

## ON THE FOUNDATIONS OF MATHEMATICS.

PRESIDENTIAL ADDRESS DELIVERED BEFORE THE AMERICAN MATHEMATICAL SOCIETY AT ITS NINTH ANNUAL MEETING,  
DECEMBER 29, 1902.

BY PRESIDENT ELIAKIM HASTINGS MOORE.

THE AMERICAN MATHEMATICAL SOCIETY gives its retiring President the privilege of speaking on whatever he may have at heart. Accordingly, this afternoon I propose to consider with you some matters of importance — indeed, perhaps of fundamental importance — in the development of mathematics in this country, and it will duly appear in what non-technical sense I am speaking “On the foundations of mathematics.”

## I. A VIEW.

*Abstract Mathematics.*

The notion within a given domain of defining the objects of consideration rather by a body of properties than by particular expressions or intuitions is as old as mathematics itself. And yet the central importance of the notion appeared only during the last century — in a host of researches on special theories and on the foundations of geometry and analysis. Thus has arisen the general point of view of what may be called *abstract mathematics*. One comes in touch with the literature very conveniently by the mediation of Peano’s *Revue des Mathématiques*. The Italian school of Peano and the *Formulaire Mathématique*, published in connection with the *Revue*, are devoted to the codification in Peano’s symbolic language of the principal mathematical theories, and to researches on abstract mathematics. General interest in abstract mathematics was aroused by Hilbert’s Gauss-Weber Festschrift, of 1899: “Ueber die Grundlagen der Geometrie,” a memoir rich in results and suggestive in methods; I refer to the reviews by Sommer,\* Poincaré,† Halsted,‡ Hedrick,§ Veblen.||

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\* BULLETIN, vol. 6 (1900), p. 287.

† *Bull. des Sciences Mathém.*, vol. 26 (1902), p. 249.

‡ *The Open Court*, September, 1902.

§ BULLETIN, vol. 9 (1902), p. 158.

|| *The Monist*, January, 1903.