## Translation.

In the name of God the most merciful.
(Erected.) By order of the mighty Sultan, the Melic of Islam, the standard of dominion and wealth, the august Masoºd, son of the supporter of the State, Mahmood, father of Ibraheem; defender of the Faith, Emir of Moslems, the right arm of dominion, the Trustee of the Faith, the master of the necks of the nations, the noble and imperial Sultan, Lord of the countries of Arabia and Persia. May the great God perpetuate his throne and kingdom, commemorated be his beneficence. May God forgive the sins of himself, his parents, and of all Moslems.

Extract from the Journal of Lieut. J. A. Weller, Executive Engineer and Officiating Junior Assistant Commissioner in Keemaon, on a trip 10 the Bulcha and Oonta Dhoora Passes with an eye-sketch. Forwarded by J. H. Batten, Esq. C. S., Keemaon.

26th May, 1842.-Milum. Up early, and started at 4 h .20 m . A. м. after burral, a herd of which my shikaree bad seen the previous evening on the N. E. side of the hill behind Milum. For some reason, Nagoo and Dhunsing, who were acquainted with the country, wished me to ascend the hill behind Milum a little to the West, and then go over the crest after the burral; I consented of course, and believe my bad luck in not killing any thing, was owing to this mistake. For when I did see the burral, it was late in the morning, and they were ascending the hill where my shikaree had seen them, after feeding; whereas had I gone round to the N. E., I should most probably have seen them feeding low down early in the morning, and had a fair chance of one or two good shots. However, at 5 h .5 m . I reached the top of hill visible from Milum, by a dangerous sheep track, thence up a continuous slope of moderate steepness, affording plentiful grazing to sheep and cattle, a few of which latter (jooboos) were feeding; continued ascent till 7 h . 5 m ., when I halted for a cheroot and some biscuits. Dense clouds, and a heavy drifting haze shut out the surrounding hills from view ; this I much regretted, as being North of Nundee Devi, and at a good elevation, I might have seen a magnificent view of that mountain and its neighbouring peaks, had the sky been clear. Possibly
also, I might have seen Oonta Dhura. Small flakes of snow fell now and then, and the weather was very cold. At 7 h .42 m . started again up the ascent, and on till 9 A. M., when on the side of a hill North of me, and separated by a rather steep descent, one of my party spied a herd of sixteen or twenty burral. We all lay down immediately, and crept back over the crest of the hill, but unfortunately the burral had seen us, and commenced slowly ascending the hill. I made the best haste I could up the hill, keeping its crest between me and the burral, until arriving at a spot opposite to where they were in a snowy hollow. Now I should have gone still bigher to a cragged peak, and left a man to go below the burral, and drive them up when he aaw me at the top. Instead of this, the shikaree thought I could get close to them by creeping across the intermediate space, covered by the side of the hollow in which the burral were. I did as he wished, but the space we had to cross was landslip, from which stones occasionally rolled down in spite of all our care. The burral must have heard these, and were ascending the opposite side of the hollow; when getting sight of me, they made towards the crest of the hill at once. I saw them pass over, each in turn halting for a second or two upon a small rock; but a thick haze was drifting between them and me, and constantly shut them out from my view; owing to this have, the distance appeared to me greater than I afterwards found it to be; and as the burral are seldom to be approached a second time after once being alarmed, I put up the second sight of my rifle and took one shot when the haze was rather less dense than usual ; missed, the bullet probably going too high, and almost immediately the haze shat out every object within ten yards of me, so that I could not get a second shot. The shikaree ascended the hill as fast as he could, but was unable to perceive where the herd went; and after going up to the crest, I halted at 9 h .30 m . for a cheroot, infinitely disgusted with my bad luck in not getting one decent shot; for firing through a cloud can hardly be called one. Started at 9 h .48 m ., made a slight sweep ronnd to the West for the chance of seeing the burral again, but in vain, and commenced the descent to Milum. The hill side was not very steep, and consisted of one immense sheet of loose-slate, an incipient landslip in fact. I descended very fast almost at a run, snow falling and biterly cold, East wind blowing. This changed as I got
lower down, and the sun was intensely hot, so that I was glad to find myself back at the village at half-past twelve, after nearly eight and a quarter hours' exertion, seven and a quarter hours of which were incessant travelling. The sun when it does shine out is very powerful, or rather it feels so, and my face is now half raw, and the colour of a beefsteak. The pain and annoyance of this is all the inconvenience I have yet felt, and my health and strength are (thank God) first rate, a state hardly to have been expected.

After breakfast, I was much surprised to find that the Lama* had suddenly made up his mind to start for Tooling; and had left with six ponies and two servants shortly after I started in the morning; no person was acquainted with his intentions, or can give any explanation for his sudden departure. The Lama's remaining two or three servants, who were to have followed with some goats, \&c., treated themselves to ${ }^{*}$ a jollification upon the happy event of their master's return, and are now all dead drank. In the course of the afternoon, they came to where I am living, and one man commenced singing by no means unmelodious songs, accompanying himself with motions of the hands, feet and body, exactly similar to those of nautch women at Almora, or in the plains. Another fell down with an awful thump on the hard stones, but was picked up unhurt and laughing. I was rather glad when they were persuaded by me to go to sleep. These people started early next morning. Nagoo describes them as wonderful travellers, and says, they think nothing of ascending Oonta Dhura with a heavy load.

27th May.-Had a long sleep after yeaterday's fag, and did not get up till 6 h .30 m. . . M. Though if my heel had not been galled and face so very painful, I should probably have tried the burral again. Morning very mild and pleasant. Ther. $55^{\circ}$ and no wind, but about 10 A. m. an East wind sprung up. Seven or eight jooboos reported present, and the remainder faithfully promised by evening, so that I may start to-morrow morning. Busied myself during the day in selecting clothes, \&c. for the trip, and in making a plan of the country beyond the Pass, according to Nagoo's information. Ther, in the sun at noon, $80^{\circ}$;

[^0]about 11 o'clock it was 5 or 6 degrees higher. During the morning, I endeavoured to obtain some information as to the country beyond the Pass, but a number of people being present, I did not like to ask soch minute questions as would enable me to map down places with any degree of accuracy, and the inattention of the Boteeas with reference to north and south, renders it difficult to obtain correct ideas of localities from their information. Nagoo produced a map, of which I may make something when I can get him quietly alone. At 2 h .50 m . I started to see the Sunchee Koond, a small sheet of water some distance up the glen of the Goree river, held in great repute as a place of pilgrimage. I reached it $\mathbf{4 h} .45 \mathrm{~m}$. travelling slowly along a gentle ascent, intersected by numerous water-courses from the hill on right, (North,) and found it to consist of a small triangular-shaped piece of greenish water, perhaps 100 yards by 80 in its largest dimensions. I had no means of ascertaining the depth. The mass of desolation, as described at the source of the Goree, continues thus far up; and how much farther no one can, or will, inform me. The fissures hereabouts are narrow, instead of being crater-like; and the ice where visible is more nearly the color of snow. On the opposite (South) side, huge accumulations of ice and gravel are to be seen in the openings between the hills; and generally, the sides of the hills in this vicinity do not appear so mach cut up by landslips as lower down. The weather was very cloudy, and bitterly cold, with a few drops of rain occasionally. I had no opportunity therefore of gaining a view further Westward, or on either side to any extent, but I consider this glen would amply repay a few days devoted to its inspection. Once on either side, I had a view of the old ice high up on the hills; and its light sea-green color, with strongly defined and fantastical lines of shape (castles, stairs, \&c. \&c.) formed a very pleasing and grand appearance. I returned to Milum at $6 \mathrm{~h} .25 \mathrm{~m} . \mathrm{P} . \mathrm{m}$., and found matters progressing; likely to ensure my departure upwards to-morrow morning.

