

The two sections are clearly printed and admirably illustrated, but, as is unfortunately the case with the majority of chemical treatises published on the Continent, references to British work and authorities are conspicuous by their absence. W. A. B.

BRITISH ARCHÆOLOGISTS IN ITALY.

Papers of the British School at Rome. Vol. iv. Pp. x+296; illustrated. (London: Macmillan and Co., Ltd., 1907.) Price 31s. 6d. net.

THE "Papers of the British School at Rome," while similar in format, are not similar in form to the "Annals of the British School at Rome," nor can they be precisely similar in content, since the pleasure of chronicling the results of actual excavations is denied to the director of the British School at Rome. Let us always gratefully recognise the greater liberality of the Hellenic authorities and the greater tolerance of the Greek archæologists, who, while naturally and rightly desirous of keeping Greek antiquities in Greece, at the same time recognise the fact that the antiquities of classic Greece and Rome are the heritage of the whole civilised world, not of one country alone and admit that the privilege of searching for them should be freely extended to all who have the money and the will to carry out the work. Some day perhaps, the Italians will do likewise. Until then, British archæologists in Italy are confined to the contemplative life, and can do little more than write papers of the type presented in the volume under review.

The director, Mr. Thomas Ashby, most approaches the standard of the practical work of the Athens school in his very interesting paper on the "Classical Topography of the Roman Campagna," which is illustrated by good photographs, perhaps somewhat unnecessarily reproduced abroad, either in France or Italy, as the lettering beneath them shows. Probably we hardly realise how intensely hideous was the Roman style of country-house architecture, until we see such a place as Sette Bassi, which Mr. Ashby illustrates. It must have looked exactly like a warehouse, or, more probably, a piano factory. All the beauty and grace of "classical" architecture is Greek; the Romans were by nature as inclined to unredeemed utilitarian ugliness in their architecture as are the Germans or ourselves. Of the other papers, Mr. A. J. B. Wace's "Studies in Roman Historical Reliefs" is an interesting piece of critical work. Mr. Yeames, late of the British Museum, assistant director of the school, has some interesting remarks on Roman art of the post-Antonine period (first half of the third century A.D.) as exemplified in a small ivory statuette of a *gobbo* or hunchback in the British Museum.

The last paper, and in some ways the most important, is on "The Early Iron Age in South Italy," by Mr. T. E. Peet, who reaches interesting conclusions. In his preface the director says that the papers

"of Mr. Yeames and Mr. Peet, the latter especially

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though still belonging to the archæological sphere, deal with departments of it which have not previously found a place in the Papers of the School."

Since to the minds of many the department of archæology represented by Mr. Peet's paper seems the most important of all, it is to be hoped that no future Papers of the School at Rome will fail to contain some contribution on the prehistoric antiquities of Italy, about which we want to know far more than we do at present. H. H.

OUR BOOK SHELF.

Armature Construction. By H. M. Hobart and A. G. Ellis. Pp. ix+348. (London: Whittaker and Co., 1907.) Price 15s. net.

THE widespread use of dynamo electric machinery for all sorts of purposes is sufficient justification, if such be required, of treatises dealing with the design and construction of such machinery. Many books have been written on this subject, but we believe this is the first time that a complete volume has been devoted to the consideration of the construction of what is, perhaps, the most important part of any dynamo, viz. the armature.

To those who know anything of this class of machinery, it will be obvious that there is ample scope for a writer with first-hand knowledge to compile an interesting and valuable book; to mention only one point, the practical construction of a good commutator is a process full of interest. The book before us will certainly repay careful study in spite of a certain lack of proportion which is very noticeable.

A very brief summary of the contents is as follows: The first seven chapters describe the various workshop processes whereby the mechanical parts of the armature are built up, that is to say, the armature stampings, the spider, and the commutator; the next two chapters are devoted to armature windings for direct-current machines and for alternators, treated diagrammatically; and the last four chapters to the methods of winding and to finishing and testing. When it is stated that 172 pages (including full-page illustrations) out of a total of about 390 are devoted to winding diagrams alone, it will be apparent that the authors have allowed their enthusiasm for such diagrams to get the better of their judgment. There is no doubt that the subject is of great interest, but in the opinion of the present writer the two lengthy chapters devoted to it are quite out of place in such a work; in so far as explanations are necessary for the proper understanding of subsequent chapters, three or four pages would be ample to furnish all that are required.

The chapters that deal with construction pure and simple are well written and illustrated, and contain a large quantity of valuable information. Chapter ii., on armature laminations, is perhaps the best in the book, and contains specifications for the composition of suitable steel; the various methods of testing the quality of the steel are described, and constants are given which may be taken as satisfactory. The process of stamping the core plates is given in detail, and is illustrated with a number of photographs of slotting presses and other tools. The other chapters are also full of interest, and, but for the error of judgment mentioned above, the whole book might be unreservedly recommended to those who from one cause or another are concerned with the practical details of armature construction.