

PIONEER EXPLORATION IN HUNZA AND CHITRAL

BRIGADIER-GENERAL SIR GEORGE COCKERILL

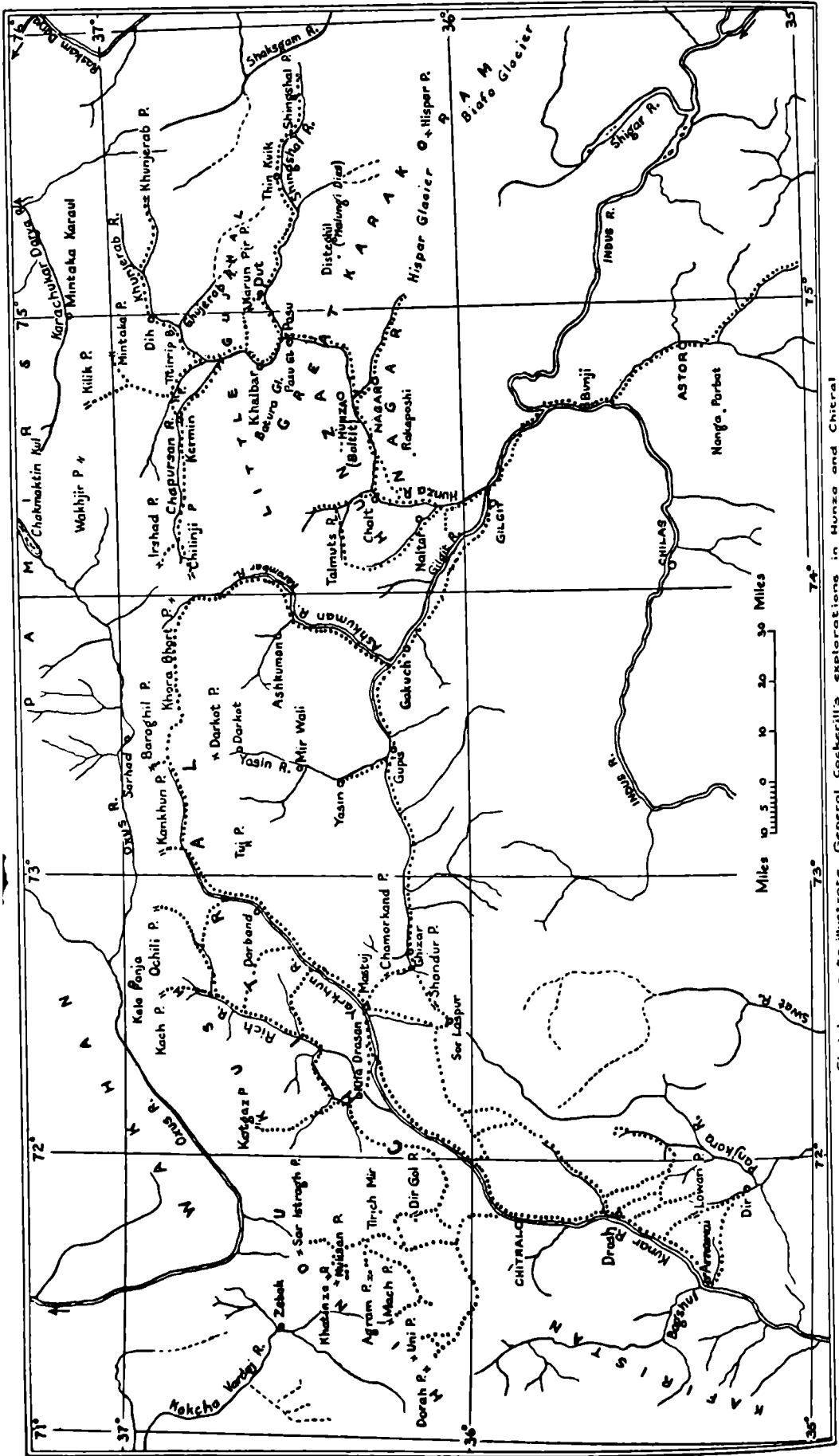
The account of Sir George Cockerill's explorations which follows has been written at my special request, since no book available to the public was written at the time.—Ed.

I. Introduction

NEARLY fifty years ago I was entrusted by the Government of India with a task which now, on looking back, appears formidable. It was to explore the western Karakoram and eastern Hindu Kush from the extreme confines of Hunza and Nagar on the east to the eastern borders of Kafiristan on the west; to penetrate the remotest fastnesses of what has been described as one of the 'most interesting but also one of the most difficult fields of exploration in the world'; to ascend every practicable pass over the main range that was known or reputed to exist; to cross the principal lateral passes leading from one valley to another; and, finally, if possible, to bring back a map of this high mountain barrier, this wilderness of giant peaks, stupendous gorges, immense glaciers, and unfordable rivers, so that those who should come after me might have some knowledge of what would confront them.

The vast extent of this region would have appalled me had I had time to consider it. It runs, in longitude, from about $71^{\circ} 15'$ to $75^{\circ} 45'$ E., and its northern boundary, sweeping north-east in a great arc from a point near the Dorah pass, lies in general between the 36th and 37th parallels of latitude. It is thus nearly 300 miles in length from west to east and some 60 or 70 miles in depth from north to south. It comprises the whole of Chitral, Yasin, Hunza, and Nagar, and its area cannot be less than 16,000 square miles, or about the same size as Switzerland.

The greater part of this region was unmapped. The only reliable topographical information then existing about Hirbar or Little Guhjal, as the northern part of Hunza is called, was derived from Colonel Lockhart's mission of 1885-6 which ran a route-survey up the main valley from Gilgit northwards to the Kilik pass. The snows were then melting, the river rising, and fords growing daily deeper and more dangerous. For these and other reasons the great lateral valleys that drain into the Hunza river north of the stupendous gorge which it has cut through the Karakoram range remained unexplored. These valleys are each more extensive than the upper main valley, and run in pairs nearly parallel with the main range, the Batura on the right bank and the Shingshal on the left forming one great trough and the Chapursan and Khunjerab valleys



Sketch-map to illustrate General Cockerill's explorations in Hunza and Chitral

forming another some 15 miles to the north. The Batura is filled with a huge glacier that strikes the Hunza river just north of Pasu. Its interest is mainly for the mountaineer since it leads nowhere. The other three are inhabited, albeit sparsely, and, moreover, afford practicable routes over the main Central Asian watershed by the Shingshal, Irshad, and Khunjerab passes respectively. Colonel Grombtchevski, when he entered the Hunza valley in 1888 from the north, had been compelled by the swollen state of the river in the gorges above Khudabad to take the summer route by the Kermin or Rich pass, and had, therefore, traversed a few miles of the Chapursan valley. Captain (now Sir Francis) Younghusband had reached the Shingshal and Khunjerab passes from the north, but had deliberately turned back in order to explore and enter Hunza by the Mintaka pass, the very existence of which had been denied to Colonel Lockhart's mission.

With these exceptions most of this vast area as far east as the Shingshal pass and as far west as the Irshad was unknown and unmapped. No European had ever set foot in the side valleys, and I could scarcely believe my good fortune in being the first to penetrate them. Farther west the Karumbar valley was equally unknown. Biddulph, it is true, had been deputed to visit this valley in 1876, but 14 miles above Imit was turned back by an impassable wall of ice protruding from a side valley. Beyond this point he could not go. The Gilgit-Chitral Mission of 1885-6 did not pass this way, but, in 1891, Stewart crossed the Karumbar pass. No Englishman, however, had traversed the entire route from Gakuch to the Baroghil pass. Still farther west the Hindu Kush was quite unmapped. Captain Younghusband had visited the Kandkhun pass, but from that point to the Dorah, a distance of over 120 miles, the actual crest of the Hindu Kush had never been seen by any European and none of the great valleys had been explored or mapped. Rapid route surveys had indeed been made by native Indian surveyors, but the accuracy of their work was questionable. Farther south, wide areas of mountain and valley had never even been visited and were marked on the map as 'unsurveyed'.

