

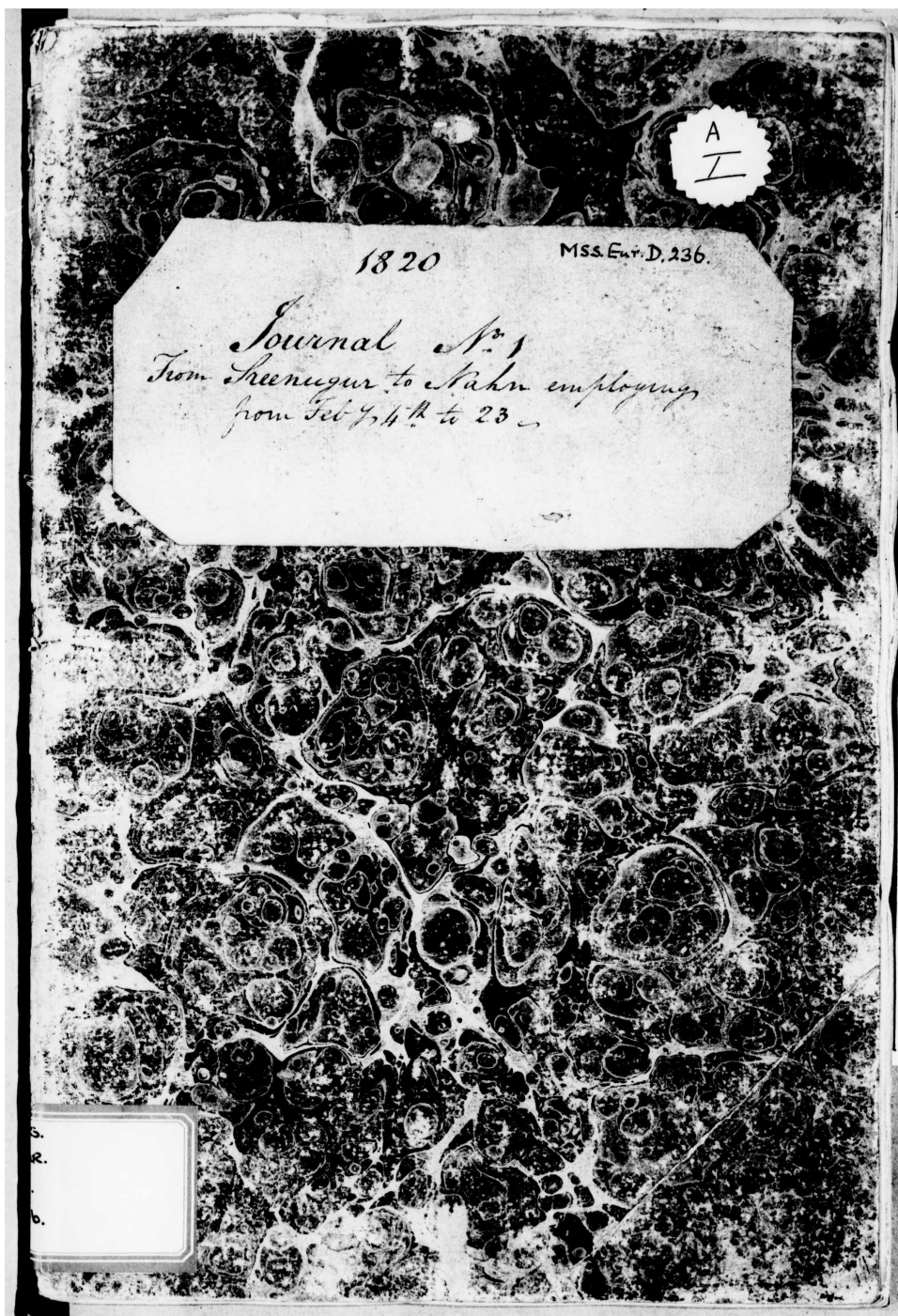
JOURNAL COVER

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1820

Journal No. 1

From Sreenugur to Nahn employing
from Feb'y 4th to 23 ~



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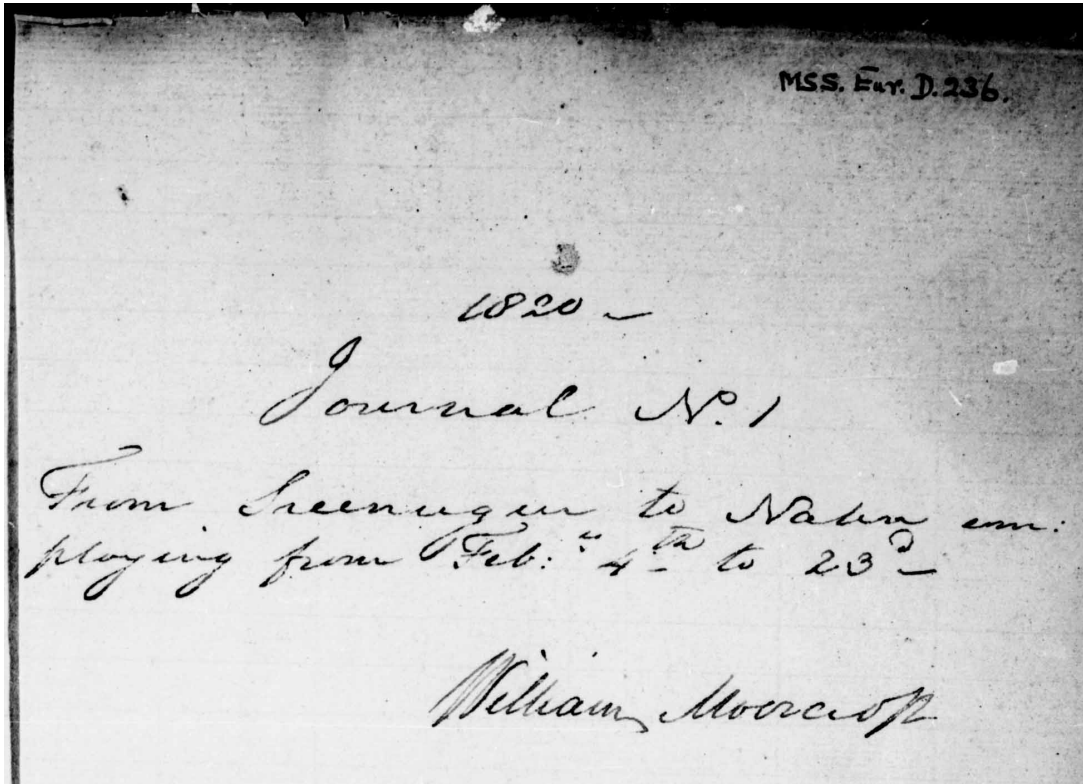
TITLE PAGE

1820

Journal No. 1

From Sreenugur to Nahn em-
ploying from Feb'y 4th to 23rd ~

(signed) William Moorcroft



Transcribers' Note:

This transcript is taken from digital scans made of microfilm copies of Moorcroft's original journal volumes in the British Library. As such, the journal images have passed through many hands before reaching us. The copies we have show passages of various lengths crossed out, and in some cases what appear to be new page headings inserted. It is impossible for us to determine whether this was done by Moorcroft while reviewing his manuscript, or perhaps by some later editor, most probably H.H. Wilson when editing the manuscript for publication as 'Travels in the Himalayan Provinces of Hindustan'. So we have simply shown such 'crossed-out' passages in *italics*, and page headings that might be later additions in ***Bold Italic*** type.

Dan Jantzen and Janet Rizvi, transcribers

1820 -

Seenuger -

The Town of Seenuger, by the mean of these observations is situated in Lat. N. 30. 14. 50" on the left bank of the Alaknanda or Doolce River ^{the} and the Capital of the Province of Gurhwal ^{has} lost much of its consequence since the visit Col. Hardwick paid to it -

In the year Gurhwal was conquered by the Goorkhas and in more than half the Houses of Seenuger were ~~destroyed~~ ^{destroyed} by an Earthquake and by a sudden and most extraordinary rise of the River, and there are now considerably ^{more} houses in ruins than inhabited -

The Rajas Residence a spacious structure four stories high of blue slaty stone ^{begun} by Raja Bahadur ^{about} 245 years ago, was so much injured by the Earthquake as to be rendered nearly uninhabitable and soon after was wholly deserted - As exhibiting proof of great patience and some skill in minute sculpture in the ornaments of Stone Pillars, Cornices, supports of Balconies, latticed Windows and Groups of Flowers in bas relief its ruins now deserve attention.

But the decay of the sculpture in many parts ^{excites} regret that the Artist had not employed his Chisel on Stone less subject to be degraded ^{abraded} by exposure to weather. The interior arrangements display more attention to the comfort of its inhabitants if not more taste than is usual in Hindoo Palaces, and its

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1

1820

Sreenugur

The Town of Sreenugur [modern Srinagar, Uttarakhand], by the mean of three observations is situated in lat: N. 30° - 14' - 59" on the left bank of the Alakanandra [sic] [Alaknanda] or Doulee River. It is the Capital of the Province of Gurhwal [Garhwal] but has lost much of its consequence since the visit Col. Hardwick paid to it.

In the year [blank] Gurhwal was conquered by the Goorkhas [Gurkhas] and in [blank] [1803] more than half of the Houses of Sreenugur were destroyed by an Earthquake and by a sudden and most extraordinary rise of that River and there are now considerably more houses in ruins than inhabited.

The Rajas Residence a spacious structure four stories high of blue slaty stone begun by Raja Buhadur Shah about 245 years ago and finished by [blank] of his successors was so much injured by the Earthquake as to be rendered nearly uninhabitable and soon after was wholly deserted. As exhibiting proof of great patience and some skill in minute sculpture in the ornaments of Stone Pillars Cornices, supports of Balconies, latticed windows and groups of Flowers in bas relief its ruins now deserve attention.

But the decay of the sculpture in many parts raises regret that the artist had not employed his chissel on Stone less subject to be abraded by exposure to weather.

The interior arrangements display more attention to the comfort of its inhabitants if not more taste than is usual in Hindoo Palaces, and its

2

-Sreenugur-

fountains, baths and cisterns must have been highly grateful in the hot season when the Valley of Sreenugur only a little open to the East and West and enclosed in every other direction by high Mountains is said to be intolerable from the continued heat and stagnating air.

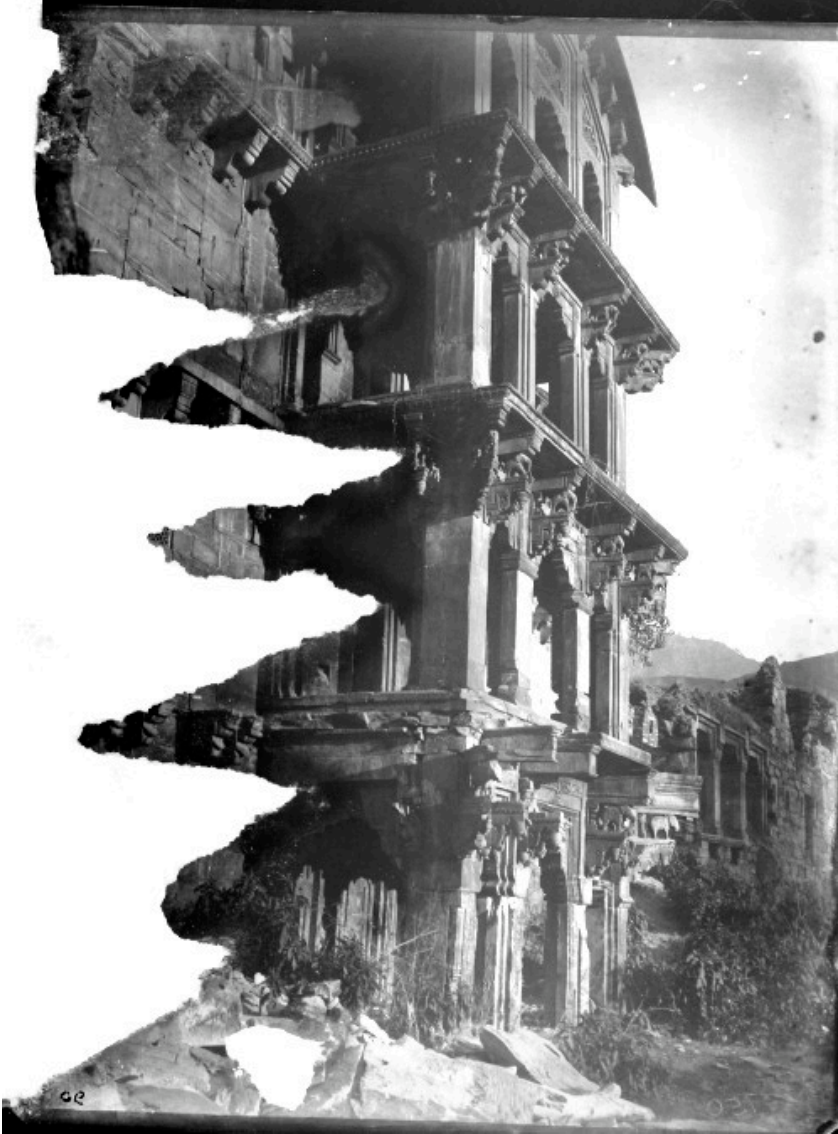
[in margin] See W part of Palace

The apartments for the females are commodious and well finished. They are particularly remarkable for the pins for curtains to conceal recesses in the walls being in the form of a Horses Head and Neck bridled with the Mane tressed and of much better execution than the sculptured Birds applied to the same use. And as no Horses were bred in Gurhwal and scarcely any used and those only Poneys and as Birds are in abundance this fact furnished a presumption that the building was erected by artists from the plains.

[in margin] x See Drawing

The River Gate way to the Palace is decorated with much Sculpture but has been shattered in some parts and bent in others almost to falling. Its pilasters exhibit Medallions of the principal Hindoo Deities and it would seem as if the Sculptor had been desirous of displaying his extensive acquaintance with decorations since no two ornaments that correspond in situation are alike in design.

