

32. The paper of Professor Heffter, which will appear in the *Transactions*, extends to space of  $m$  dimensions considerations concerning curvilinear integrals previously developed by him in the *Göttinger Nachrichten* of February 8, 1902, for the case  $m = 2$  of the plane. As the curve  $C$  of integration is taken the general rectifiable curve; in case the curve  $C$  lies within a closed continuous region of continuity of the integrand function, the usual definition of the integral receives a certain modification, in that the range of values of the limitand sum is enlarged; this modification is seen to simplify the development of the theory as regards the so-called fundamental theorem of the integral calculus, the theory of the curvilinear integral as function of the upper limit in case it is independent of the path  $C$ , and the theorem of Cauchy.

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THE MEETING OF SECTION A OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, PITTSBURGH, PA., JUNE 28-JULY 3, 1902.

BOTH in attendance and in the number and character of the papers presented, the Pittsburgh meeting of Section A of the American Association for the Advancement of Science, was very successful. The Secretary has not preserved a memorandum of the members who were present, but he estimates that forty or more attended the different sessions. The Section met on Monday afternoon, June 30, the Vice-President, Professor G. W. Hough, of Northwestern University, presiding, to hear the address of the retiring Vice-President, Professor James McMahan, of Cornell University. In the absence of Professor McMahan, his address, the subject of which was "Some recent applications of function theory to physical problems," was read by Professor R. S. Woodward, of Columbia University. This address was published in *Science* for July 25.

Amongst the papers on the programme of the Section were three important reports: I, "A report on quaternions," by Professor Alexander Macfarlane, which will be published in the *Proceedings* of the Association. II, "A second report on