

CONFIDENTIAL

REPORT

ON THE

EXPLORATIONS

IN

NEPAL AND TIBET

Made by M.—H. and his son in 1892-93

IN

**CONNECTION WITH THE TRIGONOMETRICAL BRANCH,
SURVEY OF INDIA**

PREPARED IN THE OFFICE OF THE TRIGONOMETRICAL BRANCH, SURVEY OF INDIA,

MAJOR ST. G. C. GORE, R.E.,

SUPERINTENDENT, TRIGONOMETRICAL SURVEYS, IN CHARGE,

AND PUBLISHED UNDER THE DIRECTION OF

COLONEL C. STRAHAN, R.E.,

SURVEYOR GENERAL OF INDIA.



Dehra Dun:

PRINTED AT THE TRIGONOMETRICAL BRANCH OFFICE, SURVEY OF INDIA.

D. V. HUGHES,

1895.

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Precis of the Narrative by Explorer M.—H. and his son of their journey in Nepal and Tibet in 1892-93.

The programme laid out for this explorer was, that he should start from Tulsipur in Oudh, and traversing Nepal should make for the Thok Daurakpa gold fields *vid* Tadum, and then return if possible in a south-easterly direction to Shigatze; or failing in this, to go S.W. to the Manasarowar lake.

He accordingly started for this purpose, accompanied by his son as a probationary explorer.

Leaving Dehra Dún on the 15th February 1892, they repaired to their home near Lohaghát, and after about 2½ months spent in necessary preparations, engaging servants, &c., they started for Tulsipur which they reached on the 25th May 1892.

I. Following a north-westerly course, on the 5th June they reached Salena, an important place in latitude 28° 23' (fixed by this explorer in 1868-69). Their route seems to have passed along thickly populated and well cultivated valleys, particulars of which are given in the journal.

II. From Salena the explorer followed a north-easterly course and closed at Gheráng, latitude 29°, a village on the route followed by the explorer in 1873. This point was reached on the 31st July, the route going over entirely new ground in Nepal.

They then marched to Loh Mantang, latitude 29° 13', *vid* Muktináth, and about a month was lost between the two places in fruitless efforts to obtain passports for Tibet. The road between Gheráng and Loh Mantang having been explored previously by M.—H., no route traverse was carried over this portion.

III. On the 5th September they started their route traverse from Loh Mantang, and going N.E. and E. into Tibet territory over new ground, struck the Brahmaputra at Dakpa Dong, and continuing eastwards, about 20 miles along the right bank of the river, essayed to cross over at Dudua Chhongra, but being repulsed, they returned to the former place and continued upwards along the right bank, to the Likche ferry opposite Tadum, where they arrived on the 18th September 1892, having followed Nain Sing's route.

Permission to cross being again refused at this point, the explorers returned to Loh Mantang, called by the Tibetans Mustáng, where first under pretext of the severity of the winter, and then with a promise of a passport from Lhasa, they were detained ten months by the Rájá of the place.

IV. On the 21st July 1893 they started once more from Loh Mantang, this time in company with a merchant who was bound for Lhasa and who promised to help them. They traversed in a northerly direction reaching Tadum in Tibet on the 1st August. Here they were made prisoners, and after considerable hardships they were released on the 20th of the same month, and conveyed by a guard of two sowars, along the left bank of the Brahmaputra, up to a place called Purang, where they were made over to the Jongpon of that place; from him they obtained permission to return to their homes *vid* the Biáns ghát.

V. While under the surveillance of the sowars, the explorers managed to carry on their route from Tadum westwards as far as Tamjan in longitude 83°, going over Nain Sing's route of 1865-66. The explorers reached their home by 20 marches from Purang on the 6th October 1893, and reported themselves at Dehra Dún on the 13th November 1893.

The exploration comprises about 400 miles of route traverse, of which about two-thirds is new work and the remainder follows part of the work in 1873 and part of Nain Sing's work in 1865-66 along the Brahmaputra. The new work has been fitted in between the old values of Tulsipur, Salena and Gheráng (called Ghera in old map). The work west of Tadum has been fitted in between the old positions of Tadum and Tamjan. Five latitudes were observed which agree fairly well *inter se*, and thirteen boiling point observations were taken for only one of which there is a double value.

Explorations in Nepal and Tibet by M.—H. and his son, made during
1892-93, in connection with the Trigonometrical Branch, Survey of India.

Translations from Diary and Notes.

Having received final orders, we left Dehra Dún on the 16th February 1892, and arrived at Almora on the 20th. Here we were engaged five days in cashing the R. T. Receipt at the Treasury and in purchasing Indian medicines and other stores. We left Almora on the 26th and arrived at Lohaghat on the 29th. Halting for a day we reached our home at Chhulape on the 2nd March.

As cholera was raging at the time, we thought it advisable to delay our departure, especially as we had to engage servants to accompany us on our tour. We left home on 12th May, and after a journey of fourteen days by rail and cart, reached Tulsipur in Oudh (a small town of kacha houses), on the 25th May, 1892. We commenced work at a place north of the bazaar, at the crossing of two roads, viz., from Bhagwánpur in the east to Nepalganj in the west, and from Tulsipur to Balrámpur on the south. The whole place was cholera stricken, and we occasionally passed dead bodies on the way-side: 1,700 persons, it was said, had died from it during the season.

26th May. On this day's march we passed the following villages, viz:—
Girdhari of 10 or 12 houses,
Madarwa „ 8 „ 10 „
Bhagwánpur and Janakpur;
at this last place we found a Government Forest chauki with two or three paka houses and a dák bungalow: we halted here for the night.

27th May. Resuming our journey, before reaching the Nepal boundary, we passed the following villages, viz:—
Pahelwánpur of 12 or 14 houses,
Balapur
Kuswa „ 10 „ 12 „
and Jharna „ 8 „ 10 „

the road leading for the most part through belts of heavy Government Forest. At the boundary we found a stream running N. and S., between two ranges of hills about 500 yards apart.

A quarter of a mile beyond the boundary, we came to the Nepal toll bar on the right bank of the stream. Here we found a guard of five or six constables, who searched all our baggage, and after some hesitation supplied us with the necessary passports on receipt of a small present of a knife, sugarcandy and some medicines. The name of this outpost is Koelabás.

Beyond this, the route lay, for the most part, along the stream, which we had to cross and re-cross several times, having high ranges of hills on our right and left. We encamped at Pindibás for the night having marched 10 miles in all. About $\frac{1}{4}$ a mile beyond Jharna village we passed a forest toll bar with four or five banias' shops.

28th May. Starting from Pindibás, we had a winding ascent of about $\frac{1}{4}$ a mile to the summit of Mahabir Lek, one of a range of hills lying N.E. and S.W., and which we had noticed on our left when crossing the Nepal frontier. The hills are covered with chír and sál forests, and have good black surface soil.

From the top of the range, the path descended through a dry, stony water-course along which we continued for about 2 miles, when it was joined by a small stream from the S.E., and after going 2½ miles further, we came to Kakron chauki and village. Here we were again searched

TRANSLATIONS FROM DIARY AND NOTES.

and had to produce our passports. After partaking of our mid-day meal, we resumed our march along the stream, that continued for about $2\frac{1}{2}$ miles through forests of *chír* and *sál*, and then leaving the stream, which, turning westwards, falls probably into the *Rápti* river, we continued through the forest for 1 mile and arrived at the village of Gurha, where we stayed the night.

The hills were generally from 1 to 2 miles distant on either side of us, till just before getting to the Kakron chauki, when they closed in so closely that we had to walk some 10 or 15 yards through the water, there being no pathway on the banks.

Gurha is a village of about 25 or 30 paka houses, in the centre of a wide valley 14 miles across by 20 miles from E. to W. It is known as the Deokhar Dún, is highly cultivated, and fairly well populated. In fruitfulness and richness of soil it far surpasses any place in India, as was evidenced by the splendid crops then ready for cutting.

The people of Tulsipur on the south, and Salena on the north, migrate hither in the winter on account of the cheapness of food grains. The Dún is watered by canals from the *Rápti* river. The mango is the only tree to be seen. The heat in May is very great. Total length of march, 6 miles.

