

'Induction' (pub. 03.02.13-19:19). Quote in M. Bergman & S. Paavola (Eds.), *The Commens Dictionary: Peirce's Terms in His Own Words. New Edition*. Retrieved from <http://www.commens.org/dictionary/entry/quote-lowell-lectures-some-topics-logic-bearing-questions-now-vexed-c-s-peirces>.

Term: Induction

Quote: Suppose we define Inductive reasoning as that reasoning whose conclusion is justified not by there being any necessity of its being true or approximately true but by its being the result of a method which if steadily persisted in must bring the reasoner to the truth of the matter or must cause his conclusion in its changes to converge to the truth as its limit. Adopting this definition, I find that there are three orders of induction of very different degrees of cogency although they are all three indispensable.

The first order of induction, which I will call *Rudimentary Induction*, or the Pooh-pooh argument, proceeds from the premiss that the reasoner has no evidence of the existence of any fact of a given description and concludes that there never was, is not, and never will be any such thing. The justification of this is that it goes by such light as we have, and that truth is bound eventually to come to light; and therefore if this mode of reasoning temporarily leads us away from the truth, yet steadily pursued, it will lead to the truth at last. [—]

The second order of induction consists in the argument from the fulfillment of predictions. [—] [—]

The third order of induction, which may be called Statistical Induction, differs entirely from the other two in that it assigns a definite value to a quantity. It draws a sample of a class, finds a numerical expression for a predesignate character of that sample and extends this evaluation, under proper qualification, to the entire class, by the aid of the doctrine of chances. The doctrine of chances is, in itself, purely deductive. It draws necessary conclusions only. The third order of induction takes advantage of the information thus deduced to render induction exact.

Source: Peirce, C. S. (1903). *Lowell Lectures on Some Topics of Logic Bearing on Questions Now Vexed*. C. S. Peirce's Lowell Institute Lectures. 1903, Seventh Lecture. Introduction Vol. I. MS [R] 473.

References: CP 7.110-120

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