

CHAPTER V.

ON ROCKS DENOMINATED PRIMARY, AND THE CHANGES TO WHICH
THEY HAVE BEEN SUBJECTED.

The Origin of Rocks called Primary, believed by many Geologists to be igneous.—A Classification founded on this View.—A Classification independent of Theory.—Constituent Minerals of Granite.—Varieties of Granite.—Structure and Appearance of Granitic Mountains.—Mont Blanc, and the Aiguilles in its Vicinity.—Localities of Granite.—Granite Veins.—Passage of Granite into Porphyry and Sienite.—Minerals found in Granite.—On Granite as the Foundation Rock on which other Rocks are laid.—The relative Antiquity of different Granitic Mountain Ranges.—Granite pierced through by Porphyry and Currents of Lava.—Granite sometimes protruded among the upper Strata.

In describing the different classes of rock, we may either commence with the lowest or most ancient, or with the uppermost or most recent; but I am persuaded that the student will find it most convenient to begin with the lowest and proceed in an ascending series to the uppermost. The rocks called primary have distinctly marked mineral characters, and contain few, if any, organic remains. As the student proceeds, he may trace the first indications of organic existence, and in ascending to the upper rocks, he will observe the gradual increase of genera and species that have left their remains in the different beds; in some cases indicating great changes in the condition of parts of the globe, as from sea to land, or from salt water to fresh, or from deep to shallow sea. If the student begin with the more recent or uppermost strata, he will find them difficult to recognise by fixed mineral characters, and he will be confused by the variety of organic species presented to his notice, but from which he can derive little instruction until he is able to compare them with the fossil remains in the lower strata. In the geological description of a particular country or district, it may, often, be more convenient to commence with the beds nearest the surface, and proceed in a descending series, but then the reader is supposed to be already acquainted with the science.

IF any rocks can with propriety be denominated primary or primitive, they are those which are most widely spread over the globe in the lowest relative situation, and which contain no remains of organic existence. Primary rocks are supposed by geologists to constitute the foundation on which rocks of all the other classes are laid; and if we take an enlarged view of the structure of the globe, we may admit this to be the fact,—but the admission requires certain limitations. The same causes that have produced granite and the other