crates are due to this writer, in spite of some doubt that has recently been cast upon it.

The summary which he gives of the work of the Greeks in geometry is, as would naturally be expected from him, very clear, and forms the principal portion of the work. The section on the early traces of the calculus is especially interesting, and refers of course to the contributions of Democritus, Eudoxus, and Archimedes, but without assigning the credit to Antiphon and Bryson that might be expected.

The mathematics of the Hindus is discussed with brief mention,—too brief, considering the contributions of the writers of India. The reader will not find the well-balanced judgment of the Oriental mathematics, nor the interesting information concerning its algebra, that he would expect from a perusal of the pages devoted to the work of the Greeks. The Arab contributions are somewhat more fully treated.

The medieval period in Europe is considered more at length, this being a period to which Professor Zeuthen has given much attention in his other works. Just at the present time, when Roger Bacon is much in the public eye, it is interesting to note that Professor Zeuthen dismisses him with exactly twelve words, and that these relate solely to optics.

It goes without saying that the book fills its purpose in a satisfactory manner. It gives a popular view of the progress of mathematics down to the period of the Renaissance, and is written in the pleasant style which characterizes all of the works of its distinguished author.

<div style="text-align: right">DAVID EUGENE SMITH.</div>

Geometrie der Zahlen. Von HERMANN MINKOWSKI. Zweite Lieferung. 1910. viii + 15 pages. B. G. Teubner, Leipzig und Berlin.

THE first volume appeared in 1896. The preparation of the second volume was delayed by unexpected difficulties, and the author published in short articles in the journals most of the results initially intended for the second volume. These articles are accessible in the Gesammelte Abhandlungen of Minkowski, published in 1911 in two volumes, aggregating 872 pages. The present pamphlet is a continuation, bearing the same title, of the closing chapter of the first volume of Geometrie der Zahlen, and contains also a table of contents and index for the two volumes. This highly original contribu-