

## APPENDIX.

The following explanation of Chinese terms\* will be found useful in reading the accompanying Paper.

<i>Hien</i> (pronounced hsien)	.. ..	District, city.
<i>Chow</i>	.. ..	Ditto.
<i>Ching</i>	.. ..	City.
<i>Fu</i>	.. ..	Provincial city.
<i>Tien</i>	.. ..	A shop, inn, tea-house.
<i>Tun</i>	.. ..	Military station.
<i>Chan</i>	.. ..	Courier station.
<i>Yi</i>	.. ..	Ditto.
<i>Miau</i>	.. ..	Temple.
<i>Tä, or tah</i>	.. ..	Pagoda.
<i>Ho</i>	.. ..	River.
<i>Kiang</i>	.. ..	Ditto.
<i>Shan</i>	.. ..	Mountain.
<i>Ling</i>	.. ..	Mountain ridge or range.
<i>Lin</i>	.. ..	Wood, forest.
<i>San</i>	.. ..	Often means three.
<i>San-kia-tsz</i>	.. ..	The three houses.
<i>Tai</i>	.. ..	A tower or terrace.
<i>So</i>	.. ..	A small fortress.
<i>Wei</i>	.. ..	A large fortress.
<i>Lau</i>	.. ..	Old.
<i>Lau-ye</i> , name given to an idol	=	Old gentleman.
<i>Lau-ye-miau</i>	.. ..	Temple of an idol.
<i>Kou, or k'eu, or gou</i>	.. ..	Mouth, pass.
<i>Men</i>	.. ..	Door.
<i>Kwan</i>	.. ..	Ditto, custom's barrier.

\* For this list of Chinese terms, and for his valuable assistance, I am greatly indebted to the Rev. J. Summers, Professor of the Chinese language at King's College, London.

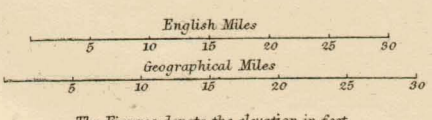
VI.—*A Havildar's Journey through Chitral to Faizabad in 1870.* By Major T. G. MONTGOMERIE, B.E., F.R.G.S., Officiating Superintendent G. T. Survey of India, in charge of the Trans-Himalayan Exploring Parties.

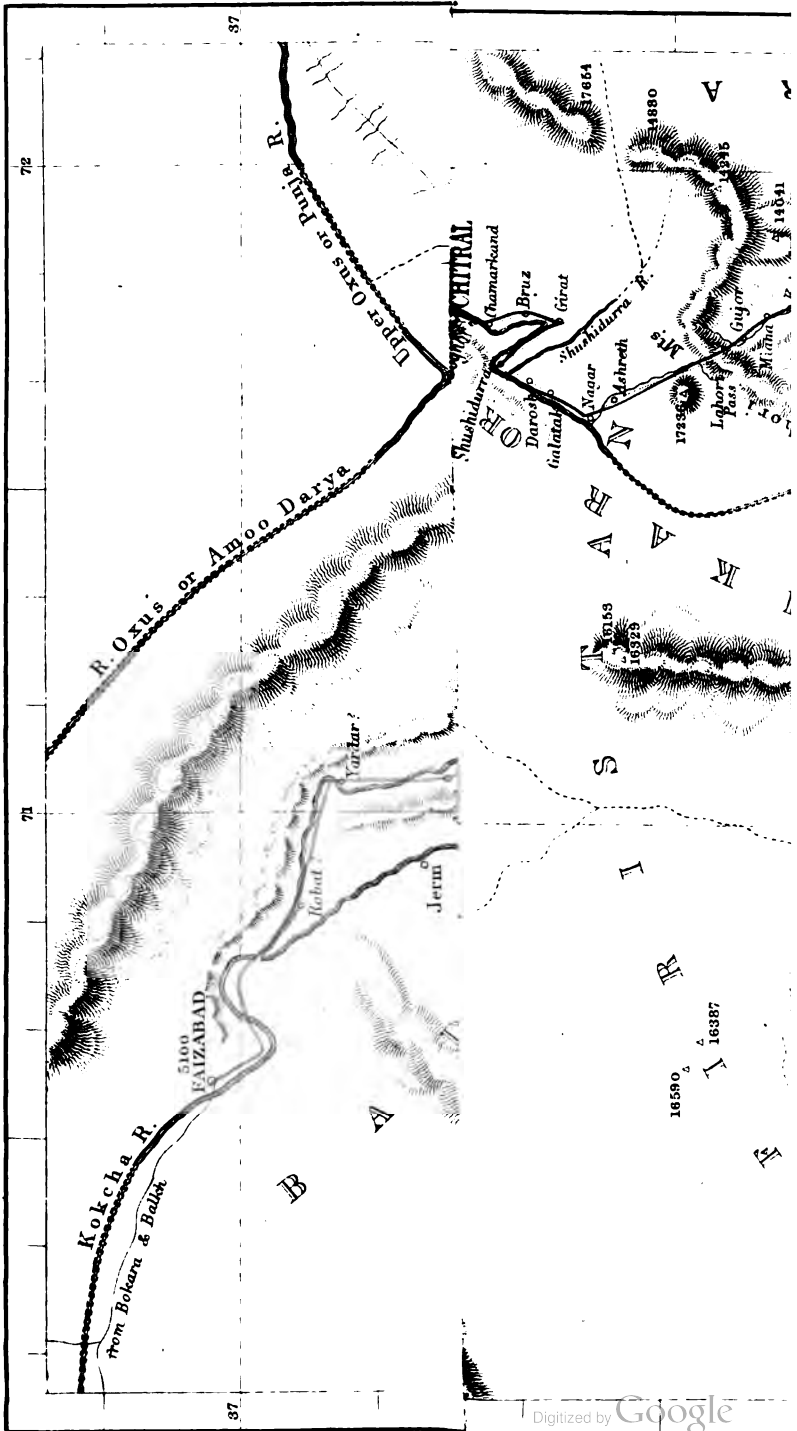
[Read, May 13, 1872.]

THE Trans-Himalayan and Trans-Frontier explorations were carried on during 1870 in various directions in continuation of my general plan for systematically exploring all unknown or partially unknown countries beyond the British frontier; one line of exploration from Peshawur direct to Faizabad, the capital of Badakshan, was brought to a successful conclusion, and will now be reported on.



Map showing Route from PESHAWUR, THROUGH CHITRAL to FAIZABAD IN BADAKSHAN, From the Exploration made by a Sapper Havildar, during 1870 to accompany the Paper by Major T.G. Montgomerie, R.E. F.R.G.S.





