

Transcription

Journal of a Journey from Leh to Dras,
June 10 to July 4, 1822
by
William Moorcroft



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Transcribed by Aurélie Bouquet and Janet Rizvi from October 2020 to August 2021 and published in the Mountains of Central Asia Digital Dataset (MCADD) website at www.pahar.in on Sept. 12, 2021.

Transcribers' note: As usual, we don't guarantee the accuracy of our interpretation of many of the place-names and other local terms in the text. And these apart, there are other words that we're not certain we've been able to decipher correctly. Where completely at a loss, we've thrown up our hands and inserted [illeg.]. Otherwise, we've made a best guess indicated by [?]. Our very occasional interpolations in the text are put in *[italics]*, and where further explanation seems in order we've put a footnote, indicated in the text with *, in italics at the foot of Moorcroft's page. Moorcroft's own occasional footnotes are indicated in the text with * and printed in normal font.

1 (jpg 2)

Journey from Leh to Dras

June 10th – Left Leh – The sowing of wheat and Barley finished at the end of May and the most forward and plant has its blades little more than five inches in length. Grey Pease and Horse beans are about three inches high. Turnips are in second leaf and appear not to be touched by the fly, and I have not seen a slug in this country. Lucerne is only just bushing in places where it is not well watered but where it has a flood almost continually passing over the land, it is about five inches in length and thick in the head of the bush. It would seem that this plant is almost an aquatic where there is running water passing continually round its roots, but I have had no opportunity of seeing how it bears itself on marshy. In India if long submerged in the rains it rots at the crown and the tap root dies, but in Ladakh the crown is invariably bitten off and sometimes two or three inches below

2 (jpg 3)

below the surface of the ground by Asses, yet its tap root lasts for it is said more than twenty years. I have observed that the crown or rather the head of the tap root sends off a large number of upright branches which form a considerable bush but the shoots from them are thinner and longer, and the leaves are narrower than these of the Lucerne either of India or of Europe, of which latter country the finest Lucerne cultivation and conducted on the most extensive scale is in the neighbourhood of Lyons on the road to Grenoble. It may be seen in Ladakh that pure gravel without vegetable compost[?] or even clay will yield Lucerne provided the plant be sufficiently watered. The faces of the terrace walls in the lands of Leh are frequently covered with a rank vegetation of a small Hyoscyamus with a yellow flower and with other plants, the seeds of which have been deposited accidentally in the interstices of the stones and into which earth or gravel has been pressed by the subsidence of the soil and equally by accidents, some Lucerne seeds had found their way and formed a surface of plant more

3 (jpg 4)

more forward in general than that directly springing from the earth and having larger leaves. From these two facts it is concluded that the annual destruction of the crown is not a practice favorable to the early growth of the branches, nor to the abundance of its produce. This accidental crop gives a hint for sowing Lucerne in the face of all terraces as by this means a large quantity might be raised on a surface hitherto treated as unproductive and the smallness of the root is not likely to displace the stones or in any other way to injure the wall.

Indeed, all apprehension of the latter may be removed by observing that terrace walls in which the Clematis has found a place for many years are not at all hurt by its roots, although they are much stronger than those of Lucerne. The borders of trenches for watering land seem a favorable situation for Lucerne. The plants this day seen in flower were dwarf blue and white varieties of sweet-scented Iris. Wild dog rose

4 (jpg 5)

Dog rose which on the first day of blooming are of a beautiful Pink color but on the second become less charged with coloring matter and approach to white if they be fully exposed to the sun's rays, but retain their tint longer if they be shaded. Shepherd's Purse and the Buttercup (*Ranunculus acris*) are both dwarfs. The Clematis with a yellow flower was found on the bank of the Pheang rivulet.

The birds seen were western[?] Eagles, common large Raven, Red billed, red legged Chough, Magpie, Hoopoe, Ring-tail Pigeon - Crested singing Lark - Water Wagtail & red Tail, the two latter are birds of passage and only appeared in May. The Geese and Ducks have deserted the River and are now breeding in the mountains. Near Rudokh is a lake in the midst of which rises a mountain which is said to have its surface completely whitened with Eggshells, being the resort of innumerable birds of the Duck class in the breeding season, which seems to be May and June. A Merganser shot in May was found to have within it an egg which would have been laid within a few hours.

5 (jpg 6)

Common Flies were in no great numbers but there were Muskitoes seen near low grounds and the White Butterfly had appeared since the setting in of this month.

June 11th

Our camp had been placed in a willow garden on the bank of the Pheang Rivulet and both late last evening and early this morning we were delighted with the warbling of a willow wren which in some strains approached to the song of the Essex Nightingale but in others seemed to imitate different kinds of birds and once called so like the common grey Partridge that I should have been deceived by it, had I not known that this was not found in these regions. From just before day break till after sun rise, and in those parts of the day when the sun was over cast, the warblings of this minute songster were most melodious. In the middle of the night I was awakened out of a sound sleep by the arrival of a messenger with letters brought by a Kasid through Kashmir from Mr. Traill, the commissioner

6 (jpg 7)

for Kumaon and from Mr. Fraser, one of the commissioners for the Upper Provinces. The former had sent to me Murray's collections of travel in Asia and gave me all the information regarding the Hills which he thought likely to be interesting to me, stating that he meant to go to Joshee Muth in the hot season and to endeavor to make out the line of road which I had suggested as practicable from that town to Dunkur or Thunkur in Peetee [*Spiti*] of Ladakh.

The latter is a hurried letter from Hurdwar acknowledged the receipt of my request to draw upon him for money on my Draughts on my agents, and in answer desired me so to do without reserve. He at the same time stated his intentions of writing at leisure from Dehli and of dispatching a Qasid through Kashmir with Newspapers and Pamphlets. Through him I learned also that Mr Nicolson had received one of my letters and the most welcome information of my friend Palmer having reached Calcutta in good health.

7 (jpg 8)

The letters of these two friends compensated for the behavior of -----.*

I was obliged to remain the whole of this day at Pheang to reply to the abovementioned correspondents and to furnish letters of recommendation to Moohummud Hafiz Fazil Khan who, a few days before my departure, had expressed a wish to return to his house. Of this I am not surprised for to have witnessed the neglect and abandonment to which I have been condemned by ----- was more than sufficient to shake the firmness of any Native servant. He leaves me at the time I most want his services, but as I have found that it is always a bad practice to endeavor to retain servants who have once testified a disposition to depart, I have not shown any wish to detain him, but on the contrary have endeavored to forward his views.

**[Moorcroft is probably referring to the rejection by the Government of India, expressed with outrage by senior officials like David Ochterlony, Resident in Delhi, of his suggestion that the British should take Ladakh under their protection, as a preliminary to establishing an extensive trade with Central Asia.]*

8 (jpg

June 12th

During last night much Snow has fallen on the neighboring mountains, and at an early hour, a servant who had been sent back to Leh for a large blank book intended as a Hortus Siccus [*collection of dried plants*] brought a letter from Capt. Murray Political Agent at Lodeehana announcing the receipt and transmission of parcels to Mr. Metcalf Dr Wallich and other Gentlemen from me. This letter announced the visit of HM George the 4th to Ireland, a measure of sound policy. As the road to Nimo has been already surveyed by my friend M George Trebeck, it is unnecessary here to observe farther upon it. The fields are all under wheat and barley, of which the plant is much more forward than at Leh, some of the barley being in ear. The sweep of cultivation lies principally betwixt the town and the river, resulting from the union of the stream of Singhe Khabub and that of Zanskar, the town being to the North and not very considerable to the large tract of tilled land which is all in tillage. Nothing can be more regular than the crop and this land is as clean as the Gardens at Battersea.

9 (jpg 10)

The system is similar to that pursued on the grounds of Leh but are more sheltered and lie lower.

Bazgo lies W 70° North from Niemo, distant about four Miles, this road running first through the cultivated lands of the latter village and afterwards across a sandy and stony barren. This road is narrow and where the land is of nearly an equal level on both sides flanked by pebble walls, the breasts of terraces towards the bed of the road serving as a waterway. The former is bounded on the south by the river, on the north by alluvial mountains formed from the ruins of the nearest primitive range and rendered remarkable by many cylindrical pillars clustered in lines, and fashioned by the gentle descent of water,

but how its operation should produce this regular and frequently occurring shape, it is not easy to conceive for it is

10 (jpg 11)

is clear that the material is the same as that which has fallen into pebble, gravel and sand. Bazgo lands lie in a slope beginning narrow from the W by N, and wider in descending to the East. They consist largely of a reddish clay washed from the neighboring mountains and are divided into terraces. But as the clayey soil is sufficiently tenacious and firm to make a breast work, the pebble dike is only raised in parts and the mixture derogates from that air of neatness by which the terraced breast walls are distinguished. The crops are good, but not equal to those of Nimo. Pise or Earth beaten in moveable frames or sunburnt bricks are used for garden walls, and it is observable that the crops within these enclosures are more forward than those of the open fields. The orchards contain apricot, apple and walnut trees, the leaves of the latter richer in fragrance than those of Europe, but the branches exhibit but a meagre shew of fruit. The apricots and apples are well set.

11 (jpg 12)

Close to the road was a small deep enclosure full of young apricot trees raised from stones. The town of Bazgo is perched on the face of a rock surmounted by one very good house, and was defended in former times by fortresses both on the East and West, which are now in a state of decadence, a feature that prevails in almost all the edifices of this nature in Ladakh. Whether this neglect rises from the removal of the Kalmaks from the vicinity of Ladakh, or from the decayed revenue of the State consequent on the loss of Changthang, or the diminished condition of its commerce, it is not easy to determine. The red clay hills on each side are of an induration that seems to me verging on the state of stone and will probably acquire it completely through the dryness of the atmosphere. As far as I have contemplated the fate of Mountains uninterfered with by man, after long observation it appears to me that they are continually undergoing decomposition and

12 (jpg 13)

and reformation. After having acquired a certain condition of hardness, they scale and decompose, and out of their material others arise, the whole constitution being subject to the alternations of dissolution and of recomposition as of other matter animal and vegetable, though less obvious to the observation of man from the vast length of time required in their changes. The severity of the past winter has been so great as to have compelled the inhabitants of Bazgo to burn the Lucerne Hay and the Grain Straw in excess of consumption by their cattle, in lieu of more substantial fuel, and with difficulty we got a small quantity from a Lama. Our party were lodged in an enclosure of stone walling with a few rough sheds, which altogether serves as a Serae for travellers, and of this kind of structure there are two accommodations close together. Here it was discovered that the Iron Pins of my Tent were left at Pheang and stones were substituted. The wind blew fiercely towards Evening, frequently shifting & snow fell on some neighboring mountains.

13 (jpg 14)

June 13th

From Bazgo to Saspool

Road – direction W 70 N for 50 double paces* along a narrow waterway flanked by the breast dikes of terraces nearly? W, then 155 to Manee Panee 300 – W – ascending continually to a line of Manee Panees on right 300. Here the road divides into two branches, of which the right goes to Ling and is pursued by travellers who have heavily loaded horses, as though somewhat circuitous being less difficult than the left which leading to Saspool begins by W 70 S steep up to the top of a pass called Lugung Kooje[?] 250. Road W 70 N nearly level over a table bounded S & N by range of mountains parallel E & W, and capped with Snow. The southern range has within it to the side of the table a second rounded covered with sand & clay, apparently secondary, but a closer inspection shews several dikes cropping out so that it is not clear whether these may not be merely covered with a decomposed crust but both the outer ranges are primitive, granitic and sharply peaked

**[From this point Moorcroft's general observations and speculations are interspersed with a surveyor's account of the road, documenting the direction of every turn and its distance in double paces. His party included a 'measurer' employed to count the paces, who presumably presented Moorcroft with a summary of his survey at the end of each day's march.]*

14 (jpg 15)

Road 13th June

From summit of pass to a Water course now dry descending from N to S across the the valley 1751[*paces*], the last fourth a little winding and undulating so that 1/4th way distance may be struck off. Direction continued 509 to a narrow[?] of 20 yards, bounded by two lines of mural dike for 80 yards direction continued 750 to Murkung, a small low circular house for travellers. From this a lower valley opens to W 35 N to a Monastery and village called Torooche 3 miles distant at the foot of the northern range. The road W 70 S undulating a little 350 W rising and winding gently. N W descending – rounded topped mountain bears N W 6 W, the outermost peak visible to the W due W – descend a Ravine 816 W 60 N still descending 300. Ravine continued W 70 S 600 Rivulet from N. Road still descending goes along right bank 1100 to pyramidal piles of stones Manee Panee and long ranges S-W 50 W 750 to a village from which cultivated lands extend left & right have water course road N W 30 N to Saspool 550. Total way distance 7475 double paces. River from Bazgo coming from E runs off West.

15 (jpg 16)

June 13th – Saspool

Road continued

There are two roads, one crosses the lands to W and skirts for a certain distance the right bank of the river. The other less difficult passes along the foot of the northern range. The former road in the lands is flanked to the right by a breast wall of terrace, to the left the ground being lower by a low wall of Pise which keeps Passengers to the path designed for

them, and this has one side of it applied to the purpose of carrying water in a trench. The cultivated lands are beautifully covered with plant and several fields of Barley of the variety called Nus Yang[?] Karmo[?] sown two months ago will be ready for the sickle in somewhat less than another month, being now in ear but not yet in flower.

Enquiring whether any use was made of the ground from which this crop would be taken before the cold season comes in was informed that it would

16 (jpg 17)

it would be sown with Buckwheat which ripens here within two months. This is as it should be. Saspool is reputed for its orchards of apricots, of which there are many kinds, the best being a large variety called Khoban^x and that with the white stone. Some of the trees are as they were raised from the stone, but commonly they are engrafted and on the whole, besides the advantage of the latter being more early bearers, they are also more steady as to amount of crop, and as far as I could judge not more liable to disease. I examined the garden of the younger son of the Lonpo of Leh who lives here. It contained apricots of many varieties, almonds, a single vine, a few mulberry, two pear trees and many apple trees. The apricot trees were on full bearing, the Pear trees, though of large size, were not in fruit. One was engrafted, but the larger upright shoot arising from the bud was surrounded

^x corruption of the Persian Khobanee

17 (jpg 18)

June 13th

surrounded by luxuriant branches of the wilding. I endeavored to explain the advantage of cutting away the latter, but whether to conviction I cannot say. There were walnut trees also of great size, but not in bearing, and it was recommended to engraft these from trees that were free bearers, and a recompense was promised by the young trees bearing abundantly and yielding larger nuts with thinner shells. In Europe the management of walnut trees is best conducted at Geneva. The vine was healthy and luxuriant, but had not fruited and its culture was obviously not understood. Here I saw three or four apple trees dead from some disease in the root but the great bulk was in full strength and bearing. One bore the red variety Marpo on one side and the white (Karpo) on the other. In an orchard adjoining, the apple trees all engrafted were covered with fruit about the size of nuts in a degree I never before witnessed. The branches spread regularly round, forming a tufted head, open however with considerable separation of the extreme ends. Not a single mark of constitutional disease

18 (jpg 19)

is observable in the bole or branches, nor is there to be found without a very close examination any insect-eaten or blighted leaves

This exemption is in great measure owing to original hardiness of constitution and a congenial soil and climate for though the country has few insects yet yesterday I saw two or

three apricot trees at a Lama's house which had curled leaves owing to several having been glued together so as to form a nest for some insect, but either the egg or larva was too small to be remarked by the naked eye or the insect had escaped from its asylum. When the bark of the stem happens to have been largely stripped by cattle, the edges roll inwards very rapidly and soon cover the wound soundly with little apparent loss of substance after it has healed. In a tree close to my tents I saw a speck of a different appearance to the general surface of the bark and found it to be given by the tip of a ram's horn that had been enclosed by the bark in the growing of the tree. Seeing several horns placed in the angles between branches

19 (jpg 20)

June 14th Saspool

where they diverge from the general stem, I enquired the purpose they were intended to answer, as their regularity precluded the possibility of their having attained their situation by accident. It was stated that during the time of an eclipse of the sun the horns were thus inserted as a kind of propitiatory sacrifice, and that in consequence of this oblation, the trees were for ever afterwards blessed with abundant & never failing crops of fruit. This affords no slight evidence of the general productiveness of the trees, as little confidence will be placed by Europeans at least in the efficacy of the offering. But had a ram's horn been found in the solid substance of an apple tree in Europe, its presence would have given rise to abundant speculation in regards to the mode by which it had obtained its situation. But in Tibut doubtless there would be many found so circumstanced as I saw several other horns that were thus fastened by the [illeg.] of the branches and will be covered by bark in the course of a few years.

20 (jpg 21)

At this place I endeavored to make an arrangement for procuring a large quantity of Apple-Pips which I should be glad to send to Britain as, although many of the apples of England are higher flavored than those of this country yet the stems and the branches in general are much more healthy and of a more simple distribution with fewer cross shoots than those of England. And I have not yet met with a single instance either of canker or excrescence. I much doubt whether our apple trees would bear the alternations of temperature so rapid in succession and so greatly distant in degree as in this country. The hardiness of constitution and the rapidity of growth with the great size of the stem would render stocks from the Pips of the apples of Tibut, should they retain their qualities when transported into British soil an acquisition of great value not only to the English[?] Counties but to gardens in general.

21 (jpg 22)

June 14th - Saspool

I am not aware that the power of bearing largely and steadily are qualities that are transferred from the Stock to the graft and rather doubt of this happening, however the fruit itself from seedlings of Tibut Pips might undergo an amelioration in the soil of Britain,

and it would be worthwhile to keep some without engrafting in order that the race of hardy Stocks might be perpetuated without the necessity of importing pips from Tibet, though this may be advisable till the Tibet wildings are in fruitage. The Lucerne in the Lompo's garden was in flower & the varieties of yellow and of purple were close together. In the Evening the Lompo's wife, who is the daughter of the Geah Raja and apparently twice as old as her husband, send some flour, dried apricots and apples and turnip tops as greens with her respects and expressed her concern that her husband was not at home to show me some attention. I returned a civil message and requested her acceptance of a pot of highly perfumed French Pomatum

22 (jpg 23)

a pair of scissors and a thimble which were acknowledged with gratefulness and a manifestation of concern that such a trifle as she sent should have been replied to in a manner that made the donor ashamed of its insignificance. The Nerpo[?] of the village sent some small turnips and requested that I would prescribe for his wife. These matters seem trifles but the vegetables were highly acceptable and the civilities themselves throw light on the dispositions and customs of the people. The sheep of Bazgo and of Saspool are of the Poorik breed but the flocks of the former village is almost wholly destroyed and forty only remain out of several hundreds of the latter. From the complete insulation of many of the villages of Ladakh from the general prevalence of the Epidemic from its recent origin and there being no word or tradition of such a disease existing in former times, it may be inferred that the disease arose out of some general constitution of the atmosphere of Asia. And it seems not improbable that it was the same cause that produced the Cholera in the human subject and the [illeg.] effusion of blood in the Cow, Sheep & Goat.