29th May. Starting in the morning a mile and a quarter brought us to Motipur, a village of about 50 houses; a quarter of a mile further we passed Jharna village, and in the next $\frac{1}{4}$ mile came to the left bank of the *Rápti* river, which we crossed on foot, the width being 45 yards with a depth of $2\frac{1}{2}$ feet of water. During the rains the river has to be crossed in boats. It flows from E. to W. towards Nepalganj. Leaving the river, we got to Langri village, distant $\frac{3}{4}$ of a mile, and travelling $1\frac{1}{2}$ miles further reached Deopur village, where we passed the night without being able to obtain anything to eat. Total length of march 32 miles, during which we got bearings to two peaks from near the river and again at Langri village. The road lay through belts of cultivation and tops of mango trees.

30th May. Passing through heavy brushwood, we struck a stream that, after a course of 2 or 3 miles, falls into the *Rápti* river; following it for $\frac{3}{4}$ of a mile, we came to Sipahibás chauki on its right bank. At this point the hills, which had skirted the stream at a distance of 2 miles, diverge westwards. Leaving this chauki the road goes through a narrow pass, along the stream which is hemmed in by heavy forests on both sides; we had to hurry across to the next chauki, called Bánsání, about $2\frac{1}{2}$ miles, as the Dún is infested by a band of thieves of the Tharu tribe. At this chauki there is a guard of five sepoy for the protection of travellers. In summer, owing to the great heat, the guard is removed.

During our halt for meals at the chauki, a band of armed men presented themselves and very generously offered to accompany us, but fearing treachery, we misled them by saying we were bound for Dáng Dún. Having succeeded in setting them on a wrong track, we hurried on our northerly course, and putting 4 miles between us, reached the chauki at the top of the range, which running due west for 21 miles, at this point bends for 6 miles in a south-easterly course, then turns north, and separates the Deokhar Dún on the south from the Dáng Dún on the north. About $1\frac{1}{2}$ miles from the chauki, we reached Singri village in the Dáng Dún and stayed the night there; though here too we failed to get any food supplies, the people living on maize imported from the hills, as there had been a famine in the Dún.

31st May. About $\frac{1}{2}$ a mile from Singri, we came to Singri village, and $\frac{3}{4}$ mile beyond, passing a village to our left, we reached the village of Pacharka, and $\frac{3}{4}$ mile further reaching Karjái village, we halted for the night. The soil for the last mile was very rich and productive. The hill men bring down their cattle to graze here in the winter. We got bearings to three or four peaks from three points on the route, and about midway crossed a stream, named Ghatia Khola, running from north to south.

EXPLORATIONS BY M.—H. AND HIS SON IN NEPAL AND TIBET.

Among the hill men who had come down to Karjái village, we met two men of the Thakali tribe, who were conversant with the Tibetan language. Finding them willing to accompany us we engaged *Engage two Tibetan guides.* them on salaries of Rs. 10 each per mensem.

1st June. Starting from Karjái, in a day's march of 11 miles, we passed *en route* the following villages:—

Parsi	in two divisions, distant	1·3 miles
Amrai	„ „	1·5 „
Jathora	0·8 „
Dunchaura	in two divisions	1·7 „
Dudras	0·8 „
Nimua	1·1 „
Manpur	0·8 „
Bijaori	0·8 „
Majhila	1·0 „
Kharchua	0·9 „
Total		10·7 „

Between the first two villages we crossed a stream which, flowing for some distance southwards, turns westwards and joins the Ghatia Khola, and $\frac{1}{4}$ of a mile from Nimua village we crossed the Chaugura stream, which flows into the Sarju river, also the Bar Khola another feeder of the Sarju, $\frac{1}{4}$ a mile beyond Bijaori village; about $\frac{1}{4}$ mile from Bijaori is a fort, belonging to the Salena Rája. *Bijaori Fort.* It contains 4 or 5 paka buildings, and is the winter quarters of the Rája himself. The whole of the Dáng Dún and Deokhar Dún belong to the Rája. The zamindárs are generally *paharis* (hill men), who have either obtained grants or have purchased land, but the inhabitants of both the Dúns are people of the Tharu tribe, who differ largely from *paharis* in manners and customs.

2nd June. In the first half of the day's journey, we passed the following villages:— Tharu $\frac{1}{4}$ mile, Paharis $1\frac{1}{2}$ miles, and Rana $2\frac{3}{4}$ miles from the starting point. Half a mile further off, we came to a dharamsála (rest-house), beyond which the road continued along a stream, which we had to cross and re-cross several times, till we came to Dhakriabás village where we stayed the night, though we were unable to cook our food or obtain good shelter from the continuous rain. The total distance travelled was about 6 miles. We now found ourselves in higher regions where oaks and rhododendrons began to be more frequent.

3rd June. We resumed our course in the morning, and after an ascent of $\frac{3}{4}$ mile, reached Kinchaura Lek hill. The range on which the hill is situated runs from 112° S.E. to W.: we intended taking boiling point observations at this place, but could not do so, owing to rain. A stream, named Ghatia Khola, rises in these hills and flows westwards. Descending the hill we got to Kinchaura a village of 7 or 8 houses, about 1 mile from the top, the stream above mentioned being about 1 mile to our right. Going 1 mile further, we came on to it; crossing and re-crossing it twice within $\frac{1}{4}$ a mile, we found another falling into it from the S.W. Following the joint stream for about $\frac{1}{2}$ mile, we came to Jamnia Phedi village, where we connected our route with that of season 1868. *Connects route of 1868.* This place is between the Ghatia Khola and Bar Khola streams—the latter joining it from the north. There is a temple here devoted to Shiva, and a dharamsála built by the Nepal Government; also 4 or 5 houses inhabited by *jogis* (mendicants). A road from Jalghát in the west, to Nepal in the east, passes this place, and Bar Khola pati (district) lies to the north. The hills contain chir and sak trees only, with a little cultivation here and there. The total distance travelled was about $3\frac{1}{2}$ miles, and the road was rough, stony and undulating.

4th June. Starting from Jamnia Phedi, we continued along the stream, till we crossed the Bar Khola, about 1 mile below its junction with the Ghatia Khola. The districts of Phaliahang pati and Salena pati lie on the left and right of the stream. About 2 miles from Jamnia Phedi we came to Langjula village. Langjula is a village of 20 or 25 houses, with shops of cloth and of grain merchants. A short distance W. the Bar Khola joins the Sarju river.

TRANSLATIONS FROM DIARY AND NOTES.

From Langjula village we had an easy path along the Sarju river. At the first mile we passed a chuuki and dharamsála; at the second crossed a stream falling into the Sarju, the next half mile brought us to a wooden bridge over the river; crossing by this we reached Sitalpati village, having marched 5 miles in all. The hills that lay on either side of our route rise to heights of 5,000 to 10,000 feet, are covered with chir and sál forests, with cultivation here and there and occasional habitations. The valley is about 4 miles by $3\frac{1}{2}$ miles and very fertile, being watered by canals from the river.

The villagers from Salena come down to Sitalpati in the winter, and trade with the people of Tibrikot, bartering wheat and corn for blankets and salt. There is a temple to Mahadeo and a dharamsála at this village.

5th June. Leaving the former path, a steep ascent of about 2 miles brought us to Salena village, on the summit of a range lying E. and W. There is a bazaar of 40 or 50 shops at this place, with a fort containing 5 paka buildings, with a garrison of 100 armed soldiers and mounting 6 guns. A road goes westward from here to Dailak and Sil-Garhi. About 3 miles to the west, a new fort is being built. This was formerly the seat of a Nepal Governor, but this year it has been presented to two nephews of the late Rájá Surendra Shah Bikram of Nepal. The elder is 18 years and the younger 12 or 13 years old. They expect to receive a revenue of Rs. 12,000 each per annum.

6th June. On the morning of the 6th June, we waited on the Rájá, with a *nazar* of cash and a few trifles. Being questioned as to who we were and where we were bound, we urged that we were inhabitants of Jumla, on a pilgrimage from India to Manasarowar, by way of Muktináth, and that we were *baids* (doctors) by profession. On hearing this, we were ordered to treat the mother of the elder rája, who was ill. After about 35 days' treatment she was brought round, and we were pressed to stay on as family doctors; but promising to return on completion of our pilgrimage in two months time, we were allowed to proceed on our way, being provided with the necessary passports.

