PROCEEDINGS OF SYMPOSIA IN APPLIED MATHEMATICS

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PROCEEDINGS OF
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VOLUME I

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J. J. Stoker

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INTRODUCTION

In 1946 a group of members of the American Mathematical Society drew attention to the fact that applied mathematics played a smaller part in the activities of the Society than the importance of the subject appeared to warrant. As a result, a Special Committee on Applied Mathematics was appointed to investigate and report. On the basis of the report of this Special Committee, in December 1946 a Committee on Applied Mathematics was appointed, consisting of Professor Richard Courant, Professor G. C. Evans, Professor John von Neumann, Professor William Prager, Dr. Warren Weaver, and the undersigned. To this committee was assigned the general function of encouraging activity in the field of applied mathematics, and the particular duty of organizing an annual Symposium in Applied Mathematics. It was hoped that at such symposia applied mathematicians, primarily affiliated with the American Mathematical Society, would seek the cooperation of physicists, engineers, and others, whose interests were mathematical although they were primarily affiliated to other organizations.

Plans were already being made by Brown University to hold a Symposium in the summer of 1947, and the Committee was happy to recommend the acceptance of the invitation of Brown University to hold the First Symposium in Applied Mathematics of the American Mathematical Society in Providence, using as a basis the Symposium already planned. Most of the duties of organization fell on Professor Prager, and were admirably carried out by him.

It is believed that the Symposia on Applied Mathematics will play an important role in bringing professional mathematicians into contact with mathematical workers in other fields, both purely academic and industrial. To further that end, it is desirable that, while each symposium should focus attention on a fairly restricted field of applied mathematics, the whole sequence should display considerable variety in choice of subject. In view of the fact that the sequence, as planned, is infinite, we may hope to see every phase of applied mathematics adequately covered in the course of time.

JOHN L. SYNGE, *Chairman*
Committee on Applied Mathematics

January 13, 1948

EDITORIAL NOTE

In this volume there are collected the papers which were presented during the First Symposium on Applied Mathematics of the American Mathematical Society. The Symposium was held at Brown University from August 2nd to August 4th, 1947. The subject of the Symposium was *Non-linear problems in mechanics of continua.*

The contents of this volume have been subdivided into two groups, one of them being concerned with the field of Hydro- and Aerodynamics and the other including results in the field of Elasticity and Plasticity.

The decision to publish in one volume the Proceedings of the First Symposium on Applied Mathematics was reached at a time very nearly coinciding with the date of the Symposium. Consequently a few of the papers had already been accepted for publication in the periodical literature. For these papers, published in full elsewhere, the authors have supplied rather comprehensive abstracts.

The Editorial Committee, consisting of William Prager, J. J. Stoker and the undersigned, has been happy to carry out the task of assembling these Proceedings of the First Symposium on Applied Mathematics. We think that this publication expresses well the growing interest in Applied Mathematics in this country in general, and in the American Mathematical Society in particular.

E. REISSNER, *Chairman Editorial Committee*
Applied Mathematics Symposium Proceedings