

Having thus penetrated the southern side of the Kara-korum System they had the gigantic Baltoro Glacier with some of the highest peaks on the earth to the east.

May 16th they left Askoley to continue into the ice deserts of the Kara-korum. A little higher up they passed the Biafo Glacier, coming from N. W. into the Braldoh valley. From this point onwards the valley is known as the Biaho. The river flows through a narrow gap between the valley wall and the steep front of the snout of the Biafo Glacier.

During the last 50 years the snout of the Biafo Glacier has undergone constant oscillations. In 1861, according to GODWIN-AUSTEN, it filled the valley and covered the river entirely. In 1892 CONWAY found that it had retreated a quarter of a mile from the wall of the valley, and continued, during August, to retreat another quarter of a mile, leaving a wide moraine. In 1899 the WORKMANS found that the snout barely reached the outlet into the Braldoh valley at all. In 1902 GUILLARMOD says that the snout again had advanced to the right bank of the Braldoh River. Then it retreated to the same position as in 1899, as the Workmans found on their visit in 1908. The DUKE'S expedition visited the region at a new period of advance. From the observations made by travellers on different glaciers of the Kara-korum »every glacier appears to obey laws of its own». Some »show all the signs of rapid shrinkage», others are stationary for long periods, and others are in a period of actual increase, often very rapid. In 1905 The Geological Office of India began a series of observations in Western Himalaya for solving the problem and explaining the phenomenon which obviously depends upon climatic changes.

According to Dr. ARTHUR NEVE, the glaciers in these regions are, on the whole, in a period of growth. The material seems as yet to be insufficient for certain conclusions, and observation for a long period is necessary.

Passing Korophon, they camped at Punmah. The Punmah valley comes from a vast glacier system across which there is a pass, the New Mustagh, some 19,000 feet high, not in use. The old Mustagh Pass is also closed. The New Mustagh Pass has never been crossed by Europeans. In olden times the mountains could be crossed by several other passes between Baltistan and Hunza-Nagar, Yarkand, Eastern Turkestan. Now they are all ice-covered and impracticable. The Kara-korum Pass is the only one in use.

The expedition again camped at the snout of the Baltoro Glacier, at a place called Paiju. According to Filippi, the snout had retreated about 300 yards between 1903 and 1909. The Baltoro Glacier, 36 miles in length, has no frontal moraine. As a rule the absence of frontal moraines is characteristic in all the great Kara-korum glaciers, Siachen, Biafo, Hispar, Baltoro, Chogo Lungma. Filippi explains this phenomenon »by the immobility of the terminal portion of these glaciers, which has turned into dead or stagnant ice, and may be considered, geologically speaking, in every respect as rock».