

ALCHEMY, ANCIENT AND MODERN.

Alchemy: Ancient and Modern: Being a Brief Account of the Alchemistic Doctrines, and their Relations, to Mysticism on the One Hand, and to Recent Discoveries in Physical Science on the Other Hand, together with some particulars regarding the Lives and Teachings of the most noted Alchemists. By H. Stanley Redgrove. Pp. xiv+141. (London: W. Rider and Son, Ltd., 1911.) Price 4s. 6d. net.

THE author of this book thinks he perceives in the trend of modern chemical doctrine an approximation to the fundamental dogmas of philosophical alchemy, as these were understood and taught by its greatest exponents. The application of the principles of evolution to the genesis of the chemical elements has, in his opinion, brought us back to the "basic idea" permeating all alchemistic theory, and that, in his judgment, the time is gone when it may be regarded as legitimate to point to alchemy as an instance of the aberrations of the human mind. How far the general proposition is, or can be, substantiated by the facts of experiment at present known to us, may be seriously questioned. It is practically certain that no proof of transmutation has ever been given. Allegations of such an occurrence have been made, of course, times without number. But whenever any instance of the kind has been properly scrutinised, the allegation has been wholly disproved, and the evidence that it has been made in bad faith and as the result of conscious fraud, and not merely of honest self-deception, is, in a large number of instances, complete and irrefutable.

Does the evidence to be obtained from modern experimental inquiry place the "basic idea" on any surer foundation? Mr. Redgrove evidently thinks it does. Otherwise the *raison d'être* of his book is gone. He is, he tells us, not only a student of chemistry, but also of "what may be generalised under the terms Mysticism and Transcendentalism"; and he hopes that this unusual combination of studies has enabled him to take what he calls a broad-minded view of the theories of the alchemists, and to adopt a sympathetic attitude towards them. No one can possibly object to Mr. Redgrove taking a broad-minded view of anything—certainly not of chemical theory, whether ancient or modern. But theories in chemistry stand or fall by facts. The ancient alchemists certainly never proved their theories. Have the modern alchemists done any better?

That there is such a thing as the philosophy of alchemy is undoubted. Some of the earlier followers of the art were men whose names are not merely hallowed by a hoary antiquity, but who are known from their writings and by the testimony of their contemporaries to be earnest, thoughtful philosophers, actuated by the true spirit of science. It is difficult to believe that such men were not influenced by some guiding principle, and that they followed their calling simply as empirics. That many of them were churchmen, and some of them mystics, has lent colour to the supposition that they regarded alchemy as a form of transcendentalism, and the general character of

certain of their writings may be pointed to in proof of such a view. But although at various periods in the history of alchemy there were men—John Dee was such a man—whose conduct and mode of study were largely influenced by their predilection towards occultism, it is quite certain that by far the greater number of adepts were swayed by the most mundane and even the most sordid of considerations. However desirous we may be to share Mr. Redgrove's sympathy and broad-mindedness, we fail to perceive that he has done anything towards the elucidation of the philosophy of alchemy. He has advanced no view that has not already been presented and examined, and he has given no facts that are not to be found in other works, such as those of Kopp, Hoefer, Figuier, Gerding, or the more recent publications of Mr. Waite. Davy once said that analogy was the fruitful parent of error. The author has been actuated by an analogy which is fundamentally unsound and treacherous.

There is really no evidence that modern science is permeated by the spirit of alchemy, and, therefore, strictly speaking, there is no meaning in the phrase "modern alchemy." The fact is, Mr. Redgrove has been led away by an inconstant and wandering affection. He will learn in time, if he does not already know it, that he cannot serve two mistresses, and that he had better be off with the old love before he is on with the new. At the moment his true love for chemistry has been somewhat obscured by an illicit, but we trust transient, affection for that Delilah named Mysticism, and the present book is apparently the product of his mixed emotions. He had better return to chemistry, and give her his undivided allegiance. As he knows her more thoroughly he will learn to appreciate her wholeheartedly. There is not much romantic fascination about her; she has nothing of the glamour of mysticism; indeed, she tends to be rather matter-of-fact, but then that is one of her strongest points.

There is a certain type of mind from which the facts slip off like the proverbial water from the duck's back, but which nevertheless prides itself on its receptivity for "broad views." The views are frequently made so very broad that they have actually no depth. It is only to this type of mind that Mr. Redgrove's book can appeal.

THEORIES OF THE AETHER.

A History of the Theories of Aether and Electricity from the Age of Descartes to the Close of the Nineteenth Century. By Dr. E. T. Whittaker, F.R.S. Pp. xiv+475. (London: Longmans, Green and Co.; Dublin: Hodges, Figgis and Co., Ltd., 1910.) Price 12s. 6d. net.

WHEN we turn to an historical survey of electrical theory we are usually entertained by reprints showing scenes like the Abbé Nollet demonstrating the properties of an electrified boy, but the present work contains more satisfactory evidences of first-hand knowledge of the authorities. It traces carefully the growth, during three centuries, of optical and electrical science, more especially in rela-