

## ADDITIONS TO THE THIRD EDITION.

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### INTRODUCTION.

**T**HERE is a difficulty in writing for popular readers a History of the Inductive Sciences, arising from this;—that the sympathy of such readers goes most readily and naturally along the course which leads to false science and to failure. Men, in the outset of their attempts at knowledge, are prone to rush from a few hasty observations of facts to some wide and comprehensive principles; and then, to frame a system on these principles. This is the opposite of the method by which the Sciences have really and historically been conducted; namely, the method of a gradual and cautious ascent from observation to principles of limited generality, and from them to others more general. This latter, the true Scientific Method, is *Induction*, and has led to the *Inductive Sciences*. The other, the spontaneous and delusive course, has been termed by Francis Bacon, who first clearly pointed out the distinction, and warned men of the error, *Anticipation*. The hopelessness of this course is the great lesson of his philosophy; but by this course proceeded all the earlier attempts of the Greek philosophers to obtain a knowledge of the Universe.

Laborious observation, narrow and modest inference, caution, slow and gradual advance, limited knowledge, are all unwelcome efforts and restraints to the mind of man, when his speculative spirit is once roused: yet these are the necessary conditions of all advance in the Inductive Sciences. Hence, as I have said, it is difficult to win the sympathy of popular readers to the true history of these sciences. The career of bold systems and fanciful pretences of knowledge is more entertaining and striking. Not only so, but the bold guesses and fanciful reasonings of men unchecked by doubt or fear of failure are often presented as the dictates of *Common Sense*;—as the plain, unsophisticated, unforced reason of man, acting according to no artificial rules, but following its own natural course. Such Common Sense, while it