

to extend the aim of his volume so that it might apply to the beginnings of writing all the world over?

Yet such an extension Mr. Hoffman has attempted in the course of about 200 *octavo* pages printed in large type. The result was inevitable. The lion's share of the little space at his disposal falls naturally enough to the North American Indians with whose pictographs and writing he is most familiar; but, in consequence of this mistaken aim at universality, the book is peppered here and there with Egyptian hieroglyphs, once or twice a cuneiform character crops up, and we have even come across a Christian symbol. In many places, therefore, the work is patchy, and the reader is in some danger of bewilderment. Moreover, this is not the only danger to which Mr. Hoffman exposes his readers, by rashly leaving the ground he knows; for his studies have not been sufficiently extended to enable him to act as a trustworthy guide elsewhere. He is certainly wise in making considerable use of "The Alphabet," by Isaac Taylor, but some statements made twelve years ago naturally now-a-days need revision. For instance, the dates he quotes at the beginning of p. 184 must now be considerably altered in view of M. de Sarzec's recent discoveries at Telloh in Southern Babylonia. But perhaps the most misleading portions of the book are those passages in which he refers to the so-called "Hittite" inscriptions. Here Mr. Hoffman's authorities are not so trustworthy as Mr. Taylor, and the result is disastrous. From his description of these hieroglyphs, the reader would certainly infer that no doubt existed as to their interpretation, but no impression could be more erroneous. The four or five systems of interpretation that have been proposed, and the last of which appeared less than two years ago in the *Zeitschrift* of the German Oriental Society, differ totally from one another, and are mutually exclusive; that is to say, each interpreter has employed a different method and system of interpretation, and, although they all work on the same inscriptions, the translations they have produced do not agree at all. Of course Mr. Hoffman is at liberty to select one of these systems and to say it appears to him to be correct, but to take the results of one of them, and to describe them as though they were universally adopted without reference to the controversy which still rages, is surely misleading in the highest degree. Moreover, on p. 158 occurs this rather puzzling sentence: "In the Akkadian, *a* signifies 'water' . . . and is represented by the inverted triangle, the prototype in Hittite being the vase or *olla*." If we take this sentence literally, we can only infer that Mr. Hoffman considers the earliest cuneiform character to be the descendant of the Hittite hieroglyphs. We think, however, that he cannot seriously hold this view, and that the sentence referred to does not rightly express his meaning.

It is not necessary, however, to dwell at greater length on the blemishes which mar an otherwise excellent book. They might, indeed, have been avoided by the exercise of a little discretion, and the book would have been none the less interesting if its contents had been confined to the beginnings of writing among the tribes of North America. Even as it is, the greater part is both interesting and instructive, and the excellent print and numerous diagrams add considerably to its attractiveness.

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#### OUR BOOK SHELF.

*Elements of Geometry.* By Prof. George C. Edwards. Pp. vii + 293. (London: Macmillan and Co., 1895.)

PROF. EDWARDS has forsaken the general sequence of parts in the study of the elements of geometry as propounded by Euclid, and has given us a book almost on a new plan. It must have been felt by most people, when in their early school-days they commenced to read Euclid's Elements, that much of the first few pages was almost unintelligible; and while no one would take exception to the rigidity of the methods there used, yet it would be exceedingly difficult for the average beginner to comprehend many of the definitions from the text alone without further *viva voce* explanation.

The substance of Euclid's Elements may be condensed into a very small fraction of its present dimensions for all practical purposes without losing any of the rigidity of argument or usefulness in application, and in this way a student may understand the proportionality of the sides of similar triangles without previously wading through four or five books. Prof. Edwards has arranged his book in this condensed form, and at the same time has presented his subject in a manner which attracts the attention of the reader by its simplicity and usefulness. One feature of this book is the great number of diagrams and figures which it contains; and where more than one figure is required with any one proposition, they are all carefully and separately given. The author does not overload the student with a mass of definitions at the commencement, but introduces them with explanations, when required, in the context. The usual mathematical conventions are introduced very early into the subject-matter, such as signs to denote directions; and the usual contractions are freely used, a table of them being given at the beginning for reference.

The first three chapters deal with propositions which relate to triangles and parallel lines; chapter iv. deals with the properties of circles; and chapter v. with areas, and the proportional relations of similar figures. This is one of the most important sections of the book, and includes some useful results which are generally obtained from books on trigonometry. Immediately following we find a chapter devoted to chords and tangents, and another to polygons and limits, including finding the value of  $\pi$ . Then follow over thirty pages of problem questions, with hints to some of their solutions, and innumerable figures to illustrate them where necessary. No pains appear to have been spared to make the whole as clear and intelligible as possible.

We then find a few chapters on solid geometry, which include matter dealing with surfaces, volumes, intersection of surfaces, and spherical triangles. The last chapter contains some useful propositions in conic sections.

Throughout the book there are a great number of examples, notes, suggestions and warnings to the reader, which should be of especial value to those who have not pursued the study of geometry to any extent previously. Altogether the book is a valuable one for any educational institution, and exceptionally so to technical students.

*Elementary Mensuration.* By F. H. Stevens, M.A. Pp. xii + 243. (London: Macmillan and Co., 1895.)

*Mensuration.* By the Rev. A. Dawson Clarke, M.A. Pp. vi + 88. (London: Rivington, Percival, and Co., 1895.)

MR. STEVENS' book is divided into two parts, the first only requiring a knowledge of Euclid's first book, and the use of algebraic symbols, in order to understand it; while the second part necessitates a much fuller acquaintance with geometry and algebra, and a slight knowledge of trigonometry. The book is not technical, but contains a thorough treatment of those principles upon which