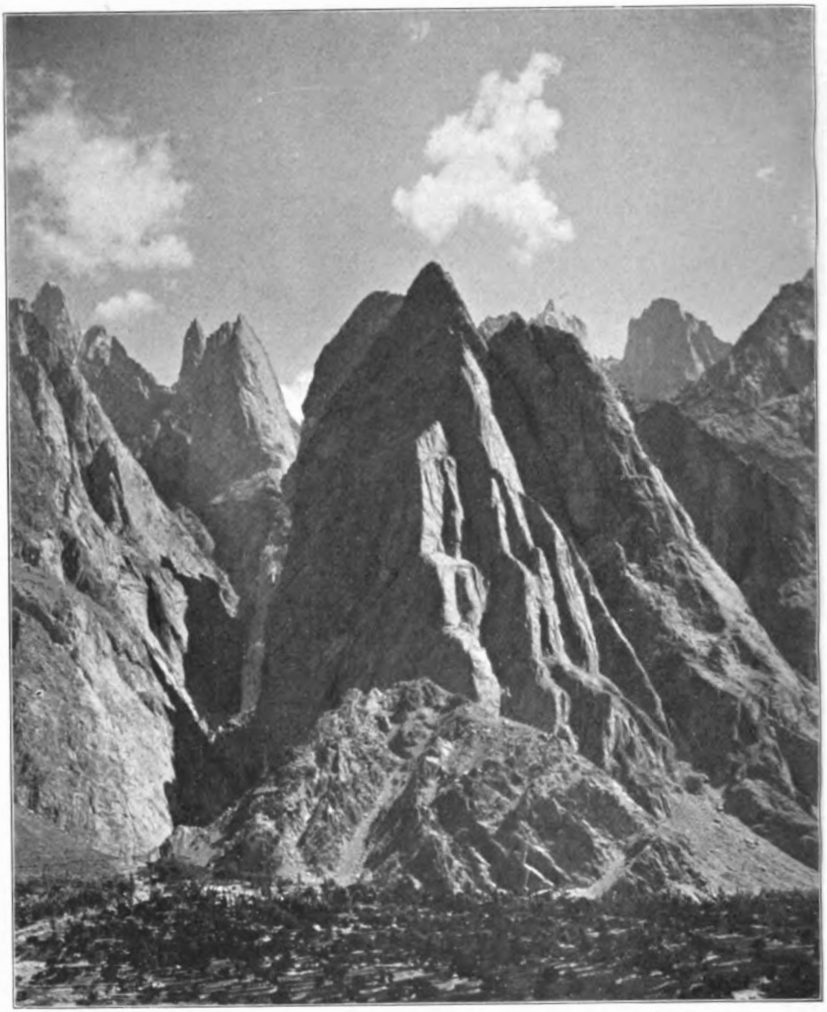
T. G. Longstaff, photo. *Swan Electric Engraving Co., Ltd.*

TERAM KANGRI FROM THE RGYONG LA.



T. G. Longstaff, photo. *Swan Electric Engraving Co., Ltd.*

SALTORO SPIRES.

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The Saltoro Pass.

By T. G. LONGSTAFF.

THOUGH the old ferocious antagonism between centrist and eccentric climbers is almost a thing of the past in the Alps, yet the mountaineer whose opportunities lead him further afield is certain, sooner or later, to analyse the pleasures of his craft along the same old lines. To one the conquest of some great virgin peak appeals. To another the seeing of new mountains and valleys and the finding of new routes across the ranges suffices. But in High Asia the former is so absurdly fatiguing, that the confirmed Himalayan traveller is very sure, sooner or later, to surrender himself entirely to the charms of the latter. There is another not unimportant consideration. The capture of a single big peak requires special supplies and outfit and either Alpine guides or other well-trained companions, in other words, a large party and a long purse. Now the Alpine-trained mountaineer who confines himself to wandering, more impressively known nowadays as exploration, is capable of going anywhere in reason in the Himalaya accompanied only by natives, if their confidence is gained at the outset and they are properly treated.