The only weighing implement I have seen this side of Munsharee was a steel-yard at Milum, and I was told that it came from Tibet, where they are commonly used.

28th May.-Up at 4 h .20 m . A. m., ther. $49^{\circ}$ in the sleeping room, morning tolerably clear and mild. Much delay occurred in loading the jooboos, but at last all was ready, and I started for Doong at 6 h .

25 m. A. M. I had with me two servants, (a kitmutgur and shikaree boy,) my bedding, (no bed,) some clothes, powder and ball, a little wine, \&c., and very scant preparations for eating, the whole calculated for an eight days' trip. Nagoo Boora, Dhunsing, Geitsing, a road chuprassee, and the Luspa shikaree, with four coolies, (hired at four annas a day each after much bargaining,) accompanied me. We had fifteen jooboos; viz six for riding on, and nine for three tents, my bedding and clothes, wood, \&c. Two of these were very lightly laden, in order to bring back any skins or horns I might procure. One of the coolies carried my wines cheroots, \&c., a very light load, and the articles not packed upon the jooboos. I had a sore heel from the shooting excursion of 26 th, and could not walk without feeling much pain, I therefore started in the dandee ; but the road was so infamously bad, that I was soon compelled to walk as best I could. At 7 h .7 m . came to the first snow-bed over the Goonka river ; at 8 h .20 m . near Lungon river saw two burral, but they were some distance up the hill, and saw us approach, when they immediately ascended and disappeared over the crest. The sun was powerful, and my heel very sore, so that I did not incline to follow these burral even had the hill been easy, instead of being almost inaccessible. At 8 h . 55 m . reached the Sungon Nuddee coming down from the East, two magnificent snowy peaks were visible in the direction of its source. This small Nuddee has salt, or something of the kind, on its banks a short way up, and burral resort there, before the passage of sheep and goats upwards drives them to more remote places. Probably had I been here early in the morning, the two burral law, would have been feeding near the Nuddee, and afforded an easy shot. I crossed the Sungon by a small temporary bridge, and halted at 9 h .5 m . for the jooboos to come up, feeling very tired; sun unpleasantly warm to the skin, though not high I fancy in actual temperature I started again at 9 h .30 m . and at 10 h . 15 m . reached Tulla Sulong, a small rather level spot, furnishing a little grass. Halted here to breakfast, and let the jooboos feed before moving on to Doong, where there is no pasturage for cattle. Slept till half-past twelve, when breakfast was ready. A strong South wind blowing, with dust in abundance. Opposite Sulong, on the right bank of Goonka (West) is a tolerable waterfall, or rather series of cascades from the top to the bottom of hill. The road thus far, (alternately on
either bank of the Goonka, but chiefly on the left,) infamously bad. The hills on either side a series of dreary looking landslips or bare sheets of rock ; and in the rains, when Bhoteeas travel up and down, this road must be really dangerous from constant landslips and falling in of the banks. Hardly any snow visible on the hill sides; and Oonta Dhura itself is nearly equally bare, if it is the hill pointed out to me when about half way. Ther. $77^{\circ}$ in tent, at 1 h .30 m. P. m.

Biding a jooboo is by no means a bad mode of travelling. You sit comfortably in a high demi-pack saddle,* which affords a capital hold in front; a man leads the jooboo by a string passed through its nose; and the pace though slow is very sure; two or three times during this trip my jooboo fell, but no harm was done. In general, it is wonderful what difficult ground they will carry a man over. Jooboos laden in fifty minutes, and we started again at 3 p. m. Weather had become cloudy and cold. At 4 h .40 m . crossed to right bank of Goonka river by a natural bridge formed by three rocks, with fissures filled in by loose stones where requisite, and at 4 h .45 m . halted at Doong, (no village, a little West of the junction of the Goonka and Lusher rivers, which come down from the N. W. and N. E. respectively. The Goonka is covered by a huge mass of ice and stones, 4 or 500 yards higher up ; and so doubtless is the Lusher, though not where it is visible from Doong. Road very bad; hills on either side nothing but landalips or bare precipices, with very little snow visible. I had one fine view during the afternoon march of a huge mass of ice in the most fantastic shapes, behind three peaks West of the Goonka; but with this exception, the prospect everywhere was most desolate, and above Doong, it is, if possible, more so. Not a shrub, and hardly a blade of grass visible any where. One eagle, two or three of the chough birds, and as many smaller birds, were all the signs of life met with. There was forinerly a shorter road to Chirchun up the Lusher river, but it has been abandoned as too dangerous from new snow covering fissures in the old ice, and yielding when trod on, thus instantaneously precipitating man and beast down a narrow fissure, heaven only knows how deep. Latterly, when men have attempted this route, they did so with

[^1]a stout long stick tied to the waist, in order to catch the sides of fissures, and thus afford a chance of getting out again. This might answer when the stick happened to be transversely to the fissure; but when lengthwise with it, would be no avail. I suggested an improvement to Nagoo, (who told me this,) viz. tying two sticks cross-wise to the waist, and thus ensuring that one of them would catch the side of the fissure whichever way it ran; but these sticks would be a most awkward incumbrance to walking in such hills. Just as we reached Doong, two or three men were seen in the distance going towards the Pass. They would sleep on the road if unable to cross before dark; hut the very circumstance of their attempting the Pass at so late an hour, would seem to prove, that its difficulties have been much overstated. I shall (D. V.) be however more qualified to judge by this time to-morrow. At 5 h .55 m . P. m. ther. $52 \frac{1}{8}^{\circ}$ in open air, boiled at $188 \frac{1}{2}^{\circ}$, elevation (by Barron*) 14.523. Surely this is too much.? The rate of travelling to-day may have been $2 \frac{1}{t}$ to $2 \frac{1}{2}$ miles an hour.

