

PAPERS READ
BEFORE THE
ROYAL GEOGRAPHICAL SOCIETY

DURING THE SESSION 1870-71.

[FORMING VOL. XLI. OF THE SOCIETY'S JOURNAL.
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I.—*Letters from Mr. G. W. HAYWARD on his Explorations in
Gilgit and Yassin.*

Read, November 15, 1870.

1. LETTER FROM MR. G. W. HAYWARD TO COLONEL SHOWERS.

“Camp Roshan, between Gilgit and Yassin,

“MY DEAR COLONEL SHOWERS,

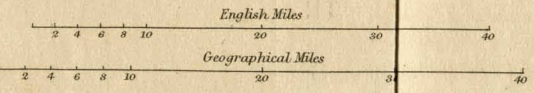
“17th February, 1870.

“As you are good enough to take an interest in the exploring expedition to the Pamir, and expressed a wish to hear of my progress by Gilgit, I am glad to be able to let you know that I am on the point of entering Yassin, which place is only some 12 miles distant from my present camp. Some delay was experienced in Gilgit, and an advance to Yassin was for some time doubtful; but at length a favourable answer was received to my application to Meer Wulli Khan, the chief of the country, to be allowed to visit Yassin. He has sent an official to escort me in, and comes out himself to-morrow morning to meet me *en route*. Judging from his letter and friendly expressions, a favourable reception seems certain. He is related by marriage to Aman-i-Moolk, the chief of Chitral, and if I can obtain the latter's goodwill through Meer Wulli Khan, there should be no great difficulty in penetrating to the Karakul. Should the Yassin chief further my views, and render assistance as far as Wakhan, it will not be imperative to visit Chitral, since his vakeel mentions a very good route leading direct from Yassin



Sketch Map of the
TRANS-INDUS COUNTRIES
 including
GILGIT, DILAIL, YASSIN &c.
 by Geo. J.W. Hayward.

Mr. Hayward's Route





Sketch Map of the
TRANS-INDUS COUNTRIES
 including

M. Hayward's Route —

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Karachunkar Pass

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Snowy Peak 23,346

Chandrab Pass

Katik Pass

Shinshal Pass to Yarkand

Snowy Peak
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Hassiz Peak

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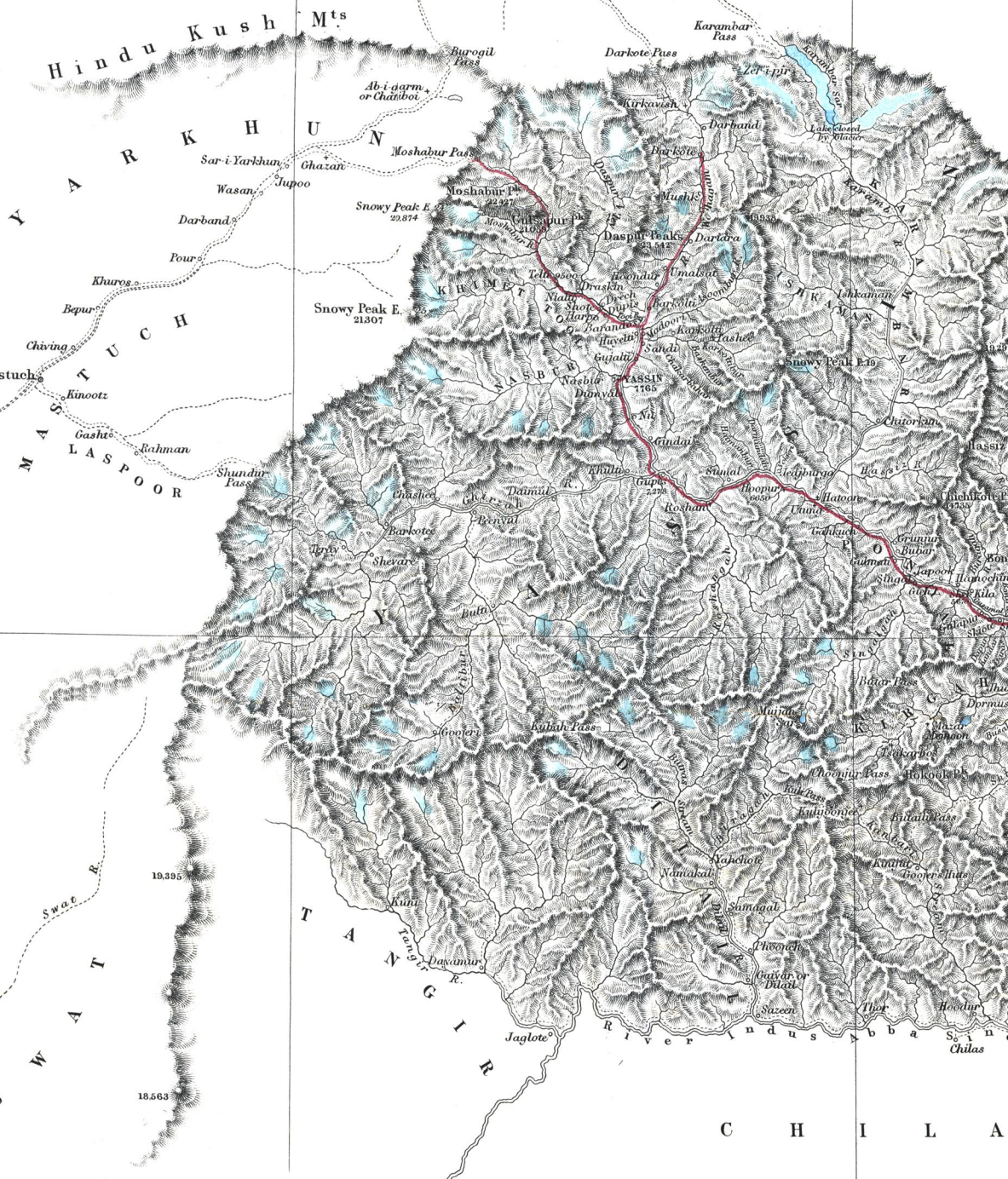
Nanga Parbut, or
Dayanur Peak
26,629




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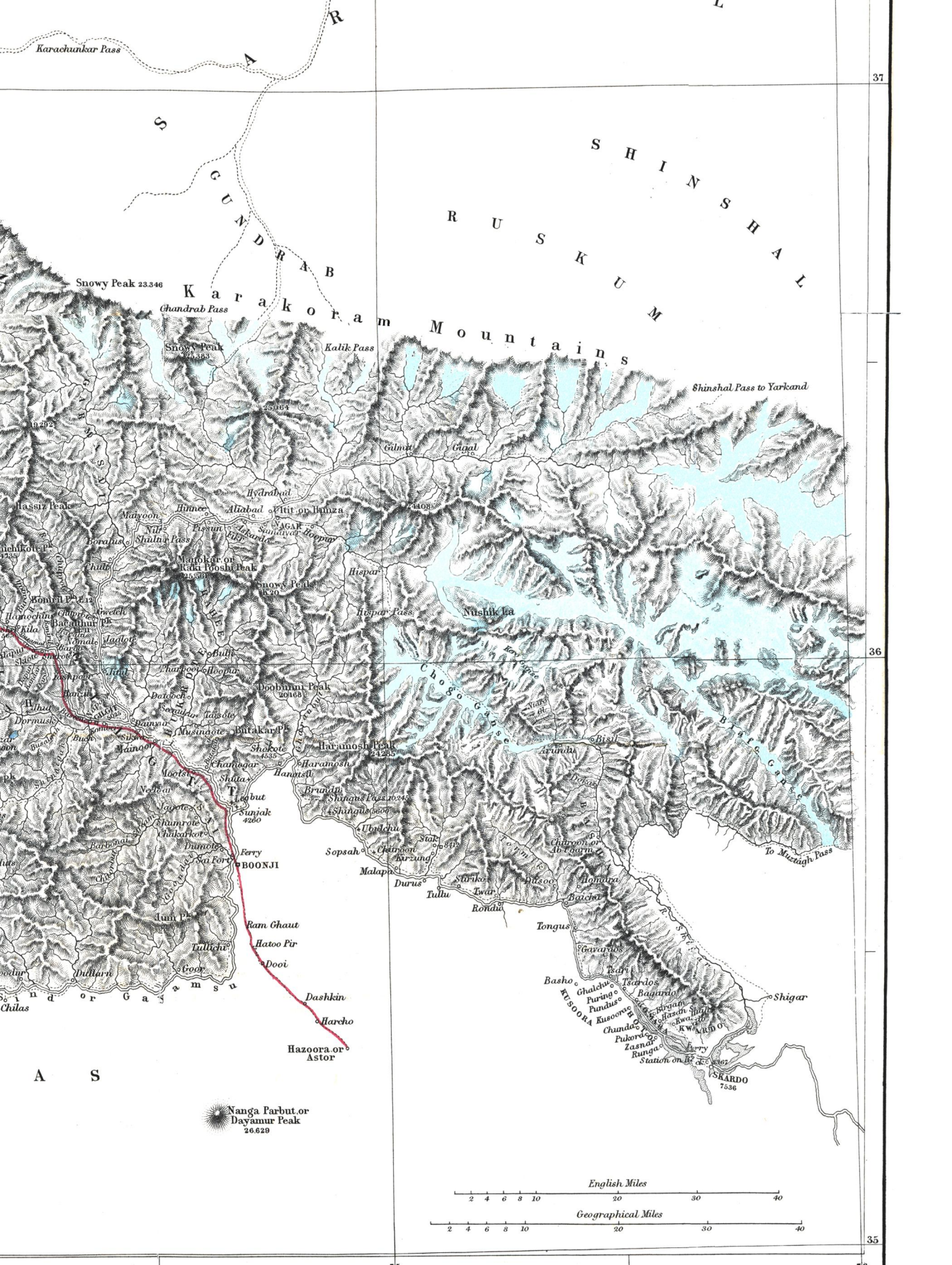
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Sketch Map of the
TRANS-INDUS COUNTRIES
 including
GILGIT, DILAIL, YASSIN &c.
 by Geo. J.W. Hayward.

M. Hayward's Route 

Longitude East 74



Karachunkar Pass

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Karakoram Mountains

Snowy Peak 23,346

Chandrab Pass

Snowy Peak 23,346

Katik Pass

Shinshal Pass to Yarkand

Cumul Gul

Hassiz Peak

Manoon

Yonatus

Shular Pass

Manokar or Kida Toosh Peak

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Nanga Parbut, or Dayanur Peak
26,629

English Miles

Geographical Miles

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Edw^d Weller

viâ the Darkote Pass to Gujal in the basin of the Oxus, thence to Shignan, Roshnan, Derwaz, Kolab, Hissar, and Shahr-i-Sabz. This route entirely avoids Chitral. After crossing the pass at the head of the Yassin Valley, it would appear that one gets into a valley giving exit to one of the branches of the Upper Oxus. A road branches to the east *viâ* Sarikol, to Yarkand, and the direct road leads down into Shignan. Our maps must be very faulty in their delineations of the country about the Pamir and the junction of the Hindu-Kush and Karakoram chains. The watershed between Wakhan and Sarikol must be more to the eastward than is represented, for the passes from the head of Yassin and the Gilgit River lead into the basin of the Oxus, and not into the Sarikol district; as Yarkand and Kashgar are more to the eastward than given in our maps, so the eastern crest of the Pamir range should be found to correspond, and I believe it will be found to follow a meridian of about 75° of east longitude. There appears, however, to be no probability of effecting an immediate advance beyond Yassin, as the passes are deep in snow, and will not be open for two or three months. After arranging with the Yassin chief for the onward journey, it will be advisable to return to Gilgit, or perhaps even to Kashmir, until the road is open, for it would be impolitic to linger in such risky ground close to Chitral, the goodwill of whose chief cannot as yet be depended upon.

“Gilgit itself is a place of some 200 houses, situate on the right bank of the river, rising in two branches in the angle formed by the junction of the Karakoram and Hindu-Kush ranges, and joining the Indus near Boonji. It is in lat. $35^{\circ} 55' 2''$ N., long. $74^{\circ} 22'$ E., and 5025 feet above the sea. The Kashmir authorities have a large fort occupied by some 900 men, commanding the valley, and the Maharajah's territory may be said to end at Gahkuch, some 24 miles beyond, in the direction of Yassin. They are not on the best of terms with the Hunza-Nagar and Yassin people, whose territories they have several times invaded, but they have invariably been driven back after suffering heavy losses. Hunza itself appears to be impregnable to them, on account of the difficult approach through the mountainous country. They have twice attempted it, but have fled back to Gilgit precipitately, and suffered heavily. The Hunza tribe, mustering about 700 to 800 fighting men, successfully defend the narrow pathway and roll down rocks upon their foes. A habitual and constant feud has thus been engendered; for the tribes, being to a man rigid Mahomedans, regard with no friendly eyes the Hindus, to which caste most

of the Kashmir troops belong. It is probable that the Kashmir troops will again advance to the head of the valleys, and endeavour to annex Hunza and Yassin, or will have to retire to their natural frontier the Indus. They will hardly be able to hold Hunza should they seize it, for they have tried the onward movement and have even reached Yassin, but have been driven back after burning and plundering as many villages as they were able.

“The inhabitants of Dardistan, in which may be included Gilgit, Chilas, Hunza-Nagar, Dilail, and Upper Chitral, are a fine, good-looking, athletic race, and the difference of race is at once perceived on crossing the Indus. Light and dark brown hair, with grey, hazel, and often blue eyes, are seen. The women have a more English cast of countenance than any I have yet seen in Asia. Black hair is the exception amongst them, light-brown locks prevailing. The country, such as is under cultivation, is fertile and productive, but the population is scanty. Pray excuse a somewhat hurried note, as I am much pressed for time, and remain,

“Yours very truly,

“GEORGE W. HAYWARD.”

2. LETTER FROM MR. G. W. HAYWARD TO SIR RODERICK I. MURCHISON.

“Camp, Yassin, 14th March, 1870.

“MY DEAR SIR RODERICK MURCHISON,

“It is with much pleasure I find myself able to address you from Yassin, which place I have safely reached from Gilgit.

“In order to explain exactly the amount of progress made up to date, it is necessary to briefly mention what I have been doing during the winter months.

