

creasing, we were still ignorant of the height of many mountains and elevated plains; of the periodical oscillations of the aerial ocean; of the limit of perpetual snow within the polar circle and on the borders of the torrid zone; of the variable intensity of the magnetic forces, and of many other phenomena equally important.

Maritime expeditions and circumnavigatory voyages have conferred just celebrity on the names of the naturalists and astronomers who have been appointed by various governments to share the dangers of those undertakings; but though these eminent men have given us precise notions of the external configuration of countries, of the natural history of the ocean, and of the productions of islands and coasts, it must be admitted that maritime expeditions are less fitted to advance the progress of geology and other parts of physical science, than travels into the interior of a continent. The advancement of the natural sciences has been subordinate to that of geography and nautical astronomy. During a voyage of several years, the land but seldom presents itself to the observation of the mariner; and when, after lengthened expectation, it is descried, he often finds it stripped of its most beautiful productions. Sometimes, beyond a barren coast, he perceives a ridge of mountains covered with verdure, but its distance forbids examination, and the view serves only to excite regret.

Journeys by land are attended with considerable difficulties in the conveyance of instruments and collections, but these difficulties are compensated by advantages which it is unnecessary to enumerate. It is not by sailing along a coast that we can discover the direction of chains of mountains, and their geological constitution, the climate of each zone, and its influence on the forms and habits of organized beings. In proportion to the extent of continents, the greater on the surface of the soil are the riches of animal and vegetable productions; the more distant the central chain of mountains from the sea-shore, the greater is the variety in the bosom of the earth, of those stony strata, the regular succession of which unfolds the history of our planet. As every being considered apart is impressed with a particular type, so, in like manner, we find the same distinctive impression in the arrangement of brute matter organized in rocks, and also in the distribution and mutual relations of plants and animals. The great problem of the physical description of the globe, is the determination of the form of these types, the laws of their relations with each other, and the eternal ties which link the phenomena of life, and those of inanimate nature.

Having stated the general object I had in view in my expeditions, I will now hasten to give a slight sketch of the whole of the collections and observations which we have accumulated,