29th May.-Up at 4 h .30 m . A. m., after a very bad night's rest. Ther. $35^{\circ}$ in sleeping tent; boiled at $189^{\circ}$, which would reduce the elevation, noted from Doong yesterday, to 14,214 feet. Started at 5 h .10 m ., morning deliciously clear, but very cold with a light West wind. Ascent till 6 h .15 m . up mass of ice and stones, close under hill to N.E., quite bare of snow. The hills to S.W. from a quarter to half a mile distant being tolerably covered with snow. The top of this ascent is where Batten turned back, yesterday twelve month, on account of snow falling and being thick all round. What a contrast to this year! From 6h. 15m. to 6h. 45 m ., a slight descent, and then along level snow-beds with the Goonka river, now a very small stream, flowing on my left. There had been very hard frost during the night, and every little pool of water was covered with from a quarter to half an inch of ice. Snow very firm and crisp. I had walked for the three-quarters of an hour, and now halted for the people to come up. Started again at 6 h .55 m . up a steep ascent of loose stones, \&ec. (called Bumras;) reached the top at 7 h .15 m . and then turned to the right Eastward. Some fine masses of ice on hill to left or West. The soil

[^2]on the top of Bhumras, and in advance, almost black. Oonta Dhura was visible after turning Eastward, and seemed to be a low black hill, of moderate steepness, with more soil than snow visible. But its continuations East and West were finely covered with snow. Continuous though not steep ascent till 8 o'clock, when I reached the foot of Oonta Dhura, (called Oonta ke Jum,) where people generally halt before cresting the Pass. A small rill of water goes down to the $\mathbf{S}$. W., and probably forms the source of the Goonka river. Road (or track) thus far chiefly over snow-beds, said to cover enormous masses of ice; these melt and split into fissures during the rains, causing much inconvenience and danger to travellers.

I resolved on walking over the Pass to ascertain how my breathing would be affected; and started without making any halt at the foot. The ascent was longer than I expected, but I walked very slowly, halting every now and then for a second or two, so as not to lose my wind, and at 9 h .15 m . A. m., reached the summit. The hill side was very wet, but whether from snow recently melted, or from springs below the surface, I know not. During the ascent, I certainly felt my breathing slightly affected, and had I walked fast the affection would probably have been severe. In going over the Luspa hill on the 24th instant, I felt much greater distress, but there I travelled quickly, and the sun was more powerful. During my ascent of Oonta, the sun shone out with great aplendour ; and the dazzling brilliancy of the snow on either side was truly wonderful. I had never seen or imagined any thing comparable to it, what then must be the effect when nothing but snow is visible in every direction? The Booteeas all put on thin horse hair spectacles. I had on a pair, and a green veil also, but my eyes soon became painful, and I was almost stupid from pain before reaching the halting place of Topee Doonga. What may be the difficulties of this Pass after a severe winter, I of course cannot judge; but it would be absurd to speak of difficulties this year, (except the minor ones of cold and glare); and I feel certain that I could walk from Milum to the summit of Oonta Dhara in one day; the only drawback being the fearfully bad road.*

[^3]On the Pass the ther. when taken from its case was $45^{\circ}$. It rose in the sun to $61^{\circ}$, and boiled at $182^{\circ}$, or a little under, snow being used instead of water. The elevation by Barron's rule would be 18,540 feet ; but this must be greatly in excess. There are five small ridges of stone in the crest, which look like pillars from below. It is believed that a ghost kills any one who sleeps near them; but more probably cold is the agent. There was a bitter cold wind blowing, and it is described as awful towards the end of the rains. Dhunsing told me, that in September twenty-five years, ago, he lost 120 sheep swept over the North face of the Pass by the wind. His servants escaped to Milum with great difficulty; and the borax with which the sheep had been laden, was recovered next season. The south face and crest of the Pass consist of a black soil, apparently the detritus of a black slate, which latter is visible here and there below the soil. I was much disappointed with the crest of the Pass. The view South is very limited. Nundi Devi not visible, North-East and North a few hills are visible, North-west is a sea of hills moderately covered with snow, and hardly any of them appearing of great elevation. Indeed, were it not for the Louka river, (a small stream,) rising at the foot of the North slope, and flowing due North, I should have been sceptical as to standing on the crest of one of the few Passes into Tibet, and the highest one too. North-east are three bare hills, the first called Gentee, with behind it, not visible, two other hills, which have to be passed on the direct route to Chirchan. I know not what is the name of the centre hill, the third is Chingoor. North, in the distance, is the Balcha ridge, the last range between Hindoostan and Tibet, with intermediately a high gorge above (south of) Chingoor, connecting the hills East and West. From North to nearly West, there is a decent assemblage of hills well covered with snow, (those N. E. and N. having very little). The highest of these is a conical peak above (North of) Gertee, where copper* is said to be found. This peak bears about due N. W. from the crest of the Pass. Girtee is on the road from Mularee below the Neetee Pass, but to reach either Gertee, Mularee or Neetee

[^4]- There are lead mines at Ghentee.-J. H. B. .
from Jawahur, without going round by the South, you must cross Oonta Dhura, of which I was not before aware. At 10 h .10 m . A. M., I commenced descending the North slope of Oonta Dhura, one unbroken sheet of steep snow till 10 h .37 m . Thence moderate descent, chiefly over snow-beds cut into most troublesome ridges by the wind, till 11 h .35 m ., when I crossed to left bank of Louka river. Continued along this bank over snow-beds and bare hill sides, till 12 h .45 m ., then turned sharp to left (West, and after the worst descent I have yet had, through snow and slush, reached Topee Doongah. Halting place (no village) at 12 h .58 m . awfully tired; face blistered by sun and wind, and eyes very painful. Topee Doonga is a small level spot on the left (Sonth) bank of Louka river, which latter turns to the West where I did, being joined there by the Doldunkur Nuddee coming from East, between the second and third hills, noted as visible to N. E. from the crest of the Pass. There is a little herbage at Topee Doonga, and further West, grass and low brushwood (on the opposite side) are tolerably plentiful. South, the hill sides are covered with snow, and recede gently for a short distance North; across the river is one bare precipitous sheet of rock, with landslips along the base. East is the West face of the second hill mentioned above, equally bare and precipitous, with the Doldunkur Nuddee coming down between its North, and the South side of Chingoor hill. West, about three-quarters of a mile down, the united Louka and Doldankur streams are joined by the Torgurh Nuddee coming down from S. E. by S. These united, flow on Westwards, through a wide gravelly channel to Gertee, where another stream joins, and the whole flow on to Mularee, Josee Muth, \&cc., forming I imagine the Geenthee river, marked in sheet sixty-six of Indian Atlas. The junction of the Torgarh and Louka is curious.

They flow nearly parallel for some hundred yards before the junction, the former along the top, and the latter along the base of a precipice, which may be 150 yards high at its highest point, and diminishes to nothing at the junction. At 6 h .30 m. P. M. ther. $48^{\circ}$, boiled at $186 \frac{1}{2}$ or $187^{\circ}$. Next morning at 5h. 3ûm. 4. m. ther. $28^{\circ}$, boiled at $186 \frac{1}{2}^{\circ}$ or $187 \frac{1}{2}^{\circ}$; elevation of Topee Doong (a bitter cold place) from 15,759 to 15,450 feet by Barron's rule.

