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OR,

Transactions of the Society,

INSTITUTED IN BENGAL,

FOR ENQUIRING INTO

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SCIENCES, AND LITERATURE

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MEMOIR

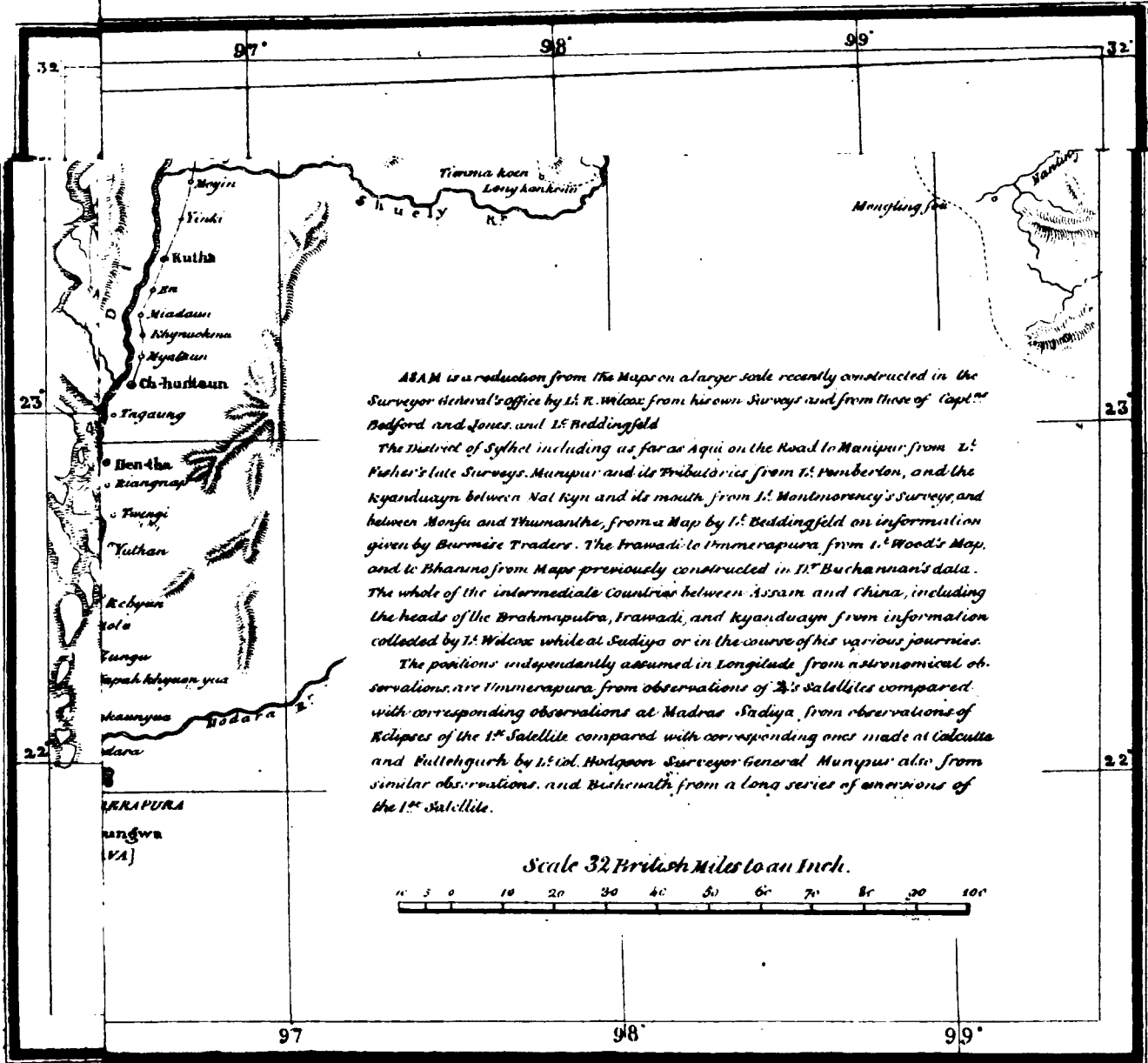
OF A

**SURVEY OF ASAM AND THE NEIGHBOURING COUNTRIES,
EXECUTED IN 1825-6-7-8.**

BY LIEUTENANT R. WILCOX.

IN the following Memoir I propose to give a detailed account of the progress of our Geographical Discoveries on the N. E. Frontier from the time when our armies advancing in that direction opened to us countries of which we had till then a very imperfect knowledge.

Narratives of some of the journies have been already published, and much of the new information has been included in a paper in the 16th Vol. of the Asiatic Researches: but the former are scattered in the Newspapers or Periodicals without connection to enable the enquirer to collect the scattered gleams of information into one common focus, while the latter, including only the results obtained by one of the individuals engaged in that quarter, and applying also to statistic enquiries; gives necessarily an inadequate idea of our acquisitions in Geographical information properly so called, as it also stops short of the date at which our enquiries terminated. This appears to have been felt by the Society, who have

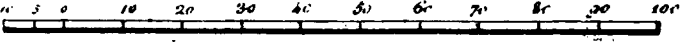


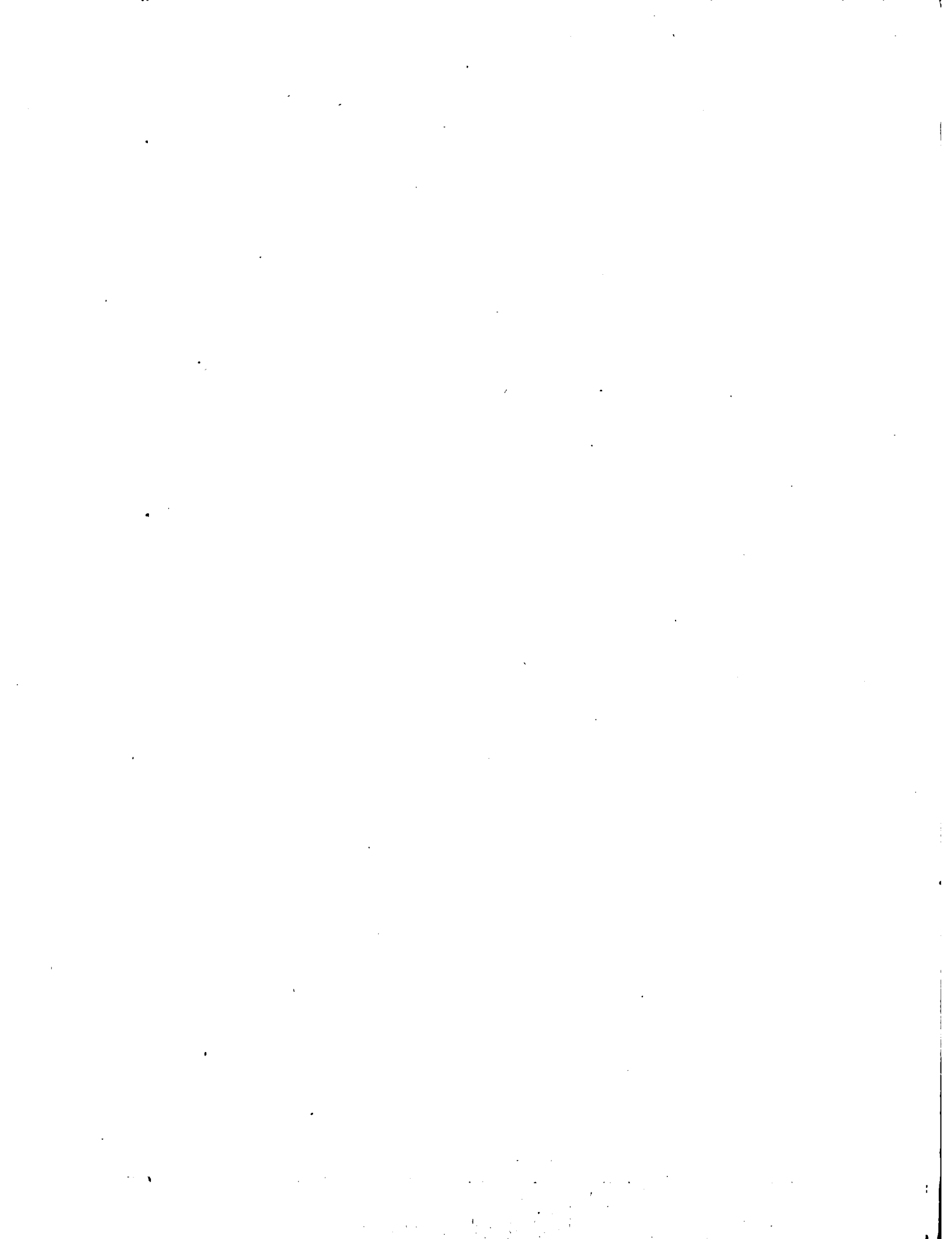
ASSAM is a reduction from the Maps on a larger scale recently constructed in the Surveyor General's office by Lt. R. Wilson from his own Surveys and from those of Capt. Bedford and Jones, and Lt. Beddingfield.

The District of Sylhet including as far as Aqiu on the Road to Manipur from Lt. Fisher's late Surveys, Manipur and its Tributaries from Lt. Pemberton, and the Kyanduaun between Nat Kyn and its mouth from Lt. Montmorency's Surveys, and between Monfu and Thumanthe, from a Map by Lt. Beddingfield on information given by Burmese Traders. The Irawadi to Ummereapura from Lt. Wood's Map, and to Bharuna from Maps previously constructed in Lt. Buchanan's data. The whole of the intermediate Countries between Assam and China, including the heads of the Brahmaputra, Irawadi, and Kyanduaun from information collected by Lt. Wilson while at Sadiya or in the course of his various journeys.

The positions independently assumed in Longitude from astronomical observations, are Ummereapura from observations of 2^d Satellite compared with corresponding observations at Madras Sadiya from observations of Eclipses of the 1st Satellite compared with corresponding ones made at Calcutta and Pultehgurth by Lt. Col. Hodgson Surveyor General Munypur also from similar observations, and Bishenath from a long series of observations of the 1st Satellite.

Scale 32 British Miles to an Inch.





expressed a wish in a note attached to that paper by their Secretary, that some task similar to the one I propose to myself should be undertaken. The interest too excited by the question of the identity of the *Sanpo* and *Brahmaputra*, evidenced by the notice taken of the subject in Europe, seems to call for the execution of such a task : and I have therefore been induced to draw up the following Memoir.

I should have been well pleased to have seen the task fall into other hands, and I have delayed undertaking it in the hope of some one better prepared anticipating me, yet I would not be understood to disqualify myself more than necessary. Having been on the spot from the beginning, at first an interested observer, and latterly employed in exploring myself much of the Terra incognita of that quarter, I consider that I ought to be able to give a connected view of the progressive steps made, as well as to supply many particulars necessary to the full comprehension of the subject, not yet generally adverted to.

In October 1824, several of the Officers employed in Revenue Surveys were taken from those duties, and placed (to continue during the war) under the superintendance of Major SCHALCH, in order that accompanying the several divisions of the army and receiving his instructions, they might derive advantage to the utmost practicable extent of the opportunities so suddenly and unexpectedly opened of pushing our investigations beyond those barriers which the well or ill-founded jealousy of our Eastern neighbours had hitherto opposed to us, and which we had till then no immediate hope of surmounting.

In the distribution I was appointed to act with Captain BEDFORD as his Assistant, and our province was *Asam*. Besides the instructions given generally to his corps by Major SCHALCH, (as conveyed in a circular letter) Captain BEDFORD was verbally directed to consider the *Brahmaputra*

as the chief object to which his attention should be directed. He was to endeavour to unravel the mystery in which was enveloped each notice or tradition respecting its fountain head by proceeding up its streams as far as the influence of the neighbouring force, or the safeguard of a detached escort might permit.

We arrived at *Goalpara*, on the frontier of *Asam*, in the latter end of January, 1825, immediately after the capitulation of the *Burma* force at *Rangpur*, and we were then eager to join the Head-Quarters in full expectation of an attempt being made to advance towards *Amarapura*. We were already making anxious enquiries respecting the source of the *Brahmaputra*, and we were given to understand that the *Asamese* persisted in a common declaration that it rises in the East beyond their territories. We were told of a cataract, which imagination perhaps, rather than report, founded on respectable information, long continued to magnify into a splendid fall of the whole river from the bordering ridge of mountains.

Mr. SCOTT,* indefatigable and ardent in the cause of scientific research, had in the meantime, on arriving at *Rangpur*, caused Lieutenant BURLTON to be detached, to survey the river beyond as far as practicable; but there no longer existed such extreme doubt about the direction and distance of the navigable part of its course. The Natives knew well that the boats of Bengal could not pass more than one day's journey beyond *Sadiya*; (in Lat. $27^{\circ} 48'$ Long. $95^{\circ} 40'$) they spoke confidently (and their information could no longer be doubted) of the *Brahmakund*, the origin of the river, being situated in the East; and, indeed, they had presented

* Ensign (now Colonel) Wood's Survey reached no further than *Rangpur*, and he leaves the space beyond a perfect blank. He accounts for the paucity of his Geographical information beyond the mere line of the river, by the difficulties he laboured under in holding intercourse with the Natives.

a Map drawn in their own incorrect style, shewing the situation of the notable villages or districts, and exhibiting the various nalas feeding the *Brahmaputra* within their limits. It was afterwards remarked that in this production, the *Dihong* and the *Dibong* were not distinguished from other tributary streams.

The commission with which Lieutenant BURLTON was charged was executed by him in a highly creditable manner. With a surveying compass only, and unfurnished with any instrument for measuring distances, he surveyed the river to *Sadiya* and a short distance beyond, and subsequent measurement has detected but little error in the Map he made.

In the Government Gazette of 9th May, 1825, appeared an extract from Lieutenant BURLTON's letter, giving an account of this expedition, it is dated "On the river Burrampooter, N. Lat. 27° 54' E. Long. 95° 24' March 31st, 1825."* He reports that he had that day got as high up the river, as it was navigable: its bed, he says, was a complete mass of rocks,† with only a depth of three or four feet water in the deepest part, the rapidity of the current was also so great, that no boat could track against it, putting the danger of striking on the rocks out of the question. He considers it as about the size of the *Kullong* river, (one hundred and fifty yards across) and the extreme banks as being not more than six hundred yards apart. Lieutenant BURLTON regrets that he could not proceed further either by land or water. It was represented to be at least ten days' journey to the *Brahmakund*, and he had but a few days provisions left—what he had learnt respecting the course of the river above, was "that it runs easterly

* The true place was about Lat. 27° 49' and Long. 95° 52'.

† Not rocks in situ, but rounded stones and pebbles brought down from the mountains in the rainy season. R. W.

till it reaches the lowest range of mountains,* (Lieutenant BURLTON could see the range, and supposed it to be about fifty miles distant,) where it falls from a perpendicular height of about one hundred and twenty feet, and forms a large *bottomless* bay, which is called the *Brahma Kund*." Above the low range are some high mountains, which are covered with snow, and from the narrowness of the water he imagined, that the source of the *Brahmaputra* must be there, as it seemed very improbable such a small body of water could run the distance it is represented or supposed to do.

From what the Natives said respecting the *Stri Sirhit*,† or *Irawadi*, Lieutenant BURLTON was inclined to think that that river rises at the same place.

The impression made by the foregoing account is apparent in the remarks made upon it by the Editor of the Government Gazette. Discussing RENNELL's inference of the connexion of the *Sanpu* and *Brahmaputra* rivers, he says, "The *Sanpu* where left by the Chinese is called a very large river, and the name itself *Sanpu*, is said to imply the river par excellence. How happens it then upon entering *Asam* to have lost all claim to such a character, and to be little more than a hill torrent, with only three or four feet water in its greatest depth." Had Lieutenant BURLTON added an account of the discharge of the river, according to the sections he took below the *Buri Dihong* mouth, and near *Sadiya*, this idea of the character of the river could never have been formed. For the quantity of water discharged per second in the former place, was found to be 86,727

* It is hardly necessary to observe, that Lieut. BURLTON means *from the East*, or *from the lowest range of mountains westerly*.

† It was so printed, but Lieut. BURLTON must have printed and probably wrote the *Sores Lohit*, or *Sri Lohit*.

cubic feet per second, and of the sacred *Brahmaputra*, or eastern branch passing *Sadiya*, 32,413 feet in the same time. It is however to be observed, that there had been a considerable rise before the latter measurement was made, and that divided as the river is in that part of its stream near *Rangpur* into many channels, it is probable that the former did not embrace the whole river, or that some of the minor channels had been omitted, being inaccessible.

The next notice that appeared is in the Government Gazette, 9th June, and it is important to notice it, if merely to show that attention was not yet directed to the navigation of the *Dihong*, though it is mentioned in these terms: "The river (i. e. *Brahmaputra*) washes *Siláni Mukh* or *Múr*, so called from the numerous stones and fragments of rock washed down from the hills by the *Dihong* and *Dibong* rivers, which soon after empty themselves into the *Lohit*; these rise and flow from perceptible openings in the high chain of hills to the northward, and considerably contribute to the mass of the river, which after passing above their mouths, diminishes materially in bulk and importance." The writer further says, "But the object of greatest interest to topographical science is a clear and distinct opening in the lower lofty ranges bearing due east, behind which is pointed out by all ranks and classes, the *Brahma Kund*, or reservoir, whence flows the *Brahmaputra*, and distant from hence not more than forty or fifty miles—six days' journey. The stream is described as taking its rise from a circular basin or well in the side of the mountain beneath the snowy region, while behind and above it are stupendous ranges of impracticable transit."

In the mean time Captain BEDFORD and myself had reached *Bishanath*, where directions were received in a letter from Colonel RICHARDS, commanding the force, to survey the *Búri Lohit*, or old channel of the

river, to the head of the *Majholi* island, and as both Officers might be profitably employed, we were directed to separate, one of the two re-surveying in progress to *Rangpur*, the *Dihing*, or southern branch.

I may here endeavour to elucidate a point which I observe has caused considerable difficulty—I have it on the authority of the present *Bar Gohayn* of *Asam*, corroborated by the evidence of other well-informed *Asamese* whom I had questioned, that before the remarkable flood from the *Dihong* altered entirely the state of its channels, and the direction of the principal body of the river, the *Dihing* did not disembogue itself where it does now into the *Brahmaputra*, but turning to the south-east received the *Disang*, and *Dikho*, the *Jazi*, and *Disai* river, and was discharged into the great river near *Mahura*. A peninsula, or rather long neck of land then existed, and the channel of the *Dihing* was then in the bed of that branch still retaining the name. The great river from near *Siláni Múr* to *Sisi*, flowed in a bed which still continues to fill in the rains, though it is of diminished size to the north of the present channel. It is called the *Búri Sútí*, or *Sútí Lohit*. The *Búri Lohit*, since this singular division of its former supply of water has become of so little consequence that above the junction of the *Subanshiri*, it is barely navigable in the dry season. The division of the waters of the *Dihing* is an event of much later date. It is said that the passage through the low land in the direction of *Sadiya*, was aided by some rivulet draining the jungles, that an accumulation of stones in the vicinity of the *Kusan* hills, was the immediate cause, and that the opening now called the new *Dihing*, was very gradually enlarged by the influence of successive rains, causing an equivalent diminution to the ancient *Dihing*, the old communication with which has no water in the cold season, and indeed, the name of *Búri Dihing* might fairly be dropped in favor of the *Namrup*, from which it derives its present supply. Whether there existed a channel of

communication between the *Dihing* and *Lohit* near the spot where the *Búri Dihing* now meets the latter, I never could satisfactorily learn.

But to return from this digression, Captain BEDFORD chose the *Búri Lokit*, as it presented novelty, and left me to retrace Ensign WOOD'S steps towards *Rangpur*: he completed his survey; but I met with an unfortunate accident in the progress of mine: about half way from *Bishanáth*, my map and field book, with the greatest part of my property, were lost by the sinking of my boat. Captain BEDFORD afterwards continued his route towards *Sadiya*, making a more accurate survey than Lieutenant BURLTON had the means of doing; and before the expiration of the month of June, he had surveyed not only the whole distance on the great river from *Bishanáth* to *Tenga Páni*, but having accompanied Captain NEUVILLE on the expedition against the *Singfo* Chiefs, he also added a hasty survey of the *Noa Dihing*.

Soon after my arrival at *Dikho Múkh* in April, Colonel RICHARDS permitted me to accompany a party of the 46th Regiment, which was to proceed up the *Disang* river to *Borháth*, to protect the *Asamese* of the intermediate district in advance of *Rangpur*, from incursions of the *Singfos*, who had lately, in considerable strength, made a very daring and successful incursion close in the neighbourhood of the force.

After passing *Bel Bári* on the *Disang*, I found the banks of the river clothed with an impenetrable tree forest, and the distances I was compelled to estimate in time, guided by the experience I had of the progress of my boat at those places where it was practicable to use my perambulator. About five miles by the river below *Borháth*, we first encountered the shallow rapids formed by the accumulation of the pebbles brought down by the stream, and further progress in *Bengali* boats was impossible; but one of the *Asam* guides offered to conduct me to *Borháth*; and after

a most laborious march through jungle, where no trace of a path was to be found, I reached the place.

Near to *Borhâth*, are several salt springs, whence a considerable quantity of salt used formerly to be obtained. Those at present worked were too far removed within the *Nâga* hills, for me to visit them ; the evaporation is carried on in green bamboos, and the salt presented was generally of a grey colour, extremely hard and compact, having the form of the bamboo in which it had been boiled, and possessing the radiated structure in perfection.*

After passing eighteen rapids in an attempt to survey the river beyond *Borhâth* I desisted ; the hills which I had then an opportunity of examining, for they were generally covered with soil to some depth, were either of grey or yellow sandstone : the former of a close hard texture and the latter coarse, and when exposed to the action of the waters converted speedily into clay ; coal is found at no great distance.

I was told that the produce of the *Nâga* hills is limited to ginger, black pepper, a few vegetables, iron and salt.

With the aid of an elephant and a party of coolies, I attempted to drag a canoe across to the old fort of *Jypur*, but on my arrival there I found my boat so much injured by rough usage in the way through the close forest that it was no longer serviceable. An *Asamese* captive had fortunately made his escape that day from the hands of the *Singfos*, and having robbed them of a canoe, in addition to such trifles as he could conveniently seize and carry off in it, he presented himself to our notice,

* May not these salt springs belong to the new red sandstone formation ?

singing most lustily and merrily the song of liberty, and he readily yielded his prize to me. In his canoe I dropped down the *Búri Dihing* to its mouth, taking the bearings of its numerous reaches, and noting the time. I mention this incident as a note of the mode in which the survey was performed. The *Búri Dihing* wanders through a forest as dense as that of the parallel river *Disang*, and the country between the two at that time was said to be an inhospitable tract of rank jungle, without a vestige of inhabitants.

The fort of *Jypur* I found so much overgrown with high grass jungle, that I must have passed it unawares, had not my guide pointed it out. It is a square of three hundred and fifty yards, with a dry ditch of six feet deep, the earth from which is thrown up in the form of a wall or bank six feet high.

My next employment was a survey of the river *Dikho*, which was made under more favorable circumstances for arriving at accuracy, as the distance by the bund road both to *Kowarpara* and to *Ghergong* was surveyed, and hills determined in position from this base served to correct the remaining portion, but here as in the *Disang*, after arriving within a certain distance of the hills, I found it impossible to proceed: it is similar in character to the before named rivers.

As my object is to give a connected view of the several steps of our discoveries, I must not omit to mention Lieutenant JONES's Journal of his March from *Rangpur* with the detachment, which I found at *Borháth* on my arrival there.

The Journal was noticed in the Government Gazette of 23d of June, and its contents though interesting, scarcely require repetition, as they chiefly describe the embarrassments of a party moving on bad roads

through a jungly and swampy tract intersected by swollen rivers. For the first fourteen miles, they encountered swamps, jheels, and tree jungle; then, after coming on a good broad road, and proceeding one mile along it, they found a fine stone bridge, of three arches, in good repair, over the *Tezakhana* nullah. The broad road continued (occasionally broken) through a more open country with the *Nága* hills on the right at no great distance. The *Chipera* river was crossed by the help of a party of *Nágas*, who are very expert in felling timber, and a raft was constructed for passing the baggage over the *Tsokak*, which could not be forded by elephants.

On the 20th of June, appeared some further information, derived from Lieutenant NEUVILLE, who, by means of some *Khangtis*, (*Khamtis*) originally from the *Bor Khangti* country, had been enabled to add to his former account, that “The *Bor Khangti* country, before remarked, lies in a direction from this spot a little to the south of east on the other side of the high snowy hills of the *Brahmakund*. These ranges he now finds extend back to a far greater depth than he had at first supposed, and he is assured to a far higher altitude than any of those now visible.* The *Burrampooter* or *Lohit*, accessible only as far as the reservoir of the *Brahmakund*, (unless perhaps to the hill *Meeshmees*) takes its original rise very considerably to the eastward, issuing from the snow at one of the loftiest of the ranges, thence it falls a mere mountain rivulet to the brim of the *Brahmakund*, which receives also the tribute of three streams from the *Meesmee* hills, called *Juhjung*, *Tisseek* and *Digaroo*.†. From the opposite

* To the north east of *Sudiya*, there are higher mountains than those visible from the station—but directly towards the sources of the *Brahmaputra*, it does not appear that there are any higher.

† The only stream falling into the *Kund* or near it, is the *Deopani*, a mountain rill. The *Digarú* falls into the *Brahmaputra* — miles west of the *Kund*, on the north bank the *Mitee* is the nearest, falling in from the south about half mile beyond. The *Tisseek* and *Juhjung*, I do not recognise.

side of the same mountain, which gives the primeval rise to the *Burampooter*, the *Khangtis* state (as they had before stated to Lieutenant BURLTON,) "that the *Irawaddy* takes its source running south, intersecting their country and flowing to the *Ava* empire. This theory of the sources of the streams is thought by far the most probable; and it agrees more with the general accounts and the geographical features of the country." A little to the northward of east the opening of the *Brahmakund* is another less defined dip in the lofty line of the *Meeshmee* hills, through which Lieutenant NEUFVILLE has received a route, accessible to the mountaineers, of twenty days to the country of the *Lama*.*

It would be unjust to omit in these details notice of a service rendered to geography by Lieutenant BEDINGFIELD, when communication was opened with the *Burmas* after the fall of *Rangpur*; from several compared accounts he compiled a map of the *Kenduen* river, from the latitude of *Amarapura* to its sources, which is no doubt very nearly correct in its general features and also in many particulars. Subsequent accounts derived from *Singfos*, have enabled us to improve on the central part and add more topographical detail respecting the time of route of the *Burmas*, nor ought I to omit an account of a journey into *Bhutan*, performed by a *Persian*, under Mr. SCOTT's orders, and from which we learn principally that a route from *Gohati* to *Mürsing gaon*, in a northerly direction, or a little inclining to east, crosses the *Bhürüli* river, which falls into the *Brahmaputra*, opposite *Kaliabar*.

* Given in the 16th vol. of *Researches*: the number of days I suppose nearly correct, but I cannot recognise more than one of the names of the stages, i. e. *Tidong* for *Tiding* river, "which might be reached in one day from the *Kund* by an active *Meeshmee*," but the first cane bridge across the river is, I think, above the confluence of the *Tiding*, and in that case the *Tiding* would not require to be crossed in proceeding eastward. The route to the *Lama* country generally used is on the banks of the river.

Múrsing gaon is situated on the left bank of the *Bhúrúli*. The information collected by him from respectable *Towang* people, places that town three days farther north on the *Bonash* river, which joins the *Brahmaputra* at *Goalpara*.

The possession of the whole of *Asam*, by giving us access to so many points for enquiry on the north bank of the *Brahmaputra*, appearing now so much in favour of an attempt to solve the geographical problem of the connexion which this river has with the *Sanpo*, I was detached from the *Asam* force, by Colonel BLACKER, and instructed to act under the guidance and support of Mr. SCOTT, in the prosecution of this most interesting inquiry, and for the purpose of consulting with that gentleman, was directed to proceed to *Goalpara*.

I received Colonel BLACKER's instruction at *Goalpara*. Mr. SCOTT had, in the meantime, neglected no opportunity of gathering information, but the *Asamese* proved fully as incurious as our subjects of Hindustan, and we found that even in directing our attention to the points best fitted for our first attempt, we should receive scarcely any aid from the best informed amongst them. As a specimen of the style of the few traditions on the subject which they were found possessed of, I shall give an extract from one of their books furnished by BOGA DAMRA PHOKEND,* who, we were told, is rich in the possession of such lore.

Judging from this wild story as a specimen, it might be inferred, that the *Asamese* account of the singular rise of the *Dihong* in 1735 (?) is not well authenticated. Not only, however, have we the evidence of their histories for this fact, but sufficient proof exists in the great alterations in the

* BOGA DAMRA, white calf, a jocular name given here by the common people : his real name I do not recollect.

state of the rivers which then occurred, as I have before noticed. The *Abors* and *Miris* ought to be in possession of all the facts relative to this occurrence, as they were the first observers of it, and the latter tribe having their villages on the east bank of the *Dihong* in the plains desolated by it: but they deny all knowledge of these remarkable circumstances; and indeed the *Abors*, when questioned about the elephant trappings, (or shackles for binding elephants) as I believe the statement in history gives it, immediately accounted for the appearance (of the latter) by the resemblance to some of their own implements.* The *Abors* gave a reason for the rise of the *Dihong*; but they did not speak confidently; they thought it was occasioned, by the river having suddenly penetrated, at a sharp turning, the earthy barrier opposed to it, or overturned a ledge of rocks. That this enormous body of water having so large a fall in that part of its course southward through the *Abor* mountains, must exert an extraordinary force, cannot be doubted.

After some deliberation as to the route I should attempt, Mr. Scott recommended that I should try the *Súbanshiri* before proceeding further eastward, and I started with a liberal supply of red cloth, beads, and such other articles as were likely to please the mountaineers. Having arrived at its mouth on the 28th November, I commenced my survey on the following day; but I was disappointed to find my further progress impeded on the sixth day by rapids, occasioned by the accumulation of round stones brought down from the hills, where, from its mouth, I had got but twenty-two miles latitude to the north.

Some of the Chiefs of an *Abor* tribe had arrived at this time, to make their annual collections from the district north of the *Búri Lohit*. They

* The Writer in the 16th vol. *Asiatic Researches*, appears to consider this tradition as of some authority.

claim the whole of those plains as their domain, but whether this claim is the origin of their exactions, or whether the imbecile government of *Asam* had allowed to grow into a confirmed custom, an evil which they could not counteract, does not appear; however, from the *Bhúrúli* to the banks of the *Dihong*, the whole of the hill tribes pretend to similar rights, and have never been interfered with, when, at the accustomed season, they have descended from their strong holds and peaceably taken their dues from each separate dwelling.