“After leaving Kashmir last year, I marched steadily to Gilgit *via* Skardo and the Indus valley. The representations made to me by the Maharajah of Kashmir's officials, of the state of the Gilgit frontier, offered little hope of my being able to penetrate to the Pamir Steppe by this route; but arrived at Gilgit, I found matters not nearly so hopeless as I had been led to anticipate. It was at once apparent the Maharajah's officials in Gilgit were anything but pleased at the appearance of an Englishman on that frontier, with the ostensible intention of penetrating further, to do which it would be imperative to make friends of the different tribes, their enemies. And in this has

lain the great difficulty,—to go through either hostile camp, as it were, and still keep friends with both. I sent presents and a letter to Meer Wulli Khan, the Yassin chief, asking to be allowed to visit his country, feeling sure that if they would but let me come on, I should succeed in winning their goodwill. At first the Yassin people were excessively suspicious as to the motives of an Englishman wishing to visit a country, where, I believe, no European has ever been before, and no doubt were inclined to connect my presence in Gilgit with some further aggression on the part of the Maharajah of Kashmir. However, the chief decided to let me come; and I can only say that I have been most well received and hospitably treated. I have now just returned from an exploring expedition up to near the Darkote Pass, leading over into Wakhan and the basin of the Oxus, as well as to the foot of the Moshabur Pass leading over into the Mastuch and Chitral valleys. Both passes are choked with snow, and will be impracticable for laden animals for two or three months yet, while the Pamir Steppe itself can scarcely be free from snow until the summer is well advanced, perhaps not before the end of June.

“I may mention my having received two apparently friendly letters from Raja Aman-i-Moolk, the ruler of Chitral, expressing pleasure at my having made the acquaintance of Meer Wulli Khan, the Yassin chief, his son-in-law, and hoping I will visit Chitral, in which case he offers to do his best to forward my onward journey to Badakhshan or Jellalabad. There is reason, however, to be suspicious of the sincerity of his intentions. The tribes here—that is, the inhabitants of Chitral, Yassin, and Hunza—entertain the most bitter feelings of enmity against the Maharajah's rule in Gilgit, and the Chitral ruler would probably like to get an Englishman into his power, to be able to play him off against the aggressions of the Dogras in the Gilgit Valley. The Yassin chief, at any rate, has begged me not to think of going into Chitral at present.

“I have explored nearly all the valleys, in the basin of the Yassin and Gilgit rivers, and the geographical features which I have already discovered may be said to be comprised in the following details:—

“The watershed between Wakhan and Sarikol, *i. e.* the eastern crest of the Pamir, lies some 70 miles to the eastward of the position represented on our maps, since all the passes at the head of the Yassin and Karambar valleys, lead over into the basin of the Oxus, and not into that of the Yarkand River, or the Sarikol district. The Warchagam (or Yassin) River rises

in three branches; the most easterly one in the Darkote Pass, and the others at the head of the Daspur and Moshabur valleys. Below Yassin the Ghirzah River, rising in the Shundur Pass (leading to Mastuch and Chitral) comes down past Shevare and effects a junction. This stream also receives two considerable tributaries, one from the head of the Swat Valley, the other down the Baltibur Valley, up which lies a route conducting to the country of Tangir. The united stream flows to the E.N.E. past Roshan, and then suddenly turns to the south-east. Above Gahkuch, 40 miles from Gilgit, the Ish-Kaman River joins from down the Karambar Valley, up which, at five days' journey distance, is the most easterly pass leading into Wakhan or the basin of the Oxus. There is a large lake at the head of this valley, called Karambar Sar, which has been formed by glaciers falling and blocking up the bed of the stream. An immense amount of water has accumulated, and the inhabitants of the Gilgit Valley fear that should a very hot summer ensue, the lake may burst its bounds, and cause much destruction through the glaciers melting. An inundation from a similar cause took place some nine years ago, and the marks of the devastation then caused are still distinctly visible. The Hunza-Nagar stream joins the Gilgit River four miles below the Gilgit fort. Its two chief branches rise in the Shinshal Pass and at the head of the Garmasai Valley. There are some fine snowy peaks in the Moshabur ridge between the head of the Chitral and Yassin valleys. My measurements of some of them give altitudes of from 21,600 to 22,400 feet above the level of the sea. Our maps mark a town of Kashkar near the head of the Chitral Valley, but there is no such place. The *whole country* is called Kashkar. Yassin, Ponyal, and Mastuch (the districts of) are known as Bura (or Upper) Kashkar; and Chitral as Kuz (or Lower) Kashkar. The position of Yassin itself I have found to be in lat. $36^{\circ} 22' 38''$ N., long. $73^{\circ} 35' 15''$ E., and 7765 feet above the sea. The Gilgit Valley varies in elevation from 5000 to 5600 feet. The wheat produced is particularly fine and large-grained, while the country is rich in vineyards and orchards of apricot-trees. Ruined villages and waste land, however, meet the eye everywhere,—the unhappy results of the incessant feuds waged between the mountaineers (who are to a man Mahomedans) and the Dogra troops of the Kashmir Rajah. The atrocities practised by the Dogras are a disgrace to a feudatory of the British crown. During their raid into Yassin territory, in 1863, they indiscriminately killed innocent women and children. From 1200 to 1400 of the poor Yassin villagers were massacred by the foulest treachery and cruelty.

A few days ago I visited the scene of the massacre, and after the lapse of seven years have myself counted 147 still entire skulls, nearly all those of women and children.

"The River Indus would seem to have a course from 25 to 30 miles more to the northward (than represented on our maps) after turning westward below Boonji and Chilás. The streams it receives on its right bank are, the Kanbari, Dilial, and Tangir rivers; the countries of Dilial and Tangir intervening from Swat to Gilgit. Of these streams the Dilail River is the largest, and joins the Indus some 27 miles below Chilás at Sazeen.

"As the passes leading on to the Pamir cannot be practicable until May or June, I may find it advisable to return to Gilgit and there wait for the proper moment to advance, for a prolonged stay here is, to say the least of it, somewhat risky. The Yassin chief has, however, promised to assist me—will even furnish an armed party to accompany me on the Pamir, should I wish it. I do not think there is any necessity to avail myself of this offer; but loading up provisions here for a three months' campaign should ensure success, as the expedition will thus be independent of the Kirghiz.

"I am very sanguine of being able to thoroughly explore the Pamir Steppe during the summer of 1870, for everything promises well for the eventual success of the expedition.

"I greatly wish to accomplish a journey through, and so home by Russia; but if forced to return, shall still endeavour to regain India by way of Chitral and Cabul. A visit to Chitral could not fail to be one of great interest. The Yassin and Chitral chiefs claim descent from Alexander of Macedon, through the kings of Khorasan. I am in hopes of being able to procure a couple of Siah Posh Kafirs to accompany me; so, if unable to enter Kafiristan, I still hope to get hold of their language.

"I trust the Geographical Society were satisfied with my former maps and reports, and assuring you no pains or labour shall be spared to ensure success on the Pamir,

"I remain, my dear Sir Roderick Murchison,

"Yours very sincerely,

"GEORGE W. HAYWARD."

3. LETTER FROM MR. G. W. HAYWARD TO COLONEL SHOWERS

"MY DEAR COLONEL SHOWERS,

"Murree, 27th April, 1870.

"You will be surprised to see from the above address that I am back again in the Panjab. You will perhaps conclude that I have failed in Yassin; but, on the contrary, everything promises well for the final success of the Pamir expedition. Briefly to explain my presence here, I went to Yassin, was most hospitably received and well treated, and have the satisfaction of having established a friendship with the Yassin people. The courtesy and bearing of the chief, Meer Wulli Khan, were quite beyond what I expected to meet with in Dardistan. Of course the Kashmir officials were anything but pleased at my success, and secretly did everything they could to prevent my going; but the Yassin chief decided to allow me to visit his territory, and I felt sure that once arrived there I could win his goodwill. Having got the chief on my side is a most important step in my project; and although not all the difficulties, yet certainly one of the greatest has been overcome. While in Yassin I received two letters from Raja Aman-i-Moolk, the Chitral ruler (Meer Wulli Khan's father-in-law) expressing pleasure at my having made the acquaintance of his son-in-law, and hoping I would visit Chitral when the passes opened, in which case he would do his best to further my journey to Badakhshan. Apparently his letter was friendly; but as the Yassin chief begged I would not think of visiting Chitral, at any rate at present, I began to think that Aman-i-Moolk would probably like to get an Englishman into his power, in order to play him off against the aggression of the Maharajah of Kashmir in the Gilgit Valley. I went off exploring and shooting up to the foot of the Moshabur Pass, leading over into the head of the Chitral Valley, and also the Darkote Pass leading over into Wakhan, the basin of the Oxus; and it was evident the passes would be impracticable for laden animals until June. Thinking it dangerous to linger in such uncertain ground until the passes opened, I made every arrangement for a second visit in May, and, bidding a temporary farewell to my Yassin friends, returned to Gilgit. Most fortunately I did so, for the Maharajah's officials in Gilgit (to serve their own purposes) had caused a report to be spread that I had been plundered in Yassin (mark, I was particularly well treated), and had sent off orders to Astor for the whole of the Dogra forces there (from 2000 to 3000 men) to march at once to Gilgit for the purpose of invading Yassin. My return to Gilgit stopped them, and they

hurried back to Astor, but not before I had ascertained the truth of the movement. Comment on such an act of faithlessness would be unnecessary: had they invaded Yassin, such an act would have been fatal to the whole Pamir expedition. The Yassin people could but have connected my presence there with the aggressions of the Dogras. I left Gilgit on the 21st March, leaving my camp, horses, &c., there, and have come down double marches. We were delayed five days, the Astor side of the Boorzil Pass, waiting for the weather to clear, but crossed the pass without any accident, although we had to march waist-deep through the snow for fifty miles. We passed three nights on the snow; and further than suffering from snow-blindness, caused by the intense glare of the sun on the new snow, were fortunate in crossing a pass said to be impracticable until May. I stayed three days in Srinagur, and came down to Murree in four days from there, just too late to see the Viceroy in Rawul Pindée. I have now just returned from Pindée, and, after seeing Lord Mayo here, to-morrow hope to get away from Kashmir at once. I should be back in Yassin, and on the Pamir by the end of June at latest. The Yassin chief has promised to assist me, will even send a party of his followers with me as a protection against the Kirghiz, if I wish it. Loading up supplies for a three months' campaign at Yassin should ensure success, and I feel very sanguine of thoroughly exploring the Pamir during the summer of 1870. It was most tantalizing to get to the foot of the Darkote Pass to know that the commencement of the Bâm-i-Dooneah (Roof of the World) lay just beyond the pass, and to be unable to get there yet on account of the snow.

“I have always been of opinion that the true road from India to Yarkand is from Peshawur *viâ* the Chitral Valley, or from Kashmir *viâ* the Yassin and Gilgit valleys, and not over the Karakoram range. I am more than ever inclined to uphold the opinion since I have seen the excellent road up the Yassin Valley. The geographical features which I have discovered may be said to be comprised in the following details. I have explored nearly all the valleys in the basin of the Gilgit and Yassin rivers, the watershed between Wakhan and Sarikol *i. e.*; the eastern crest of the Pamir lies from 60 to 70 miles more to the eastward than as given in our maps; the passes at the head of the Karambar and Yassin valleys lead over into the basin of the Oxus and not into that of the Yarkand River, or the Sarikol district. The Yassin River rises in three branches, the most easterly one in the Darkote Pass, the other two at the head of the Daspur and Moshabur valleys. Below Yassin

the Ghirzah River, rising in the Shundur Pass (leading to Mastuch and Chitral), comes down past Shevare; this stream also receives two considerable tributaries—one from the head of the Swat Valley, the other down the Baltibur Valley—up which lies a road leading to the country of Tangir. The united stream flows to the E.N.E., past Roshan, and then suddenly turns to the south-east. Above Gahkuch the Ishkaman River joins down the Karambur Valley, up which, at five days' journey distance, is the most easterly pass leading over into Wakhan or the basin of the Oxus. It appears there is a large lake at the head of this valley, which has been formed by glaciers falling and blocking up the valley. An immense amount of water has accumulated, and the inhabitants fear that, should a very hot summer ensue, the lake may burst its bounds through the glacier melting, and cause much destruction in the Gilgit Valley. An inundation from a similar cause took place nine or ten years ago, the lake bursting its bounds, and the marks of the devastation then caused are still distinctly visible in the valley. I believe the destruction of the cantonment of Nowshera may be traced to this cause, the water brought down through the Gilgit Valley having flooded the Indus and driven the Sunda River back up its bed. The Indus itself has a course of 20 to 25 miles more to the northward than delineated in our maps: after turning westward below Boonji, the streams it receives between Boonji and Balakote on its right bank are the Dilial and Tangir rivers, which countries lie between Gilgit and Swat; the Dilail River joins the Indus two days' journey below Chilas; the Hunza-Nagar stream joins the Gilgit River four miles below that place, its two chief branches rise in the Shingshal Pass and at the head of the Garmasai Valley. Yassin I found to be in lat. $36^{\circ} 22' 38''$ N., long. $73^{\circ} 35' 15''$ E., and 7765 feet above the sea. There are some fine snowy peaks, varying from 21,600 to 22,400 feet above the sea, in the Moshabur ridge between the heads of the Mastuch or Chitral and Yassin valleys. I have had some capital sport in Yassin. Ibex of 54, 45, and 44 inches, as well as markhor of 56, $52\frac{1}{2}$, and $42\frac{1}{2}$ inches, are the best heads I have secured. The Kashmir shooting cannot be compared with the sport met with across the Indus. The Pamir Steppes swarm with game, amongst which are the gigantic 'ovis poli,' the largest species of wild sheep in Asia. No European, I believe, has ever killed one. By the way, I met a servant of yours going into Kashmir, and from what he said I presume that you are going on leave again to Kashmir this year. I hope to get back there before Mr. Forsyth and Dr. Cayley leave for Ladak. I am afraid the Yarkand trade has been very much exaggerated,

and will not fulfil the expectations formed of it. The exports are very insignificant, although the Yarkandies would take Manchester goods in large quantities from India. I must not forget to mention that Colonel A. Gardner was inquiring most anxiously about his route-map and notes, which he said were in your hands, and hoped I might be able to take some answer about their publication back to him. He is of opinion that the Chang-chenmo route is a mistake, and a much better road is available by the Chitral or Yassin valleys. After seeing the country, I am inclined to second his opinion. The Yassin route is everything to be desired. There are no difficult passes met with except the Chichilih Pass in Sarikol district, and supplies are everywhere obtainable; but after exploring the Pamir I shall be able to ascertain every detail of this route. Mr. Forsyth, you will be aware, is going to Yarkand. There can be no danger to the mission as long as the Atalik Ghazee is alive and in power, but I doubt the members of the mission being allowed to go about when and where they please. As to going on to Khokand, the Atalik Ghazee will not hear of it for one moment. If he would allow exploring, Kashgar would be a splendid basis from which to attack the Pamir. If no disturbances have occurred in Gilgit, that now is the best road, but it will be impossible to visit Chitral and the Pamir too. If going home through Russian territory is given up, a return through Chitral might be ventured on; but Chitral, at the best, is dangerous ground: indeed, if the envoy from Chitral has got no satisfactory answer from Colonel Pollock, and has gone back, believing the British Government will not interfere to prevent further aggressions on the part of the Maharajah of Kashmir, it would be folly for an Englishman to enter that country. If I can get on from Yassin and cross the passes with supplies sufficient for the onward journey, I should endeavour to make the Russian frontier; where once arrived, a favourable reception should be a certainty. I must ask you to excuse a hurried note as I am much pressed for time, and

“I remain,

“Yours very truly,

“GEORGE W. HAYWARD.”