30th May—Up at 5 A. m. ther. $27^{\circ *}$ in my sleeping tent, but as there

[^5]was no wind, I did not feel the cold so much as on the top of Oonta Dhura yesterday, where the ther. was $61^{\circ}$. Saw a large raven (size of the English raven, or very near it ;) but could not get a shot at him. Started at 6 h .50 m. A. m., deacended to river, then turned up East along it, and at 7h. 8m. A. M. crossed the Louka, just above its junction with Doldunka, stream rapid, but not above knee-deep, and some twenty feet wide. An East wind had sprung up about starting time, and brought intense cold with it. Shortly after the wind lulled, heavy clouds to N. W. and South, and a light snow falling, and continued up the Doldunka, chiefly flowing under snow between two steep sheets of rock, till 7 h .35 m ., then turned up left (North) to the Kalee Mutteea Churhai ; very steep, covered with loose stones over a black crumbling slate. The latter part of ascent was less steep, but without holding on by a jooboo's tail, the whole of it would have been a most tedious job. I picked up a few bad fossils by the way; also pieces of a thin cylindrical slate-coloured stuff, called doda ha puthur, (milk stones) and used by the Booteas as an application to swelled nipples in women. Reached top of ascent at 9 h .15 m . (This is the intermediate gorge mentioned as visible from Oonta Dhura.) Occasional snow beds during the latter part, hills on either side bare precipitous sheets of sand-stone. Had a good view of Oonta, and took a rough sketch, to be perfected hereafter, perhaps.* The crest is composed of small loose stones rising in a sweep to the top of the hills on either side (East and West) North beyond a good extent of valley and low hills covered with brush-wood, rises the Buloha range, beyond which are the plains of Tibet. This range is here and there streaked with snow. The hills from Oonta, thus far, seem chiefly of brown sand-stone. The strata mostly dip East, and are very vertical. I observed some strata here and there. On the crest here 1 picked up a good sized piece of white alabasterlooking stone, very soft. The Booteeas consider it of value, call it huon phool, (snow flower,) and dissolve it in water with two or three medicines as a lotion for sore eyes, \&c. \&cc. Commenced the descent to Chingoor, (a halting place only,) at 9 h .40 m . ; route lay about due North over alternate snow-beds and loose stones from the hill above (E.) ; and was bounded E. and W. by two high ranges of (I think)

[^6]bare sand-stone, with a small stream flowing North in the hollow between them, chiefly under snow-beds. The hills on either side are perpetually crumbling away, thus forming immense heaps of loose stones all along their bases. There was a good deal of snow on the North slopes of the ravines (or khunds) and otherwise the prospect was extremely desolate. At 11 h .55 m . reached Chingnoo, after a most tiresome and hot descent. Nagoo, \&cc. wanted to go further, as but very scanty forage was procurable here for the cattle, (the first vegetation we had met with since morning) ; but I was quite tired and would go no further before eating something. Chingnoo is a small level spot on the right or East bank of the stream noted above; and on the left or South bank of another stream coming down from the East, and joining the former one here. The united streams turn West a mile or two in advance, and eventually join the Louka, \&cc. by a cut through the hills near Gertee. Just north of Chingnoo, across the stream, a succession of low hills commence extending northwards to the river below Lufkhel. These are covered with a low creeping thorn, (called damah,) which is found to within two or three miles of Milum; and the hollows afford very good pasturage. Just as we approached Chingnoo, the Lama, (who had been encamped somewhere near us at Topee Doonga yesterday,) was seen starting on his march from Chingnoo, with his small party, seven or eight men, and half a dozen ponies. These ponies must be really good ones to have come thus far without accident; but they were knocked up by the Pass, and compelled the Lama to halt yesterday. This was very fortunate, for I cannot attribute the Lama's sudden departure from Milum to any thing but fear of my crossing the Pass; or to a desire of stopping me by going ahead, and giving information. After breakfast, we shall move on until we come up with his party; and then by counting his people morning and evening, all fear of annoyance will be obviated. Eloquence will also be exerted to convince' the Lama, how unjust it would be to cause me trouble after the kind reception he met with in our territory; and he will be threatened with non-admission into our provinces again, should he cause the Booteeas trouble on my account; so I hope we may manage him yet. Altogether though, I do not quite like the state of affairs, and glad enough shall I be to find myself safe again at Milum, after a view of Tibet, and a little of the glorious sporting
said to abound hereabouts. "Rheow is the talismanic word to make a jooboo quicken his pace, though a whip has better effect. Sufe as they are, my jooboo has fallen three times with me; but no where in very dangerous places, and no harm done.

Snow-beds are always most difficult at the sides, the middle being generally firm and hard.

Pace to-day one and half mile an hour, or possibly a little more on the whole. Yesterday one and quarter to one and half mile; and the day before about two and half miles an hour.

Booteea tents all blanket, or upper part blanket and lower part cloth. A strip of about six inches wide is left open along the top to let smoke out, the rains never being heavy enough to cause inconvenience from such an opening. Dhun Sing tells me, that just now it is so hot below Dhapa, that sealing wax melts if carried on the person during the day ! ! ! (?) The appearance of hills looking at them from South and from North is widely different. Looking from the South, you see only the South face of ravines, \&cc., on which hardly a trace of snow will be visible. But looking from the North, you see only the North slopes; and these are generally covered with snow, giving the entire hill the appearance of being so covered.

At Topee Doonga this morning, I saw a tolerable number of larks, or some small bird of this sort ; also one or two of the small purple black birds, a specimen of which I unfortunately failed to procure. At Chingnoo, several choughs were flying about ; their call exactly like the catcall used by young blackguards at home. At Chingnoo, were numerous burrows of the "pfheaf." This animal is described as smaller than a dog, of a reddish colour, sits up at the month of his burrow, and remains dormant in the winter. It must be a squirrel ; much to my vexation I failed in even getting a sight of one. At Chingnoo $2 \mathrm{~h} .30 \mathrm{~m} . \mathrm{r} . \mathrm{m}$ ther. $68^{\circ}$ in shade of tent, boiled at $186 \frac{1}{\frac{1}{2}}$ or $187^{\circ}$ elevation (by Barron,) 15,759 to 15,450 feet.

