

Applied Mathematics

1895 [c.] | On Quantity, with special reference to Collectional and Mathematical Infinity | MS [R] 14:4

There is *pure* mathematics and *applied* mathematics. Pure mathematicians should strenuously object to a definition which should limit their hypotheses to such as are subservient to the discovery of objective truth. A romancer who draws any necessary deductions from the situations he creates (as every romancer does) is beyond doubt doing mathematical work; and the charm of romance is in part due to the natural interest we have in tracing necessary consequences. But this is applied mathematics for the reason that the hypotheses are clothed with accidents which are not relevant to the forms of deduction. Mathematical hypotheses are such as are adapted to the tracing of necessary conclusions; the hypotheses of *pure* mathematics are stripped of all accidents which do not affect the form of deduction, that is, the relations of the conclusions to the premises.

1895 [c.] | On Quantity, with special reference to Collectional and Mathematical Infinity | NEM 4:267-268

...the distinguishing characteristic of mathematics is that it is the scientific study of hypotheses which it first frames and then traces to their consequences. Mathematics is either *applied* or *pure*. Applied mathematics treats of hypotheses in the forms in which they are first suggested by experience, involving more or less of features which have no bearing upon the forms of deduction of consequences from them. Pure mathematics is the result of an afterthought by which these irrelevant features are eliminated.