

mountains, on the other hand, terraces seem to be the result of a *changing* climate, that is, the maximum effect, of deposition at least, is produced during the change from moist to dry conditions. A large number of the terraces of Persia, it will be remembered, are cut in stream-laid gravel which lies with a slight unconformity upon finer deposits of silt. It may be that these can be explained as the product of epochs of increased cold alternating with epochs of relative warmth, but data are as yet insufficient. It is also possible to explain them as the product of epochs of increased precipitation alternating with epochs of relative aridity, but this theory does not necessarily exclude the other.

In Persia, as has frequently come to our notice, the rock slopes of mature mountains are ungraded because of the aridity of the climate. If the climate were to become moister the process of grading the slopes and covering them with vegetation would at once begin. So long as solid rock lay near the surface the increased moisture and the increased number of decaying plants would accelerate the process of weathering. Whether this increased weathering would increase the load of the streams depends on whether the increased vegetation is able to hold back the larger amount of waste which is now supplied by the decaying rocks. However this may be, it is certain that the load of the streams would become finer as the process of grading the slopes went on, and ultimately the flood-plains would be covered with fine material, usually silt, no matter whether the streams were aggrading or degrading their beds.

When the climate once more becomes arid the graded character of the mountain slopes will soon disappear and the old conditions will reign once more. The process of grading the slopes must of necessity be slow and lag long after the change of climate which gives rise to it, for much time is required to convert solid rock into soil. The process of ungrading the slopes, on the contrary, is rapid, and scarcely lags behind the change of climate which causes it. As soon as vegetation begins to dry up because of decreased rainfall, the streams will begin to carry off the soil and weathered fragments which cloak the mountain sides. The carrying power of the streams will remain approximately the same, but their load will be so greatly increased that they will be obliged to deposit the coarser portions upon the silts of the valley flood-plains. This process of building up deposits can not last indefinitely, however, for the supply of weathered material is limited, and when once it is exhausted the weakened forces of weathering can furnish new supplies very slowly. Therefore it will continue while the climate is *changing*. When the change is finished and the climate has become arid, the streams will no longer act as heavily loaded agents of deposition, but will be insufficiently loaded and will act as agents of erosion.

Other more striking examples of terraces exist in the semiarid regions of North America, but little attention has been paid to them. It must not be understood that these few examples of terraces in Turkey and North America are supposed to lead to any definite conclusion. They are presented merely with the purpose of showing that if our conclusion as to the climatic origin of the terraces of Central Asia is correct, these features in other lands are what we should expect. Prolonged study is necessary before correlating facts so widely separated. The glacial period was a world-wide phenomenon, and to understand it fully demands a world-wide view.