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I have long wished to clear up the geography of the mountainous tract lying between Caubul and Little Tibet, which is bounded on the south by the Indus River, and its great Caubul tributary, and on the north by the Hindoo-Koosh and Mustagh ranges. Though draining into our territory, and though we have several routes actually going into it near Peshawur, and again near Gilgit, our progress in clearing up the geography of this difficult tract has hitherto been very slow—reliable work, indeed, extending but a little way beyond the border. This ignorance has been the more aggravating as, from information derived from natives of the country, we really know nearly everything as to each separate portion, though unable to put the pieces together so as to form a reliable whole; the inhabitants who constantly come down to Peshawur, &c., being uneducated, and, consequently, incapable of explaining how any, except the larger, tracts lie with reference to each other. This being the state of the case, it appeared to me that, if a Route Survey could be carried right through the heart of the country, I should be able to get the correct positions of the larger places, and should, at the same time, be able to string together a large amount of detailed information which I have collected as to the minor tracts, valleys, &c., of the country, so as to form a fairly reliable map of the whole. With this object in view, I made various attempts to get a suitable agent from near the Peshawur frontier, but failed in getting a satisfactory one until I at last applied to Lieutenant-Colonel Maunsell, the Commandant of the Sappers and Miners, who placed at my disposal a very intelligent Pathan Sapper, who, after a great deal of labour, was trained to the work, and was getting on very well with a first attempt at exploration, when he was killed in a quarrel with some other Pathan with reference to some old feud between their families. As this was, however, in no way connected with his exploring work, it was determined to make another attempt: a Pathan from the frontier with the requisite amount of education was accordingly obtained, and his training nearly completed, when facts came to light that rendered it necessary to remove him. This was a great disappointment, but, still hoping for success, I applied, for the second time, to the Commandant of the Sappers, and was fortunate enough to have a Pathan Sapper placed at my disposal who was in every way qualified for the work; he was consequently carefully trained, and, after several preliminary trials, was started on an exploring expedition, with instructions to carry a Route Survey from Peshawur through Swat, Bajaur, Dir, Chitral, &c., to Badakshan.

Starting from Peshawur on the 12th of August, the party crossed into Swat by the Malakund Pass, on a range which rises

into peaks of 6000 to 7000 feet, reaching, on the 15th, Alladand, the capital of the present ruler of Swat, a small, poorly-built town of 300 houses. The next day, at a mile and a half north of Alladand, they reached the Swat River, a very large stream, which they crossed on rafts: continuing their march the same day, they ascended the opposite mountains, and, by an easy pass, crossed over the Lurrum Mountains into the Talash district, and, descending to the Punjkora River, crossed it on the 17th. This river appeared to be even larger than the Swat River. From the Punjkora River they marched on through Jundul, the largest district of Bajaur, reaching, on the 18th August, Miankilai, the chief town of Jundul, and the capital, in fact, of the province. Bajaur is divided into three districts, viz., Jundul (Miankilai), Nawagai, and Shahr, each of which is ruled by a separate Khan; the two latter, however, being, in a measure, subordinate to the present Khan of Jundul, Faiz Talab Khan, styled Haji-Saheb-Zada in consequence of his having made the pilgrimage to Mecca, and who has, owing to this and his general uprightness as a ruler, become much respected, in spite of a slight weakness in the one matter of horses, which he apparently cannot resist taking at his own price for his own use—a failing which, however, I understand is looked upon with a very kindly eye by all except the immediate sufferers; the Bajauries, in fact, being a race of horse-dealers, appreciate any sharpness in such a direction. Having a great partiality for good horses, he has collected them from all parts of the province, and now boasts of a well-mounted force of about 800 sowars.

Faiz Talab Khan resides in Burwa, a stronghold of some pretensions: his influence extends beyond his own province, and he is considered to be a more powerful chief than the present ruler of Swat, or of any other of the neighbouring provinces; his rule seems to be exactly suited to the wild tribes he has to deal with, though he is unable to keep in check their innate thievish propensities; for even in his capital—Miankilai—the Sapper and his party only escaped being plundered by means of extra precautions and great vigilance—a plot to loot them having been formed soon after they arrived. After two days' halt the party travelled north, for one march more, through Jundul, and then crossing the Janbattai Mountains, which rise to 12,000 feet, they descended gradually through Barawul, part of which is under a brother of Faiz Talab Khan: thence passing into the Dir district, they arrived on the 23rd of August at Dir itself, which the Sapper reports as being a small town of about four hundred houses.

So far the Sapper had made his way as an ordinary traveller.

but from Dir to Chitral the road is infested by Kafirs, and it was consequently necessary to make some other arrangements, in order to have a chance of a safe transit across this dangerous tract. Traders are in the habit of halting at Dir or Chitral until a large number collect, in order that they may all start together: sometimes as many as 200 start at the same time, but, in spite of this and other precautions, the travellers are frequently attacked by the Kafirs, and many are killed. Those of the travellers who fall are buried by the side of the road, mounds surmounted by a flag marking their graves. These are called the tombs of the martyrs. The Sapper saw hundreds of these, anything but reassuring, memorials on the way between Dir and Chitral.

On arrival at Dir they were much disappointed to find that all the traders for the northern route had already left, and that there was nothing for it but to make a special arrangement for their party by itself. In this dilemma the Sapper presented himself before Ramatoolah Khan, the chief of Dir, and asked for assistance. Ramatoolah Khan questioned him as to the object of his journey, &c., and was, fortunately, satisfied with the answers he got.

The Sapper then placed a handsome gold-laced scarf by the chief, and pointing out that, as all the traders had already started, it would be simple madness for his small party to go by itself, he begged that the chief would kindly send an escort with them. After some hesitation the chief consented, and gave the necessary orders. The party accordingly resumed its march, and, on reaching the village of Kashgarai, found an escort of twenty-five armed men awaiting them; the next day they reached Gujor, and then, crossing the Lahori Pass, close to mountains of 14,000 feet and upwards, they, after a very trying march, reached the village of Ashreth. Here, in spite of their escort, they were much troubled by the Kafirs, who swarm in and about the village, the inhabitants pampering them, so as to escape being more openly plundered. During the night an incessant discharge of small arms was kept up on the Sapper's party, who returned the fire, but, owing to the darkness, there was no damage done on either side as far as was known. The next day they resumed their march, being glad to get safely out of Ashreth. Their escort accompanied them down to the Koonur River, and finally parted from them at the village of Galatak, in the Chitral district, where an escort was no longer necessary. From thence they made their way up the Koonur River to Chitral, crossing one very large tributary called the Shushidurra, which joins in on the left or eastern bank. On the road near Brary, on the 30th August, the Sapper first heard a report

of the murder of poor Mr. Hayward. The report was that a saheb, by name "Hawel," who had travelled from Kashmir to Chitral, and whose intention was to have gone thence into Badakshan, had been murdered at a place called Ooshgoom (distant about seven days' journey north-east of Chitral), by the order of Mir Walli, of Ooshgoom, son of the late Goraman of Yassin. The saheb was said to have been accompanied by eight servants, one of whom alone escaped, though not without some wounds, the other seven being all killed. After the saheb was murdered, some 700 tillahs, or gold pieces (about six rupees each in value), were found and taken by the murderers, along with his clothes, guns, pistols, his watch, books, and a variety of other property.