23 (jpg 24)

June 14th - Saspool

This village is situated on the face of a mountain principally, but there are a few houses in various parts of the grounds. In the red clay and stone rock on which it is built is a break which exhibits an example of strata disposed in an egglike form. It seems probable enough that the strata have been produced by successive dispositions when the clay was in a semifluid state and that the form of the mountain was in some degree regulated by the form of the hard nucleus on which the material was deposited, influenced by streams or sheets of water. Were a series of observations recorded through several generations of man on the manner in which alluvial rocks receive [illeg.] lose their water and acquire hardness, light might be thrown the history of secondary formations instead of this being as it is at present gained by surmises or by the contemplations of persons derived from mere cursory inspection.

24 (jpg 25)

June 14th
Saspool to Himis - Road

N W 23 N 900 – Cancellated ovoid and wavy structure. Path skirts mountains on the right & has on the left a rivulet ascends slightly. N 20 E still ascending at 350 crosses the rivulet direction continued following the rivulet 550. Direction continued descends into its bed and at 125 crosses ascends gently to a single house surrounded by some fields terraced and well cultivated in good crop of wheat and barley plant, not yet shot into ear. The place is called Saspothe Soondoh and here the roads from Bazgo by Saspool and from Bazgo by Ling meet. Road hence ascending N W 300. N 50 E 150 - W 40 N ascending 214 W 67 N crooked. Mountains on each side low and close 300. W 77 N 400 – W 73 N hitherto road has ascended considerably but now slightly 50 then crooked descending and ascending for 1650 of which for windings a third may be cut off to the village of Toorkoo in a glen on the left surrounded with fields terraced in barley and wheat. Road N W 30 N descending to a rivulet 150 to a rivulet which is crossed. The narrow part of the glen proceeds from the North in which there are willow, poplars and apricots.

25 (jpg 26)

June 14 – Saspool to Hemis
Road

W 67 N up a pass i750 to its summit cut off 110° for windings. From its summit is commanded a view of the village of Hemis of which the central cluster of houses W 80 N path descends 1750 to a rivulet rapid but fordable for horses is furnished with a Sanga for foot people. From this road ascends to houses, then slightly descends and in a green spot over which run several small streams we encamp, the greatest cluster of houses lying to the S. Total distance 8539 double paces.

Miscellaneous

At Saspool some women were engaged in pounding thin plates of carbonate of lime which they had detached from the surface of rocks and in sieving it through hair bags. The Mortar was a round hole cut out of a block of stone and the pestle a heavy somewhat oblong stone rounded at the ends. This apparatus sometimes serves for one of more houses and occasionally for a small but compact village though more commonly there is one at each extremity of the town.

26 (jpg 27)

June 14 Saspool to Hemis
Miscellaneous

When the lime was reduced to powder, it was burned and afterwards mixed with water to serve as white wash to the outside of the house and this operation is annually renewed. It might be supposed that this exterior cleanliness argues a similar attention to the interior, which however does not always correspond, for Bugs, fleas and lice are no where more common than in the best house in Tibet.

The pounding of the Lime Stone is founded[?] on the scarcity of fuel. It is not out of place to observe that the public mortars serves for reducing various materials into powder. Rape and mustard seed is bruised and when well reduced is put on a slab of stone laid obliquely and is a little hollowed on the lower end. A woman taking a handful of the powder mixes with it a little hot water and squeezes and pounds and moulds the mass between her hands

and the slab till a little oil escapes with the water. She then adds more warm water and continues squeezing till all the oil be brought

27 (jpg 28)

June 14 Saspool to Hemis
Miscellaneous

brought out when it is scooped out of the hollow and put into a Jar. The mass which is left is moulded into a shallow cup with a very thick bottom and employed for resting the point of the wooden spindle and for spinning fine wool for which purpose it is well adapted, becoming nearly as hard as stone and being little liable to break. The Kernels of Apricot treated in the same manner yield an Oil with a fragrant smell and is employed by the women for their Hair. These are the only two materials indigenous to Ladakh capable of affording oil and the process for extracting it is abundantly tedious and laborious. Mustard and Sesamum (Till) oils are brought from Kashmir and meet a ready sale but it is extraordinary that the acuteness of the Kashmeerees has not discovered that the Jasmine and Sandal wood oil would yield them a very considerable profit for scenting the Hair and the castor oil for medical uses. The mortar is used also for pounding

28 (jpg 29)

June 14 Saspool to Hemis
Miscellaneous

Madder root (of the wild kind) brought from the southern mountains which, mixed with an aluminous earth and Pyrites, forms a brown dye used for the woolen clothes worn by the men for outer garments and for the Trowsers of married or adult women, girls using undyed cloth for the latter purpose. But perhaps the mortar is most commonly in request for bringing into fine powder which is likewise sieved the dry dung of goats which being thickly laid on a sheep skin the wool outwards serves as a bed for infants and young children, that portion which is moistened being removed and replaced. And this forms in general all the bedding and clothing the child has till more than a twelvemonth old. Medical remarks. An old man was operated on for cataract in one eye, the case somewhat unfavorable from adhesion between the capsule and the lower part of the iris. It was however depressed.

A very old woman had very rolling eyes with cataract of which the right alone presented a state that was tolerably favorable

29 (jpg 30)

June 14 Saspool to Hemis
Miscellaneous

but the eyelids had been ulcerated at the angles and had united so as to render the space from one angle to the other shorter than naturally, and indeed prevented my having an opportunity of piercing the Sclerotica.

I pushed the Needle through the Cornea into the Lens, but found that I could not bring the cataract down, and was obliged to content myself with tearing the Capsule and breaking

down the structure of the Lens. At Saspothe Soomdoh, I was welcomed by an old woman who had been cured of cataracts by operations performed by me at Leh soon after my arrival and had prepared a repast for my party. She was extremely anxious that I would stay all day, and had prepared grass for our horses with all other accommodations required. Her husband aged 76 had cataracts of which the left eye was favorable. I wished him to go to Himis but as he had no Horse, save an unbacked Colt, I was obliged to perform upon him at this place. Having remarked that every thing else alike there was generally

30 (jpg 31)

June 14 – Saspool to Himis

generally was less inflammation after the aqueous humor had escaped by the side of the needle I incised the cornea and then operated from behind the Iris.

The left eye was done well, but in the right was an effusion of blood which I apprehend arose from the division of an adhesion between the Lens and the Iris. This is unusual, as when adhesion takes place between these parts, it is usually by unorganized lymph, but here there might have been some tearing of the vascular surface of the posterior part of the Iris. As in all such accidents, there was pain shooting into the head near the summit, however in a few minutes it went off which I apprehend would not have been the case had the aqueous humor not been previously evacuate?.

The flock of Sheep and Goats of this house form a hundred head had been reduced to ten Sheep and one Goat by the Epidemic. Two lambs were pressed upon my acceptance but I refused to diminish their small stock.

31 (duplicated in jpg 32 & 33)

June 14 – Saspool to Himis

On the road I saw an imperfect explanation of the manner in which the rounding of pillars takes place on the face of cliffs. The melted Snow water in some parts descends straight over the face of the cliff in a narrow straight perpendicular line and the space included between this and another line forms the block for the pillar. For a time, the cutting process is confined to a Slit and the block has a square front, but by degrees the angles which are the least solid part crumble and give way under the sheet of water which descends over the face, wears the angles down quicker than the continued flat surface. However, difficulties occur in the subsequent part of the operation which I know not well how to account for, but perhaps farther observations may remove them.

32 (jpg 34)

June 15 – Himis to Sneurla corrupted by Kashmeerees into Nooroollah

Miscellaneous

The delay which had occurred as Saspothe had broken into into my previous intention of pressing on to Sneurla. At the latter place we were very near the great granite range which runs from Leh westward, but within it was here and there an insulated mountain or a detached group, but though one of these had a rounded head and was covered with a

smooth coat, its height was nearly equal to the peaked range and mural dikes cropping out here & there rather favored the notion of this being primitive though its surface was more disintegrated and its crust had remained more in its original site[?] than is usual.

The extravagant price asked for dry Lucerne convinced me to buy the standing crop of a slope for about three Rupees on which the crop was half grown but here I was disappointed for the horses instead of falling upon the Lucerne so greedily as to anticipate the necessity of interrupting their eating during the night they only pecked[?] here & there

33 (jpg 35)

June 15 – Himis to Sneurla

Miscellaneous

there cropping the Lucerne sparingly. As two women were employed in preventing the horses rambling on the neighboring wheat and barley fields, it was proposed that the Lucerne should be cut and carried to the neighborhood of the Tents for the use of the Horses in the night. This was acceded to but night came on too rapidly to admit of a surplus being collected for the morning feed. The owner preferred the Lucerne being broken off rather than cut, and I am led to think that some experiments made in the former way has been one cause of frequent cropping being discontinued as the branch breaks off lower than when the bush is cut with the knife which leaves a greater fund[?] for future shoots. Be this as it may the following morning when the men were taking the horses to graze, the owner opposed them and struck one of the people, as however I had given double the value of the crop I directed a reinforcement to proceed and resistance was withdrawn. Wherever Kashmeerees have much frequented in Ladakh I find uniformly the Natives much more disposed to trick and to fraud than in districts to which the former are

34 (jpg 36)

June 15 – Himis to Sneurla

Miscellaneous

are comparatively Strangers.

Sheep & Goats. The flock was large but had also greatly suffered from the Epidemic. Here there were several cleanfaced Poorik sheep of great beauty of form and fineness of wool but the owners would not sell them except at a price which would have most extravagantly served as a regulation price for any future purchases.

Medical remarks. Here I operated on an old woman for Cataracts in both eyes. One was fluid or jelly like but was well broken up, the other was readily depressed. A man had Cataract and fixed Pupil in one Eye, and the Lens of the other had found its way through the remaining Pupil and adhered to the cornea in the other by the intervention of red blood vessels. The cataract was depressed in the former eye and I hoped to cut a hole through the other but the hardening of the Lens prevented it and seems to confirm an observation respecting the structure of displaced parts imitating in hardness that of the vicinity of the parts of the new neighborhood.

The Physician of the lower village when I was about to depart arrived covered with sweat and accompanied by attendants carrying wheaten cakes and a large copper teapot beautifully worked over with brass in fret work.

35 (jpg 37)

June 15 – Himis to Sneurla
Miscellaneous

Stating my concern that he had taken this trouble on my account, he very politely observed that it was the duty of every Hakeem in the country when the Sirdar of Hakeems visited their residence to show his respect by offering to his acceptance such refreshment as was at his command, and that he for himself much regretted that he should have been so late in paying his visit. This man had, it appears, been present when Tsangre Soondum[?] of Choochoot had been operated upon for cataracts with success. I gave to him in return for his attention a Gum[?] Lancet, an instrument little differing from the (Stakpo) Lancet used for opening veins in the forearm. This much superior in finish to any he had seen was particularly acceptable. The teapot was made at Chiling, a town opposite Saspool in which live many Iron Smiths and Silver Smiths who are in great repute for works of this kind. The price of that of the Hakeem cost ten Rupees and I was told that they had ten different patterns each of the same price when the materials were a copper ground with the embossed work of brass.

36 (jpg 38)

June 15th Himis to Sneurla
Road

Direction of road N W 850 paces double slightly ascending and a little crooked (cut off 1/4th). W 67 N level 350. W descending 816. SW 50 S still descending 2300 crooked about one fourth and the last part down the bed of a rivulet deep and narrow as to its channel but contains little water. In its course there are several beds of snow covered with Sand, Gravel and pebbles, and in some places forming arch ways under which runs the current. From the foot of the pass is seen the line of the Singhe Kha Bab skirting the foot of the snowy and primitive granitic range which appears from the eastern Himis near Marsilla to preserve a steady direction East and West. But though the line of the channel be discernible, the water itself is concealed by a high bank. The road W runs down a flat barren gently sloping bordered by clay stone and slates of different colors. At 920 come in sight of the water of the river. SW at 300 yards distance. Road W 350 road ascending. W 25 S 635 – winding 1/4 may be cut off. River SW 60 S distant 70 yards. Road W 70 N[?] at 330 come in sight of cultivation on both sides of the river but more on the right bank. Road W and closing the view at

37 (jpg 39)

June 15th Himis to Sneurla Road

at a distance not readily ascertained is a sharp peak covered with snow higher than the northern and lower than the southern ranges between which it seems to stand and closing the prospect to the SE is seen the termination of another ridge between which and the eastern & western line the river holds its course. At 310 the lower, or river road, from Saspool meets the upper road. On the former, foot people and even Horsemen may go with

safety, but it is not safe for horses carrying bales of merchandises. The last portion of the road pursued by my party being considerably in winding, one third may be cut off. Road W to the cultivated lands of the village of [blank] 125 then to a sanga for horses across a rivulet which comes from the N. Thence 325 to the village and grounds of Sneurla. Total distance 7311 double paces.

Miscellaneous. The Wheat & Barley crops are very fine but there is little Lucerne. Women are busy collecting Grass (*Bromus*) now in ear and this twisted into ropes is sold at a very dear rate: indeed we have every where found Lucerne Hay dear in consequence of the severity of the weather having saved[?] it to be used as fuel. From the general scarcity of the Lucerne crop here and the demand for Hay by travellers who pay largely for it the farmers use the Grass collected very sparingly for their own cattle substituting at this season the young shoots of Mulberry

38 (jpg 40)

June 15 - Sneurla

Miscellaneous

the black Poplar and Willow branches. They cut off the trunk of the Poplar horizontally at about ten feet from the ground and from the exterior circle just under the bark spring many upright shoots some of which are cut soon to make room for others intended as rafters for roofs and other purposes. As the Saw is seldom used and shaving down a trunk into a single board is an expensive, ~~and~~ tedious and wasteful process by the adze a mode of joining shoots of about from two to three inches is adopted for outer doors of houses and for those of out buildings. Each piece if perforated with two mortices of a size calculated to receive two tapering wedges, one of which runs through across the upper and through and across the low part of the staves ranged side by side and the whole is fashioned into a door when the ends are cut level, the Stave at one end being left a little longer than the rest to run into holes above and below in the cross lintel as a gudgeon. Where wood is cheap, labor not dear and iron not readily had, this principle would answer for enclosures for paddocks farm yards posts of greater

39 (jpg 41)

June 15 - Himis to Sneurla

greater height and thickness being interposed at small distances. Not a nail or a peg would be required in the whole line of fence, though each hurdle & compartment should be well wedged into the posts.

Besides the common single Rose bush which is large & springs frequently from the face of terrace breast walls, the double rose called the Maiden's blush armed with numerous sharp and strong prickles is common. Its odour is rather sickly and much inferior to that of the common cabbage rose of Britain but it is a free bearer and would perhaps yield a highly perfumed Atr. The Columbine of a pale blue is rich in scent that is agreeable enough. It is called Bombo Kaera or Asses Sugar, but the reason for this singular appellation I was not able to learn. This plant is wild, the rose is cultivated by offsets taken from the root and it is probabl[y] came from Kashmeer. Here I saw the first appearance of disease amongst apple trees and remarked that the extremities of the largest branches of some of the oldest Trees

were dead. This would seem to arise from the shallowness of the soil and the roots too soon reaching the platform of rock, for these most subject to it were on

40 (jpg 42)

Sneurla

on the highest terraces and on natural slopes, but I saw no young trees even there and none whatever on the lower grounds where the bed of soil was deeper affected with this distemper which I apprehend arose only from want of nourishment. And in support of this opinion, it is to be observed that the large apricot trees were similarly affected in the same situations. Here I saw the Shugoon[?] in fruit but still forward enough to approach to ripeness. Before I reached the Village to the East of Sneurla, I was aware of the wind wafting to us a very strong and most agreeable perfume which proved as suspected to arise from the Sursing, a tree that has the form and general appearance of the white Willow save that its leaves are shorter, narrower and whiter on both surfaces but more especially on the lower one which glistens like silvered paper. The florets are small yellow with the edge of the cup divided into 4 pointed short leaves on a short stalk and they are placed at considerable intervals along shoots of about three inches in length springing from twigs armed with long, strong and sharp prickles.

41 (jpg 43)

Sneurla – Sursing Tree

I know no scent so strong that proves so permanently agreeable as the Sursing, nor am I aware of any that has a more elegant and more delicate appearance. Its fruit is said to be red, to retain the same agreeable smell, and to furnish by distillation a liquor intoxicating and highly pleasant. I shall make a point of procuring fruit for transmission to Britain as it seems to grow most freely. At Sneurla, Wheat and common Barley and Sherokh were cultivated and promised an abundant harvest.

Medical. I performed in one cataract which proved soft, however I tore it in pieces and left it in situ. As soon as the operation was over, I perceived the patient to be carefully untying a knot in his woollen Sash which contained silver intended as a remuneration and he seemed much surprised at finding the intended fee rejected.

At Sneurla I remarked small circular buildings detached from but placed not far from the road and always near every[?] house. These were [illeg.] covers [?] but proved to be necessities

42 (jpg 44)

June 15 Sneurla

on a convenient and clean plan there being an apartment beneath which had a kind of stone door in the lower part of the terrace breast work and in the upper apartment lay a heap of dry earth of which portions were thrown down occasionally.

This country is lower and hotter than Leh and this modification of system is at once cleanly judicious and decorous. I saw not their Neat cattle or Sheep but trace of both though I am led to think in no great numbers in proportion to the large extent of cultivation. At the

village of [blank] I expressed a desire to procure a branch of the Shogoon growing in the terraced garden below the road about seven feet and of which the upper part of the wall was defended by a line of dry thorns the handsomest girl I have seen in the country without hesitation leaped down and handed [me] the fruit[?]. On throwing to her a piece of silver she disappeared but sent her mother with some single Poppies of a rich orange color and differing from any I had seen. Here I met with Male and Female Pilgrims Lamas & Chomos going to Kanree. Observing that some of the women were clothed in

[At this point one folio (or more?) appears to be missing, and the next misnumbered, repeating page-numbers 43 and 44, which have also been bound out of order, resulting in the jpg numbers also being out of sync.]

