

## RIEMANN AND HIS SIGNIFICANCE FOR THE DEVELOPMENT OF MODERN MATHEMATICS.\*

ADDRESS DELIVERED AT THE GENERAL SESSION OF THE VER-SAMMLUNG DEUTSCHER NATURFORSCHER UND AERZTE, IN VIENNA, SEPTEMBER 27, 1894,

BY PROFESSOR FELIX KLEIN.

It is no doubt uncommonly difficult to entertain a large audience with the discussion of any mathematical question or even of the general tendencies in the development of mathematical science. This difficulty arises from the fact that the very ideas with which the mathematician works and whose multifarious connections and interrelations he investigates are the product of long-continued mental labor and are therefore far removed from the things of ordinary life.

In spite of this I did not hesitate in accepting the honor conferred upon me by the Executive Committee of your Association in requesting me to address you to-day. In doing this I was moved by the illustrious example of the great investigator, so recently deceased, who had originally been expected to speak here to you. It must always be regarded as a particular merit of Hermann von Helmholtz that, from the very beginning of his career, he took pains to present in lectures intelligible to a wider circle of scientific men the problems and results of special work in all the manifold branches of science that engaged his attention. He thus succeeded in being of assistance to each one of us in his own special field.

While for pure mathematics it would, in the nature of the case, be impossible to do this completely, it is becoming more and more recognized that in the present state of mathematical science it is eminently desirable to try, at least, to accomplish as much as can be attained in this respect. In saying this I do not express an individual opinion; I speak in the name of all the members of that Mathematical Association which was formed some years ago in connection with the Association of Naturalists and Physicians and is practically, if not formally, identical with your Section I. We cannot help feeling that in the rapid development of modern thought our science is in danger of becoming more and more isolated. The intimate mutual relation between mathematics and theoretical natural science which, to the lasting benefit of both sides, existed ever since the rise of modern analysis, threatens

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\* Translated, with the permission of the author, by ALEXANDER ZIWET.