I had an interview with **TALING GAM**, the most powerful of these *Abor Mirís*, and my presents of rum and cloth wrought so well with him, that I entertained hopes of starting for his village in his company, and had arranged to move off in canoes, to have the advantage of water conveyance for my provisions the remaining navigable portion of the river, which is said to be but three days.

My enquiries had not elicited any information to warrant the expectation of a successful result from this trip, as it appeared that the few articles of *Thibetan* manufacture, found amongst this people, were acquired by traffic with tribes more to the eastward: they would not acknowledge any acquaintance with the countries to the north, but described them as an uninhabited wild tract of hill and jungle. To their N. W., however, they place the *Onka Mirís*, whose country, they say, is a level table land, and they are of opinion that these come in contact with the *Bhotiyas*—I thought that by gaining a footing in the first villages in the hills, I might either induce the people to throw off this reserve, if my suspicions of their concealing their knowledge were correct, or perhaps advance sufficiently far towards the north to make more effectual enquiries. I was disappointed through the interference of the *Asamese* of the *Sonari* villages, who anticipated some unknown evil from our communication with their hill neighbours, and this friendly Chieftain positively refused to accompany

me, or to let any of his people guide me till he should have returned and consulted his people.

Of the *Súbanshiri*, they could only tell me that it is divided above into three branches. It is called by them *Kamla*, and the principal branch rises in the N. or N. W. Snow, which I had seen lying on the mountain in a northerly direction, they told me was fifteen days' journey from their villages, and added that in the north east, they could perceive it hanging on the mountains, in great quantity, throughout the year. The *Miris* bring down to exchange with the lowlanders, ginger, pepper, manjit, (madder) and wax. The *Abors* of *Sueng Meng* and *Dohar Doowars*, more eastward, have also copper vessels, straight swords and elephants' teeth.

The *Súbanshiri* river is scarcely inferior to the Ganges at *Allahabad* in December. I found the discharge at its mouth 16,000 cubic feet per second, and up to the hills its tributary streams are few and of little consequence. I think there is no doubt of its being the *Omchu* of DU HALDE and RENNELL. Its low banks are covered with tree jungle and are subject to inundation; there are very few villages visible from the river, but inland, on both sides, the country is better cultivated and more populous than other parts of upper *Asam*, with the exception of *Jurháth* and *Chár Dwár*.

It had been agreed with Mr. SCOTT that in the event of my meeting with no success here, I should go on to the *Dihong* and *Dibong*, and if Captain BEDFORD had not already explored those rivers as far as practicable, that I should make my attempt there.

My own belief, founded on the reports of the *Miris*, now on the *Súbanshiri*, who had emigrated from the banks of those rivers, was that neither would be found navigable, and I was prepared to move overland wherever I could find admittance. The *Miris* did not pretend to any

certain knowledge of the origin of the *Dihong*, and they seemed to think that the notions current amongst their tribe and the *Asamese*, as little worthy my attention. They informed me that a tradition prevails with the *Abors* of the *Súbanshiri*, that their hunters once, travelling in quest of game, went much further towards the north than usual, and that they arrived at the banks of a noble and rapid river separating their wild hills from cultivated spreading plains, whence the lowing of oxen was distinctly audible. Another singular account they mentioned of the *Dihong Abors*, that the *Dihong* is an anastomosing branch of a river of great magnitude, called *Srí Lohít*, which also throws off the *Brahmaputra*, and passes into unknown regions to the eastward. The *Abors* are supposed to see this *Srí Lohít*, and on the opposite bank numbers of people, of a strange tribe, are perceived coming down to the ghaut to bathe, but it is too rapid and too broad to be crossed. Another tale is, that the *Sonáris* not finding the sand equally productive as usual in their old washing haunts, continued their way in a small canoe up the river, renewing their search for gold continually, but in vain, but that they suddenly arrived in a populous country, the manners and appearance of the inhabitants of which were strange to them; that on mentioning what had brought them so far from their houses, they were instantly rewarded for their toil by a large gift of the precious ore, and sent back delighted.

The *Asamese* are of opinion that the families of a *Bor Gohayn*, who had been sent for under suspicious circumstances by the reigning Raja, took refuge in the *Kabita* country; but they seem to want authority for the opinion, and at all events it is extremely doubtful, whether any intercourse was kept up afterwards. I hesitate to express this opinion, because an opposite statement has been made. My grounds for it are that, when perusing the *Asamese* history, I did not meet with a satisfactory account of what became of them. My recollection is, that "the sons and family of the *Gohayn* fled up the *Dihong*," and the present

very respectable *Bor Gohayn* of *Asam* could not give me better authority than mere tradition for the additional circumstances of their finding refuge in the *Kalita* country, and after intercourse with their friends in *Asam*.

On my arrival at *Sadiya*, I found that Captain BEDFORD had already proceeded up both the *Dihong* and *Dibong*, as far as he was permitted by the mountaineers, and I had great reason to fear that the same obstacles which he had experienced, would also interfere with my progress; but being provided with abundance of cloth, salt, and various articles in request amongst them, besides having the means of taking with me a sufficient guard to insure personal safety, an advantage which Captain BEDFORD wanted; moreover, having letters addressed in the *Asamese* language to the *Abors*, given me by the Junior Commissioner, and *Miri* Interpreters, who were accustomed to intercourse with them, I did not hesitate to make the trial.

As Captain BEDFORD's journey of this river was anterior to mine, so his account, extracts of which were published in the Government Gazette of 2d February, deserves a preference, I shall therefore endeavour, from these extracts, to convey the best idea I can of this most interesting river.

18th November.—On the first day after leaving the *Brahmaputra*, Captain BEDFORD was struck with the placid and mild character of the river, expecting as he did from all accounts of the utter impossibility of navigating it, to find it abounding in rocks and with a violent current. Sands were as frequent as in the *Brahmaputra*, and the jungle similar, that is, grass covers the islands and grounds formed by alluvial deposits, while the forests clothe the banks of older date: deer were numerous in the grass jungles.

19th November.—The second day no material obstacle was encountered, however stone beds were found to be taking place of sands, and several rapids were passed. The hills appeared near at hand, and in them a remarkable break, which was afterwards found to be, as conjectured, the channel of the river.

20th November.—The third day the rapids were more numerous, and more troublesome, but on the fourth, (21st of November,) they obstructed progress materially. Wherever encountered, the people were obliged to get out of the canoes, both to lighten them and to assist with their strength in pushing them against the currents. The direction of the river hitherto, nearly N. and S., is suddenly from the N. W. Deer and buffaloes were seen in numbers, as well as the large water fowl, called *Keewaree*. Musk beetles were very annoying from the intolerable odour communicated by contact with them; the hills were now so near, that trees and the colors of the foliage were plainly distinguishable on the nearer ranges, as well as the patches cleared for cultivation, but no habitation was yet seen.

22d November.—After tolerable progress, Captain BEDFORD arrived in the evening near *Pasial*, an *Abor* village, which is half a day's journey inland from the river, on the right bank. This was the limit of his excursion, as, on various pretences, the *Abors* of that place opposed his further progress. One plea urged was, that any one, having met them on friendly terms, would, no doubt, be very ill received by the *Abors* higher up, with whom they were at enmity. It was, therefore, necessary to return, after a stay of two days, and with such information as was to be obtained from the Natives, who, though obstinate on the score of a further advance, and troublesome, from their rude habits and childish curiosity, were, on the whole, amicable and communicative.

The hills on the right bank belong to the *Pasial* and *Mayong Abors*, and those on the left to the *Padoo*, *Siboo* and *Meeboo*, and *Goliwar Abors*.

The *Pasial Abors* were armed respectably enough; every man had a bow and quiver of arrows, part of the latter of which were poisoned.* They also carry light spears, or the sharp heavy sword (*Da*) of the *Singfos*. The *Abors* are not particular in their diet, and eat the flesh of the elephant, rhinoceros, hog, buffalo, kid, and deer, as well as ducks and fowls, but they expressed an abhorrence of feeders on beef. They exhibited also a marked predilection for brandy, although some of them pretended to give a preference to a fermented liquor prepared by themselves. Salt, cloth, and tobacco were in great request amongst them.

The dress of the *Abors* consists principally of a choonga (*Asamese* name for dhoti) made of the bark of the *Uddal* tree. It answers the double purpose of a carpet to sit upon, and of a covering. It is tied round the loins, and hangs down behind in loose strips, about fifteen inches long, like a white bushy beard. It serves also as a pillow at night. The rest of their dress is, apparently, matter of individual taste; beads round the neck are not uncommon; some wore plain basket caps: some had the cane caps partly covered with skins, and others wore them ornamented with stained hair, like our helmets, and resembling the head dresses of the *Singfos*.† Almost every man had some article of woollen dress, varying from a rudely-made blanket waistcoat to a comfortable and tolerably well shaped cloak.

* They kill buffaloes with poisoned arrows; they track the beast which they have successfully wounded, knowing that he will not move far before the fatal effects of their deadly poison will become sensible; within half an hour the noble beast staggers and falls.

† The beak of the *Buceros* (*Nepalensis*) is a favorite and striking ornament of their caps; this, on the top in front, and the red chowry tail flowing down behind, gives very much the appearance of a helmet.

One of these, of a figured pattern, was made with sleeves ; it was said to come from the country of the *Bor Abors* ; the texture was good, though coarse, as was that of a red cloak worn by the Chief of the village.

The *Abors* seem to have been in the habit of levying contributions on their low-land and less martial neighbours of *Asam*, and to have resented any irregularity in their payment, by predatory incursions, carrying off the people prisoners ; several *Asamese* captives were found amongst the *Abors* of *Pasial* ; some of whom had been so long amongst them, as to have become completely reconciled to their condition.

Captain BEDFORD's account of his voyage up the *Dibong*, which followed, is the only one we have of that river, and as it was also the next excursion, in order of time, I continue the extracts from it, as published in the Appendix to WILSON's History of the Burmese War.

“ On the 4th of December, Captain BEDFORD entered the mouth of the *Dibong* ; the water was beautifully clear, running in a bottom of sand and stones. On the 5th, a shallow, or bar, was crossed, above which the stream was much obstructed by the trunks of trees brought down by the current. The river continued deep, and although several rapids were encountered, they were passed without much trouble ; numerous traces of buffaloes, deer, and leopards were observed, and also of elephants, which last had not been seen along the *Dihong*, nor on one of its feeders, the *Lalee*. Amongst the trees on the banks, were several, of which the wood is serviceable in the construction of houses and boats, as the *Sáú* and *Soleana*. The *Demúrí* yields a bark which is eaten by the *Asamese* with pawa.

On the 6th, at 11 A. M., the most formidable rapid that had been met with, was passed with much difficulty ; and on the following day a shallow, extending across the river, over which the boats were forced.

On the 8th, the part of the river reached was wide, and separated into many narrow and rapid streams; in the forenoon, the mouth of the *Bhanga Nadi* was passed, so named by the fishermen, from an idea that it is a branch of the *Dibong*, which forces its way through the forest; but, according to other information, it is a distinct stream, flowing from the hills. It was not navigable even for canoes, but the mouth was one hundred and fifty yards broad, and, if it rises from a distinct source in the mountains, it must bring down a considerable body of water in the rainy season.

The progress of the Survey was suspended, for the greater part of the 9th, by an accident to one of the canoes, which was split from stem to stern. It was repaired, however, by the fishermen, in a singular manner. Having collected some of the fresh bark of the *Simal* tree, about half an inch thick, and tolerably strong, they fastened this to the bottom of the dingee with bamboo pins, about an inch and a quarter long, and filled up the crevices with cloth, so as to keep out the water, and this slight apparatus succeeded in rendering the dingee almost as serviceable as before.

On the 10th, the river, although much intersected with forest, continued still to widen. It appears rather extraordinary, that a stream, the mouth of which is scarcely navigable, should have thus continued to improve in practicability, and that it should have presented more than one branch larger than the undivided river at its debouche. The difficulty is to conceive what becomes of the surplus water, unless it be absorbed partly in the sandy soil over which it flows, or stagnates in the hollows of the deepest portions of the bed. It seems not improbable, however, that in the rains, at least, it communicates, in the upper part of its course, with the *Dihong*, and that part of its water is carried off by that channel. On Captain BEDFORD'S voyage up that river, he noticed, eight

miles from its mouth, a wide opening in the forest on the left bank, through which a stream, in the rainy season, probably comes either from the hills or from the *Dibong*. Along this day's route a number of otters were observed; buffaloes, and deer, and wild ducks were numerous; the cry of the *hoolloo*, or small black long-armed ape, was constantly heard—and the print of a tiger's footsteps were noticed. Some of the people declared having seen the animal.

On the following days, the division of the river into numerous channels, and the occurrence of many shallows and rapids, rendered the advance very inconsiderable. On the afternoon of the 12th, the river presented three branches, two of which were found impracticable. In order to enter the third, which appeared to be the main stream, it was necessary to clear away a number of large blocks of stone, and employ all hands to force each boat singly over the rapids, by which means an advance of about half a mile was effected in about two hours. In the course of this day's navigation, the action of mountain torrents on the forests skirting the banks was strikingly illustrated. Besides the numerous water courses tracked through the jungle, small clumps of trees were observable, growing upon isolated masses of rock, which had been detached by the passage of a torrent from the circumjacent surface. The sub-division of a river near the hills, and consequent destruction of the forest, seems the natural effect of the accumulation of the mountain debris, which, choking the beds of the torrents, forces them to seek new channels, and spreads them annually in fresh directions through the woods.

The progress of the 13th, was equally tedious and laborious, and two miles and a half only were made with the greatest exertions. About noon, direct advance was stopped by an impassible rapid, and the course diverged through a channel to the left, which led again to the stream above the fall, the banks of the river began here to contract, and the hills

were no great distance. Foot tracks of men and animals were seen, and smoke observed amongst the forests, but hitherto no human dwelling had been seen, and none but a few stragglers occasionally encountered. On the 14th, the width of the river was reduced to between twenty and thirty yards, and as it was not above knee deep, it appeared not unlikely to be near the head of this branch, but an advance, for the purpose of ascertaining the fact, was disappointed by the appearance of the *Meeshmees*, who showing themselves unfriendly to the further prosecution of the Survey, Captain BEDFORD thought it expedient to return. There are five villages of these people under the first range of hills, extending nearly south-west towards *Pasial* on the *Dihong*. *Zillee* and *Anundeea* containing from thirty to forty families, *Maboom* containing ten, *Alonga* twenty, and *Chunda* twelve, making a total of eighty families, or about five hundred persons of all ages. They are at variance with the *Abors* on the *Dihong*, and also with the *Meeshmees* on the left bank of the *Dibong*. A party of these people made their appearance on the evening of the 14th, occupying the high bank which commanded the passage of the river, and upon opening a communication with them, it appeared that they were the precursors of the *Gaum*, or head man of *Zillee*, for whose arrival, as well as that of other Chiefs, it was found necessary to halt. The people evinced more apprehension than hostility, and suffered the land operations of the Survey to proceed without interruption.

The people collected on this occasion were variously attired; some of them, like the *Abors*, were dressed in skins, but the most common dress was a coarse cotton cloth; no woollen garments were seen; many wore rings below the knee. Their ears were pierced with pieces of metal or wood, and some of them wore semi-circular caps, ribbed with cane. They were armed with *dhaos*, and bows and arrows, the latter are poisoned with the extract of some root. The *Meeshmees* and *Abors* eat together, and acknowledge a common origin. They profess to worship at a different

shrine, which, the former assert, is at a considerable distance. The *Dibong* is said to be divided, on its issue from the hills, into four branches, but above them is a deep and even stream, occasionally intersected by rocks. The source is described to be remote, but none of the villagers could give any account of it, nor of the general course of the stream, from personal observation, as they seldom leave the immediate vicinage of their native villages. The nearest village to the river was *Zillee*, about nine hours' march, from which *Maboom* was half a day's journey distance. The undivided course of the stream, above a small hill, a short way above the spot where Captain BEDFORD had moored, and round which the *Dibong* winds into the low country, was ascertained by actual observation.

In reply to Captain BEDFORD's expressed wish to proceed, the *Meeshmees*, who gradually increased in numbers, coming in from the different villages, insisted on his waiting the arrival of the *Gaum*, or Chief of *Alonga*, to whom, the interpreter pretended, the others looked as their head: while thus delayed, bees' wax, honey, rice and ginger were brought for barter; but it did not appear that the *Meeshmees* were sportsmen, like the *Abors*, and no game was procurable: according to their own assertions, the *Meeshmees* of the left bank are much addicted to the chase, especially those of *Bukba-jeea*; whom they describe also as a fierce race of cannibals. The *Zillee Meeshmees* sometimes kill elephants with poisoned arrows, and after cutting out the wounded part, eat the flesh of the animal.

On the afternoon of the 17th, the *Gaum* of *Anundeea* made his appearance, by far the most respectable looking of his tribe; those of *Zillee* and a village called *Atooma*, had previously arrived. In the conference that ensued, the Chiefs endeavoured to dissuade a further advance, chiefly on the plea of danger from the rapids, and the unfriendly disposition of other tribes; but they promised to offer no obstruction. On the following day, accordingly, the route was resumed, when a messenger

announced the arrival of the *Gaums* of *Maboom* and *Alonga*, for whom it was necessary to halt. In the interview with them, fresh difficulties were started, and as there appeared to be some serious intention of detaining Captain BEDFORD where he was, as a hostage for some of the people carried off prisoners by the *Suddeeu Gohayn*, he thought it expedient to retrace his steps, and accordingly set out on his return on the evening of the 18th. The course down the stream was rapid and disastrous—some of the boats being wrecked in the falls. On the morning of the 19th, a small stream was passed, called the *Sitang Nadi*, which appears to be a diverging branch of the *Bhanga Nadi*, and the last point where that joins the *Dibong*. On the afternoon, the mouth of the *Dikrong* was reached, and a Survey of the lower part of its course commenced. It is a very winding stream, about fifty yards wide near its junction with the *Dibong*, which is about eight miles above the mouth of the latter. It flows through a dense forest, and its water is thick and muddy.

On the 20th, the voyage was prosecuted up the *Dikrong*, or *Garmúra*, as it is termed by the *Khamtis*, above *Kamjan*, on the left bank, half a day's journey overland to *Suddeya*. The water was much more clear, and ran in a sandy bottom. The current and depth of water in these tributary streams are much affected by the contents of the main stream, the *Burrampooter*, and when that has received any considerable accession to its level, the banks of the smaller feeders are overflowed. The name *Garmúra* is more properly applied to a small stream that falls into the *Dikrong* from a jheel near *Suddeya*; above this, the river is divided into two small branches by an island, near which are the remains of a village and bridge, and a pathway, opposite to the latter, leads to *Buhbajeea*.

After passing the island on the 21st, the *Dikrong* became too shallow for boats of any burthen, and much obstructed with dead trees; the direction was northerly, and glimpses of the hills were occasionally gained.

A few inconsiderable falls occurred, and the current of the river was rather stronger than it had previously been found. The voyage was continued up the river till the afternoon of the 22d, when it became too shallow for the canoes to proceed. Some further distance was explored in a slight fisherman's boat, but the progress was inconsiderable, the water not being ankle deep, Captain BEDFORD therefore returned to the *Dibong*. The *Dikrong* contains several kind of fish of good quality, and in the forests, along its borders, are found yams, superior to most of those cultivated, and several other esculent roots. The orange also grows wild, the fruit is acid, but not disagreeable, and the pulp is of a pale yellow, like that of the lime. Amongst the trees of the forest, is one called *Laroo-bunda*, of which the bark is used to dye cloth and nets of a brownish red tinge, the wood is also used for making canoes. The *Dikrong* was supposed to be connected with the *Koondil*, which is not the case: gold dust has been also, it is said, found in the sand, which does not seem to have been the case in this voyage.

The 24th and 25th of December were spent in examining the eastern branches of the *Dibong*, as far as practicable, and early on the morning of the 26th the Survey was terminated at the mouth of that river."

To Captain BEDFORD's account of the *Dihong* I can add little, but as the mode of travelling has not been clearly explained I should endeavour to describe it. I took with me ten *Gorkhas* of the *Champáran* Light Infantry Corps, and embarked with fifteen days provisions, and my stock of presents in several canoes, each made of a single tree, and the largest capable of carrying ten men in smooth water. The more convenient size for easy management in the rapids is a canoe fit to carry six, which is perhaps a safer boat also than a larger. I did not adopt Captain BEDFORD's plan of making two fast together as a raft, and consequently, though through the awkwardness of the *Sipahis*, a boat was occasionally overturned.

I did not experience any very inconvenient losses. All those who could not aid effectually in managing the boats were made to keep the shore, but even then their help was called for when engaged in a rapid, as the exertions of the boatmen were hardly sufficient to overcome the resistance of the stream. On these occasions, the smallest canoes, manned by two expert fishermen, are pushed through with very little delay, the larger boats drawn up into still water, and forces are joined for extricating one at a time. At a rapid, the form of the bottom is always a very gentle slope on one side, deepening gradually towards the other, where it would be impossible to stop the force of the current. The canoe is run aground on the shallow side, and is dragged up sometimes supported by the water, and sometimes its weight wholly resting on the boulders or rounded stones.

I recollect but one exception where, for the space of four hundred or five hundred yards, the depth appears equal in the whole width, and here the major part of the river, collected in one stream, descends the declivity at the rate of at least ten miles an hour.

It is in coming down the rapids that skill, on the part of the conductor, is requisite: his object is generally to bring his boat to that point sufficiently remote from the shallower side, to secure a sufficient depth of water to avoid touching; but he is almost equally afraid of the violence of the current and of its agitated state on the other.

It is a moment of intense interest, when silence prevailing in the boat, no exertion is made, but by the steersman and his principal coadjutor at the head. They too sit almost motionless, yet forming their judgment while they have a perfect command over her, in the calm smooth stream above, they carefully guide her to the shooting place. The water is clear as crystal, and the large round blocks at the bottom, above which she glides with the velocity of lightning, seemed removed but an inch or

two from the surface threatening our frail bark with instant destruction. In the case of any accident happening, good swimming would avail but little.

My shelter at night was such a small paul tent as could be stowed in the canoe, and the men either slept without or collected sufficient grass and reeds to build themselves a slight protection from the dew or rain.

I did not note anything very remarkable in my passage up, unless it be the state of the left bank. About six miles below, where the river emerges from the hills, its direction is suddenly changed from E. to S. W., and from that corner the forest marking the ancient bank recedes from the edge; whence, lower down, it is seen at a considerable distance. It returns again to the bank of the river, ten miles below the bend. Within the extent thus marked by a semi-circle of trees, the ground is high—higher by several feet than the river now rises in the highest floods, but it is evidently an alluvial deposit, being almost entirely sand. Within it there is one insulated patch of tree forest. The *Miris* declare that the great flood left it in this state; their villages, which were utterly destroyed, were situated within this same space, and certainly the appearance I have described is highly corroborative of their assertion. I halted at *Shigáru Ghat*, opposite to Captain BEDFORD'S old mooring place.

The *Membú* people had notice of my arrival, and I soon saw two or three of their Chiefs, accompanied by another, who was said to have rank among the *Bor Abors*.* They seemed to be averse to it, yet gave their consent to guide me to their villages, and I felt confident of being able to

* *Abor* is an *Asamese* word; they call themselves *Padam*. *A* signifies privation, and *bor* the contraction for a verb, signifying to submit to, or become tributary. Thus there are *Nagas* and *Abor Nagas*—i. e. independent *Nagas*. *Bor* is *bara*, great.

start with them, when the *Pasu Abors* made their appearance from the opposite bank, renewed the business of haranguing, and, after a long debate, turned the tables against me. My *Menbú* and *Bor Abor* friends now insisted that till we restored the *Mírís* to their former places, at the mouth of the *Dibong*, they could not, and would not venture to introduce us among their tribes. I was thoroughly convinced of the truth of my accounts of the impossibility of navigating the river more than one or two day's journey within the hills, and thought it would be folly even to attempt this, with the small guard I had, against the wishes of the *Abors*; it might be the means of defeating all future attempts.

I was now some time inactive at *Sadiya*, doubtful whether it were not better to return to *Súbanshiri*, even with the poor prospect I had of success there.

In the S. E. quarter, Captain BEDFORD was present, with the Rangpur Light Infantry, to pursue his researches wherever practicable. I had communicated with him, and found that he considered me as interfering in some degree with his researches, and as he expected to return immediately, I thought I was obliged to accede to his request that I would leave the eastern branch of the *Lohit*, the *Brahmaputra*, and the far-famed *Kund* for his investigation.

Amongst other visitors who were attracted to *Sadiya* by the good reports which began to be spread of the English character, was the *Lúri Gohayn*, brother of the *Sadiya* Chief. He had taken alarm on Lieutenant BURLTON's first visit, and fled from his flourishing villages, in the neighbourhood of *Sadiya*, to take refuge in the wild jungles below the eastern hills, from the anticipated ill treatment of the Europeans. I found this man more communicative and better informed than the natives with whom I had had intercourse, and I soon arranged a plan with him for visiting his

village, with a view of learning from the neighbouring *Mishmís* something more definitive about the *Lama* country, or, in short, to extend the field of our knowledge, and turn to account any new opportunity that might offer.

In this excursion I was accompanied by Lieutenant BURLTON. He had, on a former trip, reached *Sonpura*, about twelve miles east of *Sadiya*, where he had found an effectual bar to his further progress in large boats in the shallows and rapids.

In the following passage, which appeared in an extract published in the Government Gazette of 21st September, 1826, from Captain BEDFORD'S Journal of a Voyage up the *Brahmaputra*, the Editor, and perhaps the Public, seem to have formed notions of this river not altogether correct. "The *Brahmaputra*, although of considerable breadth and depth in some places, is hence constantly broken by rocks, separated into different small branches by islands of various extent, and traversed by abrupt and numerous falls." The nearest hills to *Sadiya*, by the course of the river, are upwards of forty miles distant, whether those near the *Kund* or those on the *Digaru*, a principal tributary on the north bank, and in this extent the river does not intersect any rocky strata, but to the distance of thirty to thirty-five miles from the first ranges, the torrents of the rainy season bring down an immense and yearly accumulating collection of boulders and round pebbles of every size, which, blocking up the river, are the causes of its remarkable feature of separation into numerous and diverging channels, and of the difficulties of navigating it. Many of the stone beds have been so long permanent, that they are not only covered with grass jungle, but have a few trees growing on them. The extreme banks, both of the north and south, are clothed with a dense tree jungle, which is rendered almost impervious by rank underwood. The general direction of the stream is from E.N.E. to W.S.W.

The rapids are very numerous; they are invariably situated where a large deposit of stones encroaches on the river. The most formidable one encountered by us was that at the mouth of the *Súhatú*, a branch which separates from the main river eight miles below the *Kund*, forming an island of about fourteen miles in length. The fall at any single rapid seldom equals five feet, which is carried off in a distance of from fifty to two hundred yards; the violence of the current at the principal channel of the *Súhatú Mukh* was such that we could not attempt the direct passage, but passed by a circuitous route across the main river, with the sacrifice of much time, to a small channel on the eastern side.

The *Karam*, up which our course lay, falls into the *Súhatú* nearly four miles above its mouth. Here though very much disinclined to part with our boats, we were convinced of the necessity of leaving some of them, and even with such of the smaller as we retained it proved difficult to advance up the minor stream. It was often found necessary to open a passage up a shallow by removing stones from the bottom. Our route, while the boats remained with us, was generally through the jungles on the bank; but such a survey as, under these circumstances, I could make, I did; estimating the distance according to time, and taking what bearings the closeness of the jungles permitted. A Perambulator would be battered to pieces, and the objection to a chain would be the necessity of wading across every two or three hundred yards, and the want of open ground which frequently occurs. The only sign of population that we saw on our journey were parties of priests (*Khamti*) moving from one village in the jungles to another. We were obliged to relinquish our boats entirely where the *Karam*, being formed of two branches, has scarce any water in the dry season at places where it is choked by a collection of stones. We found the *Lúri Gohain's* village, of ten or twelve houses only, and their cultivation scarcely equalling their need; it was at the base of a low hill, which

is attached to others rising in height. Those on the opposite bank of the river appeared not more than ten miles distant, and on the angle a little E. of N. we were assured that the *Kund* was situated. All that we had added to our stock of knowledge, was the certainty of the *Brahmaputra* leaving the hills, where its exit had been pointed out from a distance, and by passing in an easterly direction, south of the great line of snowy peaks, we had ascertained that there is no material break in them; but the weather would not permit the contemplation of the splendid scene which is opened in the cloudless skies of the winter months.

We learned that the *Lama* country, on the banks of the *Brahmaputra*, was but fifteen days distant, and the upper part of the *Irtwadi* (whence the *Khamtis* emigrated to this side,) about the same, but our provisions were nearly exhausted, and we saw that we were not likely to procure any supply here.

We saw several *Mishmis*, wild-looking but inoffensive (rather dirty) people. The dress of the labouring men being as scanty as that occasionally used by Bengalee boat-men, and perhaps not quite so decent, scarcely deserves that name. The richer have coats of *Thibetan* coarse woollens, generally stained of a deep red, and sometimes ornamented with white spots, which are preserved from the action of the dye by tying. The most remarkable article of their equipment is the ear-ring, which is nearly an inch in diameter, made of thin silver plate, the lobes of the ears having been gradually stretched and enlarged from the age of childhood to receive this singular ornament. A pipe, either rudely made of bambu or furnished with a brass bowl, imported from China, through the intervention of the *Lamas*, is never out of their mouths, and women, and children of four or five years of age, are equal partakers of this luxury. The men are generally armed with a spear or straight sword.

On our return to *Sadiya*, I found Captain BEDFORD ready to depart on his visit to the *Kund*. Affairs with the *Abors* were precisely in statu quo, and the enmity between the *Khamtis* and northern *Mishmis* rendered the *Dibong* unsafe. I resolved therefore to return to the *Lúri Gohain's* village, and thence endeavour to push on towards the E. and S. and visit the *Iráwadi*.

On my second visit, and proposition, actually to set out in an adventure to the *Bor Khamti* country, which had been talked of before, when we were at a loss for provisions, as perfectly feasible, the *Lúri Gohain* and his people informed me of various obstacles which had not yet been alluded to. The snow on the high range of mountains to be surmounted in the route, could not be passed before the month of April or May, (and there was truth in this objection,) the country was not prepared for such a trip—very great risk would be run by venturing amongst the *Singfos*, who were removed from the sphere of our influence, or rather from that proximity to our force which should incline them to dread us.

Tain Mishmis, from two days journey beyond the *Kund*, had arrived, and I considered my trouble as partly rewarded by the information derived from them. PRIMSON and GHALUM, the two Chiefs, who afterwards accompanied me in my excursion up the river, communicated freely what they knew, and the former enabled me to lay down the course of the river as far as the *Lama* country. I also undertook an excursion to the village of the latter.

