on the subject, would undoubtedly have enhanced the value of this book and been of permanent worth.

The volumes are well printed and well presented, but the price is high, and the author would have done well to have compressed his subject-matter into a smaller space. Doubtless much useful information will be found, especially in the second part, by those for whom the author has written, but the gap in the literature still remains.

L. S. T.
W. E.

An Oxford Sketch of the Evolution of Thought.

Speculum Mentis, or the Map of Knowledge. By R. G. Collingwood. Pp. 327. (Oxford: at the Clarendon Press, 1924.) 12*s.* 6*d.* net.

MR. COLLINGWOOD has a tradition of art behind him and he has also made himself recently one of our leading authorities, if not the first of all, on Roman Britain. As he adds to this a profoundly philosophic mind, his attempt in this book to survey the whole field of human thought has some material for its foundation. It is modest in expression though ambitious in scope, and will interest greatly those who like to trace a line of thought faithfully pursued by a thinker who wrestles hard with every conclusion, and gives the public nothing but what he has won from his own experience, intensely felt.

The general thesis of the book is that the human mind, whether in the individual or in the race, passes through a series of experiences each of which is incomplete and partially corrected by the succeeding stage, until it rests at last in a philosophy of absolute or final worth based on the mind itself, enlightened by history. It will be seen that there is a large heritage from Hegel here, and if one wished to describe the point of view in terms of older thinkers who have influenced the writer, one would say that it was Hegelianism plus Croce. But this would do scant justice to Mr. Collingwood's sincerity of thought and striking individuality. One appreciates the book most as a personal revelation.

Art is the first, and always the primitive, stage of thought; and this passes into the kindred, concrete and unanalysed stage of religion. Analysis, when it comes, gives us science, which appears in Mr. Collingwood's hierarchy of thought as the middle term. Art and religion are below or before it: history and philosophy above or after. We are not to imagine that the lower stages are entirely superseded by the higher; they are rather corrected and subsumed in a fuller point of view.

The use that Mr. Collingwood makes of the recent historical spirit in science is very apt and enlightening. It is the clearest and most conclusive part of the whole book. During the nineteenth century many of the sciences, as he tells us, restated their problems in terms of history. Astronomy realised that its proper task was to explore the history of the stellar universe; geology and geography united to study the history of the earth, and biology came to see that the problem of species is the problem of the origin of species. "The time seems near at hand when science will feel the need of absorbing itself bodily in history and re-shaping its problems throughout in historical terms."

This passage from science to history is one of the numerous points in the book where a penetrating light is thrown by the author's synthetic and persevering thought. He might perhaps have made his effect better by a little more compression. There is a good deal of repetition, and the reader himself needs perseverance; but he will be richly rewarded. It is one of the most profound and suggestive treatises of recent years.

F. S. MARVIN.

Our Bookshelf.

The Design and Working of Ammonia Stills. By P. Parrish. Pp. 300. (London: Ernest Benn, Ltd., 1924.) 40*s.* net.

THREE hundred thousand tons of ammonium sulphate are produced annually in Great Britain by the direct distillation of the ammoniacal liquors arising from coal and shale products. Even from this consideration alone, the publication of the first standard comprehensive book in English on the design and working of ammonium stills must be regarded as an event not only of scientific but also of economic importance. Many chemical manufacturers in the past for various reasons have endeavoured to keep their processes strictly secret, and improvements have come from internal experience on the plant rather than from general physico-chemical considerations or from a combined study of the theoretical and applied aspects of the problem or difficulty encountered. "Collaboration," Dr. Charles Carpenter notes in the preface, "between those responsible for the design of large-scale chemical plant can only be a war-time measure." Mr. Parrish will help to some extent to remove in one industry this individual outlook and veil of secrecy, for in his book he has collected together a great amount of novel information of a fundamental and authentic character on the subject of ammonia stills and accessory plant. This carefully-edited book, which includes 170 excellent illustrations and 70 technical tables, must benefit the industry generally and secure a common outlook for new developments on other than empirical lines.

It is indicated that the greatest economy in the manufacture of ammonium sulphate is likely to accrue from a better utilisation of the available heat of the process, and the aim of the author has been to show how this can be achieved. In fact, so keenly has the point been emphasised that the volume might be