On the 31st of August the party reached Chitral, where their first transaction with the Chitral chief was an attempt on his part, through his Wazir, to make them exchange a portion of their goods at his valuation. The Sapper had an interview the next day with the chief, who is styled Badshah by the people thereabouts, but it was to no purpose, so there was nothing for it but to submit to the imposition.

The Sapper saw the chief Aman-i-mulk several times, and has given the following account of a very remarkable interview he had with him when Mir Walli, the murderer of Mr. Hayward, was present. "On the 4th of September the Badshah of Chitral sent for me (the Sapper), in durbar, and gave me a seat on his right, between himself and Mir Walli. After the ordinary inquiries the Badshah then commenced to talk with some of his durbar officials who sat opposite to him, and, while he was engaged thus, I turned to Mir Walli, and, in a quiet way, asked him what was the cause of quarrel between Hayward saheb and himself, on which he said to me that 'I was in no way inclined to quarrel with Hayward saheb, for I had seen him on a former occasion while he was travelling through our country, when we interchanged civilities and presents, and parted good friends; but on this latter occasion of his travelling through the country he was forcibly pressing coolies and other people to carry his baggage from stage to stage on his way into Badakshan, besides taking supplies of food for his followers from the villagers by force, and several complaints from the zemindars reached me to this effect. On Hayward saheb coming up to the village where I was, I remonstrated with him, and advised him not to act as he was acting towards the people, whereupon the saheb turned round on me and abused me, telling me that this country did not belong to us, but to the English, and altogether his attitude on the occasion was very violent, so much so that I feared his using personal violence to myself, and in consequence



I kept quiet. The saheb encamped for that night near the place I was, but, towards morning, I sent some sixty men to a place a little distance ahead, called Ooshgoom, with orders to wait in ambush for the saheb and his party, and on their way thence to fall upon them and kill them—which they did, killing Hayward saheb and seven of his servants.’ ”

It is generally reported in the country that on Aman-i-mulk (the Badshah of Chitral) hearing that Mir Walli had ordered Hayward saheb to be murdered, he exclaimed that “ Mir Walli is my enemy, for what authority had he, without any order from me, to take upon himself to kill Hayward saheb? I must imprison him for the act.” Report furthermore says that Mir Walli, on learning this threat of the Badshah, fled into Badakshan, and hid himself in that country for about twenty-five days, after which he returned to Chitral and presented himself to the chief, giving him a gun taken from Hayward saheb. The date on which Mir Walli returned to Chitral was the 28th August, from which date they have appeared fast friends. The Badshah always now keeps one of Mr. Hayward’s guns beside him whilst in durbar.

The people of Chitral appear to be convinced that Mr. Hayward was murdered by the orders of Aman-i-mulk, the chief of Chitral, who used Mir Walli merely as an instrument in the murder; for they say that the fact of Mir Walli being away for so short a time after the murder, and then returning and continuing such a fast friend of the chief, tend to show that the chief’s appearing to have been annoyed on learning the saheb’s fate was simply a blind to throw the blame off himself, the actual offender. Moreover, the people of Chitral are convinced that Mir Walli could not have, on his own responsibility, undertaken the murder of Hayward saheb, for his authority in the country is so weak, that he would not have been obeyed had not a higher authority instructed him in the act. They are all convinced that Mir Walli’s flight and sudden return to Chitral were planned by Aman-i-mulk beforehand. Aman-i-mulk has the reputation of being a very deceitful man, speaking to the humblest of his men in a soft, hypocritical manner, behind which he conceals a bad, unfeeling heart. He is said to live in the constant fear that his country will be taken from him, and, to avoid any good excuse for this being done, his evil acts are always so planned that the blame should rest on the shoulders of others. The following illustrates this, which the Havildar heard from several individuals while in Chitral.

A Subadar named Dillawar Khan and two Sepoys belonging to one of the Native Regiments, serving under the British at a Frontier Station, were making their way into Badakshan by

Chitral, and were well received by the chief, and had left for Badakshan, when the Badshah got notice that a Subadar and two Sepoys employed by the British were taking notes of the country, and was recommended on their arrival at Chitral to detain them. The description given of these men, travelling as they were in the disguise of fakirs, corresponded with the three men, and they were pursued by the Badshah's men, overtaken and brought back to Chitral, and, by the chief's orders, kept close prisoners. After a confinement of 20 days they were brought before the chief, who told them that he had just learnt that they were employed by the British, but had he known this sooner they would certainly not have been imprisoned, so in order to compensate them and throw off all suspicion, he made them presents of chogas, &c., treated them with apparent cordiality, and asked them which way they intended to travel; on learning which, he ordered two of his men in their presence to escort them as far as a village which he named, and to treat them well, and see that they wanted for nothing on the road; but secretly he instructed the escort to murder them the moment they were out of his country; and, according to several reports, they did murder the Subadar, though the other two made their escape. Some, however, suppose that the Subadar died from cold and weakness. One choga and two note-books of the Subadar's are still reported to be in the hands of the petty chief at Zebak.

The account of Hayward's murder agrees in the main with that from other sources; Ooshgoom, where the murder was said to have been perpetrated, is, I presume, the Wurchagam noted on poor Mr. Hayward's map as the name of the stream or valley, immediately north of Yassin, through the lower part of which he passed when he first visited Yassin; Darkot is according to the account received from Kashmir the name of the village near which he was murdered; it lies 20 miles due north of Yassin.

The Sapper reports that Aman-i-mulk (the Chitral chief) seemed to be very friendly with Mir Walli, and most assuredly took a share of the spoils of poor Hayward's camp, for he always carried one of Hayward's rifles, taking it with him to the Eedgah, or place for praying, where the Sapper accompanied him, and saw the rifle placed alongside of him.