It remains to this day a matter of regret to me that I was not better equipped for the difficult and responsible role which I was called upon to play. I had but two qualifications for the task before me: I had been employed on military reconnaissances in India, which had brought me to Lord Roberts's personal notice and was probably the cause of my being selected for this particular duty, and I had enjoyed the hospitality, in their own homes, of cultured Afghan refugees and so spoke Urdu, Persian, and Pushtu fluently. I had, moreover, a good knowledge of Hindi and Punjabi and soon

acquired a useful acquaintance with Burushaski and Khowar. One day, standing on the watershed between Chitral and Swat with my Hindustani servant and a Chitrali, we were joined by a Persian-speaking native of Madaglasht in Shishi Kuh and soon afterwards by a Pathan from Swat, who was gathering firewood. The latter had a sense of humour, and when I asked him why he was laughing, he replied, 'Is it not a matter for laughter when we four, who are near neighbours, cannot understand a word the other says and you, who come from thousands of miles away, interpret for all?'

II. Hunza and Nagar.

I left for Gilgit in August 1892, and on arrival there went on at once to Hunza, where I stayed for a few weeks helping to raise and train Hunza levies. Only a few months earlier the people of Hunza and Nagar had been in arms against British Forces under Colonel Durand. From remote times they had been notorious for their murderous raids upon rich caravans moving between India and Turkistan and had acquired a sinister reputation as merciless brigands. As the rivers are in flood in summer and merchants are not inclined to face the intense cold of winter, the raids must usually have been carried out in the late autumn. This, too, was obviously the best season for the work I had to do. Accordingly I left my camp at Aliabad in Hunza on the 2nd November with three men of the Kashmir Regiment, to which I was attached as Inspecting Officer, a Hindustani cook, a Hunza man named Abdulla who spoke Hindustani, and eight or ten other Hunza men as porters. I travelled very light, and being alone could dispense with the huge caravans which later travellers have found necessary.

My instructions were to proceed up the Hunza river to Pasu and thence by the gorge of the Shingshal river to the point near Shuijerab below the Shingshal pass where Captain Younghusband had turned back. I was then to return to the main Hunza valley and if time and weather permitted ascend the Khunjerab to the pass of that name so as to link up with Captain Younghusband's work at yet another point, and thereafter, if possible, explore the Chapursan valley and visit the Irshad and Chillinji passes at its head.

The route to Pasu is now much travelled and needs no description. We left Pasu on the 5th November 1892 and followed the bed of the Hunza river for 2 miles, fording several of its branches to the mouth of the deep and narrow gorge through which the Shingshal river emerges. Turning east, we entered the gorge, and, after another 4 miles, reached a point beyond which it is impossible to take a horse or even, as the son of the Mukaddam of Shingshal remarked to me, a goat. Till then we had crossed and

recrossed the river more than a dozen times, making use, whenever possible, of the narrow strips of sand at the foot of the cliffs of pale grey limestone that rise precipitously to a vast height on either side. This would have been impossible in summer, since the river is then a seething glacial torrent, many feet deep and quite unfordable. The character of the river-bed then suddenly changes. No margins of sand are to be seen, but a chaos of huge boulders takes their place. The gorge narrows with every step; the gloom increases, and one stumbles through a trackless and desolate waste, half-stunned by the deafening roar of churning waters. Presently we came to a standstill. The river was impassable; on the left bank a buttress of rock rose sheer for hundreds of feet; the only practicable path lay up and along the cliffs on the right bank. These were worn smooth by the action of the summer floods but, at a level some 15 feet higher than the rocks on which we stood, a narrow ledge could be seen leading to other ledges above. Between two shoulders of rock there was a narrow cleft up which a stone, with rope attached, was thrown until it caught in a tree-branch wedged in the face of the rock. Clambering up the rope the men gained the first ledge above and, pushed from below and dragged from above, the loads were hauled up the face of the cliff. I followed in much the same way. I cannot do better here than to quote from a lecture which, at the request of Sir Francis Younghusband, then President of the Royal Geographical Society, I gave at a meeting of the Society on the 6th February 1922. The lecture will be found printed in the Society's *Journal* of August 1922 (vol. lx, no. 2) under the title 'Byways in Hunza and Nagar'.

The next 50 yards we followed an ever-narrowing ledge of rock over which the cliff bent closer and closer, until, forced to our knees and then compelled to wriggle, like serpents, on our bellies, we finally dropped feet foremost into a little rocky cup formed by a summer waterfall, and from thence descended to further ledges from which at last we reached the river-bed again. In no other valley of the Hindu Kush is anything wilder or more desolate to be found. Not a gleam of sunshine reaches the bottom of the gorge; the river-bed is choked with boulders of enormous size, and two, leaning one against the other, formed a cave (*Zart-i-boi*) which could shelter forty or fifty men. Here we spent the night.

For another eight miles the character of the gorge remains unchanged. Occasionally side streams (*Kushturt-i-Dur* and *Abdigar-i-Dur*) flow in through clefts only two or three yards wide, riven sheer through the cliffs of 1,000 feet. Then the valley opens a little, and here, at a place called *Dut*, which means a rope and basket bridge, the summer road into the valley comes in from the north. . . . Beyond *Dut* we had to climb a spur 2,700 feet above us, and night fell before we reached the top of the ridge. We made a

terrifying descent down the other side in the dark. My bottle of whisky had been broken the previous day, and here, I remember, we lost the whole of our small store of flour as well. One of the coolies dropped the bag, and we heard it bounding from rock to rock as it fell into the dark void below. Without whisky and without bread we camped in the river-bed opposite a shrine. No native would cross the river, since it meant death within the year. Even the cliff was said to be sacred, and flood water powerless against it. Just as I was being told of this, a great bit of the sacred cliff came tumbling down into the river, and was carried away by the impious stream!

A few miles above our camp the track crosses the river near a hamlet called Malungutti, and passes opposite the snout of a great glacier. This came down to the very edge of the river and rose straight from the water, an ice-wall of wonderful colouring, below of deepest green but graduating to an ethereal tone of emerald above and surmounted by fantastic spires and pinnacles of every shape and size. If one asks the name of the glacier, the answer received is Malungutti Yaz, but 'Yaz' merely means ice, and indeed is probably the same word. At the head of the glacier towers a great double-headed mountain which dominates the whole Shingshal valley. It is a matter for surprise that the surveyors who fixed the Hunza peaks from afar should not have discovered this magnificent peak. Its position was fixed and its height measured many years later (1913) by officers of the Indo-Russian Survey Link. Its height proved to be 25,868 feet. Its very size may have been the cause of its escaping notice, since probably for many weeks it is veiled in cloud. My map-work, not being tied by triangulation to the Indian system, but being connected therewith only by means of plane-tabling and rays to very distant fixed peaks could not, of course, claim to be regarded as anything but a rough reconnaissance survey. It may, however, prove an incentive to others not to despise even the most primitive methods of map-making if I mention here that the latitude of this peak as found by me, when corrected for the error in the previously accepted positions of the Survey of India's fixed peaks, proved identical with that subsequently obtained by the Indo-Russian Survey Link, while the longitude differed by less than eight seconds.

In my opinion this great mountain, important as it is, has no name. This subject received much attention in a recent number of the *Himalayan Journal*,¹ but the views expressed were too conjectural to be convincing. I was told its name was Malungutti Yaz which I spelt incorrectly 'Malungi Dias', the last syllable in each case being pronounced as the 'auze' in 'gauze'. The words simply mean the 'ice of Malungutti'. Higher up the glacier is a sheep-fold, called by

¹ *Himalayan Journal*, vol. x, 1938, pp. 121-3.

the Vissers Dastoghil and by Colonel Schomberg Disteghil. *It stands on a little plateau near a solitary rose tree.* In Wakhi *dasht* means such an open space, e.g. *Dasht-i-Baroghil* means 'the Baroghil plateau'. I have chosen this example because the suffix *oghil* occurs in it. That word, I believe, means, in Turki, a 'sheep-fold', and it is possible that Dastoghil means a 'sheep-fold' of a kind. In my opinion, however, the name should be written *dasht-i-gul*, which means 'the rose-tree plateau'. The coincidence seems to me to be too remarkable to be accidental. There the matter must be left until some one qualified by a knowledge of Wakhi goes into the question on the spot. The mountain is such a striking feature in the Shingshal valley by reason of its height and position that it deserves a name worthy of it. When I first saw it, I described it as 'a double-headed mountain extraordinarily bold and massive,' and wrote that 'for grandeur of form and prominence of position there is no feature in the whole Shingshal valley more striking than this magnificent mountain'. When Mrs. Visser-Hooft saw it in 1925 she described it in her brilliant book *Among the Kara-korum Glaciers* as a 'vision of ethereal beauty . . . the monarch of mountains . . . a radiant vision greeted in amazed silence'. She gives two illustrations of it, one, taken from the right bank of the Malungutti glacier, facing p. 158, and the other, facing p. 90, a remarkable photograph of the whole massif from a point on the Shingshal-Ghujerab watershed. Colonel Schomberg, who next saw the mountain, calls it 'a magnificent peak' and in his book *Unknown Karakoram* prints an exceptionally good illustration of it taken from the centre of the Malungutti glacier. I felt convinced as soon as I began to write up my notes and complete my map of Hunza and Nagar that this peak must drain south-west, probably by the Lak glacier, into the Hispar valley, and thus lie on the main Karakoram range. It might even be, I thought, the highest known peak west of K². I stated my belief when I lectured to the Royal Geographical Society in 1922, and so eventually it proved. Its discovery stands out in my memory as the most remarkable event in a journey which necessarily brought fresh discoveries every day.

