

later a temple of Osiris seems to have stood on the island, for a governor of Nubia, called Merimes, cut his name, which is found, along with those of his predecessors and successors, in remembrance of a visit thereto, on rocks on the island of Biggeh (see Brugsch, "Egypt," i. p. 423). In the reign of Rameses II., the builder of the temples at Kalabsheh and Abû Simbel, no mention is made of Philæ, and, curiously enough, no remains inscribed with his prænomen and nomen have been found there. The probable explanation of the silence of the monuments about Philæ is that the island was usually reckoned as a part of Biggeh, and even the Greeks and Romans included both islands in the name of Philæ. Be this as it may, we believe that a temple, or temples, existed at Philæ from the earliest period, and that their remains were removed entirely by those who set up the buildings for Nectanebus and his successors; for, after Captain Lyons' exhaustive survey, it is impossible that any can be found there.

It is now our pleasant duty to call the reader's attention to the series of sixty-seven plates which illustrate Captain Lyons' report, and to fully endorse Mr. Garstin's statement that if the ruins of Philæ were to "disappear to-morrow, the scientific world would still possess a record of each detail of their outline and construction," and we rejoice to hear the promised survey of Nubia has been already begun. Though every intelligent person would view with indignation the slightest damage done unnecessarily to the temples at Philæ, still it must be admitted that antiquarian sentiment should not stand in the way of the prosperity of the country of Egypt. If the scheme of a reservoir at Aswân produces a complete survey of the country for two hundred miles south of it, we may hope that a scheme for a reservoir at Gebel Silsileh will be followed by a complete survey of the country to the north of it. Finally, we congratulate Mr. Garstin and Captain Lyons on the completion of a delicate piece of work, and thank H.E. Hussein Fakhri Pasha for sending forth to the world the results in such a sumptuous form.

#### ASSAYING IN WORKS LABORATORIES.

*Notes on Assaying.* By P. de P. Ricketts, E.M., Ph.D., Professor of Analytical Chemistry and Assaying, School of Mines, Columbia University; and E. H. Miller, A.M., Ph.D. of Columbia University. Pp. viii + 311. (New York: John Wiley and Sons. London: Chapman and Hall, Ltd., 1897.)

*Recueil de Procédés de dosage pour l'analyse des combustibles, des minerais de fer, des fontes des aciers et des fers.* Par G. Arth, Professeur de Chimie Industrielle à la faculté des Sciences de Nancy. Pp. iii + 313. (Paris: G. Carré et C. Naud, 1897.)

THE reissue in a new and enlarged form of Prof. Ricketts' well-known book will be welcomed by all who have used the former editions. As Dr. Miller now assists his chief, the book appears as a new one. It is intended to be used in the laboratories of works where only notes for reference are required, and long and detailed descriptions of well-known operations are unnecessary. The result is that it is written in a crisp and telegraphic style, which should commend itself not only to Americans, but to all busy assayers. On the other hand, students would often require a little supple-

mentary oral teaching to enable them to perform the operations efficiently.

The first part, comprising an account of apparatus, reagents and methods, is good of its kind, although there is little that is new. Regarding litharge, there is a noticeable statement that "it should be free from red oxide of lead, as the latter has the power of oxidising silver and thus causing loss of that metal during the assay." This property, however, is shared by litharge; and it would be interesting if experiments were made showing the relative losses due to the action of the two reagents.

In the part dealing with the fire assays of ores and of bullion, the most interesting sections are those on the assay of gold and silver. The method given of parting the beads from gold ores, by heating them with acid in porcelain crucibles, is seldom used in this country, though it is in general use in America and Australia. Its merits are little understood in Great Britain, where it is often adversely criticised. It would appear that no adequate defence of it has yet appeared in print, though it would not be difficult to furnish one. Space forbids any attempt of the kind here. It is sufficient to observe that objections to it have been raised mainly by those who have never tried it, and who do not know how easy it is to obtain exact results by its aid.

The method of assay of gold bullion is described as being that used at the Royal Mint, London, where, the authors imply, the greatest accuracy is obtained. Besides the assay of all metals usually found in ores, an account of qualitative blow-pipe analysis is given, and the whole book is far more complete in its present form than was the case with the previous issues.

M. Arth's book is also one of considerable merit. It is an account of the exact methods of analysis used in iron and steel works in France, and will be useful to the works analyst in all countries. It distinguishes between two kinds of analyses: the one required as a daily control of the works, the other to serve as a basis for experiments or in delicate researches. The rough and ready methods employed for the former purpose are, of course, unsuitable for the latter, and *vice versa*. Both kinds are described, but the first-named class is undoubtedly the more efficiently treated, the Kjeldahl method for the estimation of nitrogen in fuel being, for example, fully described, and Dumas' method deliberately omitted except by name.

The methods of analysis used in steel works in France do not appear to differ materially from those used in this country, and some which are described were even devised on this side of the Channel. It is evident, therefore, that this book will prove as useful to our analysts as to their colleagues in France.

#### OUR BOOK SHELF.

*Life and Letters of William Barton Rogers.* Edited by his Wife, with the assistance of William T. Sedgwick. Vol. i. pp. viii + 427. Vol. ii. pp. vi + 451. (Boston and New York: Houghton, Mifflin, and Co., 1896.)

A TRULY great achievement of the life of William Barton Rogers was the foundation and establishment of the Massachusetts Institute of Technology, which ranks among the best technological schools in the world. His scheme was adopted by a general committee in October 1860, and