Two Hindoo Temples of unequal execution in their different parts are not devoid of the merit of simplicity



Damaged 1882 photo of ruins of Raja of Srinagar's palace by C.L. Griesbach showing
the four stories
(courtesy of Roger Bilham)



1882 photos of Raja of Srinagar's ruined palace by C.L. Griesbach
(courtesy of Roger Bilham)

3

Sreenugur

and strength. The largest and most frequented Building is an Hospice for Pilgrims or distressed Travellers and as funds for this purpose large Estates are appropriated. Its garden has lemon trees more thickly hung with fine fruit now ripe than I have seen elsewhere.

The Bazar about a quarter of a mile in length of considerable breadth and flagged forms the only street in Sreenugur. Its Houses are of Stone with slated and sloping Roofs. They are two Stories high, the lower serving for a stable and the upper for a dwelling.

Although there are Artisans of many descriptions among whom Silversmiths and Shoemakers are most common there is but little trade for one half of the year. But the other in which Pilgrims go to Badari Nath [Badrinath] gives some little circulation of specie by the Cloth and provisions they purchase for the Journey.

Sreenugur imports from Najeebabad [Najibabad] coarse Chintzes and also Sugar unrefined but sends few articles to the plains in proportion to those which might be furnished by the neighboring Mountains. It receives from Tatory and Bhot [Tibet] Fossil Salt, Lead, yellow Arsenic and a few other Drugs but returns scarcely any thing save an inconsiderable quantity of Tobacco and small writing Tables for the Tatars the demand for which might be much greater were they got

4

Sreenugur

got up with care.

The only manufactures of cloths in the Province are coarse woollens, made of Sheep's wool procured from Tatory pieces of coarse Cloths called Bunchela [Bhungela] made of the Hemp raised in Gurhwal and some Cotton also grown in these Districts all of which are consumed at home.

The fishing lines made here by the Fishermen for their own use from the fibres of the bark of a creeping plant called here Murwa are as remarkable for their fineness and strength as for the manner in which they are employed. Fixing a small yellow flower on the loose end of the line they surround it with five nooses of white horse hair and sink it thus prepared by a thin and long leader fix'd in the middle of the Current. The Trout too curious to examine the new object in playing about it entangle themselves in the nooses and are secured with great dexterity by the Fisherman.

This is a distinct variety of Trout differing from any kind in Britain in the shape and structure of the head especially in the lower part--~~See description in Animal Port Fol~~

5

Sreenugur

The trade of Sreenugur is by all accounts much reduced since the conquest of the Province by the Goorkhas, the ravage by the earthquake and the reduction of the wealth and power of the Raja.

The Nepal conquerors carried off vast numbers of children as well as of grown up persons from Gurhwal into their own Country and into the British Provinces for sale, but a stop was put to this traffic in the latter as soon as the British Gov't were apprised of its existence. On the slightest hesitation in the payment of

the revenue assessed the Goorkha Collectors, who were ordinary Sipahes, if they found not Cattle or household utensils suitable to their taste seized the wife or children of the defaulter as slaves at whatever value they thought proper to fix and this has been so low in some instances as to have admitted of their having resold healthy children capable of working at the rate of one fifth of a Rupee per head or at sixpence a piece taking the Rupee at the value of half a Crown. *My informant is Mungul Sein the Tahseeldar [Tehsildar] or native Collector of Revenue from Districts in this Province.* But since the Province has come under the power of the British Govt Dilwalee Singh a rich Merchant of Najeebabad has begun to build a House for commerce in the Bazar of Sreenugur which when finished will be the best in the Town. For a short time Sreenugur was a military station under the British Authorities but the force has been withdrawn and placed nearer the Goorkha frontier.

6 Sreenugur

Gold is found in grains in the bed of the River at all seasons of the year but most plentifully met with in its sand and gravel after heavy falls of snow and rain in the farther mountains of the Himaleh [Himalaya]. The persons who are at present engaged in searching for Gold at this place are Mountaineers from the Neighborhood of Nahun [Nahan] and called from their occupation Son dhoa or gold washers.

Their apparatus consists of a wooden Trough or Canoe, a bamboo screen, half a Gourd skin, two wooden Trays, a few small purses of skin and a box of scale and weights & a little quicksilver. The trough is about four feet long, eighteen inches broad and equally deep. At one end and on a level with the bottom is a round hole of about three inches diameter. The screen is formed of small bamboo canes laid close together side by side and tied by string at each end so that it remains flexible. The trays are nearly 18 inches in diameter slightly hollowed in the middle. The Gourd has been tied whilst drying, in the middle, where the edges almost meet, for the convenience of the hand grasping it. Two persons are employed in the process of searching for gold, one of whom brings the sand supposed to contain it to the other who washes and separates it. The trough is placed close by the side of the River a little aslant so that the end at which is the hole should be a little lower than the other end.

7 Sreenugur

The Screen is laid flat across the Trough at the entrie end and a tray full of Sand and Gravel is laid upon it. The washer pushes with one hand a little of the sand to the lower edge of the screen turning up a few of the bamboos to prevent it escaping over it into the Trough. With the other he pours a gourd full of water upon the sand; then brings forward the other sand and throws water upon it and so goes on till all the sand and fine gravel have passed through the long slits betwixt the canes and the longer pebbles remain at top. Fresh sand is put on the screen and then the operation is repeated until the washer deems it expedient to rewash the contents of the trough which is done in a different manner. The water having carried down the sand from the screen into the trough passes rapidly to the lower end and flows

through the hole into the River whilst whatever grains of gold may have accompanied it remain imbedded in the sand at the bottom. Having taken up some of the sand out of the trough and laid it in the shallow tray he pours water upon it and turns it round rapidly and dexterously as to drive the larger particles to the outer edge whence he dislodges and throws them off the tray. By repeated washings thus managed the sand is reduced to a very small quantity. If the grains of gold be easily discoverable

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Sreenugur

he collects and places them in the skin pouch ordinarily formed of a bit of bladder. But if they be very small he takes the sand containing them to his home where he extracts them by mixing it with quick silver after which he melts the gold into a globule. These workmen gain on an average about four Rupees each by month so that the occupation is not very profitable but it would appear that the rate of gain is much more uniform than might have been conceived. They sell the gold after having been fluxed with Borax and in the globular form at the rate of six Ruttees weight for a Rupee or of one Tola or twelve Mashas for sixteen Rupees. Of the fineness of the Gold I cannot yet speak not having had it assayed. At present there are at Sreenugur only fifteen persons engaged in this business, but thousands might be employed upon it without much interference.

[in pencil] / *A note can be here added on the Assay value of the Srinagar gold*

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March from Sreenugur to Tukolee

Proceeded along the left bank of the River to a swinging bridge about a Kos distance and crossed it there entering the Country ceded by the British Authorities to the Heir of the former Raja of Gurhwal.

[note in margin] X See Drawing of Jhoola at Kurn Purag [Karanprayag].

This Bridge called Jakree ka Jhoola, was said by the fishermen who had charge of it to be three hundred feet in length but I apprehend this to be an exaggeration. It consists of several strong posts set firmly upright in the ground on the opposite banks of the River round which are warped [sic] the ends of Ropes or rather Cables of Grass that stretch across the stream and are set some higher than others. The lower Ropes are stiffened by poles tied along them and connected with the upper ropes by perpendicular and short ties, whilst the two lower ones are likewise connected with each other by sticks tied across at the distance of eighteen or twenty inches. This apparatus is so disposed as to produce a narrow alley quite open at its top, a little closed at its sides and bottom the latter of which presents a ladder like series of steps with intervals altogether in the form of a catenary curve. This kind of bridge perhaps best suited to broad and rapid rivers subject to sudden and great rises from its comparative cheapness with all other constructions requires notwithstanding constant watching from its liability to want repair. The Grass employed for the Ropes is a variety of (*Spartum*) or Star thin tough and abundant in these Hills.

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March from Sreenugur to Tukolee

The River at the Bridge was confined between some high and steep stone checks, and the depth of water in the middle of the Stream was thirty six feet, but the water line in the height of the rains was thirty five feet higher making then the total depth seventy one feet. And the fishermen say that they raise the Bridge even fourteen feet above this line or in seasons of particularly heavy rain it would be carried away by the current. *This vast depth of water is however only to be expected when the bed of the river is greatly contracted, but the general depth at the very height of the rainy season seems sufficient to submerge by far the greater part of the large blocks of stone in the channel and to admit of timber being floated down the stream.*

All the Rocks which springing out of the bed of the river remain attached, as well as those forming its banks and also the neighboring Mountains consist of a blueish Slate remarkably wavy in the disposition of its Laminae mixed with Mica and intersected by veins of Quartz.

The surfaces of the channel rocks are much less rugged and sharp than those of the same family on the land merely exposed to the weather. But the former are in very few instances equally smooth with those stones which lie loose in the channel some exposed dry on the sand others submerged in the stream. Although many of these are of such great bulk and weight as to render it with difficulty conceivable how a current of water can move them along with

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March from Sreenugur to Tukolee

it on a rough and hard bed yet it is not less a fact that by far the greater part of them are strangers as their composition wholly differs from that of the neighboring rocks but accords with that of Mountains which border the river much nearer its source and from which they must have been detached. And in their route these from a great distance are deprived of their angles and asperities by rolling and by the constant attrition of water mixed with sand. The travelling of stones down this river, the breaking down of their asperities and consequent reduction of their bulk by abrasion and continual washing are so great as may fairly defy credibility except in those who have examined the river at periods considerably remote from each other. In further progress in this stage stones of various kinds loose and smooth not found in the state of rock in this vicinity were found on the bank of the river 150 feet above the level of the water the deposit of ages long past and since which the channel has been gradually and constantly becoming deeper.

The road or narrow footpath is rough rocky and stony, almost constantly in ascent or descent skirts the right or northern bank of the Aluknundra in a Western direction and at 1676 fathoms crosses the Downdoo rivulet, a Stream shallow but about 20 feet broad where it falls into the River and which rises at Dowdir about 5 Kos distance NE by E.

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March from Sreenugur to Tukolee

At 1345 fathoms further it traverses the small town of Muletha [Maletha] the principal lands of which lie to the left between the road and the Aluknundra and by their particularly clean state reflect credit on the industry of its inhabitants. They are disposed in terraces well watered and cropped with Sugar cane, Wheat, Tobacco and Onions, the fields of the first being enclosed by dry wattled fences to keep off

deer and Hares. The road now begins to quit the course of the Aluknundra and at 1695 fathoms further on turning more northerly proceeds along the left bank of the Tukolee Rivulet which falling into the River to the S.W. little exceeds in breadth the Damdoo though it disembagues at this season a much deeper stream. Narrow, rocky and scabrous the road runs for a very considerable distance along the bulk of steep precipitous heights which overhang the rivulet to which it gradually descends crossing and recrossing it 8 or 9 times in the subsequent part of the march and following its course to Tukolee.

The whole distance was 10,945 fathoms performed by porters with loads in six hours but my young friend and companion Mr. George Trebeck who had charged himself with the survey of the road and actually measured the march with a fathom was engaged in this task full ten hours and only completed it by torch light.

The scenery of this march although it might

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March from Sreenugur to Tukolee

interest an individual newly arrived from the plains was lost on persons who had just descended from contemplating mountains stupendously high and whether barren or bare or clothed with forests as with snow always displayed features most majestic and sublime. Nor did the Birds, though in the Ouzel, Wagtail and Tom Tit recalling recollections of England bear comparison with the Mountain Eagle, the Monal the Forest Fowl, the Francolin, spotted Pie and other feathered inhabitants of regions we quitted with regret notwithstanding the disappointment and privations we had there experienced. Euphorbium much employed as a fence at Sreenugur almost covers the uncultivated surface of some of the Hills on the right in bushes 14 and 16 feet high and appears to be applied to no other purpose anywhere than that of a hedge * note A variety of Willow much sought after by Buffaloes & Cows and now nearly breaking into leaf fringes the banks of the Tukolee rivulet having generally part of its roots bathed by the stream, but not a single tree is to be found at the distance of twenty feet from the water's edge. And the Castor Oil Palm acquiring the height of twenty feet in [illeg.] or at the edge of the water exhibits a predilection for moisture almost as great as the Willow. Save a few small Estates before we reach Muletha there is scarcely any uncultivated land; and afterwards in

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March from Sreenugur to Tukolee

in a distance of 5324 fathoms there is only one small estate without a house belonging to the village of Palee until we arrive at Tukolee. The buildings on this Estate consist of one large range of slated houses forming a square with a yard in the center. A Goshein seems to have secured the most commodious part of the residence and the remainder is occupied by farmers who hold their cattle in the enclosed yard at nights in safety from the Leopards and Bears which abound in their scantily inhabited District. By some ruinous huts near the large house there has it appears been an attempt to raise a Seraee which has not been supported. We encamped on a rising ground between the Tukolee and another Rivulet.