43 (1) (jpg 47)

June 16 – Sneurla to Yoolchang Kalate or Kalatze
Road

N 23 W skirting the right bank of the river about 30 yards broad and rolling down a great body of water with vast rapidity and high broken waves. 1350 double paces tolerably straight and level. The former high water line is 30 feet higher than the present level, although this is the season of the year when the largest quantity of water comes down, so that it has cut a channel of more than the above mentioned depth. Road W 73 S 1600. W 80 N 895. W 77 N 340. W 80 N 487 to the edge of a deep watercourse now dry. Cross it. W60 N in front distant about a mile on the opposite or left bank of the River an orchard, corn fields and a few houses at 410 there goes off a steep road N E by E165. R: W 45 N 960 Kalatze bears W 80 N 1772 to the left branch of a Rivulet running in a deep channel. This comes from N-20 W- down to Watercourse 100 cross & into Kalatze 300
Total 8539

44 (1) (jpg 48)

June 16 – Kalatze

The village is principally on the north side skirting the foot of the Mountains. The grain Wheat and Barley almost wholly in ear. The other varieties of Barley do not grow here. The grain ripens in three months after being sown and a second crop of buckwheat or of turnips is got from the same ground. Here the people are very civil. The principal and oldest men of the village came unsolicited to set up my Tent having pointed out the most agreeable Terrace. Immediately afterwards one of them brought me a bowl of sour milk. I placed myself under the shade of a spreading Walnut Tree close to a stream of water which fell near it in a sheet to water the neighboring lands. Here I dined and suddenly was distracted in my writing by a loud crack when looking upwards and forwards I saw the people who were seated on a crag of rock above and before me with much consternation in their countenances, beckoning me to come away as fast as possible which I did and on coming

43 (2) (jpg 45)

June 16th – Kalatze

Miscellaneous

down pointed to a crack in the branch under which I had been seated. This was about an inch in breadth and two feet in length between the branch and the bole of the tree. Though the gap widened the branch did not fall.

The crop of Apples and Apricots this year is of great promise. I endeavored to induce some persons possessing large orchards to bring the white apricot and some of their best apples to Leh and also the fruits of the Sursing that I may enabled to send the Pips and the stones along with the seeds of the latter to Britain. Calling at a farm house to enquire for apple seeds the mistress brought out a brown colored meal on a dish and a young man having washed his hands and an iron ladle in a neighboring rill filled the latter with water and desired me to mix some of the meal with it to make a sherbet which he said was good for travellers as it assuaged and kept off thirst. It appeared that the meal was made from dried apples rubbed down and the Sherbet was tolerably agreeable. Apricots are treated in the same manner for the same use.

44 (2) (jpg 46)

June 16 Kalatze Miscellaneous

The females of the family were engaged in spinning under the shade of a very large walnut tree and seeing the roll of wool very fine, I examined it and was somewhat surprised at being told that it was from Changthang, as it was the first I had met with free from hairs. This, the women said, they preferred on account of its greater length to that of their own or Poorik breed which is inconveniently short. Discovering this it is od[*d*] that they do not discover also its remedy in clipping the fleece only once a year instead of twice as is the general custom.

As the mistress of the house insisted upon the Son accompanying me to the house with apple meal, I sent back some needles and medicine for a neighbor with sore eyes who was at work along with her daughter. Here were several Chomos, or Nuns, who were particularly curious as to the motives of my journey, my dress and other incidents till one checked by the elder son lest the rapidity and variety of questions should prove impertinent[?] desired that I would not be angry as their conversation was not intended to offend.

45 (jpg 49)

June 17 – Kalatze – Road to Lama Yooroo

Between the foot of the Mountain and the cultivated lands which are fringed with Orchard Line[?] of Apricots, Apples and Walnuts, at day break the women were employed in watering the corn fields and in collecting grass for their Goats and Sheep as well as for store. The Epidemic had been destructive but the village stock still amounted to eight hundred mostly goats. No cows were kept here. Other females were engaged in forming web for narrow woollen cloth. The village is neat and the people well behaved, kind and orderly. The river flows with more rapidity than the Chundra Bhaga but is not so broad.

Road

Direction NW 85 W 993. W 60 N 500 to a wooden and substantial sanga across the river. On the right bank a wall with a door way is placed across the road with holes for a large bar to fasten a door in case of any hostile attack, but a defence much more effective would be found in a swinging bridge like that used for canals as by any invading party sufficiently large to attack the country with a fair chance of conquering it, the present defence of the wall and door might speedily be forced. But it would be extremely difficult to pass the River at this season except

46 (jpg 50)

June 17 – Kalatze to Lama Yooroo

except by Derbees[?] and this might be rendered unsafe by a few good marksmen. From the door to the opposite end of the sanga, the distance was 18 double paces but only about 10 for the breadth of the river which rolls black, rapid and broken underneath at the distance of about twelve feet. On the left bank is an arch or gateway of a Manee Panee Edifice through which runs the road. W 60 N 1108 first ascending up the face of a bank[?] then over a table, the River running close by on the right. N W river close by at 540 the River runs off N W with a small road in the right bank accompanying its course which seems strictly bounded by Mountains at each side. The road goes S on the right bank of a large and strong Rivulet called Yoongla Choo and [sc. which?] here discharges a large body of water into the great River. At 172 from the face of the rock on the right[,] or on the left bank of the Rivulet[,] a small stream falls in successive cascades 170.

S 30 E on right bank 1025 (cut off 1/3rd) Direction continued to 312 to a Sanga formed of a middle strong plank and a round Tree on each side of the former[?]. The width of the Stream 7 double paces and the Sanga is about 20 feet above the water. Road goes along the left bank

47 (jpg 51)

June 17 From Kalatze to Lama Yooroo

bank to Kauroo, a single house apparently niched under a bank of rock on the right side of the Rivulet. A little above this two Streams join to form the Rivulet. That from the S is called Kauroo and rises near the village of Eshoo almost opposite it is said to that of Kalatze. The other named Yooroo comes from SW 70 W. Here there are several fields of Wheat and Barley with Apricot & Mulberry Trees. Follow left bank of the Yooroo to a Sanga 1028 which is 5 double paces broad, 18 feet above stream which is rapid and dirty. S 30 E on the right bank 400 in a narrow deep defile formed by jaws[?] of clay stone rock. Here and there a beautiful rose bush is seen near the water whilst the white wild caper bush and now and then a currant bush are seen on the rocks. S W 70 W winding, narrow, frequently formed by artificial causeways & sometimes covered by earth slips and by the edge of frozen snow beds. 232 SW 43 W 1013 to a Sanga which is double from a boat like pier built in the middle of the stream of stone secured with piles & beams of wood. The breadth of both including the pier 16 double paces.

48 (jpg 52)

June 17th

Road SW 45 W along left[?] bank to a narrow [illeg.] wholly by the stream with the exception of an artificial causeway on this bank the general breadth of the strait about 26 feet. SW 50 S 90 a slit[?] through the rock through which a horseman may just pass but horses loaded with merchandise must have their burdens carried through by men 307. Here the Rivulet is left, coming from S 43 E, the rocks apparently only just separated by its current. Road along the left bank of a broad watercourse with a small stream as it is an early hour in the morning. Clay stone mountains on both sides 1080. S 10 ascending considerably then descending to the bed of the rivulet 99. W 73 SW up its bed 220 ascend by a zigzag path at 300 descend face of rock. On the right hand and on left bank of Rivulet upon the cliff of a clay rock 300 feet high is a stratum of sand and rolled pebbles about 30 feet in thickness and another of similar depth of pure clay. 272 – up watercourse 488 – cross 97 – then 59 – cross again 49 cross 35 – cross at 292 some cultivated lands on left 363 a dell of cultivation from W 50 S – In sight 299 of Monastery 700 up to the door. Total distance 11500 double paces.

49(jpg 53)

June 18 Lama Yooroo

One of my horses had slipped from the side into the stream and had been carried down its current for a considerable distance in his way striking against blocks of stone, but at length landed on the opposite side but not without being bruised and cut. As well on his account as to recruit the whole number, I determined on resting here this day and gave a breakfast to about thirty Lamas on the condition of their informing me of the time when they would perform divine Service during which I would attend. At about eight o'clock they were called to prayers by a large drum being beaten. Each person on entering the Church raised his hands, the palms joined above his head, then opened and again closed them before his breast next

50 (jpg 54)

June 18 Lama Yooroo

put them upon the ground divided to support him whilst touching the floor with his forehead three or five times in obeisance to the idols of Urchun Hopa And other representations of Xacheeamooni and of Lamas seated in wooden benches at the eastern end of the apartment. The Priests then took their seats on long cushions of felts ranged in rows on the floor extending from near the folding doors East and West near to the cushion[?] benches or altar or on low wooden frames intended to raise them from the cold terrace in the winter. Thus seated in parallel lines, one placed before him a low reading desk on which were displayed loose sheets of the Laman Liturgy which the congregation joined in reciting for a short time and then struck up

51 (jpg 55)

June 18 Lama Yooroo

their music but unaccompanied. The greater number were furnished with instruments and those not thus occupied were engaged in turning Manee Panee or in counting bead[illeg.]. The band of players were two [illeg.] copper cornets, two with large Cymbals, two with Hautboys, two large Trumpets, one with a small bell with was sounded occasionally and not constantly and the rest with flat Drums. The Cymbals were plain, the Cornets slightly ornamented, the Hautboys of wood with circular Mouthpieces of silver and reeds which were lengthened or shortened at pleasure. The expanding end was surrounded with a band of silver embossed and decorated with fret work in which Turquoises were inserted. The large Trumpets

52 (jpg 56)

June 18 Lama Yooroo

were of three pieces, the upper small and sliding into the second and this into the third like a draw[?] Telescope but of a more rapid[?] cone[?] the mouthpiece being small and the lower opening from four to five inches in diameter. The body of the Tube was copper but the joints were decorated with belts of fretwork in brass. The whole length about from eight to ten feet, whilst the Musicians were in the temple the Nozzles rested on the ground but in processions the Instrument is supported by a young Lama by means of a belt. The concert was not inharmonious but had not much variety of intonation, though it was made up of prolonged notes shake swells and sinkings. Of itself the Hautboy is melodious enough but appears to have no great reach of sound.

53 (jpg 57)

June 18 Lama Yooroo

The Cornet has a full clear tone but also is wanting in variety. The Cymbal is perhaps capable of giving a longer continued ring than that common in Europe, the beat of Drums emits a less lively sound and there is no instrument employed by European Musicians which possesses so clear and deep a bass as the Draw Trumpet but I apprehend it requires much practice to produce its deep mellow tones which are heard at a great distance. Nothing can be more harsh and discordant than the sounds emitted by the attempts of untaught performers. The Drum is not more than five inches in thickness covered with sheepskin. Its breadth about 20 inches and its raised circular edge is neatly painted with flowers and highly varnished in general. On the side is a small

54 (jpg 58)

ring by which it is appended to a cord that is itself attached to a line of rope that runs across the room and it is rendered steady by being held with the performer's left hand. The drum is beaten with a crooked metallic rod having its square striking end capped with leather.

The Service consisted in recitation in verse alternated with music and the strength and spirits of the Priests were supported by copious libations of Chung, Tea and parched Barley Meal. The number of Monks Geloon upon this Establishment is five hundred, but almost the whole are engaged in the service of the inhabitants, there being one at every house in

which there is a Chamber appropriated to the Deity and his business consists in placing food before the Image as of barley meal, grain & water and in praying beating a Drum & keeping light a lamp.

55 (jpg 59)

June 18 – Lama Yooroo

Every Lama must go to Lhasa to be educated and his rank seems to be regulated by the length of his studies. It is not necessary that he should follow a secular life from infancy for at Saspothe observing rather an unusually large proportion of children in one house an enquiry about their parents brought forth an explanation that the father often having travelled towards Hindoostan practising religious austerities which however seem to be so little severe that I have not been able to discover in what they consist went to Lhasa and after a residence of three years came back as Superior of a neighboring Monastery. So that the support of the children had devolved wholly upon the Mother. This however is not difficult or distressing as farming occupations

56 (jpg 60)

June 18 Lama Yooroo

render labor available at a very tender age. The degrees of clerical dignity appear to be greatly varied and the Bishop, the Abbot, the Prior, the Father Refector find their Prototypes in the Monastic Orders of Tibut and rotundity of form never seen amongst the Laity is not infrequent in the heads of these Institutions.

The Principal is called Kushook and must be a native of Lhasa. He resides annually by turns at the Monastery of Pheang and of Lama Yooroo, and this year being appropriated for his visitation to the former Monastery, we did not now see him, the duties being performed by the Deba.

There are here three Temples but they are not equally handsome with these of Pheang. Here I hung a bunch of coral to the silken girdle of Xachiamoon and placed within the vest a card with my name and date of visit.

57 (jpg 61)

June 18 – Lama Yooroo

Understanding that there were many wild Goats in this neighborhood but that they enjoyed an unmolested Asylum on the lands of the Monastery, I wished to try if I could not procure a little relaxation in my favor as I had not yet seen this animal very near and for many days my whole party had been confined to a spare diet of ill boiled rice Pulse and an occasional dish of Turnip tops. It was asserted in reply that the Monastery seated on the border of two countries served[?] as a Sanctuary to criminals of the race of man and that it would be unjust if the same protection were not afforded to the more innocent animals. At this moment the practice was contradicted by the conduct of a Lama at my elbow who was sacrificing without mercy some

58 (jpg 62)

June 18 – Lama Yooroo

intruders on the comforts of his Arm in the solace[?] of which they had found refuge. Unwilling however to take advantage of this fact as an argument against their consistency I contented myself with enquiring the bounds of the Sanctuary and understood that I might shoot in the country beyond the immediately surrounding mountains. And here Mr Guthrie had the good fortune to bring down a very fine Animal near the summit of a rock he had scaled whilst along with a large flock he was apparently engaged in watching any movement in the plain at its foot. As doubts remain respecting the family to which this quadruped belongs, I shall postpone a description of him till I can obtain another of which the distinctive characters have been less disturbed by the fall. However it may be said that it appears allied both to the sheep and to the deer.

59 (jpg 63)

June 18 – Lama Yooroo

Medical. Here I operated for Cataracts upon two men and a woman. One of the former was a Lama and the immediate results of the whole promised success.

There are about a hundred houses at Lama Yooroo, part upon the face of a clay-hill and part upon its peaks, causeways of wood and of stone being thrown across the spaces and recesses, a practice which would be highly dangerous in a rainy country but safe enough here.

There are few apricots but many poplars. The cultivation is late and there is only one stream of water applicable to irrigation and this a small one in comparison to the extent of land under the plough. A constant but minute spring issues from the face of the rock which supplies the water for domestic purposes but like almost

60 (jpg 64)

June 18 Lama Yooroo

all those of the country it holds Selenite and other earthy salts in solution.

At Kalatze or Kalitze, I saw several women with goitres but there are more here and the only difference I can observe is formed by the locality, the former being a close valley in which the air stagnates and in the summer months is extremely hot.

In the afternoon the second in power in the Monastery brought to me papers in Persian purporting to be privileges granted by the Dehli Monarchy and their Representatives. One of these in rose colored paper was addressed to Fidaee Khan the Soobudar of Kashmeer and was a little imperfect from portions of the writing being peeled off the silk cover to which the paper had been pasted.

61 (jpg 65)

June 18 Lama Yooroo

It stated that the Purgunna of Tibut had been granted to the inhabitants who were little removed from Animals. That the bed of the River was not rendered impure through its

waters serving for drink to Animals that were impure. But after indulging a strain of Metaphor of which the purport was less liberal than as befitting to a descendant of Akbar[,] the Monarch directs that the Lamas be not distracted in reading their books and in following their religious customs. He also orders the lands of the Monastery to be respected on pain of offenders incurring his displeasure and to this document is affixed the royal Signet of Alamgir Arunzeb The others are from Fidaee Khan and Sher Khan confirmatory of the privileges

62 (jpg 66)

June 18 Lama Yooroo

I was pleased to find that Ahmud Shah the Sheah Raja of Baltee had given an order of the same nature in regard to his subjects but couched in plainer terms and bespeaking a liberality for which I was not prepared by the accounts I had heard of this Chief, but certainly in accord with his communications with me.

I found that the Superiors wished that I would give a paper to the same purport. Disclaiming all right or title so to do I confined myself to a certificate of civilities received and respectfully recommended to any English Travellers who might follow me to conform to the local customs submitting also the propriety of adding a small present.

The object of the application was in great measure to free the Monastery from oppressive conduct exercised by the Mullik[?] of Kashmeer who they had learnt had been on terms of acquaintance with me but of course I declined any thing that could commit me

63 (jpg 67)

June 19 Lama Yooroo to Laghan?

There is a road in the direction of South leading to Zanskar in six day's moderate journeys. This goes for the most part along the banks of the Kunjee River which discharges its waters into that of the Push Kum[?] River and this again falls into the Singhe.

Road

Direction W 30 S – 680 double paces ascending gently up the bed or along the bank of the watercourse which as before mentioned empties its water into the Yooroo. Direction continued 1756 – N W 30 N still slightly ascending 362 – a 3 peaked mountain W 75 N a single one back to the S of a large one adjoining SE 40 E Road W 80 SW 455 – W 75 NW 672 – N are cultivated lands and a few houses up a Dell[?]. R W 80 NW ascending rather steeply to the top of a Pass called Putho Lha 1380 – This is very high and beds of snow still remain near it in ravines and some what sheltered spots. Road NW descending 528 S? two or three houses called Eunasko on the right bank of a deep Watercourse from the NE – Road NW 55 W descending and following the watercourse after having crossed to the right bank. At 1222 cross

64 (jpg 68)

June 19 Lama Yooroo to Laghan

cross a deep watercourse coming from the N and falling close by to the S into the watercourse of Eunasko. Road W 40 S 1213 having left to the right a single good house

called Shershing reach the mouth of the Eunasko rivulet which falls into the Kunjee which comes from the S 20 W with considerable rapidity. Its bed is about 25 feet broad at the base of the high mountains but the stream itself not more than fourteen feet in breadth and where unbroken little exceeding three feet deep however as it is still early in the day and the sky has been overcast, its stream may be doubled in four or five hours should the sun break it out strongly its supply arising[?] from the melted snows. A road runs up its right bank. Road following the Kunjee on its right bank N W 30 N 1012. The town of Eunasko (2^d of this name) on a hill on the bank of a watercourse on the right. It consists of about 25 houses and above the whole is a religious edifice which looks like a fort.

65

June 19 Lama Yooroo to Langan

Road SW 65 W to a sanga across the Kunjee but this was too narrow and too high for horses. The river was therefore forded in a single stream about 30 feet across rapid but not above three feet deep. Road W 80 SW 485 to W course 1035. Another W C [*water course?*] 935 another 3805 to Korbo on the left bank of the Kunjee now become a large stream though running in several channels with a bed 150 feet broad.

Miscellaneous

Korbo is one of several villages placed on the edges of a long valley terraced and cultivated. Korbo seems in a state of great decline, most of its houses being in ruins and although we had intended to stop here, our intention was abandoned from the inhabitants declaring their inability to furnish supplies. It was stated in reply to enquiries respecting the cause of this remarkable degradation that a snow slip has destroyed many houses, that most of the sheep and goats had been destroyed by the Epidemic.

