While there is no direct evidence as to the time of the uplift, it seems safe to associate its inception with the first accumulation of gravel around the lake of Sistan. Judging from the appearance of the lava cap of the mesa, it must be of approximately the same age as Kuh-i-Chaku.

How long the process of uplifting the mountains continued or how widely it extended we do not know. The distorted shorelines which I shall presently describe show that warping continued till very recent times. To-day earthquakes seem to be unknown in Sistan, but Mr. Tate informed me that either Iben-i-Haukl or Iben-i-Batuta record the occurrence of one in the eleventh century. On the edges of the Sistan basin, however, earthquakes still persist. Two hundred miles to the south the smouldering volcano of Kuh-i-Taftan proves that the forces of vulcanism are still active; while 300 miles to the eastward McMahon (*a*, p. 10) reports that earthquakes are common along a remarkable fault-crack which extends north and south for 120 miles along the Afghan frontier between Kandahar and Quetta. It is highly probable that the basin of Sistan, like so many of the other basins of Persia, is being uplifted along the edges. The invasion of gravel in a thin sheet on every portion of the basin floor may be due in part to these movements.

A detailed study of the thick gravels near Kuh-i-Chaku is difficult because of the extent to which the deposits are hidden by their own talus. Sections E and F, however, show that the gravels are interstratified with finer beds of silt, red for the most part. The alternating beds seem to be related in the same manner as the alternating clays below; the gravels seem to occupy a place corresponding to the pink clays, while the silts correspond to the green lacustrine clays. The problem of accounting for the alternations in the upper strata is the same as in the clays, and the same reasoning applies. If our conclusions are correct, earth-movements, of which the volcanoes were one manifestation, elevated the northwestern corner of Sistan, reviving erosion among the mountains and raising part of the bottom of the lake beyond the reach of the water. The clays of the lake bottom were exposed to erosion and certain layers were carried away, forming an unconformity, but soon abundant gravel was brought down from the renewed mountains and the whole country was buried in it. This must have happened during an interfluvial epoch, as appears from the gravels. A fluvial epoch then ensued, and, to use a word not recognized by lexicographers, the ungradation of the mountains was checked. The conditions of the fluvial epoch favored the preservation of the graded slopes of the mature topography of the uplifted mountains, and the stripping which had progressed rapidly during the interfluvial epoch was retarded. Accordingly the materials brought down by the streams were fine-grained, and silts accumulated upon the gravels. Thus it seems probable the changes went on until three more were added to the ten fluvial epochs that had gone before. The evidence for these last three is not so abundant or conclusive as for their predecessors; but three strong strata of gravel separated by finer material cap the bluffs in many places where no sections were obtained, and it is difficult to explain them otherwise. We rebel at the thought of adding epoch to epoch in such wholesale fashion, yet thirteen or a hundred epochs of climatic change are as reasonable as two.