

11,300 feet. A small recent moraine lay about 300 feet forward from the end of the glacier; a larger one, holding a small frozen lake in its hollow, was a half mile farther forward. There was too much snow on the ground just in front of the glacier to judge whether it was advancing or retreating at the time of our visit.

SUBDIVISION OF THE GLACIAL PERIOD.

The few examples above described of moraines of different ages suffice to suggest, but not to demonstrate, a subdivision of the glacial period, as it affected the Tian Shan Mountains. The many additional examples of more complicated series of moraines in the valleys below the higher ranges south of Issik Kul, afterward

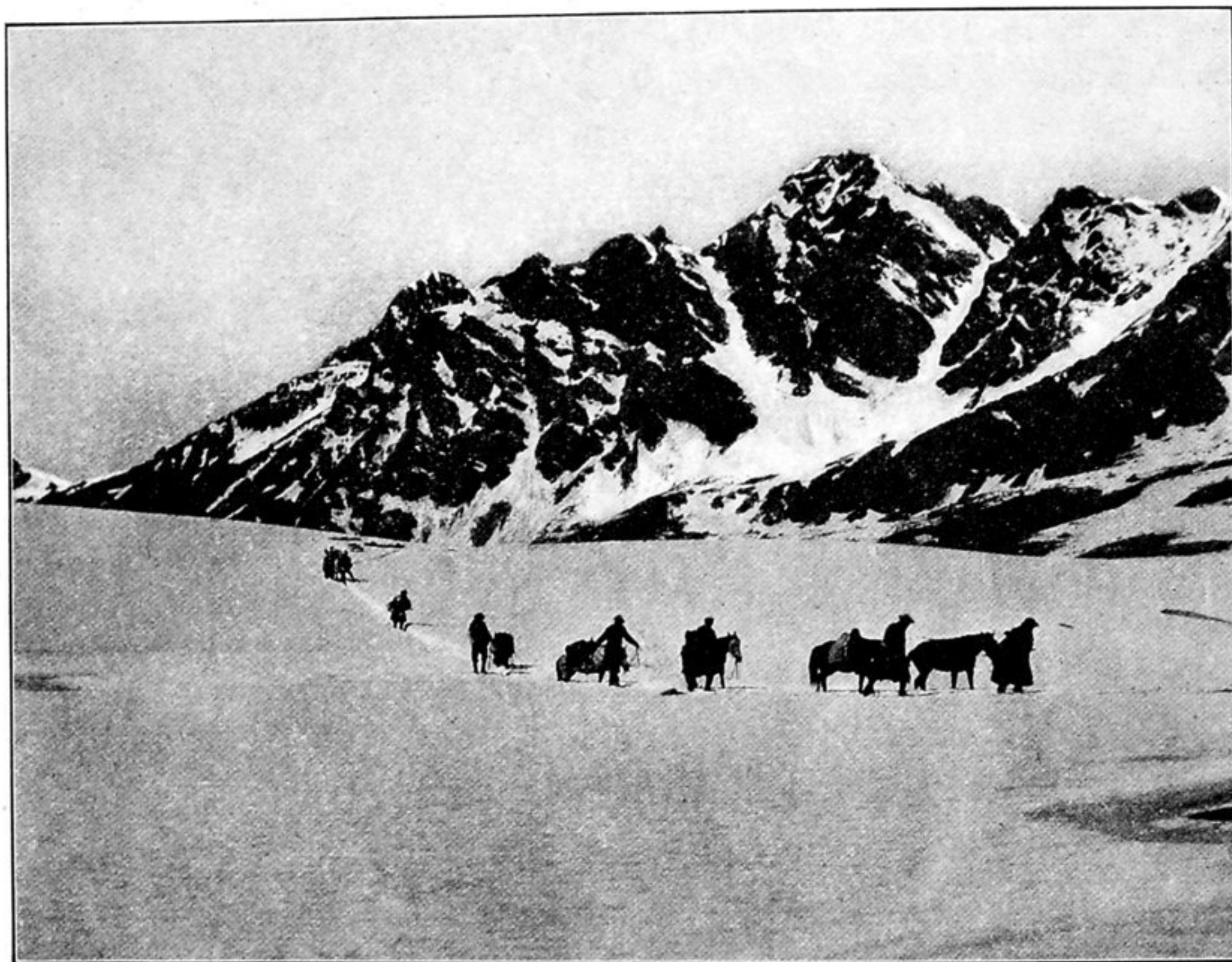


Fig. 52.—Snowfield below Sutto-bulak Pass in the Kungei Ala-tau, looking southwest; a Cirque in the background.

examined by Mr. Huntington, were fortunately more explicit in their testimony, and leave no doubt that the glacial period there, as elsewhere, was not a single climatic epoch, but a succession of epochs, and that the different epochs were of different intensities. It is important, as Mr. Huntington points out in his report, to bear in mind that the actual succession of glacial epochs was in all probability more complicated than the existing records directly indicate. It truly seems possible, in our present ignorance as to the cause of glaciation, that four or five glacial epochs of progressively decreasing intensity and duration might constitute the whole of the glacial period; but it is eminently probable that the first epoch was not the severest one, and that the record of earlier epochs of small intensity might be destroyed by the work of later and more intense glacial epochs. We therefore