30th May.—At 3 h .25 m . P. m., the servants started for Lufkhel, and I went with Nagoo across the Chingnoo stream, and along its west bank to look for burral. After some time, I saw three on the hill side, a long way off and far up; had a long sneak, but found the hill side so steep, that when within fifty yards of the burral, I could not depress my gun sufficiently to fire at them standing under a rock. They
immediately got sight of me and rushed off, so I only had one long running shot, and missed. We then turned down into the bed of the stream, and walked for some distance along the snow-beds covering it, between high steep cliffs. No more burral, however, were visible, and it became time to move on. Turned up East over some low hillocks, most pleasantly covered with stunted palm trees* in flower. The low close thorn also in flower, yellow-shaped, like sweet pea flowert. Now and then the iris of deep or pale blue color, a sort of wild garlic which the Bhooteeas eat, in appearance just like iris or narcissus shoots; "dooloo," I think rhubarb, $\ddagger$ and most delicious looking emerald colored young grasses, fringing little rills of water flowing between the hillocks. Hereabouts I saw a small dry water-course coming from the top of a low isolated black hill (bare;) in the bed of this were numerous salagrams, which had evidently been washed from the soil daring rain. I picked up thirty or forty, and could have found hundreds, but time admitted not. Very few of the specimens were perfect, as they get broken when rolled down by the stream; but I should think perfect specimens could be obtained by digging. Salagrams are formed by an incrustation of (probably lime) stone enclosing the ammonite in a spherical shape, of all sizes, from a marble to a man's head nearly. These cases as it were, burst either from some agency within themselves, or on being set in motion by water falling, \&ec. and display the fossils. Yet among the numbers that I broke, (they were very hard,) I never found a decent specimen inside, and rarely even the trace of one. In all of these I suppose the originally enclosed shell must have been decomposed and absorbed by some peculiarity in the chemical nature of the enclosing mass. After continuing East for some distance over the same kind of ground, (said to be usually a favorite resort of burral, though none were visible at the time,) I came upon the road to Lufkhel; and while descending to the river saw a little East of the road, a small triangular sheet of deep blue water, perhaps eighty yards long each side. North (in advance) across the river about a mile off, another sheet of water was visible, less darkly colored than this; two or three rills of water flowed down along East

[^7]of road to the river, the bed of which, including debouchements of these rills, is fully half a mile wide, formed of loose stones and gravel.

At 6 h .55 m. p. M., reached the river flowing from East nearly due West, and joining the Chingnoo stream about a mile or less below Lurkhel, after passing through a magnificently bold cleft in the hill of solid rock for many hundred feet of perpendicular height. This river comes from the hill North of Lufkhel in several small streams. These unite somewhere to the East, and had been swollen, either by rain or some other cause into a rapid torrent thirty or forty yards wide, through which the jooboos carried us with very great difficulty. In fact it was dangerous work, but this rapid rise will probably decrease very speedily, as the river is usually fordable by sheep. I reached Lufkhel at 7 h .10 m . A. M., much fatigued. This is a pretty halting place (no village) a few hundred feet above the river, shut in by an amphitheatre of low hills, which form the base of the last range before Thibet. The thorn bush (damah) is tolerably abundant, and the hollows are covered with deliciously emerald-colored young grasses. The place is a favorite pasturage, and during the rains some of the nearest Thibet villagers pitch their tents here. Lufkhel and Topee Doongah were the refuge of numerous Thibetans, when the Seiks advanced last year.

My servants and jooboos had arrived sometime before me, after two and three quarter hours' travelling from Chingnoo.* Their road was excellent, and lay over a succession of the small hillocks I have described. The Lama was encamped at Lufkhel in a great state of alarm, and very indignant with Nagoo and Dhunsing, (whom he knew well,)

[^8]for having brought me across the Pass. Fortunately, his people were all present, and Nagoo had no difficulty in persuading him, that I had come solely for shooting, and did not intend to advance further. Two men had just arrived from Dhapa or thereabouts .in search of the Lama, bringing ghee and rice for his consumption. Their only news was, that the Lhassa force of from 5 to 7,000 men had moved on Ladakh, where the Seiks continued to hold out, and would probably have reached ere this date. These two men were stupid fellows, and had not been within many days journey of Lhassa, so that their information is deserving of but little credit. The general impression is, that the Lhassa force, even if it has moved, will not be able to capture the citadel of Ladakh from the 300 Seiks holding it.
(31st May.—After a horrible night's rest, dreams of wonderful ascents and descents, \&cc., I rose at 5 A. m. and prepared for a hunt after burral. Ther. $36^{\circ}$ in sleeping tent, boiled at $188 \frac{1^{\circ}}{}{ }^{\circ}$. Elevation 14,523 feet. I crossed the river and ascended a rather steep hill West of the road, when on the other side, much to my ${ }^{\circ}$ delight, I saw five or six burral. The first that caught my eye was lying down at about ninety yards. I took a good aim with the long rifle, and hit him in the middle of the back. He jumped up and stood, the others running off, I fired one barrel of my double gun, (I thought I missed,) the bullet of which entered the jaw a little below the eye, still the burral stood, and it seemed doubtful whether I should get him, though he was pouring blood; but my long rifle was now ready again, and after numerous attempts I was satisfied with the aim, and rolled him over, to my infinite delight, with a ball in the side. Thinking the others might not have gone far, I left the fallen burral where he lay, and ran along the crest of the hill, and on the South face I saw four or five more standing very far down; knowing it would be useless attempting to get nearer, I put up the second sight of my rifle, and took a long steady aim at one standing lengthwise from me. He dropped to the shot hit fairly in the centre of the back, and I do not remember ever to have been so delighted with my shooting. The distance could not have been less than 160 yards. The remainder stood for a second or two, watching this poor brute's struggles to rise, and then made off. Two more, and a herd of seven or eight more made off, so that I had no chance of another shot, and prepared to return, having much
to my delight bagged two burral (my first) by seven o'clock. Returning, I saw a brace of snow pheasants, but could not get near them. These birds in a mild season must be difficult to kill. They shew some white along the wings in flying, are of a good size, and have a melancholy sort of note, which they continue at intervals nearly all day. I got back to Lufkhel at 10 h .30 m . much fatigued. Ther. in tent $87^{\circ}$; at $11 \mathrm{~h} .45 \mathrm{~m} .88^{\circ}$; and $90^{\circ}$ at half-past 12 ; after which it became rapidly cooler. My success with the burral this morning was doubly fortunate, as it convinced the Lama I had really come for shooting, and enabled me to propitiate himself and people by the present of half of one of the burral, which highly delighted them. The Lama foretold I should have success in the morning, and was hugely pleased to see through a small pocket telescope he has, that I had been successful, as I'descended the opposite hill in returning. Both burral were females, and had consequently only small horns. The second killed was, I fancy, fully above the average size, and measured as follows :-
$$
\text { Ft. } \quad I n .
$$


Color light brown, and nearly white on the belly. Dark brown stripes down the front of the legs. Hair, something between hair and quills, like what I fancy the softer parts of a porcupine's covering. May be weight about $1 \frac{1}{8}$ maund, just as much as a strong man could carry after the entrails were taken out. But in October, when they are fat, probably some of the large males would weigh $2 \frac{1}{8}$, or nearly three maunds.