After resting a day in Shingshal, I left for the point near the Shingshal pass where Captain Younghusband had turned back. The route lies up the Shingshal valley and the path was easy. A short distance above the village we passed the mouth of the Zardi-garben stream, up which the summer route to the Shingshal pass lies and a steep and difficult track leads into the Ghujerab. I had no time to explore these. My road left the main Shingshal valley about 4 miles above Shingshal, where a stream called Tang flows in from the north-east through a gorge so narrow as to be scarcely visible, and so hemmed in by precipices as to be impassable. The

path turns steeply up its left bank for several hundred feet. As it ascends, an open plain is reached from which a magnificent view is obtained to the south-east up the Shingshal valley, across the Yazghil glacier, over the snout of the Khurdopin glacier, and beyond as far as the main Karakoram range. Although I had no occasion to explore the upper valley, this panorama of uncharted mountains and glaciers made such a beautiful picture that, in spite of nearly frozen fingers, I felt impelled to make a sketch of it. This will be found facing p. 109 of the *Geographical Journal* for August 1922. The glacier in the foreground is, however, the Yazghil glacier and not the Verijerab, which lies hidden in the valley seen branching to the south-east.

Crossing the plain and still ascending the path grows narrower and more difficult at every step. Now it strikes across slipping shingle slopes which, a few feet below, end in a precipice; here and there it leads over a single gnarled tree-branch bridging a seamless cliff, now it ascends and now descends a fragile wooden staircase, and finally, after reaching a height of 12,600 feet, plunges 1,500 feet over steep rock-faces to the very edge of the Tang stream. The gorge here is but 15 yards wide, a mere sunless rift in the black rock. Scrambling over and under great boulders we forded the torrent fourteen times in the next mile, and as often again a sheath of ice across two sunken rocks presented the alternative of a slippery bridge.

Suddenly the gorge widens to 60 paces. On either side rise embattled walls of gravel. A cloud of steam proclaims the presence of a hot spring—Thin Kuik—and a few hundred yards beyond is Phurzini-gasht, where I spent a restless night, too cold to sleep. The next day, with two men only, I set off for the spot where Captain Younghusband turned back. The track was not easy; now it traversed a rotten cliff and now crossed a deep chasm by a fragile bridge. Presently it rejoined the summer route from Shingshal, and climbing 1,000 feet emerged upon a broad shelving plain over which we trudged for 2 or 3 miles till we came to a deep ravine at the edge of which was the cairn that marked the westerly point reached by Captain Younghusband. Just beyond was Shuijerab, where he camped. My work in this direction was done. My Shingshalis built another cairn to show that no part of the road remained untrodden by an Englishman.

I returned at once to Shingshal, and hastened to regain the main Hunza valley. This time I left the Shingshal river at Dut and climbed steeply 3,000 feet to a bare waterless spot called Chukurt, where we camped. The next day, facing a cutting blast, we climbed another 3,000 feet or more to the Karun Pir pass, which was 3 feet

deep in soft snow. This continued for 3 or 4 miles to Pariar, a tiny hamlet amid fir-trees with a quiet stream flowing through grassy meadows. Thence we descended to the little village of Abgarch, and on, past a narrow gorge, to the confluence of the Hunza river at Murkhun. Though night had fallen we pushed on at once to Gircha. From Shingshal it had been a race against time which we were to lose after all, for though I essayed to reach the Khunjerab pass, I could not proceed beyond the Titirrip (Trip) Sar owing to the lateness of the season.

There had been a slight fall of snow at Gircha which warned us to hurry. Our way led up the left bank of the Hunza river, passed the mouth of the Chapursan, crossed a spur, called by Grombtchevski 'Luwarchivech', traversed a treeless plateau at the confluence of the Kilik and Khunjerab rivers, and then descended, near a copious spring, to the stony bed of the Khunjerab at a spot called Phurz-phurz where birch-trees here fringe its bank. Still pushing on I reached an open space called 'Shackatar' where I camped on a narrow terrace above the river. During the night, times without number, we were awakened by the deafening din, like peals of thunder, of rock avalanches falling about us. The next day I marched to Wadakhun. We took about 8 hours to cover $7\frac{1}{2}$ miles, fording and refording the river which was nearly 4 feet deep and running very strongly. The track was mainly over slipping shingle or slippery boulders. About half-way, we crossed the Gordur-i-gerab which flows in a deep, rocky gorge. The word *gerab* should possibly be spelt *jhar-ab*. It is, I believe, compounded of two words, *ab* meaning 'water' and *jhar* meaning the same in an earlier language (cf. our words 'Avon River'). *Dur* is the ordinary word for a 'ravine' or 'gorge' and *gor* (or *ghor*) means a 'grave'. It will thus be seen that Gordur-i-gerab, like practically all the names in this part of the world, is a descriptive term, meaning 'the valley of the grave-like gorge'. It is a common name for any stream that flows in a deep defile.

At Wadakhun the hills to the north recede in the form of a crest, half encircling an elevated alluvial plain through which the river has threshed its way to a depth of more than a thousand feet. The plain is deeply scored by countless runnels which converge nearer the river into two broad ravines whose beds are a tangle of birch and briar and in summer must be ablaze with roses. Here, at a height of about 11,000 feet, we camped near some rude, roofless stone shelters. That night heavy snow fell, but we started next morning with lightened loads, which entailed leaving my tent behind. We passed the mouth of the Ghujerab, but the gorge is too deep to see the river. Its valley is far broader than the valley of the

Khunjerab above the confluence; its volume of water far greater. As the Khunjerab is a larger stream than that from the Kilik, it follows that at the head of the Ghujerab valley lies the true source of the Hunza river. I was informed that it was possible to reach the Shingshal valley by a pass lying to the north of the Zardigarbin pass. This information proved correct.

Two miles east of Wadakhun we reached the Titirrip (or Trip) Sar, a point on the long spur that bounds the plateau in this direction. To the south the spur ends in a flat-topped knoll beyond which the cliffs fall precipitously to the river, 2,000 feet below. From the crest of the spur the course of the Khunjerab river can be traced for miles, flowing in a deep defile. The track, just visible as a slight depression in the snow, zigzagged once or twice across a steep slope and then, plunging, at an appalling gradient, down a rocky gully, was lost to sight. The rocks, as we soon found, were glazed with ice. One porter slipped and fell and was saved at the very brink of the precipice by clutching a projecting tree-trunk. The porters were shod only with the usual foot-gear of the country made of soft untanned leather. They were unable to keep their footing on these ice slopes and the younger men were in tears. They all looked to me for help in transporting their loads over the more difficult places and, after an hour's painful progress, the path became so dangerous that I decided reluctantly to postpone the further exploration of the Khunjerab until the spring.

Five months later, when I completed the reconnaissance of the Khunjerab valley, I saw no reason to regret this decision. On this occasion I took Balti coolies, as I had learnt by experience that it was impossible to raise fifteen porters from Upper Guhjal without inflicting unnecessary hardships on the people. My party consisted of a Pathan orderly, a Hindustani cook, two men from Hunza, and a Guhjali guide. We left Hunza on the 18th April, and camped once more at Shachkatar, seven days later. The next day we camped at a spot called Dih. The descent of the Titirrip pass proved to be 1,950 feet in 1,300 yards, a gradient of about 1 in 2. Since the upper and lower slopes are comparatively easy the actual rock gully is of course even steeper.

