Noteworthy among the special topics studied by Mr. Kaye are the Hindu methods of solving the equation $Du^2 + 1 = t^2$, beginning with Brahmagupta in the seventh century, together with a conspectus of the indeterminate problems dealt with in India. The problems of the rational right triangle and the value of $\pi$, attractive ones to the Hindu writers from Brahmagupta on, are also studied by Mr. Kaye and two helpful synopses are given. A brief study of the connection between Chinese and Hindu mathematics is also given, and the proof which is adduced seems to be valid that Mahavir, in the ninth century, was acquainted with certain Chinese works. This acquaintance appears, for example, in the treatment of the area of a segment of a circle and in two or three applied problems. It is doubtful, however, if this relationship and others like it are sufficient ground for the sweeping assertions contained in the following statements:

> That the most important parts of the works of the Indian mathematicians from Aryabhaṭa to Bhāskara are essentially based upon western knowledge is now established. A somewhat intimate connection between early Chinese and Indian mathematics is also established. That the Arabic development of mathematics was practically independent of Indian influence is also proved.

It would be safer to say that the solution of the problem of the relationship between the scholarship of the East and that of the West has hardly yet been begun.

Two helpful features of the work are the large number of extracts from the original treatises, and a fair bibliography. Mention should also be made of two interesting photographic reproductions, one of two pages of Śrīdhara's *Trisátikā* and the other of three pages of the Bakhshālī manuscript. There is also a helpful index to the work.

The book, small though it is, should be on the shelves of all who are interested in Oriental mathematics. It is to be hoped that Mr. Kaye will some time prepare a more exhaustive work upon the subject.

DAVID EUGENE SMITH

*Assaying in Theory and Practise.* By E. A. WRAIGHT, of Royal School of Mines, London. Longmans, Green and Co. Pp. 316. 86 figures in text. $3.00.

The text of the book is divided into four parts. *First:* Numerical Data, Laboratory Plans, Lists of Apparatus, Minerals and Their Characteristics. *Second* Part: Dry Assaying; contains chapters on tests for recognition of various metals, sampling, general assay problems and methods of assay for tin, gold, silver, lead, mercury, fuels and refractory materials. *Third* Part: Wet methods for iron, copper, zinc, aluminum, lead, bismuth, tin, tungsten, arsenic, antimony, manganese, chromium, sulphur, vanadium, cobalt, nickel, uranium and molybdenum. *Fourth* Part: Control tests for cyaniding solutions and cyaniding methods.

It is rather doubtful whether any one, who was not fairly well grounded in chemistry and chemical manipulation, could make much progress in assaying by the use of the book alone. The methods given leave much to the mind of the reader. In the tests for recognition, a wet and a dry test are given for each element. No mention is made of the influence of other elements which may hide the test entirely. In the description of grinding no mention of the mechanical grinders is made. The iron mortar and the backing board are recommended, notwithstanding the fact that some form of mechanical grinder is found in almost every assay laboratory.

Gas furnaces and oil furnaces are also omitted from the description. These furnaces may not be in common use in England, but they are found everywhere in this country.

The reviewer does not agree with some of the methods recommended, but that is perhaps only a difference of opinion.

But one form of calorimeter is described, but the principles of calorimetry are well described.

The book furnishes much in a suggestive way and may be taken as a good outline for a course in assaying, but the course would have to be supervised by a competent instructor.

OWEN L. SHINN