The two men we engaged on the 1st June were unwilling to go with us further, on Rs. 10 *per mensem*; so we were obliged to raise their pay to Rs. 17 each, from the 1st July, as they were the only persons with us who could speak the Tibetan language.

11th July. Starting from Salena we continued for $\frac{1}{2}$ a mile along the top of the ridge, then descended $\frac{3}{4}$ mile to the Ghatia Khol stream, following which for $\frac{1}{2}$ a mile, we came to the Sarju river, which is 40 paces wide and had 1 foot of water. The river coming from the N.E. bends to the N.W. and then turning S. flows towards Sitalpati. The hills on either side rise to a height of 5,000 feet, and are covered with oaks and rhododendrons: $1\frac{1}{2}$ miles from the river brought us to the pass and village of Maleta of 250 houses. The Maleta range lies S.E. and N.W. with an offshoot to the W. About $\frac{1}{2}$ mile from here, and bearing 235° , is a fort on a hill, said to have been formerly the residence of the Rájá of Salena, whose territory was bounded on the north by Jajrikot, on the east by Piuthana inclusive; on the south by Deokhar Dún inclusive; and on the west by Salena inclusive: at present the Rájá of this place is one Tiharú Shahi, and is in possession of the country from Betia Neta to the left bank of the Sarju river, and pays a tribute of Rs. 3,000 annually to the Rájá of Salena. Owing to the heavy rain we stopped at Maleta village for the night, having marched about $3\frac{1}{2}$ miles.

12th July. A mile from the last stage brought us to the Sarju river, which is here 80 paces wide, with a depth of water of $\frac{1}{2}$ a foot. Crossing it we came, in the next mile, to a small feeder stream, from which an ascent of $1\frac{1}{2}$ miles, passing Hamla village on the way, brought us to the pass of the Betia Neta range. To the E. and W. of us lay the districts of Piuthana Pati and Jajrikot Pati respectively. Descending $\frac{3}{4}$ of a mile we reached the right bank of the Dhingma stream, $\frac{1}{2}$ a mile beyond which we got to Bagchaonra a village of 25 houses, where we stayed the night. Distance travelled 5 miles.

EXPLORATIONS BY M.—H. AND HIS SON IN NEPAL AND TIBET.

13th July. The total distance travelled this day was $5\frac{1}{2}$ miles, which brought us to Olliajola village of 10 or 12 houses. *En route* we passed the village of Chhillala $2\frac{1}{2}$ miles, Jaktia, $3\frac{1}{2}$ miles, and Kakra $3\frac{1}{2}$ miles, at $1\frac{1}{2}$ miles the Sarju river lay $\frac{1}{2}$ mile to our right, and $\frac{1}{2}$ mile further we crossed a small feeder to it from N.N.W. The hills on either side were cultivated and had habitations here and there at a distance of one mile above the base. Bearings were taken to several peaks during the day.

The staple food in these parts is ground maize, which is boiled as rice or porridge, or made into cakes. Wheat flour and rice are very scarce, being sold at $2\frac{1}{2}$ and 3 annas a seer. We got neither food nor shelter at this village. The road from the small stream which we crossed was a rough steep ascent to our halting place.

14th July. Travelling 1 mile from the last stage, we came to Sinabang village, about $\frac{1}{2}$ mile W. of the Sarju river; $\frac{1}{2}$ mile further we crossed a small stream falling into the Sarju, and $\frac{1}{2}$ mile beyond it came to the village of Lorabang, $\frac{1}{2}$ mile W. of the Sarju river, to which from this point it gives its name. 300 yards from the village we crossed the river to its left bank where it was joined by another stream from the north. Keeping along the river for $\frac{1}{2}$ mile we crossed another feeder to it from the N.E.; and after a further march of $1\frac{1}{2}$ miles, part of which was up a steep ascent, we got to the top of Kotia Neta hill, where boiling point observations were taken. At this point, the range throws off two branches, one to our left and the other to our right. The latter bearing 141° divides again, after a mile, into two arms, one going east and the other south. After a descent of about 1 mile we found ourselves going along between two streams equidistant 1 mile N. and S. The district N. of the former is called Jajrikot Pati. Descending another mile, we passed Haibang village of 15 or 20 kacha houses, on our right; and 1 mile further down we came to Khara village on our left; $\frac{3}{4}$ miles beyond which, still descending, we got a bearing of $118\frac{1}{2}^\circ$ to Jihang hill, 8 or 9 miles off, said to mark the western limit of the Piuthana district. Another $\frac{1}{2}$ mile, or 4 miles descent in all from Kotia Neta, brought us to the foot of the hills where three streams meet, known as Bar Khola, Khari Khola and Jibang Khola, the united stream being known as Laong Khola. Following this for $\frac{1}{2}$ a mile, we came to a wooden bridge, where the stream was 20 yards wide with a depth of water of 2 feet. A mile from this point the hills close in on the right and left, leaving a very narrow defile for the path. The stream turning north-westerly, after a course of 7 or 8 miles, falls into the Bheri river, a view of which was obtained for a distance of 10 or 12 miles to the west. From the defile, another $\frac{1}{2}$ mile brought us to Laong village, where we stayed the night, though we had very little rest through fear of being robbed. The total distance covered on this day was about 9 miles. Owing to rain we had to halt here a day.

16th July. Resuming our journey, the first mile brought us to Laong village No. 2; $\frac{1}{2}$ mile further we got a bearing of 331° to a peak beyond the Bheri river, distant about 10 or 12 miles; and then by an easy ascent of $\frac{1}{2}$ a mile, gained the summit of a range running from S.E. to W. and dividing the Laong Khola and Sanku Khola streams: $\frac{1}{2}$ mile further brought us to Balakcha village of 16 or 17 houses. Descending about 1 mile we crossed a stream which falls into the Sanku Khola, and $\frac{1}{2}$ mile further on, we crossed the Sanku Khola itself, width 12 yards, with a depth of water 2 feet. After $1\frac{1}{2}$ miles, level going, during which we crossed a small feeder of the Sanku Khola, we reached Sanku village, where we halted; the total distance travelled was 5 miles. Rice, maize and *mandwa* (a small grain) are the principal food grains obtained here, maize being the staple food. Sanku is a village of about 200 kacha houses, and is the head-quarters of two officials of the Musikot Raja. They levy duty on all goods passing through. We were questioned as to our business and replied that we were pilgrims to Manasarowar *vid* Muktinath. We had to pay duty on mercury, paper, medicines, blankets, &c.

17th July. An ascent of 2.3 miles brought us to the top of Reni Sank Lek hill, where we took boiling point observations. This range, coming from the S.E. runs 5 miles N. and then turns W. to the junction of the Laong Khola with the Bheri river. A descent of $1\frac{1}{2}$ miles brought us to the cattle shed of Nathigarh, where we halted for the night, as the journey had been down a very steep rough path. Total distance travelled about 4 miles.

TRANSLATIONS FROM DIARY AND NOTES.

18th July. Descending $\frac{1}{2}$ a mile, we crossed the Nathigarh stream, 20 yards wide with 4 feet of water, flowing from S. to N. into the Bheri river. Ascending $\frac{1}{2}$ a mile, we got to Kolichár village of 16 houses, and $\frac{3}{4}$ mile further reached the top of the Patia Ncta range which is a branch of the Timania, and runs from S.E. to N.W. for 7 or 8 miles.

A descent from here of 2 miles brought us to Rukam village, where we halted for the night. Distance travelled 3 miles. This village of 600 Rukam village. or 700 houses has also a fort, the head-quarters of a Nepal Governor, named Narsingh Sahi, a member of the ruling family of Nepal. Originally the place belonged to a petty rája, whose territory extended up to Charka Bhot on the north, Salena on the south, Dailek on the west, and the Timania range on the east, but on its subjugation by Nepal, a member of the royal family was appointed Governor and the district was leased out to him. About 360 yards E. of the fort is a tank of clear water, 270 yards long by 180 yards wide, covered with lotus flowers and full of fish. A path to the Dulu and Dailek districts goes from this village along the Bheri river; we took boiling point observations here.