66 (jpg 70)

June 19 - Lama Yooroo to Langan

But it was said that the greatest scourge arose from the oppression of the Gurphun or Head Man of the village. This man had obtained his situation by sending presents of Horses, atr of Roses to the Raja and the Ministers and remunerated himself for these bribes by extortion. This personage was on the roof of one of the best houses and directed me to the village below. On the left hand rocks is the fort of Korbo abundantly strong in its fortified houses[?] and wall of enclosure. And there are several other forts which have little been noticed. Formerly during the flourishing state of Ladakh, its Governors appear to have been attentive to their means of defence but these are now almost altogether neglected. Road 350 & N 40 W stop at N 40 W 1025 opposite to a few houses on the right bank of the Kunjee.

Total distance 17572.

67 (jpg 71)

June 19 - Lama Yooroo to Langan
Miscellaneous - in continuation

The character of the Headman much influences the character or at least the disposition of each village as at Saspool and at Kalatze or Kalitshe we were treated with much attention and even with hospitality. Opposite to the 2^d Eunasko a man came running towards me in great haste, and after having made the usual salutation seized the bridle of my horse and said that there was a blind female who wished me to come to her house and that all the accommodations in her power to procure were in readiness, as a sheep, food for my horses, milk, wood &c. but as I found that delay here would make tomorrow's journey too long, I declined the hospitality and directed her to proceed to my next encampment. The journey of today has been somewhat disastrous as one of the horses that

68 (jpg 72)

that had fallen into the river two days ago and was in the rear had suddenly stopped and could not be brought forward though without a load. A boy also in crossing the river was carried off his legs by the strength of the stream and instead of having fastened a powder flask entrusted to his charge by a string round his neck had thrust it into the bosom of his dress and in the fall or the struggle to recover his legs footing, the flask fell into the stream and was lost. In such a country as this, the miseries of travelling are almost constant, the pleasures few and comparatively light however the hope of serving one's country renders the unpleasant incidents at least tolerable. There were two or three light showers in the course of the march and twice we heard a little low thunder but the heavy clouds were carried off towards Hundoostan.

69 (jpg 73)

June 20 Laghan to Molbee
Road

Single peak bears NE 45 E Double Peak W Road NW 25 N – at 1325 Single Peak SW Double NNW 35 W opposite to Stakse Fort on the right bank of the Kunjee – road down the left bank – at 900 the village of Kunra.

Kunjee at 1235 further runs off rapidly N 20 NE and in five day's march of loaded cattle is said to receive the Push Kum River.

I have noticed the Molbee River this is said to have its origin at the village of Zakoot about eight days journey of a footman, distant from Molbee having passed through the village of Nona.

The Molbee at Pushkum loses its name and receives that of Pushkum Choo.

The Kunjee, the Pushkum Choo, the Kartse Choo, the Inbab Choo fall into the Ladakh Choo at Morul in Baltee, said to be four days of a footman's journey distant from Pushkum.

70 (jpg 74)

June 20 - Laghan to Molbee

Inbab or Dras River falls into the Ladakh Choo or Singhe Khabub.

Road here quits the river going W 80 NW along the right bank of the water course Cherukee Manee which empties its waters into the Kunjee in the left side of the angle by which it runs to Baltee. Sharp peak bears NE 30 round top NW 60 W – At 575 sharp peak

bears N 20 NE – round top NW 20 N - Cap Moun:[?] 10 – Road W – at 1175 cross rivulet. Peak bears NE 55 E – Road W 70 SW – At 890 W course from S falls into the Cherukee. Peak bears NE – Cap W 80 NE Road W 70 SW at 330 another w-course from S – peak bears NE. Road W 70 NW – at 540 peak NE 50 E new round N 10 NW. Road N 25 NW at 492 round E 70 S-E and here the Cheraukee divides into two branches one N 20 NE, the other which is followed as the road N 20 N-W. At 60 paces cap comes in sight bearing W 85 S-W-. 206 Road W 9 N W[?] at 157 cap bears SW at 360 still ascend from Kunjee to reach

71 (jpg 75)

June 20 Laghan to Molbee

reach a Pass called Nummeecka deriving its name from the insulated mountain summit to which I had given the appellation of Cap which it ill deserves except when seen from the NE.

It bears from hence S 90 SE.

This pass is high and from its summit is a superb view of the tops of clay hills of great size bounded in a semi arch from S & W to N by a stupendous Wall of primitive mountains. Some cultivated lands said to be in the direction of Mulbee but beyond it bear W 80 NW. The road descends rapidly in winding according to the last direction. At 1305 descending and winding Cap or Nummeecka Staff mountain[?] bears SE 70 E. Road SW 60 W. A gorge in the ridge of a mountain bears W. At 1250 gently descending in a dell with a small w course. Gorge bears W 65 SW. Road W descending betwixt the bases of north swells and knolls of clay hills of great height

72 (jpg 76)

June 20 – Laghan to Molbee
Road

on which are numerous flocks of Sheep & Goats. W 940 the gorge bearing W 80 SW the summit of a mountain bearing W 70 SW has the appearance of a Fortress. Road W descends to w:course 620 crosses at 128 gorge WRoad W 80 SW 368 Road SW 30 S at 272 cross the rivulet of Molbee from the western face of the Pass Nummeecka and in a few paces more a second from a cultivated valley. On the rocks to the SE a fortress which is of no use as the opposite rocks can be crossed out of gunshot. At 430 a considerable stream comes from the SE and as well as the road runs NW 70 W. The latter goes through the cultivation which is backward and contains a large proportion of buckwheat only just getting into second leaf. This Stream is the Molbee River which at Pushkum is said to take the name of the latter place and that in fact there is only one River.

At 1208 cross another rivulet which empties

[Although the page is filled to the bottom right corner, there seem to be some words or sentences missing here, or perhaps a whole folio.]

73 (jpg 77)

June 20 Laghan to Molbee

at 725 the road passes between the foot of the right hand mountains and an insulated natural pillar of rock about fifty feet high on the face of which a statue of a human figure is cut and which will afterwards be noticed.

At 940 reaches our encampment, the total distance of this day's march being 20,912 if there be no mistake in the measurements.

Miscellaneous

I had gone back about four miles back to see the horse reported to be unable to come on and found him incapable of rising but whether from injury done to his back or from internal bleeding consequent on the fall he had into the river of Yooroo, I was not capable of ascertaining.

On my return two messengers stood waiting for me with a request from

Again some missing words or sentences, perhaps indicating a missing folio.

74 (jpg 78)

June 20 Laghan to Molbee

Miscellaneous

would not suffer me to depart without my Servant taking a plate of flour and a roll of butter. His head servant promised of his own accord to send food to my horse and should he be able to reach Stakse to take care of and feed him till my return to Leh when he would send him there.

The Neat cattle of this valley are generally black with very short horns. The Sheep are those of the Poorik breed but they are not very numerous, as yet indeed only in the proportion of one to five goats, rearing the latter being preferred on account of the milk and butter they yield in larger quantity. No horses are bred here, Sheep and Goats being found more profitable which I expect is generally the case in these countries unless there be a great range of pasturages.

75 (jpg 79)

June 20 Laghan to Molbee

Miscellaneous

The figure before alluded to is called by the Names of Chumba of which personage there is a statue in one of the principal temples at Leh and there is a resemblance so far as it has four arms and neither the form generally nor the particular shape of the breast conveys any distinctive character of sex. But the Molbee figure has a Junnoo or Brahminical string which passing over the left shoulder across the breast and belly lies in a curve on the right hip so as to have no doubt of its being the sacred cord of the higher order of Hindoos. The upper arms are raised, the lower pair depending. The right upper hand holds a rosary of beads, the left flowers or rather I think three ears of corn. Of the lower arms the right hand is open with the palm presenting, the left supports a water or teapot

76 (jpg 80)

June 20 Laghan to Molbee

Miscellaneous

The waste [sic] is bound by a Girdle of a double row of large beads and a little thin drapery which reaches only a little below what civilization dictates as proper to be concealed. Although there is no general attempt made by the Sculptor to express the form of the muscles, yet just above the girdle there is an imitation either of the Precti[?] or of masses of fat little in correspondence with the rest of the figure. This statue as well as all the others of the same personage appears of undefined Sex and I have observed that the figures of the Lamas are equally undistinctive. The figure is exposed to a little below the knees but from this part downwards the legs are concealed by a building about fourteen feet high and this peculiarity is observable of the other statues of Chumba which have fallen under my notice that is part of the figure has been in one room and the lower in another except in

77 (jpg 81)

June 20 Molbee Miscellaneous

the figure of Skioo or Kew which is generally exposed in one chamber. It is to be noticed that the Great Lama is addressed by the title of Sacred or Venerable feet[?]

The Lama who had the charge of the building was not in the way so that I could procure no information respecting the history of the figure here. The whole figure I consider as about 24 feet high but seeing part of it merely without the means of measuring it, I may be mistaken.

With the exception of the waist, the figure is naked but has bracelets and armlets of beads with a double necklace. On the fore part of the head is a small Tiara a fleur de lis and in the upright left a conical tower surrounded with circular elevations similar to that on the summits of buildings over [illeg.] and under which the road passes.

The hair is raised in front and disposed in a form something like leaves, but at the sides the hair descends in ropes like the matted locks

78 (jpg 82)

June 20 Molbee

of a Fuqeer a custom observed amongst those of Tibut more particularly than of Hindoostan as the former wear their hair twisted. The Ears are elongated from large circular rings in the lobe but this is common to the images of Tibut as well as to representations of Jogeos in Hindustan. A thick rope or a serpent reaches on each side as far as the knees but is lost near the shoulders. The face has neither the character of the Hindoo or of the Tatar but more[?] approximating to the former than to the latter and the globe of the eye is prominent and apparently uncovered whereas in the representation of almost all the sacred figures of the Tibutees the eye is half closed and the middle part of the edge of the upper lid is made so convex in its sweep[?] as were it really to exist would cover the pupil.

This exaggeration is supposed to be given as a feature expressive of deep contemplation.

79 (jpg 83)

June 20 - Molbee

The nose is of tolerably good proportion but the forehead retires from the eye brows upwards to the hair. The figure is not wholly straight the body inclining to the right side whilst the left thigh is more full than its fellow.

Altogether the general outline and the proportion of parts are tolerably correct though without grace, the figure is represented as more approximating to youth than to manhood and conveys the idea of a person who through ~~the~~ want of exercise is deficient in muscular vigor. It has been well preserved from the weather by some projecting edge or skreen [sic] of which nothing remains save numerous holes which have served to receive the pins that fastened it to the rock which is of Granite.

80 (jpg 84)

June 20 Molbee [p.33 pdf]

I learned that the Noona Kaloon was gone to Dras but that his son was at Molbee and intended to have visited him. However on reaching my tent which was pitched in a walled enclosure that seemed as a Seraee, I understood from my Servants that though the son of the Wazeer and the youngest son of the Noona Kaloon had been at the place and had seen that they could not procure grass or wood, they had not manifested any dispositions to assist them. Knowing the excessively avaricious and griping disposition of the father which from appearances had descended to his son, I resolved not to trouble him.

Luckily we had a little cold meat & getting two pieces of wood through the influence of a Fuqeer we made some Tea for ourselves but our Servants were obliged to make a meal of Barley flour.

81 (jpg 85)

June 20 – Molbee

Barley was brought at double the price of other places and our horses had only scanty fare. Near the middle of the night two persons from the Kaloon's Son brought as much hay as would serve for one horse but my servant unwilling to wake me said that he could not take anything gratis without my permission though he would willingly pay for the hay double its value. The Valley of Molbee is extensive but the crops are late and Buck Wheat is only just coming into second leaf. There are several straggling villages of tolerable size on the N of the River which runs through the whole valley but too low to admit of its waters serving the purpose of irrigating, which is effected by lateral streams. The mountains skirting the left flank and close by have still snow in patches in ravines and upon their summits. Here on the clay hills I saw the greatest flocks of the finest Poorik

82 (jpg 86)

Molbee

Poorik sheep I have met with.

June 21 – Molbee & Lotzum

Here I performed the operation for Cataracts on four people and a woman who was the Nurse of the Noona Kaloon and had recovered her sight by the operation brought a pile of wheat cakes, butter, milk and flowers.

After I had departed, I learned from a Servant that in the night the messengers from the Kaloon's Son had said that all that would be necessary for my party would be sent in the morning. My man however stated in reply that wherever his Master had been he had been received with welcome even by the poorest farmers, but at the residence of the Noona Kaloon he had been able to procure scarcely any thing even at extravagant prices. However, had I been informed of this sooner I should have sent a conciliatory excuse for my objection.

83 (jpg 87)

June 21 Molbee to Lotzum

Lama's House on a mountain bears N. Sharp peak W 80 SW – Double NW 65 W. Road W 70 NW on right bank of the River flat 1005 Lam:H East. Peak SE 20 S Double SW 60 W. Road and[?] 340. Road W 80 S ascending and descending but generally descending and winding. At 403 a stream of considerable size from SW 70 S falls into the Molbee Choo.

600 descending 312 L:House SE 60 E double NW 65 W. NB This is the last Lama's House on the Kashmeer border, the population being principally Sheah Moosulmans. 877 descending Road NW descending & winding 1520 to a Sanga with a house and cultivated lands on left bank. Road on right bank NW 65 W about 60 feet above the stream rough, rocky and slippery 204. Road NW. River about 30 feet broad, rapid, precipitous with great eddies, waves & swells.

A large bank of frozen Snow with hollow sides has slipped from a slope on the right and being covered with fragments of stone lately detached conceals the path however our party passed without accident.

84 (jpg 88)

June 21

at 462 Road N 20 NW at 1319 Road N at 950 cross a Riv^t from East with cultivated lands, a house & Poplars. Road N at 320 a Sanga of loose planks, but has a hand rail at each side Road N 20 NW on left bank having crossed the River at 167 recross by another Sanga at 250 come in sight of a village & cultivated land bearing[?] N 20 NW which is also our road. At 1262 valley expands a little admitting of cultivation. Double red and yellow roses & currant bushes in abundance. White clover in the natural sward. Road NW 30 N at 240 Road N 25 NW at 771 W 70 NW reach the grounds of Lotzum at 470 Road W 80 SW at 350 stop at Lotzum. We have up to this place skirted the right bank of the Molbee Choo up to this place and the road has been bad and even dangerous in very many places wasted to a span broad at the edge of a slope almost precipitous to the river from a great height. Our horses tired and foot sore. The whole distance has been only 11872 double paces but the badness of the road has distressed our horses more than any former day's work.

85 (jpg 89)

June 22 Lotzum to Pushkum or according to the pronunciation of its inhabitants Puskyoom. Yesterday on account of the badness of the road for loaded horses I had kept in advance of my party and whilst calculating the time at which the latter might reach Puskyoom which

was yet distant, a young woman ran towards me and requested me to stop at Lotzum where every accommodation in the power of the villagers would be afforded me and she expressed a hope that I would listen to their solicitations when they told me that it would be an act of charity towards three of four blind people who were in hope of recovering their sight through my means. I yielded to her representation, the villagers performed their promise and this morning I operated on three persons for cataracts after which wheaten cakes and butter were sent as presents to me by their families.

86 (jpg 90)

June 22 – Lotzum to Puskyoom

These marks of civility I am obliged to take, as a refusal would be misconstrued into anger or contempt. The Hakeem of the village afforded accommodation to my people in his own house and my bed was placed in the Veranda of a humble Musjeed in which wreaths of flowers suspended with bands of corn round the pillars displayed a mixture of Lamism and of Islamism. At night an elder of the village unwilling to step on my carpet which was placed on the floor before the entrance requested that I would fix a Lamp lighted within the Mosque which I [*did*] accordingly.

Every village in this part of the country has its Hakeem, or Physician, who is here called Abba the Arabic for Father. This personage here cleared two of his apartments to accommodate my party and brought several of his patients and amongst others his own son for my advice.

87 (jpg 91)

June 22^d – Lotzum to Puskyoom

At Lama Yooroo the Deba or Deputy Superior stated that I should render the greatest benefit possible to the country if I would instruct some of the Hakeems in the proper method of removing the cataract to which I replied that I was ready to give instructions and to furnish Instruments on my return to Leh.

Road

West on the right bank of the Molbee 505 Road NW at 930, a considerable stream falls into the River from the W or the left bank. Road N 20 W up a narrow, steep and broken road. A horse fell down the side but fortunately recovered his legs before he reached the river or he would have been lost. To the top of the Pass Choolitze or che 560 paces. Here the first large black Ouzel was seen. Road descends 525 to the bed of the river. Road W 135. Road NW

88 (jpg 92)

June 22^d – Lotzum to Puskyoom

55 W, tolerably level on the edge of a water trench 961. Road NW 40 N. The residence of the Raja on the top of a Hill. Road slightly descends to 2750 to a Sanga 10 paces broad. Road along left bank.

At the foot of the bridge a young man ran to my horse and after making three or four very low obeisances laid hold of the lap of my coat and placed it on his forehead. In a few seconds he was followed by an older man who went through the same ceremony. They

desired me to take the advantage of a few willow trees that afforded some shade from the heat of the sun which was then fierce and that in a very short time I should see the Raja. I conceived these people were sent by the Raja but they returned with Chaff for my horse and firewood and I then learned that the elder man had been cured of Cataracts by me at Leh last year. He was not satisfied with this mark of gratitude but brought a Sheep and some flour

89 (jpg 93)

and most positively refused either to take them back or to receive their value. My tent was pitched on a narrow strip of stony land running between the river and a flat about 200 yards long and 30 broad. Shortly after my arrival the Raja in a handsome Brocade dress came on horse back accompanied by about forty persons also mounted and each having a crooked Mace[?] in his hand. One of them threw down a wooden ball and struck it along the ground on which the assemblage forming themselves into two sets began to play at a Game like bat to the sound of Drums, Flageolet and Trumpets which played one tune whilst the party was going on another when the game was concluded and a third when it was recommenced. The sport was pursued with spirits and the Raja, mounted better than the rest, shewed himself just as eager and as expert as any of his subjects.

90 (jpg 94)

June 22^d Lotzum to Puskyoom

[The Raja?] sent a pot of tea and a plate of suttoo for my acceptance and considering this as a signal of his not being averse to a meeting I desired to know if he wished this to take place and at what time. He replied that this being Eid he wished to give it up entirely to amusement as was the customs and would be glad to see me in the morning when he should come down to recommence the unfinished sport as the road to his residence was somewhat inconvenient.