On setting out, we continued through the same heavy tree jungle as we had passed through from the *Karam*, and skirting the base of the low hill in a N. Ely. direction, we crossed the *Laih* under the foot of a higher range. A path can be traced, but is evidently little frequented.

Turning more east, we ascended a considerable height up a very steep and rugged path, and arriving at a small patch of cleared ground, where the trees had been felled, and the underwood burnt preparatory to cultivation, we turned round on the most splendid view I had ever beheld. The *Brahmaputra* was visible at no great distance on the right, emerging from a long narrow chasm in the hills. On its northern banks, the low hills, the tops of which had been visible from *Chala*, were seen running along its edge, thence stretching away to the right, and varying in size and character from the mere wooded ridge to the towering naked peak, resplendent in its clothing of snow, and glittering in the sun-beams, until they gave place to spreading plains.

Our host for the night was the Chief of *Thethong*, of which village we saw but two huts, and imagination can scarce picture a situation more wild than they were placed in. The slope of the hill where they were built was full thirty degrees; the huts were of great length, and about twelve feet broad—the beams of the floor resting on one side on the hill's face, and on the other upon stakes driven into the ground below. The roof is of the lightest materials, in order that the smoke may have free egress, and it hangs down, projecting on each side to near the floor, to give protection against the wind. Within, on one side, rows of bamboos extend horizontally, the entire length laden with the blackened skulls of all the animals on which the owner had, in the course of his life, feasted his friends; cross fences of bamboo mat, divide it into small apartments, in each of which are one or more hearths glowing with burning faggots. Both house and inmates were black with dirt and smoke. Outside the door, it is but necessary to turn the back on the hut to suppose that we are far removed from the habitation of men, in the depths of some wild forest—so little does the immediate vicinity of the dwelling display any sort of care.

In the evening a storm of wind and rain came on, and the thunder rolled in awful peals, echoed by the surrounding walls of mountain. On the morrow heavy and continued showers forbade exit from the house, and on the third day we were, in the same way, involuntary prisoners. I was assured that it would be necessary to wait some time after the cessation of these heavy rains before the rivulets between us and the *Tain* hills could possibly be crossed, and I was also reminded that if they should continue, we should very soon find the *Laih* so swollen as not to admit of our fording it on our return, and as to procuring provisions, however hospitable our host seemed, I found that he watched his very slender store with great and jealous vigilance. The poor fellow, indeed, could have ill afforded to feed my people for one day. Under these circumstances, I felt well pleased that some intermission of the weather permitted me to regain my more comfortable habitation at *Chali* on the fourth day. Here again I was detained by the state of the *Karam*, which could not be forded.

I shall hereafter have occasion to allude to the opportunities I have had of acquiring a knowledge of the rivers between *Asam* and *China*. I will therefore, in this place, merely mention that one of the higher class of *Khamtis* present, had been a resident at *Yunan* for a period of eight or nine years. He gave me an account of the stages, rivers, and cities, agreeing closely with the account given to Dr. BUCHANAN by the *Bhammo* Governor. He did not go to *Santafou*—but leaving *Bhammo* he went in three days to *Mungwan* on the east bank of the *Namiun*; thence in five days he reached a larger town called *Mungti*, and thence, between that place and *Mangmen*,* he crossed the *Namkho*, which he describes as equal

* *Mang*, in the *Sham*, or *Khamti*, means country or town.

in size to the *Irawadi* river. The *Namkho*, he says, divides a *Sham* province from *China* proper.

These are most probably the same places with BUCHANAN'S *Mowun*, *Maintu*, and *Momieen*; however, either the Doctor's informant was mistaken in the *Chinese* names, or my friend had forgotten the positions of the towns relatively to the river (*Namkho*). I would not venture to hint the possibility of the former (which, by the bye, may have occurred in copying), had not a *Chinese* from *Yunan*, who was some time with me, called *Mungti*, *Feng ye chou*, which would make my friend the *Sham* perfectly correct. I must add, that till I came down to *Calcutta* I never had any opportunity of seeing anything of Dr. BUCHANAN'S information. The *Namkho*, it is scarcely necessary to add, is evidently the *Nou Kyang*. I cannot quit the subject without expressing my admiration of Mr. KLAPROTH'S boldness in turning all the water of the *Sampo* into the *Bhammo* river, concerning which we can so easily here consult sufficient authority. MUNGYAH, my *Burman* attendant, instantly answered to my question about its size, that it is equal to the *Dikho*, one of the rivulets of *Asam*.

My return by water was very rapid; the first day I reached the *Suhatu*; the second, starting after breakfast, and halting some time to take bearings at three places on the way, I reached *Sadiya* in the afternoon, having performed upwards of thirty miles that day. The only incident I have to mention, and that only interesting as conveying a further idea of the nature of the rapid, is my descent of that at *Suhatu Mukh*, where there are three separate channels. As the river had risen considerably, I expected to find the declivity in the principal channel, which is not interrupted by any shallow, less than when I passed up, and my boatmen readily consented to shoot it. Its agitated appearance, however, when we arrived near the brink, induced them to change their course for

the middle channel, which is interrupted and crooked. The first time we struck, I perceived a crack in the bottom, under my feet, at least a cubit long, and this visibly opened every shock we received, and indeed the whole descent was a succession of such shocks, so that with the water received by the leak, and that by the waves washing over, we were obliged to stop some time to bail out and lighten our canoe.

Captain BEDFORD's account of his voyage was noticed in the Government Gazette of September 21, 1826, and the extract then given has been reprinted in WILSON's "Documents illustrative of the Burmese War," to which I refer for a very interesting narrative. I propose to give here an abstract of the Geographical results.

"On the 10th March, the course pursued left the main stream, and proceeded up the *Suhatu*, a detached branch on the "left" bank of the *Brahmaputra*, and, like that, intersected by rapids, and endlessly subdivided by islets "formed of accumulations of boulders." No signs of life were observable in this part of the journey, and although the banks were covered with thick forests, few birds or beasts disturbed their solitude. The *Suhatu* forms, with the *Brahmaputra* or *Bor Lohit*, an extensive island, the greater part of which is impenetrable forest; but there is one village in it of some extent, named *Chata*, inhabited by *Mishmis*, who are of more peaceable habits than the mountain tribe (on the *Dibong*) of the same appellation. After a tedious voyage of eighteen days, during which nearly forty rapids were passed, the course returned, on the 28th of March, to the *Bor Lohit* or *Brahmaputra*. The *Suhatu* opens above a rapid in the main stream, which is pronounced by the Natives impracticable, and it has every appearance of being so. And at this point, the river, now confined to a single branch, takes a northerly direction and passes under the first range of hills. It runs in one part close below a perpendicular

cliff of this range from sixty to eighty yards high, and covered from base to summit with soil and forest. The current at this point is strong, and its volume considerable; large rocks (stones) project, from four to six feet above the current, which have evidently been rolled down from a distance, as the hills near at hand, from two hundred and fifty to four hundred feet high, are composed of earth and small stones. The banks are every where clothed with forest, in which the *Dhak* or *Kinsuka* (*Butea Frondosa*,) is conspicuous. The left bank of the river, below where it issues from the hills, is composed of loose granite blocks, occasionally resting on a partially decomposed rock; the strata are in some places horizontal, but in others they are much broken, as if undermined and fallen into the stream. In a dry stone bed was observed a large detached block, twenty-five feet long, eighteen high, and nearly the same breadth. It is difficult to conceive by what means so ponderous a body could have been precipitated into its present position. There are several other large rocks immediately below where the *Lohit* issues from the hills, by which it is separated into several small channels; but at (above) the point where these unite, its general breadth is two hundred feet, and it flows with great force and volume; the course of the river behind the first range is concealed from view by a projecting rock jutting into the river, beneath which it rushes, as from a fall, with much foam and noise. Behind this, the river is said to be free from rapids, and to flow more quietly: the river is also said to change its course behind the first range, and to flow from the south-east under some small hills, behind which a higher range appears with the snowy mountains in the distance."

"After some ineffectual attempts to open a passage to the supposed head of the river, the *Deo Páni*, or *Brahma Kund*, the divine water, or well of *Brahma*, which it was known was not remote, and after some unsuccessful efforts to reach the villages, the smoke of which was

perceptible on the neighbouring hills, a communication was at last effected with the *Mishmís of Dilli*,* a village of about a day's journey from the left bank, as well as with the *Gam*, or chief of the village near the *Brahma Kund*, in whose company a visit was paid to the reservoir on the 4th of April. This celebrated reservoir is on the left bank of the river; it is formed by a projecting rock, which runs up the river nearly parallel to the bank, and forms a good sized pool, that receives two or three small rills from the hills immediately above it. When seen from the land side, by which it is approached, the rock has much the appearance of an old gothic ruin, and a chasm about half way up, which resembles a carved window, assists the similitude. At the foot of the rock is a rude stone seat: the ascent is narrow, and choked with jungle; half way up is another kind of seat, in a niche or fissure, where offerings are made; still higher up, from a tabular ledge of the rock, a fine view is obtained of the *Kund*, the river, and the neighbouring hills; access to the summit, † which resembles gothic pinnacles and spires, is utterly impracticable; the summit is called the *Deo Bári*, or dwelling of the Deity. From the rock the descent leads across a kind of glen, in the bottom of which is the large reservoir, to the opposite main land, in the ascent of which is a small reservoir, about three feet in diameter, which is fed by a rill of beautifully clear water, and then pours its surplus into its more extensive neighbour below. The large *Kund* is about seventy feet long by thirty wide. Besides *Brahma Kund* and *Deopáni*, the place is also termed *Prabhu Kuthár*, in

* *Dilling*, or *Dilong*, is the only name resembling *Dilli* among the neighbouring villages, but it is a hard day's journey from the *Kund*, and when I enquired there they did not know of the visit of Captain B.'s people. They thought it might be *Thethong*. Captain BEDFORD places *Dilli*, however, near my *Dilling*.

† Though inaccessible from below, a path above crosses the *Deo Pani*, which I have twice passed; it might be very difficult to clamber down; but upwards, from where I crossed it, it appeared easy to get up the mountain, even to the head of the rill.

allusion to the legend of PARASURÁMA having opened a passage for the *Brakmaputra* through the hills, with a blow of his *kuthár*, or axe.

Want of supplies prevented a stay at this point, and rendered a prompt return to *Sadiya* indispensable, which was effected by the 11th of April."

The *Asamese* distinguish the *Prabhu Kuthár* (the *Kund* now visited) from the holy *Kund*, in which the river has its origin; but they have no clear idea of the situation of the latter, and they universally declare it to be utterly inaccessible to man.

It is much to be wished that some one adequate to the task would follow up Colonel WILFORD'S enquiry, now that we are possessed of much more accurate information. At present there appear so many discrepancies between the *Hindu* legends, and facts, that we are quite at a loss: however, Colonel WILFORD also recognises the famous chasm or pass of *Prabhu Kuthár* as totally different from the *Kunda*. The pass, he informs us, is, according to the *Kshetra Samása*, sixteen *yojans* or sixty-four *kos* to the eastward of *Godagram*, or *Gorganh*, (it is, in fact, about one hundred and fifty miles distant,) and from the pass to the *Kunda* is a journey of eight days. The continuation of Colonel W.'s discussion contains a singular mixture of what closely resembles the truth, with other matter which we cannot reconcile with what we know to be fact.

* The *Asamese* have no notion that a pilgrimage was ever made beyond the *Prabhu Kuthár*; but if it ever were, I know, from the difficulties of

* Asiatic Researches, XIV. p. 424. "From the pass to the *Cunda*, the journey is always performed in eight days, because travellers must keep together, on account of the inhabitants, who are savages, great thieves, and very cruel. There are fixed and regular stages, with several huts of the

the way, that it would be absolutely impossible to march nine or ten kos a day, or indeed more than one-fourth of that distance, through those rugged hills. The account of the entire distance to the river's fountain head, however, may not differ materially from the truth, and the *Mishmís* are not ill described. Tigers, however, are not to be found in their hills, and it is highly improbable that troops were ever sent into so difficult a country to chastise people who, in their own haunts, have so great an advantage.

Correct as his information proves of the situations of the *Prabhu Kuthára* and *Kunda*, Colonel WILFORD quite surprises us further on by telling us that (p. 455) the *Kunda* of BRAHMA is acknowledged to be the lake *Mansarovara*. Again, considering the state of our Geographical knowledge when he wrote, the description of the lesser and greater *Lohita*, the former being known as the *Bonash* or *Manasa*, and the latter also called *Sana*, evidently to be recognised in the *Dihong*, inclines us to believe that reliance may be placed on the authorities quoted by him, although we cannot overcome the difficulty of making the *Prabhu Kuthár* pass subservient to the passage of the *Brahmaputra* into *Asam* from the *Mansarovara* lake.

On my return to *Sadiya* I found, amongst the numerous visitors there, all the *Singfo Gams*, acknowledging our sovereignty, and likewise Ambassadors from the tract beyond the *Irawadi*, in latitude twenty-five to twenty-six; *Burmans* and *Shams* were present—the latter from *Mungkhang*, west of the *Irawadi*, in latitude twenty-five—the former from various parts of their own empire, and from the source of the *Irawadi* we had many *Khamtis* among the population of the place. From *Yunan* we had two *Chinase*, who

natives. The Kings of *Asam* are sometimes obliged to chastise them, but in general they contrive to secure the friendship and protection of their Chiefs, by trifling presents. The country is covered with extensive forests, with a few spots cleared up, with very little industry and skill. Tigers are very numerous, and very bold."

were taken prisoners with the *Burmans* at *Rangpur*, but they were not present with the Ambassadors, having been detained by some accident on the river.*

It may be supposed that I did not neglect to take advantage of these opportunities to investigate as fully as I was able the probability of any connexion of the *Irawadi* with the *Sanpo*, but though the existence of a large eastern branch of the former river, hitherto unknown, was proved, there appeared every reason to conclude, both from the information of these various tribes, and from the want of magnitude of any of the branches of the *Irawadi*, that the *Sanpo* could not possibly have its exit to the ocean by this channel.

The *Bisa Gam*, with the *Singfos* from *Húkúng*, constructed several maps for me of that valley, and the route to it from *Sadiya*; and some of them who had travelled to the sources of the *Dihing*, confirmed the accounts previously received from the *Lúri Goháin*, of the route to the *Khamti* settlement on the *Irawadi*.

The season was too far advanced now for an expedition to the *Mish-mí* hills to the eastward, as the frequent rains made the state of the rivulets so uncertain. My scheme of crossing to the *Irawadi* was considered too hazardous in the present state of our relations with the *Singfos*. It remained then only to wait patiently at *Sadiya*, for the return of the cold season, and in the mean time to undertake what little was practicable in the way of survey in the neighbourhood. But the rivers could afford the only means of seeing the interior of the country, the dense jungles being

* Amongst the Ambassadors were *Shams*, wearing the *Chinese* dress, who were in the habit of passing the frontier, were acquainted with the language, and dwelt within the boundaries of *Yunan*, as they are exhibited in our maps.

impassable, and of the rivers, the *Tenga* alone claimed interest ; a survey of the *Dibúru*, sufficient for practical purposes, having been recently made by a Native surveyor of Mr. SCOTT'S, from whose field books I protracted a map.

The *Tenga Páni*, like all the rivers in this quarter, winds through a dense tree jungle : its breadth at the entrance is one hundred yards, diminishing soon after to eighty, the first three and a half miles the water is perfectly smooth and the current moderate ; beyond this the rapids are numerous, and it is no longer possible to proceed in any other boats but canoes.

Latao, a *Singfo* village, of six or eight houses, is the only inhabited spot we saw : it stands at the angle of a deep bend, and may be seen from the distance of half a mile : it was surprised by Captain NEUFVILLE'S party in 1825, and now, deprived of his slaves, I found the Chief, (a fine old man, of a very communicative disposition,) reduced to the necessity of guiding the plough with his own hands. Many of the *Singfo* villages had suffered equally with this, and but for the trifling supplies which we were able to afford from our stores at *Sadiya*, a great number of the scanty population would probably have been compelled to emigrate to *Húkúng*.

Fish abound in the rapids of the *Tenga* ; and river turtle, of a very large size, are occasionally found and eaten by the *Singfos*, with great relish. I witnessed the capture of one of these creatures of the largest size—it was seen entering a little creek formed by a fallen tree, and a canoe manned by three *Singfos*, was instantly planted across the opening. One of them watching his opportunity, suddenly leaped on the back of the animal which had descended to the bottom of the pool, and a knife

being handed to him, he dipped his head and arms under water, and cut two large notches in its hinder part and made fast to it a green pliant cane, with which it was easily pulled on shore ; but cased in a coat of mail and armed with sharp teeth, at least half an inch long, the turtle was not yet mastered, and advantage was taken of its attempts at self-defence to secure its mouth by presenting a large bamboo, which it constantly snapped at. A man sitting on it, next bored the paws, which being bound on the back with cane, reduced the poor turtle to a helpless condition, and he was put on board the boat.

The early settlements of the *Khamtis*, when fifty or sixty years ago they first crossed the mountainous barrier at the head of the *Dihing*, and procured the permission of the *Asamese* Raja to reside within his territories, were here upon the *Tenga Páni*; but there now remains no vestige of the former populous state of its banks: an uninterrupted tree jungle continued as far as I could explore it. We passed the *Bereng*, which is a narrow rivulet, branching off from the *Karam*: the *Marbar* we also passed, on which are one or two small villages of the *Khamti* Chiefs, who, having been concerned with the *Singfos* in a plundering incursion, fled from *Sadiya* on the approach of our force, and latterly, we found the river so much reduced in breadth, and so choaked with fallen trees, that further progress, even in the smallest canoe, was impracticable.

Bearings on the survey peaks to the north afforded means, together with latitudes, for correcting this survey, in which, from the nature of the banks, no measurement could possibly be attempted.

I have omitted in the proper order of time to notice Lieutenant JONES's survey from *Rangpur* to *Bisa*, where the troops received orders to

advance towards the frontier. Lieutenant JONES was placed in charge of the cattle, with directions to march to *Borhath*, and thence either through the *Bengmora* district to *Sadiya*, or along the *Borí Dihing* to *Bisa*, whichever should be found practicable, and, though harrassed by the nature of his charge, he surveyed the route very successfully.

I have now come to the close of the proceedings of this season. In the rains; preparation was made for what appeared to be the most feasible proposition for the next, which was to penetrate to the *Lama* country on the heads of the *Brahmaputra*, where, from the *Lamas*, we might at least learn something definite respecting the course of the *Sanpo*, whether eastward of *Lhasa* it bends to the south, or whether it continues eastward, and passes round the sources of the *Brahmaputra* and *Irawadi*.

Maps were prepared from the information received from various sources. One, of the route to the *Lama* country and to the sources of the *Irawadi*; and the other, of the *Húkíng* valley and route of the *Burmans* from *Múngkhíng* to *Asam*; the former has been found as correct as a document compiled from similar data could be expected; and since I had greater facilities in preparing the other, in being able to compare the accounts of so many people, I feel confidence in its general accuracy also. I shall now pause awhile before proceeding with an account of my adventures of this season, and endeavour to give such a description of the tract about *Sadiya*, as will enable those who have not the opportunity of referring to my large Map, to form some idea of the peculiar features of the country and its scenery.

The termination of the valley of *Asam* is a spacious level plain, of a quadrangular form, in the midst of which is the town or village of *Sadiya*, situated on the *Kundil* nullah, two miles inland from the *Brahmaputra*,

and thirteen miles east from the point of confluence of this stream with the great *Dihong*.

The plain is intersected by many rivers, the principal of which are the *Brahmaputra*, issuing from the pass of the *Prabhu Kuthár*, which is about forty-two miles distant in a direction a little north of east: the *Noa Dihing*, which emerges from the hills at *Kasan*, about forty miles distant in a south-easterly direction, and joins the *Brahmaputra* about seven miles beyond *Sadiya*: the *Dibong* intersecting the higher angle of the quadrangle, which immediately north of *Sadiya*, reaches the latitude of $28^{\circ} 15'$, and the *Dihong* pouring its copious supplies from a conspicuous break in the range which skirts the plain running from the same angle to the south-west. The *Kharam* and *Tenga Páni*, with numerous other petty rivulets, have their rise in the mountains south of the *Prabhu Kuthár* and they run nearly parallel with and near the *Brahmaputra*, the former falling into the *Suhatu*, nearly opposite to where the *Digarú*, from the northern mountains, descends in a torrent to the northern branch, and the latter having its mouth near that of the *Noa Dihing*. South of the plain, the *Bori Dihing* separates it from the *Naga* hills, running nearly westward. The quantity of cultivation within this space is very small. The villages of *Sadiya* do not extend more than six miles between the post and the *Dikrang* river. Beyond *Sadiya*, on the north side of the river, the tract is an uninterrupted jungle to the foot of the hills, and on its south side the little village of *Latao*, that on the *Suhatu* island, of the *Tao Gohain*, and a *Khaku* village near the *Dihing*, form mere specks in the widely spread wilderness.

The mountain scenery of *Sadiya* would form a noble subject for a panorama, though the distance of the hills is rather too great for the larger features required in a detached picture. To the south, the high *Naga* hills bordering *Asam*, beyond the *Bori Dihing*, lift their heads

above the tree jungle of the opposite bank of the *Brahmaputra*; to the W. and S. W. the ranges are too distant to be visible; but in the N. W. they rise to a considerable height where the mountain *Reging* of the *Abors* towers above the *Pasi* village; thence there is a sudden fall, and in the opening of the *Dihong* the hills diminish to a comparatively small size—over which, however, a cluster of remarkable peaks, clothed in heavy snow, are occasionally to be seen in the very clear weather of the winter months, bearing about 310°, or nearly north-west; they are evidently south of the *Dihong*, in its course from W. to E., and are very distant. On the opposite side of the bank rises a conical mountain (which at the mouth of the *Dihong*, and in that river, forms a most conspicuous object): the *Abors* call it *Regam*, and declare that it is the residence of a sylvan deity. The range continues round to the north overtopped near *Regam* by a high-peaked ridge of six or seven thousand feet high, retaining its snowy covering only during the colder months. Nearly north, the tops are sometimes to be distinguished of a range at a considerable distance, which, from more favorable points of view, is seen to be a continued line of heavy snow; the opening of the *Dibong* is marked by a corresponding fall of the hills immediately to the north. Turning to the N. E., a more interesting group presents itself; the first and highest in the horizon is the turret-form, to which we have given the name of *Sadiya Peak*; its base extends to the *Dibong* on the left, and to the right it covers a considerable extent, allowing a more distant class of mountains to peep above its sloping sides. The next is the huge three-peaked mountain called *Thigritheya* by the *Mishmis*, a magnificent object from the singular outline; it is succeeded by a wall always streaked with the pure white of its beautiful mantle, after one or two minor yet interesting peaks. *Thathutheya*, a high round-backed ridge, rises high above the ranges near the *Kund*, or *Prabhu Kuthar*; there is then a fall, but the gap is filled with mountains low in appearance, because they are distant, and the channel of the river is not there as has been supposed, though that

is the place of its issue to the plains, but in fact winds round the groupe situated in this gap and running first to the N. W. till it washes the base to *Thathutheya*: it then traverses back to the southward. Immediately to the east, the ranges at the distance of forty-five miles are high, and snow is seen on some of them throughout the cold season, but the last peak in that direction is the loftiest to be seen (of those whose heights have been ascertained,) and so remarkable and magnificent a tower it is, that it has been ever known amongst us by the name of *Beacon*, and it has been seen* at the distance of one hundred and thirty miles. *Turret Peak* is also remarkable near to *Thathutheya* in the horizon, but distant, that it ought not to be forgotten. Beyond *Beacon*, or *Dapha Bhúm*, as it is called by the *Singfos*, the lofty mountains suddenly retrograde to a considerable distance, and form a deep basin, the southern and eastern sides of which are alone visible; through the centre of this basin, the *Dihing* winds, having its sources in the most distant point.

On the 8th of October, the river had fallen considerably, and fair weather had apparently set in when I started. I took with me ten young *Khamtis* from *Sadiya*, armed with muskets, and fifteen to carry my provisions, my sextant, and a few clothes, and, to save the labor of building a shed for protection from the heavy evening dews, I took as far as the *Luri Gohain's* village, a small tent. Lieutenant BURLTON had been appointed to join me, but I was not informed of this till I had advanced five or six days' journey, and he was still at *Bishenath*. Even so small an accession of strength to our party as his company would have given me, might have given my labors a successful termination: for with one staunch friend who knew how to use a double-barrelled gun, I should have been very ill inclined to suffer myself to be bullied by the barbarian *Mishmis*:

* By Lieutenant BEDINGFELD.

as it was, I felt confidence only in one point, which was, that in a case of emergency, I should stand the best chance of being deserted by my *Khamti* followers.

I took one *Hindustani* to prepare my food, and one *Burman* to supply his place in case of his inability to proceed with me. One of the *Chinese*, whom I have before mentioned as taken prisoner at *Rangpur*, was readily induced to accompany me, by the prospect of reaching *Yunan* from that part of *Thibet* which we expected to enter, where, as I had already ascertained, some of his countrymen are always to be found.

The *Lúri Gohain* had left his village, at the foot of the hills, to the care of some of his people, and had resided with us at *Sadiya*, from the commencement of the rainy season. He now accompanied me, and to his arrangement and good management I looked for success, as he had more communication with the *Mishm's*, and possessed more influence with them than any of his brethren. A fine young *Asamese* noble had often expressed his wish to take advantage of my escort to pay a visit to the holy *Brahmakund*, and he had induced the good old *Bor Gohain* to consent also to join us. They, with their *Brahmun*,* who was to officiate at the *puja*, for the proper performance of which the *Puranas* had been consulted, and with their followers considerably augmented my party, and afforded much entertainment by the difficulties into which they were thrown on the journey, (particularly when they encountered leeches in the jungles,) and the wonder they exhibited at the novelties of the rapids. The scenery improved greatly as we advanced eastward, and received the happiest effect from the delightful clearness of the atmosphere, and the

* I strongly suspect that Captain BEDFORD was mistaken in supposing that the *Mishm* Chiefs near the *Kund*, have anything more to say or do with the ceremony, than taking possession of the offerings.

brightness of an unclouded sky. Proceeding a few miles beyond *Sadiya*, it is soon perceived that the *Sadiya* peak is not a single tower rising high into the skies, but has that appearance from its being the end of a wall-like ridge running eastward, and indeed, when seen from the *Suhatu Mukh*, its lofty peak is no longer to be distinguished with certainty in the long wall, which reaches nearly to three-peaked *Thigritheya*. That mountain is now finely developed, and the ruggedness of its outline, seen from this near point of view, increases its improving effect. From hence, too, the heavy snows before alluded to, north of *Sadiya*, which are scarce seen from the station, overtopping the nearer ranges, are beheld stretching far to the east and west, filling up the low gap near the issue of the *Dibong* to the plains, and the direction from the opening of the *Dihong* affording an uninterrupted view up it to the N.W. affords a fine prospect of its faint and distant groupe of snow-clad peaks. But the proximity of the northern mass of mountains does not permit us to form any accurate idea of the disposition of the further ranges, or of the nature of the country between us and *Thibet*.

When we reached the *Kharam*, we found that the floods of the rainy season had re-opened a channel which had been long dry, and known as the *Mori*, or dead river, by which expression they designate those branches which, by the constant changes going on in these violent mountain streams, have either dried up or lost their consequence. When within the *Kharam*, the changes in the grouping of the peaks brings forward a noble sugar-loaf peak, and those ranges near the *Kund*, now grown so much nearer, look more wild and bold. A small telescope enabled me, at *Challa*, to distinguish clearly a solitary pine here and there, stretching its black area forth in the midst of the white field.

The bark of the great deer, and the shrill cry of the fishing eagle alone disturb the silence of these wilds. And a large insect, their inhabitant,

makes a reiterated whizzing like the sound of some vast fly-wheel buffeting the air at every revolution. Tigers are numerous.

The further preparations necessary at *Challa*, were to give intimation of our intended visit to the friendly *Tain* tribe beyond the *Kund*, to prepare baskets for carrying within the hills, and to get ready for the journey the *Gam* of the *Mishmís* of the village, and two or three of his people, who were to go with us as interpreters—I had observations for latitude which gave for my house, in the centre of the village, $27^{\circ} 48'$.

From the *Tains* we received an answer, expressing their pleasure at our approach, and by the 19th October, we were ready to set out, having completed for each man a small basket, made flat to fit the back, with a small supporter of wood for the shoulders, and we had a stock of twelve days' provisions. The only instruments that I carried were, a sextant and false horizon, a good compass, a Woollaston's thermometric barometer, and a barometer of the common kind; the former of these two I found had its thread divided, by inverting it in carriage, and consequently it would not give the difference of height from *Sadiya*, and, though I afterwards enjoined the utmost care to the man whose business it was to carry it, invariably found on my arrival at a new station, that some unlucky inversion, in the course of the journey, had similarly deranged it, nor can this be wondered at, seeing that all a man's care was employed in preserving his own limbs from injury by a fall from the rugged precipices we occasionally clambered over. The tube of the other barometer lasted a very few days.

The first night we halted in the bed of the *Lait* rivulet, of little breadth, yet violent enough to bring down stones of enormous bulk.

The next morning, when we passed the *Kund* on the side of the hill above it, we were entering on novel ground. The *Bor Gokain's* party had returned previously. I had sufficient curiosity to wish to accompany them, but was unwilling to tire myself and party by an unnecessary expedition.

Such was the nature of our slippery and rugged path, that, although we passed the holy pool about nine o'clock, it was twelve when we arrived at the mouth of the *Mtee* rivulet, one thousand yards beyond it: the next reach was in the direction N. 22 E., but after a debate on our ability to proceed by the dangerous path of the river side, it was resolved that we should avoid it, and cross the hills instead; a little *Mishmí* boy led the way clambering up the face of a perpendicular rock, assisted by a hanging cane, made fast for the convenience of passengers to some tree above: all that I could surmise of our direction was, that we were travelling towards the east, but whether north-east or south-east it was impossible to say, and owing to the sharpness of the ascent, the distance got over was equally uncertain: in the evening, the *Thathutheya* mountain defined the limit of our movement towards the east by the help of a bearing on it, but instead of having a ridge-like form, it was now a high sugar-loafed peak, and the name only enabled me to recognise it. We had crossed one ridge, and to our north, at the base of the hill, could hear the *Brakmaputra* rolling along. The view was limited to the extremities of two sharp bends of the river, the hills, clothed in black forest, rose above us on each side, and *Thathutheya* above overlooked them.* Although we had advanced but a few miles beyond the *Kund*, yet it was nearly dark before we halted, not a bit of level ground, large

* N. B. There is something appropriate in the term chasm or pass, by which Colonel WILFORD distinguishes the *Prabhu Kuthár*.

enough to spread a blanket, could be found, and with great labor and perseverance my people scraped away a part of the hill's face, where the trunk of a large tree, acting as a support to the ground behind it, favored the operation, and over my bed-place, as the sky looked threatening, I had a few branches placed as a shelter.