Plenty of salagrams at Lufkhel; maunds could be collected in a day. I should have mentioned that the Lama requested me to take some of his tea this morning. I agreed, and it was served in a quaint copper tea-pot, exactly like an old fashioned coffee-pot. I drank about a pint of the decoction, which was chocolate colored, rather greasy, and of by no means bad flavour, though it had a peculiar twang which I can liken to nothing I remember to have tasted. The soda mixed with the tea is said to color it like brickdust or chocolate. When to be had, both sugar and milk are used with their tea, but this had neither. One of the Lama's men was amusing himseelf by slinging
stones at ravens and two large vultures during the day, but he did not project the stones with good aim, or to any considerable distance. Perhaps he was a bad hand at it. The sling was made of plaited hair. At 3 h .30 m . I started northwards up a gentle ascent or two, (salagram hillocks, ) and then turned West over a series of most lovely undulations. Some bare, (salagram hills,) others covered with the thorn bush, and rills of water, with superb pasturage in the bollows between. This style of country extends I know not how far, and might be ridden over at a rapid pace. It is bounded south by the range of hills which I noticed to the N. W. from Oonta Dhoora, particularly mentioning the conical hill above Gertee, which is now nearly as far South as it then appeared N. W. of me. These hills appear very steep and rocky, and shew much snow on their north side. The breadth of this tract may be two or three miles at most, and it is bounded north by the last range before the Thibet plains, rising into bare steep precipices. I was led here by a report that a wild horse had been seen in the morning, but it subsequently appeared, that the man sent to look out, had seen only the hind quarters of a " neaudh," and returned at once for fear of disturbing the horse, as he thought it to be. The "neaudh" is like the burral, only much larger, with enormously thick horns and. darkish colored hind quarters. I had a creep of some two hours, after three of them, but never got nearer than from a quarter to half a mile, and at 6 o'clock was forced to give up, with these and a herd of 20 or 30 ahead of me. I believed all along that they were large male burral, but Nagoo and Dhunsing, who remained behind with my telescope, swore they saw them to be " neaudhs" distinctly, and certainly I observed the dark hind quarters. Though I got no sport, I highly enjoyed this trip, though I suffered from the awful cold wind along the crests in returning. Horse dung (the people said of the wild animal) was abundant; as were also foot marks of the "chankoo," or some other beast of prey, nearly the size of a leopard's foot print, and to the circumstance of these latter, animals being about, Nagoo and Dhunsing attributed the unusual scarcity of burral in this favorite resort Occasionally I saw the place where a burral most probably had been killed. Got back to the tents at 7 h .15 m . very tired. Had some stewed and roasted burral's flesh for dinner. The meat brown, and by no means badly flavored, although this is the worst season. Having lived on dhall and rice
since leaving Melum, I enjoyed this meat greatly; but did not sleep well after it. Face almost raw and very painful, with the hurt in my left heel becoming worse daily, I cannot give up the only opportunity I may ever have for shooting, \&c. in this part of the country on account of this sore heel, so have cut away the back part of my shoes and boots, and limp along as I best may.

Bun-chour or Wild Yak.-This animal is found hereabout in the rains, and one of the Lama's people brought in to-day the horns and skull of a male, which he had killed when going down last year. The horns are short and of good thickness. Forehead unusually wide, and the horns and front part of skull, wanting the lower jaw, are a good load for a man.*

1st June.—Up at 4 h .20 m . after a miserable night's rest, Ther. $31^{\circ}$ in sleeping tent, and much the same in open air. Boiled at $188 \frac{1}{2}$ to $189^{\circ}$; started at 5 h .50 m . with Nagot and Dhunsing, on jooboos, for the crest of Bulcha ke Dhoora, or last ridge between Oonta Dhoora and the plains of Thibet. At 6 h .30 m . travelling about N. E. by N. reached the top of ascent visible from Lufkhel; then turned a little more East, down the gentle descent and along level till 7 h .6 m ., when we reached the bed of our branch of the river, passing below Lufkhel. This is joined by numerous small streams coming down from the hills East and West, every here and there. Halted from 7h. 6m. to 7h. 15m., then along gentle ascent covered with thorn bushes "damah" and grass, till 8 h .4 m ., when we reached the foot of Bulcha. The spot where we arrived at the river is called Sungtah, a halting place for sheep, \&cc. A short distance from it, the river (or stream) divides into two small streams, one coming from about N. W., the other from N. E., and our route was up the latter. The hills on either side were of inconsiderable height, bare, precipitous, and crumbling. But towards the foot of Bulcha, they opened out a little; had a few thorn bushes on the slopes; and where the surface was abraded the soil appeared of a dark brick-dust color. Does this denote volcanic action? I am told the soil is much more extensively and deeply colored at Chungnoo, and near Tirtooporee. Halted to eat biscuits and rest the jooboos from 8 h .4 m . to 8 h .33 m . Then commenced the ascent, (which proved far

- The ground I passed over this afternoon, lies on either side of our road to Doongpoo.
more severe than I expected,) and reached the summit at 10 h .24 m ., having been delayed a few minutes by one of the jooboos turning refractory.*

On the summit is a small debta, or heap of stones, with two or three pieces of rag tied on sticks, and to this Nagoo and Dhun Sing added a stone or two, they then salamed to the country below, and I began my questions. Instead of a plain which I had expected to see, the country is formed of alternate low hills and table lands, with a range of higher hills (well sprinkled with snow) in the distance, running $N . \cdot W$. to S. E. Missr is at the foot of this range, on the South face; the road from Gurtope to Tuklakote runs along the base of the same face, and it was by this route the Seikhs advanced last year. The Bulcha Pass must be fully as high as Oonta Dhoora; and although the weather was quite mild to-day, Nagoo assured me it was rarely the case, and that the wind and cold of Bulcha were more dreaded than those of Oonta. There was a thick haze Northward, and I could not therefore distinguish any thing clearly with my telescope. Chungnoo is, I believe, the only village to be seen. On the North face of Bulcha, a small stream, the Jhunkoo, rises, flowing North and a little West. This is joined by a stream coming from past Chirchun, and the two united form the Trisum river, which I could see in the distance, flowing North-westerly, a good sized river. To the Southward the peaks of Nundee Devi were visible, the larger one bearing South-west by Sonth, also the Gertee peak S. W. Oonta Dhoora was not visible, being obecured by (I think) the Lavur hill (N.), however, I knew its direction exactly by the neighbouring peaks, and the bearing was due Soath. Round as far as to the West and a little North, the hills towards Mana were visible. From Bulcha it is two marches to Neetee, the intermediate halting place being Hotee.

| Bearing from Bulcha. | Name of Place. | No. of day's journey |
| :--- | :--- | :---: |
| for laden Sheep. |  |  |
| N. E. a little, N. | Chungnoo, | Three. |
| N. E. | Missr, | Four. |

[^9]| Bearing from Bulcha. | Name of place. | No. of day' journey for laden Sheep. |
| :---: | :---: | :---: |
| North. | Gurtope, | $\text { Seven. }\left\{\begin{array}{l} \text { Two Gurphun, or } \\ \text { Commissioners. } \end{array}\right.$ |
| S. E. by E. | Taklakote, | Seven. $\left\{\begin{array}{l}\text { A Joompun, (or } \\ \text { Jung-pun) }\end{array}\right.$ |
| N. W. by W. | $\left\{\begin{array}{l} \text { Dhapa, } \\ \text { Mungnung, } \\ \text { Toling Mut, } \\ \text { Chuprung, } \end{array}\right\}$ | Five.-A Joompun. <br> Six. <br> Seven. <br> Eight.—A Joompun. |
| N.'W. a little, W. | Doongpoo, | Two or three. |
| N. |  |  |
| N. E. by E. | Kyloss range, | Seven or eight. |
| E. perhaps a little $\mathbf{S}$. (gneiss,) | Chirchum, | One. $\quad\left\{\begin{array}{l}\text { A halting place } \\ \text { only, no village. }\end{array}\right.$ |

