Induction

It is well to distinguish three different varieties of induction. The first and weakest kind of inductive reasoning is that which goes on the presumption that future experience as to the matter in hand will not be utterly at variance with all past experience. Example: “No instance of a genuine power of clairvoyance has ever been established: So I presume there is no such thing.” I promise to call such reasoning crude induction. [—]

From the weakest kind of induction let us pass at once to the strongest. This investigates the interrogative suggestion of retroduction, “What is the ‘real probability’ that an individual member of a certain experiential class, say the S’s, will have a certain character, say that of being P?” This it does by first collecting, on scientific principles, a “fair sample” of the S’s, taking due account, in doing so, of the intention of using its proportion of members that possess the predesignate character of being P. This sample will contain none of those S’s on which the retroduction was founded. The induction then presumes that the value of the proportion, among the S’s of the sample, of those that are P, probably approximates, within a certain limit of approximation, to the value of the real probability in question. I propose to term such reasoning Quantitative Induction. [—]

The remaining kind of induction, which I shall call Qualitative Induction, is of more general utility than either of the others, while it is intermediate between them, alike in respect to security and to the scientific value of its conclusions. In both these respects it is well separated from each of the other kinds. It consists of those inductions which are neither founded upon experience in one mass, as Crude Induction is, nor upon a collection of numerable instances of equal evidential values, but upon a stream of experience in which the relative evidential values of different parts of it have to be estimated according to our sense of the impressions they make upon us.