A new scene opened on us when we surmounted the next ridge. We gained a much more extensive view, but much of its grandeur was lost on the hill side by the clouds enveloping the mountains, depriving us of a sight of their summits. On our east we were glad to see low green hills, with patches of cultivation, and here and there an assembly of three or four houses: beyond a deep wide dell sunk, of which the bottom was hidden, but on its opposite side a large mountain rose from an extended base and hid its head in the canopy of dense vapours. The chasm of the *Brahmaputra* could be seen extending to the north-east, but its crookedness limited the view and closed it abruptly.

On the side of *Asam*, the bird's-eye view was extremely beautiful. The mountains beyond the *Dihong* were distinctly visible, yet distant as they were, the undefined horizon rose far above their level, intersecting the plain—the silver river here and there exhibited its bright white light, and on the right the bases of the high northern mass were seen one beyond another projecting out into the level surface of the wide plain: hovering between us and the depth below, were white curled clouds in innumerable little patches.

While standing on the ridge, the clouds which had looked threatening began to annoy us with a shower, which soon increased to a heavy fall of rain; and anxious as we were to move on, or at least obtain good shelter, we were compelled to take refuge in a small field hut, built for the accom-

modation of labourers, who come some distance from their homes to cultivate the more favored spots. The thermometer in the middle of the day, in the plains, had latterly stood at 83° or 84°; at twelve o'clock to-day, it was at 61°, and we found it excessively cold. The effect of a sudden change of temperature to the amount of 20° is felt much more than would be imagined, or has often been noticed by travellers.

The rain continued and confined us to our hut, but we were visited by a party of women who had been out with their long conical baskets on their backs to bring in a store of grain and roots from a distant field, and they promised us assistance from the village in the few trifles we required. In the coldest weather, they are very scantily clothed—a coarse thick petticoat of blue cotton, wove by themselves, is their common dress; it reaches to the knee, and has merely a slit in it to admit the head through. They are excessively dirty, and at all times and seasons have a short pipe in their mouths.

We could perceive one or two large houses at the distance of but half a mile on the face of the next hill, and were informed by our visitors that we might there shelter our whole party as they were empty. The next day, the rain still continued to fall heavily; but we took advantage of a slight intermission to go round the hollow to the opposite side, and were well pleased to make the exchange for a large house well sheltered from the boisterous wind. At intervals of a few feet, the *Mishmis* cut a square hole in their bamboo floors, and form a hearth there of earth, supported by cross beams below. These, to the number of eight or ten, were quickly covered with burning faggots by my shivering people, and the smoke having no exit through the wetted roof, soon became an almost unbearable nuisance. I have remarked that a great number of the *Mishmis* have their brows habitually contracted, from the custom of half shutting

their eyes against the penetrating gas arising from their wood fires. The house we were in had been deserted on account of two or three deaths of members of the *Gam's* family having happened in it.

The *Gam* of *Dilling*, with his daughter, a young damsel, the calf of whose leg would have measured more in circumference than both mine, came to see the white man: though dignified with rank, their appearance was no better than that of commoners. The lady was highly pleased with a string of red glass beads, and not only gave me a fowl in return, but by informing her acquaintance of the beauty of my wares, procured me other offers of barter.

Three days we remained confined to this hovel, and on the fourth, the 25th October, were well pleased at the prospect of a change; heavy masses of white clouds rolled along the dells below and rising up the hills' face, enabled us to see that on the peaks to the north, snow had fallen in considerable quantity. The sun's influence helped to dissipate the mists, and discovered to us our situation. On the west, we had a narrow glimpse of *Asam*; to the north, we saw the *Brahmaputra* deep in its narrow chasm and white with foam—the majestic peak *Thathutheya* closed the view in that direction, and on the east, we were separated only by the deep ravine of the *Disú* rivulet from the large mountain *Thematheya*. Snow gathers on the summits of both these in the colder months, but on *Thematheya* it does not remain long. We descended to the bed of the *Disú*, by a very rugged path, admitting but of slow progress, and traversing the base of *Thematheya*, we approached the *Brahmaputra* in a northerly direction—several water-falls were passed, and amongst them, one of singular beauty, though the stream is small: it first shoots clear over the brink of a high rock, which is nearly perpendicular and quite smooth, and then dividing into mist, almost disappears from sight till caught again near the bottom.

Our path was generally through the jungle, with now and then an intermission of grass in spots which had formerly been cleared for cultivation with vast labour. We came out suddenly on the *Brahmaputra*, and saw it foaming at the foot of the precipice below us, and shortly afterwards we descended to the bed, and halted on a small patch of sand. The rocks in the bed are of such enormous size that it is difficult to believe the river can bring them down, even in the rainy season; but they are evidently not in situ, such a variety of species are found. Syenitic granite—garnet rock, in which the garnets are found seven-tenths of an inch in diameter—serpentine, of a flinty hardness, and primitive limestone, are in larger quantity. The base of *Thematheya*, on our right, is of the same grey carbonate of lime, and perhaps the whole mountain. We had hitherto passed only granite gneis and mica slate.

The river is here but forty to sixty yards wide. I got meridian altitudes of two stars, which gave the latitude $27^{\circ} 54' 52, 4''$. *Dilling*, the point of departure, is fixed by a bearing on the bend of the river below the *Kund*, and others on *Thama* and *Thathutheyas*; and the observations for latitude, both excellent, limit the distance made in our day's journey, which deviates little in direction from north to south, but a few miles.

The commencement of our march, the following day, was over a singularly difficult place, where the river rushes, with great violence, under the face of a perpendicular cliff. There is no path, and it is a perfect clamber, in which safety would be completely endangered by any other mode of carriage than that adopted, which leaves the hands free. We continued along the left bank of the river, to the mouth of the *Ling*, where we found *GHALUM*, who had parted from us six days before to have a bridge built; and for this mark of attention we were heartily obliged, when we saw stretched between two opposite trees the cane suspension bridge, by which we must otherwise have crossed. The direction of our route was

still north, and we left the river where it bends from the north-west, round the base of a hill we were to ascend—that surmounted, we again enjoyed the sight of our resting-place, which had been visible from *Dilling*; but though GHALŪM's house was now near, in horizontal distance, a most fatiguing part of the journey remained to be performed in descending down the body of the *Oo* river, and ascending the opposite height. It was five o'clock in the evening when, at last, our fatigues of the day ceased. While at GHALŪM's, I had three good observations for latitude, two of northern stars, and one of the sun, which gave $27^{\circ} 56' 33'' 2$. Of the direction from *Dilling*, I could now be quiet sure, as I not only had bearings from thence on GHALŪM's house, but could now recognise a low peak very near our halting-place at *Dilling*. Making every allowance for the difficulties of the path, it would appear scarcely credible, without this best of evidence, that we had been employed the entire day in advancing less than two miles. After leaving the *Brahmaputra*, we passed several of the open spots formerly cultivated, and also through some fields belonging to *Tharen*, a village on our left. The scenery was more confined, the view being limited to the hills immediately bordering on the river, which do not rise here to a great height.

We were most heartily welcomed by our rude friends, particularly by old GHALŪM, who seemed delighted with our visit, and we were (or rather I was) surrounded by the inmates of his house, and a few of the neighbours, the whole evening, all anxious to satisfy their innocent curiosity, excited by the odd fashion of my apparel, and the magic art of the invisible musician of my snuff box.

The next day at day light, there was a great bustle without, with much noise, which I found was caused by the pursuit of one of their hill cattle called *Mithun*, which was to be slain for a feast in honor of our arrival. Company began to arrive at an early hour from the neighbouring

villages, and when the feast was ready, we had a very numerous assembly. A large quantity of the meat was minced and mixed with flour of the *Marua*, then made up into cylinders of leaves into which it was pressed and cooked: these were handed about in trays of plaited bamboos, with plenty of *madh*, or fermented liquor, prepared also from the *Marua*; but they presented me with an entire hind leg, to cook after my own fashion, and to the better *Khamtis* of my party, they also presented separate portions. The *Lúri Gohain* alone forbore to eat of it, thinking that it too nearly resembled beef, which not from the maxims of his own religion, but from a wish to cultivate the good opinion of Hindus, he had long discontinued to taste of. I was constantly thronged, and made to exhibit my curiosities, as my gun, pistols and musical snuff box, which last was kept in constant requisition.

The lower classes of the *Mishmís* are as rude looking as can well be imagined. Their ordinary clothing consists of a single strip of cloth, which is as narrow as its purpose possibly permits, and they wear, on occasions of ceremony, the jacket which I have already described as fashioned with so little art—it comes half-way down the thigh, and is made of a straight piece of blue and red striped cloth, doubled in the middle, the two sides sewn together like a sack, leaving space for the exit of the arms at the top, and a slit in the middle, formed in the weaving, admits in like manner the passage of the head. The hair is turned up and tied in a small knot on the crown, and this custom serves to distinguish them from the *Dibong Mishmís*, whom they always designate “crop haired”—a narrow belt of skin over the right shoulder sustains a large heavy knife with its sheath. The knife serves for all purposes of agriculture and domestic economy, it is applied in the same way with the *Singfo Da*, to open a passage through jungle; the other apparatus appertaining to dress, consists of a broader belt, worn across the left shoulder, carrying both before and behind plates of brass, which may be termed back and breast-plates—

they are of four or five inches diameter, and beaten into a carved or spherical form, but they appear to be rather ornamental than useful; a pouch of monkey's skin at the girdle is also suspended to a belt containing tobacco, the small pipe, and the case for flint and tinder, armed on one side with a strong steel. Both this and the pipe are commonly of *Chinese* manufacture, and are frequently engraved with letters. The *Chinese* of *Yunan*, readily interpreted the characters upon one, to signify "made at the shop of" — "should it prove bad please to bring it back to the maker, who will exchange it." A spear is constantly carried in the hand, the head of which is manufactured by themselves, of soft iron, procured from the *Singfos*, the shaft is of a porous and brittle wood, and it has little resemblance of a weapon fitted for war. Their swords are *Chinese* made, very long and perfectly straight; and of equal breadth, ornamented sometimes with a kind of red hair. They have excellent cross bows.

The Chiefs are seen wrapped in long cloaks of *Thibetan* woollens, or in handsome jackets of the same, generally dyed red or striped with many colours. The head dress is not remarkable: in the fields, it is merely a hemispherically-shaped cap of split cane, and in their homes they prefer to wear a red strip of muslin, encircling the head as a turban: their ear-rings differ according to their wealth; those most esteemed (and when the lobe of the ears has been sufficiently extended) are formed of a cylinder of thin plate silver, tapering in diameter to the center: the latter being often one inch, and the former one inch and a half.

The wives of the Chiefs are habited in petticoats, brought from the plains; they wear a profusion of beads, frequently a dozen strings, and when they are of a sort of white porcelain, their equipment must weigh at least ten pounds; other necklaces are of colorless glass, mixed with oblong pieces of coarse cornelian, and all of *Thibetan* or *Chinese* manufacture. The ornament for the head is a plate of silver, as thin as

paper, gore-shaped, and long enough to cross over the forehead ; one sort of ear-ring had a remarkable appearance : it is a brass-wire ring, three or four inches in diameter, put through the top of the ear, and having suspended to it a triangular plate of silver, which remains in the direction of the shoulders.

Polygamy is allowed—the limit is only the inability or disinclination of the Chief to exchange more hill cattle for new wives. My host, GHALFM, had then ten, two or three in the house ; and the remainder, to avoid domestic quarrels, have separate houses assigned them at some little distance, or live with their relations. As has already appeared, they suffer no sort of restraint, but young and old mix with the men in the performance of every kind of labor, except hunting.

GHALFM's riches were evident in the embellishments of one wall of the interior of his dwelling ; there, on bamboos, extending the whole length, were rows of the blackened skulls of *Mitháns*, *Thibet* cows, and those of the plains, some hogs, and a few bears, deers, and monkeys. The estimation of wealth is to be guided by the number of the skulls of the *Mitháns* and cattle of the *Lamas*, which are of the greatest value. I was, in the course of my journey, in the house of one man who is accused of the shabby trick of retaining on his walls the skulls of his father's time, thereby imposing on all but those of the neighbourhood. I understood that they were generally piled within a little palisade, which marks the spot where the Chief lies buried. Of their religion, I only learned that they sacrifice fowls or pigs to their sylvan deities, whenever illness or misfortune of any kind visits them, and on these occasions a sprig of a plant is placed at the door to inform strangers that the house is under a ban for the time, that it must not be entered. GHALFM's house is about one hundred and thirty feet long and eleven wide, raised on posts sufficiently high to give plenty of room below to the hogs.

The morning after the feast, a number of visitors still remained, curious to see what I should produce as presents, and anxious themselves to share, though without pretensions. It had been at first intended that we should depend on KRISONG, the elder brother of the three *Tain* Chiefs, for arrangements in furtherance of my scheme. He is esteemed as being the more martial and decided character, and his influence in his own tribe, and with the *Mizhus* also, is consequently greater; but he was absent with a party of men, to assist the CHIBONG GAM against an incursion of the *Dibong Mishmís*, at the village of the former, distant two days journey in a northerly direction. Had this man been present, and had he entered into our views, success would have been more probable, from the operation of fear with the *Mizhús*.

In his absence, it only remained to engage the services of his brothers, GHALOM and KHOSHA. I presented them with jackets of scarlet broad cloth, large silver ear-rings, and red handkerchiefs, with a few other trifles, and did not omit to send to KRISONG'S house a similar present, though of less value. Immediately after the distribution, I observed a number of the visitors quit the house with a rather discontented air. Those who had received gifts were long busy in admiring them, and while discussing their merits, I perceived great deference was paid to the judgment of RUDING, a Chief of the *Mizhú* tribe, whose intercourse with the *Lamas* is frequent, and who laid down the law on this occasion with all the dignity and authority becoming so experienced and enlightened a traveller.

The *Mishmís* differ with the other hill tribes in their habit of traffick-
ing—every man among them is a petty merchant. They did not seem to comprehend why I should be unwilling to part with any of my stores for an equivalent, and I was amused at their exhibition of cunning in attempting to draw me into making a bargain.

In the mean time, a good deal of discussion had taken place between the *Lúri Gohain* and *Mishmí* Chiefs about our journey, in which RÓDING had joined, and he soon became very anxious to have the sole merit of guiding me, laying great stress on his rank amongst the *Mizhú* tribe, and his great influence with the *Lamas*. I had observed him pretty closely, and felt inclined to hold no very favorable opinion of him. His house is so far removed from the side of *Asam* that he would not have much to apprehend from our anger, and the only hold upon him resulted from his connexion with the *Táins*, by marriage with a daughter of KHOSHA. But he was very urgent in representing that the presence of any of the *Táins* with me would not be at all advantageous.

GHALÓM was very willing to set out with me, but was unluckily lame from some slight hurt; and KHOSHA was engaged in the momentous occupation of building a new house, and would not, on any account, desist from his personal superintendance.

My detention here for four days had caused an awkward diminution of my stock of provisions, and this was an additional reason to move onward, more especially as GHALÓM had not the means of supplying me: it was therefore resolved to remove to KHOSHAS, whose fields had yielded him a more plentiful crop. On the 31st October, we set out and retraced our steps down the descent to the *Zú*, and up the opposite ridge, from thence we turned to the east, and passed the summit of a hill, and then moved through ultimate cultivation and grass jungle on the face of the hill, in an easterly direction, to KHOSHA'S, and found it an easy march. The direction of our route was afterwards more accurately ascertained by ascending a neighbouring hill, whence GHALÓM'S was plainly distinguished, and also the two mountains, to one of which, *Thematheya*, we had now approached very closely; again two altitudes were observed here for latitude. A view in another direction was now opened to us, but was

not extensive enough to be very interesting; we overlooked the *Lúri* river in its south-easterly bend behind *Thamatheya*, and in the same direction could perceive a little snow laying on the peaks north of the *Dihing*.

As we seemed now, though contrary to my wish, to remain dependant upon RÓDING, I had a conference with him, and admonished him of the degree of responsibility in the office he was about to undertake; on the other hand, I warned the *Táins* also against assuring me too lightly of their belief of RÓDING's good faith. The next day KHOSHA made good his promise in a manner more handsome than I expected, and, for a few seers of salt, procured me six days' provisions, with which I instantly set forward, with KHOSHA and his son in company; the latter was to proceed with us. Our march was in an easterly direction, on the southern face of some high hills; first through some cultivation, and then down a very steep descent through tree jungle, to the dell of the *Indal* rivulet. The ascent, on the opposite bank, was very steep and difficult, and after nearly three hours fatiguing march, we were still in sight of KHOSHA's house, bearings on which with *Thamatheya* give the distance and direction of the day's journey. We halted with a Chief named NÆBRA, who, according to the custom of these hospitable people, killed us a hog. I gave him in return a pair of large silver ear-rings. His house is a ruinous hovel, and his consequence can be but small; but he was very officious in offering his services for my journey, and asserted that he and RÓDING could ensure me against all difficulties with the *Mizhu* tribe. The rock appeared to be the same white talc slate, and lower down in the hollow, mica slate.

In the morning KHOSHA returned, and took his son with him, promising, however, to follow me to RÓDING's, should GHALÓM remain unable to proceed. He went early, without informing me of his intentions. Thus defeated in my purpose of having the security of the presence of a Chief

of his tribe, I agreed with the *Gohain*, that further delay was to be preferred, if we could contrive some more certain arrangement.

I left our provisions under the care of a few men, and returned to *KHOSHA's*, who now seemed really concerned, and promised that if *GHALÓM's* lameness should continue to disable him, he would himself go with us in his place. We found that *GHALÓM* had actually set out, and had proceeded to join us by way of the *Lúrí*. There now appeared a prospect of starting in earnest, and on the 4th I was delighted to advance in the field of discovery. The party was divided, first returning by *RÓD-ING's*, to bring on the things left there, and the other with me proceeding by a much better path down to the *Lúrí's* banks, where we awaited the arrival of the others. It was now evident that our going to *NAEBRA's* had been contrived only to give him an opportunity of begging, under the pretext of presenting his hog.

On the banks of the *Lúrí*, we marched at a good pace through bamboo jungle on a narrow level strip of ground. The *Mishmís* informed us that, advantageous as the level was for rice cultivation, they were obliged to relinquish it from suffering in health in the low grounds. We halted in the bed of the *Lúrí* on a stone bed, and posted the sentries as if an attack had been expected. The next day we continued to advance up the *Lúrí*, sometimes over the large boulders on its banks, and sometimes through fields and grass jungle, a little elevated above the river on the hill's side. From the mouth of the *Thamè*, where it joins the *Lúrí* from the north, we commenced the ascent of a hill by a very difficult path almost blocked up with tree jungle, we afterward passed through several fields, and observed that the crests of the hills opposite were spotted with cultivation. We halted at the house of a *Mizhú* Chief named *MOSHA*, who, a few months before, had led an expedition to plunder the *Lúrí Gohain's* village, but he failed in his attempt, the accidental firing of a gun in the

course of the evening giving rise to the supposition that an alarm had been given. The party had been lying in wait for the approach of night, and their cowardice is apparent from the circumstance of their actually leaving on the ground some of their weapons, when first struck with the idea that the village was alarmed, they commenced a hasty flight. Their use of poisoned arrows is in character with their treacherous and dastardly mode of warfare.

The boulders in the *Lúri* are generally of sienitic granite—on the ascent of the mountain we found gneiss passing to mica slate.

MOSHÀ, as usual, killed a hog, and was rewarded in return with a suitable present: he expressed his readiness to accompany me if I were pleased, and of course he was invited, as I considered it advantageous to throw some responsibility on a *Mizhu*, residing near the *Táins*. The great length of his house, and the number of skulls ornamenting it, bespeak him a rich man.

We were joined, very much to my satisfaction, by GHALÓM and my *Burman*, who had been lame and obliged to halt, by marching over so much rock.

We started early the next morning, understanding that we had a most laborious march before us to the next place, where water could be found—our course was still east, but we had left the *Lúri*, which is from the south-eastern mountains. The ascent of the next mountain we found very difficult and fatiguing for some hours, very steep through, having forest; latterly, it was more in steppes where a sudden ascent is followed by a long gentle slope or nearly even ridge; at the summit of our high ridge, I got a very good observation of the sun's meridian altitude, and once or twice in the way up, we enjoyed partial views of the tract behind us.

Our approach to the summit was marked by greater steepness and difficulty, and at last by the absence of all larger trees, which gave place to those of very stunted growth or to low bushes, indicating by their appearance, what was asserted by our guides, that snow remains here. It may be supposed what interest was excited as each new gain on the mountain's steep face brought me nearer to that height whence I expected to overlook the unknown regions through which the *Brahmaputra* has its hidden course, but I suffered disappointment. Another mountain rose close to this one on its east, and where the capricious clouds permitted, through their casual openings, a passing glimpse of the rugged country beyond, all I could perceive was fir-clad mountain or a patch of snow. To the south-east the *Lári* was again perceived, and the snowy peaks were partially visible, where it has its source—it was evident that the extreme of that valley or glen was not far distant. To the north this peak is connected with others of greater altitude, and I was sorry to find that heavy clouds, in that direction, completely obstructed the view.

We had been refreshed, while halting on the top, with numerous berries of a peculiar kind, growing in luxurious branches like currants. They are without stones and juicy: when unripe, they are of a pure or greenish white, and when ripened, of a beautiful azure blue. We had not descended very far before we found water trickling down the rock, our path then led along the little rill, which, having frequent contributions in its progress towards the base, had become, near our halting place, a considerable stream. It was a wild spot, a complete chasm between two high mountains, where we built our little huts for the night, of such poor materials as the more leafy branches of fir trees.

We resumed our descent early the next day, and continued on the left bank of the glen, first winding to the east, and gradually more to the north, in the worst of paths; the only support to which is often the root of

some large tree, and in some places this even cannot be found, but the passage in front of some projecting rock is aided by trees bound together with cane, and their extremities either buried in the soil or fastened to the trunks of other trees.

About one o'clock we found the chasm widening, and soon after we came upon fields. The entire mountain crossed is of granite, in which the mica is not abundant. At the field I found that a green stone and sienite had taken the place of the former granite, and saw several masses of pure hornblend rock. From the fields we descended to the *So*, the source of which we had seen in the trickling water near the summit of the mountain—it was now a large rivulet, and no longer fordable. We next climbed up a very steep rock, which could not be surmounted but by the help of the canes which are left tied there, and about three o'clock we once more found ourselves near the *Brahmaputra*, and we overlooked its course from the east to the distance of ten or twelve miles.

The scene has now an entirely new character: the river washes the bases of the mountains, which on both banks rise so high as to have their tops clothed in snow: they are very steep, but near their bottoms the declivity is easy, and has the appearance, when viewed from a height, of an undulating plain. This, the *Brahmaputra* intersects, running at the bottom of a deep channel or chasm, which has much the appearance of having been gradually deepened by the action of the water. The outline of the hills is varied and beautiful, and they have no longer the inhospitable look given by the uniform black jungles on those left behind, but are covered with alternate patches of grass and forest, with extensive intermixture of cultivated fields reaching to near their summits. A longer mountain immediately over the river appears to be of granite—on this bank the great number of large black blocks of hornblend rock and greenstone indicate that these constitute the strata.

In its onward course the river stretches to the N. W. between steep mountains, and is soon lost to the view. On our march, we had occasionally perceived through the clouds very heavy snow lying on the peaks to the north, one of which I conjectured, from its shape, to be the turret peak of *Sadiya*. Descending from the rock we reached extensive fields belonging to RÓDING'S village, and travelling some distance through them, with the river two or three hundred yards off, on our right, we passed several houses built singly, but all ornamented with a small grove of plain-tain trees, and about four o'clock we, at last, arrived at RÓDING'S.

Much of this man's asperity of manner wore off, now that we had become his guests, and he was active in doing whatever he could for our comfort: a pig was killed as a matter of course. We found waiting our arrival, my old acquaintance PRIMSONG, who had supplied us with the earliest intelligence relative to the route to the Lama's territory.

Next day, when I talked of moving on without loss of time, difficulties were started, and the *Mishinis* declared that we must not think of proceeding till proper notice should have been given to the Chiefs of the next village, particularly to one DINGSHA, whom they regarded as the person of greatest influence on our route—for this purpose they proposed that PRIMSONG and GHALÓM'S nephew should advance, and receive their report on the road.

I remarked that our arrival here did not cause the like commotion and assemblage of people, that it did at GHALÓM'S. We made our purchases of rice at a dear rate, and were materially assisted in this by the *Lári Gohain* and other *Khamti* Chiefs, who are all skilful workmen in silver, and who readily employed themselves in fashioning ear-rings at RÓDING'S forge, for the purpose of barter—the workmanship giving a double value to the silver. A couple of hammers and a few punches are all the tools requisite, which they carry with them in their travelling bag. The silver

is melted and poured out in the hollow of a bit of bamboo, then beaten, with great patience and perseverance, and repeated heating, into plates almost as thin as paper: by management of the hammer, they make it spread in the required direction till long enough to bend into a cylinder, the edges are then cut even with a sort of scissors, and the parts to be soldered are notched in a castellated form, the alternate projections inserted, and a little borax, with a very thin bit of plate laid over the joint, which the application of a little heat readily unites; a curve is then given to the sides of the cylinder, when the top is only required to finish it. The top is, of course, a circle, and when beat thin enough it is laid on a bed of lac softened by heat, and with blunt punches, an embossed pattern is then given, both the silver and the lac being repeatedly heated, to prevent the former from becoming brittle, and to soften the latter sufficiently to cause it to assume readily the indentations of the punch: in this way, with the aid of sharper punches, and some of small size, a very pretty pattern is given, but it is not pierced. All the *Mishmís* Chiefs have a forge, at which they make their own spear heads, and mend the implements used in tilling.

I was very anxious to proceed the next morning, but was foiled again by the lazy *Mishmís*; they wished to wait for the return of our emissaries, or at least to allow them one whole day for a parley with the Chiefs: with rice to eat and a house to sleep in, they could not conceive that any motive need occasion haste.

In the course of the day we learned that we are threatened by one Chief, who declares that if we come near his passes, he will roll down stones on us. I begged that he might be invited to see me, but they seemed too certain of his hostility to make the attempt.

RÓDING began to talk of his present, and to hint that when he undertook to conduct us, he expected to be well paid, and he wished to know

what I would offer him. I doubted his power to give any material assistance, and wished to bargain with him conditionally on his success, but of this he would not hear, and in return proposed to give back my present if unsuccessful, but in the meantime he must receive in pledge whatever he was to have, and I found that his demands would nearly exhaust my store. The obvious inference to be drawn from his uncompromising and unreasonable demands was, that conscious of his inability, he was endeavouring to rob me of all he could, and I was very little inclined to yield. However, early the next morning, I selected a larger present than I had yet given to any Chief, and exhibiting it to him, desired that he would decide at once whether or not to receive it, and give us the benefit of his services. I reminded him, that if I should fail in attempting to go without him, and return in consequence, he would not benefit at all by my visit. But he had a stronger hold upon me than I then imagined. It alarmed the *Tuins* and all the *Mishmis* of my party, who were very unwilling to move without the security of his safe guidance.

On his declining to receive my present, I ordered a march and started, intending to see the Chiefs to whom my messengers had been sent, when I should know better with whom it was necessary to treat; but we had not proceeded a mile when GHALUM informed me, that he and his friends could not go on without a better understanding with the *Mizhus*, or the presence of RUDING; they, in fact, seemed very much alarmed. GHALUM, at his own request, sent back to offer the coat given to him in addition to my present, and after keeping us a considerable time waiting, RUDING at last rejoined us, and consented to follow us on the morrow, upon the conditions offered.

We crossed the *So* by a rude wooden bridge, and traversed the hill's face a few hundred feet above the *Brahmaputra*, by a very bad path. The direction of the march was towards the south-east, the irregularities were

only in the unevenness and rockiness of the path: the deviations from a right line were not considerable, neither the ascents or descents, and we made good way over the ground. Several cane suspension bridges were passed, and we had an opportunity, for the first time to-day, of seeing the passage made by one of them where we sat to rest, while several men passed to and fro. Accustomed as these men are from their infancy to this mode of crossing rivers, and confident as they must be of the stability of their safety, I observed that each man took every possible precaution before submitting himself to the awful situation of "dangling midway between heaven and earth," suspended on three light canes high above a rapid river eighty yards broad.

A stage is erected at a considerable height above the water on either bank, and well secured with large stones and canes made fast to the neighbouring trees, the three canes composing the suspending rope pass over well secured supports on the stages at either end, and are separately fastened to trees, so that were one of them to prove not trustworthy, two still remain. Before the stages, a number of loops hang ready for use—they are made of a long cane coiled like a roll of wire. The passenger inserts his hands and shoulders through two or three of these and brings them under the small of his back; he then, or some one for him, secures the loop with great care to a kumurbund contrived for the purpose on the instant, and generally the spear put through the knot helps the security of the fastening, then throwing his heels over the cane, he launches forth on his adventurous passage. The weight of the body altering the natural curve which so large a cane must necessarily have, however well stretched, causes him to descend at first with some rapidity, in which the hands are rather used to arrest the progress; towards the middle he is master of his pace, and when hanging there the cane is considerably bent from the horizontal line; now the hands are used to drag the body gradually up the inclined rope; progress grows slower as he advances, and when near the goal he appears so

fatigued, that between each tug he makes a long pause ; accidents are seldom known, and I understand that they take care to renew the canes at least every three years.

Latterly, we descended to the edge of the river, and passed along its enormous boulders, rather by leaps than steps. The great mountain from opposite RÓDING'S, still continued with us, on the opposite banks ; but from our halting place it receded where the *Hali* river separates it from a new succession of hills of a different character, and the part of the great mountain we saw was completely clothed, towards the top, in firs. The green grass-covered hills now succeeding, have many firs growing singly even near the level of the water, and they are striped sometimes, from the summit to the base, with fir forest. On the rather wide stony sand bed where we halted, we found drafted pines, and enjoyed the fine odour of the fresh turpentine. The river, for one or two hundred yards above the *Hali*, is so calm, that I was induced to bathe in it, and the consequence was, that my teeth chattered for two hours, in spite of the bright blazing fires of our fine pine faggots. The rock was almost inclined enough forward from the perpendicular, to save the necessity of building, and our huts were, consequently, very soon erected. In the evening, immediately after cooking, all the *Khamtis* were most busily employed in piling up conical heaps of sand for altars, round each of which a little trench was made. The *Lúri Gohain* acting as high priest, advanced before the highest, and muttered a long prayer for our success on the journey, and concluded by placing a bunch of flowers in the apex of the cone, and strewing the trench with offerings from his ready-cooked meal. There was not the appearance of a village on either side of us. We seemed to be quite solitary, but during the evening several labourers passed us, who told us their houses were near on the cliffs above. All the rock on our route was hornblend and greenstone.