At Dih a fine open valley comes in from the north-west. There were traces of cultivation and a few ruined huts. The stream here abounds with trout of an excellent flavour. Two miles beyond Dih a stream called Karchenai flows in from the north at the head of which there is said to be a glacier pass to Sarikol. Above this the track grew more and more difficult as we neared Barakhun, where a stream of about equal size enters the Khunjerab.

The following day we reached Arbab-i-bul, camping near a grove

of birch-trees, and another short march brought us to Alghanin. From there, taking only three men, I went on to the Khunjerab pass. At a distance of about a mile and a half from Alghanin we left the valley of the main stream which is seen to issue from large glaciers to the south. The final ascent was very gentle and the descent on the Sarikol side equally easy, but a range of mountains closes the view from the east. My work in this direction being completed, I returned to Misgar, halting on the way at Dih, Wada-khun, and Shachkatar. Misgar was reached on the 6th May.

We remained two days at Misgar to rest the Balti coolies, and then resumed our journey. I visited the Mintaka pass, which Captain Younghusband had crossed, and the Kilik pass. Both of these are so well known that I need not describe them. Ascending the Derdih valley, I crossed by the Kermin (or Rich) pass into the Chapursan valley. As already mentioned, Colonel Grombtchevski was the first European to see this valley and he entered it by the same pass. He, however, turned east and left it at once, using it only as a summer route to avoid the difficult gorges of the Hunza river. In 1913 Sir Aurel Stein traversed it, crossing the Chillinji pass from the west: he gave a brief description of it in the *Geographical Journal* (vol. xlviii, no. 2) of August 1916. He did not, however, visit the Irshad valley. The stream from the Irshad pass joins that from the Chillinji glacier at Besk-i-yenj opposite the snout of another great glacier that descends from high peaks to the south. It is a curious characteristic of the lateral valleys which join the upper Chapursan valley that they descend gently till they overlook the main valley and then fall very abruptly some hundreds of feet. The main valley would appear to have eroded more rapidly than the tributary glens. The Irshad stream has cut through a curious calcareous breccia which is found on both sides of the Irshad passes. In doing so, it has formed an extraordinary gorge, so narrow that it is in many places bridged over with turf and so deep that the stream at the bottom is almost invisible. The path ascends steeply, skirts a tiny mountain tarn called Zhoe Wurt, crosses the debris of many avalanches, and, emerging upon an open grassy meadow-land and fording the stream, reaches Irshadogaz, where two routes across the main range diverge, re-uniting a few miles beyond the crest. Here I camped and the next day climbed to the upper valley, a narrow trough bounded by lofty hills and choked with soft snow, through which we plunged waist-deep to the foot of the more easterly pass, cut our way through an overhanging cornice, and scrambled to the crest of the ridge, 16,180 feet above the sea. From the top one looks westwards towards Wakhan, across a small glacier and down a narrow rock-bound valley. The Irshad pass has a very bad name on account of

avalanches, and in returning we saw and felt one fall close behind us, obliterating the path over which we had just passed.

I left the Chapursan valley, as Colonel Grombtchevski did, by following the Chapursan river to its junction with the Hunza river at Khudabad. This, the usual summer route between Sarikol and Hunza, avoids the gorge above Khudabad, which is impassable when the river is unfordable. From Khudabad I followed the usual route down the right bank of the Hunza river, past Khaibar, across the Batura glacier to Pasu, and thence to Gulmit. Just south of the stream from the Pasu glacier two routes diverge. The lower and more direct lies through the hamlet of Susaini. The upper crosses a spur and descends to Baurit, a summer hamlet in a curious hollow nearly filled by a bitter lake, and then traverses a great glacier. This was deeply crevassed. A gale of wind was blowing and we found it no easy task to keep our footing as we clambered along the crest of knife-like ice ridges and skirted the edge of yawning chasms. At length we scrambled up the steep cliff of a lateral moraine and came suddenly upon the smiling cornfields and orchards of Ghulkin, one of the prettiest villages in Kanjut, nestling in the fold between two great glaciers. An abrupt descent over a chaos of vast boulders brought us into the village, and thence, passing through a lane of flowers and over a glacier torrent by a good bridge, we reached Gulmit. Two days later, taking two men with me, I explored the high-level path over the Baskuchi pass (10,250 feet), where a narrow cornice 12 or 15 inches wide had been carried with marvellous skill across a sheer rock-face that fell precipitously to the river-bed 2,500 feet below. To add to its difficulty and danger, the track made two hair-pin bends in the middle of the gallery. On this flimsy structure I saw the marks of a pony's hoofs! In no other country in the world would such a path be deemed practicable for led animals.

The following day, the 3rd June 1893, I returned to Hunza after a walking-tour of 370 miles. There I remained till September, when I spent a fortnight exploring the Garmasai, Daintar, and Naltar valleys, all probably now well known, and visiting the Shardai pass from the village of Nomal. There I crossed the Hunza river by a good rope-bridge, and, climbing the Thakwai Tappi and Shaltar passes over spurs from Rakaposhi, visited the villages on the left bank of the Hunza river before returning to my camp at Aliabad.

My time in Hunza was drawing to a close, but before leaving I wished to visit Hispar, the highest village in Nagar, so as to complete my work. Accordingly I started on the 12th October and spent a week in exploring and mapping the country between Hunza and the village of Hispar. Just above this village lies the snout of the Hispar glacier which, as is now well known, unites with the Biafo

glacier to make the longest ice pass in the world outside the Arctic regions. Sir Martin Conway (afterwards Lord Conway of Allington) explored this region in the previous year (1892).

Before concluding this bare recital of my pioneer work in Hunza and Nagar and entering upon a description of my journeys into the still more remote and till then unmapped valleys of Chitral, I must say a few words about the character of the Shingshali folk as I found them. It may be that, never requiring more than eight or ten men to carry my scanty equipment, I had the pick of them. It is to be remembered that they cannot have appreciated the objects of my journey and that, for a trifling wage, they had to carry heavy loads over snow, ice, and precipice in a country described by Lord Conway, whose experience is unchallengeable, as the most difficult in the world. In my company they had to ford the Shingshal river and its tributary glacial torrents no fewer than 99 times in a fortnight, in water always ice-cold, often breast-high, and flowing strongly, with ground-ice making foothold precarious. In face of these difficulties I found them cheerful and happy, and, though I suspect that, being human, they may at times have deliberately misled me with inaccurate information in the hope of saving themselves trouble, I retain a pleasant memory of them as patient, good-humoured, honest men, who, only a few months after the British had forcibly entered their country, rendered me willing, even devoted, service.

III. Chitral.

I left Gilgit on the 29th October *en route* for Mastuj via the Karumbar pass, and reached Imit on the 3rd November. There I made the acquaintance of Ali Murdan Shah, ex-Mir of Wakhan, who rode out, ostensibly to meet me, but in reality to indulge his passion for hawking. As time pressed, he returned with me to Imit, where, since he fled from the Afghans ten years before, he had made his home. Later he paid me a visit of ceremony, examined everything I possessed, expressed great admiration for my sponge and tooth-brush, and showed me all his guns and rifles, especially those which, through careless handling, stood badly in need of repair. He made persistent requests for whisky and cigars. On my regretting my inability to supply these, he made difficulties about transport, and, although he had had a week's notice, demanded yet another day to provide the necessary ponies. I had no option but to acquiesce. That night news was brought to me of an attack on a party of Chitralis by Afghans from Sarhad who were said to be barring the way in front of me. Ali Murdan Shah then declared that the route would be unsafe for his men, and the next morning no ponies were forthcoming till I threatened him with the wrath of the Indian

Government, of which the previous day he had declared himself *ad nauseam* to be a devoted well-wisher. At last eight ponies arrived and we marched to Bohrt. This delay, so aggravating at the time, actually saved our lives, for during the march from Imit to Bohrt a very sharp shock of earthquake was experienced. We were then fortunately standing on a fairly open piece of ground near the river. Suddenly, in the gorge in front of us, the mountains seemed to lean towards each other. We could see the path swept from end to end with great rock avalanches. Out of the dust that filled the valley there came an undulating series of waves, like a wide sea after a great storm, and men and ponies were thrown in a tangled heap to the ground. Had we already entered the gorge, we should not have left it alive.

