Hume on Proof and Probability

1. Hume, *An Enquiry Concerning Human Understanding* Footnote §6.

> Mr. Locke divides all arguments into demonstrative and probable. In this view, we must say, that it is only probable all men must die, or that the sun will rise to-morrow. But to conform our language more to common use, we ought to divide arguments into *demonstrations*, *proofs*, and *probabilities*. By *proofs* meaning such arguments from experience as leave no room for doubt or opposition.

2. Hume, *A Treatise of Human Nature* Book 1 Pt. 3 Sec. 11 Par. 2.

> Those philosophers who have divided human reason into *knowledge* and *probability*, and have defined the first to be *that evidence which arises from the comparison of ideas*, are obliged to comprehend all our arguments from causes or effects under the general term of *probability*. But though every one be free to use his terms in what sense he pleases; and accordingly, in the precedent part of this discourse, I have followed this method of expression; it is however certain, that in common discourse we readily affirm, that many arguments from causation exceed probability, and may be received as a superior kind of evidence. One would appear ridiculous who would say, that it is only probable the sun will rise to-morrow, or that all men must die; though it is plain we have no further assurance of these facts than what experience affords us. For this reason it would perhaps be more convenient, in order at once to preserve the common signification of words, and mark the several degrees

of evidence, to distinguish human reason into three kinds, viz. *that from knowledge, from proofs, and from probabilities.* By knowledge, I mean the assurance arising from the comparison of ideas. By proofs, those arguments which are derived from the relation of cause and effect, and which are entirely free from doubt and uncertainty. By probability, that evidence which is still attended with uncertainty. It is this last species of reasoning I proceed to examine.

3. John Locke, *An Essay Concerning Human Understanding* Book 4, Ch. 15.

As demonstration is the showing the agreement or disagreement of two ideas, by the intervention of one or more proofs, which have a constant, immutable, and visible connexion one with another; so probability is nothing but the appearance of such an agreement or disagreement, by the intervention of proofs, whose connexion is not constant and immutable, or at least is not perceived to be so, but is, or appears for the most part to be so, and is enough to induce the mind to judge the proposition to be true or false, rather than the contrary. For example: In the demonstration of it a man perceives the certain immutable connexion there is of equality between the three angles of a triangle, and those intermediate ones which are made use of to show their equality to two right ones; ... And thus he has certain knowledge that it is so. But another man, who never took the pains to observe the demonstration, hearing a mathematician, a man of credit, affirm the three angles of a triangle to be equal to two right ones, assents to it, i.e. receives it for true. In which case the foundation of his assent is the probability of the thing, the proof being such as for the most part carries truth with it: The man, on whose testimony he receives it, not being wont to affirm any thing contrary to, or besides his knowledge, especially in matters of this kind.