4. LETTER FROM MR. G. W. HAYWARD TO COLONEL SHOWERS.

“MY DEAR COLONEL SHOWERS,

“Srinagur, 8th May, 1870.

“I have just reached here, and received your letter of the 2nd instant, forwarded from Murree.

“I had a very satisfactory interview with Lord Mayo, and am anxiously awaiting the result of the arrangements with the Maharajah at Sealkote. I am afraid there will be no resident (permanent) in Kashmir as yet, or anything said about giving up Gilgit; but all aggression for the future will, I am sure, be strictly forbidden. By crossing the Indus, the treaty of 1846 with the British Government has been most signally infringed. I have written to Colonel Pollock, the Commissioner of Peshawur, to ascertain the result of the visit of the vakeel sent by Aman-i-Moolk, the Chitral chief. It is of vital importance to the success of my expedition, and indeed my own safety, to know exactly what ideas he went back with. If the Chitral ruler thinks he will receive justice at the hands of our Government in the matter of the aggressions of the Dogras, no doubt an Englishman would meet a favourable reception in Chitral, otherwise it would be folly to enter the country. However, about the letters, as my maps and reports cannot be ready for some days, I should be glad if you would send them at once to Sir Roderick. I am, of course, writing privately to Sir Roderick and Sir Henry Rawlinson, but have some hard work to do yet before my maps and reports are ready. It has been most gratifying to me to hear that the Geographical Society’s Gold Medal has been awarded me for the Yarkand trip. By the way, General Kaufman has been instructed to receive me well in Russian Turkistan if I succeed in getting through the ‘terra incognita’ of the Pamir Steppe; having got the Yassin chief on my side should ensure that success. I will write and let you know my exact movements before leaving Kashmir, and in the mean time

“I remain,

“Yours very truly,

“GEORGE W. HAYWARD.”

5. LETTER FROM MR. G. W. HAYWARD TO SIR RODERICK I. MURCHISON.

“MY DEAR SIR RODERICK MURCHISON, “Kashmir, 21st May, 1870.

“A former letter of mine will have made you acquainted with the fact of my return to Kashmir from Yassin and Gilgit. The abominable treachery and bad faith of the Maharajah of Kashmir’s officials in Gilgit rendered such a step on my part positively necessary to ensure my own safety. Under the dread of an *exposé* of the atrocities they have committed across the Indus, the Dogra officials had evidently planned a systematic

scheme to injure me, and mar the success of my expedition. Thinking I was still in Yassin and sure to have become acquainted with all the facts of their misdeeds, or perhaps imagining I had been enabled to go on and cross the passes into Chitral or Wakhan, they caused a report to be spread that I had been plundered in Yassin, and, *professedly* to aid me, were on the point of again invading that territory, when my unexpected return to Gilgit arrested them.

“I had been more than suspicious of the sincerity of their goodwill, and when I found the passes beyond Yassin were closed by the snow, and likely to be impracticable for some months, I at once decided to return to Gilgit and wait for the proper moment to advance. My sudden return fully exposed the intentions of the Dogra officials. The treachery they meditated was so palpable as to be quite unmistakable. An invasion of Yassin whilst I was in that territory could not have been otherwise than fatal to the whole of my party, for the Yassin chief and his followers would instantly have connected the aggression with my presence there, and in the heat of the moment would have vented their indignation and anger on myself and party. Leaving my camp in Gilgit, I hurried down to Kashmir and the Punjab for the twofold purpose of making every arrangement to avail myself of the favourable opening to the Pamir Steppe, offered by means of the friendship established with the Yassin people, and of representing the facts I had become acquainted with. I have accordingly sent off baggage-animals and supplies for a summer's campaign to Gilgit, and am following, myself, in a few days. I hope to reach Yassin in 22 days from here, and should be on the Pamir Steppe in five weeks from this date.

“I regret, however, to have to tell you that a letter of mine representing the atrocities committed by the Maharaja of Kashmir's troops in the countries across the Indus, with an account of their massacre of the Yassin villages in 1863, and certain comments and opinions expressed thereon, has been published in the ‘Pioneer’ newspaper of May 9th. The publication of this letter is most unfortunate; and likely to interfere very much with the objects I have in view. I extremely regret that the editor of the paper in question should have thought fit to publish this letter, and the publication of it has been entirely in opposition to my wishes and instructions, while certain comments in the letter were never for one moment intended to be published in the form in which they appear in the ‘Pioneer’ of May 9th. The resentment aroused amongst the Maharaja's officials is very great, and it

cannot be doubted they will in every way *secretly* strive to do me harm.

“ Still, in the interests of geography, I feel myself bound to persevere in the enterprise; and notwithstanding I have been strongly advised to postpone my journey, and am very loth to think of allowing myself to be diverted from the undertaking by any increased danger incurred through the resentment of the Kashmir Durbar.

“ In order, however, to relieve the Royal Geographical Society from a shade of responsibility on my account, I deem it right to offer to sever all connection with the Society during the expedition I am contemplating; and though the severance of a connection so auspiciously begun will be a source of the profoundest regret to me, I am aware that before I left London it was distinctly understood that this exploration was undertaken solely at my own risk and on my own responsibility.

“ However, all things considered, the prospect of success looks very fair indeed, after I shall have once reached Yassin again. Whatever resentment the Kashmir Durbar may entertain, the very fact of its being known should prove my greater safety; for the Maharaja is thus, as it were, responsible for the safe progress of the expedition.

“ I am the more unwilling to give up the enterprise, from the mission of Mr. Forsyth to Yarkand; as, if able to open out the shortest and best route from British territory into Eastern Turkistan—that from Peshawur *viâ* the Chitral Valley and the Pamir Steppe—it will undoubtedly be a great step, and it is for the sake of the scientific and geographical information expected as the result of my journey that I have determined to adhere to my original purpose.

“ Forewarned in this case is forearmed, and, notwithstanding all there will be to contend with, I firmly believe that (D.V.) success will ultimately attend my efforts, and carry through the enterprise in safety to the end.

“ I remain, yours very sincerely,

“ GEORGE W. HAYWARD.”

Two months after the date of the preceding letter, Mr. Hayward was brutally murdered, as announced by Sir Henry Rawlinson in the ‘Proceedings’ of the Society, November 15th, 1870. The following letter gives a reliable account of this lamentable occurrence:—

LETTER FROM MR. FREDERICK DREW TO SIR RODERICK MURCHISON, ON
THE DEATH OF MR. HAYWARD.

“Jummoo, near Sealkote,
“21st Dec. 1870.

“MY DEAR SIR RODERICK MURCHISON,

“I am sure you will be anxious to learn all that can be known about Mr. Hayward's death; and I am glad to be able to give you some particulars that probably have not yet reached you. I was in Baltistan when the news of the event which has caused so much regret to all Mr. Hayward's friends, among whom I count myself, reached the Maharaja of Kashmir, and he sent orders for me to go to Gilgit, and make a thorough investigation into the circumstances: this I did to the best of my power, and have just now returned to Jummoo. I wrote a full report of all I could learn, which report the Maharaja has sent to the Lieut.-Governor of the Punjab, so it may reach you through Government; still I am desirous to let you know the result of enquiries in Gilgit without any delay.

“No doubt Mr. Hayward gave you a full account of his first journey to Yāsīn; you will therefore have heard of the friendly way in which Mīr Wallī received him that first time, and will have seen how completely Mr. Hayward believed in him. Those more used to the two-facedness and the avarice of the people of those parts—developed to an extreme in their rulers—doubted the sincerity of Mīr Wallī's friendship, and saw cause enough for his civility in the presents given and in his hope for more afterwards, as well as in the wish that he had to make a political use of Mr. Hayward. I did not meet Mr. Hayward between his two journeys to Yāsīn—having missed him at Sirinagar by but a day; but I heard from him by letter, and heard from others, of much that he had experienced. It was clear that he had put away from him all fear of the Yāsīn people, and was most sanguine of the success of his expedition.

“As all details of his last journey will be welcome to you, I will now give the particulars I learnt.

“Mr. Hayward reached Gilgit on the 7th July, and left it for Yāsīn on the 9th; he had much more baggage than on his first journey—then fourteen coolies carried the camp, now thirty-three were required,—and he had these servants:—a munshi, a khansaman (Kashmiri), a chuprasi (Kashmiri), and two Pathāns, whom he met and took into his service at Gilgit. I believe that he reached Yāsīn in five days, that is, on the 13th July.

“For what happened after his crossing the Maharaja's border, we have evidence of various degrees of trustworthiness. There is the statement of Wazīr Rahmat, a former acquaintance of mine, who was Mīr Wallī's wazīr, but who, after the murder, fell away from him, and compassed his expulsion from Yāsīn. This we have in two forms—by a letter and by word of mouth from an agent he sent in to Gilgit; then there are some letters written to us by Imān-ul-Mulk, Raja of Chitrāl; and again there is the information got by messengers whom we sent to Yāsīn. From these materials a connected view of the last events in Mr. Hayward's life can be made out, and one which, from the corroboration of statements derived from various sources, deserves, I think, considerable confidence.

“Wazīr Rahmat says, that on Mr. Hayward approaching Yāsīn, Mīr Wallī went some miles out to meet him, and, on coming within hail, got off his horse; but that his visitor did not pay the same respect, but remained mounted till quite near, and that Mīr Wallī was somewhat offended at this. We have

no corroboration of this statement of Rahmat's, and if anything of the sort did occur, we may be sure that it was simply from Mr. Hayward not knowing what exactly was expected of him; nor is it likely that this of itself would have led to any serious consequences. Mr. Hayward pitched his camp in Yāsin, and stayed there two days, Mir Walli coming twice or thrice to visit him within that time. During one of these visits, Mir Walli asked what had been done in the matter of getting his right—or supposed right—to Gilgit recognised by the Governor-General, for which purpose he had sent an agent to the Punjab, in company with Mr. Hayward. Nothing having been effected in this (the agent himself not having stayed to prosecute the suit), Mr. Hayward could not give any answer that would be satisfactory to people unused to the delay necessary for careful investigation and consideration. Mir Walli, it seems, had built much hope on Mr. Hayward having originally undertaken to represent his case, and was proportionally disappointed at nothing having resulted from it.

"Then we hear, through Rahmat, that Mr. Hayward asked for coolies to carry his camp to Badakhshān by the straight road, while Mir Walli desired him to take the way to Chitrāl, whence he might be passed on by the Chitrāl Rāja. It seems that the Rāja of Chitrāl had given orders for him to be sent on to him. Certainly he wished to see him; and on this occasion Mir Walli (who had on the first visit dissuaded him from going there) pressed him to go there, probably thinking it better that the Englishman should go to Chitrāl and part with his goods there than pass altogether out of the family territories,—or perhaps he had, since the first visit, received such orders about this as he dared not disobey. This argument between the two was conducted with a good deal of warmth. The accounts say—but I am unwilling to believe them—that Mr. Hayward called Mir Walli by a hard name that he was likely to resent. However, Mr. Hayward kept to his purpose (which was to go by as straight a road as possible to Pāmīr), and Mir Walli gave in and provided coolies; and probably then only, when he saw the coveted goods going out of his reach, formed the design against Mr. Hayward's life.

"The progress of the camp was slow: the marches made were—Sandī, 3 miles; Hundar, 5 miles; Darkūt, 6 or 8 miles. It is not unlikely that delays were purposely interposed; at the same time it must be remembered that carrying heavy loads is by no means a practice in that part of the world, and the coolies very likely refused to go beyond their own bounds, and so caused delay too. I reckon that Mr. Hayward's camp reached Darkūt on the afternoon of the 17th July.

"Mir Walli having made up his mind to plunder and murder his guest—the man who had done his best to serve him—sent Shāh Dīl Imān, one of his relations, and Kūkālī, a man well known in Yāsin, with, some say, as many as sixty men. These reached Darkūt in the evening of the same day that saw Mr. Hayward arrive there; and the collection of so many in a small village aroused attention, and—although Shāh Dīl Imān said he had been sent to see Mr. Hayward safe over the Pass—even suspicion. There had been yet another cause for doubt in the mind of Mr. Hayward, in some words which Mir Walli had let fall to one of the Pathans, when trying to persuade him to leave his master's service; so much influence had these doubts on Mr. Hayward that he sat up all that night prepared, expecting an attack. The headman of the Darkūt village describes him as sitting in his tent, with the candle burning, with guns ready on the table before him, and writing, but in his left hand holding a pistol. No doubt, he thought that if he could tide over the danger of this night he might escape free, for close in front of his camp was the ridge, the boundary of Mir Walli's country, which crossing in the next march he would have reached Badakhshān territory, out of reach

of Mir Walli's treachery, and have had new countries before him to find his way through.

"It was not, however, to be. The watch kept certainly deterred his enemies from an attack during the night; but these people are masters in the kind of warfare that consists in surprises: they waited their time, and when, by sunrise, Mr. Hayward, thinking all danger over, lay down to take an hour's rest before the day's march, their opportunity had come. The position of the camp helped their design: it was at a little distance from the village, in a small garden at the edge of a thick pine-forest; in this they could collect their men, and even stand them near to the tents without observation. It seems that they did this on finding out that the object of their wiles was asleep, and then Kūkālī entered the tent with a rope, picked up from among the baggage, and while others came on and held in check and bound the servants, he, aided by more, seized Mr. Hayward and bound his hands behind him; and then they led both him and his servants away from the camp into the forest, for the distance of a mile or more, Mr. Hayward on the way offering them a ransom for his life. When they had come that distance they stopped, and Shāh Dil Ilmān, drawing his sword, cut him down with a blow on the neck that must have killed him at once; and this was while he was in the act of saying a prayer. At the same time four out of the five of the servants were killed close by; the bodies were covered up with heaps of stones, and so left.