June 23 – Puskyoom

We had yesterday in vain endeavoured to get our horses shod as the Smith said that he had neither Iron nor nails and that this day was dedicated to festivity. It appears that the Raja has lately become a convert to the Catholic* faith but has married a daughter of the Noona Kaloon who is a Lamist. At about 12 o'clock the Raja came to a kind of banquetting room on a bank just above the Mall[?] to which I was

*[*This is obviously a slip of the pen, for Islamic faith. So also thought H.H. Wilson, editor of the published Travels, see vol. II p. 22.]*

90 [numbered twice] (jpg 95)

June 22^d* Puskyoom

to which I was invited. He was now dressed in a blue silk gown padded and received with apparent gratefulness a pair of scissors and razor for his own use and a paste ring and a trifling article of perfumery for the Ranee.

Medical observations. I operated on a case of cataract and on a very bad instance of Pterygium on the foster brother and treasurer of the Raja. Several women had inflamed eyes with commencing Pterygium and many presented themselves with enlarged necks

and with deafness proceeding from thickening arising from an extension of enlargement to the internal parts of the Ear.

The inflammation of the eye so common seems to be owing in great measure to the reflected light and heat from a dry and naked soil and I submitted to the Raja that he might render

**[This should be 23rd according to the previous page. The same goes for the date on the next pages too.]*

91 (jpg 96)

June 22^d – Puskyoom

render a great service to his country by causing[?] a cap with a peak extending over the eyes so as to shade them instead of the cap now used for here the women wear one that just binds the forehead but projects not so as to afford defence and he promised to cause the Ranee to adopt and to introduce it if I would furnish a pattern. It would seem that the inhabitants of some villages on the River, which now assumes the name of Puskyoom Choo, are affected with Goitre whilst others are exempt from this complaint and no suspicion has entered the minds of any person interested in enquiries respecting the cause of this disease that it was connected with any local peculiarity. It has been thought by some that water impregnated with earthy salts was capable of producing Bronchocele but almost all the rivers and streams of Ladakh are so impregnated and yet Goitre is not general but for as yet I have

*

92 (jpg 97)

June 22^d Puskyoom

have observed the complaint has been more common in deep narrow valleys than in champaign countries. However I hold the following remarks from a very intelligent Native. The Country of Palum[?] belongs to Raja Sunsar Chund of Kotoch and is about 24 Kos long by about 18 broad. Out of every hundred of its inhabitants, seventy are calculated to have enlarged necks without distinction of ranks and their complexions are olive with ruddiness on the cheek. The general produce of the country is Rice, the country being well situated for irrigation and abundantly supplied with Rivers and it is so warm as to yield sugarcane. Its Mountains are not high, some of its valleys are deep others shallow and others again flat yet the whole population are equally subject to Goitre in every situation. Wheat is also raised after the Rice crop in the proportion of one of the former to four of the latter.

93 (jpg 98)

June 22^d Puskyoom

Jummoo is a large mountainous district but the mountains are not high. Its inhabitants are supplied principally by the river Tuvee which has its origin in the snows of the highest mountains above Junganoo District and the still more lofty countries of Ponee and of [illeg.] which are of great height but are crossed by a road called the Padshahee Race[?] being made in very early times by some Sovereign and it was once followed by the Emperor Shah Juhan who crossed the Mountain Peer Pinjal in his progress to Kashmeer and afterwards to

Baramoola. From this latter place the journey to Kashmeer 16 Kos is generally prosecuted in boats though the road by land is level and easy. The Tuvee falls into the Cheenab at a place called Uknor the capital of a former Rajship reduced by Ranjeet Singh. The Male part of the population are represented as an excellent material for soldiers but rather dull of intellect, whilst the women are acute. This country has more of a flat than

94 (jpg 99)

June 22 Puskyoom

than of a hilly surface and the Natives are not much afflicted with Goitre but they generally use the water of the Cheenab in Uknor for domestic purposes, that river being known in the latter country by the appellation of the Ny [*short blank*]. Acuteness of intellect distinguishes both sexes in Jummoo and the women are remarkable for beauty but not less than one half of the entire population are affected with Goitres. The Natives of these two countries are not only connected through vicinity, their respective capitals not being farther distant than eighteen kos, than by ties of relationship and of intermarriage. In fact, the families of the Rajas of each place are descended from one common Stock and their subjects retain the custom of seeking out matches for their sons and daughters in these Districts

95 (jpg 100)

June 22 Puskyoom

as is practised betwixt Hindoos of the same cast in different provinces of Hindoostan. Jummoo is however a more elevated country than Uknor, but this difference alone will not account for the greater frequency of goitre in its Natives as many countries in Ladakh of great height are apparently exempt from this disorder. In both Jummoo and Uknor, Water consisting principally of melted Snow of that from Snowy ranges. It is not more philosophical to attribute the Goitre to Snow than to Rain water abstractedly as they are equally pure when they descend but the former in washing a larger extent of surface than is ordinarily effected by the latter becomes more charged with extraneous substances. Yet seeing that the inhabitants of different districts which employ the same kind of snow water are not

96 (jpg 101)

June 22 Puskyoom

not equally subject to this enlargement, some other cause of the complaint must be looked for. And I may here remark that though the central portion of the Thyroid Gland be most subject to enlarge both in Europe and in Hindoostan and in the southern side of the Himalah, yet in Tibut the lateral parts are often found to constitute the principal mass of disease. And it would seem that the Lymphatic glands thicken from within the chest as high up as the Zygomatic process involving more or less the whole of the other structure in their substance and producing more pain and derangement than an enlargement of the

Thyroid Gland alone. Uknor lies to the Eastward of Jummo but contiguous. Jusroth, another Rajship rendered tributary by Runjeet Singh but of which the Raja

97 (jpg 102)

June 22^d Puskyoom

is not dispossessed, consists of a country one third in plain or flat valley and two thirds in small hills. The intellect of its inhabitants is not marked either by particular acuteness or by dullness. This part receives its water for domestic purposes principally by the Oojoo which rises in the Chinenee Mountains partly from Springs and partly from melted Snow. During that season of the year when the rivers before mentioned are of a wheyish color the water of the Oojoo is reddish and imparts its tint strongly to white clothes immersed in it. The proportion of goitred people in Uknor and in Jusrota is said to be about equal. The collection of facts in regard to this complaint perhaps too frequently breaks in upon what ought to be a continued narrative but I sacrifice method to accumulation of matter[?]

98 (jpg 103)

June 22^d - Puskyoom

As my pen is now engaged in medical observations, it may be as well to continue them as far as connected with this place. Here were many cases of Pterygion of different extent and duration. I have been often led to conclude that the greater quantity and mobility of the Conjunctiva and the greater vascularity and abundance of cellular membrane[?] in the angles of the eye constituted a structure under the influence of excreting[?] causes favourable to the production of this disease, but never had any very clear notion of the mode in which thickening at the edge of the Cornea[?] came on till today when cutting out a portion that was much raised above the general level of the globe, I found under it a pad of coagulable lymph and this deposition I apprehend frequently and indeed generally occurs

99 (jpg 104)

June 22^d Puskyoom

but generally in slow succession whereas in this case the whole had formed within three months. The Chogzut or Treasurer who had one eye covered with a vascular coat so thick as to be impervious to light was affected with one also on the other eye that was rapidly making inroads on the Cornea. Without much of success other than cutting off inflammation and lessening thickening and pain, I had dissected a piece from the former almost wholly circular and from the latter had cut off the thickened wings. Having observed the great relief afforded in inflammation of the eye in snow blindness by unloading[?] the superficial vessels[?] of the head by the hot stone vapor bath, I employed it here and was really astonished at its good effects in emptying the vessels of the eye and diminishing the vascularity and thickening within a period so short as to render it prudent to be silent upon it until

[Some words or sentences missing here.]

100 (jpg 105)

June 22^d Puskyoom

Here the number of persons afflicted with Rheumatism in the Muscles of the Limbs[?] and of the body generally was great but particularly of the former and one instance which had so begun had terminated by difficulty [3 words illeg.] through keeping the spine erect[?] into its armature[?] by absorption of the fore part of the intervertebral substance.

The Hakeem had employed the external cautery but insufficiently and I recommended a larger application of this means, which is with me a favorite remedy – from no very limited experience of its beneficial effects in many cases given up as unrecoverable.

I here saw Paralysis of the lower limb and beginning to extend to the upper ones and much suspect that an enlargement in the Prequatrain[?] or Pituitary Glands arising from the

101 (jpg 106)

June 22^d Puskyoom

same source as the Goitre was the cause of this disorder. Another man had a general thickening of neck which I conceive will prove [*fatal?*] from its having massed the structure of the neck into one rigid substance of the same nature with the growth round the heart and its large vessels in my lamented friend Mr James Robinson.

The enlargement had rendered the former person epileptic and he was fast going into idiocy. Several persons were in the inflammatory stage of Rheumatism and these by great evacuations[?] will I trust experience relief.

I here operated on four cases of cataract and have found my former observations as to the great duration[?] of the complaint inducing hardness more frequently than softness confirmed. In a span[?] of about 35 having succeeded in depressing the lens of one eye I found myself for a time baffled

102 (jpg 107)

June 22^d Puskyoom

baffled in the other by a hard Nucleus that stuck on the point of the Needle whilst the circumference of the lens was of the consistence of Cream[?]. However the capsule was largely tore and at length I succeeded in bringing the nodule in the vitreous humor leaving a circular window tolerably clear.

This day the Raja recommenced his bat sport which is here called Polo but he received a blow from the end of the batstick of one of his subjects that wounded the skin with no inconsiderable bruise, however he bore the accident with manly forbearance and good humour. Were this play known in Britain, it would soon become as a favorite sport as it requires no inconsiderable exertion and activity both for Man and Horse. The courtiers and peasantry who were here engaged rode

103 (jpg 108)

rode principally the Horses of the country but the Raja had a Yarkand steed as well as one of his own country which he rode by turns and appeared to be one of the most active and fearless players of the party.

He sent then Sheep, Rice and Flour for my acceptance in return for my presents and expressed his concern that they were not more worthy. He was greatly delighted with a kaleidoscope which I could not then give to him as I had through an oversight brought no other. A Syud who officiated apparently as Chaplain and Master of Ceremonies said that the Raja possessed a book which he could not read but believed to be the Touret[?] the Jewish Bible in the Injul[?] the Gospel of Christ. It proved to be an Edition of the Bible and of the New Testament from the Papal Press in the year 1598 and although I could not learn how it came into the possession of the Raja's grandfather yet conceive it to have belonged to Padre Desidere who penetrated

104 (jpg 109)

June 22 Puskyoom

penetrated by the road of Kashmeer into Ladakh but I doubt whether he reached the Capital. This opinion I was led to take up first from the report of the Kaloon and Khaga Tunzeen of Ladakh who stated most positively that no Europeans had ever visited Leh before our party. Confiding on the report of Desideri I dwelt on the possibility of such a person having visited Leh although the event might have escaped general observation at the time or might have been considered as not worthy of being handed down to the present generation. They seemed so positive as to such a circumstance not having taken place that I could no longer contradict them and the discovery of this Book rather serves to support the opinion of the Minister and to render it probable

105 (jpg 110)

June 22^d Puskyoom

probable that Desideri arrived at Puskyoom and not at Leh. I have seen many roads much more terrific than that from Leh to Puskyoom but not one occurs to my recollection as being equally dangerous for loaded horses from the narrowness, their fattered state and their being so much covered with slips. It is by no means improbable that in the time of Desideri the road between Kashmeer and Leh was much better than at present as from report it would appear that a lively mercantile communication was carried on between the Country of the Khaju[?] of Kashkar and that of Hindoostan during the prosperity of the Mogul Sovereigns of that Empire and this was the nearest line to Lahore. However I mean not to assert as positively as the Authorities of Ladakh that Desideri did not penetrate to Leh but shall suspend my opinion until I shall have seen his own account of his

106 (jpg 111)

June 23^d Puskyoom

his journey. Taking into consideration even the fervor of religious zeal, it seems little likely that Desideri should have conceived it possible that the mere possession of the Bible should have produced conversion to its contents of which the Raja must ever remain ignorant.

As however the Padre's baggage may have fallen off the beast of burden or may have been rifled, it would probably be brought by the finder or thief to the Raja as a curiosity[,] but the present Raja stated his suspicions of the Book being either the Bible or the Holy Evangelists, a circumstance which must have originated with one really acquainted with its contents and from the time of Desideri to the present moment it is wholly improbable that any individual has seen it who could have given this information save Desideri himself.

107 (jpg 112)

June 23^d – Puskyoom

The Bible bears date 1598, is bound in red Morocco leather with the Initials of Jesus Salvator Hominum surmounted by a cross impressed on each side of the cover, one side of which was detached. I offered somewhat largely for this book but the Raja or rather his leader, a Baltee Sy-yud wished to receive a Gun in exchange, a proposition to which I could not accede.

Puskyoom consists of two valleys, the easternmost very narrow, the westernmost from a quarter to half a mile broad furnished with terraces covered with most promising crops of Wheat and Barley. The Lucerne which is now cultivated arises from seed collected from the wild Lucerne of the mountains. This differs from that cultivated in the former having smaller leaves and in the branches which bear them being small whereas the flower branches are long. All the flowers of the wild variety are yellow but it would seem that by cultivation they gradually become

108 (jpg 113)

June 23^d Puskyoom

become purple and have been witnessed in tints of various hue announcing their gradual approximation as yellow mixed with green florets green tipped with pink and with purple and at length going[?] wholly into purple. It is not less extraordinary that the Lucerne is naturally found on the dry summits and sides of clay & sand Mountains but when brought into cultivation accommodates itself much better with moist situations and if the water do not stagnate actually acquires habits bordering on those of plant absolutely aquatic. I shall endeavor to procure much of the Mountain Lucerne Seed under an idea of ~~of~~ the plant gradually and successively improving under cultivation and after a certain period gradually deteriorating

109 (jpg 114)

June 24th Puskyoom to Gonh

This morning I performed on five persons for cataracts and afterwards set out along the left bank of the Puskyoom river or Puskyoom Choo. The Sanga which was crossed on the 22^d was 20[?] double paces in length and its distance from our encampment on the left bank 225. Road W 819 tolerably level. R N 20 NW 275. R W ascending above the village of Dokun[?] close to which runs the winter road to Kashmeer and the river continuing its western course is here lost sight of by our party. At 150 R NW ascending 335 SW 30 S 1175 level in general but the last fifth descending N20 NW or W the village of Kurgil and its

cultivated lands are seen about two kos distant and in front of these, nearer to our party, those of Bardo whilst the fort of Soth bears N on the summit of a lofty mountain. The River of Kurtse Gemso or Choo coming from the SW the Imbab or Dras River and the Shingwe Gemso from Berche as well as the Puskyoom Gemso meet in this neighborhood that is to say the Kurtse & Puskyoom Rivers.

110 (jpg 115)

June 24 Puskyoom to Gonh

meet at Kurgil and run off NE and a little farther in the same direction the joint streams of the Shingwe and Imbab fall into the [illeg.] river which is called Karool from a single house so named. The united Streams are called Choodresa and pass into Baltee where at Morul meeting with the Ladakh Choo the common trunk is called Morul Choomdo. The largest River is the Ladakh Choo, the next is the joint stream of the Imbab and Shingwe and the smallest is that of the Kurtse and the Puskyoom. Morul is said to be four days' journey distant for a footman in summer but that in winter he can effect it by the river in one day from the difference betwixt following the course of the water and passing through valleys and along the face of mountains. This circumstance will furnish some faint idea of the roughness of this country.

111 (jpg 116)

June 24 - Puskyoom to Gonh

Road NW 1405 a little winding and descending on a tolerably level table so much covered with dwarf wormwood as now to be in some degree green. This produces no small disappointment to our horses which are obliged to desist eating after having taken a few mouthfuls but in winter when the plant has withered and become dry, it is said to be eaten by horses and other cattle without their shewing any repugnance. Road NW 70 descending to 567 Road N 20 NW flat mixed with a little descent to 212. South Fort from hence bears NW. Road as before in direction descends rapidly by zigzags so that to the river 375 may be reduced to one half. This Stream is more than twice as wide and twice as rapid as the Puskyoom. It is called Kurtse or Sooroo Kurtse and takes its farthest origin in the melted snow which descends from the mountain or range of Pinche Lhana of Zanskar, said to be only three days' journey distant but in its course it receives many other large streams. R W up its right bank for 145 to Sanga

112 (jpg 117)

June 24 Puskyoom to Gonh

Sanga which is substantial and 19 double paces in length in a narrow part of the river. At this moment it carries down a much larger body of water than the united streams of the Singhe Kha bub and the Singhe Choo at Nimo indeed almost double the quantity and is also of much greater rapidity. R SW 70 W up left bank at 1030 Cheetook village and grounds on the opposite bank and the those of Gonh on the other which is pursued by us. R S 20 SW to the village of Gonh. In

several places the river is a hundred feet broad but this is apparently beyond its common breadth as many Willow pollards are immersed nearly up to their heads.

Gonh –The topography of this village involves medical considerations of some importance. Its distance & direction from Puskyoom will be known by reference to this day's work. Its length about 3 miles extends from SW to NE the upper extremity being at the former where the Kurtse enters and running along it and dividing it into two lateral portions

113 (jpg 118)

portions escapes by the latter. The SE extremity is apparently closed by the approximation of the mountain ridges of clay stone which separate rapidly so as to form a long and narrow oval shaped valley the central diameter of which is the largest is about half a mile. The flanks are formed by steep & high mountains with naked sides surmounted by a ridge scarcely broken by a single gorge or gap. In Summer when there is not wind and the sky is not obscured by clouds, the valley is intensely hot and in winter it is represented as experiencing no inconsiderable degree of cold. The Valley in its height is sloping but not rapidly and from side to side it is a little hollowed, the villages being placed close to the base of the rocks on each side. The natural herbage consists of several varieties of grass of the small Iris Lucerne white Clover two varieties of Clover [illeg.]. Plantain, Ranunculus, Hypericum, strong smelling Chrysanthemum and a small Daisy or aster like that called Michaelmas Daisy.

