

left bank.» The historical evidences supplied by writers of the last century and sifted by Longstaff are: ELPHINSTONE, VIGNE, CUNNINGHAM, THOMSON, HENRY STRACHEY, SHAW, DREW, GORDON and BELLEW. Strachey heard of a big flood in about 1780, caused by the breaking of the glacier snout by the pressure of the glacier lake above. »In 1812, and probably earlier, the Kumdan route was open and remained so till about 1824, some time after which date it was closed by glacier advance.» In 1835, 1839 and 1842 floods again occurred. »The region appears to have been surveyed by E. C. RYALL in 1862; the Aktash glacier is marked one mile, and the Kichik Kumdan half a mile, back from the river.» Longstaff thinks that the evidence we possess »points to advance of the two larger Kumdan glaciers being by no means synchronous with that of the two smaller Aktash glaciers, and hence we can form but a rough idea of their periodicity of advance and retreat. Flood-periods occurred in 1780, 1833—1842, and 1903 — that is, at intervals of between fifty and sixty years. The Kumdan route was probably open before 1800. It was closed from about 1825 until about 1860. It was again usually open between 1865 and 1902.» He finds the »open» periods to last for about 35 years, and the only complete »closed» period that we know of also lasted about 35 years, but he thinks that this agreement with BRÜCKNER's periods is largely a matter of accident.

Captain OLIVER told him that CHURCH and PHELPS, about 1894, were probably the last European caravan to traverse this route.¹ In about 1899 the building of a road up the valley was arrested by the advance of the Kichik Kumdan. »Until the winter of 1902—3 traders continued to make use of the Kumdan route during the cold weather, passing round the snouts of the two Kumdan glaciers by wading or fording when necessary. In the winter of 1902—3 the Kichik Kumdan advanced rapidly, and completely blocked the route.»

We shall return to the latest years presently. First I will mention those travellers who have passed this way up, adding a few names to the list quoted above.

In 1533 the Kumdan road seems to have been closed, for SA'ID KHAN GHAZI died on the Murgo road during his journey that year.

In 1812 MIR IZZET ULLAH had his camp on the right side of the Shayok, where the glaciers are situated, and could pass without touching them at all. They seem to have been unusually far back that year. When Mir Izzet Ullah made his second journey, in 1821, the road was probably also open.

From POTANIN's communication about *The Frontier Trade in 1824—28* VENIUKOFF mentions a road *viâ* Yapchan, Kumdan and Sasser. Thus, if the very years 1824—28 are meant in the report, the statement should prove that the road was open, and the glaciers not blocking it up.²

¹ I passed the road in 1902, on April 21st. I have discussed this question in a paper »The Kumdan glaciers in 1902», *Geographical Journal*, August 1910, p. 184 et seq.

² The original works from which this and the following quotations are taken, will be referred to in the chapters on exploration in the Kara-korum, Vol. IV.