"The evidence of most of this that has been recounted comes from two separate and independent sources: first, Wazīr Rahmat's letters, and the statement of the agent present; secondly, the account of the herd-man of Darkūt, given to Gufār Khan, our sepoy, who went to that place afterwards. That, however, you may understand how it was that we received these accounts, I must tell next what occurred in Yāzīn.

"Wazīr Rahmat was not in the murder, and he says that he tried to dissuade Mir Walli from it. Now Mir Walli designed, first of all, to keep the whole thing a secret from the Maharaja's authorities and the British, and in Rahmat he saw a channel by which the news might ooze out; it was natural, too, that he should be incensed at his wazīr being less guilty than himself: hence he designed to kill him. But in Rahmat he met his match. Getting private news of the plot, he sent his son to Mastūj, the Rāja of which place was Pahlwān Bahādūr, who equally with Mir Walli was tributary to the Chitrāl Rāja; there a scheme was made to displace Mir Walli, and, with the consent of Raja Iman-ul-Mulk, Pahlwān Bahādūr brought a force of 500 men to Yāsin before Mir Walli had time to prepare a resistance; so he fled away by the Darkūt road, and Pahlwān Bahādūr reigns in his place with Rahmat as wazīr.

"Mr. Hayward's munshi, who had been kept prisoner up to this time, was killed by order of Mir Walli, when on his flight he reached the same village of Darkūt.

"No sooner was the new state of things established than agents came to Gilgit to apprise the Maharaja's officials of the change, saying that Rāja Iman-ul-Mulk had deposed Mir Walli in punishment for his having murdered an Englishman. The agents from Chitrāl and Yāsin were in Gilgit when I reached the place. Rahmat's special messenger I at once sent back, having got from him (not without taking advantage of his natural cupidity) a promise that he would send in Mr. Hayward's body; with him I sent Gufār Khān, who went to the place of the murder, uncovered all the bodies from the loose stones, buried on the spot those of four of the Muhammadans who had been killed, the fifth not being found, and brought Mr. Hayward's body into Gilgit, where it reached me on the evening of the 26th October. The next morning we

buried him in a garden near Gilgit Fort. A detachment of troops fired three volleys over his grave.

“I think you will be glad to hear that the Maharaja has promoted Gufār Khān to the rank of Jemadar, and has otherwise rewarded him.

“They at the same time gave over to Gufār Khān a few of Mr. Hayward’s goods, declaring that the rest were taken away by Mīr Wallī in his flight. Those we recovered will be made over to the Punjab Government: they include some books, loose papers, and maps. The papers I looked over, to see if anything were written that might give help in finding out the cause of the murder, but there was nothing of late date.

“You will like to know the last news of Mīr Wallī. He was pursued as far as the Darkūt Pass, but got away, with the loss of a few followers, to Badakhshān; soon afterwards, however, he turned from there, and came to Chitrāl and asked forgiveness of the Rāja, and he has so far received it that he is now allowed to live there. We have sent back the Chitrāl Vakeel with a demand that he should be given up; but it is hardly likely to be agreed to, though Iman-ul-Mulk may insist on his leaving Chitrāl. There are few places where he would be safe from the influence both of the British Government and of the Maharaja; but one there is—Swāt, and there I think it likely he will take refuge.

“Mr. Hayward’s death produced much regret among all who had met him—I speak of the people of the countries he had lately passed through. Many were the enquiries made of me as to the truth of the reports of it that had spread, and deep was the pain which my answers caused. All who had had intercourse with him took pleasure in praising him for his courage and energy and for his pleasant manners.

“The Maharaja desires me to say that if any of Mr. Hayward’s friends or the Royal Geographical Society desire an inscription to be placed over his grave, and will communicate it, he will be glad to have the tablet executed in India, and will direct that the stone be properly placed. I put a wooden cross at the head of the grave till something else should replace it.*

“Believe me to be sincerely yours,

“FREDERICK DREW.”

* The Council of the Royal Geographical Society have availed themselves of this offer, and a suitable inscription, drawn up by Sir Henry Rawlinson, was sent, through Mr. Drew, to the Maharaja, who ordered the erection of the monument.—[ED.]

APPENDICES TO MR. HAYWARD'S LETTERS.

VOCABULARIES OF THE DIALECTS OF DARDISTAN, WAKHÁN, SHIGNÁN, AND ROSHNÁN.

| English. | Gilgit, Chilás, Dilail, &c. | Hunza and Nagar. | Yassin. | Chitral. |
|----------|-----------------------------|----------------------|-----------------------|------------------|
| 1. | Ek. | Hun. | Hun. | 'Ih. |
| 2. | Dú. | Altazh. | Altun (altazh). | Ju. |
| 3. | Cha. | Usko. | Usko. | Tro, i. |
| 4. | Chár. | Walto. | Walto. | Chor. |
| 5. | Po, ye. | Tsundo. | Tsundo. | Poonj |
| 6. | Shá. | Mishindo. | Mishindo. | Cho, i (Tchoi). |
| 7. | Sát. | Thála. | Thálo. | Sot. |
| 8. | Atch. | Altambo. | Altambo. | Usht. |
| 9. | Now. | Hun, chu. | Hun-chu. | Nú (uyú). |
| 10. | Dai. | Toram. | Toram. | Zhesh. |
| 11. | Ek, ai. | Torma-hun. | Torma-hun. | Zhesh-ih. |
| 12. | Bai. | Torma-Altazh. | Ditto ditto. | Zhesh-ju. |
| 13. | Cho, í. | Torma-Usko. | Ditto ditto. | Zhesh-tro, i. |
| 14. | Choudai. | Torma-Walto. | .. .. | Zhesh-chor. |
| 15. | Pauzai. | Torma-tsundo. | Torma-tsundo. | Zhesh, poonj. |
| 16. | Shu, i. | Ditto &c. | Ditto &c. | Ditto &c. |
| 17. | Sat, ai. | Ditto &c. | Ditto &c. | Ditto &c. |
| 18. | Atch, ai. | Ditto &c. | Ditto &c. | Ditto &c. |
| 19. | Quin, ai. | Ditto &c. | Ditto &c. | Ditto &c. |
| 20. | Bee. | Althar. | 'Althar. | Bishír. |
| 21. | Bee-ek, &c. | Althar-hun. | 'Althar hun. | Bishír 'ih, &c. |
| 30. | Bee-dai. | Althar toram. | 'Althar toram. | Bishír Zhesh. |
| 40. | Dú-bee. | Altazh Althar. | 'Altazh althar. | Ju bishir. |
| 50. | Du-bee dai. | Altazh Althar Toram. | 'Altazh Althar toram. | Ju bishir zhesh. |

| | | | | |
|------------|---------------|---------------------|---------------------|---------------------|
| 60. | Cha, bee. | Usko althar. | Usko althar. | Tro, f bishír. |
| 70. | Cha bee dai. | Usko althar toram. | Usko althar toram. | Troí bishír zshesh. |
| 80. | Chár bee. | Walto althar. | Walto althar. | Chor bishír. |
| 90. | Char bee dai. | Walto althar toram. | Walto althar toram. | Chor bishír zshesh. |
| 100. | Shal. | Thá. | Thá. | Shor. |
| 1000. | Sás (sáus). | Sás. | Sás. | Hazár. |
| Anybody. | Ji. | Khá. | Menan. | |
| Anything. | Jik. | | | |
| And. | | | | |
| As. | | | | |
| Another. | Mútú. | Túman. | Túman. | Khúr. |
| Air. | Osh. | 'Ai-esh. | Tish. | Asmán (?). |
| Awake. | 'Utyo. | Destul. | Destul. | |
| Aunt. | Baba Sá. | Aya, es. | Aya, es. | Chambúr. |
| Apricot. | Phutar. | Batúring. | Batúring. | Bázu. |
| Arm. | Shá, ko. | 'Ashák. | 'Ashák. | Washú. |
| Arrow. | Konh. | Húnz (huntz). | Hunz. | Hamúni (hamooni). |
| All. | Batap. | Kohesus. | 'Aiyún. | Bhol. |
| Army. | Síu (seeng). | Hal. | Hal. | Ambo. |
| Assembly. | Gathí. | Butsús. | Gathí. | Kahrín. |
| Anger. | Rosh. | Mos. | 'Imos. | |
| Annoyance. | Damíjár. | .. .. | Damíjár. | |
| Aim. | Nazar. | | Nazar. | Nazar. |
| Ask. | Kojago. | Nazar. | | |
| Answer. | Jawáb. | Dogacasan. | Jawáb. | Jawáb. |
| Ass. | Jakún. | Jawáb. | Jakún. | Gúrdogh. |
| Arrange. | Bandobast. | Jakúyo. | | |
| Below. | Kiri. | 'Achoban. | | |
| Between. | Mujja. | Yára. | Kata. | 'Af. |
| By. | Gi. | Haran, ullu. | Mákuchi. | Múja. |
| Bow. | Dánu. | Jamma. | Jáma. | Drín. |
| Bird. | Chá, in. | Chín, h. | Chín, h. | Bo, ík. |
| Blood. | Lel. | Múlthun. | Múlthun. | Lé. |
| Boat. | Nau (naw). | Nau. | Kishtí. | Kishtí. |
| Bone, | 'Utti. | Tiu. | Tiu. | Kol. |

VOCABULARIES OF THE DIALECTS OF DARDISTAN, WAKHÁN, SHIGNÁN, AND ROSHNÁN—*continued.*

| English. | Gilgit, Chilkís, Dillál, &c. | Hunza and Nagar. | Yassin. | Chitrál. |
|----------------|------------------------------|------------------|--------------|-----------------|
| Bridge (rope). | Gal. | Gal. | Gal. | Tili, siri. |
| Bridge (wood). | Sa, ou. | Bash. | | |
| Bad. | Kachu. | Ghunakish. | Shúm. | Dish. |
| Bitter. | Chúruko. | Shokaram. | Shút. | Shút. |
| Black. | Kinho. | Mattám. | Mattám. | Shá. |
| Bring. | In, ati. | Kol, ditzo. | Kol, azo. | Yá ra augir. |
| Be silent. | Chúk, ta. | Chúk, heta. | Chúk, hetah. | Phigbos. |
| Brother. | Jhá (jáh). | Acho. | Acho. | Brár. |
| Bridle. | Gapi. | Taban. | Tamang. | 'Ivis. |
| Box. | Sandúk. | Sandúk. | Sandúk. | Sandúk. |
| Book. | Kitáb. | Kitáb. | Kitáb. | Kitáb. |
| Barley. | Yo. | Hari. | Haray. | Sfri. |
| Butter. | Ghí. | Maltush. | Maltash. | Douh. |
| Back. | Pito. | 'Awaldas. | 'Awaldas. | Krim. |
| Breast. | Tetero. | 'Audil. | Diling. | Paz. |
| Beginning. | | | | |
| Bed. | Khat. | Khat. | Shau. | Jhen. |
| Beard. | Dai, e. | 'Auyar. | | Rigish. |
| Birth. | Jálo. | Dima, nimi. | Dima, nimi. | Ajistai. |
| Buy. | Ginoki. | Yanus. | | |
| Cat. | Búshi (booshi). | Boosh. | Boosh. | Pooshi (púshi). |
| Cow. | Gao. | Bú, á. | Bí, a. | Leshu. |
| Crow. | Káu. | Gháu. | Ghámún. | Kágh. |
| Cold. | Sor. | Shagoram. | Shagoram. | 'Ushák. |
| Crooked. | Kola. | Gauda. | | |
| To come. | In, awái. | Kol, ru. | Kol, azho. | Yá raghír. |
| Cousin. | Baba jáwi púch. | Aya ácho, í. | | |
| Custom. | Mirás. | Chol. | Dastúr. | Dastúr. |
| Choice. | Khush. | | | |
| Cheap. | Bodo. | Bút. | | |
| Carpet. | Batári. | Batári. | Jhíl. | Jhíl. |

City.
 Cowardice.
 Clean.
 To cook.
 Cotton.
 To cherish.
 Complaint.
 Camel.
 Cloudy.
 Copper.
 Cloak, chogha.
 Day.
 Dog.
 To drink.
 Daughter.
 Darkness.
 Desire.
 Door.
 Distant.
 Death.
 Defeat.
 Difficult.
 Ear.
 Earth.
 Egg.
 Elephant.
 Eye.
 To eat.
 End.
 Easy.
 Far.
 From.
 Fire.
 Father.
 Flower.

Shahr.
 Bî, jato.
 Pák.
 Reni, go.
 Kî, as.

 Faryád.
 'Unt.
 'Ajo.
 Ril.
 Shoka.
 Déz.
 Shu.
 Pî.
 Dí.
 Tatang.
 Búyet.
 Dar.
 Dúr.
 Mú.
 Fóti.
 Zor.
 Kóu.
 Suin.
 Hanay.
 Hasto.
 'Achi (átchi).
 Khá (h).
 Phash.
 Asáu.
 Dúr.
 -Jo.
 'Agár.
 Bába.
 Phaur.

Shahr.
 Bîjato.
 Pák.
 Desiri, miu.
 Kî, as.

 Faryád.
 'Unt.

 Ril.
 Shoka.
 Gúntz.
 Húk (hook).
 Míni.
 'Ai.
 Tatang.
 Búyet.
 Hing.
 Matán.
 'Irami.
 Fóti.
 Zor.
 'Iltamal.
 Tik.
 Tingan.
 Hasto.
 'Alchamatz.
 Shí.
 Phash.
 Asáu.
 Matán.

 Phu.
 'Aya.
 Haskor.

Búshai.

 Bat, pagza.
 Distera.
 Kapás.

 Kawet.
 'Ut.

 Sh, kark.
 Shúka.
 Gúnz.
 Húk (hook).
 Míni.
 'Ai.
 Tútang.

 Hing.
 Matán.
 Mo, yaru.
 Galjain.
 Mushkil.
 'Altamal.
 Tik.
 Tingan.
 Fíl.
 'Alchi.
 Shí, a.
 Phash.
 Askáu.
 Matán.

 Phu.
 'Tati.
 Gambúri.

'Aulat.

 Bat, pagza.
 Pachána.
 Didous.

