

Bibliography for the history of induction in mathematics

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Mathematical induction (=“complete induction”) often is worked out as a generalizable example (because once we have our hands on something fixed it is easier to do things), and the idea of a generalizable example is contained in the general idea of induction as used in philosophy.

In the Euler-Goldbach correspondence no. 85–86

Wallis [3, p. 474]

Euler used incomplete induction as an instrument of scientific research. Juškevič [13] writes the following: “It is frequently said that Euler saw no intrinsic impossibility in the deduction of mathematical laws from a very limited basis in observation; and naturally he employed methods of induction to make empirical use of the results he had arrived at through analysis of concrete numerical material. But he himself warned many times that an incomplete induction serves only as a heuristic device, and he never passed off as finally proved truths the suppositions arrived at by such methods”; also cf. Weil [21, Chapter II, §III] and Cajori [5].

Bernoulli [10, p. 29]

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