The next morning my Wakhi guides, with four of our ponies, were missing. Afghans were said to be looting cattle in the Lupsuk valley, and the men, with the ex-Mir's consent, had gone to save them. I sent a man back to demand their immediate replacement and to express my strong displeasure at this persistent obstruction. At 12.30 the animals were returned and we resumed our journey. Two miles above Bohrt the Karumbar glacier is reached. There was, I found, a gap between the glacier and the cliff fully 100 yards in width, paved with a broad shingle of well-worn pebbles. The obstacle which Biddulph found impassable had, as he had surmised, been swept away temporarily by heavy flood water. In summer, however, the river would be unfordable and the only route would lie across the glacier. Two miles beyond the glacier, the valley narrows, and through the precipitous gorge, even so late as November, there was nearly 3 feet of water running like a mill-stream. We camped at a spot called Mahtaram Das and the next day, passing the westerly debouchure of the Chillinji pass, which I had already reconnoitred from the Hunza side, reached a small patch of grass called Suktarabad (or Sokhta Rabat). Here the thermometer fell to 7° F. Here, too, we encountered snow, and for the next 40 miles our route lay over it. At Suktarabad two routes from the north converge, one by the Khora Bohrt, the other by the Gazan pass. Both passes were deep in snow, but the former was still practicable for led ponies.

Our route next day lay north-west and led across the Chatiboi glacier. *Chatiboi* means 'lake-forming', and it is, in fact, this glacier which causes the floods down the Karumbar valley. It had not long before been crossed by a French explorer, M. Dauvergne, who described it in a paper he read before the Paris Geographical Society. He took nearly three hours to cross and lost touch with his baggage, which did not reach him for twenty-four hours. My own

experience was more fortunate and my Wakhi ponies took their loads across the glacier without a single accident. We had, however, to proceed with great care, threading our way between vast crevasses and easing the ponies down the slippery slopes by the tail. Where we crossed the glacier it was about 1,000 yards wide, but the tortuous track we followed was twice as long. In spite of further difficulties, we reached camp at Shuiyenj, where we found a little dry fire-wood. The temperature that night fell to 8° F., the height of the camp being 13,000 feet.

Our next day's march, but for the snow, would have been delightfully easy. As it was, we sank at every step up to our knees, and, what with the glare of the sun and a biting wind, found each mile of the twenty longer than the last. My Gurkha orderly, indeed, became almost too exhausted to proceed. The elevation of the Karumbar-Yarkhun water-parting is 14,060 feet. On the summit is a lake about 2 miles long. This was partly frozen over. To the south, a snow-clad cone of great beauty rises straight from the shore of the lake; other lofty hills surround it, and glaciers sweep down to its very margin. The lake, which is marked Ghaz-Kul on Colonel Woodthorpe's map and Zhoe Sar on the Indian Survey sheet, is called Ak-Kul by Colonel Yonoff, the Russian traveller, and by Sir Aurel Stein, who visited it in 1913. That, too, was the name given to me in 1893, but M. Dauvergne calls it Ishki Kul. A panoramic view of the Karumbar saddle, taken by Sir Aurel Stein, is given in the *Geographical Journal* for August 1916. So level is the watershed and so deeply was it buried under snow when I saw it that I could not say for certain which way the lake drains, but I formed the opinion that it flows eastward. A small stream takes its rise in a glacier south-west of the lake, and for about 10 miles flows westwards through an open marshy valley which affords, in summer, extensive pasturage. Near Showar Shur it joins the Yarkhun river, which springs from a great glacier to the east called Chiantar.

At Showar Shur (12,460 feet) I spent the night. The ground was covered so deeply with the sodden dung of yaks beneath a foot of snow that we could not pitch a tent, and I spent a cheerless night in a roofed sheep-pen in which there was no room to stand upright. A bitter blast whistled through the frail walls; the temperature fell to 2° F., and here I wrote up my diary and finished my map with ink that, freezing at every dip of the pen, had to be melted at the fluttering candle flame.

From Showar Shur I explored the Shawitakh pass, a few miles east of the Baroghil. On the way we skirted a small lake called Sarkhin Zhoe or Chat. Between the two passes the Hindu Kush presents a remarkable appearance. Eastward the lowest point is

15,000 feet; westward it is nearly 17,000 feet, but here it sinks by comparison almost to nothingness and for many miles appears as an undulating grassy plain dotted with tiny lakelets draining, some to the Oxus, others to the Yarkhun river.

From Vedinkot, where I camped opposite the snout of another great Chatiboi, or lake-forming, glacier, I marched to Kandkhun Kuch and from there visited the Kandkhun pass. I had hoped to be the first European to visit this pass, but found on my arrival at Mastuj that Captain Younghusband had anticipated me, having availed himself of an opportunity to visit the pass three weeks before me. The rest of my journey to Mastuj lay down the Yarkhun river and is now so well known as to need no description. My arrival at Mastuj was quite unexpected. A letter recalling me on account of the unsettled state of the country had never reached me, but Captain Younghusband, who had received a copy of it, had notified the Hakim of Yarkhun not to expect me. At the moment of my arrival he was repeating this information, in open Durbar, to the Governor of Mastuj, and my sudden entrance proved a little disconcerting.

I stayed but a few days in Mastuj and then returned to Gilgit, which I reached on the 6th December. Though much of our route had lain through deep snow and the temperature for weeks together had scarcely once risen above freezing-point, my party reached Gilgit fit and well without a single case of snow blindness or frost-bite.

It was not long before I was back in Chitral. I had received orders to continue my survey of the Hindu Kush and had been told to take my instructions from Captain Younghusband, who was still at Mastuj. On the 17th April 1894 I left Gupis, where I had spent the winter, and reached Ghizar on the 20th. The following day I rose at 5 a.m. to witness the native method of hunting ram-chikor. These birds are not very strong on the wing and after two or three flights have no strength to rise again. Beaters drive downwards from the snow-line and the birds are easily caught when they reach the valley. At 8 a.m. I left for Langar, the camping-ground at the foot of the Shandur pass. A year later the crossing of this pass by Colonel Kelly's column attracted the attention of all India. We entered snow a few miles beyond Ghizar, where Colonel Kelly first encountered it, and reached Langar early in the afternoon. That night it snowed heavily but, despite the blinding snow-storm which continued with unabated severity throughout the following day, we crossed the pass and reached Laspur without losing a single load. The next morning I received instructions to push on to Mastuj, some 20 miles distant, without delay, so, leaving my party to follow, I rode on by myself. Snow still fell heavily but changed to rain as

lower levels were reached, and in consequence the hill-sides became 'alive' with heavy falls of rock, which in many places carried the path away. I had, moreover, frequently to ford the swollen mud-laden torrent, some 50 yards in breadth. I had no guide and the regular fords were unknown to me. As evening fell, my position became extremely awkward. Suddenly I stumbled on a tiny hut from which I unearthed a reluctant Chitrali. This was fortunate, as, a mile beyond, the track was so completely obliterated that but for my guide I could never have found the way across the crumbling slopes. When at last I reach Mastuj, I found I was not expected, as the road had been reported by Chitralis to be quite impassable.

After waiting a few days till the weather moderated, I revisited the Baroghil and Kandkhun passes, and had a look at the Rich or Shah Janali pass which affords communication between the Yarkhun river and Shah Janali. Captain Younghusband had explored this pass also in 1893, so that it was not until the 18th May that I began to break fresh ground. On that day I left Meragram, forded the river to Bang, and turned up the Bang-gol, which at first is a mere rift in the great chain that separates the Turikho and Yarkhun rivers. The path rises steeply between precipitous crags and is cumbered with huge boulders. In places it crosses the face of the cliff and is almost impassable. We passed a summer grazing-ground, called Ganjuri, where the road improved for a mile or two, and camped amid boulders at a spot called Hinchk. The final ascent to the pass (16,200 feet) was very steep and the snow so soft that we sank frequently up to our thighs. When I revisited the pass a month later from the other side, there was permanent snow lying to a depth of over 6 feet.

