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978-1-108-00153-3 - An Investigation of the Laws of Thought: On Which Are
Founded the Mathematical Theories of Logic and Probabilities

George Boole

Frontmatter

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AN INVESTIGATION
OF
THE LAWS OF THOUGHT,
ON WHICH ARE FOUNDED
THE MATHEMATICAL THEORIES OF LOGIC
AND PROBABILITIES.

BY
GEORGE BOOLE, LL.D.

PROFESSOR OF MATHEMATICS IN QUEEN'S COLLEGE, CORK.

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TO

JOHN RYALL, LL. D.,

VICE-PRESIDENT AND PROFESSOR OF GREEK

IN QUEEN'S COLLEGE, CORK.

THIS WORK IS INSCRIBED

IN TESTIMONY OF FRIENDSHIP AND ESTEEM.

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P R E F A C E .

THE following work is not a republication of a former treatise by the Author, entitled, “The Mathematical Analysis of Logic.” Its earlier portion is indeed devoted to the same object, and it begins by establishing the same system of fundamental laws, but its methods are more general, and its range of applications far wider. It exhibits the results, matured by some years of study and reflection, of a principle of investigation relating to the intellectual operations, the previous exposition of which was written within a few weeks after its idea had been conceived.

That portion of this work which relates to Logic presupposes in its reader a knowledge of the most important terms of the science, as usually treated, and of its general object. On these points there is no better guide than Archbishop Whately’s “Elements of Logic,” or Mr. Thomson’s “Outlines of the Laws of Thought.” To the former of these treatises, the present revival of attention to this class of studies seems in a great measure due. Some acquaintance with the principles of Algebra is also requisite, but it is not necessary that this application should have been carried beyond the solution of simple equations. For the study of those chapters which relate to the theory of probabilities, a somewhat larger knowledge of Algebra is required, and espe-

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cially of the doctrine of Elimination, and of the solution of Equations containing more than one unknown quantity. Preliminary information upon the subject-matter will be found in the special treatises on Probabilities in “Lardner’s Cabinet Cyclopædia,” and the “Library of Useful Knowledge,” the former of these by Professor De Morgan, the latter by Sir John Lubbock; and in an interesting series of Letters translated from the French of M. Quetelet. Other references will be given in the work. On a first perusal the reader may omit at his discretion, Chapters x., xiv., and xix., together with any of the applications which he may deem uninviting or irrelevant.

In different parts of the work, and especially in the notes to the concluding chapter, will be found references to various writers, ancient and modern, chiefly designed to illustrate a certain view of the history of philosophy. With respect to these, the Author thinks it proper to add, that he has in no instance given a citation which he has not believed upon careful examination to be supported either by parallel authorities, or by the general tenor of the work from which it was taken. While he would gladly have avoided the introduction of anything which might by possibility be construed into the parade of learning, he felt it to be due both to his subject and to the truth, that the statements in the text should be accompanied by the means of verification. And if now, in bringing to its close a labour, of the extent of which few persons will be able to judge from its apparent fruits, he may be permitted to speak for a single moment of the feelings with which he has pursued, and with which he now lays aside, his task, he would say, that he never doubted that it was worthy of his best efforts; that he felt that whatever of truth it might bring to light was not a private or arbitrary thing, not dependent, as to its essence, upon any human opinion. He was fully aware that learned and able men maintained opinions upon the subject of

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PREFACE.

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Logic directly opposed to the views upon which the entire argument and procedure of his work rested. While he believed those opinions to be erroneous, he was conscious that his own views might insensibly be warped by an influence of another kind. He felt in an especial manner the danger of that intellectual bias which long attention to a particular aspect of truth tends to produce. But he trusts that out of this conflict of opinions the same truth will but emerge the more free from any personal admixture; that its different parts will be seen in their just proportion; and that none of them will eventually be too highly valued or too lightly regarded because of the prejudices which may attach to the mere form of its exposition.

To his valued friend, the Rev. George Stephens Dickson, of Lincoln, the Author desires to record his obligations for much kind assistance in the revision of this work, and for some important suggestions.

5, GRENVILLE-PLACE, CORK,
Nov. 30th, 1853.

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