PREFACE

It is with particular pleasure that we introduce the reader to Professor Taliaferro's "Concept of Matter in Descartes and Leibniz." First because only on a work of such clear scholarship could we hope to thrust the burden of implementing our long intended expansion of editorial policy to include subjects in the history of mathematics as well as expositions dealing with modern mathematics such as Artin's "Galois Theory." It is to be hoped that while maintaining the same high standards in scholarship this expansion will provide a unique forum concerned both with the mathematics of our day and with the role of mathematics in our culture as presented in penetrating analysis such as the lectures before us.

Yet further it is a particular delight in this instance to present this work since it so well documents the validity of the mathematician's prejudices toward the value of the practice of his art and its eventual ramifications in our civilization, culture and philosophy as exemplified in the thoughts of two of the greatest geniuses of all time. Historians of our time have contributed much to our knowledge of the continuity of the development of a scientific or mathematical outlook up to the time of Descartes and have securely rooted this development in the Middle Ages. Yet with the arrival of Descartes and later of Leibniz this development passed the threshold to such secure dominance it is somewhat difficult to realize the magnitude of the revolution accomplished at that time. In our society, with the mathematician and scientist vaulted in previously arranged and well designated chambers, the fruit of their work meted out in pace to a civilization with elaborate mechanisms for routinely absorbing their effects, it is difficult to imagine how brief the track was leading from concrete problems to transcendental questions. Yet it is clear from these lectures that the pursuit of this particular course, the relation and analogy of concrete problems to transcendental questions, formed the basis for philosophies providing succeeding ages with their basic assumptions. Further that the philosophy of Descartes or Leibniz can only be understood in light of the concrete problems of physics and mathematics that they entertained. In effect, theirs was a "metaphysics of Rational Mechanics" and Rational Mechanics is a branch of mathematics. To discuss their epistemologies, cosmologies, etc., without knowledge of their mathematics is rendered here as a folly which can only distort their true views. It is to be hoped that any future such distortions will be thwarted by reference to this work.

Finally we should like to thank Professor Hans J. Zassenhaus for recommending these lectures to us for publication.

<div style="text-align: right">

Thomas E. Stewart
Head, Department of Mathematics
University of Notre Dame

</div>