

(and therefore for three) we should add by periods of two. Again since $8^2 + 1 = 5 \times 13$, we should test for five and thirteen (or oneate-five) by reducing to four figures by addition, and then to two figures by subtraction. Among small primes, eleven is the least adapted to the octonary system, but for this divisor we might convert the given number to the binary system, then reduce to ten figures by addition, and to five by subtraction (since $2^5 + 1 = 3 \times 11$), and finally recon-vert into an octonary number of two digits.

As there is no doubt that our ancestors originated the decimal system by counting on their fingers, we must, in view of the merits of the octonary system, feel profound regret that they should have perversely counted their thumbs, although nature had differentiated them from the fingers sufficiently, she might have thought, to save the race from this error.

THE TEACHING OF ELEMENTARY GEOMETRY IN GERMAN SCHOOLS.

Inhalt und Methode des planimetrischen Unterrichts. Eine vergleichende Planimetrie. Von DR. HEINRICH SCHOTTEN. Leipzig, B. G. Teubner, 1890. 8vo, pp. iv. + 370.

WHOEVER has followed the efforts of the Association for the Improvement of Geometrical Teaching in England in the course of the last ten years will have been struck by the slowness of the progress made and the paucity of the practical results attained. In Germany there exists no such society; but a powerful agitation for the reform of geometrical teaching has been in progress there for at least sixty years, and with particular force during the last two decades. And yet, even from Germany, with its well developed and highly centralized system of education, comes the complaint that progress is slow and much remains to be done.

Recent statistics have shown, in particular, that the most widely used text-books are far from being the best. Thus, while Hubert Müller's Geometry, which may be regarded as the best representative of the "modern school," reached its third edition in 1889, after a lapse of fifteen years from its first appearance, Kambly's very inferior text-book, whose faults and mistakes have frequently been exposed and complained of, appeared in 1884 in its 74th edition.

This book of Kambly's easily leads in the list of text-books used in various schools; it is adopted in 217 schools, the next in order being another rather inferior book, by Koppe,