Our horses had started on the 3rd and crossed the River by swimming at the ferry of Rane Gath [Ranihat] a village on an eminence on the right bank directly opposite the Palace Gate for the purpose of taking a path less difficult but more

circuitous than ours. The Raja had placed servants on the road to afford assistance and one of them at the end of first march apprised the Saeeses that on the following morning they would find two roads, one less difficult than the other, that the Horses ought to march without loads for which porters were provided and that he would attend to guide them at the break of the following day. Notwithstanding

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these admonitions the Saeeses obstinately relying on the experience they thought they had gained started without a guide, loaded their Horses with their own luggage in addition to their clothing, heel ropes and pins. On a very narrow path the load of a valuable Mule struck against a portion of projecting rock by which the animal was forced over the edge of a steep precipice and killed by the fall. I started from the plains with two Arab Horses one Nypal [Nepal] gelding one half bred English one half bred arab gelding and a Tuttoo, and with four Mules , one entire, one gelding and two females. At Almora I was told that it was impracticable to take Horses bred on the plains as far as Joshee Muth [Joshimath] and that every attempt yet made have ended in the death of the animals. Although I was aware that the undertaking was dangerous yet I did not consider it wholly impracticable and thought that if they could reach Joshee Muth there would be no great difficulty in their subsequent traverse into Tatarry save at Mularee [Malari]. And I conceived it worth while to determine the practicability of effecting the passage in one of the most rugged lines. It was stated that Arab Horses perished through their impatient impetuosity and I therefore took means to subdue this disposition temporarily and caused them to begin their journey the day following the operation. In the last march but one to Joshee Muth the half arab gelding

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lost his hind footing from the slipping away of loose stones on which he trod in a steep ascent on a very narrow path. His hind feet slid over the edge of a precipice, he could not recover but fell backwards, rolled into the river and was probably killed before his body dashed into the stream. The distance from the spot where he first fell to the stream was little less than half a mile and he did not appear to have his fall checked by any obstacle although he must have struck against blocks of stone. And in the same march a Mule gelding remarkably sagacious and careful being loaded with Ropes and wooden Pegs contrary to my orders on a tolerably smooth but narrow road was forced over the edge of a cliff by his load striking against the rock towards which he was leaning. He fell down a declivity for about 200 feet and was stopped by a large stone against which his back was broken. In the first march from Karan Preaug [Karn Prayag] towards Sreenugur the Nypal gelding slipped off the face of a large crag of stone over which the road ran and falling into the river broke a fore leg and his under jaw and was quickly hurried down the Stream.

The horses lost their lives by accidents with difficulty avoidable but the Mules perished by carelessness on the part of their attendants. Large Horses wounded the back and under part of all their fetlock joints by frequent rubbing against the edges of stones in descents

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No large Horse escaped being lamed from injury thus produced but not one Mule not any Horse under fourteen hands received any hurt of this kind.- *The larger the Animals and the longer and more flexible the pasterns the more extensive were the wounds. Those Horses were observed to take much longer steps in proportion to their height than small Horses and these brought their Fetlocks through the greater obliquity of the limbs nearer to the ground occasionally scraping the edges of stones projecting above the surface of the path and which were not struck by the more perpendicular fetlocks of small Horses. Small Horses or such as do not exceed fourteen hands are preferable for work in mountains to larger ones and of the former those with short pasterns provided they be not so upright as to cause knocking or stumbling.*

Notwithstanding I made offers of large wages even to indifferent workmen I could not induce a single shoeing Smith or even a BlackSmith to accompany me owing principally to the unwillingness of the Servants who had gone along with me in my former journey to proceed on this and to the extravagantly exaggerated tales of the difficulties privations dangers and miseries they had once encountered. I was therefore unable to make all the experiments I wished but began my journey with three Horses and all the

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Mules unshod and with three Horses shod.

Save the half Arab all the former had always been unshod, and the latter ever since they had been taken into work had always been shod. On their arrival at Joshee Muth having then travelled about 200 miles in the Mountains I examined their feet and found all those of the Mules in good order and not so wore down or broken as to render rest necessary. The half Arab as has been observed had perished within little more than a days journey of Joshee Muth but though in the plains it had been thought necessary to shoe him on account of having low and tender heels yet he had gone on without other lameness than that which was caused by a spavin and the stiffness produced by the wounds and bruises on his fetlocks. The Nypal gelding had brittle hoofs and had lost much of the crust and was lame but his lameness seemed more owing to the great extent of his wound than to the state of his feet which latter however stood in need of rest to repair the loss of crust. The fore feet of the half bred English Gelding were strong when he started and were in good order when examined but the toes of both the hind feet were at the edge of the sole nearly wore through to the quick and the horse was very lame. The Horses which were shod had lost all the shoes from the hind feet and most of them from the fore feet and the hoofs were much more

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broken away and the soles generally more wore than those which were unshod except the feet which retained their shoes and these were twisted and had wounded the opposite leg more or less. Were I to begin such a journey again having a shoeing smith at command I would suffer those Horses which had good and strong feet and had been accustomed to go without shoes to proceed without any until their feet should begin to

wear low, as the Horses unshod were observed to slip less frequently in general and to have a much more secure footing on smooth stones than those which were shod. And as the road is seldom so long wet as to soften the hoof and as Horses cannot go fast the foot is capable of bearing a long journey without sustaining any material injury. But if no shoeing smith could be procured as an attendant I would commence with shoeing the Horses. I observed that the heels and frogs received scarcely any injury nor should I anticipate the wear of those parts likely to be greater than the repair except in very wet weather. And it was remarked that full shoes had their heels laid hold of by edges of stones and were sometimes torn off.

I would therefore only use Tips or half moon shoes as a Horse so shod has certainly in going down hill slowly a more secure tread than with an entire

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shoe. On no account would I use calkings. There is no reason to apprehend injury in the back sinews from the use of tips as the Horses cannot go fast and as the wear of the heels is much less in the mountains than in the plains. The Shoe should be rather narrow but stiff and it may even press a little upon the edge of the sole without much danger of doing mischief, but it would be more safe that the flat surface of support in contact with the hoof should not extend much beyond the union of the crust with the sole. The lower surface or that which should come to the ground ought to be bevelled or hollowed from the outer edge. In a word the best shoe for mountain travelling is a half moon shoe bevelled on both sides and as far as I know first recommended for general use by Mr. St Bel. The hind shoe should have a small clip at the toe which will tend much to prevent it being displaced.

There is much difference between the manner in which a Horse bred in the plains and one bred in the Mountains proceeds in hilly countries. The former on ascending a steep acclivity climbs with eager steps endeavoring to overcome the difficulty of the road by one continued and vigorous effort, but does not give himself sufficient time to appreciate and prepare for the irregularities he does not see at the outset of the exertion.

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March from Tukolee to Deeouli

The latter sets out slowly and circumspectly, places his feet with deliberate caution and gains his object by a succession of efforts proportioned to the obstacles which present themselves. The former, if he make a false step can scarcely recover without falling through the impetuosity with which he urges on his movements. The latter seldom makes a false step through the command he retains over his limbs, but should he blunder he seldom fails almost instantly to recover his balance. On a declivity the difference though somewhat less striking is yet sufficiently remarkable. The former throws his weight too much upon his fore legs and precipitates irregularly the action of his hind limbs. The latter divides his weight more equally but depends more upon his hind legs which are in their progression more bent than those of the former. In short the former is unsafe, the latter safe but even this is excelled in caution and safety by the Jubboo or Mule bred betwixt the Yak of Tatory and the Cow.

Feb 5th

March from Tukolee to Deeoul

Left our last nights encampment at ten oclock with a sky overcast and proceeded along the Tukolee rivulet through the cultivated lands of the Tukolee Estate principally in wheat a few inches high.

Each terrace has two or three Mannikins

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March from Deeoul to Teeree [Tehri]

of Straw set straight in them to frighten Deer and Hares which are said to be abundant! Lemon Trees as it would appear of spontaneous growth acquire great size and luxuriance on the very edge of and Mango Trees followed the outer skirt of the watered terraces but extended not up the face of the Hill. The Rocks in the beginning of this days march are of the same kind of Mica Slate that has extended from the East of Sreenugur apparently without interruption to this place.

As in yesterday's route the road is rough and frequently crosses the rivulet until about 5500 paces when it is left on the right and the path winds up a steep acclivity divided into terraces near its summit now abandoned. The Country hereabouts is said to contain Deer Tygers Leopards and Bears in great numbers but all them in the day time desert the vicinity of the path of man, unless he be alone and the animals be much pinched by hunger.

On the face of the ascent the Mica Slate appears to be mixed with clay slate colored with iron. At about 6700 paces reach the summit of the ascent from whence appears before us the well cultivated valley of Naraenee through the middle of which descends towards the NW a small Rivulet called Koanlee. On expressing my surprise to an active old Man who was the principal farmer of this Demesne and

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March from Deeoul to Teeree

had come to meet me that there were no habitations on such an Estate he replied that it was once well inhabited and shewed the ruins of villages on its upper borders, but that the peasantry had been so much oppressed by the Goorkhas as to have come to a determination to quit their farms and take refuge on the tops of the Mountains. This measure however was not resorted to until the greater part of the heads of families had been killed and their children carried off as slaves. The lands on the eastern side of the Estate were lying waste from the former residents having been completely destroyed. He pointed out his own house called Junamee Kothee on a neighboring height at an inconvenient distance from the cultivated lands of the valley which he said they had only begun to till since the conquest of the Province but which promised amply to repay their labor. I stated my suspicion that the uninhabited state of the valley might perhaps in some degree be owing to its unhealthiness. He replied that my suspicions were wholly unfounded that Fevers were by no means common and appealed to his own neck as well as to those of other peasants who accompanied him in proof of their being no goitres in this neighborhood. The earnestness with which he made this latter assertion left little ground for questioning his veracity but baffles the conjectures I had entertained respecting its cause and opposes the supposition of the inference

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of the confined air of valleys in producing the swelling. The old man seemed very intelligent went along with me as far as his share of the estate extended and then introduced a neighbor repeating as he retired his gratitude to the British Government for the safety and comforts he and his countrymen enjoyed under their protection.

His substitute pointed out a Hut on the beginning of a ridge along which the road ran from which the thirsty traveller was supplied with cold water by persons maintained for that purpose by the present Raja. In the bottom to the left of the ridge runs the Koanlee and to the right at the foot of high mountains deformed with earth slips is the respectable river of Bilungra [Bhilangana] which derives its name here from a village in this District but is recorded in the Shastra by the appellation of Guomootree [Gangotri] or Cow piss River and rises in the mountains of Kedar in a direction NE 1/4 W. Encamp on rising ground on the left bank of the Koanlee which falls into the Bilungra about a mile below. The descent from the ridge to our encampment near the village Deeoul direction NE by N 1/2 N is almost precipitous. Close to the left bank of the Bilungra are the lands of this village which yield not in promise of return to those of Noraenee. Thinking the Koanlee likely to contain Crayfish I set some hill people to search for them but

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their labor was rewarded only with a few small crabs. This days march consisted of 15916 paces and was performed by Mr. Trebeck who made the survey in 5 hours and 38 Minutes. My young friend whose industry kept pace with his zeal was compelled through the experience of yesterday though with much reluctance to give up the plan of striding the road with an angular fathom measure and to adopt the less accurate but more expeditious method of estimating it by paces. For however well adapted the former may be to surveys made expressly and with sufficient leisure it is too tedious to be pursued in marches of 12 or 14 miles on bad and difficult roads.

Note 1 It is here necessary to account for an error into which Mr. Colebrooke was led by a note to my journal of 1812 not being sufficiently explicit and of which I was not apprised until the Extract prepared by that gentleman was in print. The length of a single ordinary stride of Harkh Dev Pandit employed as a way eviser[?] was measured and found to average two feet but as he represented that in his former journey he had been accustomed to count by his right foot alone and as he apprehended that a change in his plan would lead him into mistakes he was ordered to pursue his usual method. He counted therefore by

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the double pace of four feet calling this only one pace. This circumstance I had fully explained in a reduced Journal intended to be presented to the Govt but which was stolen from me in the year 1813 and has not been recovered. Not contemplating the transit of my journal into other hands the note written in a hurry and couched in terms somewhat obscure remained in its original state, but had Mr. Colebrooke when he entertained doubts of the accuracy of the mode adapted intimated his

suspicion of mistake the obscureness would speedily have been removed [end of note]

[appended in margin] Ther: Morn 52. Noon 53. Night 56. Bar: Morn 27.23 Noon 25. [illeg.]

March from Deeoul to Teeree

Feb. 6th. Left the ground at ten the day fine. At about 2670 paces a rivulet from the right dashes in a small cascade into the Bilungra and divides two patches of cultivated land principally of Mustard in flower one having a Water Mill upon it and the whole belonging to the village of Khan [?Khau]. This village about a quarter of a mile forward perched high on an uncultivated slope surrounded by well tilled terraces in Mustard and Wheat has a pleasing appearance and its inhabitants manufacture for their consumption coarse cloths from cotton raised though scantily within the Province.

On the left bank of the river the slopes of the mountains the slopes of the mountains [sic] are under the plough for grain and cultivation seems to be rapidly extending

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The Bilungra river is here about 150 feet broad with a stream not covering above one third of its bed but deep and rapid. Its living projecting rock, as also its side are of blue Slate but the larger stones lying loose are strangers brought from above deprived of their asperities by the journey and almost all of them inclining in the direction of the Current evincing the vast power of the water. The high water line of last rainy season as marked on the cliffs is about 14 feet above the level of the present current so that in the rainy months a vast body of water is rolled down. The road skirts the left bank of this River in the whole of its course to Teeree. The total distance of this days march is 14590 paces and was performed by Mr. Trebeck in 4 h. 21 m. Therm Morn 58. Noon 69. Night 58. Bar 27.153. Here it was discovered that air had got into the Tube of the last Inst [instrument] so that the observation is not to be depended upon.