 'Ut.

 Dúrúm.
 Shúka.
 'Anús.
 Réhni.
 Pia.
 Júr.
 Chú, i.

 Du, art.
 Dú, diri (doodeeri).
 Obistai.
 'Uchistáni.
 Mushkil.
 Kar.
 Chúti.
 Ai, ekan.
 Fíl.
 Ghech.
 Uayastam.

 Askáu.
 Drung, Dú, díri.

 'Angár.
 'Tat.
 Gambúri.

VOCABULARIES OF THE DIALECTS OF DARDISTAN, WAKHÁN, SHIGNÁN, AND ROSHÍNÁN—*continued.*

| English. | Gilgit, Chhlás, Dilail, &c. | Hunza and Nagar. | Yassin. | Chitral. |
|---------------|-----------------------------|------------------|--------------|---------------|
| Foot. | Pá, e. | 'A, outing. | 'A, outing. | Púng (poong). |
| Fat. | Tholo. | Dagháno. | Daghána. | Thúl. |
| Flat. | Shílo. | Babar. | Raf. | Lasht. |
| Forehead. | Nilá, o. | 'Afáti. | 'Afáti. | Pesháni. |
| Finger. | 'Angú, i. | 'Unush. | Gúni. | Chámút. |
| Face. | Mukh. | 'Ishkil. | 'Ishkil. | Mukh. |
| Fowl. | Kárkámosh. | Kárkamosh. | Kárkamosh. | Káhak. |
| Fort. | Kote. | Kan (kun). | Kan (kun). | Naghúr. |
| Family. | Aulád. | Aulád. | Kaum. | Kamyet. |
| Fear. | Biji, tai. | Biji, tai. | Gamal, cham. | Búltistai. |
| False. | Khaltay. | Ghaltamish. | Phaíng. | Changisún. |
| Forest. | Mushkh. | Mush, kh. | Mushkh. | Kach. |
| Feast. | Onus. | Onus. | Badshía. | Boyastam. |
| Go. | Bo. | Ní. | Néh. | Bogha. |
| Good. | Mishto. | Daltas. | Shuá. | Jam. |
| Great. | Buro. | 'Uyum. | Ni, u. | Lat. |
| Green. | Nílo. | Shigam. | Ishkam. | 'Uch. |
| Give. | Dah (dá). | Yú. | Yú. | Dhet. |
| Gun. | Tumak. | Tumak. | Tuhak. | Tuhak. |
| Grass. | Kach. | Shikar. | Pharo. | Shal. |
| Grape. | Jach. | Ghai, u. | Ghai, u. | |
| Game, play. | Hálo. | Hálo. | Girasham. | 'Ishtok. |
| Grain. | Kúlo. | Phalo. | | |
| Grief. | Hesh-Fikr. | Hesh. | Gham. | Gham. |
| Gold. | Sóu. | Ginish. | Ghendish. | Soram. |
| He (she, it). | Ro. | 'Iu. | Na. | Hes. |
| His. | Aísa. | 'Iua. | Hasa. | Hatago. |
| Here. | 'Ani. | Kolay. | Kho. | Hai, yara. |
| How much? | Kachák. | Bairam. | Bairúm. | Kandúri. |
| How? | Kio. | Beltan. | Beltan. | Kia, kasan. |
| Hair. | Jekúr. | Wo, ung. | Wo, ung. | Phúr. |

Hand.
Hawk.
Head.
Horn.
Horse.
House.
Hunger.
Handsome.
To hear.
Heart.
Hermit.
Hard.
Hunting.
In.
I.
Iron.
Information.
Insane, mad.
Infidel.
Justice.
Kill.
Knife.
Knee.
King.
Little.
Leaf.
Light.
Long.
Lift up.
Lips.
Leg.
Language.
Level.
Lake.
Letter.

Háth.
Báz.
Shish.
Singh.
Ashpo.
Gote.
'Unyár.
Mínilya.
Kouda.
Híyo, Jil.
Derbesh.
Kúro.
Darú.
'Aru.
Má.
Chimr.

Yach, líto.
Káfir.
Isáf.
Mára.
Khatár.
Kato.
Badshah.
'Apu.
Putha.
Sang.
Jigo.
Hun, ta.
'Ota.
Gánh.
Bash.
Samár.
Sar.
Khatt.

'Arín.
Ba, yosh.
Yetis.
Túr.
'Aghor.
Hha.
Chaminí.
Bad, daltas.
Galtamal, eta.
Híyo, Jil.
Derbesh.
Danin.
Darú.
'Ula.
Jha.
Chimr.

'Arago.
Káfir.
'Isáf.
'Eshkanan.
Chur.
Anamús.
Than.
Phális.
Tápung.
Sang.
Ghasan, am.
Dal, eta.
'Iling.
Pening.
Bash.
Babur.
Sar.
Khatt.

'Arín.
Gashanj.
Yetis.
Túr.
Haghara.
'Hha.
Chaminí.
Shua.
Galtamal, eta.
'Us.
Kalandar.
Dang.
Darú.
'Ula.
Jha.
Chimr.

'Arago.
Káfir.
'Insáf.
'Eshkanan.

Anamús.
Than.
Kam.

Garí.
Ghasan, am.

'Iling.
Phatik.
Zabán.
Rat.
Pharí.
Khatt.

Host.
Yurch.
Sór.
Surung.
'Istór.
Khatun.
Chúí, yastam.
Jam.
Ka, kori.
Hirdí.
Kalandar.
Dang.
'Ishkár.
'Adraini.
'Awa.
Chúmr.

Káfir.
'Insáf.
Maristai.

Zánu.
Methar.
Kam.

Rosht.
Drúngħ.

Shun.
Chuchu dek.
Zabán.
Lasht.
Chat.
Khatt.

VOCABULARIES OF THE DIALECTS OF DARDISTAN, WAKHÁN, SHIGNÁN, AND ROSHNÁN—*continued.*

| English. | Gilgit, Chilas, Dilail, &c. | Hunza and Nagar. | Yassin. | Chitral. |
|-------------|-----------------------------|------------------|--------------|------------|
| Leather. | Chain. | But. | Gup. | Gochu. |
| Lead. | Nang (núng). | Nang. | Hakin. | Haziz. |
| Mine. | Mai. | Jhá díla. | Jha bar. | 'Awa sum. |
| Much. | Bodo. | Bhút. | Bhút. | Boh. |
| Man. | Mushá. | Hír. | Hír. | Mosh. |
| Moon. | Yun. | Haluntz. | Halunz. | Mas. |
| Mountain. | Chish. | Chish. | Chish. | Zúm. |
| Mother. | 'Aja. | Mamí. | Naní. | Nan. |
| Mouth. | Ai. | Hakat. | Hakat. | 'Apak. |
| Milk. | Dúdh. | Mámu. | Mámu. | Chír. |
| Morning. | Lashtáki. | Tsordi. | Tsordi. | Chuí, chí. |
| Misfortune. | Balai. | Pits, í. | | |
| Medicine. | Bílain. | Milain. | Mila, hun. | Wez. |
| Meat. | Mos, maus. | Chap. | Chap. | Púshúr. |
| Marriage. | Shariyár. | Shariyár. | Khushaini. | Khushainí. |
| Male. | Bíro. | Bíro. | | |
| Now. | 'Tain (Tein). | Múta. | 'Amúta. | Hanísí. |
| Name. | Nám. | Gúyek. | Gúyek. | Nám. |
| Night. | Ráti. | Tap. | Tap. | Chu, í. |
| Near. | Kach. | Hasír. | Hasúr. | Sho, í. |
| Nephew. | Jawí-púch. | 'Acho, í. | | |
| Niece. | Jawá-dí. | 'Acho, ai. | | |
| Nose. | Nato. | Gumash. | Gumash. | Naskar. |
| Nostrils. | Nato, joli. | 'Amal, tarin. | Bahang. | Bukh, h. |
| Nail. | Nuri. | 'Uru. | 'Uru. | Doghúr. |
| New. | Ná, o. | Tosh. | Tosh. | Nogh. |
| Notice. | | | | |
| Our. | Aisa, hano. | Mí, bí. | 'Ispa hasar. | |
| Ou. | | | | |
| Outside. | Daru. | Holá. | Holá. | Bair, í. |
| Oil. | Tél. | | | |
| Old. | Parúno. | Parúno. | | |

Proof.
 Prisoner.
 Poverty.
 Place.
 Pit.
 Pretence.
 Petition.
 Plain.
 Priest.
 River.
 Road.
 Raw.
 Red.
 Ripe.
 Round.
 Rice.
 Rock.
 Ring.
 Remainder.
 Roof of a house.
 Ready.
 Robber. thief.
 Rain.
 Return.
 Rafter.
 Salt.
 Skin.
 Sky.
 Star.
 Snake.
 Sun.
 Stone.
 Short.
 Straight.
 Small.
 Sweet.

Majíno.
 Budo.
 Nácháři.
 Dish.
 Galko.
 Bahána.
 Buyet.
 Lasht.
 Akhoond.
 Sin (Sind).
 Pón.
 Amú.
 Lailo.
 Pakau.
 Bidíru.
 Birí, u.
 Batt.
 Baruno.
 Phat, bilok.
 Tesh.
 Taiyár.
 Chúruto.
 'Ajho.
 Ba, álo.
 Bo, yí.
 Baju.
 Cham.
 'Agai.
 Tára.
 Jhim.
 Súri.
 Batt.
 Katu.
 Súnchu.
 Chuño.
 'Ispá, o.

Budo.
 Dish.
 Galk.
 Bahána.
 Buyet.
 Rat.
 Akhoond.
 Sinda.
 Gau.
 Dághoi.
 Bárdúm.
 Digouí.
 Bidíru.
 Biri, u.
 Dau.
 Baruno.
 Duá, sí.
 Tesh.
 Taiyár.
 Ghín.
 Haralt.
 Dádími.
 Sinchko.
 Bai, yu.
 Bat.
 Bhot.
 Hasí.
 Tal.
 Sá.
 Dau.
 Chat.
 Tsan.
 Jhat.
 'Uyam.

Bandi.
 Jajáh.
 Ch, ha.
 Bahána.
 Kousish.
 Rat.
 Akhoond.
 Sinda.
 Gau.
 Dághoi.
 Bárdum.
 Digoui.
 Gring.
 Dau.
 Barundu.
 Duá, sí.
 Sholt.
 Taiyár.
 Ghín.
 Barsát.
 Dádí, a.
 Sauj.
 Bai, yu.
 Gap.
 Haiyesh.
 Hasúman.
 Thal.
 Shá.
 Dau.
 Chat.
 Tsan.
 Hachogan.
 'Uyam.

Bandi.
 Jajáh.
 Bahána.
 Kousish.
 Lasht.
 Akhoond.
 Sin.
 Póng.
 Amú.
 Kroi.
 Púchistai.
 Gring.
 Búrt.
 Palangashtu.
 Istán.
 Taiyár.
 Chog.
 Waru.
 Baga, hai.
 Sangír.
 Trúp.
 Post.
 Asmán.
 'Istári.
 'Ai, í.
 Yúr.
 Búrt.
 Blatz.
 Húrk.
 Tsak.
 Fristam.

VOCABULARIES OF THE DIALECTS OF DARDISTAN, WAKHÁN, SHIGNÁN, AND ROSHNÁN—*continued.*

| English. | Gilgt, Chilas, Dilal, &c. | Hunza and Nagar. | Yassin. | Chitral. |
|------------|---------------------------|------------------|-------------|---------------|
| Be silent. | Chukta. | Chuk, heta. | Chuk, heta. | Phigbos. |
| Sit down. | Bai. | Harút. | Harút. | Nishi. |
| Sleep. | Sao. | Guchá. | Guchá. | Pori. |
| Stand up. | Humbo. | Dálmana. | Dál, mana. | |
| Speak. | Rhá. | Sen. | Sen. | Rhá. |
| Strike. | Déh. | Dila. | Díla. | Dit. |
| Son. | Púch. | 'Ayi. | 'Ayi. | Ja, ou. |
| Saddle. | Tilain. | Tilain. | Tíla, hun. | Hún. |
| Stirrup. | Kai. | Kai. | Kaha. | Alghan. |
| Sabre. | Khangr. | Gatanch. | Gatanch. | Khúngr. |
| Sign. | Haiyún. | Haiyún. | Haiyún. | Nishán. |
| Stage. | Bas. | Basah. | Basah. | 'Eb. |
| Send. | Chima, gas. | 'Airam. | 'Airam. | |
| Slave. | Maristan. | Máristan. | Máristan. | Rohí. |
| Smell. | Gún. | Nas. | Nas. | Wai, goeu. |
| Share. | Bargo. | Bargo. | Phákiu. | Bajúr. |
| Sick. | Ragoto. | 'Urgot. | Awalam. | Chai, ek. |
| Stranger. | Logo. | Jai, ip. | Begána. | Nojau. |
| Sickness. | Ghulis. | Ghulis. | Awalamkish. | Chai, eki. |
| Search. | Looko. | Hamal, kúm. | Talash. | Talash. |
| Spectacle. | Hai. | Tamasha. | Tamasha. | Tamasha. |
| Swift. | Teino. | Teino. | Tez. | Tez. |
| To seek. | 'Odoroki. | 'Odoretus. | | Phigbos. |
| Silence. | Chúk. | Chúp. | Lanat. | |
| Shield. | | | | Flash. |
| Soft. | Má, ou. | Mo. | Flash. | |
| Staff. | Kamáli. | Darago. | | Be, zamistai. |
| To sell. | Gá, digar. | Gashat. | Gashat. | Darokham. |
| Silver. | Rúp. | Rúp. | Buri. | Kafsha. |
| Shoes. | Pizár | | | Hím. |
| Snow. | Hin. | Ghá. | Ghá. | Jash. |
| Straw. | | | Ishka. | |

Sheep.
Thou.
They.
Thine.
This.
That.
There.
Then.
Thus.
To-day.
To-morrow.
Tiger.
Tooth.
Tree.
Tall.
Thin.
Take.
Throat.
Thigh.
Tongue.
Tent.
Trouble.
True.
Time.
Traveller.
Tower.
Tomb.
Understand.
Uncle.
We.
Who?
What?
When?
Where?
Why?
With.

'Ajīla.
Tú.
Rí.
Tai (thaí).
'Ano.
'Aw (áo).
'Adi.
Obel.
Ada.
Ash.
Lushtáki.
Dí.
Doni.
Tam.
Jigo.
Taluno.
Lám.
Shoto.
Phatálo.
Jífb.
Gút.

