

misplaced here. We shall content ourselves, with simply considering it of the two kinds, described in the introduction, viz. : a knowledge of what *must be*; that is to say, of what we cannot conceive either not to exist, or to exist otherwise than as it is; and which is therefore founded upon reason (or *necessity*): and a knowledge of what simply *is*, but how or why we know not; and for the existence of which, therefore, we have no authority beyond our own consciousness, or the evidence of our senses.

Of these, the only instance of the first kind which particularly concerns us at present, is the knowledge of *quantity*, and its relations in general: of the second, that of certain natural phenomena; the consideration of which, constitutes the proper subject of the present volume.

The fundamental differences between these two great branches of human knowledge, as well as their consequences, cannot perhaps be more strikingly illustrated, than in the following familiar comparison by a celebrated writer. "A clever man," says Sir J. Herschel, "shut up alone, and allowed unlimited time, might reason out for himself all the truths of mathematics, by proceeding from those simple notions of space and number, of which he cannot divest himself without ceasing to think: but he would never tell by any effort of reasoning, what would become of a lump of sugar, if immersed in water;