Of the Ceremony called Burut

In the first days march from Sreenugur I observed some people on the summit of a high and steep cliff not far from the road and two or three others in a field about 300 feet below the former at the foot of the rock but removed about a hundred feet from its basis. On the top of the Rock a rope was fastened to a Tree and extended down obliquely to the field where it was fastened to a Stake driven into

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into the ground. Within a few seconds a machine like a small Palkee was fixed to the upper end of the rope but in what manner I could not see. Being let loose by the party above the machine descended along the rope with great velocity and whizzing noise and the feat concluded amidst the acclamations of the spectators. I was told that sometimes men descended from the top of high mountains in this manner but as the story was recounted with particulars not easily credible I suppressed my curiosity until my arrival at Teeree when making enquiries respecting this custom a man pointed to a tree on the top of a high Hill on the opposite side of the Bilungra

River and said that a few months ago a person had descended from it to the plain on which I then stood. As the performer was reported to be actually at Teeree a few hundred yards from the encampment I requested that he would come and bring with him as much of his apparatus as he could. Within an hour a man about 60 years of age who said his name was Bunchoo presented himself as the performer in question accompanied by two sons one about 30 the other about 15 who were both pupils in their fathers profession. Bunchoo said that he had performed Burut 16 times without

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any very serious accident. This ceremony is intended as a propitiatory rite to Mahadeo either to avert a great public or private calamity supposed to be impending or to remedy it immediately by some beneficial act. Accordingly when the Cholera Morbus was raging at Bareilly and Almora Bunchoo performed Burut in these Districts and their exemption from this disease was attributed to the anger of the Deity being appeased as they were concerned[?] by the interposition of this ceremony. And in the Month of Jeyt last Bunchoo descended from the mountain before mentioned in the presence of the Raja. The articles he brought and which were employed in the ceremony consisted of a grass rope, a wooden saddle and two short sticks. The rope was about three inches in diameter made of Buboo and that actually used in the last descent by Bunchoo measured from the tree to the stake twelve hundred cubits or eighteen hundred feet. The saddle was made of a single piece of Syndhoo in shape something like a shallow and short Pack saddle without pads and with a particularly sharp ridge. The ridge from end to end was one foot four inches, the sides or flaps eight inches deep. From the sharp ridge to the bottom of the flaps the saddle enlarged so that from outside to outside its breadth was three inches and a quarter. The Saddle was hollowed from the bottom lengthwise

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almost up to the ridge to let in the rope which fits it exactly. On the lower edge of the bottom of the flaps near to each end two niches are cut with the wood about 3 inches deep to admit of sticks being tied across. But one cross niche alone is used and the stick serves to support the Thighs by pressing upon their fore part. The Saddle being placed upon the rope the performer mounts and has weights placed round his legs. With his face towards the declivity his Thighs pressing against the cross stick and naked astride the sharp ridge of the saddle he throws the upper part of the body backward descending rapidly waves a hand kerchief held in each hand. If he tumble not before he reach near the end of the rope several persons stationed on purpose endeavor to break the force of his fall against the ground by loose ropes stretched across that on which he descends and finally by seizing and carrying him forwards. The performer is nearly senseless when he reaches the ground, is incapable of moving for a considerable time and for ten or twelve [days] remains very ill. A collection is made for his benefit by the spectators and he is considered as a deserving and patriotic character!

[Marginal Note] See plate of Saddle used in performing the Burut

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I had caused two men's loads of the Creeper called Doodhee shewn to me at Tukolee as the Murwa Creeper to be brought to Teeree that the fibre might be disengaged from the Bark before the door of my tent in order that I might thoroughly understand the process and appreciate the difficulties the Mr Glas has experienced in endeavoring to effect this object. But the fishermen of this place stated that though this plant did contain fibre from which lines might be made it was much less abundant than in the Murwa two loads of which were procured and cut into lengths of from 6 to 20 inches between the knots from which the leaves are given out as the fibre leaves not the knots freely. These tied in bundles and placed in a deep vessel had water poured upon them and remained in steep all night to soften the bark. The following morning the fishermen split each twig down the middle lengthwise broke a little off one end of the wood from within outward so as to detach it from the bark then seizing the loose end of the latter stripped it from the wood with one pull from end the bark generally remaining in one slip. A little of this was folded so as to form a sharp angle and the thumbnail being introduced crosswise ripped the bark from the white longitudinal and silver like fibres. A second pull in the opposite direction generally

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separated the bark from the fibres but it was sometimes necessary to run the latter between the thumb and finger nail once or twice to free them completely from small fragments of the pulp of the bark which if suffered to adhere glued the fibres together and gave them a green or yellowish color. This process was simple and tolerably expeditious considering the fineness of the fibre and repeated trials shewed that the steeping in boiling water much facilitated the disentanglement of the threads and prevented many being broken and left in the bark when an attempt was made to extricate them without this preparation. Thinking the fineness strength, lustre and flexibility of this fibre likely to render it valuable as a material for lace I sent a sample to a friend at Calcutta to be forwarded to England and intended to have a portion of it made into lines at this place but was not a little surprized at being informed by the Fishermen that they knew not the art of making lines of this material and did not employ the same process of catching fish as those practised by the Fishermen of Sreenugur although they also employed nooses in the following manner. They have a long and strong hempen line thickly garnished with running loops of horse-hair similar to the gin line used for snaring snipes and larks but without sticks and with

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shorter snares. At one end of this line they tie a small stone and at the interval of four feet another noosed in a gin and this for about twenty yards or according to the breadth of the stream. One man goes into the river and lays the line at length across the stream in a sharp run about two feet deep and ties the loose end to a large stone. The line is set at nightfall and taken up at break of the following day. Trout are the only kind of fish expected and these as they proceed up the stream to feed in the night get entangled in the nooses. Sometimes the line is wholly unsuccessful but at

others even as many as twenty have been taken. This process however seldom secures fish above a pound weight but is simple and productive.

Whilst writing eight Trout are brought to me the whole caught by one line laid last night. X

At Teeree there was a Tyger [Tiger] House or Trap. This was a small apartment built of large heavy but loose Stones having a door at one end and a loop hole or small window at the other. The Door consisted of a wooden frame an upright heavy bar with a heavy cross beam at the bottom. The upright bar was capable of moving up and down by passing through a hole in the centre of the horizontal top beam of the frame and each end of the crossbeam had an angular notch which fitted on a projection of the upright sides of the door frame enabling it to slide freely.

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The upright bar near the bottom was pierced by a hole through which passed a rope the knot being on the inside. The loose end went up the outside of the Bar along the top of the roof entered the house by the small window and was tied to the neck of a goat or kid slightly fastened withinside. The Door is raised and slightly supported by a small projection on one side of the Door frame.

The Tyger attracted by the cries of the Goat and seeing no obstacle between him and the animal enters the house and seizes his prey.

But in endeavoring to carry it off his pull disengages the Door from its slight fastening and which by its weight falls rapidly and secures the Tyger as a prisoner. The following morning he is dispatched by a shot.

[Marginal note:] See plate of Tyger House.

A strong, small and valuable rope is manufactured from the fibres of the Bark of a forest tree called Bhimmul the leaves of which bear some resemblance to those of one kind of Mulberry common in these Hills. The leaves being stripped off the long and young shoots the latter are exposed to the Sun till they become dry when they are steeped in water and the fibre is detached like the Sun Hemp.

I had no opportunity of comparing the strength of this rope with that made of Hemp but the neatness of the former and its sufficiency for the purposes to which I saw it applied convinced me of its being

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a valuable material for rope and I think it not improbable that it may be manufactured into coarse Clothes fit for the Peasantry of these Districts.

7th - 8th - 9th - 10th & 11th - remained at Teeree. X

The present Raja Soodersun Saah [Sudarshan Shah] the son of the last Raja of Gurhwal has taken up his residence at this place since the conquest of the Province by the British and has had assigned to him by the Govt a tract of land supposed capable of yielding sixty thousand Rupees a year.

He came to meet me about a mile from his house and walked with me to my tent pitched on the left bank of the Bilungra.

His uncle paid me a formal visit the following day and gave an interesting account of his being taken prisoner by the Goorkhas and his subsequent captivity in

Nypal interspersed with anecdotes of the rapacity of certain Nypal Chiefs to whom I had been accustomed to attribute some portion of likeability as well as a large share of personal courage. Previously to the conquest of Gurhwal the Chountra Beem Saah [Chautaria Bum Shah] Uncle to the then reigning Raja of Nypal had given to this individual Prithum Saah his own daughter in marriage but in his subsequent conduct appeared not to have been influenced by the connection. The Raja came to me after his uncle had departed and on being asked some questions as to the former relations betwixt Gurhwal and the Oondes [Undesh or Hundesh of Tibet] asserted that a tribute was

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paid by the former to the latter. And that an invasion of the Oondes by one of his ancestors was terminated by the following articles being annually sent by the Chief of Chouprang [Tsaprang] to the Raja of Gurhwal.

Gold-dust	5 Sers
Yak- tails	50 in number
Guj-ga	10 Bundles of woolen rope to hang on Elephants Necks[?]
Zedoary or Nirbissee	10,000 Roots
Poneys called Goonts	5
Yaks	4
Sheep	15
Four horned Goats	4
Goseen or damasked Silks	2 pieces

This tribute was continued till within ten years of the demise of the Raja's father and no reason is known for it being then discontinued. About sixteen months ago the present Raja sent a person with a letter to the Chief of Chuoprang to enquire into the cause of it having been so long withheld and was informed that a reference with his letter would be made immediately to the Emperor of China. The Embassy of Runjoorkajee[?] from the authorities of Nypal to China will have informed the Chinese Govt of the annexation of Gurhwal to the British Indian possessions; and although it is wholly improbable that the British Govt have

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any knowledge of the application made by the Raja yet it is very probable that this revival of claim to tribute which originated alone with the Raja on a general estimate of his resources will be considered by the Chinese Govt as an expedient suggested by the British Govt to bring on a quarrel.

As there is a Pass from the Raja's Country into the Oondes by a line hitherto little if at all known by Europeans I shall here record it.

Route from Barahoth [Barahoti] to Dapa by the Tuknoor Ghat

From Teeree to Barahoth	6 days journey
from Barahoth to	Kos
Hungaon to	4
Goorsalee	6

Palagaon	5
Neargaon	6
Dangula [illeg.]	7
Ringaleea	7
Jalugaon	4
Mookhengaon	5
Koopang	4
Kuzeth Jungul	8
Hindoulee	5
Nylung [Nelang]	<u>6</u>
	67 Kos

The Rajas present territory reaches to Nylung where the Pass is considered to begin there proceeding to

	Kos
Nakkatee-Jungul	6
Gus- Jungul	7
Puolee musoon Jungul	9
Teenee Jungul	8

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Jeloo Kandatul Jungul	10
Poolung an inhabited town	9

and thence to Dapa seven days journey.

The road admits of loaded Yaks, Jubboos Sheep and Goats but is not fit for Horses. But Provisions must be taken from this side of Nylung.

To my enquiries as to the number of individuals actually carried off by the Goorkhas for sale the Raja thought that it amounted to about ten thousand. On intimating to Meer Izzut Oollah Khan my doubts of so many young persons as these principally were in the short period during which the Goorkhas were masters of the Country should have been subtracted from a population which in the non flourishing times of the Province were estimated not to exceed 125000 he thought the supposition of the Raja rather short of the truth as he himself had known 500 individuals from Gurhwal to have been sold in the space of one month. Although the Goorkhas thus ravaged the population and by their ill judged policy so abridged the sources of their revenue as to countenance a belief of their intending either to abandon the Province altogether or to lay it waste as a frontier yet in justice to them it must be observed that the custom of selling children has existed in Gurhwal from times long past on a failure of the accustomed resources of individuals or on occasion of pressure from the Raja to supply the wants of his Treasury.

And it would seem that a Custom

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The woman of Joshimath and an ordeal by fire

originating in extreme necessity had in some Districts degenerated into a voluntary and licentious abuse. At Joshee Math I understood there lived several persons whose means could only reach the maintenance of one wife and her progeny actually marrying three wives and as it was stated for the purpose of raising money by the sale of some of their offspring. *At Peepul Kothee [Pipalkoti] the 2nd days*

march on our return from Joshee Math [a woman] came to represent that her reputation had been tarnished since Joshee Math had been made my House and that she had been deprived of her Caste by the Elders of the town the morning on which we quitted it and immediately after our departure. Her husband accompanied and said he was so convinced of her innocence that he would take her back if the Elders would relieve her from excommunication.

From the account given there appeared so much oppression as to induce me to send for the Seeanees or Elders with the evidence on which they pronounced the Ban; and I remained at Peepul Kothee two days to give them time to come up.

This seemed in some degree incumbent as the woman was accused of having been more intimate than was consistent with fidelity to her husband with one of my Servants. The witness stated that the woman had come to our house at nightfall for the purpose as she said of making a complaint against him

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but that he who was a temporary Servant did not admit her and that she went into a lower apartment and remained a considerable time with a Moosulman Male Servant.

It was proved that the witness was a friend of the Husband who said he had acquainted him with these particulars and that he had laid them before the Elders who had ordered the woman to be ejected from her Caste. This man had married this wife some years before when he was scarcely able to maintain himself and her. She had no children and without any increase of pecuniary resource he had taken a second and afterwards a third wife who had absorbed his attentions. It also appeared that she had threatened to leave him if he did not give to her at least an equal share of food and clothes with the new favorites and he had told that she was at liberty to go when she pleased. The Elders confessed that there were grounds for suspecting collusion between the Husband and the witness and that they had been somewhat too precipitate in their decision. They offered her the alternative of a trial to clear herself of her accusation by fire to which she consented on the condition of her receiving, should she be proved innocent, the attentions to which she was entitled otherwise she would certainly leave her husband. The Elders engaged to use their influence with the husband who was profuse in his promises of reform.

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Sale of children

I afterwards learned that she underwent the ordeal of plunging her bare hand and arm into a vessel of oil, which according to the prescribed forms ought to have been boiling, and took out a stone without being scalded. Having by this compurgation entitled herself to be reinstated in Caste and finding that her Husband did not perform his promises she resolved to disgrace him as far as was in her power and in her flight to Sreenugur threw herself on the protection of a Soobudar [Subedar] who was on a visit to his friends at Purnae.

Since the Province was annexed to the British territories the sales of children has been much diminished and a feeling of shame attaching to the practice is rapidly spreading insomuch that some of the Peasantry employed in carrying our luggage with much reluctance admitted its existence and asserted that until the authority of

the Goorkhas was established amongst them it was never resorted to except on occasions of the greatest distress.