Súncho.
Kha, en.
Musafir.
Shikár.
Mazár.
Dashtakí.
Bába Jah.
Bhi.
Ko.
Jik.
Kera.
Koni.
Jik (?).
Nula.

Hunyes.
'Ung.
Aw.
'Ung dilá.
Kas.
Hes.
'Ela.
Heta.
'Akil.
Kúlto.
Jimden.
Táh.
'Ama.
Joug.
Ghusanam.
Giligín.
Hur.
Búk.
Basuring.
'Unas.
Gút.

Tsan.
Kha, in.
Gharfb.
Shikár.
Mazár.
Haibá.
'Aiya acho.
Mí.
Menan.
Basan.
Beshal.
'Amallu.
Bo.
Nula.

Bilas.
'Ung.
Het.
'Ung bar.
Gúta.
Ta.
Tola.

'Akhi.
'Akhúí.
Gúchut.
Táh.
Gúma.
Dirakht.
Ghusanam.
Giligín.
Tsu.
Gosh.
Gultuns.
'Ungas.

Tsan.
Wakht.
Musafir.

Mazár.
Gúchata.

Mí.
Menan.
Basan.
Bashar.
'Amallu.
Basan.
Nula.

Kohrí.
Tu.
Het.
Tu, asas.
Haia.
Hes.
Hira.

Hanún.
Chuchí.
Phardun.
Dof.
Dirakht.
Drúnggh (droong).

Gol.
Dek.

Húrk.
Wakht.
Musafir.

Mazár.
Pína, chui (doubtful).

'Ispa.
Ka.
Kashír.
(Kiawakt?).
Kúra.
Karí.
Cho.

VOCABULARIES OF THE DIALECTS OF DARDISTAN, WAKHÁN, SHIGNÁN, AND ROSHNÁN—*continued.*

| English. | Gilgit, Chilas, Dilail, &c. | Hunza and Nagar. | Yassin. | Chitral. |
|--------------------|-----------------------------|------------------|-----------|-----------|
| Within. | 'Aru. | 'Ula. | 'Ula. | Adraini. |
| Without. | Dáru. | Holá. | Holá. | Bai, rí. |
| Water. | Wai (<i>Uey</i>). | Tsil. | Tsil. | 'Ugh. |
| Weary. | Shamaras. | 'Awaram. | 'Awaram. | Ishparo. |
| White. | Shai, o. | Burúm. | Burúm. | |
| Weep. | Rahiú. | Harchabai. | | |
| Woman. | Chai. | Gús. | Gús. | Kúmíri. |
| Wheat. | Gum. | Gúr. | Gúr. | Goum. |
| Window. | Durí. | Durí. | | |
| Voice, sound. | Musho. | Kás. | Achúr. | Awáz. |
| Village. | Ku, i. | Búshai. | | |
| Whip. | Túr. | Túr. | | |
| War, battle. | Birgá. | Birga. | Jang. | Jang. |
| World. | Dunyát. | Dunyát. | Dunyá. | Dunyá. |
| Witness. | Chip, ji. | Chip, ji. | | |
| To wash. | Dhójoki. | Yaltash. | | |
| Wonder. | 'Ajúno. | Thúm. | Akhis. | Najan. |
| Wine. | Mo. | Mel. | Mel. | Rhen. |
| Valley. | Gah. | Barkin. | Bar. | Gol. |
| Wood. | Juk. | Gashil. | Hún. | Dar. |
| Wild goat. | Bum, kail. | Ghiri. | Halden. | Tanúsh. |
| Wild sheep. | 'Urin (ooren). | 'Urin. | Yet, hal. | Rhan. |
| You, ye. | Tzo (tso). | Má. | Má. | Bisá. |
| Yes. | Hano (<i>hanun</i>). | Bai. | Díla. | Hasúr. |
| Yesterday. | | | | |
| Waist. | Dákhi. | Ashting. | Ashting. | Meh. |
| Yesterday evening. | Beluko. | Sáti. | Sáti. | Uazen. |
| Wise. | Akhil chan. | Akhil chan. | Dáná. | Dáná. |
| Field. | Chaht. | Mal. | Mal. | Chatúr. |
| Fish. | Chimo. | Chimo. | Chúmo. | Mási. |
| Wall. | Kút. | Kút. | Kút. | |
| A pass. | Kún. | Kún. | Kún. | |
| To return. | Ba, álo. | Dádimi. | Dádí, a. | Baga, hai |

DIALECTS OF WAKHÁN, SHIGNÁN, AND ROSHNÁN.

| English. | Wakhán. | Shignán and Roshnán. |
|-----------|--------------------|----------------------|
| 1. | Eeu (yú). | Lí, ú. |
| 2. | Bú, í. | Haray. |
| 3. | Trú, i. | Trí. |
| 4. | Tsabúr. | Tsavár. |
| 5. | Paus. | Peeuz. |
| 6. | Shal. | Khír. |
| 7. | 'Up (oöp.) | Khiri. |
| 8. | Hath. | Hasht. |
| 9. | Naou. | No, u. |
| 10. | Las. | Lís. |
| 20. | Bíst. | Bíst. |
| 100. | Sadd. | Sadd. |
| 1000. | Hazár. | Hazár. |
| I. | Uez. | Yet. |
| Thou. | Tu. | 'U'z. |
| He. | You. | Yem. |
| Here. | Drim. | Yandír. |
| There. | Dret. | Undír. |
| Where. | Koomrit. | Kúndir. |
| Horse. | Yash. | Warch. Vorch (Vorj). |
| Dog. | Shach. | Kúdh. |
| River. | Yapakh (Yapak). | Khets. |
| Mountain. | Koh. | Jír. |
| Lake. | Chot. | Hauz. |
| Another. | Dirikh. | Chis. |
| Bow. | Distee. | Distee. |
| Arrow. | U'ch (Ooch.) | 'U'ch. |
| Gun. | Miltik. | Miltik. |
| Sabre. | Khingar. | Cheet. |
| Rice. | Gring. | Gring. |
| Fire. | Ríkhneek (Rikhnik) | Yutz. |
| Wheat. | Gídím (Gideem.) | Jhindem. |
| Sun. | Yír. | Aftáb. |
| Moon. | Jamak. | Mahtáb. |
| Father. | Tat. | Dád. |
| Mother. | Nan. | Mád. |
| Brother. | Varut. | Varád. |
| Man. | Mardína. | Chorik. |
| Woman. | Aurat. | Ghín (Ghēen). |
| Rock. | Ghá. | Tash. |
| Plain. | Dasht. | Dasht. |
| Black. | Shu. | Tír. |
| White. | Rokh. | Safed. |
| All. | Kúkt. | Fúk. |
| Good. | Baf. | Shích. |
| Bad. | Shak. | Ganda. |
| Bridle. | Yakhún. | Lagám (Lajám). |
| Saddle. | Peru. | Badán. |
| Hot. | Shúndr. | Garm. |
| Gold. | Súr. | Ish. |
| War. | Jang. | Jang. |
| Near. | Shish. | Sút. |
| Distant. | Rír. | Rír. |

DIALECTS OF WAKHÁN, SHIGNÁN, AND ROSHNÁN (*continued*).

| English. | Wakhán. | Shignán and Roshnán. |
|---------------|-----------|----------------------|
| Hand. | Háth. | Wakht. |
| Head. | Sar. | Kulah. |
| Foot. | Pu, et. | Pá. |
| Eye. | Chashur. | Tsím. |
| Pass. | Wú, ín. | Kotal. |
| Voice, sound. | Awágh. | Kiu, kin (Kyu, kin). |
| To-day. | Wúlk. | Shích. |
| To-morrow. | Sahár. | Firda. |
| Difficult. | Mushkil. | Mushkil. |
| Easy. | Asán. | Asán. |
| Great. | Lúp. | Kalán. |
| Small. | Tsiklai. | Zilakík. |
| Water. | Yapák. | Khetz. |
| Food. | Khech. | Girdá. |
| Cloak. | Chikmen. | Gilem. |
| Earth. | Shet. | Zamín. |
| Above. | Buland. | Týr. |
| Below. | Pust. | Píst. |
| Outside. | Bahar. | Bír. |
| Inside. | Khún. | Chít. |
| Sheep. | Kilah. | Gospand. |
| King. | Meer. | Khá. |
| True. | Rast. | Rast. |
| False. | Durogh. | Durogh. |
| Snow. | Zem. | Barf (Baraf). |
| To ask. | Púrsam. | Píshtam. |
| To drink. | Pítam. | Brikhtam. |
| To give. | Marand. | Múrdak. |
| To take. | Deshdam. | Zokhtam. |
| To know. | Uíndam. | Chíktam. |
| To hear. | Kshenam. | Shinawídam. |
| To sell. | Púritam. | Farokhtam. |
| To say. | Kasakhaw. | Gap markui. |
| To come. | Uezda. | Yet. |
| To go. | Rech. | Saou (Sao). |
| To bring. | Núzim. | Sár. |
| A road. | Varek. | Póu. |

ROUTE I.

KASHMIR to GILGIT, by Dras, Skardo and the Indus Valley.

| Number of Marches. | Places. | Miles. | REMARKS. |
|--------------------|------------------------|--------|--|
| 9 | Srinagar to Dras | 97 | Vide Montgomerie's Kashmir route, map. |
| 10 | Tashgam .. | 14 | Road good down left bank of Dras River. |
| 11 | Karkitchu .. | 14 | Two miles below Tashgam, cross by bridge to right bank of river, and recross to village of Karkitchu. |
| 12 | Gangany | 10 | Left bank of Dras River. |
| 13 | Olding Shung .. | 10½ | do. do. |
| 14 | Tarkusti | 9 | Left bank of River Indus. |
| 15 | Kartaksho .. | 11½ | Cross by rope bridge to right bank of Indus. |
| 16 | Tolti | 13 | Recross by rope bridge to left bank. |
| 17 | Parkuta | 13 | On left bank of River Indus. |
| 18 | Gol | 11 | do. do. |
| 19 | Skardo | 18½ | Capital of Baltistan, or Little Tibet. |
| | Total .. | 221½ | From Skardo to Gilgit, this road is totally impracticable for animals, and even difficult for men carrying loads. |
| 20 | Komára | 10½ | Cross River Indus by ferry-boat to right bank. At 4½ miles village of Kwardo, then villages of Hassan Shah, and Birgám. Komara, a village containing 140 houses. |
| 21 | Tsari | 9 | To village of Bagardo 3 miles, beyond which, at 6 miles is Tsari; road in one place difficult. |
| 22 | Tongus | 12 | Road for 6 miles good, then very difficult close to the river. In summer this lower road is impracticable, and the route is then over spur of the mountain. |
| 23 | Dusoo, or Tormik .. | 9 | Ascent of ½ mile, then descend to village of Baicha, 5 miles from Tongus; from where, steep ascent of 1½ mile, across spur of hill. Easy descent to village of Dusoo in the Tormik Valley. |

KASHMIR to GILGIT—*continued.*

| Number of Marches. | Places. | Miles. | REMARKS. |
|--------------------|----------------------|--------|---|
| 24 | Twár, or Rondu .. | 12½ | Road along mountain side above the Indus, difficult in places. Camp at village of Twár, on the right bank of the Indus, opposite Rondu on left bank. There is a rope-bridge here. |
| 25 | Stiriko | 6½ | Road good. A small village. |
| 26 | Stak | 13½ | For 8 miles road along Indus; then on the ascent up the Stak Valley, to that village, a place of some 80 houses. There is a fort occupied by some troops of the Maharaja of Kashmir. Supplies for the journey on to Gilgit should be carried from here. There is no habitation between Stak and Haramosh. |
| 27 | Malapa | 10 | Road down the Stak Valley for 4 miles, then along right bank of Indus. |
| 28 | Chitroon | 4 | Road very difficult. A few huts here. |
| 29 | Ubulchu | 6 | Road good. Camp in ravine, close by the Indus. No wood for fuel close to camp. |
| 30 | Shingus | 8½ | Road very difficult, along precipitous rocks above the Indus. |
| 31 | Brundu | 9 | Steep ascent of 4500 feet to the Shingus Pass, across a spur running down from the Haramosh Peak. The pass is 10,245 feet above the sea. Steep descent of 3 miles to Brundu, on the right bank of Indus, where are some hot springs. It is optional to camp in the ravine near the summit of the pass, and cross the following day. |
| 32 | Haramosh | 8½ | Road exceedingly difficult, in many places along precipitous rocks above the Indus. Haramosh is a small village inhabited solely by Brokpas. |
| 33 | Shutá | 8 | Road good. Pass ruined village of Hantsil. |
| 34 | Legbut | 11 | Road along Indus for 7 miles, then up the Gilgit Valley. Camp close by the Gilgit River on left bank. |
| 35 | Dainyúr | 18½ | Road good and level up the left bank of the Gilgit River. Dainyúr is a village situated at the junction of the Hunza-Nagar River. |

KASHMIR to GILGIT—*continued.*

| Number of Marches. | Places. | Miles. | REMARKS. |
|--------------------|-------------------------|--------|--|
| 36 | Gilgit | 5 | Cross the Gilgit River by rope-bridge. The road continues up the right bank to Gilgit, a place of 200 houses. A large fort, garrisoned by 1500 troops of the Kashmir Maharaja. |
| | Skardo to Gilgit | 161½ | |
| | Kashmir to Gilgit | 383 | Gilgit is in Lat. 35° 55' 2" N., Long. 74° 23' E., and 5025 feet above the sea. |

ROUTE II.

GILGIT to YASSIN.

