

just as reliable as the laws of number and magnitude in the former. In the one case we learn to depend upon the conclusions of sound reasoning, in the other we learn to depend on the consistency of the course of nature. Both should alike teach us honesty in our proceedings, and faith in an overruling Providence, whom no accidents can defeat—no time can change. They have another lesson too for the theological student. They teach him not to fear the investigations of science on the one hand, or of historical criticism on the other, but to rest assured that different lines of inquiry, if carefully pursued and logically conducted, cannot fail to result in harmonious conclusions,—that notwithstanding the doubts which may threaten when there is only a glimmering of knowledge, fuller information will remove all the discrepancies that appear, and the heavens and the earth, from starry orb and stony vault, give forth concurrent testimony to the Book of Truth.

After these preliminary remarks, you will naturally expect from me a definition of the science of Mathematics, and an outline of its various branches.

Mathematics may be defined as the science of magnitude. It may be divided into two great branches—first, Pure Mathematics; second, Mixed or Applied Mathematics.

Pure Mathematics treats of abstract magnitude,—that is to say, it takes no account of the particular substance or thing whose magnitude is in question. The magnitudes may be lengths of lines, weights of solid bodies, intervals of time, or anything else that admits of measurement; and it is the province of Pure Mathematics to lay down propositions which are equally true of them all.

Inasmuch as *form* admits of measurement, *its* properties come within the province of Mathematics, constituting a distinct branch, which is called Geometry; and since the properties of any particular form or figure are irrespective of the material of which the figure may be composed, Geometry belongs to the department of Pure Mathematics.

When mathematical principles are applied to cases in which it is necessary to consider the nature and properties of the substance or thing whose magnitude is in question, we have instances of “Mixed,” or as it is otherwise called, “Applied” Mathematics. Under this head fall Mechanics, Physical Astronomy, and considerable portions of the sciences of Heat, Light and Electricity. In fact the branches of Mixed Mathematics extend their ramifications into nearly every department of human knowledge.

And here I may appropriately state the place which Mathematics rightly occupies in Physical Science. Its function is, to deduce accurate numerical conclusions from data furnished by experiment, to show the precise amount of the effect which will follow from the operation of any force whose law is