We waited on the Governor for fresh passports, and on being presented to him, he enquired all about us. We told him we were pilgrims from Jumla, that having completed a pilgrimage to India we were proceeding to Manasarowar by way of Muktináth, and that we were *báids* (doctors) by profession. On this he desired us to stay and treat him for his eyes, which he said he had lost the use of for two years past, and to attend to his son who was ill. As a further inducement for us to settle there, he promised to guarantee us a fixed income annually of a gold mohar per house from the village of Rukam and a like contribution from the Musikot Rája.

We, however, urged the necessity of completing our pilgrimage, and prayed that he would grant us a passport. On the 19th he gave us a free dinner, and directing that the passport from Salena should be retained as security, he issued fresh passports to us, for which we presented his followers with some medicines.

20th July. Marched 5 miles to a cow-shed, where we halted for the night; crossing *en route* three streams falling in to the Rumál Gadh, the third of which called the Thabang was 14 yards wide with 3 feet of water. At the third mile we noticed a stream falling into the Rumál Gadh, on the opposite bank; and at $3\frac{1}{2}$ miles crossed the Rumál Gadh itself by a wooden bridge, width 14 yards with 5 feet of water. The hills at our halting place were about 10,000 feet high, the upper half having only grass and brush-wood while the lower half was well wooded.

21st July. In a march of 7 miles we reached Gurkháni village, having crossed four small streams running into the Rumál Gadh river; and at $1\frac{1}{4}$ miles from the start noticed one falling into it on its left bank; a furlong beyond this we noticed a path starting from the left bank of the river, crossing the hills to the S. and S.W. and leading to the Beni Baklong district where there is said to be a mint for copper coinage. At $2\frac{1}{4}$ miles we passed Kankri village of 50 houses, and at the fifth mile got to the top of a range running from S.E. to W. Descending $1\frac{1}{4}$ miles, we noticed a stream, about $\frac{1}{2}$ mile off, flowing N.E. into the Narja Garja river, $1\frac{1}{2}$ miles beyond which we arrived at Gurkháni our halting place for the night, a village of 20 or 25 houses. The villagers, learning that we were pilgrims, showed us great kindness, and we in turn gave them some sugar as a souvenir of the pilgrimage. The country between Kankri and Gurkháni was wholly uncultivated and covered with forests and reedy marshes where leeches abounded.

22nd July. Leaving Gurkháni village, we crossed at $\frac{1}{2}$ mile the Narja Garja river, by a wooden bridge, having passed two of its tributaries, one Cross Narja Garja river by a wooden bridge. on the right and the other on the left bank. The width of the river at the bridge was 18 yards, with a depth of 12 or 13 feet of water. This river is said to rise some 20 miles to the east among the snow peaks of the Himalayas. $\frac{1}{4}$ mile from the river a narrow path brought us to Padmini village of 12 or 13 houses, with good cultivation: ascending $1\frac{1}{2}$ miles we came to the top of Dang Pardhár hill range. This range coming from the N.E. runs out to the junction of Narja Garja with the Bheri river about 3 miles to our left.

EXPLORATIONS BY M.—H. AND HIS SON IN NEPAL AND TIBET.

Descending $1\frac{1}{2}$ miles we reached Ukma hamlet of 2 or 3 huts, with little cultivation, in a forest of trees, where we halted for the night, suffering much from exposure to rain and the want of food.

23rd July. A long march of 10 miles brought us to Muhikot village, having crossed *en route* five streamlets flowing from the S.E. into the Bheri river, the fifth being known as the Raima Khola stream. At the ninth mile we crossed the Bheri river itself, (width 20 yards with 13 or 14 feet of water) by a wooden bridge. From this point an ascent of 1 mile brought us to Muhikot village, on a range dividing the Raima Khola and the Bheri river. About midway on the day's march we passed the village of Mahune of 25 or 30 houses. The hills skirting the Bheri river average 10,000 feet high, the upper portions being covered with only grass and shrubs.

At Muhikot we found an officer who is under the Governor of Rukam, to whose demand as to our purpose in coming there, we repeated the same story as before, and producing our passports, asked to be supplied with provisions for the way. To this he at first demurred, but eventually gave us what we required, and also furnished us with two coolies for our baggage as far as Charka Bhot.

The language here spoken is Tibetan, and the people are very dirty. We got bearings to a peak beyond the river from two points on the march. The hills are very high and bare of vegetation: we were taxed as at Rukam.

24th July. Marching $\frac{1}{2}$ a mile we came to a second village named Muhikot of 8 or 10 houses, and going through a mountain pass, $2\frac{1}{2}$ miles long, we reached a dharamsála near Phaliagharbás, where we stayed the night. The neighbouring hills are covered with oaks and rhododendrons. Distance $2\frac{1}{2}$ miles.

25th July. An ascent of $\frac{1}{2}$ a mile from the dharamsála, brought us to the top of the Deorali range stretching 5 miles E. and W., between the Bheri and Raima Khola streams. Here we took boiling point observations. A further ascent of 2 miles brought us to the summit of the Deorali peak, which caps a ridge running S.W. for 2 or 3 miles and turns to the S.E. for 3 miles down to the Bheri river. Descending $\frac{1}{2}$ a mile we reached a place, where we halted for the night, 1 mile S.W. of the junction of the Sanku Khola stream with the Bheri river. The summits of the hills here are quite bare, being covered with snow in the winter. The soil at the foot of the hills is black, and *bhojpartar* trees (a kind of birch, the bark of which is used for making *hukka* pipes, and for writing on) are very common. ¹

26th July. $2\frac{1}{2}$ miles from our starting point, we crossed a small stream flowing from the N.W. into the Sanku Khola stream; from which an ascent of $\frac{3}{4}$ of a mile brought us to the first top of the Pupal Lek hill, where we found a tank 180 yards by 45 yards. About $1\frac{1}{2}$ miles further we came to a circular spring 270 yards in diameter, which was the source of the streamlet above mentioned: $\frac{1}{2}$ a mile further brought us to the second top of the Pupal Lek hill, where we took boiling point observations.

By an almost imperceptible descent of $2\frac{1}{2}$ miles, crossing several streamlets on the way, we reached the left bank of the Parbang Khola stream flowing N.E. to S.W. Crossing it, and going 1 mile, we gained the summit of the range running parallel with it: $1\frac{1}{2}$ miles further, we went through a pass, the hills on our right having snow on two or three peaks: and after another $1\frac{1}{2}$ miles, we crossed the range on our right, which continued down to the Bheri river, a second one of that name, much larger than the first. A descent of $\frac{1}{2}$ of a mile brought us to a cave, where we passed the night, suffering much from the cold, through want of sufficient covering. The total distance travelled was about 10 miles.

27th July. Descending $2\frac{1}{2}$ miles, we reached the village of Tara, 60 or 60 houses, from which the district gets its name of Tara Bhot. The people of this and the adjoining district are Athara, Panthi and Gurung by caste; they speak a peculiar dialect, differing from both Tibetan and Nepalese, and are all farmers. The soil however is poor and yields only *palli* and *phapra*, small species of coarse grains. The people boil a kind of grass as vegetable. Rice and wheat-flour are occasionally imported, but sell at the rate of three or four seers to the rupee.

TRANSLATIONS FROM DIARY AND NOTES.

Hearing that a son of Narsingh Sahi, Governor of Rukam, was here, on his way to Muktináth, we begged to be allowed to accompany him. To this he readily assented, and also procured us four blankets, on payment, from the villagers.

Join ourselves to the train of a son of the Rukam Governor.

A further march of $2\frac{1}{2}$ miles, during which we crossed three streams falling into the Bheri river, brought us to the village of Kol, at an elevation of about 2,000 feet above the valley, where we stayed the night.

Skirting the second stream on each bank were roads from Jumla and Tibrikot; but not remembering on which of the two the route of 1873 lay, we were unable to make a connection. Near the second stream, about $\frac{1}{2}$ mile to our right, was a *gonpa* (monastery) with 40 or 50 kacha houses round it. There was good cultivation round Kol village, with *bil* (?) and *chír* trees.

Near the route of 1873.