The view from top of Bulcha was contracted by the slope of the bill East and West just in front, and by the distant haze; no vegetation was visible, and I doubt whether on the clearest day the prospect as one would be worth going to look at. From Bulcha it seems as though the hills came out from Oonta Dhoora on either side in the segment of a circle, of which Bulcha is the apex ; but I doubt not they would present a similar appearance viewed from other points East and West in advance of the Oonta Dhoora range (as it were); and my previously formed opinion of the Passes being over the last hills between Hindoostan and Thibet, was quite incorrect.

I descended the hill in 45 m . ; 34 m . more, to where I had met the river in going up; 36 m . to the top of the ascent above Lufkhel ; and 30 m . to Lufkhel : total $2 \frac{1}{4}$ hours, arriving at half-past one. I had expected to see burral, and perhaps the bun-chour during this trip, but was disappointed; so at 3 o'clock I started off to yesterday evening's ground to look for the "neaudhs" and burral 1 had seen yesterday. About half-past four, I saw what with great difficulty and the aid of my telescope I made out to be a wild horse ("cheang"), probably "wild ass" is the more correct term. This animal seemed about 12 hands high, short and compact, and more like a mule than a horse, particularly about the tail, which with the mane and face, was black, the legs and belly white, and the sides and back a reddish brown. When feed-

[^10]ing, the animal looked much like a small punchy native horse, but when alarmed, he drew the head up so erect, that he looked far more like a burral or neaudh, in which its color assisted. The head was rather large, and the forehead broad. This animal proved the most cunning I had ever met, though they are said to be easily approached when in herds. He never stopped in a hollow, but always trotted briskly through to the next eminence, whence he could have a clear view all round. There, if I ran or walked up quickly, he would remain till I came within 150 to 200 yards. But if I did not arrive soon, or attempted to sneak within this distance, he trotted off to another eminence, and so on. Under these circumstances, I was perpetually out of wind, always running or walking fast, and my heart throbbing as though it would barst, so that I had no hope of killing the animal. When I found it impossible to get nearer, I ventured three shots at different times, (shaken as I was, with the second sight of my rifle up) for the mere chance of hitting. My second shot was an inch or so too high, for it grazed his back, and I saw the bullet fall close behind him. He kicked up fariously with both heels, and I flattered myself, was falling; bat he trotted away again, to my infinite disappointment. This went.on till past sunset, when I was forced to turn homewards, not having seen any other animal during the afternoon. Reached Lufkhel at 8 o'clock, quite fatigued by upwards of $13 \frac{1}{2}$ hours work since morning.

I would have given much for another two days at Lufkhel, but my people were averse to remaining. The Lama also was dreadfully nervous, and irritated at my having gone to Bulcha, as he verily believed I was going on into Thibet, although my servants and tents remained behind. The Lama's people were all present, but the families of some of them were in tente, only seven or eight miles below Bulcha Pass; and as the Doongpoo authorities might by chance have made a dash at me, being not above one day's riding distant, I was compelled to agree upon returning towards Melum on the morrow.

2nd June.-Started at 5 h .22 m . A. M., intending to have a look at the ground where I killed the burral on the 31st ultimo. Had nearly two hour's fag, and saw not one burral, they appearing to have deserted the spot. I saw altogether five or six brace of snow .pheasant, but did not attempt them, being after burral. Had I even done so, I doubt much if I could have got a shot, for they were excessively
watchful. Feeling fatigued from yesterday's hard work, and a very bad night's rest, I mounted my jooboo, and sent the shikaree and boy before to look out; about 8 o'clock one of them returned, having seen four burral. I went on and saw them on a bare hill side, took a long creep to get near them, and found no trace of them when I came up. The boy had, however, seen two go up the hill, and two over the ridge to some cliffs in advance, just East of Chingoor. I therefore ascended again over a rough landslip of hard stones to the crest of the cliff, which was formed of sheets of yellow sandstone and loose masses of the same. This stone so exactly resembled the color of the burral, that I saw nothing; and I was going to look further over, when my boy gave a whistle to recall me. He had seen numerous burral lying about ninety yards in front of me, but the whistle startled them, and the first I saw was then jumping up. I took the best shot I could at one running, and broke his hind leg well up, but did not stop him. The noise alarmed four others that were lying down a little to my right, not fifty yards off, and here another barrel would probably have ensured me a certain hit; but before I could get my double gun, one barrel of which had ball, they were a good 100 yards off, and my shot missed. The herd, consisting of from twenty to twenty-five or thirty, now slowly ascended the ridge of hill to my left, and as I had no chance of seeing them again, I took four or five long shots at them with my rifle as fast as it could be loaded. I might have killed one, as for two shots the distance was not above 200 to 250 yards; but my bullets went only very near, and I could do no damage. All search after the wounded one was ineffectual from the terrific nature of the ground, and a little blood was all the result. My shikaree quite frightened me by some of the sheets of rock he ascended and descended, until I called him away. Some two hours were lost after these burral, and it was 12 h .50 m . before we reached the crest above (South of) Chingoor. Thence a quick descent down Kalee Mutteea Churhai to Doldunkur Nuddee by 1 h .35 m ., thence along the Nuddee to its junction with the Lonka, which latter being much swollen, we halted here (where the Lama was on 29th ultimo,) at 2 P . m. instead of going on to Topee Doonga, which was 18 minutes' travelling to the West, though here grass was very scarce and wood not procurable. The snow in the Nuddee had melted very much since I passed up, and

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Digitized by GOOgle
some of the snow beds were barely practicable, with no other track except under great difficulty.

The new detachment of troops gone to Ladhak is only 1,000 instead of 5,000 , and they are commanded by the chief who takes credit for having annihilated Zorawur Sing last year. These troops are from Gurtope and not Lhassa, though I understand they came from Lhassa some months ago ; and there are perhaps 5,000 more ready to advance from Gurtope, if this 1,000 fail. They will get a lesson probably, when Bustee Ram arrives with his Seikhs.*

3d Juse.-Started at 4h. 40 m . after a bad night's rest, \(\dagger\). Ther. \(42^{\circ}\) in sleeping tent, morning very mild with dense clouds and haze. Route lay up right bank of Laukon river, and was much easier than that from Topee Doonga would have been. Ascent gentle, except the first part. Road over snow-beds and sides of landslips. At 6 h .15 m . reached a small stream coming from East, which may be of considerable size at some time of the year, judging from its bed. At 7 h .26 m . at the foot of Oonta Dhoora, and at 8 h .17 m . reached the crest, walking up leisurely. Oa the Pass it was unusually mild-no wind-and haze cleared away; so that I had a good view of whatever is visible from the top. Ther. in shade \(39 \frac{1}{2}^{\circ}\). Boiled at \(182^{\circ}\). Halted till 9 h .20 m ., and during the interval, I attempted a sketch of views, north and south, which I must get completed hereafter. \(\ddagger\) Ate a good quantity of biscuits, and drank the bealth of the Queen and friends.