Route practicable for laden animals throughout.

| Number of Marches. | Places. | Miles. | REMARKS. |
|--------------------|----------------------|--------|--|
| 1 | Gilgit to Shurote .. | 15½ | Road good up the right bank of the Gilgit River, to near the village of Bargo, where cross by rope-bridge to left bank. Horses and laden animals ford the stream. It is not necessary to cross to the left bank, but optional to continue up the left side of the valley to Shurote. |
| 2 | Shér Kila .. | 7 | Pass villages of Skiote and Gulapur, and ford river to Shér Kila on left bank. Shér Kila is an enclosed village and fort, under a petty Raja Esau Bogdúr, nominally subject to the Maharajah of Kashmir. His territory extends as far as Gahkúch, and the whole district is called Ponyál. |
| 3 | Gahkúch .. | 16½ | At 5 miles from Shér Kila Pass the small village of Japook, beyond which, at 4 miles is Singal, an enclosed village on the right bank. A large valley here joins from the southward, up which lies a road leading by the Butar Pass to the country of Dilail. Pass villages of Bubar, Gulmati, and Grunjur to Gahkúch, a large enclosed village. The territory of Raja Esau Bogdúr ends here. |

GILGIT to YASSIN—*continued.*

| Number of Marches. | Places. | Miles. | REMARKS. |
|--------------------|------------------------------|--------|---|
| 4 | Roshan | 19½ | Road continues up the right bank of the river. At 4 miles above Gahkúch, the junction of the Yassin and Ish Káman Rivers (which form the Gilgit River) is reached. A road conducts up the Valley of the Ish-Káman River, passing Chitor-kun and Ish-Káman, enclosed villages under the Yassin Chief, and crossing the Burogil Pass at its head into the country of Wakhán, in the basin of the Oxus. There is a large lake called "Karambar Sar," at the head of this valley, which has been formed by glaciers falling and blocking up the bed of the stream. The pass is reached in 5 days' journey from Gahkúch. Continue up the westerly valley to Roshan, an enclosed village and fort, under the Yassin Chief. A road conducts from Roshan up a valley to the southward, and crosses a pass at its head to Dilail. |
| 5 | Yassin | 19½ | At 5 miles from Roshan Pass the village of Gupis, beyond which, at 2 miles is the junction of the Yassin and Shevare Valleys. Up the latter a road conducts, <i>via</i> Peenyul and Shevare, and crossing the Shundur Pass at its head, conducts to Mastuch and Chitrál. Ford both streams, and continue up the left bank of the Yassin River to village of Gindai, near which ford stream, and continue up right bank, past village of Dumyal to Yassin, a large village and strong fort, the residence of Raja Meer Wullí Khán, the ruler of the Yassin territory. |
| | Gilgit to Yassin Total .. | 78 | |

ROUTE III.

GILGIT to HUNZA.

| Number of Marches. | Places. | Miles. | REMARKS. |
|--------------------|--------------------------|--------|---|
| 1 | Gilgit to Nomal | 14 | Cross the Gilgit River by rope-bridge below the fort. Road lies up Hunza Nagar Valley, from opposite village of Dainyúr. Maharaja of Kashmir's territory ends here. |

GILGIT to HUNZA—*continued.*

| Number of Marches. | Places. | Miles. | REMARKS. |
|--------------------|-----------------------|--------|---|
| 2 | Gwetch | 6½ | A small village. |
| 3 | Chult | 7 | A small enclosed village at the junction of the Chuprote Valley. |
| 4 | Boralus | 3½ | Cross Garmasai river to village of Boralus. |
| 5 | Maiyoon | 7 | Road difficult. Ascent and descent across a spur. The first Hunza fort is at Maiyoon. |
| 6 | Hinnee | 6 | Village (enclosed). |
| 7 | Aliabad | 9 | Ditto. ditto. |
| 8 | Ultit, or Hunza | 3 | Large village and fort, occupied by Ghazan Khan, the Hunza Chief. The Hunza territory contains some 1500 houses, and musters from 1000 to 1200 fighting men. The country is called Kunjoot. |
| | Total .. | 56 | Following up the Hunza River, at 1½ mile, is passed the village of Hydrabad, from where, at 18 miles, is the village of Gilmit. At 14 miles above Gilmit is the village of Gujál. From Gujál a road crosses the Shinshál Pass to Shinshál, in the basin of the Yarkand River. A road goes from Shinshál to Yassin, and is followed by the Hunza people. |

ROUTE IV.

GILGIT to NAGAR.

| Number of Marches. | Places. | Miles. | REMARKS. |
|--------------------|-----------------------|--------|--|
| 1 | Gilgit to Jitul | 9 | At 5 miles from Gilgit cross by rope-bridge to the village of Dainyúr, at junction of Hunza-Nagar River. Continue up left bank of Hunza-Nagar to village of Jitul. |
| 2 | Jaglote | 6½ | A small enclosed village on left bank. Maharaja of Kashmir's territory ends here. |

GILGIT to NAGAR—*continued.*

| Number of Marches. | Places. | Miles. | REMARKS. |
|--------------------|--------------|--------|--|
| 3 | Nilt | 19 | Cross the Shultur Pass over a spur, running down from the lofty Raki Pooshi Peak. Road difficult. The first Nagar fort is at Nilt. |
| 4 | Pissun | 6½ | At 1½ miles pass village of Thol, beyond which, at 2 miles, is enclosed village of Gulmat. |
| 5 | Askardo .. | 8 | At 5 miles pass enclosed village of Fikr. Askardo village and fort. |
| 6 | Nagar | 5½ | At 2 miles, pass enclosed village of Samaiyar. Nagar is a large village and fort, occupied by Jaffir Ali Khán, the Nagar chief. The Nagar territory contains some 3000 houses, and musters about 1500 fighting men. |
| | Total .. | 54½ | At 28 miles from Nagar, up the valley of that stream, is a village called Hispar, above which cross a pass (road over glacier) into the Basha Valley. |

ROUTE V.

GILGIT to DILAIL, by the Choonjur Pass.

| Number of Marches. | Places. | Miles. | REMARKS. |
|--------------------|--------------------------|--------|--|
| 1 | Gilgit to Jhut (Eng.) .. | 13 | Pass villages of Napúr and Baseen, close to Gilgit and enter the Kirgah Valley. Huts here. |
| 2 | Mazár Mejnoon | 13 | Road up Kirgah Valley. Mazár Mejnoon, tomb of a Syad. No habitation. |
| 3 | Tsakarbos .. | 12 | Camp at head of Kirgah Valley, near the pass. |
| 4 | Kulijoonjee .. | 9 | At 3 miles cross the Choonjur Pass to Kulijoonjee, in the Kanbari Valley, unfrequented except by herdsmen with sheep and goats. The Kanbari stream rises in the pass, and falls into the Indus at Hoodur (5 miles above Chilás) between Boonji and Chilás. |

GILGIT to DILAIL—*continued.*

| Number of Marches. | Places. | Miles. | REMARKS. |
|--------------------|-------------------------|--------|--|
| 5 | Yahchote | 20 | At 6 miles cross the Kuli Pass into the Biragah Valley; the stream in which joins the Dilail River. Road down Biragah Valley to Yachote, an enclosed village on left bank. The Kuli Pass is also called Biragah Kún. |
| 6 | Samagál | 6 | Enclosed village. Pass the village of Namakál on right bank. |
| 7 | Phoonch | 5 | Enclosed village on left bank. |
| 8 | Gaiyár, or Dilail | 11 | Large village and fort. |
| | Total .. | 89 | The country of Dilail contains about 4000 inhabitants, and musters some 1800 fighting men. |

ROUTE VI.

NAGAR to SKARDO, by the Hispar Pass.

| Number of Marches. | Places. | Miles. | REMARKS. |
|--------------------|---------------------------|--------|---|
| 1 | Nagar to Hoopur | 6 | Village in the Nagar Valley. |
| 2 | Hispar | 22 | Ditto. ditto. |
| 3 | Camp | 17 | Cross Hispar Pass into Basha Valley. Road along glacier. No habitation. |
| 4 | Brok | 15 | Ditto. ditto. |
| 5 | Arundu | 13 | Village in the Basha Valley. |
| 6 | Chitroon, or Ab-i-garm .. | 10 | Hot springs. |
| 9 | Skardo | 34 | Road down Basha and Shigar Valleys to Skardo. |
| | Total .. | 117 | |

ROUTE VII.
GILGIT to CHILÁS.

| Number of Marches. | Places. | Miles. | REMARKS. |
|--------------------|----------------------|--------|--|
| 1 | Gilgit to Mainoor .. | 8 | Village in the Gilgit Valley. |
| 2 | Chakarkot .. | 16½ | Cross a low pass into the Sai Valley. Pass villages of Jugote and Shumrote to Chakarkot. |
| 3 | Tulichí | 18 | At 4 miles pass the village of Dumote, and opposite Boonji. Continue down the right bank of the Indus to Tulichí, a small village. |
| 4 | Goor | 14 | A village at junction of the Goor Valley, on right bank of Indus. |
| 5 | Dullárn | 16 | Cross to left bank of Indus by rope-bridge, or cross at Hoodur, 4 miles below, nearly opposite Chilás. |
| 6 | Chilás | 5 | |
| | | 77½ | |

ROUTE VII.—*continued.*

YASSIN to WAKHÁN, by the Darkote Pass.

| Number of Marches. | Places. | Miles. | REMARKS. |
|--------------------|-------------------------|--------|---|
| 1 | Yassin to Hoondur | 11 | Pass the villages of Gujalti and Sandi in the Yassin Valley. Road up left side of valley, level and good. At 6 miles from Yassin ford the Tooí River at its junction with the Warchágam (or Yassin River) near the village of Barandos. |
| 2 | Darkote | 17 | At 8 miles pass the village of Dariára, road good. Four miles beyond which is the village of Mushk. Darkote is the last village in the Yassin territory. |
| 3 | Darband | 7 | Encampment. |
| 4 | Kirkavish .. | 10 | Encampment near the Pass. |

YASSIN to WAKHAN—*continued.*

| Number of Marches. | Places. | Miles. | REMARKS. |
|--------------------|------------------|--------|---|
| 5 | Burogil .. | 15 | At 5 miles from Kirkavish cross the Darkote Pass into the basin of the Oxus. Ascent gradual and easy. Pass only closed in winter. Largely used by Badakhshi and Wakhání, petty traders coming to Yassin and Gilgit. |
| 6 | Pechoot | 11 | Encampment in Wakhán territory. |
| 7 | Petkaro | 10 | Ditto. ditto. |
| 8 | Sar-i-Sarhadd .. | 14 | First village in Wakhán territory. |
| 9 | Nilt | 15 | Village in Wakhán. |
| 10 | Your | 10 | Ditto. ditto. |
| 11 | Tang | 11 | Ditto. ditto. |
| 12 | Wask | 10 | Ditto. ditto. |
| 13 | Gaskun | 10 | Ditto. ditto. |
| 14 | Zung | 11 | Ditto. ditto. |
| 15 | Panja Kila .. | 15 | Fort and village. The residence of Meer Futtah Ali Shah, the ruler of Wakhán. |
| | Total .. | 177 | From Wakhán, an easy route leads by Kolab, Hissar, and Shahr-i-Salz to Samarcand. |

ROUTE VII.—*continued.*

YASSIN to CHITRÁL, by the Shundur Pass.

From information given by Sirdar Bahadur Khán, a brother of Raja Amán-i-Moolk, the Chitrál ruler.

| Number of Marches. | Places. | Miles. | REMARKS. |
|--------------------|------------------------|--------|--|
| 1 | Yassin to Khulti | 11 | Road down Yassin Valley to junction of Warchagam and Ghirza Rivers. Continue up left side of the latter stream to the village of Khulti. |
| 2 | Daimul | 8 | A small village. A road branches from here, which leads up the Baltibur Valley to the country of Tangír, and thence to Dilail. |

YASSIN to CHITRAL—*continued.*

| Number of Marches. | Places. | Miles. | REMARKS. |
|--------------------|---------------|--------|--|
| 3 | Peenyul | 11 | Village under the Yassin Chief. |
| 4 | Chashee | 10 | Ditto. ditto. |
| 5 | Shevare | 14 | At 7 miles pass the village of Barkotee Shevare, a large village under Wuzeer Rakhmat Khán. |
| 6 | Laspoor | 28 | At 5 miles pass the village of Teray beyond which, at 14 miles, cross the Shundur Pass, leading into the head of the Mastuch, or Chitrál Valley. |
| 7 | Rahman | 17 | A Village. |
| 8 | Gasht | 15 | Ditto. |
| 9 | Kinootz | 8 | Ditto. |
| 10 | Mastuch | 4 | Fort and village, the residence of Raja Palawán Khán. |
| 11 | Nisar | 16 | Village. Road down left bank of the Chitrál River. |
| 12 | Tow.. .. | 11 | Ditto. ditto. |
| 13 | Sunoghar .. | 10 | Ditto. ditto. |
| 14 | Miragam .. | 4 | Ditto. ditto. |
| 15 | Awi.. .. | 16 | Ditto. ditto. |
| 16 | Kroigologh .. | 17 | Ditto. ditto. |
| 17 | Buni | 11 | Ditto. ditto. |
| 18 | Jinelikuch .. | 12 | Ditto. ditto. |
| 19 | Charum | 11 | Ditto. ditto. |
| 20 | Reshun | 19 | Village in the valley of the Chitrál River. |
| 21 | Pábish | 15 | Ditto. ditto. |
| 22 | Noghurish .. | 7 | Ditto. ditto. |
| 23 | Maroi | 15 | At 4 miles pass village of Barenis. |
| 24 | Moree | 10 | Village. |
| 25 | Koghuz | 11 | Ditto. |
| | Ragh | 4 | Ditto. |

YASSIN to CHITRAL—*continued.*

| Number of Marches. | Places. | Miles. | REMARKS. |
|--------------------|---------------|--------|---|
| 26 | Kari | 5 | Village. |
| | Danin | 10 | Ditto. |
| | Chusar | 4 | Ditto. |
| 27 | Chitrál | 4 | Large village and fort, the residence of Raja Amán-i-Moolk, ruler of Chitrál. |
| | Total | 326 | |
| | | | N.B.—The distances are probably over-estimated. |

N.B.—There is no town or village called Kashkar (or Cashkar) in the Chitrál Valley. The whole country is called Kashkar. The countries of Yassin, Ponyál, and Mastuch are known as Bud Kashkar (or Upper Kashkar) while Chitrál is known as Kúz (or Lower) Kashkar.

ROUTE VIII.