28th July. A march of about $2\frac{1}{2}$ miles, midway along the western face of a range of hills, brought us to Thacho, a village of 20 or 25 houses inhabited by Bhutias or Bhots. Descending $\frac{1}{2}$ a mile we crossed a stream falling into the Bheri; and $4\frac{1}{2}$ miles further, came to another, about 15 yards wide, with 7 or 8 feet of water. This we crossed by a bridge, put up for the use of the Governor's son, in whose train we were travelling. Nearly a mile from this bridge brought us to a cave where we passed the night, having marched in all 8 miles.

The cave was about 90 yards from the Bheri river, and had white earth. The hills on either side average 10,000 feet.

29th July. After going nearly a mile, we crossed the Bheri river (width 18 yards, water 10 or 12 feet) by a wooden bridge; the place is called Bandar Phatka, so named from the narrowness of the defile in the hills through which the river passes, which permits of monkeys leaping across it. On the right bank of the Bheri river, we struck the path from Jumla and Tibrikot. About 4 miles from the bridge we noticed two streams, that coming down from the hills on our right, unite and after a mile or so fall into the Bheri, on the opposite side. $\frac{1}{2}$ of a mile further we came to a cave, where we stayed the night. Total distance 5 miles.

Cross the Bheri by a wooden bridge.

Two of our followers having fallen ill we had to halt for a day, but the Governor's son, being unwilling to stop, passed on in advance.

31st July. Marching $1\frac{1}{2}$ miles along the right bank of the Bheri, we passed a wooden bridge, and continuing by the same bank and crossing two feeder streams *en route*, we reached Gherung village, at the end of the third mile having travelled $4\frac{1}{2}$ miles in all. Knowing this to be a point on the route of 1873, we closed our route here. The village has 5 or 6 houses inhabited by Bhutias or Bhots, whose language is pure Tibetan.

Closed on route of 1873.

The hill peaks along the Bheri are bare, and in some instances were snow-capped: the soil at the base is red, but black at top.

1st August. In the morning we met a native of Lhása, and finding him well disposed, we asked him what measures should be adopted to ensure our reaching Sarkhadaurakpa (Thok Daurakpa of route map) by way of Tadam Gonpa. He replied that we could not go there, as no strangers were allowed into Lhása territory, owing to its having been discovered that, some years ago, a Bengali in the service of the British, had passed through the country in disguise. On that occasion the various officials along the route had been most severely dealt with by the Lhása Government. Some were beheaded and others deprived of their eyes or limbs. To this we answered,

Warned against attempting to get to Daurakpa.

that being subjects of Nepal, we could not be refused access, as by the treaty of 1854, the subjects of the two states were allowed to pass freely from one state to the other. We also told him that our object in wishing to go to Sarkhadaurakpa was to recover a sum of Rs. 5,000 lent to a man of that place five years ago. Hearing our story, he said we had a good plea and that either we would be allowed to go on, or the Lhása Government would undertake to arrest the man for us.

EXPLORATIONS BY M.—H. AND HIS SON IN NEPAL AND TIBET.

After this conversation we parted and returned to our place. Here we bribed a Bhutia to write out a document in the name of one Phurba Chhiring, a fictitious person, acknowledging to have received merchandise to the value of Rs. 5,000 from us at Taklakhar or Manasarowar and promising to pay the money in a year. After writing it he stamped the document with a seal bearing the inscription of the Lhása Government and handed it to us.

2nd August. Marching from Gheráng, we travelled by a rough, stony path that went over undulating country. We had to stop the night in a cave, as we found no village on the way.

3rd August. Marched from the cave and stopped at Charka village, a point on the route of 1873. Three paths meet here, one from the Mangu Bhot on the north; the other from Kágbeni in the east; and the third from Tara Bhot on the west. The trade is in salt and blankets. To the south rise the high peaks of the Himalayas, quite inaccessible from this side. Two of our servants having fallen ill, we had to engage two coolies from this village.

See p. XIII, General Report, 1873-74.

4th August. Marching from Charka, we stopped for the night in a cave in the lands of Bádli Pátan.

5th August. Travelled through a pass called Bádli Pátan, the peaks on either side rising to 15,000 feet were snow-capped. The pass was clear of snow. Descending we again passed the night in a cave.

Bádli Pátan Pass.

6th August. Reached Khhiuchák village of 20 or 25 houses. Where there were good crops of *ua* (a kind of wheat) and *phapra*.

7th August. Reached Kágbeni village, a place of brisk trade between Loh Mantang on the north and Thakkola on the south. The village is situated on the left bank of the Gandak river, at the junction with it of a stream coming from Muktináth in the S.E.

Reach Kágbeni.

The traders from Loh Mantang bring blankets, wool and sál wood, which they exchange with the men of Thakkola for corals, pearls, wheat, broadcloth and other cloths. There is a custom-house at this place, for levying duty on merchandise, and great annoyance is caused to travellers by the officials, who go so far as to levy toll on wearing apparel: we were taxed, along with others. The duties levied amount to about Rs. 1,25,000 per annum. Trade is declining owing to the oppression practised.

Ascending from Kágbeni village, we reached Muktináth the same day, and stopped there for two days. This is a noted place of pilgrimage among the Hindus, who believe that any one dying there is sure of salvation; large numbers resort there, especially at full moon in Shravana (June or July), when a large fair takes place, and the pilgrims bathe at the fountain and visit the image of Muktináth.

Reach Muktináth.

Muktináth was a *fakír*, whose image was set up in the temple at his death. Close to the fountain is a volcano round which the pilgrims sit to warm themselves. Funeral pyres of persons dying here are lighted with faggots that have been ignited at the volcano. The Government of Nepal have given a grant of land, yielding an annual income of Rs. 3,000 for the expenses of the temple. To the east of Muktináth is a pass leading to the Mauang Bhot valley, which is about 16 or 17 miles in length from E. to W. and 10 or 12 miles in breadth from N. to S.; and a path goes through it to the Nubri (Nobri on the Nepal map) or Athara Khola district. North of Mauang Bhot is Tibet, and to the south beyond the Himalayas is the Pokhra district.

See p. XIII, General Report, 1873-74.

10th August. We returned from Muktináth to Kágbeni to enquire for one Ghungial, a pearl and general merchant, who had been an acquaintance of my father's. The old man was dead, but we found his son, Durjai Subha, to whom we made ourselves known as the son and grandson of his father's friend. Repeating to him the story of the debtor in Sarkhadaurakapa, and showing him the document that had been drawn up, we announced our intention of visiting the place.

Return to Kágbeni.

TRANSLATIONS FROM DIARY AND NOTES.

He warned us that we would find great difficulty in getting there without the aid of the Rája of Loh Mantang (Mustáng) with whom he was acquainted. We begged him to allow his son to accompany us to Loh Mantang, and we would pay his expenses. To this he consented, and after two or three days spent in preparation, he gave us a letter wrapped in a *khatak* (silk cloth) with Rs. 500 as security, and told his son to take two men as companions.

13th August. Left Kágbeni.

15th August. Reached Cháráng village (called Changrang before); no place of any importance *en route*.

16th August. Reached Loh Mantang, called by the Nepalese Mustáng, the other being the Tibetan name. There is a fort here, about 1 mile *Benoh Loh Mantang.* in area, containing the residence of the Rája and 40 or 45 buildings belonging to the *Raises* (gentry) and *Sardárs* (nobility) of the place. There are also two Gompas in which about 80 Lamas reside. See p. xiv, General Report, 1873-74.

The son of Durjai Subha, who had come with us from Kágbeni, introduced us to the *Wazír* (prime minister), to whom we offered a present. In reply to his enquiries, he was told that we were the descendants of a man who had been a friend of Durjai Subha's father. The whole story regarding the sum of Rs. 5,000 said to be owing to us was then related to the *Wazír* and his aid requested in obtaining permission from the Rája, for us to visit Sarkhadaurakpa; after consulting among themselves, they went to the Rája with the letter from Durjai Subha. After hearing them and reading the letter, the Rája said he had to observe the Nam Káng festival for five days, after which he would send for us; we had therefore to wait. On the fifth day there were horse-races and other sports.