114 (jpg 119)

June 24 – Gonh

Its trees are Willows and Poplars, its Bushes the wild or Dog rose which bears a profusion of flowers [illeg.] thorns, the Currant bush (with fruit not yet ripe) of which the leaves are covered with a glutinous exudation of very strong smell. And the area of the valley presents a regular luxuriance of crop in Horse beans, grey Pease, Lucerne, Wheat, Barley and a small portion of Turnips, the whole admirably watered. The population is not very considerable and there are many old people of each sex. Of the men it may be said that they differ not from those of the country in general, but many of the women whilst young have handsome features and complexions little more than brunette with a tolerably abundant bloom which advantages however they soon lose. The valley is called Gonh which is here the name for Goitre on account of the frequency of this disorder and assuredly there is more appearance of proof that confined air contributes to it from this locality than from any other I have seen. But scarcely a single man is affected by this disorder which is so common

115 (jpg 120)

June 24 – Gonh

amongst the women. This may perhaps may be attributed to the former frequently leaving the country on business of trade, whilst the latter are almost continually engaged in domestic and farming occupations. Here were two cases of Scrophula in the neck, three of distorted spine and I performed on seven cases of cataract six of which were soft and of the seventh I can not speak with correctness as from previous soreness of the eyelids the

outer angles were united and when after much pertinence I had engaged the needle in the eye its movements were so disorderly as to force me to withdraw the instrument. Pterygion was also common and in one instance had actually united the lower eyelid with the globe. Here was also one of the largest recent[?] Protrusions of the Rectum of a two year old child I have met with. The Cone of paper recommended as a means to return the guts would wholly have failed[,] however by no small exertion I succeeded in pressing it up on higher[?] [illeg.]* with the portion most recently protruded and the infant within less than half an hour

**[Alder's reading: '...in pressing it up by pinning with the portion...' (Garry Alder, Beyond Bokhara, p. 286) but while it's difficult to decipher Moorcroft's words exactly, the present transcriber can't agree with Alder's reading.]*

...16 (jpg 121)

June 25 – Gonh to Kurtse Cheles

half an hour recovered its tranquillity whereas had I not been on the spot within the span of a few hours the gut must have mortified. As the Abba, or Physician, of the Raja of Puskyoom accompanied me for the purpose of learning the method of depressing the cataract, I am willing to hope that he may profit by what he saw in respect to returning protruded rectum. Having found it impracticable to depress a Cataract which was soft, I cut it through horizontally and was surprised to see both portions fall of themselves to the bottom of the eye whilst the upper part of the anterior lamina of the capsule hung down like a curtain. In this case the cells[?] of the vitreous humor must have been destroyed yet the man saw me tolerably well whilst I was withdrawing the needle. It is somewhat extraordinary that all the cataracts at this town should have been soft both in old and in young subjects. I think it may almost be said to be ascertained that cataracts accompanied with much general inflammation of the Iris and Choroide

117 (jpg 122)

June 25 Gonh to Kurtse Cheles

Coats are more apt to be hard than those which have come on without such accompaniment. At Puskyoom was a Pupil almost obliterated with a Cataract behind it and the Pupil was very near the lower part of the Cornea. As the other eye was very unfavourable, I resolved to try what might follow depression when having carried the lens far back a stripe of the lower and contracted part of the Iris tore to its circumference and left an oblong window by continuing its adherence with the Lens. The tear was not accompanied with bleeding and in -imperforat or rather of [illeg.] Iris I should prefer operating by tearing rather than by cutting.

Road

SW 1418 to the end of the town of Minjee

R SW 1411 to the village of Granwer[?] then following the course of the River sometimes rather distant, at others near to its bank. R SW 450 SW close on the left bank to 1225. SW 30 S rough and stony, the Northern face[?] of a Mountain bearing S covered with a coating of Snow, the sides of which appear about twelve feet thick and the surface as pure as if just fallen. The lower part of the mountain is cleared

118 (jpg 123)

June 25 Gonh to Kurtse Cheles

is cleared partly by slip and partly by melted 2262 – Kurtse Cheles a village in a bottom with much cultivation land attached[?] and of which the crops of Wheat and Barley with in about three weeks will be fit for the sickle and that of Buck wheat much inferior to the produce of Molaree[?] is in flower. R- SW ascending and level to Cheles, a stragging village 1725. Total distance 8491. The road rough but safe.

Miscellaneous

Here our Horses were in want of shoeing as encouraged by my former journeys and the apparently strength of their hoofs I conceived that the present journey might be effected without shoes which always bad were not obtained without difficulty. But from the excessive roughness of this road, the soles had become [so?] sore though little worn[?] as to necessitate defence but so indifferent and so slow are the smiths that after waiting two days at Puskyoom we were only able to obtain shoes for four horses and then only for the fore feet. A good smith who can both forge and put on shoes is essential to this journey but such was the dread of undertaking it that I could not obtain even the most

119 (jpg 124)

June 25 – Kurtse Cheles

most indifferent to face its dangers. And after advancing money for Shoes and Nails here we were compelled to proceed on a promise from the Smith that he would follow to the next stage.

Kurtse Cheles is situated in a high valley of which the length is in the direction of SW to W and SE to E, the breadth being little more than half a mile & the river skirting its southern side. It is closed at its extremities except the space sufficient for the bed of the River and a narrow road and slope at each side. And its flanks are of the same material[?] description with those of Gonh of which it would be an extension without the strangulated portion near Kurtse Cheles. The summits and ravines of the Mountains are covered by and conceal[?] much snow of which the melted water pours into the river in numerous streams. It is very hot in the day of summer and cold in winter. Whilst our Party were there, a few light gusts of wind and some of them hot were felt during the day but in the night the wind blew cold in frequent bursts which though violent were not of long continuance.

Medical observations – Goitre was extremely common in both sexes but largest in the

120 (jpg 125)

June 25 – Kurtse Cheles

the women in which it consisted of three parts, the Carotid and Thyroid arteries being much enlarged and beating with much violence & thrilling when lifted out of their natural bed by the extension of the swelling.

In general, little of inconvenience is produced under common circumstances of employment but more derangement of breathing occurs in persons with large Goitres on considerable exertions. It was said in remarks on the much greater number of Goitres in women than in men in Gonh that the difference was perhaps owing to the men passing part

of their lives in other countries whilst the women were confined to their valley but this supposition of course is weakened from the goitred men at Kurtse Cheles being equally numerous with the women so affected as at villages only a few miles distant on the same road and under the same occupation habits and modes of life it is little to be expected that the Male inhabitants of Gonh are much greater travellers than those of Kurtse. It is the business of the traveller

121 (jpg 126)

June 25 – Kurtse Cheles

traveller to record facts however his opinions may be affected by them and on this principle consistency of sentiments must be sacrificed occasionally. [blank]

There were at this place three cases[,] 2 children of 5 yrs old , 1 of 2.5 yrs[,] of paralysis of the lower limbs with wasting of their substance. My researches into the Anatomy of the spinal Marrow have been too general to enable me to speak as to the existence of any lymphatic or other glands within its sheath and my recollection furnishes not evidence of such having been described by Anatomists. Did such glands exist I should submit it as a supposition, not wholly improbable that the same influences which produce Goitre might also produce enlargement of the [illeg.] Glands which pressing on the Spinal Marrow might cause Palsy and wasting of muscular substance through want of exercise.

There was only one case of cataract and that membranous and soft. In one eye a good window was made but although the [illeg.] Membrane was cut almost

121 (jpg 127)

June 25 – Kurtse Cheles

almost into threads by frequent strokes of the needle they obstinately resumed their places but will be dissolved by the aqueous humor. There were two instances of [illeg.] one with Pupil nearly obliterated the other with the shining[?] Spot on the Retina. I have almost always remarked in confirmed Amaurosis and with undulating Pupil indicating dissolution of the Lens and not infrequently the destruction of the Cells of the vitreous humor, yet the loose Iris obeyed in a degree the influence of the Datura and dilated about half as much as a healthy Membrane would have done under the same dose. Here an odd circumstance occurred. A Pupil was fairly dilated but just before I introduced the Needle it contracted at once to nearly the common size in a low degree of light and on its actual entrance so much diminished as only just to allow room for the point of the Instrument to cut the middle of the Membrane and I here satisfied myself

123 (jpg 128)

June 25 – Kurtse Cheles

myself with opening the structure of the Lens to the action of the aqueous humor.

At a very early hour I was awakened by the carolling of numerous Skylarks of which the notes were nearly as melodious as those of Britain with the addition of notes that were peculiar to this bird and bordered on some of the best strains of the Goldfinch. The contest was kept up amongst several till the Sun had got high. There also was a bird of which the

song was that of the Goldfinch but I have not seen the songster near enough to assign him a place in the family of this bird. At night fall a call was long continued in the Mountains which I thought resembled that of the Great Chokor and attributed it to the hen clucking her brood but this may be erroneous as it prevailed during great part of the night a time at which in so rough a Surface it may be dangerous for the young to ramble.

124 (jpg 129)

June 25 Kurtse Cheles

Agriculture – The cows of this District are more numerous and in better condition than I have seen any since I left the southern Hills. Their form is good but on a small scale. They are horned but this is small, and from black the colors of the skin are breaking into varieties as pure red and mixed with white. The butter is here yellowish from the abundance of food of which Lucerne and white Clover furnish that of the day when the cattle are led to the Mountains and the wild Oat collected in the Evening from the Corn crops serve during the night. However[?] on their return some common pasture grass with Clover was over flowed for an hour before the cattle returned and on this they were pastured just before they were taken into the house. Two Cows were fastened together by one Rope attached to Willow Rings through the Nostrils and children prevented the Animals going on places which were [illeg.] so that the surface of the land was maintained level. As I had not tasted Butter for more than two years in its cold state I washed some of this in

125 (jpg 130)

June 25 Kurtse Cheles

in hopes of getting quitting of the musty taste imparted by the old lining of the skin churn but this predominated over my experiment and the well looking butter was consigned to the common purpose of the kitchen. The Zhomo or female from the Male Yak and the common Cow, which is not of the Zebu variety is here but small and beautiful and her neat head and clean neck, her large barrel and horizontal croupe with her particularly short legs form a whole little injured by the partial unseemliness last years wool detaching itself by locks.

It is said here that the Zhomo gives more milk than the cow although the latter has a very handsome bag with no more than four Teats well disposed. It is reported that the yak can not live here. The sheep are small and of pretty good fleece. Many of the Lucerne fields of both kinds are good. One of the perennial kind sown broadcast last Spring yielded no cutting during that year but is now about 18 inches in height running into flower and beautifully thick on a level but unmanured though well watered soil.

126 (jpg 131)

June 25 – Kurtse Cheles

The beans are thickly planted but rather narrow though somewhat long and retain the character of their wild origin however the thickness of the crop makes amends from the deficiency of extent of surface in the foliage.

In the first part of Kurtse was an abundance of the single yellow rose in flower and at the banks of water trenches the leaves of the Polyanthus purple but without flowers as the crop[?] here is apparently past and I have lost the season. On a man's hat I saw a bundle of yellow flowers resembling the yellow Crocus in all its character except in being smaller and deficient in smell. I employed an individual to procure the whole of the plant with the root and he brought four specimens dry. The grass seemed similar but the flower was gone and the roots were rather onion shaped bulbs than flat on the upper and lower surfaces but the cortical coat had a similar character with that of the cultivated kind I think the former is to the Saffron of Kashmeer what the Lucerne of the Mountain is to that of the field of Tibet.

127 (jpg 132)

June 25 – Kurtse Cheles

General Remarks – In almost every village is to be found an Akhoon or Schoolmaster and one or two individuals who speak Persian or Hindoostanee, the former with an admixture of the dialect of Kashmeer and the latter with that of the Punjab. There is always a Musjeed and not a single Lama's House or Pile of engraved Stones meets the eye. It is obvious that Islamism is spreading fast and unless there be a change of measures in the Governors which shall bring the Tibutees more forward in commerce and in the arts it may be predicted that Ladakh will have a Moosulman Governor. At Puskyoom was a Baltee Kashmiri that is whose father settled in Baltee and with more propriety the offspring may be named a Baltee Urgoon. This man is a kind of spiritual as well as a worldly director of the Puskyoom Raja and is active and full of zeal for the interests of the Baltee Raja who is here by his agents undermining the attachment of the Tibutee Moosulman Peasantry

128 (jpg133)

June 25 – Kurtse Cheles

Peasantry to their lawful Governors. This agent called himself a Syyud but from his answers to questions put by Mir Muhmood [also] a Syyud and one of my Servants it seemed that the claim to a descent from one of the Kalifs was rather assumed than real and his conduct was so deceptious[?] as to induce a declaration from the Mir that he could not be of this race. In confidence he declared that the Puskyoom Raja recently converted as had been before remarked intended to build a fort on the left bank of the Puskyoom River which with that on the right bank already erected by the Sonth Raja would command the road and consequently command the communication with Kashmeer. He farther added that within a short period he and the Sonth Raja would join their forces in rebellion against the Raja of Ladakh according to the wishes of the Raja of Baltee. The fort of the Sonth Raja is too high and too distant from the road to be formidable and indicates more strongly a disposition

129 (jpg 134)

June 25 – Kurtse Cheles

to secure an asylum than to put forward an offensive station. However it is one of many other symptoms of the decline of the Ladakh Principality which a few sound measures might yet retrieve. The Sonth Raja wrote to me two months ago a description of a disease in

his eyes to which I replied and sent medicine with a promise that I would pay him a visit in my journey towards Kashmeer should the application not prove efficacious. I reminded him of my promise when at Puskyoom from which place Sonth on the right bank of the River is only a few hours journey distant. However I thought it better to send a Messenger than to go myself as I well knew the avaricious disposition of this Chief and anticipated objection on this account as he might consider it incumbent on him to offer civilities in Sheep, flour &c. and he may not [be] informed of my presents being generally worth four[?] or even twenty times as much as those

130 (jpg 135)

June 25 – Kurtse Cheles

those I received. Agreeably to my expectation he declined the fulfilment of my promise on the ground of his eyes thanks to my friendly assistance. The Baltee said the road was very bad but to my surprise accompanied our party to Gonh where he hightened[?] the price of every article of supply as much as possible although apparently doing all he could to forward our views. He stated that he had orders from the Raja to say that he would exchange the Bible for the Kaleidoscope which I ordered to be given to him. This he kept all night and on my remarking that he had not brought the book although he had repeatedly said that he had gone to the village for it, he stated that he required something more. I did not reproach him with his duplicity but quietly took back the glass. He then said that news had just reached him from the Noona Kaloon at [illeg.] that the District was in a great ferment on account

131 (jpg 136)

June 25 Kurtse Cheles

account of an expected visit from a band of from 2 to 300 Pusthan Robbers whose [illeg.] he highly commented upon and who put to death all the persons in whose possession they found property. Under such a prospect he submitted to me whether it was prudent to continue my journey in that direction. I thanked him in reply and stated that it would be a novelty to me to see the Banditti he mentioned and that the information by no means staggered my intention of going. He had told Mir Muhmood the same story who observed that this was a matter of no consequence as all the Sahibs possessed Pistols and other arms of such power as to be capable of destroying great numbers of those who should be hardy enough to assail them inasmuch that one Sahib was equal to a thousand of common people and that he gave a proof of his confidence in my means but not even thinking it worth while to communicate the intelligence to me as he was thoroughly aware that it would not weigh with me.

131 [numbered twice] (jpg 137)

June 25 – Kurste Cheles

With the change from Lamism to Islamism a change has taken place in the clothing of the women. Instead of the striped Argus Jacket and Petticoat fitting close to the shape and secured round the waist a brown or nearly black woollen Jacket and Petticoat loose

without tucks or gathers but with long sleeves hangs from the shoulders nearly to the feet slit open in front from the neck to below the bosom sometimes tied with a small girdle but in the hot season as at present in the older women too frequently open in defiance of decency, the long black or brown woollen trouser is retained but the boot at this season is not seen. Instead of the Lappet of Turquoises and the broad Aiguillette of small Coral is substituted a brown woollen cap but the hair is retained in Tress and the deficiency in ornament above is compensated by the addition of a new decoration below consisting of a flat circular, triangular, oval or square of about four inches in length of worsted work in different colors

132 (jpg 138)

June 25 - Kurste Cheles

colors behind which the tresses are assembled and concealed. This ornament is about half way down the thigh and from it depends the customary brush of worsted Tassels. The massy stiff and heavy collar garnished with Turquoises. Pearls, Coral or Silver chains is abandoned and heavy Necklaces of Coral real or fictitious & colored glass beads of various color and fashion are adopted but the shell bracelet still maintains its place. The appearance of the women has not gained by the alteration and there seems no improvement in the main charm of cleanliness though glazing the face with a brown gummy substance for three days out of six for the purpose of clearing the skins and of preserving the complexion is less in fashion in the western than in the northern and eastern parts of Ladakh. The Amulet is still worn round the arm but instead of the large silver bead it is now a piece of silk containing some verse of the Koran.

133 (jpg 139)

June 25th - Kurste Cheles

Whilst writing a woman of somewhat better appearance in regard to the quality of her clothing has come near my tent and she wears the Turquoise Fillet but reduced in point of breadth and length. It must not be forgotten that the Oreillette or Ear flap discarded has for a substitute a species of Ear Pendant of which a Noose encircles the ear itself whilst the lower part made up of two strings of small coral beads intermixed with some of yellow glass and terminated by two tassels of brown worsted repose on the bosom. The Raja of Puskyoom or as he is here called the Choochoo has not laid aside his tasseled bonnet nor his Gold square Cista[?] or box which decorated with Turquoises hangs from his Neck and a similar ornament less valuable is observed amongst his Courtiers but in general the Tibutees converted to Islamism have almost entirely left off the use of ornament. I had promised the

134 (jpg 140)

June 25th - Kurste Cheles

the Choochoo of Tamis, the Brother of the Chooghzut Lama of Himis, that I would pay him a visit should I come near his residence but when I reached Kurtse I found the River so full of water as to render it not fordable by horses and with great difficulty by men so that I was

compelled to abandon the project although the village and cultivated lands of Tamis were opposite the Kurtse on the bank of the River. Information however was given to the Choochoo of the arrival of my party. He was then engaged at a game of Polo however this he quitted instantly and galloped down to the edge of the River thinking that I was on the opposite bank. He said that he should have been glad if I could have come to Tamis, however aware of the difficulty as the sanga for crossing at this season was a day's journey up the river and thence there were six Kos of bad road to Tamis on which horses could not travel loaded. Under these circumstances he thought it would be well for my party to proceed to Phurol

135 (jpg 141)

June 25th Kurtse Cheles

Phurol where he had a house at which he would meet us on the left bank of the River with this view on [*sentence left unfinished.*]

June 26th – From Kurtse Cheles to Phurol

Road SW to a gorge 2140 of which the greatest portion was level. R W 80 SW 1275 level and moderately straight. R W 22 SW descending to the Village and grounds of Pharoona[?] of which the luxuriance of the Lucerne on the slopes dividing the fields, (the terrain being less necessary[?] from the area approaching to a flat) shows the soil to be congenial to this plant 930. R W 20 SW through much cultivated land in which mustard (in flower) is more abundant than heretofore at 1675 reach the village of Kachun opposite to which on the right bank is that of Tisheercha[?]. At 2990 reach a watercourse which at noon was fordable and off which the stream enters the Kurtse which we have hitherto accompanied on its left bank. At 275 reach the village of Phurol.

