

AMERICAN GEOLOGY.

PRELIMINARY REMARKS.

§ 1. The science of geology is of recent origin. The first attempts which were made towards the construction of a system, date no farther back than the middle of the last century. In its progress it has undergone many changes, as has every other science dependent upon observation and experiment.

The object of geology is to give a rational explanation of the structure of the earth. To accomplish this, it examines the phenomena presented at the surface of the earth, and its interior, where it is accessible; and it attempts to discover the causes of those phenomena, and to find the true reason for their existence, and also to fix the dates when remarkable changes occurred. The advantages resulting from the study of geology are numerous. It gratifies a laudable curiosity; it informs us where we may find the most valuable natural productions, as coal, salt, iron, gold, silver, manganese, copper, lead, marble, and many other useful substances; it enlarges our views of the field of nature; it enables us, by our knowledge of the present, to look far backward into the past; it reveals to us a vast duration whose limit we can not fix—a succession of changes in the physical condition of the earth, which exhibit a progress towards an ulterior end which seems to have had reference to the existence and well being of man. We see in the earth's changes, and its brute inhabitants, a progressive movement along an upward scale, not in a direct track, but rather in the ultimate results. It teaches us that order has prevailed in the operations of the natural elements through the lapse of ages—