Chitral consists of a number of small villages and separate houses scattered over a considerable area; and though, according to his boiling-point observation, it is 7140 feet above the sea, it is very hot at times during the summer. The government of the country seems to be only a few shades better than that of neighbouring Kafir tribes; the chief carries on the slave-trade

himself, *i. e.* catching Kafirs if he can, but failing them, seizing his own subjects and selling them whenever they give him an excuse for doing so by committing any real or imaginary breach of his laws. Probably no great numbers are thus sold into slavery, but, as far as could be made out, no family in Chitral is quite safe from that fate. The Chitral chief was, on the whole, very civil to the Sapper, and as soon as a one-sided exchange of goods had been effected, he allowed the party to march on towards Badakshan.

Starting from Chitral on the 5th of September, they continued their journey to the north, leaving the main Koonur River on their right, and ascending a large side stream, they, after some delay, reached the base of the lofty Nuksan Mountain by noon of the 15th September, and the same afternoon accomplished about half the ascent. The climate was very trying, partly on account of the steepness and partly on account of the snow. Their camp was of course a most uncomfortable one, but they were not able to enjoy long such small comfort as was to be got there, for it was necessary to be off by three o'clock the next morning, so as to clear the pass before the Kafirs met them,—the road near the pass being dangerous, owing to the strong bands of those robbers, who are always on the look-out for the chance of plunder. After a very stiff climb the party reached the crest of the pass, crossing large beds of snow and immense masses of ice—the road for a distance of 400 or 500 paces being literally cut through the ice to a depth of from 6 to as much as 12 feet. Every here and there the ice was fissured with vast cracks, which the travellers avoided with the greatest care.

The Sapper had never been on any snowy mountains before, but this account leaves no doubt in my mind that this part of the so-called Hindoo-Koosh range at any rate boasts of one glacier, the vast cracks, or, in other words, the crevasses, being quite unmistakable as they never occur in an ordinary snow-bed. As the mountains on either side of the pass rise considerably above it, the probability is that there are numerous glaciers in the neighbourhood. The above is the first evidence that we have as to there being any glaciers in the Hindoo-Koosh, nothing of the kind having been noted between Bamian and Pamir Kul, the most easterly point visited by the Mirza.

Having crossed the pass, they descended rapidly, and after a very hard march reached Daigul, the first village of Badakshan, and on the 18th September made their way to Zebak on the Kokcha River, the same group of villages that the Mirza had passed through in the previous year, thus completing a junction and connecting the two Route Surveys together. From Zebak they went down the Kokcha River, by much the same route

that the Mirza ascended, reaching Faizabad, the capital of Badakshan, on the 25th of September.

The Sapper found that Jehandar Shah, the Mir or ruler, who held Badakshan when the Mirza was there, had been supplanted by Mahmood Shah, who was assisted by the Amir of Caubul. The party had instructions to advance still further north across the Oxus, and they tried to arrange for so doing, but could not because the road in that direction was strictly closed by the orders of the Amir Sher Ali, who suspected that letters were sent by that route to Abdul Rahman Khan by his supporters in Caubul.

Whilst in Faizabad, the Havildar witnessed the fate of a man upon whom some such letters were found. The unfortunate wretch was thrown from a lofty bridge down into the rapid stream of the Kokcha, and though not killed on the spot, he died a few days afterwards from injuries received by being dashed against the boulders which protrude from the water in every direction. This is a favourite mode of execution in Badakshan, and was noted by Wood when he passed through the country.

Being able to devise no immediate means of advancing to the north, the Sapper, according to his instructions, prepared to return. Starting on the 27th October, his party reached Zebak on the 31st of October, where they witnessed a meeting between the rulers of Badakshan and Chitral. On the 3rd November they left with a party of traders accompanying Mir Walli, the murderer of Mr. Hayward, who had come into Zebak with the Chitral chief. Whilst there the scoundrel Mir Walli had his leg broken between the knee and the ankle by the kick of a horse, and when the Sapper saw him he was in great pain with it, the bone never having been allowed to set.

From Zebak it was necessary for the party to take a different route from that by which they crossed the Hindoo-Koosh on their upward journey,—the lofty Nuksan Pass being already closed owing to the lateness of the season. The traders said the only chance was to try the Dora Pass to the west which was somewhat less difficult, though less used, owing to its running through a part of Kafiristan, and to its consequently being always infested by strong bands of Kafirs. The traders, however, having Mir Walli's escort, and being in considerable numbers themselves, thought they might risk the passage; they therefore marched on, taking the more westerly of the two streams, which, coming from the south, join at Zebak. The first day they reached Sanglech, where the cold was so intense (though it was only the 3rd of November) that the stream which flows past that village in a steep bed was already frozen

hard ; the next day they advanced to another village, also called Sanglech, and here two of the Sapper's servants deserted, being afraid to face the intense cold expected on the Dora Pass. The Sapper, however, resolved to go on with his diminished party ; on the 5th they encamped in a desolate place at the foot of the Dora Pass ; here they had to be very vigilant so as not to be surprised by the Kafirs, who are thereabouts more especially troublesome. By good arrangements they escaped an attack, and the next day they succeeded in crossing the Dora Pass, the road appearing to the Sapper to be even worse than the Nuksan Pass ; this he thinks was in part due to the lateness of the season. He says he never in his life experienced such hardship as he did on those two stages. The combined effect of the intense cold, the high cutting wind that prevailed, the fact of being deserted by two servants, and the anxiety owing to threatened attacks by the Kafirs, made them feel the height of misery, the more especially as from the 6th, when they passed the crest of the Dora Pass, till the 7th of November, when they reached Lotko, in the Chitral province, it was snowing hard. From thence they marched on to Shogoth, thus joining in to their former route. The Chitral chief caught them up and passed them on the way, and, thinking he had a good opportunity, he ordered an extra toll to be taken from the traders ; they, however, refused to leave Shogoth, and held out there six days, till they at last got better terms. The Sapper with them reached Chitral on the 16th of November ; on the 17th he again presented himself to the Badshah, who now, however, looked coldly on him, saying that he had heard he was in the employ of the English. The Sapper, however, was nothing daunted, and requested that he might have a pass for his return : the chief, though convinced he had heard a true account as to the Sapper, thought it well not to interfere with him and his party, and so gave the necessary order. The Sapper said when he left, Mir Walli was still in great agony from his broken leg, and as he could actually hear the bone grating when he moved, and it was then more than a month since it was fractured, there is little doubt but that this scoundrel may hereafter be recognised by his lameness, which is likely to be permanent, and which may yet perhaps assist in bringing him to justice and to the fate he so richly deserves.

