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ELEMENTARY LOGIC

BY

ALFRED SIDGWICK

Author of *The Application of Logic*

The Use of Words in Reasoning

The Process of Argument

etc. etc.

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INTRODUCTION

BOOKS on Logic often begin with what professes to be a definition of the Science. And if by a definition all that is meant is a vague general statement of aim or purpose, that is easy to give; the aim of Logic, always and everywhere, is to study the difference between good and bad reasoning. Even the loftiest and least mundane kind of Logic cannot really escape from this purpose; for what interest could there be in ideally perfect truths if no one was ever in the least danger of forgetting them? It was the liability of mankind to reason badly that first called Logic into existence, and that still makes the study worth while; and to confess its lack of power to detect bad reasoning, or to boast of a lack of interest in doing this, would be fatal to its claims. The general aim of Logic, then, is clear.

But real difficulties begin as soon as we try to get the "scope and method" of the Science into its definition, for thereby we run a risk of begging the very important question whether a particular limitation of scope, or a particular method, is a help or a hindrance in achieving the aim. There is no general agreement on this point. Indeed that is a mild way of putting it, for we live in times when there is a widespread and growing revolt against certain old methods and old limitations of Logic which have come

down to us by tradition. At present they still survive in the examination room, and they still have a harmful influence on some kinds of philosophy ; but both in science and in ordinary life they are almost universally reckoned as out of date. At the present day we may safely admit that the best reason for knowing something about the old system is in order to see exactly why modern Logic has been driven to make certain far-reaching departures from it.

This book therefore attempts to give some account, for beginners, of both the old system and the new. Logic is here treated (1) as a carefully limited subject to get up for an elementary examination; and (2) as a free study of some of the chief risks of error in reasoning. For the former purpose we must be content to take the traditional doctrines and technicalities as obediently as we can, making light of the serious difficulties in them and treating them mainly as rules and definitions that have to be learnt with a particular end in view. On the other hand, for the latter purpose a different method is necessary. Even an elementary treatment of the real risks of reasoning will require a fundamental change of attitude towards the old Logic. Here we must rely on modern ways of thought—modern philosophy, science, and common sense ; we must allow free criticism of the assumptions and the self-imposed limitations of the old Logic ; and, without refusing to benefit by tradition wherever we find it helpful, we must recognise also its power of hampering and misleading the operations of our reason.

Desirable as it might be to keep these two modes of logical study separate, it is almost impossible to avoid giving some hints of the deep defects of the old doctrines and the old definitions, in the process of explaining them. But as a help against confusion of the two points of view I shall adopt the plan of spelling the traditional Logic¹

¹ Also Logical, Logically, and Logician.

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with a capital letter and the modern logic with a small one. This seems at any rate a less offensive mode of distinction than by giving the old Logic the doubtful dignity of inverted commas. And something can also be done to mark the distinction by separating the book into two chief Parts.

Part I will deal with those portions of the traditional doctrine which are generally reckoned as elementary. These include two main divisions known respectively as *deductive* and *inductive* Logic. Under the former come in the first place the doctrine of the *Syllogism*, and the technicalities directly accessory to it; and in the second place the usual curious and haphazard collection of doctrines and technicalities, some (e.g. those of "Immediate Inference") arising out of the assumptions made by the syllogistic doctrine, others concerned with problems of definition, others grammatical and concerned with the customary uses of words and forms of sentence, and others a mere survival of technicalities which once were accepted as satisfactory but have now for excellent reasons dropped out of use. In this part of the book remarks on the confusion and inconsistency from which nearly all these technicalities suffer will be much curtailed, so as to interfere as little as may be with the student's power of learning them for examination. Under the head of inductive Logic we shall for the same reason be content to accept most of the assumptions under which such writers as J. S. Mill and his many followers have attempted to lay down rules for the examination of material evidence; but we shall have to accept them under protest.

In Part II the elementary character is more difficult to preserve. Both the grounds and the results of the new logic require a good deal of explanation. But there is nevertheless a certain amount of definite doctrine and technicality which is comparatively simple; and there is

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room for a gradual extension of this part of the study as far as the reader may afterwards care to push it. In the meantime its chief interest consists in a new enquiry into the nature of *ambiguity*—a subject which Logic has always, for reasons which we shall duly notice, been exceedingly shy of treating.

A. S.

March 1914