KASHMIR to GILGIT, by Astor.

| Number of Marches. | Places. | Miles. | REMARKS. |
|--------------------|------------------------------|--------|--|
| 1 | Kashmir to Bandipoor by boat | 35 | |
| 2 | Tragbul | 10 | Ascent from village of Kralpoora. |
| 3 | Kunzlwan | 15 | Cross Randiangan Pass. Village on left bank of Kishengunga River. |
| 4 | Goorais | 11½ | Road good up right bank of Kishengunga River. Supplies for the journey onward should be taken from Goorais. |
| 5 | Kamri | 13 | Village. |
| 6 | Meean Murg .. | 12 | Huts near Dorikoon Pass. |
| 7 | Daskoram .. | 29 | At 5 miles above Meean Murg, the Skardo road by the Drosai Plains branches to the right. To the summit of the pass is 11 miles from Meean Murg. Road good. Descent gradual to village of Daskoram. The pass is about 13,500 feet above the sea, and is closed in winter. |
| 8 | Goodai | 14 | Village. |

KASHMIR to GILGIT—*continued.*

| Number of Marches. | Places. | Miles. | REMARKS. |
|--------------------|---------------|--------|--|
| 9 | Astor | 17 | Pass village of Naogam and Fimmel. Astor is a large place, garrisoned by some 2000 troops of the Maharaja of Kashmir. |
| 10 | Dashkin | 14½ | At 8 miles pass village of Harcho. |
| 11 | Dooi | 12 | Pass village of Mushk half-way. Road along hillside above the Astor River. |
| 12 | Boonji | 17 | Ascend from the village of Dooi to the summit of hill, then steep descent of 7 miles to Ram Ghaut, a bridge across the Astor River. This pass is called the Hatoo Peer. Cross to right bank of river by wooden bridge, and continue up the open valley of the Indus to Boonji on left bank. A fort garrisoned by Kashmir troops is here. |
| 13 | Mainoor | 23 | Cross to right bank of Indus by ferry-boat immediately above Boonji, and continue up Sai Valley past villages of Dumote, Chakarkot, Shumrote, and Jugote. Then ascend spur of hill, and cross into Gilgit Valley to village of Mainoor. |
| 14 | Gilgit | 8 | Vide Route I. |
| | Total | 231 | |

N.B.—The road throughout is practicable for laden animals. The Dorikoon Pass is a very easy one. The Hatoo Pass between Astor and Boonji very difficult for laden animals.

INSTRUMENTAL OBSERVATIONS IN THE GILGIT AND YASSIN VALLEYS, &C.

24th January, 1870.—At the village of *Haramosh*, near the great bend of the River Indus, observed for latitude:—

| | | |
|---|---------|-------------|
| Sun's meridian altitude | .. .. . | 34° 57' 0" |
| Refraction | .. .. . | 0 1 7 |
| | | 34° 55' 53" |
| Zenith distance | .. .. . | 55 4 7 |
| Sun's declination, for longitude, 74° 45' E.. | | 19 13 45 |

Latitude of *Haramosh* 35° 50' 22" N.

25th January, 1870.—At the great bend of the Indus, one mile below the village of *Haramosh*, observed the boiling-point of water to be 204° 4'; temperature of air, 45° Fahr.; level of river, 4535 feet above sea-level.

26th January, 1870.—At the junction of the Gilgit River with the Indus, observed the boiling-point of water to be $204^{\circ} 9'$; temperature of air, $51\frac{1}{2}^{\circ}$ Fahr.; height of Indus at junction of Gilgit River, 4260 feet.

At the village of *Boonji*, five miles South of the junction, observed the boiling-point of water to be $203^{\circ} 6'$; air, 57° Fahr.; height, 4885 feet; level of the Indus at the ferry below Boonji, 4205 feet.

At Camp Legbut, on the left bank of the Gilgit River, $1\frac{1}{2}$ mile North of its junction with the Indus, made the following observations for latitude:—

26th January, 1870.—Meridian altitude of Star.

| | | | | | | | | |
|-------------------|----|----|----|----|----|-----|-----|-----|
| B Orionis (Rigel) | .. | .. | .. | .. | .. | 45° | 53' | 15" |
| Refraction | .. | .. | .. | .. | .. | 0 | 0 | 56 |

45° 52' 19"

| | | | | | | | | |
|---------------------------|----|----|----|----|----|----|----|----|
| Zenith distance | .. | .. | .. | .. | .. | 44 | 7 | 41 |
| Star's declination, South | .. | .. | .. | .. | .. | 8 | 21 | 15 |

Latitude 35° 46' 26" N.

| | | | | |
|---|----|-----|-----|-----|
| Meridian altitude of Star Canis Majoris | } | 37° | 42' | 30" |
| (Sirius) | | .. | .. | .. |
| Refraction, &c. | .. | .. | .. | .. |
| | | 37 | 41 | 27 |

| | | | | | | |
|------------------------------|----|----|----|-----|-----|-------|
| Declination of Sirius, South | .. | .. | .. | 16 | 32 | 25 |
| Latitude | .. | .. | .. | 35° | 46' | 8" N. |

By altitude of the Pole Star.

| | | | | | | |
|--|----|----|-----|-----|-----|------------|
| In longitude $74^{\circ} 40'$ East; and at | .. | .. | 10 | 33 | 15 | Mean-time. |
| The observed altitude of the Pole Star was | .. | .. | 35° | 51' | 30" | |

Formula.

| | | | | | |
|--|----|----|-----------|-----------|-----------|
| | | | <i>h.</i> | <i>m.</i> | <i>s.</i> |
| Mean-time | .. | .. | 10 | 33 | 15 |
| Difference, long. ($74^{\circ} 40'$) in time | .. | .. | 4 | 58 | 40 |

Greenwich mean-time 5 34 35

| | | | | | |
|----------------------------------|----|----|----|----|-------|
| Sidereal time at Greenwich, mean | .. | .. | 20 | 22 | 18.35 |
| Mean-time at Lagbut | .. | .. | 10 | 33 | 15 |
| Acceleration for $5^h 34^m 35^s$ | .. | .. | 0 | 0 | 54.95 |
| Sidereal time of observation | .. | .. | 6 | 56 | 28.3 |

| | | | | | | |
|----------------------------|----|----|----|-----|-----|-----|
| Altitude of Pole Star | .. | .. | .. | 35° | 51' | 30" |
| Deduct for refraction, &c. | .. | .. | .. | 0 | 1 | 5 |

35 50 25

Subtract 0 1 0

| | | | | | | |
|--|----|----|----|----|----|----|
| Reduced altitude | .. | .. | .. | 35 | 49 | 25 |
| With argument $6^h 56^m 28^s$ first correction | .. | .. | .. | 0 | 5 | 15 |

Approximate latitude 35° 44' 10"

| | | | | | | |
|-----------------------------|---|----------------|----|---|---|----|
| Arguments, $35^{\circ} 50'$ | } | 2nd correction | .. | + | 0 | 42 |
| $6^h 56^m$ | | | | | | |

| | | | | | | |
|----------------------|---|----------------|----|---|---|----|
| Arguments, Jan. 26th | } | 3rd correction | .. | + | 0 | 58 |
| $6^h 56^m$ | | | | | | |

Latitude 35° 45' 50" N.
 Adopt for latitude of Camp Legbut 35° 46' 8" N.

27th January, 1870.—At *Chamogar*, Gilgit Valley, observed for latitude :—

| | | | |
|---|-----|-----|---------|
| Meridian altitude of Star B Orionis (Rigel) | 45° | 50' | 0'' |
| Refraction | 0 | 0 | 55 |
| Zenith distance | 45 | 49 | 5 |
| | 44 | 10 | 55 |
| Star's declination, South | 8 | 21 | 27 |
| Latitude of Chamogar | 35° | 49' | 28'' N. |

28th January, 1870.—At the village of *Dainyér*, at the junction of the Hunza-Nagar River with the Gilgit River, observed for latitude :—

| | | | |
|---|-----|-----|---------|
| Meridian altitude of Star B Orionis (Rigel) | 45° | 45' | 15'' |
| Refraction | 0 | 0 | 55 |
| Zenith distance | 45° | 44' | 20'' |
| Star's declination, South | 8 | 21 | 27 |
| Latitude | 35° | 54' | 13'' N. |

7th February, 1870.—At *Gilgit*, observed for latitude :—

| | | | |
|--|-----|-----|---------|
| Meridian altitude of Star A Canis Majoris (Sirius) | 37° | 33' | 30'' |
| Refraction | 0 | 1 | 4 |
| Zenith distance | 37° | 32' | 26'' |
| Star's declination, South | 52 | 27 | 34 |
| Latitude | 16 | 32 | 37 |
| | 35° | 54' | 57'' N. |

9th February, 1870.—Observed for latitude at *Gilgit* :—

| | | | |
|---|-----|-----|--------|
| Sun's meridian altitude | 39° | 24' | 0'' |
| Refraction | 0 | 1 | 0 |
| Zenith distance | 39° | 23' | 0'' |
| Sun's declination for longitude 74° 23' E. .. | 50 | 37 | 0 |
| Latitude | 14 | 41 | 58 |
| | 35° | 55' | 2'' N. |

Boiling-point of water (mean of several observations), 203° 5'; temperature of air, 49° 8'; height, 5025 feet above the sea. Adopt for latitude of the Fort of Gilgit, 35° 55' 2'' N.

21st February, 1870.—At the village of *Bargo*, 13½ miles from Gilgit towards Yassin, observed for latitude :—

| | | | |
|---|-----|-----|---------|
| Altitude of Star A Canis Majoris (Sirius) | 37° | 25' | 30'' |
| Refraction | 0 | 1 | 4 |
| Star's declination, South | 37° | 24' | 26'' |
| Latitude | 16 | 32 | 40 |
| | 36° | 2' | 54'' N. |

23rd February, 1870.—Boiling-point of water at *Shér Kila*, 202° 3'; air, 55° Fahr.; height, 5670 feet above sea-level.

24th February, 1870.—At *Gahkúch*, observed for latitude:—

| | | | |
|----------------------------------|-------|---------|-------|
| Altitude of Star A Canis Majoris | .. .. | 37° 19' | 5" |
| Refraction | .. .. | 0 | 1 4 |
| | | <hr/> | |
| | | 37° 18' | 1" |
| Zenith distance | .. .. | 52 | 41 59 |
| Star's declination, South | .. .. | 16 | 32 40 |

Latitude 36° 9' 19" N.

25th February, 1870.—At *Gahkúch*, observed for latitude:—

| | | | |
|--|-------|---------|-------|
| Sun's meridian altitude | .. .. | 44° 43' | 0" |
| Refraction | .. .. | 0 | 0 57 |
| | | <hr/> | |
| | | 44° 42' | 3" |
| Zenith distance | .. .. | 45 | 17 57 |
| Sun's declination for long. 73° 57' E. | .. .. | 9 | 8 25 |

Latitude 36° 9' 32" N.

At Hoopur encampment, above the junction of the Yassin and Ish Káman rivers, observed boiling-point of water, 200° 5'; air, 52° Fahr.; height, 6448 feet.

At the village of *Gupis*, 1½ mile below the junction of the Warchágham (Yassin) and Ghirza (Shevare) rivers, observed for latitude:—

| | | | |
|---|-------|---------|-------|
| 15th March.—Altitude of Star A Canis Majoris (Sirius) | .. .. | 37° 14' | 30" |
| Refraction | .. .. | 0 | 1 4 |
| | | <hr/> | |
| | | 37° 13' | 26" |
| Zenith distance | .. .. | 52 | 46 34 |
| Star's declination, South | .. .. | 16 | 32 40 |

Latitude of *Gupis* 36° 13' 54" N.

Boiling-point of water at *Gupis*, 199° 4'; air, 48° Fahr.; height, 7278 feet.

28th February, 1870.—At *Yassin*, observed boiling-point of water, 198° 6'; air, 559° Fahr.; height, 7765 feet.

2nd March.—Observed for latitude of *Yassin*:—

| | | | |
|--|-------|---------|-------|
| Sun's meridian altitude | .. .. | 46° 24' | 0" |
| Refraction | .. .. | 0 | 0 55 |
| | | <hr/> | |
| | | 46° 23' | 5" |
| Zenith distance | .. .. | 43 | 36 55 |
| Sun's declination for long. 73° 34' E. | .. .. | 7 | 14 22 |

Latitude 36° 22' 33" N.

3rd March, 1870.—Observed for latitude:—

| | | | |
|--|-------|---------|-------|
| Sun's meridian altitude | .. .. | 46° 46' | 45" |
| Refraction | .. .. | 0 | 0 55 |
| | | <hr/> | |
| | | 46° 45' | 50" |
| Zenith distance | .. .. | 43 | 14 10 |
| Sun's declination for long. 73° 34' E. | .. .. | 6 | 51 26 |

Latitude 36° 22' 44" N.

Adopt for *Yassin*, Lat. 36° 22' 38" N.; long. 73° 34' 15" E.; elevation, 7765 feet.

N.B.—The heights above sea-level are referable to the station of the Great Trigonometrical Survey of India on the rock above *Skardo* at an elevation of 8867 feet above the sea. The country in the basin of the Gilgit and Yassin rivers, &c., has been filled in from triangulation, and bearings to the following peaks:—

Nanga Parbat or Dayamar Peak, in Lat. $35^{\circ} 14' 21'' 5$ N. ; Long., $74^{\circ} 37' 52'' 5$ E. ; elevation 26,629 feet.

Haramosh Peak, in Lat. $35^{\circ} 51'$ N. ; Long., $74^{\circ} 57'$ E. ; height, 24,285 feet.

Manokar or Raki Pooshi Peak, in Lat. $36^{\circ} 10'$ N. ; Long., $74^{\circ} 32' 30''$ E. ; height, 25,561 feet.

II.—*The Geography of the Bed of the Atlantic and Indian Oceans and Mediterranean Sea.* By Captain SHERARD OSBORN, R.N., F.R.S., &c.

Read, November 29, 1870.

GEOGRAPHY, or, in other terms, a description of the planet on which we live, must necessarily be very imperfect, unless the waters which cover three-fourths of its area,* and represent one-fifth of its entire weight or volume, be included in such an analysis. Yet a description of the ocean to-day falls far short of what geographical research enables us to do with reference to the terrestrial portion of our globe. Indeed, it is only very recently that geographers were in a position to tell us anything reliable of an element which plays so important a part in supporting human life, and ministering to human happiness and progress. When Humboldt penned his 'Cosmos,' he acknowledged the deep interest which the hidden mysteries of the ocean awakened in his breast; how much they deserved to be studied; and, whilst acknowledging the then valuable discoveries of Mr. Darwin, he pointed out the direction in which the quest should be *pursued* by all true lovers of geography.

Had Alexander von Humboldt lived to our times, how he would have rejoiced at the progress we have made, and of the still greater promise which lies before the geographer and naturalist, of a few more years adding vastly to our knowledge of the hidden things of the great ocean! It is not many years since my worthy friend Captain Maury, of the United States Navy, published his deeply interesting work on the Physical Geography of the Sea,—a work which has done more than any book ever before published, to attract the attention of all men

* Area of globe 197 millions English square miles: $51\frac{1}{2}$ millions land; $145\frac{1}{2}$ millions water.