On the 23rd August we were presented to the Rája, whom we saluted in the Tibetan fashion, and presented with a present of a knife, gun, and other sundries, also a *khatak*. In reply to the Rája's enquiries, we said we were from Jumla, and then repeating the story of the Rs. 5,000 due us, solicited his permission to visit the place to recover the amount. The Rája replied that since 1887 the Lhása Government had issued strict injunctions against foreigners being allowed into their territory, and that severe punishments had been inflicted on the officials who had allowed a Bengali to pass through in disguise. He, however, offered to send two sowars and have the man arrested. We replied that this would not do, as they could not recognise the man, and moreover, they might be bribed to let him go; in which case our purpose would be defeated. Hearing this he paused for a moment, and then ordered us to come to him again three days hence. Accordingly on the 26th we presented ourselves again, and this time he tried to persuade us to stay over till the next year, as the time for travelling to Sarkhadaurakpa was passed. We objected that the funds at our disposal would not permit of us staying a whole year. He then consented to send us as far as Sarkha Jong, the limit of his jurisdiction, with two sowars and a letter. We were made to pay Rs. 18 for the travelling expenses of the sowars before starting. We also had to prepare Bhutia garbs for ourselves, and in this and the preparations of the sowars for the journey nine days were lost. *Start for Sarkha Jong.*

The land revenue of Loh Mantang is about Rs. 1,300 per annum, from which the Rája pays Rs. 800 tribute to Nepal. Besides this, he has an income from duties on merchandise and from a poll tax. *Loh Mantang.* Out of these also he has to pay a certain amount to Nepal. He is styled a Rája of Doshán, because his tract lies between the territory of Tibet on one side and Nepal on the other. Being recognized by both as rája, he wears two badges on his cap, one from the Tibet and the other from the Nepal Government. Loh Mantang was, originally, tributary to Jumla, but on the subjugation of Jumla by Nepal, the tribute was transferred to that state.

5th September. Marched about 5½ miles in all, to Sam Jong village, where we stayed the night, crossing *en route* two streams falling into the Gandak river; along the second of which, called Gajuchhu or Sarchhu, there was a path leading to Tadum Gonpa. At the third mile we gained the summit of a range lying N.E. and S.W. and terminating at the confluence of the above with the Gandak river. Descending the range, we struck a stream, continuing by the right bank of which we got to Sam Jong village of 15 or 20 houses, with good cultivation. The hills averaged 7,000 feet, with bare summits, which were occasionally covered with grass: the soil is black.

EXPLORATIONS BY M.—H. AND HIS SON IN NEPAL AND TIBET.

6th September. Leaving Sam Jong village and going about $1\frac{1}{2}$ miles, we crossed the stream, and then ascending $1\frac{1}{2}$ miles, reached the summit of a range on the Tibet boundary; ascending another $1\frac{1}{2}$ miles, we then descended about $\frac{3}{4}$ of a mile to a cow-shed on a stream, crossing which and continuing along a level, with hills about 2 miles off on either side of us, we stopped for the night in an open plain, having travelled $9\frac{1}{4}$ miles in all. We passed not a single habitation on the way. Wild horses and other animals are found here, a species of rat with very small tails, is also very common.

7th September. Renewing our march, we went through a pass in the hills, and continuing along an open tract of country with hills on our right and left varying from $2\frac{1}{2}$ to 10 miles in distance on either side, we had again to bivouac in the open. After cooking our evening meal we retired to some distance for the night, fearing that our fires had attracted some roving bands of robbers. The total distance covered during the day was about 16 miles. At the tenth mile we crossed a stream which falls into the Brahmaputra. Wild horses are found on these wastes.

8th September. Marching for a distance of $15\frac{1}{2}$ miles, we crossed the Sutia Changbo river, which, rising in the Himalayas, after a course of 9 or 10 miles, falls into the Brahmaputra. On our way we crossed 5 streams, all falling into the Brahmaputra. At the fifth mile, we passed a nomad encampment about a mile to our right, of 25 or 30 tents, called Dakpa Dong. At the sixth mile we crossed a range which runs up from the south to the Brahmaputra, the hills on the opposite side of which were 2 or 3 miles distant. Along the banks of the Sutia Changbo river, with 23 yards with 4 feet of water, is a path which leads to Nubri or Athara Khola, nine stages to the south beyond the Himalayas.

9th September. A march of about 2 miles brought us to the right bank of the Brahmaputra; we were prevented from crossing, but the two sowars from Loh Mantang went over and delivered the Rája's letter. About noon, we were sent for, and crossed the river in a leather boat, the river was about 70 yards wide, with 20 or 25 feet of water. On the left bank we found an encampment of 25 or 30 tents belonging to officers and merchants. We were brought before the Goba, an officer under the Jongpon of Sarkha. He told us that the Jongpon had left Sarkha on business, and that he was not allowed to let any stranger pass and that we had better return. We urged that being natives of Jumla, we should be allowed to pass, as there was no restriction to Nepalese gaining access to Tibet and *vice versa*. Nothing however would move him, as he said that seven or eight years ago, several officials had suffered capital punishment for having allowed some foreigners to pass through their districts. That evening we were conveyed back to the right bank of the river, as they were afraid that we might steal away during the night. The two sowars came back with us; and after consulting with them, we decided that we should take a northerly course along the river to Una Chhongra and there strike off to Sarkha Jong.

The place we were stopped at is called Dudua Chhongra, and a road goes from here N.E. to Sarkha Jong. From the place on the right bank of the Brahmaputra, where we stayed the night, known as Duduarap, two roads fork; one eastwards along the right bank to Dingri, and the other southwards to Nubri.

10th September. Left Duduarap, and starting from station No. 16 of our route, kept along the river bank, crossing seven streamlets falling into the Brahmaputra on our right. We encamped on the further side of the seventh stream, having with difficulty travelled 5 miles. The sowars had to leave us, and skirting the foot of the hills, wait for us ahead, as the horses could not go through the marshy plain, covered with thorny shrubs, that our route lay along. We passed the night under great difficulties, without food and exposed to heavy rain. On the other side of the river, a range of hills, about $1\frac{1}{2}$ miles distant, runs parallel with it. The belt of country between is frequented by numbers of wild horses and deer. The former roam in herds of a hundred or more.

11th September. Continuing along the river, at $2\frac{1}{2}$ miles we came to Dakpa Dong, a grazing ground for goats, cows, horses and yaks, which are brought here in the rains. Half a mile beyond we came to Rela Gonpa, a place of local pilgrimage, where the hills on the left approached very close to

TRANSLATIONS FROM DIARY AND NOTES.

the river. At the sixth mile we were joined by the sowars. At the tenth mile we came to a place of great trade called Una Chhongra, or Unnarap. The chief commerce is in wool, salt, sheep and blankets. We were not allowed to cross the river, but had to pay three kinds of duty, viz., *gothal*, or poll tax; *lathal*, or duty on goods; and *sonthal*, or halting tax. The traders had their encampments on both sides of the Brahmaputra.

12th September. The sowars crossed the river and presented the letter of the Mustang Rája to the local Goba, and relating the story of the fugitive debtor, begged that he would accord us permission to follow him to Thok Daurakpa. On this the Goba sent for us: we crossed the river and got to him on the following day.

13th September. In answer to his enquiries, we repeated the story the sowars had narrated the day before. He declared, however, that it was as much as his life was worth to let us go without the orders of the Sarkha Jong, his superior officer. He also repeated the story, we had heard before, of the summary execution of several officials which had taken place some years ago, on account of the Bengali, who, it was discovered, had got through in disguise. He however undertook, on our paying the expenses, to send two sowars to the Sarkha Jong.

After waiting five days for their return, we were ordered across the river. Three days after that, they came and we were sent for, only to learn that no permit had been given, as the two Sarkha Jongs were absent and the Deputy would not act on his own responsibility. Rice, *sattu* (gram flour) and other food supplies were very dear at this place.

The sowars who were with us were anxious to return to Mustang; but persuading them to remain with us, we continued along the river, hoping to get across if possible at the Likche ferry, or if not at some other ferry.

17th September. Resuming our route, we marched 2 miles and halted for the night, though in great dread of robbers, which prevented our getting any sleep. The sowars kept their horses ready saddled for fear of a surprise. The opposite bank of the river stretches away into open plains frequented by herds of wild horses. Waterfowl are plentiful in the river.

