A BRIEF INTRODUCTION TO THE INFINITESIMAL CALCULUS: DESIGNED ESPECIALLY TO AID IN READING MATHEMATICAL ECONOMICS AND STATISTICS

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A Brief Introduction to the Infinitesimal Calculus: Designed Especially to Aid in Reading Mathematical Economics and Statistics by Irving Fisher

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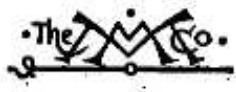
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MATHEMATICAL ECONOMICS AND
STATISTICS

BY

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SECOND EDITION

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PREFACE

THIS little volume contains the substance of lectures by which I have been accustomed to introduce the more advanced of my students to a course in modern economic theory. I could find no text-book sufficiently brief for my purpose; nor one which distributed the emphasis in the desired manner. My object, however, in preparing my notes for publication has not been principally to provide a book for classroom use. It must be admitted that very few teachers of Economics as yet desire to address their students in the mathematical tongue. I have had in mind not so much the classroom as the study. Teachers and students alike, however little they care about the mathematical medium for their own ideas, are growing to feel the need of it in order to understand the ideas of others. I have frequently received inquiries, as doubtless have other teachers, for some book which would enable a person without special mathematical training or aptitude to understand the works of Jevons, Walras, Marshall, or Pareto, or the mathematical articles constantly appearing in the *Economic Journal*, the *Journal of the Royal Statistical Society*, the *Giornale degli Economisti*, and elsewhere. It is such a book that I have tried to write.

The immediate occasion for its publication is the appearance in English of Cournot's *Principes mathématiques de la théorie des richesses*, in Professor Ashley's series of "Economic Classics." The "non-mathematical" reader can only expect to understand the general trend of reasoning in this masterly little memoir. If he finds it as stimulating as most readers have, he will want to comprehend its notation and processes in detail.

I have tried in some measure to meet the varying needs of different readers by using two sorts of type. If desired, most of the fine print may be omitted on first reading, and all on second. The reader is, however, advised not to pass over all of the examples.

Although intended primarily for economic students, the book is equally adapted to the use of those who wish a short course in "The Calculus" as a matter of general education. I therefore venture the hope that teachers of mathematics may find it useful as a text-book in courses planned especially for the "general student." I have long been of the opinion that the fundamental conceptions and processes of the Infinitesimal Calculus are of greater educational value than those of Analytical Geometry or Trigonometry, which at present find a conspicuous place in our school and college curricula. Moreover, they are almost as easily learned, and far less easily forgotten.

IRVING FISHER.

NEW HAVEN, September, 1897.

PREFACE TO THE THIRD EDITION

In the present edition have been incorporated several changes and additions originally prepared for the German translation of 1904 and for a Japanese translation in preparation.

A preliminary statement of the concepts of limits and several new examples have also been inserted.

IRVING FISHER.

November, 1905.