The direction the next day was still the same, or a little more south, and we passed over more level ground: several open spots were met with, which admitted of our travelling at a brisk pace. At the deepest part of this bend, to the south, we came on the steep mountain's face again, and here the path was bad in the extreme. About one o'clock we left the *Brahmaputra* to proceed in an easterly direction over the hills, round which the river winds. They were here rather low and spreading out into a more even yet undulating surface; the extent of the open tract was from eight hundred yards to near a mile, and a great part of it was cultivated: in several directions houses were seen, some of them close to our path. As we advanced over this new ground, an evident improvement was observed, the houses were built on more commodious spots, each had its grove of plaintains. *Mithuns* and chowr-tailed cows were grazing in numbers, and the men who appeared lazily standing near our path to view the strangers, were wrapped in long warm cloaks with sleeves: there were even rude walls, built of stones without cement, to keep the cattle out. At one house, *GHALOM* was recognized and invited in: he promised to hear the news and not detain us a minute, but his favorite *Madh* being offered him, he was easily detained, and repeatedly I sent in vain to remind him that we were waiting his leisure in the rain. I wished to enter the house, but was given to understand that I should be a most unwelcome visitor. Presently we met *PRIMSONG* and our messengers, who begged, in *JINGSHA*'s name, that we would halt for the night where we were, or in a spot to be pointed out, and that arrangements would be made for our better reception on the morrow, he being unable to invite us to his house on account of a sacrifice having been offered for his sick brother. We were accordingly led to the hill's side near the village of one *GONSHONG*, who appeared and stared at us, with many more Chiefs, but none of them appeared at all inclined to shew the ordinary hospitality, but rather they looked at and examined us to keep aloof from further intercourse. The spot pointed out for our halting-place was closely surrounded with jungle,

and little to my liking, as a surprise, if any mischief were intended us, could scarcely have been guarded against. I found it necessary however to halt here, as the people would not show us another place.

I ordered the people next morning to prepare for marching, and when ready, I was informed that JINGSHA would not be ready to receive us till the morrow, and that he particularly requested we would remain that day also where we were. I sent to say that I intended to move nearer to him, and intimated my wish, that if he had not yet finished the house which was said to be building for us, he would order a place to be pointed out where we might halt, in the vicinity of his dwelling. We set out and crossed the deep ravine of the *Danh* rivulet, and passed more of the open ground already described, but were soon met by JINGSHA's people, who came in haste to warn us not to approach nearer to the house, and shortly after we encountered other messengers, who told us authoritatively to halt at once, or to return. I selected a convenient open spot on the top of a round hill where the jungle was twenty to thirty yards distant on every side, and there, in accordance with their wishes, caused our huts to be built. We were now told that the Chiefs of the next village could not consent to our advancing till some of the influential men of the neighbourhood should be assembled, to debate on so momentous an affair as admitting strangers to pass through their country, but they hoped that all would concur in a favorable opinion. This appeared reasonable, and though very anxious to proceed, I thought it better to allow time for a meeting of all the principal men, when I could meet them, and clearly understand with whom I had to treat. Amongst other arrivals at the village, that of LAMAT THAO was announced from a distance of two days journey, in a south-easterly direction. This Chief is in the habit of trading with the *Khamti* country on the *Irawadi*, and being perfectly acquainted with the *Sham* or *Khamti* language, I hoped much from the advantage of communicating so readily with him through the LURI GOHAIN; but as my people were afraid to go across to

the village, I had no means of sending to him, but through RÓDING, whose interested motives perhaps prevented him from delivering my message: however this was, I only got for answer that LAMAT THAO would not come. The *Khamtis* shuddered at the idea of his being so near us, for some years ago, he treacherously murdered several families who attempted to cross the mountains to visit the *Lama* country. It is said that he received the travellers into his house with demonstrations of hospitality and friendship, and supplied them with intoxicating liquor, so that they fell at night an easy prey to his band of remorseless assassins. When I heard this tale, I expressed my wonder that his visits should be still tolerated by the *Khamtis*, and that they had not retaliated; but was informed that a present of the whole of the muskets of the murdered party had restored him to favor with the *Khamti* Rajah.

At twelve o'clock, I got a good observation of the sun, which gave the latitude $27^{\circ} 53' 00''$; this large difference from RÓDING's, with the facility of taking bearings along the open river, now afforded the means of proving my scale of rates of progress, without which proof I should have been very ill satisfied with my data for a map.

Opposite, on the hill on the north bank, is the village of *Samleh*, the eighth stage on PRIMSONG's route given me in march. Snow was seen on several peaks a little removed from the river to our north. On the south, the tops of the nearest mountains were all partially covered with snow, forming a strong contrast with the black fir forests on them. In the south-east, was the hollow of the *La Thi*, and nearly east, the wide opening of the *Ghalim Thi*, between which two rivers the mountains rose high enough to have their more remote peaks capped with snow. North of the *Ghalim*, successive snowy peaks were seen stretching away to the east, and forming a high ridge. The view was not very extensive in any direction. We were then in the deepest part of the bend

of the river. To the south, about four miles from us, just before it receives the above named rivers, it winds round the base of *Samleh* hill. I made PRIMSONG and others point out the direction of its course from the Lama country, and was informed by them that it runs from north-east to south-west without any material bend, and that the course of the *Talúka*, through the Lama country, is in the same direction. We could see that the gap to the north-east extends uninterruptedly a considerable distance. The mountains are covered with grass, and have on them large patches of fir forest, extending sometimes in ravines from summit to base.

The day passed away without our seeing any thing of the Chiefs, and we had not the usual concourse of curious visitors: my people also seeking trifles at some houses at no great distance, found them empty, as if the inhabitants were under alarm. This strange behaviour of the *Mishmís*, so different to what I have hitherto experienced, convinced me that a hostile feeling existed; but I still fully expected to see the Chiefs, who were said to be assembled and assembling, and I did not doubt my ability to talk them into perfect good humour. The next morning, however, seeing that another day was wearing away without bringing any signs of their approach, I dispatched PRIMSONG to them, to request that they would pay me a visit, and understand from myself what my purpose was. I instructed him to inform them, that I had no wish to pass through their country without their concurrence, but I particularly begged that they would come and confer openly with me on the subject, and freely state their objections if they had any. PRIMSONG returned in great alarm at the rough reception he had met with: though personally known to, and on previous good terms with them all, they threatened him as the cause of our introduction. He reported, that there were about two hundred men assembled at JINGSHA'S, all furnished with arms, and holding a stormy debate, and he feared that the question was already decided against us. Neither he nor any other of the party

would venture again, and it appeared necessary that I should make the attempt myself; however, the difficulty of the want of an interpreter, and the admonition of my friends as to the risk I should run, deterred me. I have since regretted that I did not go amongst them, either alone or with my whole party, as I think I might have been successful. RÓDING was often to and fro; he told us that a great number were hostile to us, but that he could, and would do every thing if he received his present. In the evening he came again, making a loud clamour, like a vexed school boy, for his present. My present! he said, in reply to all questions. My *Mishmís* were anxious that I should give it to him, convinced by his assertions that he had the power yet to produce a revolution in our favor. I, at last, consented to put the present, precisely the same as had been selected for him in the morning, into their hands to give conditionally, that if he were not successful he should return it. RÓDING was now highly delighted and moved off, informing me that all would be right immediately; but he took care previously to come over and examine each article of my gifts: when parting, he called his brother-in-law aside (KHOSHASSON) and told him he would act wisely in returning to his home without delay. NAEBRA and MOSHA, the two *Mizhu Chiefs* resident near the *Tain* villages, who had received my presents, seized an opportunity of passing through our camp, and told us that they had not been admitted to the council, because they were not thought trustworthy, but that they strongly suspected, from what they had observed, that treachery was intended, and they advised us strongly neither to accept a proffered invitation, nor venture to sleep that night—this much they hastily told us, and then hurried away. RÓDING returned immediately with an invitation to JINGSHA: he proclaimed that all was well, a hog had been slain for us, and we were to take up our quarters in the house that night, and in the morning proceed to houses. I excused myself from moving at that late hour, and RÓDING did not press the invitation. He again called his brother-in-law to the edge of the jungle, and threw out some dark hints. He wound up,

however, with telling him, that it would be madness in him to remain there after his warnings. GHALÚM, and the rest, were now so decidedly alarmed, that they insisted on immediate flight; but I should mention that they had observed many suspicious circumstances which have not been stated. I considered that I ought to be guided by the intimate knowledge which they must necessarily have of the habits of their neighbours, and as they were convinced of the inutility of our remaining, unless we were prepared to proceed in hostile form, I consented to take advantage of the night for a retrograde movement. I proposed to start after midnight, when the moon would serve to guide us over the good ground to the banks of the river, when we should have daylight for the difficult path over the rocks. The people all cooked, in order that they might not be delayed in their flight on the morrow.

I lay down to rest early after posting my sentries, but I was not permitted to enjoy quiet long, the fears of GHALÚM and the other *Mishmís* being so great, that they earnestly begged I would not delay our flight. At half-past ten the party was arranged in marching order, and enjoined to be very careful in avoiding noise when passing the house which lay close to our path. The *Chinese* prepared, in admirable style, a train of wood to go on burning through the night in the midst of our encamping ground, and then, after seeing the guides and coolies take the lead, I bid adieu, with a heavy heart, to the opening mountain scenery which, three days before, I had hailed as the road to new and most interesting discovery. I found that my people, though generally so awkward, needed no hints in managing a retreat: we passed all the houses unobserved and without noise, excepting that which could not possibly be subdued arising from the heavy tread of so many men. We arrived at the rocks on the *Brahmaputra*, with no other accident than the fall of a poor coolie, who missed his hold while clambering down the perpendicular precipice of a ravine, whose hands and feet were required with careful use of both. He

fell full ten feet, but he alighted on some bushes, and escaped unhurt. On the bad path we found the want of full light, and indeed, after proceeding some time with imminent hazard of broken legs, and finding little progress could be made, (the moon was hidden from us by the hill above) we threw ourselves on the ground and were all quite enough fatigued to enjoy sound sleep. At day-light we resumed our retreat, and at an early hour arrived at our former halting place opposite the *Hali*: here the men rested to eat their ready-cooked meal.

About twelve o'clock there was an alarm from the rear, of a pursuit, and the musketeers were assembled together. On our arrival at one of the difficult precipices, the alarm was seconded by the appearance of large heaps of stones, ready at the top, for rolling down on unfortunate assailants, but it was agreed at the time that the heaps had been recently made. I believe that they had been prepared long before our coming. When we came out on an open spot in the fields, I called a halt, that we might know what sort of enemy we had to deal with, for they must inevitably come up with us sooner or later, and there came one solitary man. He was RÓDING'S son: the information he gave us was, that an hour or two before day-light in the morning, the assembled warriors had invested our position, and concealing themselves in the jungle while advancing from all sides, they at last rushed upon our huts, and to their infinite disappointment, found them empty. I do not vouch for the truth of this story, nor even my belief in it, for I found that RÓDING'S game was now to demand a reward for his interference to preserve our party from utter destruction. We could not collect more on the subject, than that it had been the intention to attempt a surprise by night, if we had accepted JINGSHA'S invitation to his house, or had that failed, to wait the opportunity of the division of our party, at the crossing place of the great river. We heard also, that the multitude were inclined to retaliate on RÓDING when enraged at the discovery of our departure, and we now found that even

before our arrival at RÓDING's, these hostile preparations were making, and that this was the reason of our finding his village so thinly inhabited. We took possession of his house for the night.

Principally to avoid the tedious ascent of the great mountain, crossed in marching from KHOSHA's, we adhered, on our return, to the banks of the river, and the remaining part of my journey was only interesting as it discovered the intermediate line of direction of the river to *Thatkoutheya* mountain, and to the *Kund*.

I was very anxious to retrace my steps up the *Brahmaputra*, with a sufficient force, to overawe the *Mizhus* from attempting any similar treachery to that they had prepared for us. I proposed to take twenty musketeers, and then, with the acquisition of Lieutenant BURLTON to our party, I did not anticipate any further shew of opposition.

Though reasoning on the advantage of doing that which has been left undone, may be something foreign to the purpose of this memoir, I think it due to myself to mention the objections and difficulties which have prevented my labors coming to a successful termination, as an answer, a priori, to those who might suppose the facilities of pursuing this investigation greater than they really were or are.

Captain NEUFVILLE, whom I found returned to *Sadiya*, in a political capacity, had brought up with him, by Mr. SCOTT's direction, a large party of the *Mishmis*, with their Chief, whose emigration from the mouth of the *Dihong* and from *Siláni Mor*, had caused such great dissatisfaction to the *Abors*. It was proposed to endeavour to re-settle these men at their old haunts, which measure the *Abors* had assured us would produce a complete revolution in their feeling towards us. The *Mishmis* were, of course, to be protected against any retaliatory practices of the *Abors*.

My opinion was, that merely to shew the *Mishmis*, and to promise to the *Abors* that they should stay, would not satisfy these shrewd people, who would have required some better proof of the intention of the former to remain. I had completed preparations for my return towards the sources of the *Brahmaputra*, and it was with great regret* that I deferred the completion of my plans in that quarter, but I yielded partly to the opinion of Captain NEUFVILLE, the Political Agent, and what also greatly influenced me in my determination to attempt again to advance from the *Dihong* side, was the belief that as the *Abors* were aware of the presence of the *Mishmis* at *Sadiya*, they might now be better inclined towards us, and that at least so good an opportunity might not occur again for some years. I was to be assisted also by having to present to the *Abors* a similar present to what, it is said, was occasionally given by the *Asamase* Government in former times. Another reason for a greater probability of success now than before was, that I had received an invitation from the *Abors* of *Membú*, to pay them a visit. During the rains I had dispatched to them my active Agent, the Lórf GOHAIN, to talk on the subject of their conduct towards Captain BEDFORD and myself, and to explain our motives for so anxiously renewing enquiries respecting the course of their river, in a favorable light: they, in reply, sent me a round stone as an emblem of the stability of their friendly inclination towards me: "until," they said, "that stone crumbles into dust, shall our friendship last, and firm as its texture, so firm is our present resolution."

Having had some experience, however, of their uncouth manners, and of their susceptibility of being suddenly influenced by the strange harangues of their native orators, I requested to have with me a small party

* I have regretted it ever since, as of all my plans it appeared the best calculated to ensure success: certain knowledge would at least have been obtained from the *Lamas*, whether the *Sampo* continues beyond the source of the *Brahmaputra*.

of regular troops, who might keep the villagers in some awe, while guarding our boats and effects at the *Ghat*; I had also fifteen musketeers of the *Khamtis*, to accompany us if we should be able to advance.

We arrived (Lieutenant BURLTON was now with me) at *Singarú Ghat*, without any remarkable occurrence on the way, and immediately sent AGAKONG (a *Mishmi* Chief, resident on the *Dihong*) to the *Membú* village, to show the before-mentioned stone, and remind them of their invitation. He brought back one of the two influential men of the place, with information that we were expected at the village, and that they should be happy to see us. In the mean time, people had been with us from *Padú* village, to express the wishes of the *Gam* and commonalty of that place, that we would remain on the sand-bank where we were, and there receive their visits, and hold a grand conference, which the *Abors* seemed to understand as the only reasonable purpose of our coming, or, at any rate, as the only admissable mode of communicating our intentions.

We held to our first resolution, but before we could set out the next day, more messengers arrived from *Membú* to inform us, that they were aware of the endeavour made by the *Padú* people to detain us, and begging that we would pay no attention to them. This manœuvring exhibits the difficulty of treating with people who do not acknowledge one common head; but, on the contrary, are all jealous of one another, and united only in cases of general application to the common welfare.

We started, and marched two hours through a dense tree jungle by a path admitting, as usual, but one man at a time: we then came out upon a fine patch of cultivation, extending four or five miles, and passing through a part of it, we entered a path eight or ten feet wide, and perfectly even, which continues in a direction nearly north to the *Shikú*.

Near this rivulet, we found a slight rise in the ground which terminated on the river's bank in a perpendicular conglomerate. We were quite astonished at the skill and labor shown in the construction of the cane and suspension bridge thrown over at this point; it was such, as would do no discredit to the department for similar works in Calcutta. Groups of trees, at either end, are so conveniently situated for making fast the canes, that the idea occurs of their having been planted for the purpose—the canes are passed over pegs in the supporting posts, and separately stretched and fastened to the different trees. There are two good main suspenders, and on these hang elliptical coils of cane at intervals of a few yards, supporting at the bottoms of them the footway, which is not more than twelve or fourteen inches wide: the slliptics are further connected by canes, running along the sides, protecting the passenger from the fear of falling; but, though considerable stability is thus given to the whole structure by connecting its several parts, there is still a very unpleasant swinging and waving during the passage. The span between the points of suspension is fall one hundred and twenty feet.

The road from the bridge to *Membú* village ascends a low hill, and is stony. In one place, where the natural form of the rock with some artificial defences narrow the path, we found a door-way recently built of green boughs, intended, as we understood, to keep out those evil spirits who might chance to travel in our company.

On both banks of the *Shikú* are cliffs of conglomerate, the faces fresh from recent slips, caused, perhaps, by the undermining of the river in the rains (as the quantity of rubbish at the base is trifling.) The peaks of this conglomerate ridge are remarkable for their sharpness. Approaching the village, we first passed a great number of granaries, built apart for security against fire. The village may consist of one hundred houses, built near each other in the midst of a stony slope of easy

ascent. In the middle is the "*Morang*," a large building which serves as a hall of audience and debate, as a place of reception for strangers, and as a house for the bachelors of the village generally, who, by their laws, are not entitled to the aid of the community for the construction of a separate dwelling. It was intended that we should lodge here, but the effect upon our olfactory nerves of certain appendages of convenience, was so appalling, that we made good a very hasty retreat from it, and we had luckily received hints from the LÓRI GOHAIN on this subject, which had induced us to bring our small tent.

The houses are not of that great length which I have described as a peculiarity in those of the *Mishmi* country. The first evening there was no great crowd, and we observed the women and the people returning at a late hour from their occupation in the fields, but there were enough present to give us no little annoyance from their unceremonious manners of satisfying their curiosity, which, however, we endured patiently. One fellow sat down suddenly and proceeded to pluck off my shoe, the stocking excited his astonishment, but finding it not so easy to get that off, he satisfied himself by touch that it was absolutely the fact, and then proclaimed to the wondering crowd that I had positively five toes shut up in the narrow space of my shoe. At night, we were surrounded and much plagued by men, women and children, whom we only got rid of by promising them that, the next day, they should indulge their curiosity to the full; indeed the next day appeared, when it came,* to be an allotted holiday for this special purpose, and our situation was worse than that of unfortunate wild beasts at a fair, in as much as that we had not the advantage of cages and bars to keep our annoyers at arm's length; our people were all suffering and complaining, for they could not command that slight portion of respect which was

* The village boys, at the first dawn of day, are made to go the round of the place, warning sleepy folks, that it is time for labors to commence.

paid to us, and but for their extreme good nature and forbearance, blows must have ensued from the impertinence of these uncivilized vagabonds. Though I had nothing to communicate, and did not expect to be much edified by what I should hear, I acceded to their request, and went into the "*Morang*," where the Chiefs had assembled, together with those of *Silúk* also, (a neighbouring village). They seem wonderfully fond of holding these palavers, at which their orators are heard with the utmost patience, and with the most decorous avoidance of interference. Three or four pronounced very loud and vehement orations, pressing for the return of the *Sadiya Mishmís*, whom they were assured we retained for the sake of profiting in revenue. I could only return general answers, and refer them to Captain NEUFVILLE, the Political Agent. On other subjects, as the motives of our wish to go through their country, they said less than I expected. They speak in a remarkably emphatic style, dwelling upon each word and syllable, in the midst of their political discussions, to which I thought there would be no end. One old Chief, when it came to his turn, uttered a long emphatic speech, with great gravity, and made me fear some new dilemma from an unanswerable question—but it was interpreted in very few words, to be a simple query, how we came from our own country, and what sort of a country that is? I informed them that I was the bearer of presents, to be divided, according to their own custom, amongst the *Abor*, villages, and I requested that they would take charge of them, and give notice to the *Bor Abors*, that the concurrence of that more powerful tribe might be had for an equitable division. They declined the office, and in return begged that I would make my own division. I had been given to understand, that the influential men would not dare to accept any thing for themselves in public, but I felt the difficulty of satisfying each in private, not only from the numbers, but from my ignorance of the relative claims of each to consideration; it was therefore by open dealing, and by the magnitude of the present offered to the whole, that I hoped to succeed.

It suffices now to say, that our visit was not attended with any advantageous result ; they would not consent to our proceeding further by land, and they assured us of the utter impossibility of our going on by water.

I seized a moment during the conference, when all appeared in perfect good humour, to put questions about the course of the *Dihong*, and could only learn that it comes from the west or north-west, but the *Abors* of this place are evidently unacquainted with it beyond a very short distance, since their country, or rather that of the *Abors*, which they visit, lies away from the banks of the river in a northerly direction. Beyond the *Bor Abors*, on the opposite bank of the *Yamuná* river, are the *Simong* tribe, from whom the former receive the *Lama* goods. The *Reíga* tribe are on the western side of the great river, beyond the *Pasí* and *Mizong* tribes. Some of those present were of opinion, from what they had understood, that both *Regas* and *Simongs* have but a short distance to go to reach the *Lama* country. All agreed in affirming, that the *Dihong* is not navigable, and that it would be absolutely impossible to proceed along the banks.

The *Membú* people promised to inform the *Bor Abors* of our arrival. A hog was voted us by the council, and also a supply of rice, but neither was given with that hospitable feeling, which marks the friendly tribes of the *Mishmís*. It seemed as if they voted their gifts in the necessary observance of a custom, and afterwards gave them with great reluctance. These singular people acknowledge no other authority but that of the "*Raj*,"* or people generally, who make laws at the councils, assembled in the morning, where every one has an equal vote—but

* The similarity of this word to *Rajah*, renders it very liable to be mistaken. Captain BEDFORD mentions their *Rajah*.

though not acknowledged by them, it is evident that some few, either through their superior wealth, hereditary esteem, or real ability, exert a very strong influence on the rest, and can readily sway them to any measure. It would be supposed that this would greatly facilitate the gaining of any point at issue with the *Abors*, but the extreme jealousy of the "*Raj*," and vigilant watchfulness to preserve their democratical rights, render it a matter very difficult to manage to bribe these influential men, and my want of success amongst them I attribute entirely to my insufficient knowledge of their habits, and, consequently, of the proper mode of intriguing with them. It is singular to observe in them such different shades of extreme rudeness and civilized observance of laws, enacted and allowed by them to be necessary for the good of the community. The purpose of the primary article of their clothing (which consists of a triangular piece of coarse cloth, six inches long and four or five broad at the end, by which it is suspended to a string tied round the loins) is vitiated every time they sit down, but of this they seem perfectly careless, indeed, as we discovered in the evening, when prompted by curiosity to enter the *Morang* again, the bachelors are in the habit of basking by the side of their wood fires without any covering at all, and during the day, I had remarked that in the midst of a crowd of both sides the men did, indeed, avoid wetting their next neighbour's leg, but observed no other of the ordinary precautions of decency. However, while many others of the mountain tribes seem superior to them in some points, I have not elsewhere seen them equally ready for a labor like that of constructing the cane suspension bridge. There is more order than usual also, in the regular mode of building their granaries. They have equitable laws to make public burthens (such as the presentation of a hog voted us that day, or erecting a new house for any member, when assistance is required,) fall equally on all. Of their religion, I learned no more than that, like the *Mishmís*, they occasionally sacrifice to a deity supposed to reside in the woods and mountains. The conical mountain, called *Regam*, they believe to be the abode of a rather

malignant demon: for they assert that any one who should attempt to pry into the secrets of his dwelling on the summit, would surely die, as they know from experience.

It was not a little remarkable, that though the *Abors* are said to be the source whence the strange tribes of the *Sri Lohit* are derived, we heard nothing about it from them; on the contrary, their geographical ideas are reasonable enough; they declare the *Dihong* to come from a very great distance, and that it can no where be crossed but by boats or rafts, being always too wide for a cane bridge. The *Lama* country, with which they have intercourse, is situated on the right bank of the river, evidently, because after crossing it from E. to N. to reach the *Reega* tribe, they entirely lose sight of it in their progress to the N.W.

While on the subject, it may be as well to allude at once to information derived from other sources, particularly from another tribe more to the westward. It is said that one route to the *Lama* country is by the *Kálapani* (or black river), which falls in beyond *Meyong*; it is followed up to its source, and then some snowy mountains are crossed to the inhabited country. *Chokís* are there placed, and they cannot visit the interior; but the town where they exchange commodities, is situated on the south bank of a very large piece of water, which, as they speak of a feature in it so very remarkable to them, of its "having no current," must be a lake. The Governor of the town is named *GENDU*, and he wears a shirt of mail, and rides a horse—so they say. They insist that the *Dihong* has nothing to do with the lake, and they conclude it to be distant from it.

Here we have, apparently, the origin of the strange reports current in *Asam*, to which allusion has been made, of the large and magnificent river; or what is quite as likely in my estimation is, that we derive our story from those tribes who are in contact with the *Bhotiyas* on the west,

and that the *Bhotiyas* allude to the veritable *Sampo* passing their country to the north. All the more wealthy *Abors* have cloaks of *Thibetan* woollens; indeed, scarce a man is seen amongst them without some article of the manufacture of *Thibet*. They wear large necklaces of blue beads, which they esteem very highly, and they profess that they are not procurable now; they look exactly like turquoises, and have the same hue of greenish blue—but a close examination discovers in them minute bubbles, marking the agency of fire; they are extremely hard, but the only one I could get possession of, I broke with a hammer, and it had exactly the fracture of fine *Chinese* porcelain.

The very rude tribes, of the existence of which the *Asamese* have an idea, and mention by the names of *Bibors* and *Barkans*, and mentioned by the *Súbanshiri Abors*, under the latter name, as residing to their north, may, perhaps, be the *Sho-ptra* of Father *GEORGIUS*,* whose account of it need any concurrent testimony, is completely corroborated by a singular note in Persian on a map from *Nepal*, which I have recently seen; they were to the south of *Takpo*, where the Capuchins had an establishment.

After our return to our station at *Shigaru Ghat*, we resolved to try how far we could get up the banks of the *Dihong*, and ascertain the truth or falsehood of the *Abor* reports. The first evening we halted at the mouth of the *Shiko*, in latitude $28^{\circ} 05'$, at the end of a long easterly reach of the river, beyond the *Pasi* villages, and within sight of *Padú*, which is to the north, upon a round hill. The next day we found that the *Pasi* people had taken the alarm, and we had moved but a few hundred yards

* Quod populi hi Meridionales labia gerant incissa Sho-kaha-ptra vocantur. Sho enim Meridiem, Kha os, and ptra incisum designant. In cissionibus infundunt colores varios, rubrum, flavum, cœruleum, alios-que. Pingunt ita Parentes indelebili varietate noatarum tenellula labia infantium, ut cum adoleverint ore semper picti, ac variegati appareant.

when we were met by one of their Chiefs, who came to enquire our purpose. Our conference with him ended by our resolving to visit his village, in hopes that we might thence advance to *Bor Meyong*, and which indeed he led us to expect we might do. We found the *Pasí* village a considerable distance inland, in a south-easterly direction, situated on the top of a small hill, and defended partially by closing up the narrow pass leading to it. It is not so large as *Membú*, but there are about it similar proofs that the people unite for the common good. Very fine clumps of bamboos are seen carefully railed round, for their protection and preservation, for the purposes of building—there is no river of sufficient magnitude to require a costly bridge, but there is a very substantial one of trunks of trees thrown over the *Shiko*.

Our conference with the men of *Pasí* produced little good. We found them willing enough to promise, provided it were but prospectively, but they would *do* nothing, not even dispatch messengers to the *Meyong* tribe, though their reason for refusing to guide us in their direction was, that they could not possibly do so without permission. They gave an admirable answer to our threat of proceeding without their assistance, by leading Lieutenant BURLTON and myself to the top of a more commanding hill, and asking us how we liked the look of the country which we proposed to march through without guides—we saw that they were right. They behaved towards us here with much greater respect than at *Membú*, insisting that we must gratify the Commoners by becoming *hions* for an hour or two, but restraining these in their familiarities.

We returned to prosecute our discoveries on the banks of the *Dihong*, but were accompanied by two or three of the Chiefs, who seemed very anxious to watch our proceedings. We soon experienced a marked instance of their jealousy, for arriving at the end of that reach of the river which is nearly north of *Pasí*, and doubling back towards the

east, (after getting round the base of the low hill intervening,) we found that the north face of that hill is a perpendicular rock, rising from the water's edge, and a smile might be observed on the countenances of our friends, as they watched the effect upon us of the sight of this impediment, for they had no intention of showing us the commodious path which we afterwards discovered on our return! Determined not to be deterred so early in our career, I led the way through the brambles up the rock, and in spite of the opposition of dense underwood, we continued to advance, and we got over the difficulty—but a difficulty it really was, and our people came up very late. In the mean time we missed our friends of *Pasi*. We encamped on a small sand bank, which is to the west of the *Padu* village, on the opposite bank—small hills filled the space to the river left by the direct continuation of the high *Reging* range. There is generally a small bed of stones under the base of the hills, found alternately on either bank, which would add one hundred to two hundred yards to the breadth when the river is full. At present the breadth of water was two hundred yards.

The opening of the hills now showed the direction of the river from a considerable distance to be from W. N. W. I went forward to have a better view of the next reach, and a little in advance I found a well-beaten path continuing along the edge.

At dusk, we were surprised by a rather numerous body of armed men suddenly filing down from the hill to our east. We took no notice of them, and they drew up and seated themselves in a circle at forty or fifty yards distance from us, and found that not only the Chiefs but several of the Commoners of *Pasi* were here mixed with the *Padu* people—whom it seems the former had alarmed with the views of our advance. They remained perfectly quiet, and built their huts for the evening. Finding them not likely to open the communication, I sent to know the intention

of their coming "in such a questionable shape," and received for answer simply, that they were there to oppose our progress towards the *Bor Abor* villages—the vengeance of the tribe would fall on them, they said, if they dared to permit our advance.

I do not suppose that they intended to fight; the alarm of the first musket shot would, at all events, have been sufficient to clear the field—however, it would not do to provoke actual partiality. I therefore informed them that we would not advance to the country of the *Bor Abors* without having previously conferred with that tribe, and that our intention was only to proceed along the banks of the river as far as we should find it practicable, and without interfering with any one, or deviating from our path to seek their villages; that if the information which they had given us, with so many protestations of its truth, should be found correct by us, they had nothing to fear, as we must necessarily turn back, when we should find it impracticable to advance, but we begged for guides to answer such questions as we should put about names and hills or rivers. They thought this reasonable, and putting confidence in our promises, they withdrew in the morning, leaving two guides according to our request.

