

# INTRODUCTION TO GEOLOGY.



## CHAPTER I.

Objects of the Science denominated Geology.—The Shape and Density of the Earth.—Opinions respecting the internal Parts of the Globe.—Central Heat.—Temperature of the Earth.—Sea and dry Land.—Proportion of the Earth's Surface habitable by Man.—On the Appearances which led to the first Division of Rocks into Primary and Secondary.—Classification of Rocks.—Districts in which the different Classes appear in England.—The present Islands and Continents formerly covered by the Ocean.—Existing Proofs of this in Great Britain and various Parts of the World.—Fossil Remains of marine Animals, Vegetables, and land Quadrupeds; the Strata in which they are imbedded formed in Succession at different Epochs.—On human Bones occasionally imbedded in Rock.—Inferences respecting the former Condition of the Globe.—Remarkable Passage in the Institutes of Menu.

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*In this Chapter the author has endeavoured to give such an outline of the science, and its practical application to the knowledge of the Geology of England, as may be clearly and easily understood by the general reader, and prepare him for the perusal of the succeeding Chapters.*

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THERE are perhaps few persons possessed of much curiosity in early life, to whom the following question has not frequently presented itself—*What is the world made of?* Now this question, with certain conditions, comprises the most important objects of geological research; namely, *What are the substances of which the Earth is composed? What is the order in which they are arranged? What are the changes they appear to have undergone?*—But how are satisfactory answers to these inquiries to be obtained?

When we examine the terrestrial globe, where the solid parts are uncovered and exposed to our view, we observe vast masses of rock or stone lying in apparent confusion on each other: or, should we perceive some regularity in their position and arrangement, we soon lose sight of it again by the intervention of other rocks. In this department of nature all seems vast, unshapen, and chaotic; but let us not be discouraged, for we may recollect that the grandest objects in the material universe, seldom present to the hasty view of the superficial observer, immediate proofs of order or design.

The shepherd who first discovered that the planets were not fixed in the heavens, and noticed their apparently intricate wanderings among the stars, could not possibly anticipate the regularity and harmonious simplicity of their movements, which subsequent observations have demonstrated.