Having completed his arrangements, the Sapper marched back by much the same route as he had advanced, reaching Peshawur on the 13th of December, having again passed safely through the corner of Kafiristan between Chitral and Dir, and not a little glad to think that neither he nor any of his men

had added another mound to the tombs of the many Mohammedan martyrs who have fallen on that road.

His Route Survey is 286 miles in length, over entirely new ground, which has never before been surveyed by an explorer, though no doubt other natives may have passed over the whole length. The route touches upon a great number of districts, and determines with all desirable accuracy a number of important places. It accounts for the geography of about 13,000 square miles of this *terra incognita*, and will aid in unravelling the geography of a still greater area. The route is checked by 20 latitude observations at 5 places. The boiling-point observations are very meagre,—the Sapper not quite appreciating their importance, this being his first expedition. He moreover says he wished to boil on the passes but was unable to do so without risk of detection, except on the Nuksan Pass, where unfortunately he could find no wood, being far above the limits of forests. From the glacier and the amount of snow in September as well as other evidence, I conclude the Nuksan Pass to be about 17,000 feet, that of Dora may be 16,000 to 16,500.

The position of Chitral has always been a great desideratum, and as it is so immediately north of Peshawur it may be concluded that it has been very satisfactorily determined, as any error in the distances could but very slightly affect its longitude, while its latitude is thoroughly established by three astronomical observations, which agree very fairly *inter se*, the Sapper having shown by his observations for Peshawur, and for Faizabad that he understands taking latitudes,—those at the latter place agreeing very closely with Wood and the Mirza.

The heights of Miankilai and Chitral, though only approximate, assist in forming a better general idea of the height of the countries traversed than we have yet had; a glance at the accompanying map will show what has been accomplished. Amongst other things it may be said that the course of the great Koonur River has been definitely, though roughly determined, as there now exist but two gaps—the first between Chitral and the Mirza's bearing from edge of the Pamir Steppe, which evidently points to the source of the Koonur River; and the 2nd gap between Chitral and Chigur Serai, as determined by Griffith's accurate observations. These gaps can in a measure be filled up by the aid of the numerous peaks which we have determined trigonometrically in that direction, and I think it may be said that those portions of the course of the Koonur River, will not hereafter be found to differ materially from the dotted line given in the map. Should any ex-

plorer hereafter be fortunate enough to traverse its whole course, his additions will be chiefly as to the side streams.

The Sapper's pacing, on the whole, seems to have been good. As compared with the difference of latitude between Peshawur and Chitral, it appears that one of his paces was on the average of 21·8 inches in length, which is somewhat short.

Accepting the Mirza's value of Zebak, and the Sapper's value for Chitral, the direct distance between these places should be 60·5 miles; using the value of the Sapper's pace as determined from the latitudes of Peshawur and Chitral, viz. 21·8 inches, the distance between those places would be 69·1 miles, a fair agreement, considering the roughness of the ground, and the fact that there is no telling exactly what points of Zebak the Mirza and the Sapper respectively refer to.

A further check is afforded by his route between Zebak and Faizabad being the same as that traversed by the Mirza; the Sapper gives very nearly the same average bearing, and makes the distance 62·9 miles, while the Mirza makes the same 59·5 of his miles, which, as shown in paragraph 30 of my last year's memorandum, were 0·02 in defect, and the 59·5 miles being consequently equal to 60·7 miles,—a close agreement, bearing in mind that Faizabad is a mile in length, and that there are eight villages in Zebak, and no particular place for halting in, travellers sometimes choosing one and sometimes another.

Altogether the Sapper's work has satisfactorily stood the tests applied; he has, moreover, fixed a number of peaks by bearings, and though mostly rather close to his route, they will aid in solving the geography of the surrounding mountains.

In my opinion, the Sapper deserves all credit for his great pluck and endurance, as well as for the discretion with which he penetrated through such a difficult country, without, I believe, getting into a single disturbance with the people of any of the districts he traversed, though constantly bullied by requests for legal and illegal tolls, which were made at most places. I am convinced, moreover, that his undaunted bearing on his return journey, when the chief had guessed his secret, was the means of preventing himself and party from being sold into slavery, or possibly from a worse fate, the wily chief probably thinking that his co-religionist, who showed such a bold front, did so because he was backed by something more than the few men he had with him.

#### NARRATIVE REPORT.

The Sapper left Peshawur, accompanied by his assistant and servants, on the 12th of August, and arrived towards evening at a village called Nasath; on the 13th arrived at Jelala village; on

the 14th, reached the village of Durgai, which is on the frontier of Swat, and not in British territory. Durgai is surrounded by a mud wall, about 40 feet in height, and three feet in thickness; it is occupied by an unscrupulous set of bandits, and, consequently wholesale robberies and murders are quite common. On the morning of the 15th of August they left Durgai village, and, after crossing the Malakund Range, reached the village of Alladand towards nightfall. This place, Alladand, is the seat of the present Khan, or ruler of Swat, a man not equal to governing the country properly, and hence the people are dissatisfied, and are always intriguing to induce his predecessor to resume the rule of the country. The village of Alladand consists of about 300 houses, built of stone cemented with mud. On the morning of the 16th August, after paying the tax imposed for the goods with them, the party left Alladand village; marching on for a mile and a half they reached the Swat River, which they crossed on rafts, arriving by night at a group of four villages, called Ooch, one of which belongs exclusively to the sect called Saiyuds, and the other three exclusively to Pathans.

On the 17th they reached the small fort of Serai by noon, and after paying the usual toll charged there, they travelled on till they arrived at Shumshi Khan village, where they had to pay another toll. Both these villages are presided over by officials styling themselves Khans, and are amenable to Faiz Talab Khan, the ruler of Bajaur. Continuing their march on the same day, they crossed the Punjkora River, and stayed for the night at Kotkai village; the tract from the village of Ooch to the Punjkora River constitutes the district called Talash. On the 18th they arrived by night at Miankilai, which is the largest and most important town in all Bajaur; it is situated in the largest of the three subdivisions of the Bajaur Province, viz. Jundul. The town of Miankilai has about 1000 houses—built, as usual in these parts, of stone cemented with mud.

The present ruler of Miankilai has, owing to his popularity, the greatest amount of authority of all the Khans in the Bajaur district, and is styled by the people Haji-Sahib-Zada.

The party halted at Miankilai for two days, in order to take star observations for the determination of its latitude. While halting for the purpose, a plot to loot the party was made by a gang of thieves; this fortunately was revealed to the Sapper by the owner of the house they occupied, and consequently, by extra caution and vigilance on their part, the danger thus threatened was warded off.