Such a plan of campaign gives greater freedom of movement, adds immensely to the pleasure of the trip by removing the

moral obligation to accomplish great deeds, and considerably relieves the financial situation.

In my opinion the Karakoram Range offers but a very unpromising field for the mountaineer. Pioneer Peak is still the highest actual summit which has been gained, and I know of no giant whose accessibility has been reported on so favourably as has that of Kamet or Gurla Mandhata.

My tale then is that of a mountaineer trying to turn explorer, and there are no climbing achievements to chronicle. But the eastern section of the Karakoram is still so little known that a few notes on it cannot fail to be of interest to readers of the ALPINE JOURNAL.

East of the Baltoro basin the main waterparting of the Karakoram has never been attained, much less crossed, by any European, until the Karakoram Pass itself is reached. In this region there is still an area of some three or four thousand square miles which has never been entered by any European and the mapping of which is still quite conjectural. Native report and tradition, however, indicate the former existence of a passage in this direction from Baltistan to Yarkand known as the Saltoro Pass, and it was to find this that I set myself in the summer of 1909. So little known was the country to the north that in 1907 Burrard wrote ' there is no more likely spot than this for great undiscovered peaks to be existing.'

Vigne attempting to find the Saltoro Pass from the South in 1835: Henry Strachey who penetrated a few miles up the Siachen glacier in 1848: Hayward who discovered the source of the Yarkand river in 1868: and Younghusband seeking the Saltoro Pass from the north in 1889, are the travellers who have pushed furthest into this almost Arctic wilderness of mountains.

Following native report and Vigne's deductions and with the help of the Indian Survey map, Arthur Neve of Srinagar, Morris Slingsby of the 56th Rifles F.F., and I, found our way over the Saltoro Pass (18,200 ft.) on June 15, 1909, thereby crossing what was supposed to be the main divide of the eastern Karakoram. On the further side, after four days of continuous glacier travel, we found ourselves on the largest glacier any of us had ever seen. The plane-table gave it a width of three miles, and 23 miles of it was roughly sketched in, neither the upper nor the lower limit of it being in view.

Working from Nubra in the following September, mainly owing to the assistance afforded me by the presence of the

T. G. Longstaff, photo. *Swan Electric Engraving Co., Ltd.*

THE SALTORO PASS.

T. G. Longstaff, photo. *Swan Electric Engraving Co., Ltd.*

LOOKING DOWN THE UPPER SIACHEN GLACIER.

Joint Commissioner, Captain D. G. Oliver, I was able to prove that this huge ice-field was merely the upper portion of the Siachen glacier. In short this glacier instead of having a length of twenty-one miles must now be credited with about forty-five miles and take the first place amongst known glaciers of Asia.

This huge ice-stream is fed on the north from a chain of very lofty peaks which constitute the true water-parting between India and Central Asia. Geological indications point to their direct continuity with the Gusherbrum chain, which has been shown by the Duke of the Abruzzi's expedition to consist largely of various forms of limestone. But it was not until July 2, a fortnight after recrossing the Saltoro Pass, when with Morris Slingsby I stood on the crest of Rgyong La (18,700 ft.) more than thirty miles to the south, that I realised the great elevation of this new group of peaks. My original observations gave to the highest peak an altitude in excess of that of Everest. But if an error of two miles in the *position* assigned to the peak be granted, and such an error is, for various reasons extremely probable, the observed altitude will be 27,610 feet. This value has therefore been adopted for the present. Full details on this subject will be found in the 'Geographical Journal' for June 1910 (Vol. 35, p. 632).