We continued to advance from an early hour, to near one o'clock, along the left bank, interrupted only by the unevenness of the path, when it passed over enormous blocks of stone on the very base of the hill.

The river was generally calm, and gliding with an easy current. The solitude of the heavy woods was only disturbed by the loud solemn tones of the bell-bird, which we now heard for the first time, and not being acquainted with its note, were almost assured that some solitary being, perched on the summit of one of the wild cliffs above us, was either employed in chiming his matins to the Sylvan Deities, or perhaps, spreading

the alarm of our approach; so exactly does the note resemble that of a deep-toned bell.

We passed the mouth of a small rivulet named *Shibot*, and observed that the beaten path there leaves the great river: our guides soon after informed us, that we had arrived at the conclusion of our journey, and we found, in fact, that the steepness of the mountains much increased since we had left behind us these lower hills nearer the issue of the river to the plains, was now grown very great, and a smooth perpendicular rock soon presented itself to notice, fairly obstructing further progress. There was not the slightest appearance of more favourable ground in advance, and if we did move on by land, it must be by cutting our way through the thickest cane jungles and underwood, in a place infinitely the more difficult from its situation, or the steep acclivity of the face of the mountain.

The breadth of the river was reduced at this point to one hundred yards, and it was still mild and tranquil,* but the form of the hills gives rise to the expectation of immense depth.

We had brought with us a small canoe, thinking it might enable us to get past any very difficult place, and now we got on board and set out to see whether the difficulties by water were equal to those presented by the land. The river partook of the same kind of features as we proceeded, the water's edge was bounded by smooth perpendicular rock, under which

* The question immediately occurs now why we did not take a section of the river: we had not the means, and the utility of providing them was not so obvious then. But we had taken Note of every petty rivulet joining the *Dihong* from its mouth, a few rods, and were perfectly aware that none of them contributed very sensibly to the quantity of water. Whatever the discharge of the *Dihong* at its mouth, we had here the same quantity nearly—the entire river—a very simple calculation shows us that—for the undiminished discharge of fifty thousand cubic feet per second, and a supposed velocity of only three miles, the depth required is only thirty-seven feet. Mr. KLAPROTH's objection to the size of the river, appears then not well founded.

we advanced by poling against the small projections and crevices, but after getting over a distance of two or three miles, the foam of a rapid became visible as we turned a corner, and here we soon found our labors were at an end. A stone bed projected from the east bank, few of the rounded blocks of which were less than two or three feet in diameter, and many were of much larger size. The rapid could never be passed on the descent, even were it possible to get the boat up it, and as to carrying the canoe, that was impracticable over blocks of stone of such size. We advanced as far as it was possible on the stone bed, and from its further end climbed up the rock to overlook the river. The next reach was from the west, and the water quite smooth to a considerable distance, the hills high, and equally steep to the water's edge.

We had the curiosity to examine the path leading inwards from the *Shibot's* mouth, and after entering the jungle on the hill up which it wound, found it narrow, but still well beaten.

After our return to *Shigaru Ghat*, we halted to allow time for the arrival of the *Bor Abors*. From the neighbouring villages we had constantly visitors, who come to exchange their yams or fowls for salt.

The *Dúkú* Chief had been down during our absence, and he now made his appearance again, a fine looking well-dressed fellow, with very good manners, and a number of followers. When he stopped in front of our tent, he saluted us with a shrill whoop, more like the crowing of a cock than any other sound I can think of, and without appearing to take notice of us, he continued a long speech, during which he exalted his voice, as if calling to people at a distance, and never ceased beating his right foot on the ground, but every now and then the extraordinary whoop was renewed. When this was over, he good-naturedly informed us that he had given us a specimen of the ceremony of meeting at

councils amongst the *Abor* tribes. We were very much pleased with this man, but could not get any thing from him either in the way of information or assistance in our project. He refused to take us to his village, on the plea that his authority would prove insufficient to protect us from the unpleasant familiarities of his people. He presented some rock salt from *Thibet*, in the shape of large crystals. I think that their possessing this article at so short a distance from our side, is a collateral proof that they cannot have to travel very far for it.

We had little more success with the *Bor Abors* when they arrived, though they seemed equally well inclined towards us with the *Dúkú* party. They assured us that they could not venture to take us to their villages without having prepared the people for our reception, as a very hostile feeling existed, owing to our supposed detention of the *Miris*. They promised, however, to exert their influence, and did not doubt but they should be able shortly to send us down an invitation. They appeared to me to be sincere in professing their inability to answer our inquiries about the *Dibong*—they remarked that they were no travellers, and had little curiosity about remote countries. Whereas we, on the contrary, seemed very inquisitive in such matters—and it would therefore be infinitely better that we should travel and gain, from actual observation, the information we sought, as it could be but imperfectly acquired from those who did not understand our purposes. They could only hold out hopes of our being able to visit their own villages: they assured us that they had no influence with the next tribes, and that we should certainly experience much difficulty in treating with them, and should we gain a footing amongst the *Simongs* or *Regas*, it would be but one step of moving towards the accomplishment of our wishes.

While the *Bor Abors* remained, we had a specimen of their skill in shooting with the bow, which was not particularly creditable to them;

the object was a trunk of a tree, at the distance of one hundred yards, which they always shot very near to without hitting. Lieutenant BURLTON then indulged and astonished them by firing at a mark, placed at the extreme distance to which their arrows would range.

From that time to the present, we have had no communication of importance with the *Abors*. TASSOR, a Chief of a tribe, removed a few miles more west, gave some hopes of preparing the way for us to a certain distance, but he himself was of opinion that we should not succeed in penetrating far enough for our purpose. However, had I been able to remain at *Sadiya*, I should not have failed to make the attempt.

I have always thought that, in the absence of ocular demonstration, the most valuable information respecting the ultimate course of the *Sanpo*, or rather the knowledge of the exact spot where it leaves *Thibet*, whether about the ninety-fifth meridian of longitude, or beyond the sources of the *Brahmaputra*, in the ninety-eighth degree, was most easily to be obtained from the *Lamas* inhabiting the narrow valley, on the banks of the latter river, who must know, beyond all doubt, whether their territory is or is not separated from *Thibet* by a large river, and must also be informed of the route of the *Lassa* Officers, who come down to them yearly to receive a tribute.

I have now to present the information derived from the *Lamas* by MÓLI, a *Mishmi* Chief of the *Dibong*, with whom I had long been acquainted by name, as the most influential man of the *Dibong* mountains. He says, MESHIPÓ LAMA told him that the *Lamas* call the *Dihong*, *Lassa Chombo*. (*Tsongbo*, he also pronounced it) There are two branches, one from or passing *Lassa*, and the other, the smaller of the two, rising near the heads of the *Brahmaputra*. Below *Lassa* is a town called *Kongbong*,* and the

* *Conc-pou-y* of the Map accompanying DU HALDE?

river also goes by that name. The KHANA DEBA'S country is at the source of the above-mentioned eastern branch. The *Lassa* people, in their way to the *Lama* valley, go up the lesser *Dihong*, and cross over snowy mountains from its sources to those of the *Brahmaputra*. They occupy one month from *Lassa*. They do not mention any other large river nearer than three months' journey.

Between the *Dibong* and the lesser *Dihong* is a high range of snowy mountains, which prevents the *Mishmís* from knowing of the existence of the lesser *Dihong*, excepting from reports. I must add, that this information *was not* given in answer to *leading questions*.

This gives a clue which was wanting to the story of an old *Asamese*, now resident at *Sisi*, who was sold by the *Mishmís* as a slave to the *Lamas* when young, and had contrived to make his escape by the route of the *Brakmaputra*, hiding in the jungles by day and travelling by night. As evidence of the truth of his general statement, we have the notoriety of his captivity which led to his being brought to Mr. SCOTT, his acquaintance with the *Thibetan*, shown by his knowledge of words which we drew from a vocabulary, and his offer to accompany me as interpreter.

I twice saw this old man at an interval of eight or ten months, and having preserved in writing the names of all the places mentioned by him, had a satisfactory proof of his sincerity, by comparing the last with his former statement. His recollection, however, was not sufficiently clear to enable me to lay down any new positions.

He says, he resided with a *Lama** and his wife, at the village *Aprawa*, at the sources of the *Brahmaputra*, in the east, beyond the *Mishmí* country.

* In the *Asamese* sense—a man of the *Lama* country, not a priest.

He had repeatedly been on trading excursions to the KHANA DEBA'S country, distant ten days' journey over snowy mountains the whole way, there, he says, on descending from the height, the sources of two rivers are found, one running to the west, which he was informed is the *Dihong*, and the other to the south. The KHANA DEBA'S village is called *Powa*.

The old man always persisted that he travelled eastwards over the snowy mountains; if, however, he were mistaken—and that, in fact, he went nearly north, there would remain no difficulty in reconciling this with the former statement.

I now prepared to accomplish my long projected expedition to the *Khamti* country, on the *Irawadi*, and looked with anxiety at the snow on the mountains whenever a fair day permitted a view of them, waiting till the quantity should be so far reduced that they might be pronounced practicable. It must be recollected that the time of rapid thaw is not that for crossing in safety, and that the scanty clothing and naked feet of the natives of the plains, make them very unfit people to encounter the hardships of a passage through very heavy or extensive snows; both these reasons probably influenced my *Khamti* and *Singfo*'acquaintances to urge my putting off the trip to the proper season.

I had left it to the LÓRI GOHAIN to make such arrangements as appeared to him necessary to insure success, and he considering it only proper to have with us some *Kháku* (*Singfo*.) Chiefs of responsibility, who might become our guarantees in case we should move through any part of the independent territory of that tribe, fixed on the son of the *Gam* of *Latora*, and a relation of the same family, named TANSAN-RONG, as both well fitted for it, and willing to undertake the office. These two, with their followers, were to add about fourteen to our number: the TAO GOHAYN, and one or two more *Khamtis* of rank from *Sadiya*, with

their followers, numbered as many more, and for a guard we had ten fusileers of the *Khamti* militia. But strong as was our party with this accession, Lieutenant BURLTON and myself derived little advantage from it in our personal comfort. We had but sixteen coolies to carry both our own light equipment of necessaries, and several bundles of presents, besides the few instruments I took.

We embarked our stock of rice and our own followers on the 15th April, in canoes covered over with a thin bamboo mat: the temperature at this time varied from sixty-nine degrees at sun-rise, to eighty-seven degrees at four o'clock, and in the sun it was as high occasionally as one hundred and seventeen degrees. The navigation of the *Dihing*, which we entered on the second day, proved very tedious: we were subjected both to delay and inconvenience by the frequent occurrence of storms. Some mention has already been made of the *Dihing*, (*Noa Dihing*), and an account given of the gradual formation of this river by the natural enlargement of previously existing streamlets, in consequence of the ancient channel having become choked with stones. It is narrow, being seldom more than one hundred yards broad, and its course is tortuous, as might be expected from the equal level of the plains which it intersects. Above *Seyong*, where the rapids commence, its character resembles that of the *Brahmaputra*, beyond *Sadiya*, in similar sub-divisions into small channels. The entire difference of level from *Sadiya* to *Kasan*, (which may be said to be at the extreme limit of the navigable part of its course) is four hundred and nineteen feet, of which upwards of four hundred feet are due to the twenty miles between *Kasan* and *Seyong*, and of this again, the last eight miles below *Kasan* must claim a large proportion: without the aid of a party of *Singfos* from this place, we could scarcely have dragged the canoes up the violent rapids, immediately below it where the river, just before throwing off the *Bori Dihing* branch, washes the base of a perpendicular cliff,

and is cooped in width. The latitude of *Kasan*, at our halting place, where the *Pen* rivulet falls into the *Dihing*, is $27^{\circ} 30' 25."$ Between *Kasan* and *Lugo*, which was our first stage of land route—the *Dihing* winds in several channels in a stony plain, occasionally meeting the base of the low hills on either side. On the north bank two or three rivulets fall in, the principal of which is the *Pakan*. The hills on that side are low near the rivers, and are spotted with patches of cleared grounds; on the south side they are at first two hundred feet, and gradually rise till opposite *Lugo* they are five or six hundred feet high, and are all clothed in heavy tree jungle. We passed the river twice by fording, though with difficulty, and opposite the little village of *Gakhen* we had to cross from the south to the north bank in a canoe, and there being but one, we were much delayed. We next ascended to the top of a cliff overhanging the river, and passed through a few fields and much jungle to *Lugo*, a village of five or six houses, and thence we descended from the cliff to the mouth of the *Tungon Topon* rivulet. At this point the plain terminates, and the river is seen to issue from a narrow opening in the north-east.

From *Lugo* there are two routes, one over the *Insong* hill, directly east, which, by disuse, is said to have become nearly impassable; and another which was recommended to us, though not so direct, leading over a lower part of the hills, a little more north. The banks of the *Dihing* are said to be impracticable. We went up the *Tungon*, which is one continued rapid, and after proceeding some distance northward, turned to the east, where the hill is nearly flat, and covered with heavy bamboo jungle. To the north we saw a very high wall of hill connected with *Dapka Bhúm*.

We passed close to the village of *Pishi*, and were inclined to halt there where some sort of hut might be had for shelter, but a jealous feeling

prompting the *Singfos* of the place to deny that we could get water near at hand, we were obliged to follow their advice and move on to the *Toonghoot* rivulet, where the jungle was so thick that it was necessary to clear a space for our encamping ground. We found by the barometer, that we had ascended considerably during the day, as we were now one thousand and seventy-one feet above *Kasan*, (one thousand nine-hundred and eleven feet above the sea.)

The path led through much jungle as before, and the ascents and descents were inconsiderable, till we arrived at the brow of the ridge overlooking the *Dapha*. The height commands an extensive view, but heavy clouds hung low in the atmosphere and hid the summits of the hills. There was a very steep descent, followed by steppes of narrow plains, where the fields are of the *Dapha* villages. We halted at *Kimkú*, a village of eight or ten large houses, one of which we were permitted to occupy. The hills crossed appeared to be sandstone. We passed during the day, one of those beds of white mud of which there are several of frequent occurrence in this neighbourhood, resorted to by cattle and wild beasts of all kinds, which eagerly devour it. The most remarkable one is at *Sápkong*, on the *Borí Dihing*, where there is a bed of coal in the middle of the river, and the jungles are full of an odor of petroleum. I went to see it. There were two beds, one at a little higher level than the other, but both on the plains, filled with liquid mud of various degrees of consistence. One was twenty or thirty feet across, and the other larger. In the middle, where bubbles of air are seen constantly rising to the surface, the mud is nearly white, and is there in a more liquid state—on the edges green petroleum is seen floating, but it is not put to any use by the *Singfos*—neither is the coal.

Heavy rain compelled us to halt the next day, and we received a supply of rice, amounting to twenty or thirty seers, which the

Gams of the neighbouring villages said was all that could possibly be collected.

It now appeared that we were in an awkward dilemma, for the LORÍ GOHAIN and his friends, who were to have been instrumental in procuring supplies for us, now depended on me to be furnished with a sufficiency for the journey. I offered triple payment, in kind, at *Sadiya*, or a large price in money, but they seemed really unable to supply me, for their poverty would have inclined them to accept my offer, though amongst the *Singfos*, it would be considered barbarous inhospitality to suffer a traveller to pay for his food.

In the mean time the *Dapha* was beginning to rise, and we were advised that it would soon become unfordable (as it actually did), but we had dispatched a large party of the *Khamtis* to a distance to seek for rice, and while uncertain of the result of their search, we could not venture to cross.

The barometer gave the altitude of *Kúmki*, above the level of the sea, one thousand five hundred and twenty-three feet, the fall of the river between this and *Kusan* is, therefore, six hundred and eighty-three feet. It rained again on the morrow, but the glad tidings having reached us that the *Khamtis* had met with unhoped-for success, we set out forthwith.

The bed of the *Dapha*, from the base of the high group of mountains, to the junction of the river with the *Dihing*, has some very remarkable features. It varies in width from half a mile at the mountains, to one and a half mile where it terminates; the bank of the valley, on the east side, is a range of conglomerate hills rising in steppes, of which the lower one (of sandstone), two or three hundred feet high, runs nearly straight and parallel with the river, with generally a perpendicular face. On the west

side there are also steppes, but the rise is gentle and the direction is not so straight. The extent of this valley appeared to be six miles in length, but as the river winds round a hill from the eastward, I did not see the nature of the bed beyond this distance. The whole of it is a stony inclined plain, not very uneven; and vegetation has made but little progress in covering the nakedness of the large round boulders of which it is composed. The immense force of the current has worn for the river rather a deep bed, and it is reported, that the suspension bridge, which is nearly equi-distant (half a mile) from each bank, is not liable to be carried away by the floods of the rains, yet it would appear, that in its various changes in the course of time, the river must have alternately washed the base of the perpendicular cliffs on its east, and traversed over to the foot of the easy slopes on the west—how, otherwise, is the existence of so large a stone bed to be accounted for. The idea on first beholding it is, that it must have been caused by some extraordinary convulsion, and the destructive and overwhelming rush of a torrent of waters. The *Digarú* falling into the *Brahmaputra*, opposite *Súhatu Múkh*, presents another instance of similar remarkable feature, excepting that the wide part of its bed is not through hills. The extent of its open stone bed is represented in Captain BEDFORD'S Map as twelve miles long, and it has a breadth of nearly one mile, the sides nearly straight, as if the current in its rush from the mountains admitted of no impediment or delay. Indeed, I was informed by the natives, that both these rivers are notable for their sudden and violent floods.

I may be excused dwelling on this subject a little longer to mention a singular occurrence: while the fleet, under Captain NEUFVILLE, was moored opposite to the mouth of the *Noa Dihing* in 1825, the party mention that they were startled one evening by a gust of cold wind from the eastward, which was immediately followed by a violent commotion in the water and sudden swell. Its effects were not severely felt, excepting

in the very last boat of the fleet, which happened to be a Saugor row-boat, mounted with a carronade, which was whirled round and sunk instantaneously, while an immense portion of the bank was as suddenly cut away. This appeared to be a flood from the *Noa Dihing*, the immense force of which was not exhausted in *crossing through the volume of water of the Brahmaputra*, upwards of one mile, at an angle of forty-five degrees, with the current of the latter. The gun-boat was never recovered.

The common bridge for foot passengers, which is re-built yearly, had been broken up in the night by the rise of water, and, though with some difficulty the elephant forded at a favourable place, the current was found too strong for our ponies, which we had brought thus far. The suspension bridge, or *Sakú*, consists of two strong canes, stretched between stages of bamboo, which are secured in piles of the largest portable stones heaped up around them. Whenever the passengers were few, and a cheap bridge were needed, this would answer admirably. A cradle, or long basket, in which a man may sit or lie, is hung on the canes by two loops, and the exertions of two or three men easily pull it across when loaded. The "rushing" of the "arrow" river below, with its loud roar, cause not perhaps the most pleasing sensations to the novice—but it is perfectly safe. The distance between the points of suspension is eighty yards. The view from the bridge is fine: its features are grand, the mountains are very lofty and bold—their summits were all hidden in dense clouds, but we could see some of the snow, and with the telescope the little threads of bright water trickling down from it in the ravines and chasms. There is a large gap, where the *Inké* falls in from the north between mountains, which we distinguished by the names of 'needle peak,' and 'brown hill.' The gap is filled in the rear by a snow-capped ridge. We had gone some distance up the river to the bridge. We now returned to within half a mile of the *Dihing*, and ascended the sand-stone hills to the village of *Pasíla*, on one of the steppes. It is a new village, of six or

eight houses. There is excellent ground for rice cultivation on the perfect flats of the steppes, and for grain requiring a drier soil, they have cleared a part of the hill where the slope is full thirty degrees. A very good observation gave the latitude of *Pasila* twenty-seven degrees.

We continued our march the next day, proceeding over the hill eastward, with the *Dihing* on our right. We descended in the same direction and came again upon the banks of that river, where the little *Inké* falls in. Here, on the north bank, a narrow strip of plain stretches along under the low hills to *Lujong* village. We halted a while to beg for a supply of rice, which was given, and then entered the jungle where the river winds at the bottom of contiguous hills, and does not admit of passage along its edge. Opposite to the *Phokong* rivulet, we found a perpendicular cliff of sandstone, and were obliged to cross on rafts of bamboo. On the south bank we passed *Imbong Kusar*, situated in the midst of a fine little cultivated plain, and proceeded to *Tumong Tikrang*, where a miserable hut was pointed out for us remote from the village.

We found that a certain degree of enmity existing between the *Khamtis* and *Singfos*, made the latter a little shy, but having made good our entrance into the GAM's house, we experienced afterwards a very kind reception and much attention. He promised a sufficient supply of rice to enable us to go on, and he fulfilled his promise the next morning, most handsomely giving us a small surplus, and men to carry it two stages.

We were now to take leave of the inhabited district, and enter a wild region, where no paths exist, but those made by the constant passage through the jungles, of elephants, rhinoceroses, and buffalos.

For the last two years none had traversed the wilderness, excepting the two *Mishmis*, who were now our guides, and their only means of finding

their way through it was to hunt for the notches left on the trees by themselves last, and by occasional travellers of old before them. Our coolies had each of them to carry twelve seers of rice for their own use, besides their shallow cooking pot and clothing: what they could carry in addition for us, was a mere trifle each man. The elephant was sent back as no longer useful. The perambulator had been left at the *Dapha* with the *Burman* who wheeled it, who had already fallen ill. I had offered in vain a handsome reward to any one who would undertake to convey it on, and afterwards found that it could not possibly have been used.

The next march was entirely along the banks of the *Dihing*, the plains terminating a short distance beyond the village, where a boat conveyed the party across to the north bank. In the plains, the river is occasionally fordable, but never so up here. We kept upon the edge, making very slow progress over large blocks of rolled rock. Lieutenant BURLTON discovered a sycamore tree amongst the jungle, and we observed thin strata of coal alternating with blue clay in the sandstone rock. About half way to our journey's end, we encountered every now and then a perpendicular cliff, which we were obliged to clamber over with much loss of time. The rapids here frequently deserve the name of cataract.

We halted on a small stone bed. The thermometer stood low for that season of the year, (3d May) much lower than at *Sadiya* at the same time. At sunrise it was sixty-two and a half, and seventy-four and a half at five in the evening, when the state of the barometer was noted. We were then one thousand seven hundred and fifty-nine feet above the level of the sea, and two hundred and thirty-six feet above *Kúmku*.

A midge, called *Dam Dúm*, common to the hills, began now to trouble us. It flies on a noiseless wing, and has no hum like the muskito to announce its treacherous attack, neither is the bite immediately felt,

but a little blister is soon after seen, filled with extravasated blood, and the itching becomes so intolerable that it defies the utmost exertion of patience. Our friends, with the "bottomless breaks," were infinitely worse off than we were, whose hands and feet only were exposed, and indeed those of the plains were, in a few days, almost disabled, by the inveterate sores caused by these abominable pests. I had seen them before in the *Mishmi* hills, but it was then cold weather, and the annoyance was not to be compared with what we now found it.

On the 4th May we left the *Diking* entirely, ascending the hill immediately on starting. Our guides trusting too much to themselves, on first entering the jungle, soon betrayed signs of doubt, and informed us that they had missed the way and must search back for their notches. In this search they were occupied two good hours, and a most unpleasant anticipation it gave us of what we might expect when fairly advanced into the wilderness, but our guides received the occurrence as a lesson, and invariably afterwards proceeded with the utmost caution. We had either tree or bamboo jungle the whole way, in which the leeches are innumerable, every ten minutes a cluster of eight or ten might be knocked off from each angle. The direction was nearly north-east, and we were proceeding obliquely across spurs of a high range, the summit of which lay to our north: we were for ever ascending or descending, and at our halting place the barometer indicated an elevation gained in the course of the day, above the level of the *Diking*, of two thousand eight hundred and twenty-one feet.

The temperature, at sunrise the next morning, was much lower, being only fifty-seven degrees. The men lent us from *Tumong Tikrang* to carry rice, now took their leave. We could not induce them by any offer to proceed further into the hills: two of Lieutenant BURLTON's men were attacked with fevers, and we very anxiously endeavored to

persuade them to leave us and return to *Sadiya*, but they would not. They were probably afraid of being seized as slaves by the *Singfos*. We first had to descend considerably by a steep and winding path to the *Moha Pani*, which comes through a cleft from the north-east, and immediately commenced a most laborious ascent at the opposite mountain. The rock appeared to be gneiss and mica slate. About ten o'clock our guides sat down by a little pool of muddy water, which they warned us might be all we should see that day; they laughed, and we did not understand them quite so literally as they meant it. Again we set out on the ascent, and surmounted one height after another, each of which in succession appeared to be the summit of the mountain. We had left the bamboo jungles, and were amongst dwarf moss grown trees, which spread their crooked branches in wild irregularity, when showers passed us every few minutes and made it very cold. Our guides darted on at an increased pace, and though our eagerness to arrive at the end of our toil, made Lieutenant BURLTON and myself outstrip the rest of our party, we were much behind our guides. One large peak at last long deceived us with the expectation that it must be the last. Snow is said to remain on it to a late season. But the top of this, when reached with many a weary and slow step, gave us only a commanding view of the next still higher ridge. At four o'clock, after being often in danger of losing our way, we came up with our merry guides, who were sitting, cooking their rice under the hollow of a large fallen tree. We asked eagerly for water to quench the thirst now become painful, and were answered by taps on the tree above them, and a nod of intelligence. In fact, this "Diamond" of the mountain—this old hollow trunk, contained all the water that we could expect to meet with that day. It is torn from its roots, and it did not appear how water could collect in it, except from drippings from overhanging branches; however, our guides asserted, that it gradually fills again within a few hours after being emptied. We had already learned to cook for ourselves, as the only means of securing a dinner, and we

had that day one fowl left, on which to display our talents, which were ever after degradingly employed, in merely boiling our pot of rice. The people were much fatigued, and arrived late, and it was with difficulty that we got a miserable hut built to shelter us from the rain, which continued all the evening. The thermometer stood at sixty-five, at five o'clock, and the barometer informed us that in addition to the height of our last halting place, above the *Moha*, we had climbed up three thousand eight hundred and forty-nine feet, and were eight thousand four hundred and twenty-nine feet above the level of the sea.

At day light on the 6th, the thermometer was at forty-six. The water of the "Diamond" had been fairly expended the night before, and I had placed a sentry to secure a proper distribution in the morning, but it was nearly empty, and what little had collected was too dirty to use, we therefore marched before breakfast, contrary to our usual custom. After climbing one more peak still higher, we did at last perceive the summit of *Wangléo Bhím*, but as it is a large cone, the path led round it as less laborious than clambering over, and after two hours march we found a small rill of water, trickling down one of its ravines, which barely sufficed for our morning's meal. We noticed a new description of bamboo, a little below the summit on the north face of the mountain; not growing, as usual, in clumps, but singly, and having a coronet of sharp thorns round each joint. They follow the moss covered trees of stunted growth, and prevail to a considerable distance on the descent, where heavy forests and thick underwood again occur.

It is now time to convey a better idea of our situation according to the knowledge we had then acquired. We were then crossing that ridge of mountains which separates the nearly parallel streams of the *Dihing* and *Dapha*, the commencement of which I have already mentioned as the conglomerate and sandstone cliffs of *Pusíla*. The highest

part of its crest connected with *Wangléo*, by a succession of peaks, was still further east on our right hand. Beyond the *Dapha*, at no great distance on the north, the Beacon now bore three hundred and thirty N. thirty W., and a high wall of mountains, capped with snow, followed, stretching eastwards to some distance, and then turning south, giving rise to the *Dapha* and *Diking* on this side, and to several rivers flowing into the *Iráwadi*, on the other.

We passed nothing extraordinary on the descent, but a beech and fig tree, the latter producing very large fruit; and some sweet scented violets. At the bottom, we emerged from the jungle on a beautiful little plain, covered with short grass and fern hills, abruptly rising on either side to a majestic height, and some deeply clothed in snow closing the distance. We halted on the banks of the *Dapha*, at a spot frequented by hundreds of deer, elephants, and monkies. The former were too wild to allow us to shoot one.

We were still five thousand four hundred and thirty-one feet above the sea. Some idea may be formed of the rapid and tumultuous current of the *Dapha*, from the circumstance of its falling three thousand nine hundred and eight feet, in twenty miles of its course from hence to *Kupku*, where I have already stated the altitude as one thousand five hundred and fifty-three feet above the sea. We saw a new fruit of the plumb kind, with a very thin skin and good flavor; and some wild *lichis*. A good observation gave the latitude $27^{\circ} 31' 20''$.

The next march was, for some distance, nearly east along the boulders of the edge, or in the track of wild elephants in the jungle; then turning more south, after the separations of the *Dapha* into two branches, we crossed the left branch by wading, where it is fifteen yards broad, and commenced our ascent up the great pass. We halted at two o'clock in

cold and heavy rain, but our people who were now suffering very severely from fevers and swollen legs, were many of them not up till late. It was our constant employment on halting, as soon as we could get a hut built, to make a fire in front and hang up our clothes to dry; had we not luckily been provided with a piece of wax cloth, which was of great assistance in keeping out the rain at night, we must also have sunk under this unaccustomed exposure to severe weather. The total ascent above our last halting place was two thousand four hundred and nine feet—total elevation, seven thousand eight hundred and forty feet. When we resumed our march at the ascent, early on the morrow, we were, in the space of an hour, on a level with snow, distant two or three miles, on the opposite mountains to our right and left. We could plainly trace the waters from their sources, and in the melting snow, which still lay in considerable quantity in the ravines. The whole scene possessed, in a high degree, the features of wild and romantic grandeur. We were ascending the ridge which separates the two branches of the *Dapha*, and were fast approaching to the altitude where they have their origin: we were near the end of a long but large dell or chasm of which the *Wangléo*, and the higher mountains succeeding it, form the one bank, and the Beacon with its high wall, of which it forms a splendid pinnacle, the other. In advance, the pass to be surmounted, formed the connecting ridge between the two sides.

The trees were now growing in all directions, seldom perpendicularly, and all covered with coarse moss, excepting the smooth barked rhododendron, which was then in fine flower. Lieutenant BURLTON detected both beech and ash in the course of the day, and at a great altitude we found abundance of the plant—the yellow bitter roots of which constitute so principal an article of *Mishmi* traffic with the *Lamas*. On our side there were no firs, though they abounded on the northern mountain, even at a much lower level. Towards the summit, there were some large bare

blocks of clay slate. About ten o'clock we reached the snow, which does not cover the whole apex of the mountain, neither does it always lie in the deeper or more shadowed spots, but in patches, which we were frequently obliged to cross : the ground was sodden with wet, and unpleasant in the extreme to walk over. We plainly perceived that our difficulties would have proved much greater, had we made the attempt earlier in the year.