On the morning of the 20th of August they left Miankilai town, and arrived at Kanbat village, situated in Jundul. This



village is notorious for thieves, and they had to adopt great precautions for the security of their baggage. On the 21st they reached the fort and village of Janbattai, after crossing the mountain of the same name. The ascent of the pass of Janbattai from either side is stiff, but fortunately several springs of water exist on the way, and help to allay the immoderate thirst produced by the ascent. The northern slopes of this mountain are covered with dense pine-forest, while the southern slopes are only partially covered. It rained for half the day while they were on the Janbattai Mountain.

Here the Sapper met Feroza-Khan (brother to Faiz Talab Khan, of Jundul), who is the possessor of a small tract of country, including several villages in the Barawul district. He appeared friendly though anxious to find out the real object of the Sapper's journey; fortunately the latter managed to ward off all suspicion as to the real state of affairs, by giving out that he was going to Chitral, in the hope of getting some presents from the Badshah, whose reputation for such was proverbial, and at the same time to obtain some falcons for which Chitral is far famed, and which fetch such high prices in the Punjab. Feroza-Khan has a great partiality for fire-arms of all descriptions, and showed a large number of guns of English manufacture, which he had been at great pains in collecting.

On the 22nd they reached, towards evening, the village of Soorbat, situated in the district of Dir. Half-way on this march they came across the fort and village of Bandai, situated on the frontier of the Barawul district. On the 23rd they arrived at the village of Dir, which contains about 400 houses. The present ruler of Dir is Ramatoolah Khan, son of Ghazan Khan, who during his lifetime ruled the large tract of mountain-land which at present constitutes the district of Dir. Ghazan Khan was a powerful chief, and his authority was very great, for even the Badshah of Chitral was tributary to this chieftain. He left nine sons, all of whom aspired to the vacant Guddee, and bloodshed among these brothers ensued, till at last Ramatoolah Khan, the eldest, established himself permanently as chief. The brothers then dispersed themselves over the country, but are still jealous and impatient of Ramatoolah Khan's authority, endeavouring to throw the country into a state of disaffection and anarchy, by questioning their eldest brother's right to the Khanship of Dir.

Ramatoolah Khan is in person a handsome, manly young chief, 6 feet in height, and is mentally well fitted to rule in such a country. His administration of justice is the theme for praise with all the people.

The road from Dir to Chitral is infested with Kafir robbers, who are much dreaded by travellers. It can be said to be open for only two and a half months of the year, from the latter end of May to the middle of August. Two reasons make the road impracticable during the remaining months of the year, viz., the snow during the winter, and the dread of the Kafirs during the warmer months.

Having made arrangements, the party continued its march on the 25th, and reached a village called Kashgarai, from whence an escort of twenty-five armed men accompanied them on the 26th on the route to Chitral. On the 26th they reached the village of Gujor, inhabited only during the summer months; on the 27th, after crossing over the Lahori Mountain, they reached the village of Ashreth, after a very tedious day's journey. Immense quantities of iron are found in the bed of a small stream which rises at the foot of the Lahori Mountain; the process adopted to obtain this iron is similar to that in the washing of gold-dust from the streams of other parts of the country. A quantity of sand from the stream is placed in a sieve and washed till the iron is left behind.

Ashreth village is the resort of scores of the Kafir robbers. It is the place most dreaded by the merchants who travel by this route. The Kafirs usually keep up an incessant fire on travellers throughout the night. The exploring party was not spared in this respect, and hence passed a most anxious night, returning the fire of the robbers, but with what effect the darkness prevented them from ascertaining. Leaving Ashreth on the 28th, they reached the village of Darosh at night, after having dispensed with their escort at a village called Galatak, situated in the Chitral district. Darosh possesses a fort which is the residence of Kokan Beg, brother to Aman-i-mulk, the Badshah of Chitral. This Khan levies on all merchants and others a toll or tax, but in consequence of a letter having been sent to him by the ruler of Dir, through one of his officials, asking him to exempt the party from all tolls, they were not asked to pay anything.

On the 29th they reached Shushidurra, a small village on the right bank of the Shushidurra River, which throughout the year contains so large a volume of water, that at no time is it fordable, and always has to be crossed by a bridge. This river flows into the Koonur River.

It is reported that in the neighbourhood of this village a silver mine exists, which is said not to be worked because the chief of Chitral fears that, were the fact known to the Amir of Caubul, or the Maharajah of Kashmir, or the Amir of Badakshan, his country might be wrested from him. The silver,

it is rumoured by the people, was accidentally discovered in a spot in this neighbourhood by a Fakir, who in person reported the circumstance to the Badshah of Chitral; the latter was then conducted to the spot, and after satisfying himself of the truth of its existence, he is said to have imprisoned the discoverer, and then to have poisoned him. The existence of silver hereabouts is not unlikely, for the country is rich in copper mines, which are said not to be worked now, for the same reasons as given for not working the silver. "Orpiment," or yellow arsenic, called Hortal, which is much used for dyeing cloth, is also found in large quantities in the country. On the 30th they left Shushidurra, and travelled to Bruz village.

On the 31st August the party reached Chitral. On the arrival of any merchant at Chitral an official of the Durbar immediately reports the circumstance to the chief, with a list of the merchandise with the merchant. The Badshah's Wazir then repairs to the merchant and in his master's name informs him that the Badshah requires to exchange goods with him to a large amount. The arrival of the party was reported in due course to the Badshah, who sent as usual his Wazir with the stereotyped request to exchange goods; but thinking that they might avoid this imposition, they requested time up to the next morning to make up their mind on the matter. Consequently, on the morning of the following day the Sapper went to the residence of the Badshah in the fort. The Badshah then interrogated them as to where they had come from, where they were going, and as to the object of their journey. They answered that they had come from Peshawur and were going to Bokhara, where they hoped to recover money from certain of their countrymen who had amassed large fortunes and were settled in Bokhara. The chief of Chitral advised them not to attempt the journey, for the road was closed to travellers onwards from the river Hamoon (the Oxus) by the Amir of Badakshan, Mir Mahmood Shah, in compliance with orders received by the latter from Sher Ali, the Amir of Caubul, who has considerable authority in Badakshan. The reason for this prohibition is, that about a year and a half ago, on the persons of three travellers, who were on their way to Bokhara, and who were accidentally searched, were found letters of great political importance, purporting to have been written by certain intriguing Sirdars of Caubul to Abdool Rahman Khan, nephew of the present ruler Sher Ali of Caubul. Abdool Rahman Khan was said to be at this time in Bokhara under the protection of the Russian Government. These three men, on whom the letters were found were forwarded on to Caubul, and by order of the Amir were blown away from guns. All these matters were told to the Sapper direct by the Badshah

of Chitral himself, in order to force him to interchange the goods he had brought with him, such as richly-worked scarfs, chuddurs, &c., with such articles as he would or could give in return, and seeing his intention the Sapper replied that at least he would travel up as far as the frontier (the Hamoon River), even supposing that he could proceed no farther.