136 (jpg 142)

26th Phurol

Medical – The inhabitants not being apprised of who I was till late had not sent out their sick till near noon when they began to crowd round me and I dismissed many till evening. Lepers[?] – Yesterday one leprous case was seen and here were three, some having made progress and one just beginning, marked with thinning and depression in the semilunas opake part and rising on its edge to the point of the Nails. The inner extremities of the eye brow had just begun to thicken but the lobe and edge of the ears as yet indicated not the presence of the disease. The fingers and toes of the other two were considerably enlarged. Goitre – Greatly frequent even in children of ten or twelve years of age of three distinct lobes and frightfully large in old people of each sex. The valley very narrow runs nearly S & N is divided into two portions by the River the cultivated lands being principally on the left bank and is shut in by

137 (jpg 143)

June 26 – Phurol

by high mountains, those of the S being thickly covered with Snow. Inflammation of the eye is here malignant and instead of extending slowly in Pterygion produces Chemosis[?] and Albugo of which latter were two cases of boys about ten years of age.

From the observation made on the extreme prevalence of goitre in deep narrow valleys closed by high mountains on every side there is no doubt that such localities have an influence that produce this disease and also inflammation of the eyes. They are excessively hot at this season, are really cold during the night and until the Sun reaches them which is late in the morning whilst he leaves them early in the evening. I found the rays of the luminary distressing from about two to four in the afternoon and was glad to seek the shade of some apple trees in the Orchard of the Choochoo and in the night a blanket and two coverlets were by no means too much. In the Orchard just mentioned was a double white rose with a little blush in

138 (jpg 144)

June 26 Phurol

in its centre which had the odor of the cabbage Rose of Britain.

Birds – The large Raven of Ladakh is no longer seen but has a substitute in the Carrion Crow of rather small size. The small Tooter[?] which I have not met with except near [illeg.] is seen but by no means common, the yellow Water Wagtail is not uncommon nor the Goldfinch with the same song and plumage as that of Britain but smaller. The Magpie is abundant and an arrangement of two to attack a Crow apparently meditating an assault upon their nest was not unamusing. When he turned his head towards one, he was instantly assailed by the other from behind and was finally compelled to quit the field. Having seen the Choochoo on the opposite side of the River going with five horsemen towards the Sanga I ordered a good dinner for which our Stock of Sheep afforded material. In this country hospitality in respect to dinner must be extended to the Attendants of the Guest.

139 (jpg 145)

June 27th Phurol

The Choochoo brought his son and several attendants and promised that he would do all in his power to forward my views. He thought that some villages more to the South were better to attempt purchasing sheep in than Phurol as a vast number in the latter had been lost through the Snow in the previous[?] winter. This had lain on the ground for 9 feet in thickness during several months and the peasantry had not been sufficiently provident as to have laid in a sufficient store of fodder.

June 28th

Medical – I performed on five persons for cataracts and was particularly interested for a poor woman who had lost one eye by suppuration, however in this operation everything bade fair for success.

At the village of Gonh the water was very hard and soap coagulated in it as strongly as in that of Leh but at Phurol the water was soft, soap dissolving well in it. Now at Leh there are no Goitres and at Gonh and Phurol this malady abounds but at all three places the water is principally if not altogether formed of melted Snow.

140 (jpg 146)

June 28th Phurol

Hearing from the Choochoo that there was a much better chance of obtaining sheep higher up on the left bank of the Kurtse, I determined to proceed into that District although it lengthened the distance to Dras, there being a road direct from this place up the face of a mountain. A person who had come with me from Puskyoom and at whose house I had stopped at Kurtse Cheles refused to proceed as he said he should lose his mare and foal in the Nakpoo Choo, the former having been hired to carry a load and the latter being at her foot. He stated that this River was extremely rapid and must be crossed several times, however having often seen the facility with which the Natives of this country swelled the character of obstacles I resolved upon carrying my project into effect notwithstanding the obstacles raised against it and after dinner began the march which I was assured was a short one.

Road

SW along the left bank of the Kurtse first through the cultivated lands

141 (jpg 147)

June 28th From Phurol to Sankho

lands of Phurol then through a wavy surface of clay rock and afterwards descending gently into the cultivated lands of Sankho 2995 double paces to the left bank of the Nakpo Choo or black river which coming from the West runs due East and at about a third of a mile distant delivers its waters into the Kurtse Choo on its left bank. The Nakpo Choo varies from twenty in its narrowest to about sixty feet in its broadest part, appears to be little more than three feet deep but runs with great rapidity and considering the great obliquity of its descent must furnish much water to the Kurtse. It is stated that the Nakpo is made up of two streams viz the Meezadee Choo from the Meezadee Loomba Mountains and the Oomba Choo from the Oomba Loomba Mountains. The water of the Meezadee is white or transparent but that of the Oomba is of a dirty black. Both have their

142 (jpg 148)

June 28 – From Phurol to Sankho

origin in the snows but the Oomba passing over a surface of blue and blackish slate rocks in a state of decomposition carries in its water a large quantity of their dust so suspended as to render the whole stream nearly black from which circumstance the united stream of the Meezadee and Oomba derives its appellation of Nakpo Choo or Black River. In the water however the black color is cut by lines of white and this character is retained till after it has mixed with the stream of the Kurtse which it appears to do not easily as the black current for a long time retains its character forming a broad band along the left bank of the waters of the larger river. At about two miles up the Kurtse this stream receives a large accession to its waters through the falling into it of the streams of the Poo-Loomba Choo which coming from the East enters its right edge. This stream of which I may see more in my road to Zanskar rises in the mountains of Poo Loomba and has its furthest source about

143 (jpg 149)

June 28th From Phurol to Sankho

three days' journey distant. The stream of the trunk of the Kurste is seen coming from the Southward that is S about 40 W and as it is said that the Pinche or Pinje Lha whence it has its source is from 3 to 4 days' journey distant the length of this stream must be extended far beyond that assigned to it by information given in the march from Puskyoom to Gonh and the truth of which I much doubted on account of the great body of water sent down by this river of which I hope to speak more positively from my own observation during my journey to Zanskar. The road from the ford to a small Sanga is W on the left bank and the length of the Sanga only 5 double paces from its being thrown across a narrow place. Thence to our encampment amongst some willows in the old bed of the river was 470 making the whole distance of this day's march only 3465 paces.

Miscellaneous – Part of the road lay through narrow stony lanes to which the bushes of

144 (jpg 150)

June 28th From Phurol to Sankho

of the red wild Rose in one general surface of flower forming a ledge on each side gave a beauty of appearance rivalled only by the fragrance of the odor widely diffused through the air which then is much more agreeable than what is experienced from the close vicinity of the flower itself. From a height on the road the villages and lands of Sanko present a prettier prospect that I think I have yet seen in Ladakh. The whole gives the idea of a large Amphitheatre surrounded by hills and of which a very high range running East and West is thickly covered with Snow. As yet no other than the Pollard Willow Tree has met my eye but the groups[?] of this are not deficient in charms to the view of the European Traveller fatigued by the generally naked surface of the rocks of Ladakh. But even the sterility and general bareness of these is here somewhat relieved by their patches and stripes of faint verdure on the slopes and sides of clay hills of great height and which afford subsistence to large flocks

145 (jpg 151)

June 28th From Phurol to Sankho

flocks of Goats and of Sheep. Here too many cows and Zhos are raised and a tolerable number of Poneys of which the principal merit is their hardiness. However on this journey my notions of the productiveness of Ladakh in shawl wool is greatly increased it being vastly larger than I first imagined and might be raised to a very large amount were due arrangements made for raising store food for winter. But the raising of Bread Corn seems to supersede every other consideration and unless the supply from without were seen to be steady and cheap perhaps the wisest policy is to continue this practice though I conceive under the combined operations of Natives of the Southern productive hills and of those of Ladakh the system of exchanging grain and vegetable food for the wool of Ladakh to support the producers of which the lands now in tillage for corn were appropriated would

prove one of much greater benefit. The Gurphun of Sankho had come to Phurol for the purpose

146 (jpg 152)

June 28th Phurol to Sankho

purpose of seeing the strangers and in fact accompanied us hither. At night fall he brought a present of flour, milk, butter and firewood saying that this was to be considered as coming from the Noona Kaloon in whose country we then were. I requested that he would excuse my not accepting these articles unless they were paid for as I had not yet had a meeting with the Noona Kaloon in his own country and before this occurrence I thought it not right to avail myself of other civilities from his Servants save those which could be recompensed by money. He said that it was probable that the Noona Kaloon might be displeased with him for neglecting this ceremonial and I readily pledged myself that this should not happen if representation on my part could be of any avail. Avarice is one of the reigning vices of the Tibutees of the higher orders and if they give any thing as a present they expect a return of at least ten times the value of the first gift. I find also that I have already been too liberal in my presents and that without due husbandry my

147 (jpg 153)

June 28th Phurol to Sankho

my stock will be exhausted before half my journey be finished.

June 29th – Sankho

This morning the Choochoo arrived and stated that a report of the Filingee Goba having visited the country to purchase sheep had given to the flockmasters notions of receiving such extravagant prices as would defeat his intentions of procuring them at a fair value and he was therefore led to repeat his proposition of being allowed to endeavour to execute the commission through his own exertions and those of his own people. Having the preceding evening had a specimen of the truth of this remark by the high price of an old Ram brought to the Servant for sale, I selected from the small flock which had partly accompanied me from Leh and had been increased by acquisitions on the road three of the best as Patterns in respect to form bone, height and fineness of wool and as to age, and desired that he would purchase by these

148 (jpg 154)

June 29th – Sankho

models. For the acquisition I advanced funds to the amount of about two hundred Rupees and requested his attention to be directed rather to the quality of the animals than to their price. He had furnished a Moosulman to aid me in fixing a price but this man I gave up to him and resolved now to prosecute my journey to Dras and to meet the Choochoo on my way to Zanskar.

Medical I saw at this place scarcely any goitres and those very small but a boy of about ten had one of great size. This lad was a Native of Baltee and had come here merely as a visitor. Sankho is of a circular form in respect to its lands and its diameter may be about three

miles. It is divided by the Kurtse Choo into a western and eastern portion, the former by much the largest lies on its left bank is higher & more sloping than the latter which forms more of a level stripe. It was reported by the Chochoo that though as I saw goitres were not common at Sankho

149 (jpg 155)

June 29 – Sankho

Sankho the inhabitants of the eastern lands were much affected with them. The Garphun of Sankho said that there were no goitred persons in the lands under his jurisdiction which belonged to the Noona Kaloon and the Chochoo declared that there were many in those under his charge which belonged to the Clergy under the administration of his brother the Chogzut Lama of Himis. The statement of the former was not quite agreeable to truth but apparently not a strong infraction.

This difference somewhat contradicts the hypothesis of the enlargement proceeding from the state of the air and directs my enquiries to the difference of the two localities as far as soil, water, food and modes of living are concerned. The general area is surrounded by high rocks but it appears to me that the waters of Sankho flow from rocks of a micaceous black Schistus and are soft whilst as

150 (jpg 156)

June 29 – Sankho

as far as I can judge from the distance at which I saw them those of the eastern range are of Clay. The black stream of the Nakpo Choo is removed out of the reach of the inhabitants of the eastern lands by the Kurste Waters running so rapidly along the right bank as to bend those of the Nakpo Choo out of the eastern direction and to cause them [?] [illeg.] below the cultivated tracts to skirt the left bank. However the subject seems to be narrowed and I am willing to hope that a careful enquiry on my proposed visit to Zanskar may be able to detect some prominent cause of difference to which the production of this formidable disease may be traced.

Sankho to Stakpa
Road

W 80 NW along the right bank of the Nakpo Choo ascending gently 364 then rapidly round the face of a mountain of micaceous Schistus for 900 then descend and at 1175 reach the lower part of the
Total distance 2389

151 (jpg 157)

June 29 - Stakpa

the cultivated lands of Stakpa the great body of the village being situated on a high slope to the SW. Here we encamp on a carpet of verdure that recalls strongly the pastures of Britain to recollection the sward consisting of grass (Tisene [?] Poa annua [?]) white clover in flower, plantain, small Dandelion, Euphrasia, Burdock the smaller blue Bugloss, Dock, Colombine &c. the former abundant the latter in detached patches. At this place is observed

the practice of slightly flooding the home pastures for an hour or two before the Cattle are brought down from the mountains for the night. Neat Cattle small but of good shape and in fine condition are abundant and the produce of the dairy would be as good as possible were it judiciously employed but this as well as the Cooking of my own Establishment proves too strongly the truth of the Proverb in regard to food. God sends food but the Devil sends Cooks

152 (jpg 158)

June 29th Stakpa

The face of the Mountains not greatly abrupt is broken into terraces but not breasted by stone walls as the firmness of the soil tolerably answers the purpose of supporting the platform. The verdure is of considerable extent and the quantity of land in tillage is too large to consist with the industrious spirit of the people of this country as this seems moved to a proper display of exertion only by a small and little[?] productive surface. For here the corn crops are disgraced by wild Rape, Thistle, Chenopodium Cockle & many other weeds. This land from its depth would yield Potatoes, Carrots and probably the edible roots of Hindoostan and this application of its powers would be far more useful than to raising Bread corn. The stage was thus short on account of a great ascent being before us which it would not be prudent to attempt without the whole day being before us.

153 (jpg 159)

June 30th Stakpa to Oomba – 200

Road N 20 NW crooked and stony to the Dokpee Choo which proceeds from the S & W tumultuous and rapid but not above 9 feet broad and two deep early in the morning. Over it however is a Sanga for foot people but horsemen ford it and in doing this my horse displaced a stone which emitted a dull and grating sound as it rolled along the rough stony channel. The path was narrow, broken and dangerous, sometimes moistened by snow water, in other slipping away beneath the foot being in parts without cohesion and consisting of loose pebbles or fragments of blue clay slate sometimes hidden by the powder of micaceous Schistus. At a depth varying from forty to 150 feet almost immediately below the path, the Nakpo hurried its black current down its rough bed with great rapidity. At 769 the Mazeedee Choo from the snowy Mountains of the S and SW precipitates its transparent but foaming stream into the bosom of the Nakpo on its right bank.

154 (jpg 160)

June 30th Stakpa to Oomba

Although the current of the Mazeedee Choos was not more than twenty feet broad and three feet deep in general although greater in particular parts as at the foot of blocks of stone yet such was its force that our Conductor was unwilling to trust horses with burdens to attempt to pass it. However as the path from a Sanga higher up and of a very frail structure was narrow and scabrous including a slippery ascent and descent over a crag his objections were overruled and the horses forded without accident. At 40 the road enters the bed of the Nakpo and follow it in the direction of NW for 100 when it crosses and ascends a steep bank on its left side which it skirts. Although the stony channel is a

hundred feet broad and by water lines has lately been covered, at present the stream is not more than twenty six feet broad and from two to three feet deep coursing along the left edge of its bed. Seduced by the prospect of collecting plants in a gloomy but verdant recess penetrable

155 (jpg 161)

June 30th Stakpa to Oomba

penetrable only by crossing the stream many times I went past the regular path and had to make my way along shallow water courses and bog beds till I attained the narrow line of road where I found the measurer had made 500 paces. R N 10 NW winding, ascending, broken and dangerous to loaded horses 259 to Oondih a single house surrounded with cultivated lands and round which the face of the mountains is clothed with luxuriant yellow Lucerne in full bloom. R NW 55 W ascending descending narrow and had for the most part to 2725 when it reaches the village and extensive lands of Oomba. The whole of this day's march has exceeded not 4622 double paces yet it has occupied many hours.

Oomba consists of three clusters of houses of which the most considerable is situated on the right bank of the Oomba Choo. At this place the latter stream coming from the North western face of the range to the N of Oomba called Ganmo Brok falls into the Nakpo Choo just below the village and on its left side.

156 (jpg 162)

June 30 – Stakpa to Oomba

The Nakpo Choo rises in the snowy mountains called Braknak to the S & SW about a day's journey distant and upon the side of one of these hangs a broken bed apparently of about thirty feet in depth as far as can be judged at this distance.

The ridges just alluded to are of great height but the Mountains near the line of road, although high, are tolerably sprinkled with verdure. The winter at Oomba is reported by the inhabitants to be very severe and that in the late winter 12 feet of Snow fell which kept them close prisoners to their houses for 6 or 8 days and cut them off from communication with other villages for nearly two months.

At this moment there are beds of frozen Snow in the channel[?] of the Oomba Rivulet a hundred feet in length a hundred feet below the cluster of houses at which we are encamped and about six feet in thickness under which runs the stream. Between Oondih and Oomba I just saw the plant called by the Natives Prangos and which Nature has most kindly furnished in abundance as winter, food to Sheep and Goats during the winter.

157 (jpg 163)

July 1 – Oomba to Twaje Choo

At Oomba I performed the operation on an old man and an old woman. Having cut through the anterior lamina of the capsule of the left eye of the former which was tough, its milky contents flowed into the aqueous humor and quickly rendered it so turbid as to prevent my doing more than dividing the Membrane freely. I expected the like occurrence in the other eye but found the Lens hard and disposed to gyrate so much as to compel me to cut it in two horizontally and push down the upper part which appeared softer than the lower

hemisphere. It is curious that the iris would not dilate to the influence of the Datura although it was active enough under that of light. This was not owing to deterioration in the medicine as a single application to the eyes of the woman produced abundant dilatation. In one eye of the latter the lens rather soft descended with ease, in the other, hard, it was disposed to turn and this I apprehend arises from my commencing to press rather too high on the fore part of the lens.

158 (jpg 164)

July 1st – Oomba to Twaje Choo

To this circumstance my attention must be more closely directed as the turning forwards presses upon the lower part of the Iris and gives rise to pain subsequently to the operation for my Patients now say that they experience scarcely any sensation during the process.