A violent storm of hail, thunder, and lightning saluted us as we reached the top, and prevented our distinguishing more than that the heavy snows on our right extended a considerable distance. I shall say no more of the storm than that, at such a place, a more unpleasant and disheartening occurrence could not well be imagined. Our guides appeared much frightened, and they went scampering down the most villanous ground we ever saw, while we followed sinking to the ankles in a sodden mass of rotten leaves and moss, and pushing our way with difficulty through the thick fern. The lightning set fire to one of the fir trees on the opposite height, and we could long distinguish it burning. In the pass, we found a sad proof of the truth of the statements respecting loss of life, which has generally befallen a party making the passage. I picked up a skull said to be that of a *Singfo*. Very much to our annoyance we learned, from some of the party joined from the rear, that two of Lieutenant BURLTON's men had lain down and refused to move on. They were brothers, and one of them, though not himself complaining, had determined to remain by the other, who was overcome by mere fatigue ; to assist them was impossible ; carry them we could not, even had we rice sufficient to enable the people to bring them on at a slow rate. We halted on the *Phangan* river, near the course of which we had descended from its sources, but it was of considerable size when we first saw it. It continued to rain very heavily the next morning, and we marched much later than usual. We were anxious to halt altogether for the day, to let the unfortunate men come up, and to recruit the strength and spirits of

the whole party, who greatly needed rest. Several had severe fevers, and nearly all had swollen ankles and dreadful sores from the bites of the noxious *dámdúms* and leeches. Our stock of rice, however, would not admit of a halt; we therefore continued on our descent down the *Phúngan* pass. The ground was sodden as yesterday, but not so bad. Leeches and *dámdúms* scarcely bearable: we once took the trouble to count the collection of about half an hour, and tore thirty-five leeches from one leg. We went through thick jungles of tree and prickly jointed bamboos, and occasionally came out upon the *Phúngan*, but the steepness of the hills allowed us to see nothing beyond the deep ravine which we were moving down, and the closeness of the trees made it extremely difficult to me to note any bearings of the direction we were travelling in. We crossed five or six rivulets which join the *Phúngan*, having their origin in the snows on the right bank. We halted sooner than we ought, considering our supply of rice. Another of Lieutenant BURLTON's men, a very fine young lad, had complained at starting of his weak state, but promised to come on slowly; however, he did not rejoin us.

The next morning we made such arrangements as we could, to learn the state of the three now missing. We left two men at the halting place, and sent back two more, with the promise of a reward, if they should succeed in bringing on the unfortunate loiterers. We felt less anxiety about the first two who lingered behind us, as they had but five days' journey to return to the last *Singfo* village, and if they preferred coming on, our track was now well marked by the passage of so large a party. Our path was better to day than that of yesterday, but the march was equally uninteresting, confined in a narrow ravine between two high mountains: the only object we ever got a glimpse of beyond it was some towering snowy peak. The direction of our journey was not easily guessed. We crossed the *Phúngan*, to the north bank, half way by wading, and the remaining half by a bridge, which was speedily erected by the *Singfos*. We then

left the banks of the *Phúngan*, and halted early on a little rivulet falling into it. We should have gone farther, but we were told that we should find no water until we had crossed the next hill. We picked up a walnut in the jungle, but could not find the tree. When the people rejoined us whom we had left behind, they stated that they had found the last lingerer, but that as he was unable to come on with them, they had given him a flint and steel, which he was in want of, and he promised to follow us slowly.

We set out again early in the morning, and were employed till twelve o'clock in a most fatiguing march over a hill. At the bottom, on the opposite side, we met with a small rivulet, and it was earnestly debated whether we should halt or not. The *Mishmí* guides were the only people of the party who pressed for making an attempt to reach the next place where water could be obtained—and their argument being a very cogent one, with the small stock of rice remaining, we went on, and, after ascending and descending two more hills, we halted at four o'clock with the guides and some of the *Singfos*, who appear to have more stamina than the *Khamtis*. The remainder of our people did not arrive till late at night, and some not till the next morning. Our own pots and rice not having been brought up, we got a *Singfo* to lend from his store, and our hands supplied the place of spoons, while the pot lid served for a drinking-cup, out of which we could yet enjoy our gin and water. Heavy rain all the evening; but since crossing the *Phúngan*, we have always been fortunate in halting where wild plantain leaves could be procured for building our huts. The hill crossed is of sienite.

We started in heavy rain again the next morning, and descended to the *Namsai* river, which appears to rise also in the *Phúngan Bhúm*, near the pass, and runs parallel with the *Phúngan*. I did not understand whether the cause of our leaving the banks of the latter was the difficulty

of the path there, or that this is the less circuitous route. Both rivers flow into the *Namlang*, and the distance of their mouths is less than a mile. This was a most uninteresting day's journey, for we were surrounded by heavy fogs and mists, which prevented our seeing thirty yards. We went through the usual description of bamboo and tree jungle—on the side of the hill, above the *Namsati*, the mud was ankle-deep, and the leeches innumerable—fine tall nettles too, growing in the most abundant luxuriance, added to the number of our annoyances. Near the end of our march, the utmost exertion of the strength of our guides was necessary to force their way through the entangled jungle; no traces of a path existing.

We halted at the deserted *Mishmi* village of *Aleth*, to which our guides had belonged, situated at the point of junction of the *Namsall* with the *Namlang*, the people have been chiefly removed to the *Tungon* rivulet, under the influence of the *Singfos*. We found around the ruined houses a great quantity of wild raspberries of a large size and sweet flavor.

At starting from *Aleth*, our guides were literally obliged to cut their way to the *Namlang*, which we soon came out upon; it was a very pretty little river, thirty or forty yards broad, and running with a slow smooth current, excepting when a rapid here and there occurred. Low hills formed its banks on both sides. We proceeded along the edge, sometimes on the boulders and sometimes knee-deep in the water, to some perpendicular cliffs, and then through the jungles above, which are more abundant in leeches than any place hitherto seen. Every six or eight hundred paces, a fresh collection of thirty or forty might be plucked off the ankles; but the profuse bleeding which they cause is not sufficient to reduce the swollen feet of our followers, who are suffering so much that it is only wonderful that they can get on as well as they do. Lieutenant BURLTON was among the rest seized with a paroxysm of fever on the march: several of the *Singfos* were also sick. I have omitted to mention, that I had again sent people back with

the hope of bringing on the poor *Asamese*. They rejoined us this evening, and to our great surprise, were accompanied by one of the two men who stopped on the *Phúngan* pass. He informed us that he had remained until his brother expired, and that he had been four whole days without food or fire. The other poor lad was found very near the place where we left him, and was brought across the river, which he could not possibly have forded alone, but he crept into the huts of our halting place, and there laid himself down to die. We were surprised about ten at night by a very sudden rise of the river, equal to three or four feet, accompanied by a rushing and loud noise: it came so unexpectedly, that the people who had built their huts near the water had not time to remove all their things: it subsided almost as rapidly as it rose.

The next day, the path led chiefly along the edge of the water and over steep and slippery rocks. Still an unvaried aspect of dark jungle. The direction, since leaving *Aleth*, nearly due north. We crossed while the river was one hundred yards broad, by wading, but with great difficulty, for many, from weakness, were unable to stand against the current without help. Lieutenant BURLTON had his fever again at the time. Shortly after, we re-crossed by the help of *Sakos*, which, from the rise of the river, were nearly under water; but here the sight of some new faces gave us fresh alacrity, and we hailed our approach to a civilised country with that joy, which those only could feel and estimate who had suffered from fatigue and privation as we had.

The *Múlúks* and *Khamtis* who met us were extremely civil, and welcomed us with every demonstration of good will. Beyond the first crossing place, the country opens out into a narrow valley, which leaves a small plain at each alternate bend of the river; none of these, however, yet presented signs of habitation; but leaving the right bank and passing through a narrow belt of jungle, we entered on a cultivated plain of a

mile or more in width, (to us an Eden!) and were delighted with the appearance at the further end of a nest of comfortable houses.

We were now met by two *Khamtis* of rank, who informed us that they came from the Raja with instructions to receive us; this could not be true, as the capital is a good day's journey distant; however, they, with great politeness, procured us every thing that could be wished, and professed anxiety to be made acquainted with our wants, in order to gratify them. We were recommended by our kind friends to move the next day to another village, at a small distance, where we could be furnished with a better house; but on account of Lieutenant BURLTON's ague fit, which was very severe, and also on account of the fatigue of the whole party, we were obliged to halt. Rain had annoyed us on the march yesterday, and continued again all this day. The village is of twenty or thirty houses, built of bamboo and mats on *Macháns*, and, contrary to the practice of *Asam*, they are assembled near together, with only streets between them; the buffaloes, pigs, and poultry take shelter in the lower part. The *Múlúks* are a distinct tribe, and their language has no affinity with that of any other neighbouring tribe. This appears very remarkable, as their number is only reckoned at five hundred houses: in former times they were an independent people, inhabiting the plains of *Húpong*, on the *Diking* river, south of the *Phúngan* pass. They declare that they were plundered and dispersed by the *Singfos*, and that one-half were carried off and made dependent on these marauders, while the other half fled towards the *Irawadi*, and placed themselves under the protection of the *Khamtis*. Their only produce is rice, *marka*, mustard plant (used as a vegetable), and a bad species of onion. Their dress is the same as that of the *Khamtis*, excepting that it is of ruder fashion, and of inferior cloth.

We removed in the morning to *Námbak*, another *Múlúk* village, at no great distance, situated on the *Námbak* rivulet, and fortified with a

strong palisade. The intermediate plain was all cultivated, with a good path through it, improved by putting down boards at all the broken places. We passed a third village on the road. A very respectable house was given us to remain in, built to serve the purpose of a town hall, furnished all round with a boarded seat, and raised high on strong posts. The fame of our white faces and musical boxes attracted to us an immense crowd the moment of our entry, who disposed themselves, as many as they could, in the hall above, and many more under the *Machán*, or mounted on the bamboo walls—but they were perfectly well behaved. In the evening, the Raja's two nephews and brother arrived in some state, accompanied by a few musketeers, and little *Chinese* gongs, to announce their arrival; they were equally polite with our former conductors, handsomely dressed, and fine looking men. They wished us to proceed another very short stage on the 18th, to the *Palanseng Gohain's* village, that we might, after our fatiguing march, suffer as little as possible in the remaining portion of our journey. They appeared to feel great anxiety in the question whether we should be induced to take part in their wars with their neighbours of *Múng Khamti*. We made them presents of scarlet cloth and muslin turbans, with which they were much gratified.

We remained the next day, according to their request, and had the same sort of employment in entertaining the great men with sights of our apparatus, of which our guns and pistols most excited their attention. Our people were still complaining of their sores and swollen legs; indeed, several had been left at the first village, who were actually unable to come on, and it had become my turn also to fall sick. The mode of providing our party with food was, to quarter them two together in a family, who announced the hour of meals. To the N.W. we could perceive the snowy mountains at the source of the *Namlang*, but this was the only direction in which the view was not limited by high hills.

On the 18th we continued our journey a short distance to the *Palanseng's* village, beyond the *Namlang*, which we crossed by a rude bamboo bridge, the river below running at the rate of full ten miles an hour. On the opposite bank, we passed over some high ground, and then entered another small plain, surrounded by low hills, some of which are also cultivated. We heard the Cuckoo near us. The village called *Kúmtong*, is situated in the middle of the plain on the *Namkúmtong*. We here received a visit from another relation of the *Raja*, who came with his eight or ten followers, armed with muskets of all sorts and dates—there was one marked G. R., and some fuzees of 1780, marked U. E. I. C. We were detained another day at *Kúmtong*, by very heavy rains.

On the 20th, it continued to rain heavily; but as this was to be the last day's journey eastwards, and we were inclined to enjoy all the rest we could without interruption, we set out. After wading through the *Kúmtong*, we shortly began the ascent of the hills, separating the *Namlang* river from the plains of the *Irawadi*. The path being well beaten, was infinitely better than any we had traversed, but it was slippery from the rain, and the same sort of jungle, with which we had been so long acquainted, covers the hills. From the second, we at last, about two o'clock, beheld at a distance the object of our deepest interest; the *Irawadi* winding in a large plain, spotted with light green patches of cultivation, and low grass jungle: better eyes than mine could distinguish *Manchi*, the capital. To the pass succeeds a long narrow dell, gradually expanding towards the plains; but we saw no farther signs of the residence of men till four in the afternoon, when we entered a cultivated tract. Soon after, we passed the tomb of some great man, built of clay, whitened over, with a vase-shaped gilt top, and surrounded with many tall poles, which are ornamented in the *Chinese* taste, and have long flowing pendants of wove silk; these poles had not a less tasteful appearance from being inclined from the perpendicular. We were met at last by the *Raja's*

son, with two ponies for our use, and our approach towards the villages was noised by incessant beating on two little gongs. We passed two or three temples, all built of bamboo and grass, but of *Chinese* design, and on our left, the strongly stockaded village *Choktep*. Near the great village or town, we saw two much finer tombs, built of pueka, and having griffins and various other non-descript animals at the corners and about them. The town is closely built, but large, and fortified with a high palisade, having pointed bamboos ingeniously worked. The first appearance of the houses strikes with great surprise those who are not accustomed to the style of building, as the floor on which the family live is completely hidden under the low projecting eaves, and all that appears to view is the open and dirty ground floor, crowded with buffaloes and pigs. The *Raja's* house is in the centre of the town, enclosed within an interior palisade. We passed it about six in the evening, and were led to the Town Hall, which is contiguous to it. As scarcely any of our people had arrived, we begged the young Prince, who had been in attendance on us, to give us a dinner, after their own fashion, which he readily did, and it proved a far more sumptuous repast than we anticipated: it was served up in the lacquered *Burman* boxes, which had several compartments, and trays to hold rice, nicely laid on fresh plantain leaves, and a number of small *China* basins, containing eggs and meats, variously cooked; and, at least, so far superior to our own culinary productions, that we hinted our inclination to have a breakfast in the same style. They most obligingly continued to provide us while we stayed, and we generally had presents from other families also, at the known time of our taking our meals. They also gave us a spirituous liquor, very much like whiskey, though inferior in strength, which was the more acceptable, as our own small stock was nearly exhausted.

At noon, the next day, the *Raja*, as he was called, paid us a visit in state. He was preceded by four or five small gongs, about five and

twenty musketeers, several sword and shield-bearers, and a gilt chatta, the last given him by the *Burmans*. The shields are of substantial buffalo hide, well formed and varnished black, with gilt devices on them. The swords were all *Burman*. He maintained so much reserve, that our conversation was not very interesting. After avoiding to give an answer to several questions of a trivial nature, on such topics as I considered required neither privacy nor previous consideration, he hinted that he could be more communicative in the absence of the crowd. Amongst other questions, I asked whether they had historical records similar to those kept in *Asam*, but at this time I got no direct reply, and afterwards, during our stay, could never get the Chiefs to allow that they had them, though informed by the *Lúri Gohain*, that it is a custom in each village to treasure up a record of all remarkable events. He spoke of the system of warfare and mutual aggression, which has endured for the last fifty years, without either side having gained a material advantage over the other: he lamented it, but saw no prospect of its termination. Our friends had, but a few months before our arrival, suffered the loss of the larger village *Múng Khamti*, which had long been their capital, and they informed us that they were now debating measures for surprising and recovering it, in their turn. All our presents were very much admired, particularly a handsome cut glass bowl, but our guns and pistols excited by far the greatest interest.

After his departure, the visit of another *Raja* was announced! and though introduced with much less state and ceremony, I discovered that a mistake had been made in attributing to the former, the chief share of authority. When the matter was afterwards cleared up, it appeared that the aged gentleman now with us, is the Legislator; while his nephew, as a man of action, holds the executive power, in the capacity of War Minister and General. The manners of the old man, the *Búra Raja*, were remarkably mild and pleasing; he expressed great curiosity about us, and

regretted much the want of a ready communication, which alone prevented his putting the numerous questions which he would be glad to ask. He said that the only drawback to the pleasure he experienced in seeing us, was the fear he had of the *Burmans* putting misconstruction on our visit, and of their taking advantage of it to oppress him and the country anew. We represented the friendly state of the two powers, and endeavoured, by such arguments as occurred, to lessen his fears; however, if there be any danger, it is yet remote, for a long period has elapsed since a *Burman* party has visited the country. Finding him less of the wary politician, and of a more frank and communicative disposition than his nephew, I, in my turn, made some geographical inquiries of him, but I found his information very limited. The *Khamúngs* inhabit the lower mountains, beyond the *Irawadi*, visible at the distance of twenty or thirty miles to the eastward, and a poorer and more savage race, the higher ranges. The former supply the *Khamtis* with salt, and have the art of forging the *Daos*, or swords, so much in request; the latter are scarcely known by name, and are said to be naked and barbarous; their habitations are not supposed to extend to the other side of a high range, which is in winter snow-capped. The *Lukyang*, or other *Chinese* rivers, are not known. With the *Lamu* country, there is no immediate intercourse whatever, traffic is carried on, as in *Asam*, through the intervention of the *Mishmis*, who cross from the *La Thi* (falling into the *Brahmaputra*,) to the *Namseya*, the principal branch of the *Namlang*. No road exists by the sources of the *Irawadi*. Majestic peaks, covered with perpetual snow, are seen from hence, in which the *Irawadi* and one branch of the *Brahmaputra* have their rise.

I was lame from an unpleasant sore in the foot, contracted on the march, and Lieutenant BURLTON was not at all in order for moving about. On the third day of our stay, however, I strolled out to the temple, and saw the chief priest, a fine old fellow, who was completely delighted with the wonders he saw: he and his attendants subjected me and my dress to

a very close examination, laughing heartily : the only question they put was whether *our* clergy take to themselves wives or not, and on being answered in the affirmative, they raised a roar of laughter, and the Chief assured me he was quite shocked. The thatch-roofed temple is neither so large nor so elegant, as some of those seen on the way ; nor is there any thing remarkable about the gilt images of GODAMA, or the ornamental work within. A gift of a few rupees delighted the whole of them, though the only use they have for money is to enrich their temple with new ornaments, or to purchase some trifling luxury. Their customs appear precisely the same as those of *Ava*. Early every morning, we saw three or four of them hurrying through the streets of the town, preceded by a boy with a little bell, each holding a lacquered box, in which he collects the offerings of the people, presented generally by the women, who stand waiting at their doors with a portion of their ready-cooked meal.

We took advantage one evening of a requisition for our musical boxes, to introduce ourselves into the interior of the *Búra Raja's* house. We found it spacious, the south end terminating in an open *machán*, or terrace of bamboo work, and a second enclosure within, divided the private apartments from those which, at all hours, appeared open to the populace. To give space in breadth, two houses are erected contiguously, and a trough of wood closes the aperture between the thatches, and serves to carry off the water, which would otherwise descend into the house. The women, few of them, boasted much beauty, and they were plainly though neatly dressed ; they behaved with great decorum, and sat together along one side of the room. The men turn up their hair, and form a large knot with it on the centre of the head ; but the women, either from the natural profusion of their tresses, or from their taking more care of them, far excel the men in the height of their top-knots, which they wear nearly in the same fashion, but divide it with silver ornaments and small glass

beads. Their petticoats accord better with our notions of female delicacy than the odd dress of *Burman* ladies.

According to previous engagement, we paid a visit to the warrior *Raja*, who resides at *Phankai*, nearly three miles from *Manché*. The road was over a perfect plain, partially cultivated, and prettily studded with clumps of trees and bamboos. The country is not unlike *Reva*, excepting that it is not varied with similar undulations. It is intersected by a number of little rivulets. *Phankai* is also strongly stockaded, and an interior palisade surrounds the *Raja's* house. A separate dwelling had been prepared for our reception, but either through ignorance or want of politeness, the *Raja* kept us waiting full half an hour; and when he did come upon a hint that we were growing tired, he seemed to consider himself quite at home, wearing a very shabby dress, and observing none of that ceremony which had been remarkable in his visit to us. No conversation passed of either moment or interest, for he exhibited uneasiness with us, when questions were put, even of the most simple nature. We were anxious to make arrangements for a visit to the *Irawadi*, which we could not well contrive at *Manché* on account of the enemy's strong hold—*Mung Khamti* being in the way. They met our proposition as usual, with a long list of difficulties and dangers, and would by no means consent that Lieutenant BURLTON and I should mount their ponies, and trust to our own good management for encountering the enemy without hostilities resulting. They objected to every thing, but going in posse by the nearest route, with drums beating and colors flying, and indeed they played their part very well, to get our aid in a brawl with the opposite party. When however they found us fixed to have a sight of the *Irawadi*, and to avoid fighting where we had no quarrel, they consented to furnish ponies and a guide that we might see the river higher up at a point sufficiently removed from danger. A dinner of inferior cookery to that we had been

used to, was presented, and we were much pressed to remain a few days—however we liked our former quarters much better. In the evening, the women all assembled on a large mat extended on the turf, to hear our musical box. Neither they nor their men were in holiday suits, but they looked very clean and behaved well. Their high head-dress is very singular, and not altogether inelegant. In the morning, we went off at an early hour, accompanied by a guide mounted on a third horse, and in two hours we crossed the plains obliquely to the river's edge.

The *Irawadi*, we were surprised to find but a small river, smaller even than we anticipated, though aware of the proximity of its sources. It was not more than eighty yards broad, and still fordable, though considerably swollen by the melting snows, the bed was of rounded stones, and both above and below where we stood we could see numerous shallow rapids similar to those in the *Dihing*.

As to the origin of the *Irawadi*, I felt perfectly satisfied from the moment I made inquiries at *Sadiya*; but since further evidence, founded on the report of the natives, might not have satisfied those who had adopted Mr. KLAPROTH'S opinion, that the waters of the *Sampo* find an outlet through the channel of the *Irawadi*, I had resolved, if possible, to have ocular and incontrovertible demonstration; and I could not help exulting, when standing on the edge of the clear stream, at the successful result of our toils and fatigues. Before us, to the north, rose a towering wall, stretching from W. to E. offering an awkward impediment to the passage of a river in a cross direction, and we agreed on the spot that, if Mr. KLAPROTH proved determined to make his *Sampo* pass by *Ava*, he must find a river for his purpose considerably removed towards or into *China*.

The scenery was of the finest order, and its effect was heightened by the thin mists hovering on the bases of the blue mountains. One majestic

peak to the north, peeping from a mantle of light clouds, was very conspicuous from its superior height, and from its deep covering of pure white snow, and the long ridge leading away from it to the westward was similarly clothed, but streaked with shadows of delicate blue. On the E. and W. were peaks heaped on one another in the utmost irregularity of height and form, and at all distances. Our guide pointed out the directions of the two larger branches uniting to form the river, the *Namkiu*, by which name the *Khamtis* distinguish the *Irawadi* throughout its course to the sea, and the *Namyen*, the western branch. The mountain, at the source of the latter, bearing 315° , and the former 345° . We could also perceive the snow to the westward, some continuing as far round to the S. W. as 240° . The plain we rode over is covered with low grass and crossed in several directions by narrow belts of tree jungle, which mark some water courses filled in the rains. A great part of this plain is said to have been cultivated before the disturbances and dissensions introduced by the *Burmans*; and there were many *Khaphok* villages on it. South of where we stood, the river takes a bend inward towards the west, round the base of a low ridge, which projects from the hills on that side.

The climate appears very similar to that of *Sadiya*, at the same period. After rain, the thermometer fell five or six degrees, and the air was delightfully clear, while the sky was partially covered with thin clouds; but within three or four days, the atmosphere thickened, the thermometer regained its highest range, and it became excessively close till another storm relieved us. In the morning, at sun rise, the range was from 72° to 78° in the shade, and at the hottest time of the day, from 84° to 94° . The nights were comparatively cool and pleasant. The duration of the rainy weather is about the same as in *Asam*. Three or four months in the year, or from the 15th October to February, may be calculated on as clear and dry, and the remainder is perfectly uncertain—however, the heavy rains set in about the 15th June, and continue to the 15th September.

The elevation above the sea, marked by the barometer, is one thousand eight hundred and fifty-five feet. If *Bhammo* be five hundred feet above the sea, which would be equivalent to a fall of the river of eight inches each mile, there remain one thousand and three hundred feet of fall in the three hundred and fifty miles between this place and *Bhammo*, which sufficiently accounts for the greater part of that distance being unnavigable, excepting for small canoes.

Several observations during our stay, gave the latitude of *Manché* $27^{\circ} 29' 16.5$, and that of *Phankai*, the *Raja's* place, $27^{\circ} 28' 13.6$.

Confined to the house by lameness, and unable to go abroad to make researches, we were generally employed in entertaining a crowd of visitors, who, without ceremony, and at all hours, mounted the steps and sat themselves down in the hall, which was common to ourselves and followers.

I have already mentioned, that I received very unsatisfactory answers to my questions concerning their history. I was induced to defer making any notes on the subject at the suggestion of the LURI GOHAIN, who reminded me that at *Sadiya*, I should meet with men equally capable of giving the information, who would exercise no reserve in their communications. At *Sadiya*, however, my unfortunate illness prevented my prosecuting enquiry either on this or on many other points, which I had reserved for greater leisure. With respect to their history, I can only notice here, that the *Khamtis* are supposed to have been in possession of the country from about the same time that *Asam* was conquered by another party of their nation. They are *Shams*, and came from that part bordering on *Yunan* and *Siam*. Whether or not they are, as Mr. KLAPROTH supposes, of *Tartar* origin, I cannot pretend to decide; but if they be, the period of their migration into the *Sham* provinces must be very remote, since

all traces of their original language have been lost. Here they are insulated as a people: a very extensive district, inhabited by *Singfo* tribes, intervening between them and the nearest place where the *Sham** language is known. They informed me that, according to their traditions, the country, at the time of their arrival, was occupied by *Lamas*, and the *Khaphok* tribe; however, I could discover no similarity between the languages of any of the tribes of the immediate neighbourhood and that of the *Thibetians*; and it is difficult to imagine that, if intercourse ever existed with *Thibet*, it should have been entirely dropped, or that the barbarian *Mishmís* should ever have been suffered to become the only channel of communication with the parent country.

The *Múlúks* have already been mentioned as having a peculiar language. The mass of the labouring population is of the *Khaphok* tribe, whose dialect is closely allied to the *Singfo*, yet sufficiently different to cause embarrassment to both parties in holding conversé. In the language of the *Khanúng*, who inhabit the mountains to the N. E. and E., a few words are found resembling the *Singfo*, but it may be pronounced a distinct language. That of the *Khalang* tribe, whose villages on the *Namlang*, subject to *Manché*, will be spoken of hereafter, resembles the *Singfo* more nearly, as also does that of the *Nogmún* tribe, who are on *Nam Disang*. But none of these dialects are at all allied to the *Sham* or *Khamti*. This small tract, perhaps, affords an unparalleled instance of seven dialects being spoken at villages remote from each other, only one day's journey, which differ so much that the inhabitant of one would not be understood at the other. The difficulty which would arise, is got over by their all acquiring a sufficient knowledge of the *Khamti*.

* It may be proper to observe, that according to the LURI GOHAIN, the *Khamtis* speak precisely the same language (*Shams*) with the *Shams* of *Múngkhúng*, or those from beyond the *Irawadi*. It has not yet been ascertained, whether the *Siamese* language differs in any respect from theirs, or is materially the same.

The only important Geographical information obtained, was relative to the course of the *Irawadi* to *Bhammo*, and the large eastern branch falling in at about two days' journey above where the road turns off to *Múngkhúng*. This river had hitherto been a stumbling block in reconciling the accounts of the *Singfos* and *Burmans*. The latter appear generally to be unacquainted with it, which is to be accounted for simply by their turning off towards *Mognon*, having the *Irawadi* at some distance on their right; the *Singfos*, on the contrary, know nothing of the river below them, and their route towards *Asam* enters the *Húkúng* valley from the eastward.

Of the existence of the *Súhmai Kha*, *Pongmaï*, or *Sinmaï Kha*, (for by all these names it is known) there could be no doubt after the distinct reports of the *Singfo* Ambassadors, mentioned in an early part of this Memoir: the difficulty was to ascertain where it joins the *Irawadi*. The required information was now most satisfactorily obtained from CHOW NAN, the son of the last ruling *Khamti* Prince, and it was fully corroborated by a *Kháku Singfo* of my party, who had resided many years in that quarter, and some in *Yunan*. CHOW NAN had been twice by the route of the river to *Amerapura*, where he had remained several months in the character of Envoy, or perhaps of hostage. They gave me a skeleton map, showing the principal streams falling into the *Irawadi*, on the east bank, and the number of days' journey between each from *Manché* to *Bhammo*. They are of opinion, that the *Shúmaï Kha* rises in the northern mountains, at no great distance eastward from the heads of the *Irawadi*, but had no positive information. It is to be remarked, however, that the *Lou Kyang*, bordering *Yunan* on the W., makes it impossible, according to the maps of the Jesuits, that the *Shúmaï* can come from *China*. And the objections to assigning it a very distant source are, first, its want of magnitude, for it is not described as larger than the *Khamti* branch; the direction of the high range which would

require it to break through the most elevated ground in that quarter, and, in fact, the want of room.

Curiosity led us to be present at one of the weekly markets, which are regularly held on the plain outside the gate of the Stockade, and we were much pleased at the orderly manner in which the business was conducted, without any of the haggling and din of a bazar in *Hindustan*. We found two hundred or three hundred buyers and sellers assembled in a crowd, but separated into groups, for the sale of each particular article, so that a buyer could readily take his choice from all of the kind exposed. The currency of the country is the thin iron *da*, manufactured by the *Khanungs*: for some of these each comer exchanges his uncoined silver, weighing it carefully in little scales which he brings with him, and the *das* he again exchanges for the articles required. We observed for sale, dried fish, salt, fowls, eggs, pigs, ginger, onions, tobacco, lead, *das* manufactured from the former kind for use, and some few things more. The salt was of good quality, but excessively dear—about half a seer for a rupee's weight of silver.

On the 25th May, I paid a visit to the *Bura Raja*, to talk of our return, and was instantly promised a supply of rice and whatever else they could furnish for our journey. He smiled at my offer of payment, and answered, that he should be heartily ashamed to accept an equivalent for such trifles. His good will did not lead him to oblige so readily in another affair which we had to discuss with him. We had been given to understand, principally by our young friend, CHOW NAN, that the upper road to the *Phúngan* pass would be far preferable for us on the return, as it would save at least two days' journey, by avoiding the deep bend of the *Namlang* to the south, and present no more difficulty than the one we came, excepting that the trouble would have to be incurred again of opening a path through the jungles of the low ground, but that would be

fully compensated for by our ascending sooner out of the region of rank jungles and close underwood. The old man, when this was mentioned to him, allowed without hesitation, that the upper route is by far the best, and said he could not oppose our going that way if we were determined to do so, but he very earnestly requested that we would not, as he was anxious to prevent the *Singfos* from becoming acquainted with it, and indeed our own followers also, who might become competent guides to their more mischievously inclined neighbours. He said he both feared and hated the *Singfos*; and those of our party, were they not under our protection, should not return through any part of his country. To *Singfos*, he already owed the loss of the *Aleth* people on the *Namlang*, and it was because his *Khálang* villages are so near the foot of the pass on the upper route, that he felt so much anxiety at the present moment to keep that shut up, and if there were to be any intercourse with *Asam*, to make the high road the way we came. We had to state what appeared a satisfactory answer to his objections. That our own guides (and many more) were well acquainted with the forbidden path, and consequently that our travelling in it would scarcely affect the question. We had a sort of horror in recollecting the leeches, the *dámdúms*, and the mud and jungles of the *Phúngan*; but we promised to respect the wishes of the good old *Raja*, if he continued to hold the same opinion.

