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MSS. intended for publication and books, etc., intended for review should be sent to the responsible editor, Prof. J. McKeen Cattell, Garrison-on-Hudson, N. Y.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

*A CHAPTER IN THE HISTORY OF MATHEMATICS.**

ON the 10th of March, 1897, a hundred years after its original presentation, the Royal Academy of Sciences and Letters of Denmark published a French translation of a memoir by Caspar Wessel, entitled *Om Direktionens analytiske Betegning, et Forsög, anvendt fornemmelig til plane og sphaeriske Polygoners Oplösning*, or an Essay on the Analytic Representation of Direction, with Applications in Particular to the Determination of Plane and Spherical Polygons.

This paper, which deals with the geometric representation of imaginary quantities; which was read and printed several years before the famous essay of Argand and contains fully as exact a treatment of the subject, lay buried for nearly a century until attention was again drawn to it in 1895 by a thesis of S. D. Christensen upon the development of mathematics in Denmark and Norway in the eighteenth century.

Inasmuch as this memoir of Wessel's is still comparatively unknown, I have thought that it would not be uninteresting at this time to present a sketch of the development of the geometric treatment of the imaginary, particularly in the latter part of the eighteenth century and the first part of the nineteenth.

We find the square root of a negative quantity appearing for the first time in the *Stereometria* of Heron of Alexandria, 100 B. C. After having given a correct formula for the determination of the volume of a frustum of a pyramid with square base and applied it successfully to the case where the side of

* Address by the Vice-President before Section A, Mathematics and Astronomy.