18th September. Marched along the river a total distance of 15 miles, which brought us to the Likche ferry, where the river was about 450 yards wide, but the water being very dirty its depth could not be ascertained. On this day's route we got bearings to two peaks from three different points. Between the eighth and ninth mile we came to a place called Amji Dong, the residence of a great physician. All along the route the *Dama* (a low, thorny scrub about three feet high) abounds. At the sixth mile the hills on the left send out a spur down to the river, over which our route passed.

We came upon only one small feeder, which we crossed at the ninth mile, falling into the Brahmaputra, about 400 yards to our right. The river is crossed by leather boats, but we were refused passage.

19th September. Turned off to our left, and halted in the jungle for the night.

20th September. Reached the village of Manang.

21st September. Reached the fort of Mustang.

22nd September. Waited on the Rája and begged him to help us. He replied that he could do nothing for us, as he had no authority in that part of the country, and that the people and officials in Una Chhongra were savages. We then asked him to help us in getting across the Brahmaputra at the Damrop Ghát. Agreeing to this he ordered us to collect stores of food, &c., for the journey; this occupied us some seven or eight days. From the 1st to the 3rd October it rained, and we had a heavy fall of snow which lay seven feet deep. On the 8th October, with great difficulty we got out and waited on the Rája. He advised us strongly to stay over till next year, when he would get us a passport from Lhása. So we rented a paka house to live in.

EXPLORATIONS BY M.—H. AND HIS SON IN NEPAL AND TIBET.

Early in January 1893, the Rája wrote to the Deva Jong of Lhása, setting forth our case, and asking him to send us a passport for Thok Daurakpa. For this the Rája demanded Rs. 100, but after some remonstrance he was satisfied with Rs. 50.

The reply to this was expected by the 1st of April; but receiving none, on the 8th we went to the Rája, taking with us the bond for Rs. 5,000 and offered to give him one-third of the amount, when realized, if he would help us to attain our object. We executed a written agreement to this effect, and handed it to the Rája. He then directed us to prepare for the journey and promised to furnish us with two sowars as guides. Before we could finish our preparations it was the end of June.

In the beginning of July the Rája himself absconded, as reports reached him that one Harkunam Subha, with 40 sowars, had been deputed for his arrest, in consequence of serious complaints having reached Lhása of his oppression of the peasants and of his kidnapping children and selling them.

On the 15th July Harkuman Subha arrived, with 40 sowars and other soldiers, to arrest the Rája. We went to him with a present and recounting the story of the bond, of our pursuit of the debtor, and of the promised help from the Nepal Government, besought his aid. He advised us to accompany him, as he had to enter Tibet and as, moreover, he was acquainted with the Tibetan ruler, we should meet with no further obstruction. He also advised us to file a suit against the Rája for the Rs. 50 and the amount would be recovered from his estate.

On the 21st July we started with Harkuman Subha. He was going to Tibet to settle a dispute which had lately arisen in connection with the salt and grain trade. The Bhots' complaint was that the grain which had been supplied on the last occasion was very inferior, and largely mixed with husks and straw and they refused in consequence to give their salt in exchange. Harkuman Subha who had a contract of Rs. 1,25,000 to supply salt, was on his way to try and settle matters; and in the event of failure to interview the Deva Jong (Chief ruler) himself.

22nd July. Marched in all 11 miles, to a place called Chhongra Sunda, $\frac{1}{4}$ mile E. of a village called Na Dong. At the first $\frac{1}{4}$ of a mile, we crossed a stream falling into the Gandak river. At $1\frac{1}{2}$ miles we came to the Shiar Chu river, on the other side of which, a mile further on, we noticed a large village named Chosiar of 25 or 30 houses with rich corn fields; and a mile further another of the same name. At $10\frac{1}{2}$ miles we got to the Nub Chu, a confluent of the Shiar Chu river. We stayed at Chhongra Sunda four days, as a Tibetan official had come to meet Harkuman in connection with his business.

27th July. Going $\frac{3}{4}$ of a mile, we crossed over to the left bank of the Shiar Chu river; and at $3\frac{1}{2}$ miles, we gained the summit of the Janglung La peak, on the Tibet-Lhása boundary, 4 miles beyond which brought us to the Chokar Dong where we halted for five days. Half a mile S.W. of the above named peak, flows the Shiar Chu river; and at a distance of 6 or 7 miles, bearing 280° , the range runs into the Himalayas; while on the other side, going S.E., it connects with the range at station 3 of our last route, which is on another peak of the same name.

Chokar Dong is famous for its trade. An officer from Sarkha Jong resides here, to whom we had to pay the taxes *lathal*, *gothal*, &c., mentioned above. He positively objected to our proceeding further, and said that if we wished to trade we must reside there. We appealed to our friend Harkuman, who reassured us, and at the end of five days he persuaded the official to grant us a passport, leaving a security bond with him for our good conduct.

About $\frac{1}{4}$ mile to the left of our halting place, runs a stream, which comes down from the branch of the Himalayas, that here forms the boundary between Nepal and Lhása. It runs through a plain, on the east of which a spur of the Himalayas runs down to the Brahmaputra, at a distance of about 6 miles. In this tract grass is plentiful but no wood, dried cow-dung being used for fuel. Horses, goats and yáks are brought down here from Mustang to graze.

TRANSLATIONS FROM DIARY AND NOTES.

1st August. A march of 17½ miles brought us, once again, to the Likche ferry, where we had been turned back last year. This time, however, on showing our passports we were allowed to cross in the ordinary ferry boat. At the 7th mile, we came to a village of Dokpas (nomads), whence two roads fork; one going to Charka Bhot beyond the Himalayas in Nepal, and the other to Janglache in Lhása territory. From the former there is a branch to Damrop Ghát, a place of brisk trade between Loh Mantang, Jumla and Mangu.

At the ninth mile we crossed a range of hills, that at about 1½ miles to the south, sends off a branch at right angles to our course; and a little beyond the 9th mile the range branches off again, one arm going down to the Brahmaputra, and the other continuing parallel with our course, and terminating at the 15th mile. On the left bank of the river, we found an encampment of 20 or 30 tents; but the Likche monastery, which is on a hill, contains a few paka houses. During the first 3 miles from the river, we passed several pools of water between hillocks of sand.

Our traverse was closed near the post office of Tadam, called Tadam Tarjum, at the base of a hill. All sorts of business, municipal, executive, &c., is carried on here.

From this point two roads start, one to Lhása and another to Thok Daurakpa in the north, said to be 200 miles distant. There were five or six sholdaries pitched close to the post office, in a plain, with grass but no cultivation. At about 700 yards to the west of the post office is the Tadam Gonpa. This gonpa is on a rocky hill. There are three principal Lamas in the gonpa, which is a Buddhist temple of great note and pilgrimage.

We were taken prisoners at the post office and brought before the Goba. He demanded of us, who we were and what errand we were on. On our telling him our objective was Thok Daurakpa, to try and find our fugitive debtor, he became suspicious, that our object was to revive the dispute with the Lhása Government regarding the gold mines in that place, and in spite of our repeated remonstrances, he had us imprisoned in the jail. We got no food that day. Early in the morning the Goba sent his men to enquire after us. They tried to persuade us to eat, but we replied that we were in great distress over the misfortune that had befallen us, and that unless the Lhása Government could be induced to intervene in our behalf, we had no hope of obtaining redress. They then offered us some infused tea to drink, but we explained that being Brahmans, we could not partake of any thing prepared by others. After this they allowed our servants, under the surveillance of a guard, to procure fuel, flour, &c.

After we had been eight days in prison, an assistant of the Goba came to us and offered to give us our liberty if we gave him some money. Hearing this we offered him Rs. 800 if he would allow us to go to Thok Daurakpa; but he said this was quite impossible, as the penalty was death to all the Officials on the line, if they allowed us to pass. He proposed instead, that we should return to our home in Jumla, for, if we went to Lhása some complications might arise with that state. He then demanded that we should give him and the Goba a present and pay the expenses of ten sowars to accompany us. Persuading them to reduce the number of our guard to two, we paid them the gratification demanded, and were released after 17 days' confinement.