Road

N 10 NW – single M[ountain?] bears S 45 SE treble S 80 SW both behind. Path up the face of the Oomba Lha at 390 the Oomba Choo runs under a bed of frozen Snow about 300 feet in length but of no very great thickness. At 415 crosses a cascading Watercourse from the NE one of the many sources of the Oomba which however owing to the great declivity of its bed is not a large stream. R NW descends to watercourse which comes from the NE supplied apparently by beds of Snow. R N 10 E 100. R N 10 E 154. R N 15 N 605 - bed of snow traversed about 200 feet long 100 broad and 30 thick. R so crooked in zigzags according to the surface as to render taking bearings during their short continuance in their respective lines inconvenient but the general bearing as before 1790 double paces up to the summit of Oomba Lha. The summit of this lofty and narrow range which runs betwixt W-SW & E-SE

159 (jpg 165)

July 1 – Oomba to Twaje Choo

seems to be almost on a level with the tops of the surrounding mountains which are constantly covered with Snow yet the Oomba Lha is composed of a blue micaceous Schistus rapidly decomposing but of which the enormous bulk defies the injuries of weathering which make little more than a superficial impression during the course of a century. The view from this height is greatly imposing and majestic, the spectator appearing to be nearly on a line with the ranges [*sc. ridges?*] of the primary ranges. Not the least surprising feature of this prospect is the equality of the line of the ranges capped with eternal Snows, for although broken with peak and gorge yet not one is to be seen that offers to view a pinnacle greatly overtopping its fellows. This horizontal line of summits bounds the prospect for a diameter of at least twenty miles of horizontal distance. The bearing of Single Summit[?] is S 45 SE of treble SW. Road rapidly descending along the line of a Watercourse to Lubbar[?] an encamping ground taking its name from surrounding mountains is NW.

160 (jpg 166)

July 1st Oomba to Twaje Choo

Descent rapid and good. Kashmir bears SW 40 S according to the report of Natives. Zanskar SE, Dras NW 60 W. At 1275 crosses a wavy bed of Snow breadth 212 of great length and of vast thickness at the edge of which many old marmots with their families are seen at play. These take refuge under the bed of frozen snow when they see travellers and find an asylum of perfect security. Road has hitherto followed the right bank of a rivulet proceeding from the snows on the NW face of the Oomba Lha or Lha Choo 175. At 1069 crosses the Water course of Tsa Yoona or Horse Pasture Mountains a broad but shallow stream bordered by Dwarf Willows and coming from the NE from[?] a day's journey distant and falling into the Lha Choo continues down a narrow but verdant and moderately descending valley in the direction of NW 11W to the stream of Twaje Choo from the snowy Mountains of the S & W the westernmost of which ridgy[?] [illeg.] the highest in this neighbourhood covered with vast beds of Snow is about 3 days distant is called Twaje Lha. The distance is stated from supposition as no one has

161 (jpg 167)

July 1st Oomba to Twaje Choo

has ever travelled far towards it for the indulgence of mere curiosity and no other motive could excite to the journey.

The Twaje Choo has a bed of about fifty feet in breadth which is sometimes covered but at present has a stream only 26 feet broad and three deep. Considering the declivity of the descent it is extraordinary that it should have a larger stream however a very hot day will bring down an increase of water that could scarcely be expected by a traveller who without much experience in the peculiarities of mountains streams having their origin in the Snows could have deemed possible.

Very shortly after leaving Oomba we lost sight of the Prangos but several varieties of Dock, the white Anemone, Daisy and two kinds of Spurge were continued up to the summit of the Pass on the N Western face of which were seen more plants

162 (jpg 168)

July 1st – Oomba to Twaje Choo

plants than elsewhere and amongst them the round leafed Rhubarb just about to break into flower. At the termination of the first great descent close to the edge of a great bed of snow was a full crop of the golden headed chive which might be termed the Swamp Chive from its luxuriance of growth in bogs & marshy soil.

There is also a species of Garlic with flat leaves that affects the same humid locality. The Chive is thus named from its greatly resembling the common garden Chive of Europe in clustering whilst like it there is no bulb and the Garlic bears seeds but has no cloves or offsets at its roots so that they are probably distinct and perhaps non descript varieties. The Marmot and the Sheep both crop the golden colored flowers of the chive and the luxuriance of its growth in bog beds might render it of some value to the poor in Britain as when cut early pounded and worked up into balls they retain their

163 (jpg 169)

July 1st Oomba to Twaje Choo

respective qualities and would therefore answer as a winter store.

In ascending the Oomba Lha we first heard the shrill cries of the Marmot and looking upwards saw several of these animals[?] sitting on their hind legs on stones close to their burrows. Their loud and shrill calls were repeated from rock to rock and notwithstanding every precaution that I adopted by ascending heights and crossing along ravines and under the edges of crests towards Marmots seated in a direction wholly different from that in which I began my course I almost [*sc. always?*] found that on which I had a design advertised of the line in which I was coming by some scout who had overlooked my progress. However having observed from a great height in descending Oomba Lha several old ones playing with their young on a bank on which

164 (jpg 170)

July 1st Oomba to Twaje Choo

on which rested the edge of a large bed of frozen Snow I went down behind a ridge and by creeping on my hands and knees got within a long shot of a large Marmot and fired. The animal rolled over towards the bed of snow and just was able to get his head under when he lay on his side apparently dying and a Bhothea ran speedily towards him but afraid of being bitten instead of seizing the creature by the tail and swinging to a distance from the snow bed he threw a large stone at it and missed his aim. The Marmot exerting the last remains of his strength slid down the slope of a bank under the Snow and the thickness of the bed set at defiance our attempts to recover him. Whilst at Twaje Choo a Marmot came out of a cave in the face

165 (jpg 171)

July 1st Oomba to Twaje Choo

face of a rock on the opposite side of the River to our encampment and made the valley re-echo to his cries of alarm. I fired from a rifle and the ball struck the rock a few inches above his head. In less than an hour the animal again tempted me to a second trial with slugs and it was obviously struck but gained its burrow and several persons in vain attempted to dig it out. However on the following morning it was found dead in the cave.

July 2nd Twaje Choo to Imbab or Draz

There is a small plain at Twaje Choo and three or four low circular walled enclosures which serve in some degree to protect the traveller from the fierce winds which come from the surface of the snowy Mountains during the night. This plain abounds with the gold headed Chive and the Garlic flavored

165 (?) (jpg 172)

July 2nd Twaje Choo

flavoured Leek as well as with the small purple Polyanthus in great profusion whilst the sides of the neighboring hills afford the round leafed Rhubarb of which the flower stalks peeled and boiled form a kind of luxury to such a board as mine whilst some bushes of a dwarf willow furnish fuel for cooking. The early hour at which my people put on their

sheepskin coats advertised me sufficiently that the night was likely to be too cold to admit of sleeping in the open air as I had hitherto done during this journey although my own feelings were not particularly sensible of the change from heat to a low temperature. During the night with the tent door open I found myself very cold and in the morning my servant entered shivering. The outer cloth of my tent was as stiff as a plank, much dew having fallen in the early part of the night and which towards morning had been converted into ice on my tent, whilst the surface of the grounds was covered with a thick hoar frost. My servants had suffered so much from the cold of the

166 (jpg 173)

July 2nd – Twaje Choo

the morning as to consider it necessary to make a good fire and to place a few faggots within the door of my tent also. I mention these circumstances for the purpose of adverting to the extremely hardy constitutions of the plants indigenous to this mutable climate. It was thought that the cold of the morning was greater than ordinary in this situation as the wind had blown with considerable strength from that quarter in which the Snows lay apparently in the greatest surface and thickness and I anticipated some drooping in the heads of the Polyanthus and other flowers which from their minuteness seemed ill calculated to bear the sudden transition from the heat of the preceding day to the cold of the night. However in this expectation I was disappointed it being impossible from the freshness of the appearance of the flowers an hour after the sun beams had reached the valley or plain in great force that

167 (jpg 174)

July 2^d Twaje Choo

that they had passed the night under any other than a moderate temperature. As my thermometers were reduced to one, I had wished Mr Trebeck to take it to Peetee in aid of his barometrical observations and therefore can merely advance a fact which shows that the cold in the morning had been below the freezing point. On the ridge[?] of the lower mountains to the NW of the crest[?] of Oomba Lha moderately clothed with verdure even near the Snows there were several droves of mares and geldings at pasture in excellent condition and apparent health although many of the latter employed in carrying burdens from Draz to Puskyoom were fired so generally as to give rise to a presumption that some of the operators had been putting to trial their ingenuity in diversifying the forms of [*operating by?*] applying the powerful agency of fire. These animals were rather smart in form but ordinarily somewhat too long in their backs and though better shaped in their fore legs than Indian horses

168 (jpg 175)

July 2^d – Twaje Choo

in general were a little defective in respect to proportion and direction and three or four were observed to have ring bones[?]. Whilst at Oomba a numerous cavalcade was seen descending from the mountains and it was understood that the villagers of this vicinity had

gone to the residence of a neighboring chief to form a party at Polo. Every man was mounted on a mare and almost every mare was followed by a foal. The horses of this country seldom exceed fourteen hands in height and are active and shewy[?] under the horseman carrying both ends well and even with gracefulness but they are said to be much inferior to those bred at Zanskar both in muscularity and in endurance under fatigue. Our horses had been trained[?] to graze during the night and my Poney when saddled and bridled impatient at my delay or rather preferring the company of the of Draz horses he had fallen in with on a sudden took advantage of the opportunity of his not being held to set out on full gallop

169 (jpg 176)

July 2^d Twaje Choo

gallop to rejoin his new acquaintance without considering whether he would be welcome. But as soon as he came near the horses surprised at his appearance with the reins and saddle cloth fluttering up and down from the wind and the vivacity of his movements, they became alarmed, refused to recognise him and galloped off towards the summits of the highest neighboring Mountains whilst he followed them at full speed. My Tibut sheep dog had remained for some time attentively looking towards the horses when he all at once went off towards them, although they were then nearly a mile distant. Some considerable time elapsed before he reached my steed when he was observed to cross his path before him as if endeavouring to stop his further progress. This manoeuvre failing after a full trial from the obstinate perseverance of the horse, the dog quitted him and went in pursuit of the droves which were now on the crest of

170 (jpg 177)

July 2^d Twaje Choo

of a very high Mountain nearly two miles horizontally distant from us and going at speed in a direction opposite to our encampment so as to promise to me a great delay before it was likely that I should regain the services of my fellow traveller. However much time had not elapsed before a cloud of dust coming down the side of a steep mountain from which occasionally a few horses in front and on each side were visible announced that the horses had taken a new line of direction and behind them was descried the Dog running to one side of the herd or the other when they relaxed in their speed and whilst many of our people who had gone out both on foot and on horseback had wholly failed to have any influence on the movements of the herds the Dog so managed as to bring the Strangers followed by my runaway to the very spot from whence the latter had commenced his excursion.

171 (jpg 178)

July 2^d Twaje Choo

I formerly accused this race of Dogs of want of sagaciousness but the fault lay rather in my precipitancy and want of discrimination than in any deficiency of acuteness in respect to the Dogs of Tibut. The fault of this Dog is an excess of fierceness when Strangers approach

as he thinks too near the camp and is the source of occasional alarm to me as well as to them. At Saspool, a crowd of natives had collected to view my encamping arrangements when suddenly they were dispersed by a furious sally of Cesar whose presence had not been noticed. The crowd fled with precipitancy and a little[*child?*] was left without the power of escaping but crying for assistance with all its power. When the Dog had succeeded in dispersing the multitude, he passed the child quietly without evincing the least intention to hurt it. But he like most European Dogs has an aversion to persons in ragged clothes when they approach the camp. If they be children he lays hold of their rags and shakes them with violence

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July 2^d Twaje Choo

violence but does not injure their persons, but if the individuals be grown up and they show not a disposition to retire from his approach he will bite though not severely.

Twaje Choo to Imbab

Road

NW on plain 710 to the water course of the Pang Chilingee which is supplied with water from the Snow beds of the Mountains of the W-SW & S, and falls into the Twaje Choo which we leave on our right running to the N to fall into the Draz or Imbab River at [*blank*]. Having crossed the Pang Chilingee which is at the early hour of nine but an inconsiderable stream Peak bears SW. Rugged NW 80 N R W ascending the Pass of Lawon Goorees Lha by a zigzag path which is good. At 565 Peak bears SW Rugged NE 73 E Road N – at 207 Peak bears SW 25 S. Rugged NE 67 E R NW 55 W at 214 R E 80 NE 55 paces Peak S W Rugged E. Road NW at 120 Snowy rough

173 (jpg 180)

July 2^d Twaje Choo to Draz or Imbab

Road

Snowy rough E 73 NE. Peak SW 33 W. R W first descending and afterwards level and gently undulating and winding and ascending to a bed of frozen snow in a ravine across which the path lies.

R W ascending and then descending 378 R N 20 NW ascending to ravine filled with frozen snow which we cross at 530. R N ascending at 868 attain summit of Pass through a deep path in a bed of snow in which my horse sunk up to the belly but on my dismounting he extricated himself by a few plunges. This Pass of the same character with passes in general is overtopped by surrounding Mountains which here are heavily loaded with snow. [*illeg.*] Campion in flower on the crest of the Pass from which a glimpse of the cultivated lands of Draz is obtained in the direction of NW. Peak is lost here but a point in the same line bears S. R N 20 NW level or slightly descending (heretofore from a third to a quarter may be cut off for ascents, descents and windings) – to 850 of which

174 (jpg 181)

July 2nd – Twaje Choo to [Draz or Imbab]

which the latter 200 is more rapid although[?] only one third may be struck off. From this point the valley of Draz or Imbab comes almost entirely into view as a long narrow valley running from W 70 NW to E with a broad fillet of river coursing down its middle from end to end. This winding considerably and receiving many streams in its progress from the flanking Mountains covered with Snow appears not as large as the Kurtse where it was crossed by our party at the first Sanga. The valley much broken by rocks has its cultivated lands for the most part interposed between its left bank and the neighboring Mountains on which there is in patches and stripes a considerable coloring of verdure. This bird's eye view from a height apparently of about three thousand feet above the cultivated lands is pleasing but the entire notion of Draz being a productive valley abounding with orchards is destroyed in respect to the latter the forms of the

175? (jpg 182)

July 2^d Twaje Choo to Draz or Imbab

the few and thinly scattered Trees being obviously those of the Willow alone. The hamlets seem small but numerous but more especially skirt the left bank of the River. Some of the fields appear richly carpeted by corn crops but others looking as if newly ploughed both off from the richness of surface however by what has been seen at other villages it is presumed that the fallow or recently tilled lands are under Buckwheat only just in second leaf. R NW descending in short and steep zigzags to ravine of Snow which comes from the neighboring mountains in a long line is passed at 1250 and continues to 315 (of all which cut off 3/4th) then winding a little at first but afterwards moderately straight 3440 to a field of Lucerne and Prangos in which we encamp. Total distance 8795. The road of today has been in general much better than that of preceding days. It has presented many varieties of flowers and promises a rich harvest to the Botanical collection.

176 (jpg 183)

July 2^d Twaje Choo to Draz or Imbab

On reaching the encampment I took off the skin of the Marmot by reversing it from behind so as to form a Sack a work of some tediousness from the generally close adhesion of the Panniculus Carnosus to the substance of the skin and its blending with it at the shoulders. Soon after our arrival, a messenger came from the Noona Kaloon with an invitation to pitch our tents close to his however this I declined and returned a civil acknowledgment with an intimation of my intention to visit him the following morning.

July 3^d Draz

Having prepared a present of a Razor, Scissors, Tobacco with a flowered Glass Box, French Pomatum, Almond Powder, Turquoise ring and Thimble for his wife I proceeded towards the encampment of the Noona Kaloon. R W 422 to a Sanga across the Omchun which with a rapid

176 [numbered twice] (jpg 184)

deep and wheyish colored stream from the snowy Mountains of the SW about a day's journey distant. Though not above 20 feet in breadth it is now not fordable & its waters go

into the Imbab River just below on the right hand[.] [A]t 1325 reach the camp of the N Kaloon who had dispatched a Servant to conduct my party to him. He was civil and we reached him at his breakfast hour which was as late as that of a fashionable European lady. His Durbar presented a view of ten or twelve Courtiers and attendants and the party were regaled with Tea. As Mr Guthrie and myself preceded our baggage and the distance was short, we had no expectation of accident but I had soon afterwards the disagreeable news of a horse having fallen into the Om chun and of my bed having been lost in the Stream. Sometime after, this was confirmed with the addition of my Writing Box being broken its contents wetted, all my books and one of my

177 (jpg 185)

July 3^d Draz

my journals in the same state. My loss by this accident has been heavy and as far as regards my bed irreparable as it was the most useful article in my possession being of metal and folding in a most conveniently small space. Through it I have been yet tolerably free from the annoyance of the vermin with which the houses of Tibut abound but if it be not recovered I must be on the ground as my Tent admits not of the means of swinging bedding in a cot. And it adds not [*a little?*] to the inconvenience & mortification resulting from the loss to find that the accident resulted only from the carelessness of a Saees after the Sanga was crossed in safety. For there afterwards remained a small stream about two feet deep and four broad to the bank. Here the Saees instead of fording like these others who preceded him threw the bundle[?]* with force over the horses neck whilst
**[Or bridle? Also in following line.]*

178 (jpg 186)

July 3^d Draz

he climbed over a large Stone. The animal surprised at the bundle[?] started stopped and backed whilst his foot slipping he slid into the main stream and was carried down by the torrent. The Puskyoom Abba who accompanied me to learn the operation of the cataract threw himself instantly into the stream and at the imminent hazard of his life seized the horse but was hurried[?] under water by the animal and regained the bank with difficulty. A Yarkundee followed his example and the horse and property were recovered by cutting the ropes but the bed was lost. The Abba refused all remuneration in terms which shewed a mind much superior in quality to those of many of his countrymen greatly his superiors in rank.

July 4th Draz

I dispatched Mir Muhmood to Kashmeer for articles of which I was much in want and several of my people with Mr Guthrie at their head went to the River in the hope of recovering the

179 (jpg 187)

July 4th Draz

the lost bed, an expectation which I do not sanguinely indulge notwithstanding the assertions of the Kaloon and of others. The water rises at twelve to such a height as to preclude all chance of recovering it by sounding and the weather is so hot as to give little prospect of the melting of the Snows being less rapid.

This Servant lost a valuable Mule from the same carelessness as although he found a mountain path between a precipice and face of rock scarcely wide[?] enough for himself and he reflected at that it would not serve for the loaded beast he was leading. I have doubled this man's wages as well as those of the [illeg.] Hindoostanee Servants but without the slightest increase of attention or attachment on his part. If any other European attempt such a journey as this I would recommend him to endeavour to procure Natives of the N W of Asia for his Servants and not those of British Hindoostan as in

180 (jpg 188)

July 4th Draz

[*page damaged read winter?*] they are almost torpid from the cold and in summer their minds are too much occupied with the thoughts of returning to their country to be of any material use.

With the exception of a Khansama and Writer of Hindoostan the rest of the servants for a journey into Central Asia should be Persians, Tibutees or Tooranees, the Persians are objectionable [to] Oosbeck Toorkistanis on account of their sect, the latter from their propensity to indulge in the abuse of intoxicating liquors and the last are unquestionably the most useful.

This morning I performed for the Cataract on two persons viz. a man & a woman. Three of the cataracts were soft or fluid and the fourth hard with a particularly strong capsule.