On the 10th June I began a more extended journey. Leaving Mastuj, I crossed the Khut pass (14,200 feet) to the village of that name, where, despite its height (10,900 feet), there was extensive cultivation. The next day, crossing a broad spur to the Turikho valley, we camped at Uzhnu, a very picturesque village, well wooded with poplars and fruit trees. It was my intention to explore all the passes over the Hindu Kush between the Kandkhun pass and the Dorah pass. Captain Younghusband, when he visited the Turikho valley in 1893, satisfied himself that the information supplied by the native surveyor attached to the Gilgit-Chitral Mission of 1885-6 was very misleading and that in consequence the positions of two of these passes, the Ochili and the Kach, and also of the Rich pass, were wrongly given in the existing maps of Chitral. This part of the Hindu Kush range, some 2,000 square miles in extent, had never been seen by any European, and I hoped to complete my map of Chitral by visiting all the known passes across the main

range and as many as possible of those that give lateral communication between the various valleys. I was, however, strictly forbidden to set foot across the Hindu Kush, since I had no authority from the Amir of Afghanistan to enter his territory.

My first objective was the Ochili pass, which lies at the extreme head of the Turikho valley. I halted one night at Rich, where I met the Khan of Rich, a son of a famous father, Roshan Ali Khan, who had repelled more than one invasion from Badakhshan. The Khan pleaded illness as an excuse for not accompanying me farther, an excuse I readily accepted, for experience had shown that men of position in Chitral (and possibly elsewhere) soon get tired of clambering up hills on what must seem to them a fool's errand.

On the 15th June we continued up the Rich valley, passing on the way the village of Ruah, the highest in the valley and apparently the farthest point reached by the native surveyor attached to the Gilgit-Chitral Mission of 1884-5. Ten miles from Rich three streams unite to form the Turikho or Rich river: the Moghalan Gol that descends from the west, from some fine peaks on the main range, culminating in one of over 22,000 feet; the Kach Gol at the head of which is the Kach pass; and the Shah Janali Gol. Our route lay up the latter, a very narrow valley choked with boulders of enormous size through which an execrable path winds its labyrinthine way for about 5 miles. Here it opens out and we camped at Shah Janali, a broad level grass-land near a thick grove of trees.

The following day we pursued our way up the Shah Janali Gol, through a beautiful, well-wooded valley over easy grassy slopes for some 6 miles, and then turned east up a side valley to the Shah Janali pass which I had already visited from the other side. Retracing our steps, we ascended the main valley for another mile and camped at Shahghari (11,800 feet), a level stretch of rather marshy grass-land. It had rained hard most of the day and the outlook was not promising for the morrow.

On the 17th June we left camp at 4 a.m. for the Ochili pass. The clouds were hanging low and fresh snow covered the hills above the 13,700-foot level. After the first mile we followed the pathless bed of the stream, leaping from one boulder to another. Progress was slow. About $3\frac{1}{4}$ miles from Shahghari we reached the snout of the glacier from which the stream issued. Up this our route lay for some 6 miles. At first the surface of the glacier was unbroken and covered with a light moraine. It was steep and we sank up to our ankles in the fresh snow. Then it began to snow again. A heavy mist surrounded us, through which occasionally a glimpse was caught of precipitous mountains hemming in the glacier. Steeper and steeper became the ascent and soon out of the mist there loomed

a broken wall of ice where the glacier split and fell over a vast rocky ridge. Deep crevasses of blue ice fringed with giant icicles of wondrous beauty yawned in our path. By good luck we had struck the ice-fall where it was least broken, and after nearly an hour's careful climbing we reached its crest. Here the clouds lifted; the sun came out, and the glare on the fresh snow became almost unbearable. Of the six men who accompanied me, one could not face the ice-fall. The others now complained of mountain-sickness, headache, and fatigue and disencumbered themselves of caps, cloaks, and anything else they could. They had reached a height of nearly 17,000 feet, having climbed 5,000 feet in very dirty weather and mostly through soft snow. The only fit man among them was a Yasawal (headman) of Turikho, specially selected to accompany me on account of his reputation for endurance. The others sat down in a circle, and he, bringing out a small lancet, went round opening a vein in each man's forehead. The blood spurting out pierced a crimson path through the snow to the glacier-ice beneath. This, I was told, was an infallible remedy for mountain-sickness.

In spite of this, three more men had to be left behind and only the Yasawal and one other went up with me. About 9 miles from camp we reached the confluence of a small glacier from the north, up which we turned for another half-mile or more to the foot of the rocky serrated ridge which, rearing steeply up from the glacier to a height of about 200 feet, here forms the crest of the Hindu Kush. The route to the pass involves a short scramble up a steep gully, but we found the soft snow had drifted so heavily at the foot of the ridge that after many futile attempts and sinking to our armpits we were compelled through the growing lateness of the hour and the threatening appearance of the weather to beat a retreat. The snow soon began to fall again and the continual crash of avalanches about us warned us to keep close to the middle of the glacier. In the end we reached camp without mishap after fourteen hours on the glacier. In spite of smoke-coloured glasses and similar precautions we all suffered from inflamed eyes and blistered hands and faces.

The next day we moved down the Shah Janali Gol to a marshy camp at the mouth of the Moghalan Gol, and on the 19th June I started at 3 a.m. to visit the Kach pass. Of the six men who had accompanied me on the ascent to the Ochili pass only one (the Yasawal) was fit to go with me again. We secured a guide, however, and set out, proceeding north up a very narrow valley. After scrambling over boulders for about $2\frac{1}{2}$ miles we reached the foot of the Kach glacier, and after ascending its right bank for a short distance struck across it. It was a break-neck passage. The surface moraine consisted of exceptionally large rocks in very unstable

equilibrium and extreme care was necessary. On the far side was a lateral moraine of abnormal dimensions and then a stiff pathless climb up a steep spur to the foot of another glacier. Here I was told men always bivouac before crossing the pass. This information would have been of more use had it been given earlier. I could see at the extreme head of the glacier, about 6 miles distant due north, a slight depression in the range which was indicated to me as the Kach pass. The glacier rose at first in a series of steep ice-falls, where the ice was split into seracs and much crevassed. Higher up the ascent is easier till the final ridge is reached. This was apparently too steep to retain snow, but was crowned with a cornice of ice. Its height appeared to be 18,000 feet or more. I was informed that very few men have ever crossed this pass, and further that ropes must always be used and steps cut.

Acting on the information given me the previous day, I had sent my camp back to Rich. It soon became quite obvious that I could not reach the pass at the head of the glacier and return to Rich before nightfall. I had, therefore, to retrace my steps. This was perhaps fortunate since in the latest Survey map of this region the Kach pass is shown at the head of the Kach glacier quite 6 miles to the south-west of the point indicated to me, while another pass, called Phur Nizini, of which I had never heard, is marked about 4 miles east of that point. Colonel Schomberg, who passed this way in 1935, did not solve the mystery.

After two days' rest in Rich I visited the Bang-gol pass, already described, and then descended the Turikho valley to Uzhnu and the following day to Shugram, where I spent two nights as the guest of Pinim Beg. He received me with great politeness and we played polo together both evenings. When I next saw him, in March 1895, I was Intelligence Officer with General Gatacre's brigade of the Chitral Relief Force and he was a prisoner on his way from Dir to Chitral, having been among those captured by the Khan of Dir's men in company with Sher Afzal.

From Shugram we followed an easy path to Warkup, a short march of about 8 miles. The next day we crossed the Turikho river by a good bridge, and, keeping up its right bank about 5 miles to the confluence of the Tirich river, turned up the latter for about 3 miles and crossed by a rickety bridge to Lonku where we camped on a level lawn shaded by great walnut-trees. Up the Lonku Gol there are mines of yellow arsenic which are only worked superficially.

On this march I met Nara Jang, Ataliq of Drasan, who informed me that he had the Mehtar's orders to give me every assistance. He spoke purer Persian than any man I met in Chitral, was a devout

Mussulman, and a most courteous, well-bred, entertaining companion whom it was a pleasure to meet in these wild, desolate valleys. He accompanied me wherever I went, stood by me where the track was dangerous, provided me with porters, and smoothed away all difficulties. Yet he was known to be ill-disposed towards us. I said 'farewell' to him on the 3rd July 1894: on the 4th July 1895 I found him a prisoner in Chitral, accused of instigating the worst cruelties practised on the luckless Sikhs who fell into the hands of the enemy.

