extended to that country, and if those changes are competent to produce recognizable physiographic forms. The cause of the abundant terraces of Western Asia demands much further investigation, but it is at least a fair working hypothesis that the terraces are due to a series of climatic oscillations, and that those oscillations were contemporaneous with the successive epochs which in other lands composed the glacial period. If this theory proves worthy of acceptation it will probably furnish the necessary clue to the elucidation of the recent physical history of the Caspian basin and of other parts of the earth's surface immediately before and perhaps after the advent of man.

TERRACES IN TURKEY.

If the conclusions which have been reached in the preceding pages of this report are correct, terraces of climatic origin ought to preserve a record of some of the epochs of the glacial period in other parts of the world, especially where the conditions resemble those of Persia, that is, among unglaciated mountains in the stages of youth and early maturity in regions of slight precipitation. Several years ago, in Eastern Turkey, a thousand miles west of the part of Persia which we have been considering, I observed numerous terraces which I could not then satisfactorily explain. Almost invariably the bottoms of the valleys of Eastern Turkey are filled with gravel in which the streams have incised newer valleys, often to a considerable depth. Thus along the Euphrates River in its upper course, where it flows westward before turning southward and eastward on its long course through Mesopotamia, there is a strong gravel terrace almost everywhere except in the narrow canyons. In the Malatia plain, for instance, this terrace ranges from 30 to 60 feet in height. Farther upstream, along the eastern branch, or Murad Su, a few miles east of Pertag, there is a half-consolidated gravel which evidently was deposited in the valley after it had attained nearly its present form, and there are also two terraces, one about 50 feet high and the other nearly 100. In the small tributary valleys of Pekanik and Kurdemlik, which here descend steeply northward from the Harput Mountains, there is a dissected valley deposit of alluvium which reaches a thickness of 100 feet. The deposit is for the most part composed of silt and very fine gravel, quite different from the cobbles and coarse gravel which now fill the stream-bed. In these deposits and in many others there are marked unconformities like those of Bajistan, where relatively coarse material suddenly succeeds fine silt. Still farther up the Euphrates, and along some of its main branches, as for instance, in the Harput and Peri plains, there are extensive gravel deposits in which the streams have deeply intrenched themselves. As the higher mountains of Dersim are approached along the Peri and Muzur rivers the terraces become more distinct. In my notes on a number of the smaller streams there are references to "alluvial terraces," "terraced valleys," "a series of terraces," or "several terraces," most if not all of which are cut in gravel. The number of terraces is not stated, for their possible significance was not then appreciated, and most of them are small features, easy to overlook.

Terraces are found in other parts of Turkey in addition to the Euphrates Valley. My notes contain references to similar phenomena along the Tigris in its upper course southeast of Gyuljuk, along the Kizil Irmak or ancient Halys, along the