

earth, and observes all these lakes, large and small, scattered over the face of the flat, broken, billowy surface, one is instinctively led to suppose, that they must have owed their primary origin to glaciation. But one looks in vain for traces of former glaciers in the glens and valleys of the Arka-tagh. It is impossible to discover even so much as an indication that this region has ever been covered with ice. Where the hard rock crops out it is weathered to such an extent that if glacial striations ever did exist, they have been completely obliterated. Moreover the range consists, as we have seen, of extremely finely sifted disintegration material. It is equally vain to search for erratic blocks as for moraines on either the north or the south of the Arka-tagh. At the first glance one may indeed be tempted to take a stretch of hills for an old moraine, greatly flattened and levelled down; but their structure, where it is indeed sufficiently exposed to be observable, soon banishes the idea, for it is in no respect like the structure of the ordinary moraines. So far as I was able to judge, these hills consist exclusively of sand and dust, and support smaller fragments and chips of tuff scattered over their surface (fig. 348).

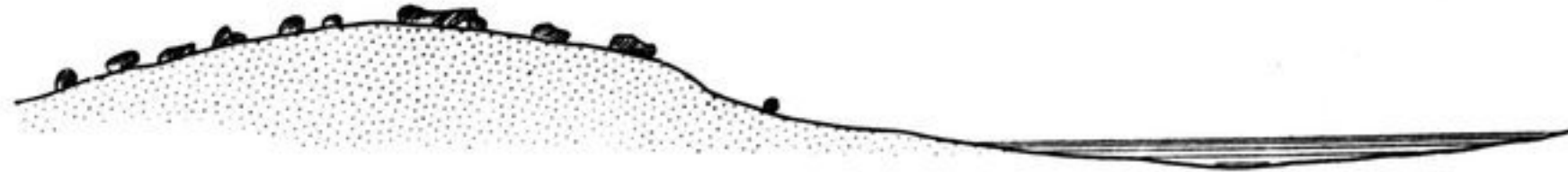


Fig. 348.

Still all this does not prove that this region never was covered with ice. In those parts of the Arka-tagh which lie farther west, and which I passed in 1896, I did discover some glacier arms, very short it is true, but still possibly forming the last lingering survivals of former extensive ice-fields. Both the shape and the relief of the Arka-tagh bear witness to a powerful denudation and levelling down, the process having now reached a very advanced stage. The enormous differences between day and night and between winter and summer, the active insolation, the rupturing effects of frost, all contribute to the disintegration of these mountains; and as the traces of older glaciation are rather superficial, it is not surprising that they should be obliterated in a country which is so greatly exposed to the denuding agencies of nature as this is. It may be that such an immense period of time has elapsed since the Arka-tagh was under ice — supposing it was indeed glaciated — that even erratic blocks of considerable size have become entirely pulverised. The part which the prevailing winds play in this work of destruction is, as I have already mentioned, not particularly great, and the wind blows *per se* with unexampled violence throughout the whole of the Tibetan highlands. Its effects are however counteracted during the »warm» season by the precipitation, which makes the ground almost everywhere moist, so that the finer materials of which it consists are bound and held together. During the winter half of the year the same ground is frozen, a condition in which it is equally fitted to oppose the action not only of corrasion but also of deflation. Did the wind possess a more incisive power of transportation and sedimentation, drift-sand areas would be met with in Tibet, at all events here and there; but as a matter of fact the sandy area south of the Upper Kum-köl is the only one possessing any degree of either importance or extent. When in certain parts of the