The Tirich valley is very thickly populated. There are three groups of hamlets, Lonku, Zundrangram, and Shugram, the last being the highest. Zundrangram consists of no less than nineteen hamlets, all well-to-do, nestling among orchards and boasting a number of poplars that grow to a great size. Our route lay up the Rosh Gol, which unites with the Atrak Gol to form the Tirich river, and we found a lovely spot for our camp, about 8 miles up the valley, on fine turf in a grove of birch- and willow-trees where a clear spring bubbles up. The place is called Duru: its height 11,350 feet.

On the 30th June we left our camp standing, intending to explore the Kotgaz pass. About $1\frac{1}{2}$ miles north of Duru a glacier is reached and the track follows its left lateral moraine for about 3 miles. Here, just beyond a tiny mountain tarn, there is a fine stretch of rich turf a mile long between the glacier and the mountain-side. This is called Kotgaz and gives its name to the glacier and to the pass. Beyond this the track grows difficult and soon strikes across the glacier, here a mile or more wide, well covered with moraine and not to any great extent broken into crevasses. It then turns up a small tributary glacier, which at the end of June was deep in soft snow, till, little more than a mile beyond, a nearly vertical wall of rock bars the way. So difficult is the ascent to the actual pass that, I was told, no Chitrali within the memory of man had been known to surmount it. Colonel Schomberg, who followed in my footsteps more than forty years later, writes: 'To cross it has become a mountaineering exploit, and I found no one who had ever achieved it.' I estimated its height at 17,500 feet, but the Survey of India map makes it 17,939 feet. I climbed a ridge opposite it to a height of over 16,000 feet and took a photograph which shows the formation of the rocks and the kind of difficulty to be encountered.

Returning from Duru, I spent a night at Zundrangram, and the next day crossed the long flat-topped spur which, springing from Tirich Mir, the great mountain that dominates western Chitral, separates the Tirich and Mulrikho valleys. We crossed by the Sart pass (13,000 feet) and descended through well-cultivated fields past the numerous hamlets of Sart to Drasan. From there we returned to Mastuj in two stages, over the Kah Lasht plain.

It was now my intention to complete the exploration of the crest of the Hindu Kush. I had, however, never met Nizam-ul-Mulk, Mehtar of Chitral, and having learned that he was occupying summer quarters at Partsan, near Shoghor, I decided to pay him a short visit there on my way to the Arkari valley. We left Mastuj on the 26th July. Mules and ponies were swum across the river to the right bank. For us a new rope-bridge had just been built. It was, however, badly made, sagged more and more in the middle, and had continually to be restretched. After $4\frac{1}{2}$ hours of this exasperating business there were still several loads on the left bank, but I crossed in order to start off the baggage that had already reached the right bank. Hardly was I safely over than the bridge broke behind me. One load was lost and the porter with difficulty rescued. Though we left Mastuj at 5 a.m. the mules and ponies did not reach Drasan, a distance of 20 miles, until 12.30 a.m. the following morning. A laden porter, however, did the journey in less than twelve hours.

Travelling by Kusht, Lun, and Muzhen, a hamlet of Owir, we crossed the Dori pass to Pasti and reached Partsan, on the morning of the 31st July, by another pass (11,800 feet). The Mehtar rode out a few miles to meet us and we then went hawking until our camp had been pitched. For this a level piece of ground had been selected and screened round with a tall fence of willow. At the only entrance a guard of Chitrali levies was posted. The men were dressed in the usual way except that each was the proud possessor of a red coat of British regimental pattern from which facings, buttons, and regimental numbers had not been removed. Thus accoutred, they turned out and presented arms. They were, however, fine-looking men, less wild in appearance than were the Hunza levies when Captain Younghusband and I raised them and began their training in 1892. Four of the levies were allotted to me as escort and, during the next month, accompanied me on my explorations. Alert, cheerful, and untiring in their exertions to please, they accepted hardships with equanimity.

That evening the Mehtar gave a dinner in a large shamiana, prior to which he displayed to me with much pride a tent arranged with great taste as his sleeping-apartment. The fare was not so pleasing. It consisted of curried dishes, roast ribs of mutton, sweets, and fruit. Mutton and sweets were painfully nasty. The Mehtar ate with knife and fork but dropped them to pick the bones. Singing and dancing followed, including a turn by two dwarfs with sword and shield which would have won the applause of any audience.

On the 3rd August I left Partsan and camped in the Dardai Gol, a branch of the Uzhur Gol. From there I crossed the next day into the Dir Gol, a tributary of the Arkari river, by a glacier pass (16,400

feet) over a razor-like splintered ridge of porphyritic granite which, descending from Tirich Mir, forms the watershed between the Uzhur Gol and the precipitous ravine in which the Arkari river flows. This route involved a scramble from beginning to end. It is at first terribly steep for 1,500 feet up an old moraine, then it leads over huge tottering boulders to a glacier, the smooth surface of which affords a little respite, and finally there is a stiff climb up a narrow gully for 300 feet to the pass. The descent lies down an almost perpendicular couloir over rotten rocks, traverses an ice-slope, crosses a giant bergschrund by an ice-bridge, and descends to a very small circular glacier hemmed in, on three sides, by ridges of extraordinary steepness. On the fourth side is the main glacier, which gave easy going for a mile. We then plunged steeply down its terminal moraine to a grazing-ground called Warzo Ghari (11,800 feet), where we camped.

This pass is seldom used and is not marked on the Survey map 37 P. We nearly had a catastrophe in crossing it. My orderly slipped out of one of the ill-cut steps I had made across the ice-slope and went hurtling down straight for the bergschrund at its foot. Fortunately there was an ice-bridge at the spot where he struck it and he shot out on to the glacier with no worse result than the loss of his breeches.

The next day we continued down the valley to Arkari (or Ankar), where I was met by the Maulai Pir, Shahzada Lais, the much-esteemed spiritual head of many Maulais of Chitral, Hunza, and the surrounding country. With him I rode on to Rubat. He was a man of good address, very pleasant manners, and spoke Persian fluently. He gave me much information about affairs beyond the frontier and about the various passes in front of me.

On the 6th August we moved to Wanakach (or Lashkargah as it is called by Badakhshis) traversing *en route* a narrow defile and passing the confluence of the Nawesing (or Agram) Gol at the village and fort of Owir (or Kalat). Above this the path became more difficult, much of it having been carried away by a heavy storm.

The next day, continuing up the Arkari valley and passing a spot called Kurobakh where the stream from the Khatinza and Nuksan passes flows in, we reached a great glacier which, descending through a narrow lateral ravine from one of the peaks of the Tirich Mir group, filled the river-bed. Crossing this, we camped at Gazikistan, a stretch of rich turf in an old lake basin formed by the glacier.

On the 8th August we started for the Sar Ishtragh, a pass marked on no map then existing. Opposite our camp a very fine cascade came tumbling down a precipitous cleft in the steep hill-slopes that here confine the valley. The ascent of 1,200 feet to its head proved

very steep and trying, but there were compensations. No words of mine could describe the glorious panorama that met our view as we looked eastwards along the great ridge which, closing the head of the Gazikistan valley, sweeps upwards to meet and lose itself in the magnificent massif of Tirich Mir. The silver stream in the valley far below; the gaunt brown forms of splintered crags beyond; and, towering high above all, the giant ice-capped peaks and crystal glaciers, gilded now by the first rays of the rising sun, afforded a superb and unforgettable spectacle.

Our route lay north-west at first through a narrow gloomy valley, then steeply up the left bank of a glacier and across a small tributary glacier to the foot of the pass, and finally up a steep ascent of 350 feet to the crest of the Hindu Kush at an elevation of about 17,000 feet. From the top the hills beyond the Oxus are visible, though the lower hills conceal the river. The descent to Ishtragh, distant about 18 miles, lies at first over glacier, and then over moraine. Beyond that the path is easy.

I returned that night to Kurobakh, where I was met by a messenger from the Mehtar bringing me a welcome gift of fruit and asking for news of my progress.

On the 9th August I had another long day, visiting first the Nuk-san and then the Khatinza pass and returning to our old camp at Wanakach. Strange to relate, we were able to scramble from one pass to the other, a distance of 2 or 3 miles, along the actual crest of the Hindu Kush which becomes broader and less serrated as the latter pass is reached. Between the two is another depression filled by a tiny mountain tarn which was frozen over. The height of these passes was given by Colonel Woodthorpe's surveyor as 16,560 and 17,500 feet, respectively. The survey sheet gives 15,600 and 16,000 feet; and the figures obtained by me by boiling-point were 16,050 and 16,560 feet. Both passes give access to the same valley, which runs through Dehgor to Zebak in Afghanistan.