20th August. Our party started from Tadam Gonpa for Purang, otherwise called Takhalkhar, having hired two horses for the journey.

During the first 3 miles of our day's journey, we passed ten pools of water. A chain of hills ran parallel with our course to the right, at an average distance of 1 or 2 miles. At about the fourth mile we came to the river Chháji Changbo which falls into the Brahmaputra. The strip of country between the two rivers is called Labrangosa, an independent state under Sobha. The river Chháji Changbo rises in the north and flows in a south and south-easterly direction. A path along its left bank leads to the salt and horax mines, to follow which we tried to bribe the sowars by an offer of Rs. 100 each, but they would not consent.

EXPLORATIONS BY M.—H. AND HIS SON IN NEPAL AND TIBET.

We crossed the river in a leather boat, for which we paid Re. 1 per head. At this crossing we lost a number of our own and Government things in the river: about 6½ miles from this river brought us to Dakpa Dong, where we stayed the night, having crossed over a low spur of the hills, at the fifth mile from the Chhâji Changbo.

21st August. Completed a march of 15½ miles, which brought us to the Chekep-ki-chauki, where we stayed the night. This is the head quarters of a Governor and has about 10 houses, with some tents. The route lay along open plains, which extend on both sides of the river, and are frequented by herds of wild horses.

At the 11th mile we passed a building called Sok Tarjum, about ¼ of a mile to our right, which was a sort of rest-house for Government officials on duty. From the 10th mile a small range of low hills runs parallel with and between us and the river, and continues for 3 miles. In the open parts grass is plentiful, but fuel is scarce.

22nd August. Marched 11 miles, and halted for the night about ¼ mile from Kan-chan Goupa.

23rd August. Marched 16 miles, passing at the 6th mile a place called Duksam Tarjum, ½ a mile to the right. At the 12th mile, we crossed the Nabong Changbo Chu, at a place called Goprap. This river flows from N. to S. and falls into the Brahmaputra at 2 miles from the Ghât. A path along this river also leads to the salt and borax mines. At 4 miles from the crossing of the river we halted, having it 1 mile to the right, and the Brahmaputra 1½ miles to the left.

24th August. Marched 7 miles, having the Brahmaputra on our left and the hills on our right, the path closing on the former as we advanced.

25th August. Marched 3½ miles.

26th August. Marched 10½ miles to Samjong Tarjum where there are 20 or 25 tents, having a hill on the north and the Brahmaputra 4 miles distant to the south. Purchased a horse as I was unable to march further on foot.

Samjong Tarjum or Tamjan on Nain Sing's route.

27th August. Encamped in the jungle.

28th August. The horse purchased on the 26th was stolen. Our suspicions fell on a man who had joined the sowars at Samjong Tarjum, but who disappeared after midday. We wished to stay and search for it, but the sowars would not permit us.

29th August. Halted in the jungle.

30th August. Reached Thokjin and halted a day to join a company of traders, as there was some fear of robbers on the way.

Thokjin or Thokchan on Nain Sing's route.

1st to 3rd September. Halted in the jungle.

4th September. The two sowars made us over to the Jongpon of Purang. We halted here three days, and after presenting the Jongpon with a present, we got his permission to return home *viâ* the Biâns country.

Reached Purang.

Biâns country.

8th September. Reached Kalâpani.

9th " " Chhangra village.

10th " " Garhia village: halted seven days as the bridges had given way.

18th " " Budi village.

19th " " Malpa.

20th " " Shangkhola.

21st " " Chodash.

TRANSLATIONS FROM DIARY AND NOTES.

22nd	September.	Reached	Khela.
23rd	„	„	Ratbikidobat.
24th	„	„	Kalka.
25th	„	„	Balvakot.
26th	„	„	Askot. Halted here two days on account of heavy rain.
29th	„	„	Kandialchhera.
30th	„	„	Satgarh.
1st	October.	„	Pithoragarh.
2nd	„	„	Gun.
3rd	„	„	Chhira.
4th	„	„	Lohaghat. Halted here one day.
6th	„	„	home at Chhulape.
26th	„	Started for	Dehra Dún.

The Map has been constructed on the following basis:—

1. The starting point as described by the explorer close N. of the town of Tulsipur or about $1\frac{1}{4}$ miles N. of the G. T. Station of Tulsipur, as taken from the Oudh Revenue Survey Map, Sheet 159.

2. Kharchua Village, lat. $28^{\circ} 8' 9''$, astronomically determined by the explorer by two independent observations: longitude determined by the route traverse.

3. Salena, position taken from the 16-inch Nepal Map of 1892, the latitude agrees with the value astronomically determined by the explorer on his present tour, *viz.*, $28^{\circ} 22' 48''$.

4. Gherang (a point on M—II's route of 1873, called originally Ghera) position taken from the Nepal Map. (This will probably need rectification in future editions, to fit in with the new position of Loh Mantang mentioned hereafter.)

5. Loh Mantang, lat. $29^{\circ} 12' 54''$, mean of three accordant values determined astronomically by the explorer: this differs from the old position, about 6 minutes in defect: longitude has been taken from the Nepal Map.

6. Una Chhongra, lat. $29^{\circ} 28' 16''$, mean of three accordant values determined astronomically by the explorer: longitude determined by the route traverse.

7. Tadum, Dukeam and Tamjan, from Pandit Nain Sing's route of 1865-66, positions adopted from the Nepal Map.

Observations for Latitude taken in Nepal and Tibet with two pocket sextants.

No. of Station.	Station.	Date.	Object on Meridian.	Double Altitude.	Index Error.	Deducted Latitude.	Mean Latitude.
1	Tulsipur	26th May, 1892	Antares	72 29 0	+ 1 28	27 34 23*
2	Kharchua Village	1st June "	"	71 21 30	+ 1 0	28 8 23	} 28 8 9
	"	" "	"	71 22 0	+ 1 23	28 7 54	
3	Salena, Rája's Residence	18th June "	"	70 62 0	+ 1 28	28 22 54	} 28 22 48
	"	" "	"	70 62 0	+ 1 0	28 23 8	
	"	30th June "	Fomalhaut	62 54 0	+ 1 28	28 22 23	
4	Loh Mantang, E. side of the Rája's Residence	1st Sept. "	"	61 12 0	+ 1 23	29 19 27	} 29 12 54
	"	21st Sept. "	Rigel	104 56 0	+ 1 28	29 12 44	
	"	5th July, 1893	Antares	69 19 0	+ 1 0	29 12 30	
	"	" "	Fomalhaut	61 19 0	+ 1 0	29 10 30*	
5	Una Chhongra	14th Sept., 1892	"	60 41 0	+ 1 28	29 23 55	} 29 28 16
	"	" "	β Ceti	83 53 0	+ 1 0	29 27 8	
	"	17th Sept. "	Rigel	104 24 0	+ 1 28	29 28 44	

* Rejected.

Observations of Boiling Point taken in Nepal and Tibet.

No. of Station.	Station.	Date.	Ther-mometer.	Ther-mometer.	Deduced Height above Sea.	REMARKS.
			Boiling Point.	In Air.		
1	Tulsipur	26th May, 1892	† 211.4	† 83	Feet 350	
2	Kharchua Village	1st June "	207.4	73	2640	
3	Salena, Rája's Residence	18th June "	203.4	73	4880	
4	Kalia Neta	14th July "	200.0	74	7030	
5	Reni Sank Lek	17th " "	197.4	63	8460	
6	Rukam	18th " "	202.4	77	5610	
7	Deoralí Peak	25th " "	192.6	60	11370	
8	Papalí Peak	26th " "	186.6	47	14820	
9	Loh Mantang, E. side of the Rája's Residence	1st Sept. "	190.0	58	12900	} 12900
		5th July, 1893	100.0	54	12850	
10	Dudua Chhongra	9th Sept., 1892	186.8	40	15100	
11	Una Chhongra	14th " "	186.8	54	15630	
12	Likcho Ghát	1st Aug., 1893	186.2	43	14950	
13	Tadum, 800 paces E. of Goupa	3rd " "	186.2	40	15120	

† The readings in these columns have been corrected for Index Errors.