

GERMAN GLACIOLOGICAL AND GEOLOGICAL EXPEDITIONS TO THE BATURA MUSTAGH AND RAKAPOSHI RANGE

By RICHARD FINSTERWALDER

(Institut für Photogrammetrie, Topographie, und Allgemeine Kartographie, Technische Hochschule, Munich)

IN 1954 a German expedition under the scientific leadership of W. Pillewizer worked in the Batura Mustagh (Hunza-Karakoram) as far as the Rakaposhi Range. Extremely steep mountains are characteristic of this region, also very narrow valleys and gorges. The numerous glaciers have steep icefalls and their tongues are covered with debris except that of the Batura Glacier in the north. The Batura is the largest glacier; it is about 50 km. long. A photogrammetric survey of the whole area of about 3,000 km.² was carried out. On several glacier tongues, especially on the Batura, ice velocities and ablation were also measured. However, owing to the great difficulties caused by the steep and high mountains the survey remained uncompleted.

At the end of the expedition a disaster occurred. The geodesist K. Heckler fell to his death into the Hunza Gorge.

The preliminary results of the expedition were published in *Erdkunde*¹ by the geographer, K. Paffen, the glaciologist and photogrammetrist, W. Pillewizer, and the geologist, H. J. Schneider.

In 1959 another expedition, under the leadership of Schneider of Munich, worked in the same region in order to complete the work of 1954. The northern side of the Batura Mustagh could not be visited as an English mountaineering expedition, under the leadership of Dr. Warburton, was at work there. The surveyor of the German 1959 expedition was H. Baumert of the photogrammetric institute at Munich. He completed the photogrammetric surveys of all the valleys, mountains and glaciers between the Batura Mustagh and the Rakaposhi Range, and again carried out ice velocity measurements in order to determine the mass balance of the glaciers.

Two remarkable events with tragic consequences must be reported. The first was the fact that the monsoon crossed the Himalaya on 2-5 July and reached the Batura Mustagh. This happens about once in 50 years according to the meteorological authorities in Pakistan. As a result there was very heavy precipitation in the valleys for three days and nights. Normally these valleys are very dry and practically without rain for years at a time. At high levels furious snowstorms raged. The Warburton expedition was then probably working on the highest peak of the Batura Mustagh. It must be assumed that Dr. Warburton with his four companions, two Germans among them, was buried by snow and avalanches.* The German rescue party of the Schneider expedition could not find any sign of the mountaineers nor even of the four high camps. They had been installed by them on the same glacier which the German mountaineers of the Pillewizer expedition had tried to climb in 1954.

The second tragic event took place on 21 August with the sudden burst of a lake dammed

* The Royal Geographical Society has supplemented this information with the following note:

Dr. Warburton was leader of the Batura Mustagh Expedition whose main objects were a mountaineering reconnaissance of the Batura Mustagh and glaciological and geological work on the Batura Glacier. Keith Warburton, with four of the party, two Englishmen and two Germans, left Camp III on 23 June 1959 with 28 days' rations to climb the Batura Mustagh. By 27 July they had not returned and the glaciologist, J. I. Edwards, the only other European member of the party, who had stayed to do glaciological work on the glacier, reported the party as having been lost. Conditions on the mountain were very bad, search parties were sent out, but no trace of the five men or their camp was found. *Ed.*

by the tongue of one of the big glaciers in the very remote Shimsal Valley, which is an eastern tributary of the Hunza River. It is assumed that it was the Malangutti or the Yazgil Glacier, first found by the Vissers in 1925² and surveyed by K. Mason some years later. The flood caused by the burst had a depth of about 30 m. at the junction of the Shimsal with the Hunza, about 40 km. from the assumed position of the lake. The flood destroyed the village of Pasu near this junction, and further on the bridges over the Hunza River were swept away, causing heavy losses. The bursting of the lake had been expected three months before. Perhaps the bursting of the lake was caused by the extraordinary precipitation which had occurred seven weeks earlier.

The glaciers of Batura Mustagh are very important for agriculture in the valleys and alps many kilometres away from the glacier snouts. Irrigation channels lead run-off water to the very dry valley bottoms. These channels begin as near as possible to the end of the glaciers. Fluctuations of the glaciers have therefore considerable influence on cultivation, but the most critical influence is caused by the damming up of lakes which occurs from time to time and was reported as recently as 1925 by Visser.

REFERENCES

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2. Visser, C., and Visser, J. *Wissenschaftliche Ergebnisse der Niederländischen Expeditionen in den Karakorum und die angrenzenden Gebiete in den Jahren 1922, 1925, 1929/30 und 1935*. Bd. 2. Leiden, E. J. Brill, 1938. 216 p.

See also Edwards, J. I. The Batura Mustagh Expedition, 1959. *Alpine Journal*, Vol. 65, No. 300, 1960, p. 43-52.