

the same relative antiquity as those beneath fragments in the clefts of rocks near Plymouth, and probably also as those contained in the caverns at the same place, and at Kent's Hole. It will be remarked, that the animal remains which seem to imply a warmer climate existing at that time than at present, occur in low grounds, fissures, and caves. Upon the former they have lived, and into the two latter they may have either fallen or been dragged by beasts of prey. The elephants probably browsing on branches and herbage, the rhinoceros preferring low grounds, the bears and hyænas inhabiting caves, and the deer, the ox, and the horse ranging through the forest and the plain; all which supposes land fitted for them, and therefore hill and dale. Consequently valleys were scooped out previous to the existence of the elephants; and if a mass of water acted on the land destroying these animals, it must have been influenced in its direction by the previously existing inequalities of surface." This remark leads us at once to make a few observations on the formation of valleys, as a fourth result of diluvian action.

#### FORMATION OF VALLEYS.

All valleys have not been formed in the same way: some are due to the elevation and some to the depression of the strata which compose the adjacent hills, and others to partial slips or dislocations of rocks. To these we need not refer in the following remarks, for the statements already made in relation to stratification and its disturbance, must have suggested the thought that some valleys may have been occasioned by the elevations and depressions which rocks have suffered.

There is another class of valleys produced by water; but there is a difference of opinion as to the manner in which water acted upon the surface of rocks, and formed valleys. Some suppose that they were caused by the action of rivers and the bursting of lakes, while others attribute them to the irresistible force of a vast diluvian current, which, sweeping over the surface, has scooped out for itself as channels these depressions. The dispute between the advocates of the two theories was once very violent, but they have now probably seen that both theories may be in part true. We cannot understand how either the action of a river or the bursting of a lake could have produced many of the valleys