add an interest to the service by Dr. Carus in reprinting the essays, I shall be well repaid for this note.

JUSTIN HENRY SHAW.

KITTERY, MAINE.

BOOK REVIEWS.

LECTURES ON THE PHILOSOPHY OF MATHEMATICS. By *James Byrnie Shaw*. Chicago: The Open Court Publishing Co., 1918. 193 pages. Price, cloth, \$1.50 net.

The modern philosopher and thinking layman is in a difficult position when he undertakes to get some notion of what the modern mathematician is talking about. He finds out with little trouble that mathematics long ago ceased to be the science of number and quantity solely, and has grown into a sturdy giant whose power is evidently expanding year by year. But if he picks up even an elementary book on mathematics he finds much of it unintelligible not only on account of the notation and the terminology, which have become highly technical, but also because the mathematician does not hesitate to talk about space with four dimensions, points at infinity, curves that occupy an area and other equally incomprehensible things. He may be inclined indeed to take one of two widely prevalent views: the one assuming that when the mathematician is talking in terms that have no meaning for every-day conscious sensible experience, he is really using the words merely symbolically—that, for instance, when he says four-dimensional space he really means combinations of four variables; the other assuming that the mathematician lives most of the time in a dream world with no way at all of ascertaining whether the propositions he asserts about his dream world are true or even consistent, as for instance, that a Lobachevskian space is a fiction, like a hippogriff, and though its geometry may seem to be valid in itself, yet nevertheless the consistency is hypothetical, with a strong suspicion that some day it will break down.

The present book undertakes to give an intelligible account of the main ideas of mathematics in such form that the average college graduate can get a fair notion of what it is about and what kind of things it is dealing with. For

instance, the notion of number is shown to be an evolving conception, numbers including first integers, then fractions, then irrationals, then pointsets, then ensembles of any kind, the history of mathematics showing what has taken place in the growth of this term and what it contains. Again the wide presence of the invariant is the subject of another chapter, in which the principle of invariance is shown to permeate much of mathematics. In one of the chapters the power of the mathematician in creating new or ideal entities to enable him to go on with his constructions is exhibited. The methods of mathematical research are explained, and the sources of the truths of mathematics examined. In the last chapter the meaning for science and art of the existence of mathematics with its honorable expansion for thousands of years is discussed, and distinct encouragement given to all the outgrowths of the creative imagination.

The thoughtful general reader, the philosopher by profession, the reflective scientist, and the artist who ponders the whence and the whither of art, will find in this book much to consider, and may find solutions to many perplexing questions.

ESSAYS IN SCIENTIFIC SYNTHESIS. By *Eugenio Rignano*. Chicago: The Open Court Publishing Company, 1918. 254 pages. Price, cloth, \$2.00 net.

This is the English edition of the essays of the editor of *Scientia* which were first published in book form in French, 1912 (Félix Alcan, Paris). A translation in racy English implies an appeal to a wider circle of readers, at least to everybody who wants to keep himself informed of the most recent developments in the sciences, without being able to get a connected view when referring to the specialists' publications.

M. Rignano's position is that of the "theorist," a natural outgrowth of that of the science editor: while no longer permitted by time to chain himself to the laboratory or the experiment station, he has a far better opportunity at his desk than any specialist would have to attempt a synthesis intended to cover the field as a whole. Replacing the cheap and superficial methods of a "popularizer" by original thought based upon an accurate knowledge of the facts known and just coming to be known, he has something to offer to the science student in any stage of his development.

The Table of Contents announces discussions on the following subjects: (1) The Synthetic Value of the Evolution Theory; (2) Biological Memory in Energetics; (3) On the Mnemic Origin and Nature of the Affective Tendencies; (4) What is Consciousness? (5) The Religious Phenomenon; (6) Historic Materialism; (7) Socialism.

Each chapter, while solving, from the author's point of view, its own problem, unfolds another, so that the reader is led on by his own scientific interest kindled ever afresh. It is especially the epochal theory of the *mneme*, now largely identified with the work of Richard Semon, that holds the center of attention. But the bearing that, and what bearing, any branch of the sciences has upon any other, from the problems which the naturalist faces to the most vexed present-day questions of sociology and economics, is really what becomes apparent in the book, justifying the author in calling it a "synthesis."

An attractive binding, good print, good paper adding dignity and distinction, it is hoped that the volume will meet with the same hearty approval which accompanied the original publication in France.

MODERNIST STUDIES IN THE LIFE OF JESUS. By *Ray Oakley Miller*. Boston, Sherman, French and Company, 1917. Pp. 51. Price \$.80 net.

This book attempts to construct a life of Jesus from the viewpoint of modern times, and by "Modernist" the author declares that his conception shall "not be without a genuine sympathy for, and an appreciation and appropriation of, the fundamental elements of idealism and faith." Liberalism, if it simply discards the old faith and accepts principles which allow one to be liberal in his life, makes him a libertine not a true liberal. A "truly liberal faith leaves nothing of any value behind," and "a liberal is one whose blood is growing warmer, whose charity is growing broader, whose vision is growing clearer; who, in the last analysis, is deeply in love with life."

Our author retains as much of the doctrines of the faith of Jesus as a rationalistic conception will allow, and he looks upon Jesus as "the fulfiller."

We may regard as the main portion of his doctrine the proposition of a belief in a personal God. Personality is to him "the momentous fact in the world—the personality of God as well as the personality of man"—and, he adds, "anything less than this, therefore, in any concept of God is unphilosophic, and eventually degrading to the human spirit." κ

HUGO DE VRIES OPERA E PERIODICIS COLLATA. Vol. I. Utrecht: A. Oosthoek, 1918. Pp. 630.

As the title indicates, the present volume contains the papers contributed by De Vries to various periodicals, to the exclusion, however, of any that are singly obtainable in the book-market. This principle has been discarded only in the case of the treatises *Die mechanischen Ursachen der Zellstreckung* and *Intracellulare Pangenesis*, an inconsistency which will meet with ready approval. The different papers are reprinted in the languages in which they were first published, Dutch, French and German, even the original spelling and, possibly, misprints being adhered to. The arrangement is by subject-matter and chronology. The first volume at present submitted includes only articles appealing chiefly to the scientist. Another volume, containing De Vries's *populaire geschriften*, is in preparation. Paper, print, and binding are of high quality. Since nobody signs as responsible editor—only the suggestion for the book being given by *een aantal vrienden en vereerders*—the publisher may take all the credit for reminding us in such a dignified and pleasant fashion of the seventieth anniversary of the birth of the famous naturalist.