It may therefore be reasonably expected that under a mild and beneficent Government the traffic in Slaves will wholly cease in the conquered Provinces. Yet it must be observed that the treatment of Slaves in Hindoostan widely differs from that practiced in the Western Hemisphere. In general their Slaves are quite as well treated as hired Servants. In the Cities grown persons are seldom purchased

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and if the males when grown up wish to quit the family restraint is seldom employed to detain them. The females are sometimes admitted into the Zunanas almost on a level with the wives of there masters and when they remain as menials they almost always experience kindness. Some persons cause their Slaves to marry and examples of their progeny being made free are just as frequent as of their lineage being continued. However the slavery of the females is more insisted upon than that of males from the former being generally more useful. In the Country slavery is ordinarily more strict and there are instances of generations of slaves being continued for a century in one family and even of individuals refusing their freedom on the consideration of their present situation being exempt from care in respect to maintenance.

The Country ceded to the Raja of Sreenugur who being expelled [from] his patrimony by the Goorkha was reduced to indigence has been said to be estimated at the annual value of sixty thousand Rupees but this return appears most disproportionately trifling to its extent of surface. It has been stated that the present Raja resides at Teeree which is therefore noticed in the following rough view of the Circuits of his territory.

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Teeree Geog.

Its eastern boundary is the Kalee River [sic--it is the Mandakini] which rising in the snows of the Kedar Mountains falls into the Aluknundra on its right bank at Roodrapreag [Rudraprayag]. Its Eastern limits are the Perguna of Negwa. From the south at Tupobun [Tapovan] near Rikkykes [Rishikesh] it extends northerly to Nylung.

	Kos
From the Kalee River to Teeree	44
From Teeree to Pergunna Negwa	<u>80</u>
Total from East to West	124
Kos	
From Tupobun to Teree	36
From Teeree to Nylung	<u>103</u>
	<u>139</u>

But large as is this surface a vast proportion must from its nature always remain unproductive and a large extent of that which formerly was cultivated and of that never in tillage but capable of being cultivated cannot speedily be brought into

cultivation from a deficiency of population. Nor does there appear any expedient by which the population of this country can speedily be recruited; save perhaps in the Raja availing himself of the dissatisfaction with which the party of the late Amar Singh Thapa beholds the absorption of the power of the Raja of Nypal by the party of Bhim Sen the Minister and the son of Amar Singh Thapa of Palpa. If encouragement in lands were held out to the former now depressed and without power doubtless many individuals would avail themselves of it. The Goorkhas

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are said to be good farmers and they might be so distributed as to be incapable of creating any serious disturbance should they ever be so inclined to do which is little likely considering the greater comforts they would enjoy in the Rajas territory superintended as it is by the Authority of the British Commissioner for these Provinces than in their own Country.

Out of the estimated sixty thousand Rupees of Revenue the Raja pays an annuity of Rs. 5000 to his Uncle Rs. 1000, to one brother and 500 to another, Rs. 1000 Salary to his Moonshee, gives pensions to old Servants of his Father and has so many other retainers and attendants that his Income is entirely absorbed at the end of the year.

His Country is separated from Sreenugur by the Aluknundra and the inhabitants pay their revenue direct into the Company's Treasury. Most grateful as the Raja expresses himself to the British Govt for the possessions into which he was inducted by them from the state of a needy refugee it is nevertheless obvious that his gratification would be more complete if the town of Sreenugur were ceded to him and for which he would most willingly pay a much larger assessment to the British Govt than it yields at present. The most obvious objection to this measure is that this cession would break the line of frontier now complete through being formed by the River.

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Whether the inconvenience thence arising be more than ideal or whether it might not be obviated by a boundary line which an English Surveyor would define in a week and fully compensated by an increase of revenue it is for others to decide.

It would certainly give a stronger degree of interest to the Raja in the cause of the British Govt and his residence at Sreenugur when known in the plains would increase the resort of traders and improve the commerce of the Country generally.

Teeree his present residence is far removed from the principal lines of roads and though said to be healthy yet from its being a small plain and eminence or table surrounded and shut up by high Mountains and destitute of water except that of the River is inconvenient and seems to possess few other advantages except that of being contiguous to deserted lands and ruined villages which the vicinity of the Chief and the wants of his attendants may contribute to till and improve.

Teree has no considerable villages upon its land but the house of the Raja which [is] of one story and of modest appearance and the camp of his followers spread over the plain give it some appearance.

In front of the Rajas residence which is built upon an eminence and at the distance of about half a Mile the River Bilungra falls into the Bhagaretee [Bhagirati] which

[46]

after a course of about four days journey joins the Aluknundra, their confluence being designated by the appellation of Deopreag [Deoprayag]. The present Raja seems an active, intelligent man about 32 extremely desirous to improve his Country and his revenue and to increase the comforts of his Peasantry. *He expressed himself desirous of learning whether I would suggest any hints that might tend to render his territory more productive. Thus invited I suggested that as the Mulberry both white and black grew spontaneously and luxuriantly in the neighboring District and as it formed the food of the Silkworm I conceived it by no means unlikely that Silk might be raised in his territory. And as in preparation for the experiment submitted that it would be well to form a regular plantation of Mulberry as soon as possible and to send well informed persons to some of the British Silk factories for a supply of Eggs. I pointed out the probability of these hatching on the road and the propriety of considering the manner in which the worms should be fed. And I encouraged him to expect that the Commercial Resident at the Factory to which he might apply would cause every facility in his power to be afforded to his Agents.*

It was also stated that the northern borderers had contracted a fondness for Tea from their Tatar Neighbors and thus

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Cultivation of Saffron

the introduction of Tea as an article of food amongst his peasantry would much increase their comforts, but that this could not be looked for from any other measure than the growth of Tea within his own Country. That although the importation of the Tea plant from the Chinese territory might be difficult yet it did not seem wholly impracticable as about 25 years ago two plants were actually brought into Nypal and a former Dewan of that Govt had told me that one was alive and flourishing a few years ago and that from some enquiry I had made from my friend the late Resident at Kathmandhoo [Kathmandu] it would seem to be even now in existence. The culture of Saffron was also mentioned and the vicinity of Kashmeer [Kashmir] furnished an opportunity for procuring roots. Relatively to Minerals it was stated that the working of Mines in a general point of view was found to be an unhealthy occupation and that the cultivation of the surface of the earth was proved to contribute much more largely to the welfare of the peasantry than the exploration of its interior. The Raja said that the matters I had commented upon presented no great difficulty except in the first steps and that he was disposed to make the experiments. Saffron he said in the latter days of the Raj had actually been cultivated with success but the growth of Silk had never been attempted. He

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Operation for Cataract

He sent me some coarse Tatar Tea then for sale in the Teeree Bazar and declared his determination to make the necessary research for the Plant almost immediately.

At Teeree I had several Patients and saw many instances of the ravages committed by the specific disease lately so common in these Hills. I operated on four Eyes with Cataracts. Two of a man about 35 were favorable being accompanied apparently with no other derangement of structure than opacity of the lens and its Membrane. At Sreenugur I requested the Apothecary Mr. Guthrie who accompanied me in this expedition to make an Extract from the leaves of the white Datura which he skillfully managed. A little of this diluted to the consistency of Paste was introduced by a feather between the eyelids and in half an hour produced some dilation of the Pupil which was greatly extended in a few hours and enabled me not only to see the disease very completely but also to operate with much more ease and satisfaction than when the extension of the Pupil is produced by a low degree of light. Having had my left shoulder dislocated and not possessing an equal command of my left hand as of the right I caused the Patient to lie on his back with his head resting on a low Box[?] and leaning my right elbow upon it I found I could operate with the

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right hand in the right eye with as much ease as on the left and shall always pursue this practice in future. The Extract of Stramonium introduced into the Eye of a Goat caused considerable dilation of the Pupil in about two hours its first effect being discernable in half an hour but the Pupil had regained its natural size the following morning.

Anus circiter annos septuaginta nata oculorum amborum annovicum complurum caecitatum valore deflebat et visus sedinte grationem petiebat. Humi dorsum sternata inopina femina [illeg.] et [illeg.], ut ad cataractam facillime ficutus opus, edita risu subita persona et quam vis convulsiva quassatum totum corpus.

Remiscentiae ejusdam temporis proculdutio longe peracte laetitice per brevis rembra perficutus vitulius.

Luere poenas tussis et studrela et feroa superevicebat et saeculi lapsi et remiscentiam et vultus coruscationem offuscabat miserrime.¹

The membrane of the Lens in one eye was spotted with very white points, the other was uniformly of a cream color and the adhesion to the ciliary processes were considerably more than in the mans case but both lenses were completely detached and buried. At Joshee Muth I operated on a yellow cataract with a dilated and immovable Pupil 3 times but though I tore[?] the Membrane

[50]

March from Teeree to Munear

completely and cut off a portion of the lens I could not fairly dislodge it.

At Sreenugur I saw the Man again who reported that in the journey light was admitted though feebly but being seized with fever and a bad Cough he had lost the advantage he hoped would have proved permanent. The Stramonium was not employed and he would not consent to a repetition of the operation.

At Teeree I removed a projection of the fore part of an eye of the Raja's Gooroo, spiritual director which for many years had prevented his bringing the eyelids into contact.

12th February March from Teeree to Munear

Cross a Jhoola or swinging bridge of the same construction as that of Jokree forming the communication between the right and left bank of the Bhaghurutee which is here much too rapid for boats. The sides and bed of the channel are of the same blueish slate Rock first observed to the N & E of Sreenugur.

There is hereabouts much cultivated land and the villages of Koothee, Khand and others ruined under the Goorkha Govt. are now undergoing repair, and the bushes and underwood are just burnt preparatory to their being broken up for Grain[?]. The flats belonging to the villages of Jogieana Mudderan and other small hamlets look in good order. The Bhagurutee seems to come from NW by W for a very considerable

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distance but the road leaves it on the right.

The flats, slopes and even steep acclivities of tracts on each bank of this river as far as the eye can reach are agreeably patched with hamlets and their tilled land, principally in Wheat and Mustard the latter in flower. The road enters a pass Kalarooka to the left having immediately below it the Rivulet of Chakinwara which falls into the Bhagurutee and proceeds along the Rivulet for the whole of this days march crossing much rice[?] ground the separations of which are formed of very large stones. Ruined villages under repair and lands breaking up evince the encouragement given by the Raja to the Peasantry. The march of this day was 19,909 [paces] performed in 5.5 H. Therm Morn 80 - Noon 82 - Night 74.

A creeper called Soorluglee with leaves like those of the Coffee Plant contains some of the strong fibre but in small quantity. Perhaps this may exist in all large woody creepers. Cotton is cultivated more largely in this neighborhood than I have before seen in the Hills except in Pergunna Khotoor [Katyur] in Kumaon. It is spun by both men and women and woven by Moosulmans into coarse Cloth two spans broad and 4 yards long for which the furnisher of the thread pays a Tumashee or the 5th part of a Rupee in coin or grain.

Blankets are made both from the wool of home bred sheep and from that imported from Tatar.

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Feb. 13 March from Munear to Sookleana

These are commonly about 7 ½ feet long, 3 feet 6 broad and when purchased outright cost a Rupee or five Tumashees. Each blanket consists of three breadths. These as well as the coarse cotton cloths are used entirely in the Province. I met with persons who had come from Goordoohain with Lahor Salt procured in exchange for grain at the rate of two measures of the latter for one of the former. Salt if bought with Money is said to be 15 Sers per Rupee.

[Note in Margin] Suns altitude at hours 6430 was 90° 49' ?? or Lat N 30° 25' 26"

February 13th March from Munear to Sookleana [Saklana]

Received a letter from Mr Keene intimating that Moohummud Hafiz Fazil Khan would leave Furokhabad on the 26th Jan^y in charge of Merchandize to meet me. Left Munear at half past nine in the Morning which is cloudy and threatening rain. See many fields of young Poppy plant sown broadcast and stated to be intended partly for oil from the seeds and partly as a Potherb. I know not whether the regulation restricting the growth of the Poppy for Opium except the Drug be sold to the Company's Agent extend to this Province and has suggested an ingenious and novel application of the plant to cover an illicit practice but from seeing some Hill people pluck and eat it I conceive that the Poppy is really employed for the purposes stated. The taste in the raw state is not unpleasant and stewed or fried in Butter with Salt and Capsicums the plant is in my opinion much better than Spinach and preferable to many other green vegetables applied

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by the natives for culinary purposes.

And as the Poppy can be raised with ease in any season it may perhaps form an addition to the catalogue of kitchen vegetables not wholly without merit in the hot season but its use may probably be restricted to its young state. As to the Oil if due care be employed in its preparation and it be used whilst fresh it will be found little inferior to the best Italian Oil imported into this Country. *But the Seed should be washed and rapidly dried in the Sun, the Milk[?] should be scoured and washed out with boiling water to remove all smell and taste of Mustard or Castor Nut Oil and after expression it should be boiled with hot water and when it cools and rises to the surface brick dust in powder should be sifted upon it so as to form a thick wafer which when it sinks carries down with it the mucilage.*

It should then be skimmed washed by agitation with cold water and put into half pint or pint bottles for use. Some persons have mistaken this for pure Lucca Oil for sallad [sic] but I think it retains a strong smell and although kept in a cool place will in the hot season contract more or less of rancidity in a short time so that it is preferable to make it every six or eight days in India. But in England it would probably remain sweet for many months. The road high and rugged commands below a pleasing view of cultivated lands belonging to small hamlets placed on the heights and to the left at

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a considerable distance is seen the now ruinous fortress call Chumwa Gurhee built by the Goorkhas and crowning the summit of the highest Hill in this Neighborhood. *From inspecting the Fortresses raised by these people in these Hills I am led to conclude that the principal recommendation for a fort was a locality so high as to give a great command of view and that to this consideration they sacrificed the convenience of possessing water within the defences as I have not yet seen one of these Hill-forts furnished with a Spring or a suitable Reservoir. They are careful however in general to avoid the vicinity of other Hills approaching to the level of that on which the Fort is constructed. But some passes on which a single Martello Tower might enfilade the only line of road are neglected by them and a spot selected which might be turned without an affray And an invader could of course almost always bring on an engagement or produce an evacuation of the fort by possessing himself of the water*

the Goorkhas employ for drinking and ablutions. With a little patience if Mortars can be brought into efficient use a Goorkha fort may be rendered untenable at least if they are constructed according to the models of those I have seen here, but I am told that the Forts in Nypal are built with more attention to the principles of defence.