On the 5th September, 1870, after making arrangements for the onward march, and disposing of a couple of asses which were of no further use, the party left Chitral and reached the village of Shogoth towards evening. At this place they had to halt on the 6th and 7th, in order to change carriers. On the 8th they left Shogoth and reached Shali village. On the 10th they marched to Hurkarri village, where they stayed till the 13th September.

On the 14th they left Hurkarri and reached the village of Oweer: the road on this march for a mile is very dangerous for laden animals, and so they had to unload the ponies and convey the baggage on men. On the 15th, by noon, they reached the foot of the mountain called Nuksan; after refreshing themselves they commenced the ascent that same day, but had to encamp about half-way up the hill in consequence of night coming on. The ascent of this hill is attended with great fatigue, being covered with snow nearly from the foot of the mountain; the slope is great, and a high, cold, and sharp wind always blows throughout the day, making it very disagreeable for travellers. The feeling of shortness of breath is felt on this mountain, and travellers eat raw onions on making the ascent, in order to counteract, if possible, the giddy feeling which comes over every one.

On the 16th they rose at about 3 A.M. and resumed their journey, reaching the crest of the mountain at daybreak; this was done so as to avoid any likelihood of the party meeting with the Kafir robbers, who from this point again begin to be dangerous. The party continued their march till they reached the village of Daigul, making altogether a very long and tedious march.

On the 17th they discharged the carriers who were with them, and halted at Daigul (which is on the frontiers of Badakshan), to make fresh arrangements for carriers, &c. On the 18th, the arrangements being completed, they started, and reached Zebak, which is formed of eight villages scattered within a small distance of each other. The present petty chief of Zebak, Mir Hak Nazar by name, has received his authority direct from the ruler of Faizabad. Zebak is in a valley from 2 to 3 miles in length and surrounded on all sides by mountains: three streams, one flowing from Yarkund, one from Daigul, and the third from

Sanglech, meet at Zebak and flow from thence in one united stream towards Faizabad.

One road leads from Zebak towards Yarkund, another leads to Daigul, a third leads to Sanglech, and a fourth to Faizabad. The trade in slaves of both sexes assumes no great proportions in either Chitral or Faizabad. In the former place it is monopolized by the chief, and no one besides himself dares to sell slaves, while in the latter place merchants chiefly from Bokhara deal in them, the ruler of Faizabad taking no part in the transactions.

The party was delayed at Zebak for two days, in consequence of an attempt that was made there to induce them to surrender their goods with little or no payment, which the Sapper on the other hand was determined not to do, at any rate without the payment of their full value.

On the 21st they reached Sufaid Durra village, on the 22nd Soofian village. The country about this village is very productive in fruit of all kinds; the apple grows to perfection, and is so abundant that for a single copper they bought about fifty. On the 23rd they reached Yardar village, on the 24th Robot, and on the 25th September they arrived at Faizabad.

On arrival at Faizabad they learnt that the road through Kolab into Bokhara was closed by the orders of the Amir of Caubul, in consequence of his being suspicious that this road was the one used in the conveyance of letters to Abdool Rahman Khan from intriguing Sirdars in Caubul, and that they, to avoid all suspicion, had the letters conveyed in the first instance to Peshawur, and thence through Swat, Chitral, Faizabad, Rustak, &c., into Bokhara.

The present ruler of Badakshan, Mir Mahmood Shah, was placed there in October, 1869, by Sher Ali Khan, and is tributary to the latter. He is in caste a Saiyud and is reputed to be a learned man; the people of Badakshan, however, are averse to his rule as he oppresses them by demands for extra revenue, &c., which is taken from the people on the plea of the same being demanded by the Amir of Caubul, but a large portion of which they are certain is retained by Mir Mahmood Shah for his own use. No less a sum than 80,000 Rs., besides 500 horses, was paid to Sher Ali during the first year of Mir Mahmood Shah's rule in Badakshan. The former ruler of Badakshan was Jehandar Shah, an intimate friend of Abdool Rahman Khan; and when the latter fled to Bokhara, Jehandar Shah also left his country and followed his friend, the country being taken from him by Mir Mahmood Shah. The chief of Badakshan up to this time never paid any tribute to the Amir of Caubul.

Jehandar Shah, when chief of Badakshan, is said not to have

oppressed his subjects, and though a drunkard and a dissolute character, was able to maintain his independence, and never paid any tribute to Caubul. Traders from all parts of Turkestan, Bokhara, Caubul, Candahar, &c., resort to Faizabad, and the Bajauri Pathans flock thither in large numbers to barter and trade.

The contrast between the two durbars of Chitral and Faizabad is very striking in the matter of the authority of their respective chiefs, the manner in which the Durbar is conducted, &c. The chief of Faizabad is much respected in Durbar, and the despatch of public business, the conduct of public worship, the dress of the people, and other public matters, betoken the prosperity of the country and the security from oppression which the people really enjoy.

It was commonly reported in Faizabad, that a Saheb who had travelled a long distance and had gone to Caubul and received a letter from Amir Sher Ali had found his way into Faizabad, where he was treated in a very cordial manner by Mir Mahmood Shah who gave him a small escort to enable him to travel to Yarkund; he had left Faizabad but ten days when the party arrived there. This Saheb carried quantities of medicines with him and gave medical aid to the inhabitants of the countries through which he passed. It is reported that he found his way to Yarkund, but that he was imprisoned there, for unknown reasons, by the Khoosh Begi or the ruler of that place. During his stay in Faizabad the Sapper witnessed the fate of three men on whom letters, written by some Sirdars of Caubul to Abdool Rahman Khan and Jehandar Khan, had been found. They were at first sentenced to be hanged, but their lives were interceded for by some people, and the sentence was accordingly commuted to exile for two of the lesser offenders, while the chief offender was ordered to be thrown into the river, a mode of punishment much practised there. Owing to the rapid current of the river flowing over a rocky bed, this practice seldom fails to prove fatal to the victim; in this case, the offender, though escaping immediate death by being washed to the other bank, yet died ten days after, of the wounds he had received from being dashed against the rocks. The place of exile to which the other two men were sent is called Sarab, a spot so hemmed in by dangerous and steep mountains that once in the spot it is almost impossible for the victim to escape.

