

THE APPLICATION OF MATHEMATICS TO THE SOCIAL SCIENCES*

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The invitation to deliver this lecture was accepted chiefly because of my veneration for J. Willard Gibbs, whose pupil I was forty years ago.

It was by accident rather than by design that my own life work was diverted from mathematical physics and mathematics, which it was my privilege to study under Gibbs, and was turned, instead, toward the application of mathematics to the social sciences.

While I have lost touch with the subject of which J. Willard Gibbs was a master, the debt which I owe to him and the help which my studies with him have afforded me even in the field of the social sciences can never be forgotten.

I hope, therefore, that it may not be amiss to precede what I have to say on Mathematics in the Social Sciences by a reminiscent statement of my personal impressions of Gibbs himself. J. Willard Gibbs towered, head and shoulders, above any other intellect with which I have come in contact. I had a keen realization of his greatness even in those formative years in Yale College and the Yale Graduate School. But this keen realization has grown even keener as the years have swept by, not only because of the increased evidence of the fundamental value of Gibbs' work in his own chosen field but also because in my own consciousness, after so many details have dropped from memory, there persists all the more clearly the strong impression which Gibbs' personality and teaching made upon me.

In saying this I do not think I can be accused of undue enthusiasm simply from the loyalty of a pupil to his teacher, especially in view of the statements of Lord Kelvin and others, which virtually rank Gibbs as the Sir Isaac Newton of America. Lord Kelvin said when visiting at Yale, a few years ago, that

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