The mountains are not very high and generally near the path consist of bluish

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Slate occasionally colored with Iron. The Banj Oak is the most common Tree mixed with the Kaeephul [Kafal] and Boorans [Burans] or crimson Rhododendron which for the first time this season displays its splendid tufts on a few trees here and there in the days march. Firs clothe the more lofty Mountains. Descending the Chumwa Pass at the bottom and left extending southward is Nagreee Serae [Nagni] or Valley through which runs then Heeool Gunga [Henwalganga] a stream said to rise from Kuddoo Khal Tibba [Kaddukhal] and in Chapree Valley falls into the Aluknundra below Deoprag. Here the five sided Elephardium acquires the size of considerable trees. After having ascended a long and steep acclivity the road passes along a high ridge which commands a view of the very extensive and remarkably well cultivated Valley of Bhomoond in which is the village of Jhuda on an eminence. This as well as others of less size are surrounded with lands in excellent order. The road follows and then crosses the summit of a ridge which shutting up the valley to the N and named Tulee Khal Mutibba[?] divides it from Deeool Valley. Here begins a forest principally of Banj and as it descends which it does considerably of Pines of no great size. Amongst the underwood are two varieties of Silbunooa or Daphne Cannabina, the purple and white. I had thought that the difference of color arose from difference of locality as for the most part

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I had observed the white variety in the more exposed places and warmest situations and the other in opposite ones, but this day I found both of them within two or three feet of each other and equally fresh so that the varieties did not depend upon the accidents to which I attributed them. Whilst winding along the heights we saw a procession of many persons with a small white Palkee approaching as if about to meet us. However at about two miles distance the strange party suddenly descended into the valley and was lost [to] sight.

There have been several strong gusts of wind today and the transition from sunshine to shade on the opposite side of the mountain has been more marked with lowering of temperature than I have witnessed before save in Tatory.

At night fall reach the villages of Sookleeana on the right slope of a valley in which rises the Rivulet called the Soongh [Song]. The distance was 23929 paces or 5.5 hrs. Therm Morn 55 - Noon 61 - Night 60.

Feb^y 14th. March from Sookleeana to Bhootsee. The Soongh Rivulet rises at the upper part of the valley of Sookleeana and after receiving the Boondeela about two Kos N of Goodwhara [Gurudwara] enters the valley of the Dhoon [Doon] and falls into the Aluknundra a little below Rikkeekhes after a course of about 18 Kos. It also becomes the vehicle of the water of other tributary streams as of the

Joorra Gud near the village of Murjgaon where the road leaves the former and follows the later Rivulet till it reaches the foot of the Chalee Khalkee Ghathee of which the ascent is steep and long and the descent towards the South & West still steeper and longer.

Here Meer Izzut Oollah Khan who was in advance suddenly disturbed and put to flight some animals whose kind he did not recognize but which had pulled down what he conceived to be a large Deer that then lay struggling close to the path.

He opportunely put an end to its agonies by the ceremony which rendered it eatable by Moosulmans. The Animals, which had been dispersed by the approach of the Party had assembled and shewing themselves in the underwood of a height separated from us by a deep rivulet proved to be a pack of wolves of which we distinctly counted seven and amongst them was one very lame and thin. They were of the reddish color of the English Fox, had much longer bodies and much more bush tails than the wolves of the Plains. Although they did not dare to attack our party they peered through the bushes, prowled about as if reconnoitering our strength and did not quit our neighborhood till several bullets struck the ground near them.

The Natives call them Khoa and pretend that a pack of them will pressure and sometimes destroy an Elephant

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Description of a deer --- Mouflon

a circumstance of which I much question the truth. *They had given proofs of sagacity and judgment in securing their prey by having bitten his eyes out as soon as they had pulled it down. The body of the animal killed being entire it was wished to carry it on to our tents in order to take a sketch of it.*

And eight natives were urged to carry it, as well by pecuniary reward as by a provision of part of the venison. But after struggling under the load for about two miles in reliefs of four men they declared their inability to proceed further. I then took out the intestines but finding them still unable to accomplish the task was compelled to abandon the design and to satisfy myself with the head skin and a hind leg, dividing the rest amongst the party.

This animal measured from the top of the shoulder to the foot 3 feet 4 inches; from the tip of the nose to the end of the tail, the head being stretched out and the line taken along the neck and side of the body 5 feet 4 inches. The head was handsome, in form resembling that of a deer surmounted by two cylindrical horns measuring from base to tip 7 ½ inches. They were 4-¾ in circumference at their base surrounded by circular ridges and depressions alternatively from their origin to about two 3^{ds} of their length when they became smooth and terminated in a point. They might however with more propriety be considered as

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consisting of three parts, the first close to the base formed of circular ridges narrow and set near together of about an inch and a half in extent where the whole horn suddenly diminishes. The second part contains ridges higher than the former separated by Larger intervals which increase in breadth as they extend up the horn till they are wholly lost in the smooth part or tip which constitutes the third portion. They

are set on low in the face so that there is only an interval of an inch between that portion nearest the eye and the edge of the orbit. This gives the appearance to the ear of it being placed singularly backward there being a space of 2 1/2 inches between the head portion of the base of the horn and the fore part of the case of the Ear. The direction of the Horns is upwards and backwards being slight curved in the latter line and they diverge from their base to the points, the space between their bases being scarcely an inch whilst that between the points is 3 3/4 inches. The back part of each tip had a small portion slit off and lost and forms a brown rusty substance adhering to the rugosities of the ridges it may perhaps be inferred that this animal employs its horns in tearing up the bark of trees occasionally for its sustenance and this opinion may possibly derive some support from the long and deep wounds crossing at about three feet from the ground on the bark of the trees of this forest.

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The Ear was 7 1/2 inches long from the root to the tip, four between the roots and 14 between the tips. It is more expanded than that of the Horse and bearing more resemblance to that of a large Calf the points rather sharp. Eight cutting teeth in the extremity of the hind Jaw. Of the form or color of the eyes nothing sufficient precise for description escaped uninjured from the bites of the Wolves. The general ground of color of the Head was a dark brown bordering on black, a white band slight across the Nose just above the Nostrils skirts each lip and is prolonged under the hind Jaw half way up where it stops. The outside of the Ears of the same color with that of the Head generally, the inside at the edges fringed with white hairs, the general surface[?] of the conch nearly [illeg.] with black spots on a whitish ground. A grisly narrow band of white and black crosses the forehead just above the horns and terminates at the side of their base. At about two inches below the inner angle of the eye is a small round hole from which projected a few hairs and from which escaped a limpid fluid that ran in a rill down the sides of the face like a flood of tears whilst the animal was dying. It was thought that the lachrymal duct opened on the skin of the face through the aperture instead of going

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into the nose but the fact proved otherwise. The circular hole led into a follicle which could hold a large pea and was lined with hairs growing from its inner surface. This was surrounded by a gland altogether as long and a little broader than an almond Nut lodged in a depression of the bone so that there was no projection of the skin. The structure immediately surrounding the follicle was striated and disposed in small distinct grains like the Meibomian glands of the Eye lids but the general substance was uniform and grey and contained much moisture which resembled that before mentioned. There was no communication between the lachrymal Duct and the cavity of this gland nor did its fluid escape by any other opening than the external one. The neck and upper part of the body was dark brown or black mixed with grey at the roots on the lower part of the belly whitish as were the legs from the knees downward but the lower and outer part of the thigh and face and outside of the fore arm were of a foxy red. A Mane rose between the back part of the Ears and ran along the neck and the ridge of the back to the Tail. During its run from the Head to the top of the

shoulders it was seven inches in length composed of black strong bristly Hair mixed with some long white Hairs

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and the roots of the former were beset with short white ones which indeed ran through the whole coat sometimes starting to the surface. Posterior to the shoulder the Mane was only three inches in length and this uniformly to the tail. Round the whole of the neck was a rough bristly Muff about four inches in length black externally gray at the roots. The rest of the Hair was about two inches except under the Body where it was longer. The Tail was 8 inches from its root to the tip of the Hairs beset with large hairs on the sides. The Skin was much thicker on the Neck than elsewhere. The edges of the lips were beset with papillae. This animal was a young female which had never had offspring and was unimpregnated. The internal structure resembled that of the Goat but the Kidneys were greatly larger. It had a gall bladder. In the Omentum was a solitary Hydatid.

[Note in margin] See drawing of head

*The Animal **brought down by the wolves** is called Serou by the Natives and I have no doubt of its being the Mouflon. The flesh was dark colored and high flavored without bearing the rank taste of the Chamois or Thar of Joshee Math. See Descriptions of [illeg.] and drawing of head.²*

I took off the skin intending to preserve it but my careless Servants placed it where dogs got at it in the night and ate the greater part of it.

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Delayed about an hour by taking notes I entertained no doubts of reaching my tent in good time but the person belonging to the Raja and who had been directed to stop at the end of six Kos in the Jungul there being no villages farther than 3 Kos onwards stayed carelessly behind the Party and forgot to station any one at Bhootea or to inform the Porters who were in advance but pushed forwards himself without giving a hint to any one of his neglect. At 6 o'clock I found myself in a very narrow valley into which from the right entered the Boondeela Rivulet and remarked at the foot of a crumbling rock a shed for Buffaloes constructed roughly of branches of Firs. Proceeding onwards about a Mile the valley was narrowed to a water course much obstructed by blocks of Stone and confined by high cheeks of Mountains precipitous and naked. I then discovered that my guide knew not where was my camp but that there was no village nearer than 7 Kos and that the road was most difficult. The day had closed the sky was overcast and wild. I stopped for Meer Izzut Oollah Khan who was behind and directed the Porters to return to the Buffalo Shed. We had Flour and Venison but not a grain of salt therefore prepared for the night without dinner or supper. But the Porters ate venison boiled and without salt.

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Avalanche

In the middle of the night we were awakened by a tremendous peal of Thunder accompanied by Lightning Hail Rain & Wind. And storms succeeded each other with short intervals till day broke. The Shed which was not uncomfortable before the

setting in of the Storm now afforded little accommodation as the rain poured through its flat roof and mixing with the Dung of the Cattle on the floor drenched and some what annoyed us though not very delicate by the streams[?] especially as soon as our fires were put out by the wet. I called to Meer Izzut Oolah that as yet we had had no Earth quake to complete our mishaps by overwhelming us with stones. He had scarcely uttered a grateful exclamation in reply when our attention was attracted by a grinding grumbling and confused noise which I recognized as the predecessor of an Avalanche and for a short time the rushing and cracking and bounding of stones was most appalling. However the slip ceased and was confined as it appeared to a distance of about fifty yards from us so that we escaped without injury. At day break we departed in a severe shower of Hail and after a march of 5 hours came to our camp at the confluence of the Boondula with the Sanga
[Marginal note] Thurs^y Morn 56. Noon 58. Night 61

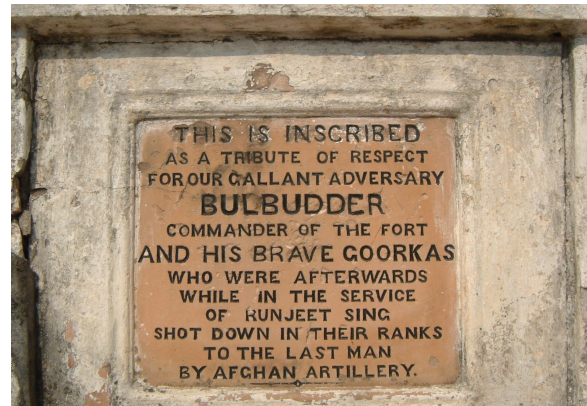
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The Doon

below Mahadeo ke Ghat and only two kos from the new Cantonment of Dehra upon the Doon or Goordwara as it is sometimes called. Distance 33159 paces
15th Having refreshed ourselves and rubbed off the rust[?] of the night we left the channel of the united Streams now taking the name of Soongh as the water where we encamped was not good from going through a Trench though beautifully clean and passing over a height belonging to the village Bejiet well cultivated proceeded along the ridge of Nala Panee from which we had a beautiful view of part of the valley of the Dehra Doon with its Cantonment buildings to which we proceeded having on our right the height of Nala Panee [Nalapani] or Kalunga [Khalanga] rendered memorable by the death of General Gillespie. To the right was seen two whited Obelisks raised to the memory of the Officers and men who lost thir lives at the attack of this contemptible Fort now wholly dismantled and rased.

The valley of the Doon an appendage to the province of Gurhwal was formerly called Daroona Charj [Dronacharya]. It extends East and West from the Ganges to the Jumna altogether about 40 Kos and from S to N about 12 Kos shut up by low Mountains on every side.

At present it yields a land revenue of about 15000 Rs annually and the duties on intoxicating liquors and articles enciseable



The White Obelisks in 2003 with Khalanga hill the high point on the left background ridge

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under the head of abkaree realize about 2000 more. The population amounts at present to about 15000 and is increasing by the influx of new settlers to cultivate the waste lands.

The Cantonment formed at the place formerly call Kurwoora now Dehra contain a force of 1200 light infantry principally Hill people officered by Europeans. As far as I had opportunities and am capable of judging of the general arrangements they are highly creditable to Capt. Young the Officer who first disciplined and now commands this Corps call the Sirmoor Battⁿ. And in hazarding a few remarks upon the locality of Dehra in relation to salubrity and to fitness for such a Corps I mean not to cast the slightest reflection upon an Officer whose exertions are manifested and acknowledged in the excellent state of discipline of his Regt. But as it has been uniformly observed that the lands skirting the foot of the Hills are unhealthy as a residence it may reasonably be doubted whether the Plain of Dehra may not generally prove insalubrious. And though Dehra is reported to be more healthy than almost any other situation in the Valley yet it would seem that Fevers of the remittent and typhoid class with bowel complaints are too common. But seldom indeed is the water of such a situation wholesome throughout the year, although that of a stream running in a rocky channel may be

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particularly fine in some seasons. But at Dehra the water for the use of the soldiery and other inhabitants is brought from a mountain stream at considerable distance by a conduit cut on the surface of the earth. It is not well tasted at Dehra now, is said sometimes to be brackish, is purgative and occasionally brings on dysenteric affections which now and then are fatal. In India it is perhaps generally a measure hazardous to the health of men and animals to bring water for their beverage from a considerable distance by an earthen trench.

