

as the Atonement, Revealed and Natural Law, Grace, Nature, Justice. He goes beyond these, which are always of interest to the theologian, to a study of the differences between believers of different denominations and the ground they have in common. Here his chapters on 'Incarnations and the Incarnation', 'The Meaning of the Church Unity Octave', 'Membership of the Church', 'The Background of Papal Infallibility', show a deep understanding and sympathy with non-Catholic views as well as his competence as an exponent of St Thomas.

There are some fine chapters in this book and each one will repay careful study. They are all models of applied theology. One of the finest is an answer to the many critics of St Thomas's teaching on the Atonement, which is shown in all its comprehensiveness against the background of the whole *Summa Theologica*. Here is a masterpiece of exposition which summarizes succinctly all the points which must be borne in mind if a partial and superficial view is to be avoided. The author shows here, as in many other essays, how the critics of Catholic theology are not so much wrong in what they assert as in what they deny, because their views are not comprehensive enough. All that he writes is important not only because of the subject-matter but no less because of a combination of an acute analysis with a complete synthesis. One is impressed by the fact that he has faced the real difficulties in any subject he discusses and has valued at their true worth and expressed in lucid English the answers St Thomas gives. He has an obvious distaste for the slick answer to the plausible objection. It is his complete intellectual integrity, combined with a phraseology intelligible to the untrained mind, which makes the book so attractive and so satisfying. He has a genius for dealing gently and genially with some false and even dangerous view and for bringing out in high relief the value of St Thomas's answers for those who are prepared to do a little serious thinking. Such will be grateful indeed for this admirable study of the relations of theology and philosophy.

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LOGIC, SEMANTICS, MATHEMATICS. Papers from 1923 to 1938.

By Alfred Tarski. Translated by J. H. Woodger. (Oxford: Clarendon Press. London: Cumberlege; 60s.)

These pre-war papers are among those most frequently referred to in the literature of mathematical logic. Many of them have nevertheless been extremely hard to obtain, hence their re-issue in translation from Polish, German and French originals is a major event for logicians. The bibliographical notes with which they have been supplied will be helpful to historians of logic, and are designed to remove a number of current doubts and mis-conceptions about priority.

A helpful method of approach will be found to be through the short and relatively informal XIV–XVI. Thus XIV, *On Extensions of Incomplete Systems of the Sentential Calculus*, refers frequently to IV and V, the former being the famous Łukasiewicz–Tarski summary of *Investigations into the Sentential Calculus*, by themselves, Lindenbaum, Sobocinski and Wajsberg, the latter being Tarski's own paper on *Fundamental Concepts of the Deductive Sciences*. Again, XV, *The Establishment of Scientific Semantics*, provides a brief and clear overall view of VIII, *The Concept of Truth in Formalized Languages*, which is both the longest item and the one which will be of most interest to the philosophical public at large. XVI discusses *The Concept of Logical Consequence* which has already been treated in III, *On Some Fundamental Concepts of Metamathematics*, V already mentioned, and XII, *Foundations of the Calculus of Systems*. If the reader was then to use XI, *On the Foundations of Boolean Algebra*, as a means of more detailed approach, and work through the book with that concept in mind, he would obtain a tolerably good conspectus of the whole.

In VIII Tarski draws a preliminary conclusion to the effect that 'the very possibility of a consistent use of the expression "true sentence" which is in harmony with the laws of logic and the spirit of everyday language seems to be very questionable'. In XV he expresses himself more strongly: 'the language which contains its own semantics, and within which the usual logical laws hold, must inevitably be inconsistent'. These conclusions are dramatic, but surely intolerable. If a formalized language is found to be inconsistent we abandon or emend it. Radical inconsistency is not cured merely by avoidance of the inferences which manifest it. But neither Tarski nor anyone else abandons ordinary language (though there are not wanting philosophers who try to emend it). It seems that the conclusion should rather be that the *use* of ordinary language without regard for the rules of logic—in this case some theory of logical types—leads to inconsistency. That conclusion, so far from being intolerable, is banal, but the evidence adduced for it in these papers remains striking. That ordinary users of ordinary language are easily tempted to neglect distinctions of logical types (metaphysically speaking, to neglect analogy in favour of univocity) does not make the language as such inconsistent, but only their use of it. We might say equivalently that *their* language is inconsistent.

Among the papers not yet explicitly mentioned is I, *On the Primitive Term of Logistic*, containing the essentials of Tarski's doctoral dissertation of 1923. In that class it is conspicuous both for having something wholly worth-while to say, and saying it with most satisfying elegance.

In general the papers have been embellished with notes recording subsequent developments, but to this there could have been usefully added a reference to Sobocinski's *An Investigation of Protothetic* (Brussels, 1949) which, with acknowledgments, carried Tarski's idea further, and also Meredith's *On an Extended System of Propositional Calculus* (Proc. Royal Irish Academy, 1951) which is extremely relevant to ¶ 6, p. 17. In fact we see that Meredith's sole axiom is equiform with the matrix of Tarski's expression ( $j$ ), and his paper solves the problem about the deducibility of the Law of Substitution which Tarski here leaves open.

In a few years the Oxford University Press has laid a truly magnificent foundation for a logical collection, with the publication of Lukasiewicz's *Aristotle's Syllogistic*, A. N. Prior's *Formal Logic*, and the present volume. It is much to be hoped that the policy will continue. There is, for instance, plenty more comparably worth-while pre-war Polish work that deserves re-issue.

IVO THOMAS, O.P.

ROMAN MORNINGS. By James Lees-Milne. (Wingate; 17s.)

This is decidedly a book not to borrow but to buy and treasure against the day when it may be taken to Rome and put, so to speak, into practice. Not that it cannot be read with the greatest enjoyment for its own sake in any ultramontane armchair, but its purpose would be more perfectly fulfilled if it were taken as a handbook, an inspired guide, to each of the eight buildings it describes.

Starting with the Pantheon, Mr Lees-Milne spans sixteen centuries of Roman architecture with his carefully chosen examples of buildings, all of them still intact. Ruins he eschews, 'for ruins are apt to display prettiness, picturesqueness and romance, qualities which evoke sentiments not concerned with a true judgment of architecture'. Apart from being in a fair state of preservation and built by the best architects of their day, the quality which all eight buildings share is that of being, each in its age, an archetype destined, far beyond its own age and time, to influence the whole trend of western civilization. And this not because of the originality or inventiveness of their creators but because 'there is one trait all these men from the ancient myth Valerius of Ostia down to the rococo Salvi had in common, and that was a determination to remain traditional. They were steeped in the classical laws of architecture, to which they ostensibly adhered.'

The examples chosen are: the Pantheon, Santa Constanza, Santa Maria in Cosmedin, the Tempietto of Bramante, the Palazzo Massimo alle Colonne, Sant' Andrea al Quirinale, San Carlo alle Quattro Fontane and the Trevi fountain. We are therefore presented with the