

'Induction' (pub. 02.02.13-09:52). 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-logic-drawing-history-ancient-documents-especially-testimonies-logic-histo-12>.

Term: Induction

Quote: Abduction, on the other hand, is merely preparatory. It is the first step of scientific reasoning, as induction is the concluding step. Nothing has so much contributed to present chaotic or erroneous ideas of the logic of science as failure to distinguish the essentially different characters of different elements of scientific reasoning; and one of the worst of these confusions, as well as one of the commonest, consists in regarding abduction and induction taken together (often mixed also with deduction) as a simple argument. Abduction and induction have, to be sure, this common feature, that both lead to the acceptance of a hypothesis because observed facts are such as would necessarily or probably result as consequences of that hypothesis. But for all that, they are the opposite poles of reason, the one the most ineffective, the other the most effective of arguments. The method of either is the very reverse of the other's. Abduction makes its start from the facts, without, at the outset, having any particular theory in view, though it is motivated by the feeling that a theory is needed to explain the surprising facts. Induction makes its start from a hypothesis which seems to recommend itself, without at the outset having any particular facts in view, though it feels the need of facts to support the theory. Abduction seeks a theory. Induction seeks for facts. In abduction the consideration of the facts suggests the hypothesis. In induction the study of the hypothesis suggests the experiments which bring to light the very facts to which the hypothesis had pointed. The mode of suggestion by which, in abduction, the facts suggest the hypothesis is by *resemblance*, - the resemblance of the facts to the consequences of the hypothesis. The mode of suggestion by which in induction the hypothesis suggests the facts is by *contiguity*, - familiar knowledge that the conditions of the hypothesis can be realized in certain experimental ways.

Source: Peirce, C. S. (1901). *On the Logic of Drawing History from Ancient Documents Especially from Testimonies (Logic of History)*. MS [R] 690.

References: CP 7.218

Date of 1901

Quote:

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