

varied assemblage of mineral masses under some common generally applicable stratigraphical name. Such a name has usually been held to imply that the rocks which it designates belong to one well-defined portion of the Geological Record. But this implication is one which every geologist who has worked among these ancient rocks would earnestly deprecate, for he has in some measure realized how vast, varied, and long-continued were the geological changes of which they are the memorials. These mutations include many transformations of the earth's surface, many disturbances of its crust, with enormous denudation and sedimentation, comparable with, if not greater than, those which in later ages were repeated again and again, even after the older fossiliferous formations were laid down. So similar have been the results that it is now difficult, or impossible, to discriminate between the more ancient and the more recent operations. To class all the crystalline schists and the great piles of sedimentary and igneous materials into which they seem to pass, by one general name, after the type of "Cambrian," "Silurian," or "Devonian," may be convenient, but in the present state of our knowledge is apt to lead to confusion, by placing together masses which may be of widely different geological ages and of wholly dissimilar origin. Various terms have been proposed for this complex assemblage of rocks, such as Primitive, Proterozoic, Azoic, Agnotozoic or Archæan. But from the data adduced in Book IV. Part VIII. regarding regional metamorphism, the student will understand how full of uncertainty must be the geological age of many areas of crystalline schists. Mere lithological characters afford no perfectly reliable test of relative antiquity. To prove that any region of crystalline schists may be "Primitive," "Azoic," or "Archæan" we