There is a small sheet of blue water a little west of the foot of the Pass on the north side, but I believe it dries up at some period of the year. On the debta,§ two small sticks had been set upright. These were fringed down the south side with what I really took to be fine white cloth, but it turned out to be ice, from the congelation of moisture driven past by the bitter cold north wind. I saw one young swallow flitting about on the crest; what on earth was it doing there?

I have made a mistake I believe regarding the three hills North East of Oonta Dhoora. The nearest is Gentee, but Saour is Eastward of

\footnotetext{
- By last account, the Chinese Thibetan forces had been totally routed at Ladhak by the Seikhs, October 14, 1842.-J. H. B.
\(\dagger\) Probably the rarity of the air may have had a greater effect on our traveller than (in his note on Manson's Journal) he seems inclined to admit.-J. H.' B.
\(\ddagger\) See Plate.
§ Hillock or heap of stones for offerings and worship.
}
that again, and the name of the second I do not know, (unless it be "Lusher.") Chingoor may be the name of the third, or merely of the ridge above Chingoor. Commenced the descent at 9 h .20 m ., reached foot at 9 h .55 m ., Doong at 12 h .15 m ., breakfasting place of 28 ch ultimo 2 h .30 m ., halted till 3 h .15 m ., and then on to Melum, where I arrived at 5 h .40 m ., quite exhausted by the 13 hours' travelling. At the foot of the Pass, the snow was melting rapidly, and large fissures were forming, snow very soft, sun unpleasantly hot. Goonka river much swollen since I passed up, and the snow-bed, by which we crossed to Melum side falling in rapidly. My face and heel were exquisitely painful, and I was delighted to get back to Melum for my bed. The price of a yak is from eight to twelve rupees; they carry less than a jooboo, and sometimes turn upon their drivers, or rush down hill when urged beyond their patience; a jooboo never does this, carries \(1 \frac{1}{8}\) to 2 maunds well, lives to 30 years or so, and works 12 to 14 years. Dhan Sing is my authority. In descending the Pass yesterday, I heard the fall of an avalanche somewhere in the vicinity; the noise was that of a loud and continued peal of thunder; the Bhooteas have stories of men and goats being lost in snow storms and avalanches. One I heard to-day was of 4 men with 500 sheep and goats loat during a snow storm of 7 days near Sungon. Three men escaped back to Melum, and the tribe of Bhooteas who suffered this heavy loss forswore the Thibetan traffic for ever. Now-a-days, people seem to have become acquainted with the seasons and weather ; for accidents very rarely occur.*

\footnotetext{
- A short time after Lieut. Weller's departure from the Bhote Mahals, 1 received an official report of two Bhooteas with 8 or 10 loaded jooboos and some sheep being lost in a snow storm. Accidents of this kind are most frequent during the monthe of May and October; in the former month from the fall of avalanches, both of snow and rocks occurring in the middle of the day when the sun becomes powerful, and the masses on the peaks become loosened, in the latter month from the first falls of new snow at the commencement of the winter surprising parties who attempt for the sake of profit to prolong the season of traffic across the Passes. In October 1837, the Netee Pass was quite open on the 11th, on the 12th it was entirely closed by a sudden anow storm of which I was an eye-witness. The village of Macca near Budrinath has been twice carried away by avalanches since 1815 , and the pilgrims who venture to Keddernath too early in the month of May, are sometimes surprised by avalanches falling in the three miles between Gowree Koond and the temple; the only signs of them left being sticks and shoes scattered about the snow. Common caution as to choice of season would save all such accidents to the pilgrims; indeed, accidents are yearly becoming of rarer occurrence.-J. H. B.
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Oonta Dhoora looking South from the ridge above Chingnoo ie. the crests of Kale Multi Chinhoie
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[^0]:    * The Lama of Tooling, a refugee to Almora during the invasion of Thibet by Zorawur Sing and the Sikhs, and after the spoliation of his temple by them.J. H. B.

[^1]:    * The pack saddle used for jooboos is an excellent one; and I took one down as a pattern, in event of one's requiring to use bullocks or ponies as baggage animals.

[^2]:    *Mr. Barron of Shabjehanpoor, a great traveller in the hills, gave Lieut. Weller some table for calculating heights by the boiling temperature, and this is always alluded to.-J. H. B.

[^3]:    - At the foot of Oonta, snow pheasants (huoneal or huonwal) were calling, but high up in the snow. It is hard to imagine what these birds live on, there not being a berry or particle of vegetation for miles round. Yesterday a man brought me seven

[^4]:    eggs from the nest of one of these birds, and wanted me to eat them. I declined this, and he enjoyed them for his own dinner, cooked up somehow with ghee. The eggs were nearly as large as turkey's eggs, white, with lightish-brown spots all over.

[^5]:    - Compare with Calcutta same hour and same date.-J. H. B. Probably not below $85^{\circ}-E d$.

[^6]:    * See Sketch.

[^7]:    - Probably a kind of willow is here meant.
    + Tartaric farze and juniper bushes are the thorny plants in the Passes.
    $\ddagger$ Yes.-J. H. B.

[^8]:    * At and about Chingnoo, there is a little grass for cattle, and 1 found one salgram here. I saw also the foot-print of an animal called "chunkoo." This I had supposed to be a small tiger, but from subsequent description of the color, hunting in packs, and lolling out the tongue when fatigued, it must be the wolf, and judging from the foot-prints, of large size. The "chunkoo" will kill jooboos, also whole flocks of sheep and goats if left untended. It also hunts the burral, but is said never to attack a man. The "thur wah"" is a smanler animal, slightly marked like a tiger, and hunts singly. (Perhaps Felis macrocelis hitherto slipposed to be confined to Sumatra, but of which a specimen has just been received in our Museum from E. B. Ryan, Esq. who obtained it at Darjeeling. Eds.) Possibly I may yet see these animals. The two streams at Chingnoo have rather wide gravel beds, denoting a large body of water at some period of the year.

    Much to my surprise, Nagoo informs me, that the jooboo will breed, cither male or female, with the cow or bull. The produce is called "toloo," is but little used, and I fancy but rare. Nagoo could not tell me where one was to be seen.

[^9]:    * In the valley were a few pigeons and choughs, also the Iris plover. There was a little snow here and there; also in the hill to the East, but none on those to the Weat. Towards the top of the ascent was a tolerable quantity of snow, but in detached portions.

[^10]:    - Joompun-Magistrate and Collectors.