The following day we retraced our steps as far as Owir and turned up the Nawesing Gol. We passed a little cultivation at Agram and, a short distance farther on, reached an old lake basin called Agram-o-gaz, an open stretch of level grass-land through which the stream meanders leisurely. This place affords an ideal camping-ground, the best spot being near a spring with good grazing and plentiful firewood.

On the 11th August I visited the Agram pass. The track is very steep, mainly over slipping shale slopes, but the actual crest is a small and almost level snow-field. Its height is 16,630 feet. This pass also leads to Zebak, through Dehgor. The descent begins at once, and lies over a small glacier, beyond which it is easy.

Returning from the pass, we went on up the valley to Nawesing, where we camped. The next day we crossed by the Sot Kulachai pass into the Gubar (or Deh) Gol, visiting the Besti pass on the way. The latter leads into the Besti Gol and thence to Shali in the Arkari valley. The former owes its name, which means 'seven lengths of the outstretched arms', to the fact that the first 50 feet of the descent to the west lies along a narrow ledge for that distance. The next 200 feet is excessively steep over difficult rocks, then comes a scramble over a glacier for half a mile, after which the path is easier to the main valley. We camped at Afsik, where the Charwelo of Lutkuh came to meet me, bringing a present of fruit and another letter from the Mehtar, fresh porters, and a riding-pony.

On the 13th August—my 27th birthday—I left my camp standing at Afsik and, after riding 3 miles up the Gubar Gol, climbed at a terribly steep gradient to an upper valley up which we picked our way for nearly 2 miles over boulder beds, called *ambih* in Persian and *langar* in Chitrali, to the foot of the Mach pass. A stiff climb over slipping shingle beds brought us to the top of the narrow ridge. The descent is over glacier and moraine and down a long branch of the Dehgol valley into which the Agram, Nuksan, and Khatinza passes all eventually lead.

The following day we proceeded down the Gubar Gol to Shah Sadim in the Lutkuh valley. From there I rode to the Dorah pass and, retracing my steps about a mile, crossed the Shifchik pass into the Uni Gol and from there climbed over some terribly awkward boulders to the Uni pass. We returned to Shah Sadim, scrambling for about 4 miles over huge top-heavy boulders. The next day we went down the Lutkuh valley to Ughuti and thence by the ordinary route to Chitral, which we reached on the 19th August.

My work was now complete, but, as no orders for my return to India had reached me, I left Chitral again on the 20th August and explored the passes at the head of the Gulen Gol leading to Laspur and to the Shishi Kuh, and, entering the latter valley, visited the Gurin pass by which Sher Afzal fled in 1895. At the Tajik village of Madaglasht I was met by Mehtarjao Yadgar Beg, who accompanied me to Drosh. He conversed fluently in Persian, was very civil and obliging, and a pleasant companion, but when I next heard of him he was an escaped prisoner from Dharmsala. His brother, Kokand Beg, was of a different stamp. He rode out some 4 miles to meet me, but then retired after telling me that if Captain Younghusband left Chitral there would be war. His prophecy in fact proved correct. In October 1894 I returned to India with Captain Younghusband, but six months later, in April 1895, I rode into Drosh again with the Chitral Relief Force.

Although I had travelled without escort into the remotest valleys of Chitral not one single untoward incident had occurred. I was welcomed everywhere; the headmen rode out miles to meet me; my loads were cheerfully carried; my guides were untiring in their efforts to show me everything that was to be seen; and, more wonderful still, the rewards I gave were never questioned. This I owed partly to Captain Younghusband's undoubted popularity with the people and partly to the influence of the Mehtar. The Chitrali himself has many good qualities: besides being, by nature, good-tempered, careless, and happy, he is truthful and wonderfully honest and is not swayed by fanaticism; but he sadly lacks backbone and is inherently a time-server. Nor is an excuse for this wanting. It must be remembered that for centuries he was absolutely in the power of an autocratic ruler. His wife, children, house, lands, cattle, everything indeed that he possessed, he held only so long as he kept in favour with his chief. Can we be surprised that a people brought up under such a rule of despotism, and for generations accustomed to the surrender of their prerogative of personal judgement, should, at one moment, at the bid of Nizam-ul-Mulk, vie with one another in rendering services to Englishmen, and the next, at the call of Sher Afzal, rise in arms against them?

The results of my explorations in 1892-5 may now be briefly stated. As regards Hunza, I was the first European to explore the Shingshal, Khunjerab, and Chapursan valleys. I mapped them carefully on the $\frac{1}{4}$ -inch scale, and the whole country is clearly shown in my 'Map of Hunza, Nagar and surrounding country' reproduced by the Intelligence Branch in Simla in 1895. This covered an area of some 5,000 square miles. The greater part of it was original work, and the Intelligence Branch paid me the compliment of reproducing it by photo-zincography as it stood without redrawing it. It was subsequently incorporated in the Indian Survey Sheets, but, of course, has now been superseded. I left but three real gaps in it, none of which, however, exceeded 500 square miles in area. I had crossed the Batura glacier but had had no opportunity of exploring it. I had looked into the Ghujerab valley at the point where it meets the Khunjerab river, but could find no excuse for entering it as time was always precious. At the head of the Shingshal valley above the junction of the Tang river, where the route to the Shingshal pass leaves the main valley, I had seen a lovely vista of the Karakoram, looking across the Yazghil and Khurdopin glaciers to unexplored valleys beyond. Towards the end of my lecture to the Royal Geographical Society, drawing special attention to this region north of the Hispar pass, I stated my conviction that at the head of the Ghujerab and Shingshal valleys there would be found 'a field for

exploration worthy of any traveller, however distinguished', and expressed the hope that some competent person would explore it. This appeal, which was endorsed both by Sir Francis Younghusband and by Sir Henry McMahon, was not made in vain. It was a source of great gratification to me when, in 1925, Dr. and Mrs. Visser acted upon my suggestion. The few small gaps they left in the map of this region were filled in subsequently by the Morris-Montagnier expedition (1927) and by Colonel Schomberg (1934).

My own work, which, with the three exceptions mentioned, comprised practically the whole area of Hunza and Nagar, is described in great detail in my *Diary of Various Reconnaissances in Hunza and Nagar, 1892-93* printed in 1895. Both Diary and Map appear since to have been destroyed, and neither, I think, can have been accessible to Mrs. Visser-Hooft, since she describes the Khunjerab as 'the valley of mystery' and speaks of the 'country east of the Hunza river' having the word 'unsurveyed' written across the map which she was using. Nor do I think Colonel Schomberg can have seen them.

It is equally clear, I think, that Colonel Schomberg has never seen my *Report on Various Reconnaissances in Chitral Territory, 1893-5*, and the maps that accompany it. The policy of keeping secret the reports of serving officers on these frontiers, while permitting English and foreign travellers to publish the results of their subsequent explorations in the same territories, seems to do some injustice to those whose pioneer work is thus ignored. Of the country west of Hunza, the great valleys, at the head of which lie the Ochili, Kach, Kotgaz, Sar Ishtagh, Nuksan, Khatinza, Agram, Mach, and Uni passes, had never before been entered by any European, and the position of many of these passes, where shown at all, was incorrectly given on our maps. Of valleys and passes giving lateral communication between the different districts of Chitral, some twenty in all, which had never before been visited, were crossed by me and in addition numerous passes between Chitral and Dir. The maps published with my Chitral Report included a 'Map of Sar-i-Yarkhun', which traces the crest of the Hindu Kush east of the Khora Bohrt to west of the Baroghil, about 40 miles; a 'Map of a part of the Wakhan-Chitral Frontier', which is continuous with the former and carries the line on a further 50 miles to beyond the head of the Kach glacier; a 'Map of part of the Chitral Frontier', which extends from near the Kotgaz pass to beyond the Dorah pass, another 55 miles; and a 'Sketch Map of Gulen Gol, Shishi Kuh, Beorai Gol and Arnawai Gol', which extends south as far as Dir and north to the head of Gulen Gol. All these maps are on the $\frac{1}{4}$ -inch scale and all were reproduced direct from my original drawings.