Neve had to turn homewards on June 27. Slingsby and I continued our exploration of the several glacier valleys at the head of the Saltoro river. The problem of escaping from this *cul-de-sac* into Nubra was solved by Slingsby, and on July 12 we crossed the Saltoro range from north to south by an entirely new pass, the Chulung La (18,300 feet), having great trouble with crevasses on the south side, and only clearing the glacier at 8.45 p.m. This was technically a more difficult affair than the Saltoro Pass, and Slingsby's success in bringing over thirty coolies and all our baggage was a remarkable achievement.

However, our visit to Nubra early in August was a great disappointment as regards weather, which we found to be just as unsettled as in the rest of the Karakoram at this season. Chunglung Peak (25,170 feet) appeared to be accessible, and is easy of approach once the Nubra villages are reached—about six weeks from London. The local people are Buddhists and make excellent porters.

The last six weeks of my trip were spent with Captain D. G. Oliver and can easily be followed on the map. Though the country traversed was extremely interesting to me, the interest

is scarcely 'Alpine.' Nevertheless I look upon the exploration of the great Remo glaciers as the most interesting piece of work in all High Asia which at the present time is politically accessible to the mountain explorer.

Note.

Through the kindness of Mr. Sella and Dr. de Filippi I have recently had the opportunity of examining a photograph taken by the former on June 22, 1909, from about 20,100 ft. near the Sella Pass shown on the Duke of the Abruzzi's map. The distant ranges to the South East are dominated, as noted by Dr. de Filippi in his paper read before the R.G.S. on November 21 last, by a very lofty snow peak. If this be compared with my photographs of Teram Kangri taken from the South, a marked resemblance will be observed in the form and relationship of the peaks shown in both, and I think it can be shown fairly conclusively that the two mountains are identical. These photographs, including that kindly presented by Mr. Sella, are in the Map Room collection of the R.G.S. Though Mr. Sella was, of course, quite ignorant of the fact that, by a curious coincidence, this peak had been observed from the South a few days earlier, he obviously suspected its importance, for he recorded an angle of 121° E. by prismatic compass. The magnetic variation was found by Marchese Negrotto to be 5° E., and the true bearing is therefore 116°. If my location of Teram Kangri be accepted as correct, the true bearing should have been 117°—a remarkably close agreement. Mr. Sella's point of observation is at an angle of 90° with my own. The true horizontal mid-line in the print has been deduced from the known positions and altitudes of Gusherbrum II. and III. and of Hidden Peak, all of which appear in the photograph. The focal length of the camera is twelve inches, and again assuming my location of Teram Kangri to be correct and its distance to be therefore 34½ miles as nearly as can be measured, the highest point in the photograph works out at just over 27,000 feet. This is a good approximation, when the numerous possible sources of error involved in such a method are taken into account, with the 27,610 feet with which I credited the peak, and affords a very welcome piece of additional evidence. But it must be quite obvious that my results are merely tentative and are in sad need of confirmation by some properly qualified surveyors.

EXPLORATIONS
in the
EASTERN KARAKORAM
by
T. G. LONGSTAFF, M.A., M.D.
1909.

Scale 1:500,000 or 1 Inch = 7·89 Stat. Miles

Reference

—	*Routes traversed by Dr. T. G. Longstaff, and in parts by Lt. A. M. Slingsby, Dr. A. Neve, and Capt. D. G. Oliver*
- - - -	*Route traversed by Sir F. E. Younghusband K.C.I.E. in 1889*
-·-·-·	*" " " Dr. A. Neve*
•	*Camps*
E.G.	*Encamping grounds*
21360	*Heights in feet from Survey of India*
25840	*" " " determined by Dr. T. G. Longstaff from clinometer, Watkin aneroid, and hypsometrical observations.*

NOTE.

The map is based on the fixed points of the Survey of India. Much of the southern and eastern portions of it must be regarded merely as a route-sketch based directly upon the G.T.S. atlas sheets, from which areas unvisited by me can be filled in. The Bilafond-Chumik and Rgyari basins are from a plane-table sketch, on the scale of 2 miles to 1 inch.

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