I have seen the ill effects of water impregnated with materials collected in its passage so strikingly as to impose it as a duty on me to notice the practice in this general way. The transparency and taste of water are often sufficient indications of its wholesomeness or insalubrity. For instance where the Boondeela Stream enters the Valley of the Doon let a person drink of the water whilst running in its rocky and pebbly channel and compare it with that which shall have passed along a trench to irrigate some Tobacco fields close to the village of Bejeeb. He will find the first clear as Chrystal, cold, light fresh and refreshing. The other will be clean but flat, a little brackish and will, if taken largely, prove purgative. No other analysis than that of the Palate is necessary to prove that the former is fit and the latter unfit for the drink of Men. The difference here

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is likely enough to be similar to that in the mountain stream and in the trench by which Dehra is supplied.

An European who may not find in the climate of the Doon the call for water so imperious as in the plains the effect from the small quantity taken may not be marked but they may be of vast importance to individuals of whom it constitutes their only drink and that in its unboiled state.

But on a military principle it would seem objectionable to have cantonments in the plains for troops intended to act in the hills. It might have been useful to the British cause in the Nypal war to neutralize or render offensive to the Nypalies

considerable bodies of persons and to their modes of warfare. But doubtless Marquis Hastings in retaining these Corps considered the individuals of which they are composed as most fitting for service in the Hills.

Hill warfare consists of the operations of men in small fronts, where courage, fortitude and address in employing localities to the best advantage are more beneficial than the formal evolutions of large bodies which can seldom be efficiently operative.

There must doubtless be a mode of attacking and defending heights of forcing and retaining passes scaling and descending slopes and other varieties of mountain warfare under circumstances preferable to others.

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War on the Himalaya Mountains must also be conducted it is presumed as la petite Guerre or a succession of assaults, defences, skirmishes rock and bush fighting and tours[?] of Strategy in which acquaintance with the country and its varieties of surface is of the utmost consequence. But this acquaintance cannot ever be approached in the plains, it must be learned, gained and retained by habit in the Mountains themselves. As a person on board a ship cannot walk with security and comfort till he shall have learnt to accommodate his movements to the motion of the vessel and shall have gotten his "sea legs" so a man travelling the Hills cannot without much care prevent himself slipping or falling or hurting himself against stones until he shall have journeyed for some weeks constantly, where he will find that although it was indispensable at first to watch the placing of his foot at every step, his eye can now at a single glance embrace a range of route that without care will carry him for a considerable distance with safety. It is conceived that a corps intended for Hill service should be trained in the Hills upon such an irregular surface as may become the theatre of their operations if called into military actions. The Cantonments of such a Corps should therefore be so placed that every step might call out that address which would prove invaluable during the time of action.

The character of Lord Hastings is most

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frank & accessible. And perhaps it may be only necessary to convince his Lordship that there are situations in the Hills more healthy than those bordering them on the plains to lead to a trial, for it cannot be conceived that a difference so obvious on service as that between men militarily trained in each section can have escaped the observation of as finished a Soldier. And the Officers of a Hill cantonment although they might experience some inconvenience at the commencement of such a system would soon be reconciled to the change by the confidence they would feel in their own individual power which would gain accession of strength and by the conviction that the troops under their command so trained would be locally and individually superior to any description of forces that could be opposed to them.

I apprehend that without sufficient consideration I have censured the Goorkhas for placing their Forts in situations so extremely high but further reflection leads me to confess my error and to acknowledge that they were more eligible in regard to health and to inurement to exertion than those I might have selected.

When the Goorkha Sipahes were attacked with bowel complaints they expressed anxiety to go to Nala Panee for the sake of the water. Distance 10587 paces 1.58 [hours] Therm Morn 68. Noon 80. Night 67.

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Feb. 16th & 17th Remained at Dehra where we received much attention from Lieut Beveridge in temporary command in the absence of Capt. Young who had gone to Hurdwar [Hardwar] to make some preparations for the 12th year or Jubilee Fair called Khombh ka Mela [Kumbh ka Mela]. When the Sun enters Taurus on the same day in which the Moon enters Aquarius the water of the Ganges is held by the Hindoos as particularly purefying and the Fair of Hurdwar is frequented by immense crowds for the purpose of washing away their sins in its stream. This conjunction of the great principles of Nature personified fancifully by mystical symbols in Hindoo Mythology takes place every 12th year and the Sign Aquarius being designated by the term Koombh the Fair has received the appellation of Koombh ka Mela or the Fair of Aquarius. At a very short distance from Dehra on our road is a large brick building erected by a Sikh Priest called Gooroo Ram Raee [Guru Ram Rai], a grandson of Nanuk [Nanak] the founder of the Sikh faith. It is said that it was built about 150 years ago and that the Priest died in 1099 Hijree AD [blank] or according to the whimsical story related by his successors was then apotheosed. Fateh Singh Shah Raja of Sreenugur granted in perpetuity the rents of the lands of seven villages in support of the building as the residence of Fuqeers and as an Alms house

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during the time of the Hurdwar Fair and the British Govt have confirmed the grant. *A representation was made some years ago to the Govt. of the utility of having a Hospital and Dispensary (Medical Establishment) for medicines at Hardwar for the use of the Natives during the time of the fair and the suggester of this measure³ was gratified by its adoption.* The road is westerly and northerly runs over a flat surface with little cultivation and few villages which occur as follows. On the left Kuonlee [Kanwali], on the right Punditwala, Rengurwala, Multeeteree, Shahpoor, left Dhonkwala, Keshoowala, Percoon, Myronwala & Sutteewala, the latter an assemblage of small Temples at each of which a widow has been burnt. Close to this place the Muhunt of Goordwhara [Gurdwara] is digging a large well for the use of travellers. From the large level plain on which the road has run from Dehra it suddenly descends to another plain or steppe about 30 feet lower by a narrow pass called Natoowala kee Ghathee. The village whence it derives its name being in ruins and deserted. Turn off to the left near a Rivulet to a ground called Khymanee and encamp. Along the middle of the valley runs the large Rivulet called Asan which is said to rise on the Hill of Chunderbudnee 5 Kos to the S of Goordwhara and running westerly empties itself into the Jumna. Distance 18975 Time 3.4 Therm 68 77 72 Alt of Sun 95. 3'. 20".

Surgical case. A Hindoo woman was brought

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who had been blind four years. The Pupils were contracted but of the same size and perfectly insensible to light. On the extract of Stramonium being applied they both dilated dilated ([sic] largely but the Retina shewed no signs of sensibility.

In the centre of each Lens was a small point of diamond like brilliancy and this was the only disease in structure observable.

19th Road continues on the lower flat almost all waste land flanked by forests on each side and surrounded by Mountains southern low with a slightly indented Crest. Forests consist principally of Sal & Sissoo neither large.

On the left bank of the Asun ground is breaking up and there are many plots of wheat. Pass a broad Watercourse call Touns [Tons] said to spring from the Tibba or or [sic] summit of the Juonpoor [Jaunpur] Mountain to be lost suddenly in the earth to remain dry in this season for two Kos then to emerge and finally to fall into the Asun. At the confluence of the two Streams the land on the left of the Asun takes the name of Suntoor that on the right of Kulakun of which the village of Sherpoor Kuleeanpoor is the eastern boundary. The Oosurana Kala is a watercourse now dry said to take its rise in Budraj Devta ka Purbut. Villages on the road Luckmunpoor in ruins Subhawala inhabited. Suhunspoor a Police Thana the village now deserted through the oppression of the Thanahdar whom the Judge Mr Grendall has seized

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and imprisoned. Dhakee. Loeree where a small Rivulet escapes from a Marsh and crosses the road to lose itself in small swamps and finally in the Asun. Road crosses Chokatee a dry water course. Encamp at Khoshalpoor round which there is much feathered Game.

Distance 20458 paces Time 3.5

Therm Morn 49 - 79 - 61.

Surgical case. A Man came express from Hurdwar on account of infirmity of sight. Cataract with vessels in left Eye. A [illeg.] spot with thin edges in right. Pupils being dilated with Stramonium he was able to read with the right Eye and thought he should get well from Medicine. I offered to operate upon if he would go to Nahn [Nahan] but not here as the immediate journey to his home in a hot sun would give a bad chance of recovery. He was disinclined to go to Nahn and will take the opinion of some Surgeon at the Fair

20th Though still level the country is more covered with Trees. Villages Jussoowala on the road on the left 4 Kos off Tumlee well inhabited.

Dry watercourses Medneepoor ke Kholee

Fatehpoor kee Kholee. Odeha. Here met a Busehur Man who had been at Gurdokh or Gurhtop for it has all [?---apparently sic] when I was in 1812. He recounted the failure of the embassy from Subathoo last year by Messrs Gerard and repeated the report which had before reached me through

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Mr Traill from Mr. Rutherford of Raja Runjeet Singh having taken Kashmeer.

Cross the Jumna at Raj Ghat a ferry now about 100 feet broad where there is a commodious boat. Met with a young Man who is engaged in cutting Timber principally for the Commissariat. The trees I saw were small. Some rafts were

passing the rapids just above the ghat and were managed with great dexterity by two boatmen with Oars in front and the same number in the rear. The Timbers did not exceed two cubits in girth and sixteen in length and were worth at Dehlee about 14 or 16 Rs each. The distance hence is 90 Kos and the voyage now tedious, 12 or 14 days. The expense on each Timber he calculates at Rs. 5. The Profits are greater here than in the middle Provinces but the great sources of supply I have pointed out seem to be wholly unknown to the Timber dealers of the Upper Provinces. He represents their neighborhood as very unhealthy during the rains. Above Raj Ghat from the right bank the Giree Rivulet from Sirmoor enters the Jumna and below it from the left the Asun falls into its stream. Encamp on the bank of a Rivulet which empties itself into the Jumna. Distance 16448 paces.

Time 4 hr

Therm M 45 - N 79 - N 55

[76]

Surmoor

and imprisoned. Dhakee. Liverce, where a small Rivulet escaping from a swamp crosses the road. Encamp at Koshalpoor.

The Country flat & waste. The land near the Asun swampy in patches.⁴

21st. We now leave the former border of Gurhwal and enter the Raj of Surmoor. On the left of the road and on the bank of the branch of the Jumna near which we encamped last night are stonewalls of great extent which formerly encompassed a fort built by the Surmoor Raja Mednee Purgas [Medini Prakash].

The Ruins consist of three small but strong brick buildings each containing two rooms.

In the enclosed grounds a Sikh Priest has taken up his residence called from this Goordwara and one of his Pupils earnestly desired me to go into this House and repose myself until his teacher should have finished his devotions when he would talk with me. The place is called Pahoota [Poanta] and consists principally of Grass Huts inhabited by persons engaged in cutting Sal & Sissoo Timbers in the extensive Forest of Raj-Bun which seems to stretch to the foot of the northern Hills.

On the left of the road is an old Tower at which duties on exports and imports are levied and now let to farm from the Company at Rs. 3000 per Annum. On the right the village of Budreepoor in ruins. Kasheepoor in the same state. On the left Tokha inhabited but

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but granted in Jagheer to Mahdoo Dasu Muhunt for religious purposes. The River Bhata of a very considerable size in the Rains but now containing only a small stream takes its rise in the Tibbas or heights above Kolron and taking a southern course from NW falls into the Kulunder below Pahoota receiving many tributary courses.

Encamp at Kardah the principal town of the Valley called Kardah ka Doon. This valley extends from Raj Ghat on the Jumna to a Ghat in the border of a Forest where a Fuqeer's Muth gives the name of Debee Gutapun. It is nearly square extending from Pheloor N & S 17 Kos and from Raj Ghat to the Temple 16 Kos. It contains seven inhabited villages of which two have not more than two or three

[houses] but prior to the conquest of the Surmoor Raj by the Goorkhas the valley had 84 villages. Many of the former inhabitants are still alive in the upper provinces & it is said would return to their old households provided they were exempted from rent for three or four years. This country always less healthy than the Doon of Dehra is now greatly unhealthy.

It pays to Govt a revenue something under 400 Rs. a year. This tract generally appears to me well adapted for neat cattle. Distance 18797 paces. Time [blank]Therm 44. 86. 55
NB. remark upon this as a cause of fever

[78]

March from Kardah to Rookree ka Bagh

22nd. The road runs through a grassy plain intersected with watercourses some containing water at present others dry now but conveying large and rapid though shallow streams in the rainy season.

The 1st crossed called Majra is now dry & the 2nd of the same description is named Tokeea, the 3rd rises from a spring and empties itself into the Bhatta. The latter longer than any of the others is said to receive them all but though in some parts it appears to contain a large body of water flowing with rapidity in others it is almost wholly dry. The 5th Watercourse called Sootkutoon is mixed in its line with the Bhatta and brings much water to it from the now ruined village of Colron. A very large proportion of the road lies along the bed of the Bhatta.

At Colron quits the line of the River and ascends a rough stony path up to the edge of a forest in which is a Hindoo Temple dedicated to Debee Gotasun. This place is the western boundary of the Kardah ka Doon as the Jumna is the eastern frontier.

