

## PART II.

OF THE PRINCIPLES ON WHICH PHYSICAL SCIENCE RELIES FOR ITS SUCCESSFUL PROSECUTION, AND THE RULES BY WHICH A SYSTEMATIC EXAMINATION OF NATURE SHOULD BE CONDUCTED, WITH ILLUSTRATIONS OF THEIR INFLUENCE, AS EXEMPLIFIED IN THE HISTORY OF ITS PROGRESS.

## CHAPTER I.

OF EXPERIENCE AS THE SOURCE OF OUR KNOWLEDGE.—OF THE DISMISSAL OF PREJUDICES.—OF THE EVIDENCE OF OUR SENSES.

(66.) INTO abstract science, as we have before observed, the notion of cause does not enter. The truths it is conversant with are *necessary* ones, and exist independent of cause. There may be no such real *thing* as a right-lined triangle marked out in space; but the moment we conceive one in our minds, we cannot refuse to admit the sum of its three angles to be equal to two right angles; and if, in addition, we conceive one of its angles to be a right angle, we cannot thenceforth refuse to admit that the sum of the squares on the two sides, including the right angle, is equal to the square on the side subtending it. To maintain the contrary, would be, in effect, to deny its being right-angled. No one *causes* or *makes* all the diameters of an ellipse to be bisected in its centre. To assert the contrary, would not be to rebel against a power, but to deny our own words. But in natural science, *cause* and *effect* are the ultimate relations we contemplate; and *laws*, whether imposed or maintained, which, for aught we can perceive, might have been other than they are. This distinction is very important. A clever man, shut