The discussion of probability naturally brings us to the interesting question of the validity of induction. I undertake to demonstrate mathematically that the validity of Induction, in the proper sense of the term, that is to say, experimental reasoning, follows, through the lemmas of probabilities, from the rudiments of the doctrine of necessary consequences, without any assumption whatever about the future being like the past, or similar results following similar conditions, or the uniformity of nature, or any such vague principle.