During their stay in Faizabad, the Sapper heard a rumour that Abdool Rahman Khan, assisted by the Russians, had marched on the city of Shahri-Subz, but was repulsed. On learning that the leader of the enemy's force had been shot down, they were said to have returned to the attack and to have taken and plundered the city.

On the 27th October they began their return journey, and reached Robat village, on the 28th Yardar, on the 29th Soofian, on the 30th Sufaid Durra, on the 31st Zebak, where they halted the next day, the 1st November, and witnessed the meeting of the chiefs of Chitral and Badakshan who had journeyed thither for friendly intercourse. The former had 700 sowars with him as his escort, and the latter 2000 sowars or mounted men. It was supposed that the meeting of the two chiefs was dictated from fear of their countries being taken from them by the Amir of Caubul, and hence negotiations for offensive and defensive alliance were entered into on the occasion. Presents were interchanged between the chiefs, the Chitral chief giving 21 slaves of both sexes, and also his daughter in marriage to the Faizabad chief's son, and the latter presenting the other with 60 chogas of Bokhara manufacture, also two swords and a horse.

On the 2nd November, they halted at Zebak. On the 3rd they travelled along with the traders accompanying Shah Zada Mir Walli to Sanglech. On the 4th November they reached another village, also called Sanglech. On the 5th they encamped in a desolate spot at the foot of the Dora Pass. On the 6th they crossed the Dora ridge and encamped at the foot of the pass on the other side near the site of a hot spring, the water of which is hot enough to boil eggs in a short time.

On the 7th November they reached the village of Lotko, situated in the Chitral district. The Badshah and his followers passed on this march on their return from the interview with the chief of Badakshan. On the 8th they reached Darosh village (not the Darosh mentioned on their first journey). On the 9th day they reached Shogoth, the same place they passed on their first journey. Here they were detained for six days, in consequence of the traders in whose company the party travelled refusing to pay the higher rate of toll imposed by the collector of the place by the orders of the Badshah.

On the 16th they reached Chitral, and on the 17th the Sapper again presented himself to the Badshah, but his treatment of him this second time was cold, for he said that he had heard the Sapper was in the employ of the English, and he could not be persuaded to the contrary. However, he did not molest them in the least.

On the 23rd they left Chitral and continued their march over the same road they had gone up by, halting daily at nearly all the same places as on the former journey, but, from unavoidable circumstances, they halted for two days at Darosh, three at Dir, and two at Hotee Murdan. They reached Peshawur on the 13th December, 1870, and thence returned to the head-quarters of the G. T. Survey.

OBSERVATIONS FOR LATITUDES TAKEN IN CENTRAL ASIA.

No. of Observation.	Astronomical Date.	Watch Time.	STATIONS.	Object.	Upper or Lower Transit.	Double Altitude.	Single Altitude.	Index Error.	Deducted Latitudes.	Mean Latitudes.	REMARKS.
1	1870	H. M.	Camp Peshawur	Polaris ..	..	67 0 0	..	+4 30	83 56	0	{ Not observed on Meri-
2	Aug. 5	8 55 P.M.	Ditto	"	..	68 40 0	..	"	83 56	0	dian.
3	" 5	11 20 "	Ditto	"	..	69 0 0	..	"	..	..	Ditto.
4	" 5	11 36 "	Ditto	"	..	115 41 0	..	"	..	..	Ditto.
5	" 5	9 32 "	Ditto	Altair ..	..	121 18 0	..	"	..	..	Ditto.
6	" 5	9 57 "	Ditto	"	..	123 0 0	..	"	..	..	On Meridian.
7	" 5	10 2 "	Peshawur Mundee	Fomalhaut	..	51 31 6	..	"	84 0	0	{ Not observed on Meri-
8	" 6	2 A.M.	Ditto	β Ceti ..	..	74 43 0	..	"	84 0	0	dian.
9	" 6	3 48 "	Miankilai	Fomalhaut	..	43 37 0	..	"	..	..	Ditto.
10	" 19	11 36 P.M.	(District) Bajaur	"	..	44 34 0	..	"	..	..	Ditto.
11	" 19	11 45 "	Ditto	"	..	45 33 0	..	"	..	..	Ditto.
12	" 19	11 53 "	Ditto	"	..	56 30 0	..	"	..	..	Ditto.
13	" 19	0 40 A.M.	Ditto	β Ceti ..	..	57 37 0	..	"	..	..	Ditto.
14	" 19	0 45 "	Ditto	"	..	58 41 0	..	"	..	..	Ditto.
15	" 19	0 50 "	Ditto	"	..	125 35 0	..	"	85 36	..	{ On Meridian.
16	Sept. 1	Noon.	Chitral	Sun ..	..	71 6 0	..	"	85 49	35 44 40	Ditto.
17	" 4	1 50 A.M.	Ditto	β Ceti ..	..	74 30 28	..	"	87 5	87 7 20	Ditto.
18	" 4	2 45 "	Ditto	Polaris	..	45 22 0	..	"	87 9	87 8	Ditto.
19	Oct. 2	11 96 P.M.	Faisabad (Badakshan)	Fomalhaut	..	77 10 0	..	"	..	..	Ditto.
20	" 2	0 36 A.M.	Ditto	Polaris ..	..	68 27 0	..	"	..	..	Ditto.
	" 3	1 12 "	Ditto	β Ceti ..	..	..	..	"	..	..	Ditto.



OBSERVATIONS OF THE BOILING-POINT TAKEN IN BAJAUR AND CHITRAL.

No. of Observation.	Month and Date.	Watch Time.	STATION.	THERMOMETER.				Deduced Height above Sea.	REMARKS.
				No.	Boiling-point.	No.	In Air.		
1	1870 August 11 ..	H. M. 1 0 P.M.	Peohawur Mundee ..	..	210	..	100	Feet. 1165	Height from G. T. S.
2	.. 20 ..	7 0 A.M.	Miankilai (Bejaur District) ..	..	206	..	81	3585	
3	Sept. 4 ..	4 0 A.M.	Chitral ..	..	200	..	90	7187	

THE POSITIONS OF THE CHIEF PLACES AS DEDUCED FROM THE SAPPER'S ROUTE SURVEY ARE AS FOLLOWS, VIZ. :—

	Latitude.	Longitude.	Height.
Alladand, capital of Swat ..	34 38	72 0	
Miankilai, capital of Bejaur ..	34 53	71 38	3540
Janbattai, capital of Barawal ..	35 8	71 41	
Dir, capital of Puykora ..	35 14	71 49	
Chitral, capital of Chitral ..	35 46	71 46	7140