It is memorable for the defeat Gholam Kader Khan here met with from Jugut Purgas the Raja of Surmoor. The former encouraged by having wrested the Dehra Doon from the Raja of Gurhwal without a battle conceived he should experience little more resistance

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March Kardah to Rookree ka Bagh

in his attempt to wrest from Jugut Purgas the Raj of Surmoor. The Raja very wisely gave up the possession of the Kardah ka Doon and lay in wait for his Enemy in the Ghat where he had to struggle with the ascent as well with an Antagonist. For a time the impetuosity of the Rohillas inflamed by intoxicating Drugs had nearly overpowered the Rajpoots but the steady resistance of the latter prevailed and Gholam Kader instead of carrying Nahn as he expected was obliged to fall back with rapidity upon Dehra. This event happened about two years before Gholam Kader captured Dehlee. The forest is full of small swamps and springs the waters of which gradually uniting and increasing give rise to the River Manakunda said by some to fall into the Kasila near Pateeala and by others to sink into the earth and be lost.

On the right of the road and at about half a kos distant from it is the village of Oottunwala then Jageetaran and on the same side at nearly the same distance Bhodee. Encamp at Rookree ka Bagh the former site of a village now abandoned some of its lands being sparingly cultivated by the inhabitants of the distant villages.

There were here many Peacocks in the surrounding Jungul and I heard a wild dog hunting and giving tongue near to our camp. Distance 29853 paces. Therm 42 Morn. 72 Noon. 57 Night.

[80]

On cultivating the Doon

The Dehrah Doon or valley shut up on the East by Hills seems gradually to become narrower as it approaches its open or Western extremity where it is separated from the Kardah ka Doon by the Jumna. It is supported laterally on the South and North by long ranges of Mountains the former dividing it from the Plains low, the latter higher and constituting part of the outer ranges of the great Chain.

The inner line of the bases of the Mountains is flanked by a deep belt of forest trees and some underwood, but the middle of the plain along the centre of which runs the large river Asun from east to West is covered only by long grass and the plain itself is supposed to be very considerably higher than the neighboring Country of Rohilkhund.

The unproductive condition of a valley of such great extent as 40 Kos in length by an average of 12 in breadth possessing a sufficient depth of soil for arable purposes, of great fertility where cultivated and intersected by numerous rivulets of which many are applicable to irrigation is highly worthy the attention of the Govt. The principal objection to projects for bringing it into cultivation is to be found in portions of it being obnoxious to remittent fevers the causes of which are to be found in the constitution of the atmosphere produced partly by locality and partly to vegetable and marshy effluvia I shall briefly

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touch upon. The reports of the Natives supported by the evidence of ruined villages and of Groves of Mango trees tend to shew that the valley was once much better inhabited than at present when indeed it may be considered as a desert though interspersed here and there with small spots of cultivated land. *Its water has been said to be insalubrious but this must be taken in regard merely to its surface or stagnant water and that in Wells disused, for the water which runs rapidly in deep Rivulets with clear pebbly beds and that of wells close by the road side & frequented by travellers is light, brisk, tasteless and not productive of that derangement of the intestines for which the surface water is remarkable. There is no more forest timber on the greater proportion of the surface than is necessary for shade and the belts would undergo some thinning by the felling of timber required in the construction of villages.*

The Land may be cleared with little labor from its being scarcely any where encumbered with underwood and the process seems to be limited to burning the surface grass, grubbing up and burning the Hassocks and roots and common ploughing & harrowing.

Under preparation even less regular than this the extremely clean and luxuriant state of the present crops of Wheat and Mustard on the newly reclaimed lands justifies a belief that few tracts would prove more free from weeds or more productive than the Doon if suitably cultivated or would be less expensive in being

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brought into a husband like condition. The labor required would be materially less than that necessary for bringing an old Lea into a proper tilth in England or for breaking up a piece of waste or Purtee land in Behar. Besides the absence of the Ber, Muskan, Bubool and other shrubs with difficulty rooted out from old wastes on the plains the grass swarth has a shorter root and is much more easily killed by being turned up and exposed to the heat of the Sun. And by considering the causes of the Malaria supposed to produce fever it would seem that they are in the Doon more under the influence of the operations of man than in most other situations. The skirting of forest would gradually fall before the wants of construction of tillage and of making Kuth[?] as soon as the population should become considerable but the first measure of improvement should consist in rendering the immediately habitable part of the valley less unwholesome. It has been observed that the Asun running along the whole length of the Doon except a small portion of its eastern extremity rolls a great body of water received from tributary streams into the Jumna.

All the Rivulets of the valley from both sides run towards the Asun owing to an easy declivity of the surface from the foot of the Hills to the center of the valley in some parts very distinctly marked and in almost all observable.

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And all these Streams would undoubtedly pour their waters into the Asun did they not meet with obstruction in their course. It has been observed that some of the rivulets lose themselves in the sand and disappearing for a mile or two emerge again and empty themselves into the Asun and that others either do not re-appear as streams or only to sink again and be lost in the form of current. And it will be found that a space of marshy or swampy land abounding with puddles and numberless small shallow streamlets losing themselves on the surface accompanies the right bank of the Asun in some places within a quarter of a mile and in others more than a mile from the river and of various breadth. This seems the more extraordinary considering the natural slope of the ground towards the stream. It would seem that a bank or wall of clay or other substance impermeable to water accompanies the river in its course and dips to such a depth as to prevent the underground strata of water better penetrating or passing below it. Thus intercepted in its natural course to the river the water rises up in the face of the barrier breaks out on the surface and forms the puddles, swamps & streamlets from which issues an exhalation noxious to man but not proved as yet to have any similar effect as to causing fever in quadrupedes though predisposing to rot in sheep and to eresipelations[?] Carbuncle or Gangrene in neat Cattle. If the water be stopped by such a barrier the fall may easily be ascertained by a few taps with

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a suitable auger and as easily be brought into a body by a deep and broad trench out along the face of the barrier and cross trenches at suitable distances at right angles would convey the water directly into the river. But as the ground presents an easy slope most favorable for irrigation a few penstocks across the the [sic] secondary trenches would direct the water across the drained lands and always secure plentiful crops. The good effects of such a drainage would be immediate in drying the surface

and removing the principal source of mischievous exhalation. But this improvement is never likely to happen if the amelioration of the Doon be left solely to the gradual increase of population or to incidental settlers. It should be done at once; but it is not probable that the Govt will do this at their own expense under the little prospect of being repaid within a short period for the Outlay. Very lately it was in their power to have effected this without expense and to have attached a numberable[?] body of peasantry to their interests and to the increase of the Revenue by converting Soldiers into Farmers. I allude to the opportunity they possessed of parcelling the whole out into shares amongst the irregular Horsemen they have lately disbanded and who now roam about the country dissatisfied and without employment ready of course, if no better occupation present to form a nucleus for another Pindaree foundation. It may be said that Moosulmans who came into the country as conquerors and reaped the fruits of the

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soil by the hands of the Hindoo peasantry disdain other occupation than the sword. But experience has shewn the powers of peaceable times and habits in subduing warlike dispositions and the highly cultivated state of the Rohilla Jagheer shows that Moosulmans can become good farmers. The following might serve as an Outline of a suitable arrangement Viz. First a grant from the govt of lands in the proportion of [blank] Bigas to each Man and of [blank] to each individual of his family or perhaps more suitably to each pair of oxen he should engage actually to work and keep constantly, without rent for five years at the expiration of that time at [blank] per Bigah for 3 years & 2 years and then fixed.

Villages to be set out on a given plan each with a Serae, Bazar and Well the latter small with a raised Parapet and on the road side. The Peasantry to engage to cut a trench and drain according to a plan to make a straight road of a given breadth to plant Trees of a prescribed kind along it and to replace forever such as may die. Most of the Soldiers disbanded had Horses, some had Mares and perhaps some arrangements for breeding may be engrafted into the tenure. Feudal military service might perhaps be objectionable as introducing a novelty into a System modelled with great care or this might be more agreeable than a money rent, to maintain the peace of the district without expense to the State could not be considered as burthensome [this sentence sic]. It is sufficient at present to record this brief sketch as a memorandum on which a better superstructure may be grounded when the Govt

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may think proper further to reduce their irregular Cavalry.

The preceding observations apply more particularly to the Dehra Doon that of Kardah seems to require a difference of management. To man its climate is vastly more pernicious than that of Dehra and the destruction of human life during the rains is represented as more formidable. Strangers more frequently die than recover from the fever to which it gives rise and if they sink not immediately under its attack, its sickening influence is felt for at least twelve months. The inhabitants of Nahn and of the neighboring Mountains can bear the rainy season of this Doon with much less risk than strangers but even they suffer from it occasionally.

This Doon is favorable to neat Cattle and its crops of grain are heavy from the constant moisture of its soil, very many of its streams pursuing an underground course at a small distance from the surface and others losing themselves in superficial sheets. It might be well to clear the top of a Hill for the residence of those servants of the East who are necessitated by the duties of their offices to dwell in this unhealthy tract during the rainy season, to search for a spring on the height or to dig a suitable Tank for rain water, and some short and clear instructions to light large fires in and near their dwellings and to expose their persons as little as compatible with their employments to the night air might conduce

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to the preservation of their health, but perhaps no precaution would be more powerfully salutary than that of putting on additional clothing as soon as increased cold is felt from the absence of the rays of the sun in the valley, for in few countries is the transition from heat to cold more rapid or more striking than in the valley which at the village of Kardah is particularly narrow.

23rd March from Rooknee ka Bagh to Nahn

The village Bunkela is on the right & that of Sunboo wala on the left.

The Markundu river is said after a course of 12 Kos in the plains to fall into the Rahoom River below Narain Gurh. Just at the foot of the ascent towards Nahn it receives some streams of which one of the largest is the Garans. Here I found some Sipahees of my escort busily engaged in a singular kind of fishing which implied an intimate acquaintance with the habits of the fish called Sounla[?].

When alarmed they take refuge under the hollows of stones lying in the stream, the fishers paddle in the water and when they think the fish have got into their recesses they throw large stones upon those suspected to cover them and by the blow the fish are killed. I could scarcely have supposed that so many could have been taken in so short a time as 9 were secured by this simple expedient. From the Markunda or Marakand the road runs over a stony narrow and tortuous path to Nahn situated on the summit of a high Hill. Distance 16563 paces.

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This town made a figure in the late Nypal campaign as having the forts Jumta and Jurtuk in front of it and which for some time gave employment to the British Troops under General Mar[tin]dell. The events of the defence made [by] Runjoor Kajee and the cession of the fortresses consequent on the fall of Maloun to Gen. Ochterlony are too recent to be forgotten. A Stone Obelisk is erected in a substantial manner to the memory of Lt. Thackeray by Capt. Wilson. The town Nahn placed on some low eminences on the top of the Mountain is straggling the buildings are of stone and much better constructed than those of any town I have seen in India and the town itself is cleaner and has less of nuisance about it. In the middle of an irregular amphitheatre crowned more or less with Houses is a large Tank walled with [illeg.].

The House of the Raja is the largest construction[?] in the place and one built by [illegible] Berih[?] the neatest and best placed. [The] views of the neighboring Mountains, Valleys, villages and a distant view[?] of the plains with the River

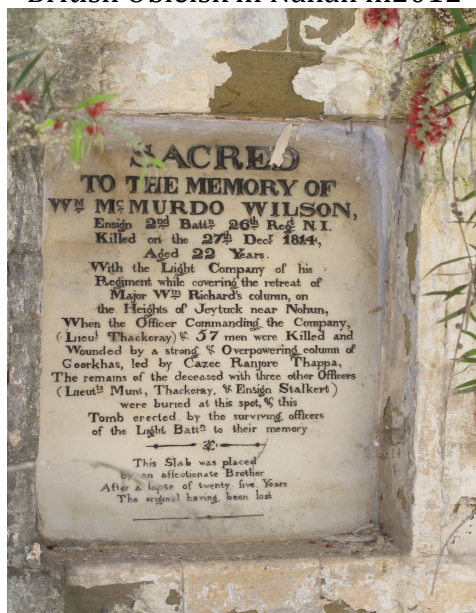
Markunda winding along them are particularly beautiful. Nahn is the residence of the present Raja of Sirmoor Raja Fateh Pergas a youth of about 14 years of age who has had a tract of country given up to him amounting to about Rs 40,000 per annum.



Nahan water tank in 2012



British Obelisk in Nahan in 2012



Detail of Wm McMurdo Wilson plaque



Ranzor Palace of Sirmour royal family in 2012



Ruins of the Sirmour Palace and Citadel in 2012

¹ The transcribers make no claim to accuracy as regards this passage, since only one of them has even a smattering of Latin. As far as she can make out, the passage concerns a 70-year-old woman whose cataract is described in the following paragraph in English. After lying down on her back, the woman seems to have convulsed; and something in the situation took Moorcroft back to his time as a medical student, the memory of which brought on a flood of emotion.

² Moorcroft's description of the Serow corresponds more or less with that of the naturalist George Schaller in his two books *Mountain Monarchs, Wild Sheep and Goats of the Himalaya*, (University of Chicago Press, 1977) and *Stones of Silence* (London, André Deutsch, 1980). Moorcroft is mistaken however in calling the animal a deer, and equally in assuming that the serow is the mouflon. While both belong to the family Bovidae, they are quite different species, the mouflon being a sheep, akin to the Ladakhi urial (shapu), while the serow is a species on its own belonging to the tribe Rupacaprini rather than Ovis. (*Mountain Monarchs*, 21–22, 37–38.) Drawings of the heads of the two species, among several others, appear on the end-papers of *Stones of Silence*, and pp. 24–25 of *Mountain Monarchs*, and descriptions of various features of the serow on pp. 24, 86, 87, 89 and 94 of *Mountain Monarchs*.

³ Moorcroft himself, we presume.

⁴ This passage, with several lines through it, is the same as that at the top of p. 74. Obviously M on reaching the foot of p. 73 turned 2 pages instead of one, wrote a few lines at the top of p. 76, realized his mistake, crossed out the few lines already written and went back to repeat them on p. 74.

⁵ There is a problem with the binding of this page, and the last word of many lines is partly missing. In some cases, reference to the published *Travels*, or even intelligent guesswork supplies the missing letters, but in the rest we've had to resort to [?] and [illeg.].