It is a singular custom amongst the *Khamtis*, that the principal amusement of their Chiefs is working in metals, in which practice renders them infinitely more skilful than the lower classes, who, perhaps, cannot spare much time from their labors in the field. Amongst the specimens shown us of their art, we saw a well-fashioned musket lock. Another, was a massive pipe-bowl of brass, which had griffins for supporters, very boldly designed. Both of these were executed by the *Bura Raja's* brother. Their ordinary silver pipes are of very neat workmanship. They were very curious about any little mechanical apparatus that

we had with us, and astonishingly apt in understanding it. At their desire, I opened the lock of my sextant box, and drew for them figures of its various parts, from which they assured me they should be able to imitate it. I also opened and explained to them the uses and connexion of the separate pieces of a musical snuff box, which I intended for a present to the *Raja*. They were highly delighted with it, but they expressed their fear that they scarcely understood it well enough, upon so hasty an explanation and inspection, to enable them, in my absence, to detect the cause of derangement, should it get out of order. I also gave a pair of Magnetic bars, which had excited their attention; not more by their property of giving direction to needles, than that of assisting in the detection of iron ores, which I exhibited to them by driving off the sulphur from some pyrites, the nature of which they had been ignorant of till then. They expressed great delight when I showed them that sulphur, for which they paid a very high price to petty *Singfo* traders, could be readily obtained, at small cost, in their own country. They immediately brought me the Galena, from which the *Khanúngs*, by a process which they kept secret from them, procure the silver, and they asked me for an explanation of this enigma, but it was too late to get cupels made, and I failed, from exhaustion, in attempting to oxidate it with nitre; before the blowpipe, however, I gave them such instruction as I could. They promised to manufacture a still, after my projected improvements, and as they are fond of their whisky, I dare say they will. It is rather singular, that their still resembles very closely the one described by TURNER, as common in *Bhotan*; it consists of a boiler, cut out of the soap stone, with a cylinder of the same material closely fitting on, and having iron bars at its bottom to sustain a small *China* bason. The top of the cylinder is closed by a concave dish of brass or copper, which is kept filled with cool water, that the ascending vapour being condensed upon it may trickle down towards the centre, and drop into the bason, which is placed there to receive it.

After the departure of Lieutenant BURLTON to *Kumtang*, whither he had removed to avoid the heat and inconvenience of the crowd, which aggravated his fever, I received a message from the *Bura Raja* to entreat me to comply with the wishes of the *Múnglang* people, who had arrived from their villages at *Námlang Múkh*, and were pressing him to use his interest with me to persuade me to visit them. Not understanding the cause of his anxiety, I went over, and learned that they had threatened him with complaints to the *Burmans*, and not he alone, but all those assembled, prayed me to avert the evil which might ensue, by gratifying these people. I in vain urged the length of journey we had to perform, and necessity of not delaying our departure, but thinking their motive might be a more interested one than that of giving their people an opportunity of seeing me, and themselves enjoying the pleasure of paying me attention, I tried the experiment of making a present, and found their eagerness immediately lessened. The *Raja* hinted his wish, that I would give them all I could spare. They soon after took their departure, and then instantly I saw some tablets produced, and the old gentleman and his council, with better recollection than I should have expected, made a list of my present, including every item. This, it was explained to me, was intended as a record to enable them, in case of the Chiefs of *Múnglang* accusing them to the *Burmans*, to shew that they also had been equal sharers in whatever had been given by us. The *Raja* afterwards candidly confessed, that he was anxious for our departure, and that it was at first his wish to furnish us with rice, and request us to return from the *Múlúk* villages, which he would have done, but for consideration for his relatives, the *Sadiya* and *Laong Goháins*, whom he might have subjected to our displeasure by such an act. He was under great apprehension that the *Burmans*, when informed of our visit, would suspect him of having invited us over, in order to arrange for the removal of the *Khamtis* into our own territories. I was happy to find that he no longer objected to our returning by the upper route.

According to promise, a specimen of the tea-tree was brought to me from one of the neighbouring low hills, it was a full grown one, that is, about five feet high; the leaves were coarse and large, and not numerous. Their mode of preserving it is to drive the leaves when fresh, by strong pressure, into a bamboo, and some salt, I think, was added. Several presents were offered me of things which would have been deemed curious, but I could not accept them, as I had not sufficient means of carrying even those things which were absolutely required.

On taking leave, all our friends accompanied me to some distance from the village, and the *Raja's* brother, called the *Palanseng Gohain*, was deputed to see us properly provided, at the *Moolook* villages, with a store of rice.

I observed on the return, that the hills between the *Irawadi* and *Namlang*, at least those on the road, are of mica slate: at the base, near the *Khokhao* rivulet, I saw some of the blocks of soapstone, which they employ for culinary vessels; it appeared to be *Nacrite*, it is extremely sectile, and is said to bear the strongest heat uninjured.

At *Námbak*, on the 31st May, we, for the first time, had an opportunity of observing some lunar distances, which, however, were not very satisfactory, as clouds interrupted us frequently at the moment, and prevented our getting corresponding altitudes in the afternoon for time, also the latitude of *Námbak*, was obliged to be inferred from that of *Khalang*. Plains, partially cultivated, extend to the *Khalang* villages, and about them there is an extended patch of fine rice fields. There are two villages, each of about twenty houses. The people are short muscular men, dressed in a very inferior style to the *Khamtis*. We were persuaded to halt one day, while a party went forward to cut the path. Of Lieutenant BURLTON's men, who had been left at the first *Múllúk* village, that they might

enjoy as long a rest as possible to cure their sores and swellings, three were still in such a state, that their proceeding with us was out of the question, and one of mine had absconded, so that we were at a considerable difficulty in arranging for the carriage of our small baggage, diminished as it was by the numerous presents given to the *Khamtis*, and were obliged, after a close inspection, to discard the smallest superfluity. As this was the period requiring most attention to their cultivation, we could not induce the *Raja* to give us men on any terms. The ulcers on our own hands and ankles, proceeding from the *dámdúm* and leech bites, would not get well. The former troublesome insect abounds to such a degree at *Khalang*, that it is wonderful the people can endure to live there. There is a very pretty temple situated a few hundred yards from the village, surrounded by a square court yard, which is neatly kept, and is planted with plum, peach, and other fruit trees. The latitude of *Khalang*, by a good observation of S. Urs. Maj. was $27^{\circ} 32' 23''$.

On the 2d June, at an early hour, we were fairly on our way to return, anxious enough to see our neat built house at *Sadiya*, with such comforts as it afforded, but by no means careless about the dismal journey which was to bring us there. The pretty little valley of the *Námlang* soon closed, and where two equal streams, the *Namseya* and *Phúngyún*, meet, and form the first-named river, we entered once more into a ravine of the mountains, where the eye rests on nought but inhospitable jungles, or the foaming torrent. At the point of confluence there is a bridge for the convenience, apparently of the *Mishmi** visitors, whose only route is by the *Namseya*. The bridge is a curiosity for its lightness and seeming instability. Its length is full eighty yards, and it is built of very few canes. The principal strength lies in the bunch of supporters above, on which

* The *Mishmi* route from the *Lathi* on the *Brahmaputra* to *Khalang*.

are threaded the elliptical rings which sustain the road-way, but this is of two canes only, and there are two only on each side to hold by.

The PALANSENG GOHAIN and his people, in the morning of the next day, informed us that we were actually upon the base of the *Phúngan* mountain, and here they left us, warning us that it was very uncertain whether we should find water that day unless we could reach the snow. I followed the example of some others in filling the joint of a bamboo, and suspending it by a cane to my shoulders, and we provided for our dinner, by wrapping up some ready-boiled rice in a plantain leaf. We plodded on up the steep ascent till we were heartily weary, resting but little, and guided in our exertion by our anxiety to reach the spot, where our guides had, on a former occasion, found a small pool,—careless of the advance of our people whom we soon left far behind. In our turn we needed, and found encouragement from the *Singfos*, whose hardiness enabled them to be always in the van, and who very little liked the idea of sleeping supperless. An apple was found on the ascent, of a delightful scent, but astringent to that degree, that it was impossible to bite twice at it. We saw no other novelty. From eight till past three, we continued our toil, and rejoiced to find the pool—it was muddy and filthy, but no matter—it was not dry. But this, with a pot of rice, for which we were indebted to the *Singfos*, and which we knew how to discuss without the aid of spoons, were our only luxuries—fatigue taught us to forget that we had no beds. The elevation of our halting place was eight thousand six hundred and eighty-six feet above the sea.

Many of the people had not arrived when we started again in the morning. We soon left behind us both underwood and forest trees—the only remaining plants were the *rhododendron*, and a bushy ever-green, growing about eighteen inches high, which it was very laborious to push

our way through: we mounted several peaks connected by ridges with the parent height, but from the commanding points, whence we ought to have had an extended view, we looked down on nought but masses of white mist and clouds. Mists also driving like rain, almost always obscured the view of the snows above us. The first snow we passed, was lying in small unconnected patches, but about two o'clock we came to the foot of a sheet which covered the whole apex of the mountain, and found that, since the naked-limbed guides and *Singfos* could not endure sinking up to the knee in it, we had to make a circuit to avoid the deepest bed. The very few trees towards the summit were junipers, but those upon the flat table, which forms the apex, were miserable things of four or five feet in height. According to report, from this elevated peak* the view includes not only the valley of the *Irawadi*, with the plains of *Húkúng* and *Múngkhúng* at an immense distance, but also the *Lama* country to the N.E.; however, far from enjoying these beauties, we only saw the dense mist, which, driven along by a strong wind, wet us to the skin. The guides being deprived of a sight of surrounding objects, became doubtful of the way, and we were detained for an hour trying the descent on all sides, till they agreed that the direction we had first taken must be the right one, and in that we soon found ourselves moving rapidly down towards the south, in a ravine filled with snow, below the crust of which the roaring of the head of the *Phúngan* rivulet was loudly audible. At half-past four, we had cleared the great sheet, and the snow remained only in patches; but our guides giving us no hopes of reaching a halting place having more advantages, we agreed to stay, where there was not a leaf but that of the fir, or rhododendron, to build our huts of—nor wood for fires, but that which was sodden and wet. We had luckily a quilt each and a rug. The rugs we stretched to branches

* The Barometer was set at three or four hundred feet below the summit; it gave the altitude above the sea 12,474 feet.

of the rhododendron, as some shelter from the penetrating mists. The cold, and novelty of their situation, deprived our people of all energy, and with our best exertions of encouragement and threats, we, with difficulty, got a fire lighted. One of our good-natured and willing guides agreed in the morning to go back, lest the traces left should prove insufficient to direct those in the rear, who were yet more numerous than those arrived. One poor fellow was found to have passed the night alone, on the very top—and for the remainder, the precautionary measure of sending back guides seemed to have been fortunate, for they were discovered wandering about the spot where our devious tracks showed that we ourselves had missed the road. At one o'clock there remained in the rear only four men, who were so much fatigued, that there was no chance of their conquering the mountain that day, or of their keeping up with us if they had; and, since the LURI GOHAIN was behind us, having halted another day at *Námbak*, we considered that there was nothing to apprehend in leaving them to follow at their convenience. The whole day was excessively cold and unpleasant, the heavy mists and drifting rain continuing without intermission. We would have removed to better quarters, but were informed that no such were within some hours' march.

Leaving the *Phúngan* on the morrow, we mounted the wall on its right bank, and there, while descending the ridge which divides the waters of the *Irawadi* from those of the *Brahmaputra*, a transient clearness gave us a view of our old halting place on the *Dapha*, which we could not perceive without great delight. A short march brought us back into our old path at the crest of the *Phúngan* pass; it ought not to have been fatiguing, as it was generally on the descent, but it became so from the kind of jungle we had to make our way through, or over—for often the boughs of the rhododendron were so closely interwoven, that we stepped from one to another, four and five feet elevated above the ground.

The 'Diamond' of the *Wanglèo* afforded us, as before, water for one meal; we reached it with difficulty in one day from the *Dapha*. Thence also to the *Dihing*, our anxiety to return to a place of rest made us perform the journey (mostly down hill) in one day; but the effects upon us of descending so rapidly from a region of cold to the scorching heats of the low country was so severely felt, that we passed a miserable night on the banks of the *Dihing* without sleep, and Lieutenant BURLTON has preserved a note, that the pulse of one beat one hundred and forty-six, and of the other one hundred and thirty-five, in the minute, while we were in that restless condition.

We crossed the *Dapha*, as before, by the suspension bridge, and there we were informed, to our great satisfaction, that the Bfsa GAM had letters and a parcel for us. I mention this to introduce an instance of *Singfo* duplicity. At *Kasan* we halted an entire day, to send a messenger to Bfsa for our letters, and we rewarded him when, in the evening, he returned with the answer, that, at an appointed place on the *Dihing*, the Bfsa GAM would attend in person to deliver them. There we stopped, and were disappointed; but we afterwards learned that our most worthy messenger had done what many fire-side travellers take the liberty of doing. He was contented with performing the journey while smoking a pipe in his own hut.

The river was pretty full, and the rapids consequently very boisterous; but after descending the first and worst of them, with the precaution of lowering our boats gently down the smoother side, we shot the rest with immense rapidity, and in one day and a half from *Kasan* we landed at *Sadiya*.

Of those who set out with us on the return, all arrived safe; and of those of Lieutenant BURLTON's men who remained, one also found his way back with another party. I am not aware whether they have all returned to their own country.

APPENDIX.

No. I.—ROUTE FROM GOHATI TO MURSING GAON:—See p. 325.

1st day. From *Darang* to *Chatgári* occupies two, *pahars*, and the direction is nearly north.

2d. To *Kariyapar*, direction north, two nullahs are crossed, and the road passes through much jungle ; this is considered a full day's journey.

3d. In a north-westerly direction to *Gúngaon*, the road through jungles abounding with wild elephants.

4th. *Amarathal*, within the hills, is reached in two *pahars* with difficulty ; the road is through hills on the banks of a nullah, which is repeatedly to be crossed by a bridge of one plank. *Amarathal* is rebuilt every year. The violence of the rains destroys the houses, and renders the roads impassable, and the force of the mountain torrents sweeps away the bridges. Direction north.

5th and 6th. *Bagahgaon* is considered one day's journey, but it was found impossible to reach it on the fifth day, on account of the steepness of a mountain in the road. In this hill there is a cave, in which fifty or sixty men can find room, and here our travellers rested. The remaining part of the distance occupied but a short time the next day. The village is on a hill north of the road, but travellers rest in two or three houses situated below. They build here of stone, and roof with mats. They eat wheat flower, which is prepared by heating and mixing it with water, rice, either boiled or heated with a kind of oil which sells very dear, and *kampa gondi*, the seed of which, a little larger than that of

the poppy, is yellow (the pod black); this is made into a paste with water. Goat's flesh is eaten—but neither that of fowls, hogs, or bullocks. Direction north.

6th and 7th. *Narigaon* was also reached in two stages, though it might be made in one with great difficulty. The halting place is a cavern in the hill. Thus far the road is on the banks of a river, sometimes on the bed of it, sometimes on the hill's side; at *Narigaon* it is left to the south. The village is on a high hill; the direction, during the first day, is north, and, on the second, north-east.

8th and 9th. Thence in a north-easterly direction, to the bend of the nullah above mentioned, the road passes between two mountains, and the dangers and difficulties are many; it is scarcely three feet wide, and is ankle deep in mud in many places; it is made with wood. The stage is not a long one; but owing to the bad state of the road, it is not possible to advance more than two or three kos a day.

The direction, on the second day, is first east, and then due north to *Mürsinggaon*, which is situated on the north bank of the *Bhúruli* river. Many villages are seen to the south; their food is the same here as above stated, but the rice they use, being brought from *Asam*, is very dear; there is very little cultivation.

10th. Hence two kos, a little north of east, is *Dúmkúgaon*, on a nullah; and two kos again beyond that, the *DEB RAJA* was found encamped in a garden, on the water's edge. Here and there snow was seen on the mountain, and water flowing from it.

Tawang is three days' journey from the *DEB*'s encampment, and respectable *Tawang* people said that *Súnea-hath* is three days further; thence there are two roads, one towards *Nepal*, the other north to *L'hassa*, under the *KULITA RAJA*, which is fifteen days' journey. From *L'hassa*, in fifteen days, a province of *China* is reached, either by water or by a land route. The boats used are of leather, on account of the number of rocks met with. At the end of a stage the leather boat is hauled up and dried. By land, it is requisite to carry provisions for the fifteen days, as the hills are not inhabited. There are on the road elephants, rhinoceroses, tigers, and many other animals.

Tawang is said to be in the upper part of the *Bonash*.

No. II.—BOGA DAMRA'S ACCOUNT OF THE FLOOD OF THE
DIHONG:—p. 326.

“ In 1657, (A. D. 1735) two rivers flowed into our country. There were formerly two *Cachári* villages at the mouth of the *Senglaí* river, near the *Dihong Dipang*. Belonging to these villages were two *bils*, (lakes) the names of which were *Diha Darúa* and *Dibangiya*: the *Senga Senglaí* flowing from the *DURIYA GOHAIN'S* country into these two *bils*, takes the name of *Dihong Dipang*. The *Senglaí* river flowing from the *Kulita* country joins the *Dibong*. Boats cannot navigate the *Dihong* to the mouth of the *Senglaí* on account of the numerous rocks, but by going forty days up the stream of the *Dibong* it may be reached, and thence to *Kulita* is twelve days' journey. The *Senglaí* is not navigable.

From *Sadiya* to *Kulita* is a journey of forty-two days and six hours, in the middle of the way the route lies through hills, where the dense jungles make it very difficult to proceed,

From the *Abors*, a distance of nine days, are the *Bibors*; from the *Bibors*, a distance of three days are the *Jiobars*. From the *Jiobars*, distant seven days, are the *Barkanas*,—in the whole, the distance occupies, as above, forty-two and a half days to *Kulita*, which is three days' journey beyond the *Barkanas*. There are, on the whole, twenty-four hills and eleven large torrents, besides innumerable small ones; but the passage by the hills is impracticable on account of the hostile disposition of the *Barkanas*.* the products of *Kulita* are elephants' teeth, “*búrisar*,” copper vessels, *bor bis* and *sengúmúri bis*, (two kinds of poison) “*Gathiyan*,” silk, musk and chowree tails.

North-westward from *Kulita*, distant nine days' journey, is the country of the *KIBONG GOHAYN*. The *Duriya* country is distant from *Kibong* five days' journey. The *Dihong Dipang* flows from betwixt the countries of *Kibong* and *Duriya*.”

* *Barkanas*, large-eared—the *Asamese* are as confident of the existence of this tribe as of that of the fabulous *Sri Lohit* and its three branches, (*Brahmaputra*, *Dihong*, and *Irawadi*.) Those who are not remarkably credulous, represent the ear as merely hanging down to the waist, while others are positively informed, that at night the left ear serves as an ample bed to sleep on, with sufficient to spare to wrap the body up in. Lieut. W.

It is curious that this notion should be still in existence, being now as old as the days of *Megasthenes*: it proves also, that he did not invent the fiction, but honestly repeated what he had heard in India.—H. H. W.

No. III.—NOTE ON M. KLAPROTH'S THEORY OF THE COURSE OF THE SANPO.

Since my labors have not terminated so successfully as to furnish absolute proof of the identity or non-identity of the *Sampo* and *Brahmaputra*,* I might leave it to others to form their own opinion upon the data furnished them in the foregoing part of my Memoir; for I do not suppose that many will incline to follow M. KLAPROTH, in claiming infallibility for the *Chinese* authorities quoted by him. However, while stating the few facts which I have yet to mention, I shall embrace the opportunity of pointing out, at the same time, what circumstances have materially contributed to strengthen M. KLAPROTH'S arguments; and on the other hand, I shall endeavor to collect the evidence, (in my opinion very strong,) which, at all events, deserves to be weighed against the assertions of the *Chinese* Geographers.

With respect to the weight to be attached to their opinions, M. KLAPROTH himself says, "ceux d'entre eux qui écrivent sur la géographie donnent constamment des détails si minutieux qu'on ne peut douter qu'ils ne connoissent pas le plus grand fleuve de leur empire." But since his *Mémoire*† cannot be had access to by many, it appears in every way advantageous to extract from it here the quotations by which he supports his arguments. He says:—"voici un extrait de la grande géographie impériale de la Chine qui fera voir que le cours inférieur du Yareu-dzang-bo-tohou du Tibet, ou de l'Iraouaddy de l'Ava étoit depuis long-temps connu des Chinois, et qu'ils l'appelloient Tā-kin-cha-kiang. La géographie de la dynastie des Thang l'exprime ainsi:"—il porte aussi le nom de Tsang (ou Dzang); les habitans du pays du Tian (le Yunnan) l'appellent Ta-kin-cha-kiang. Il vient de la partie la plus occidentale du Tibet. Selon la géographie du Yunnan, le grand Kin-cha-kiang vient du Tibet, entre dans le pays de Miantian ou Ava, à cinq li de largeur et va se jeter dans la mer. Houang-tohu-yuou, ancien auteur Chinois dit:‡ "———On dit que les sources du grand Kin-cha-kiang ne sont pas très éloignées du pays de Ta-wan (La Bactriane). Depuis les monts Lima et Tehha-chan jusqu'à l'extrême

* The name Lohita, might perhaps be substituted with advantage when referring to the "*Brahmaputra* of Geographers," since it does not appear that it is properly applied to the Sacred or Eastern Stream.

† "Sur les Sources du *Brahmaputra* et de l'*Iraouaddy*."

‡ I extract what relates to this river only.

frontière septentrionale de Meng-yang (dans le Yunnan*), ou ne connoît pas bien son cours : il passe par le pays d'une tribu des sauvages nommés les Cheveux roux (Tchhy-fa); ses bords y sont si escarpés qu' on ne peut pas y grimper. La grande géographie de la Chine, qui cite ce passage, ajoute: Parmi les rivières qui passent par la partie du pays des Meng-yang (I) hérissé de montagnes et presque inaccessibles, il y en a deux très-grandes qui viennent du nord-ouest, l'une s'appelle Ta-kin-kiang ou Ta-khin-kiang, et l'autre Pin-lang-kiang. Elles se réunissent, et portent aussi le nom de Ta-i-kiang: de nos jours les habitans du district de Theng-yue donnent généralement à toutes les grandes rivières le nom de Ta-i-kiang. Les gens du pays appellent ce fleuve Kin-cha-kiang (à sable d'or). On trouve dans son lit le Yu ou jade oriental, de couleur verte, de l'or en grains et en paillettes, la pierre précieuse appelée tsing-chy, du noir, du cristal de roche et quelque fois aussi du Yu blanc. Aux pieds des montagnes qu' il traverse, on recueille aussi de l'ambre jaune. Les habitans du Tian (Yun-nan) appellent ce fleuve Ta (grand) Kin-cha-kiang; le Siao (petit) Kin-cha-kiang, au contraire, est celui qui passe à Li-Kiang, &c. En sortant du pays de Meng-yang, ce fleuve coule au sud, passe devant Houang-meng, Ma-than, Mo-tsy et Meng-tohung, ou il reçoit une rivière qui vient de l'ouest: il baigne Pho-pha, Tsimeng et Momang, villes anciennes, coupe la frontière (de ce temps), et va à Man mo.—Il n'y a aucun doute que ce fleuve ne soit le Yarou-dzang bou du Tibet ajoutent les éditeurs de la grande géographie impériale.”

The quotation from Houang-tchin-yuan ancien auteur Chinois is an *on dit*,—but what does it assert more than that between two distant points, one situated in Thibet, the other on the borders of Yunnan—the course of certain rivers is unknown. The *onus probandi* still lies with Houng-tchin-yuan, to show that the river lost sight of in Thibet, is found again near Yunnan†.

La Géographie de Yunnan cited proves no more, nor does the first quotation, as they seem all to rest upon the same grounds, and I need scarcely remark that the addition of

* A note is given by M. Klaproth (1) and it does not appear whether (“ dans le Yunnan”) is his addition or not “ (1) Ce pays étoit situé en dehors de la frontière la plus occidentale au Yunnan actuelle.

† The Chinese geographers seem to have been in precisely the same predicament with ourselves in respect to this river. They lose sight of the *Sampo*, so do we; they find a large river near their own borders, we find a larger; and we each declare that we have found that which was lost. The case is very similar also to the dispute between Mr. McQueen and the Quarterly Review, on the question of the *Niger*. One finds a proper and reasonable outlet for it, which would give it an allowable length of course; the others are not (or were not) so easily satisfied, but conveyed their river circuitously about, contrary to all reason.

the *Editéurs de la Grande Geographie*, 'Il n'ya aucun doute,' induces a very great deal of doubt, as it appears that they draw their conclusion from the scanty evidence they place before us. The account, however, of the *Tu-kin* and *Pin-lang*, is of a very different stamp, and in it we recognise an accurate description of the *Irawadi*, as it really exists. To this day, there is a considerable trade carried on by the *Chinese of Yunan*, chiefly for the sake of the articles enumerated above, as found in these rivers. The amber mines of the *Kagnduayn* have been long famed for the quantities of amber produced. The green stone (*yu*) is found in most of the branches of the *Irawadi*—(I brought a specimen from *Man-ohé*, which was found in the *Phungtan*)—and the *Uru* produces a stone, the nature of which we could not exactly ascertain from the *Shams*, for which the *Chinese* pay a large price*. It is to be remarked, that hitherto it has not been asserted that the river of *Thibet* enters *Yunan*; but to prove this, M. KLAPROTH cites "une ordonnance de *Khang-hi*," published in 1721. I give the extract relating to this river at large.

"Il y a encore une autre riviere qui passe par l'extreme frontiere du Yun-nan, c'est le *Pin-lang-kiang* (fleuve de l'Arc). Sa source est dans le *Nyari* province du *Tubét*, à l'est du mont *Gangdis* sur le mont *Dumdjouk-kabal*, c'est à dire bouche de cheval. Ce fleuve recoit plus bas le nom de *Yarou-dzangbo*; il coule généralement vers l'est, en déviant un peu au sud; passe par le pays de *Dzangghe* et la ville de *Jikar gounngar*; recoit le *Guldjao-mouren*; plus loin, se dirige au sud, traverse une contrée habitée par des hordes non soumises, et entre dans le *Yunnan*, près de l'ancienne ville de *Young-teheon*; il y porte le nom de *Pin-lang-kiang*. Il quitte cette province au fort de *Thie-py-kouan* et entre dans le royaume de *Mian-tian*."

I have already mentioned that this *ordonnance* was published in 1721; however, the *Jesuits* were employed in *Yunan*, in constructing their map of the province in 1714 and 1715, and they have neither introduced the *Sampo* into *Yunan*, nor had their inquiries elicited any satisfactory information concerning its course after leaving *Thibet*. P. REGIS himself says, (he probably wrote after the year 1721,) † "Mais, ou va se decharger le grande fleuve *Tsanpou*? C'est sur quoi on n'a rien de certain. Il est vraisemblable

* One species of stone they require to be sawn in two, when they immediately decide to reject it as worthless, or to pay a large sum for it.

† Description de l'Empire de la Chine.—p. 585.

qu'il coule vers le golphe de Bangale car du moins on scait surement que des limites du Thibet il va Sud—ouest à la mer, et que par consequent il coule vers Aracan, ou pres de l'embouchure du Gange dans le Mogul."

That the Jesuits visited the *extreme* frontier, we have evidence in their table of *observed* latitudes, in which we find *Loughan-kouan*, which is in the *extreme S. W.*, "Lat. 23° 41' 40", "Long. 118° 32' 00", (west of *Pekin*). *San-ta-fou* is not included in this table; but we may infer, from their informing us that its position is the result of several triangles, that they were within sight of it, if not at the place; still, however, between *San-ta-fou* and *Teng-ye-chew*, distant from each other about forty-two miles only, and of which the position of the last was *observed* (both latitude and longitude*), does M. KLAPROTH venture to introduce this immense stream, which, in the words of le P. "GAUBIL, is beaucoup plus considerable que le Houaug-ho et le grand Kiang"—"C'est la plus grande riviere que les Chinois connoissent."

It is the more unfavourable to M. KLAPROTH'S theory and argument, that he has adopted the *Bhanmo* river as the channel for the *Pin-lang-Kiang*, for we have such easily accessible proof that it is but a rivulet. Perhaps M. KLAPROTH had not seen Dr. HAMILTON'S interesting accounts of the maps procured by him at *Amerapura*: he would have observed† that the (*Burmans*) *Mranmas* distinguish the *Banmo* river as a *Khiaun*, or small river, in contradiction to *Myest*, which is their term for a large one. The *Chinese* word *Aho*, (which is applied by them to the *Banmo* rivulet,) has the same signification, according to Dr. HAMILTON.‡ I have long been aware, from the accounts of *Mranmas*, *Shams*, and also of the *Chinese* from *Yunnan*, mentioned in p. 350 of this Memoir, that the *Banmo* river is one of very small size. But I can venture to assert roundly what is more to the purpose. I rest upon the same authorities, and I have examined, at various times, at least a dozen men of the nations mentioned, besides *Singfos*, who are in the habit of visiting the western part of *Yunnan*; that below the mouth of the *Munkhung* river, which I place in latitude 24° 52', the *Irawadi*§ does not either enter or proceed from *Yunnan*.

* They therefore remained at *Teng-ye-chew* some time.

† "Account of a Map of the Route between *Tartary* and *Amarapura*."—*Edinburgh Phil. Journal*, p. 35.

‡ Ditto—page 36.

§ The *Irawadi* of Geographers—i. e. the principal stream.

Though perfectly satisfied on this point from having been so long and so often engaged in the inquiry, I have recently questioned a *Burman* attendant, who has been with me since the capture of *Rangpur*, and who came from *Amerapura*, his native city, by the route of the *Irawadi*, striking off where the *Mogaun*, or *Mungkhung* rivulet joins the great river. This man,* in answer to my simple question as to the size of the *Bhanmo* river, immediately replied—as large as the *Dikho*, (the little stream running past *Ghergong*, and *Rangpur* in *Asam*.) and he positively denies that any river joins the *Irawadi*, as far up as he has seen it.

“ I was assured by the Officer who gave me the account of the Map here published, and who, as belonging to *Panmo*, on the frontier of *China*, must have been perfectly well informed, that the *Irawadi* † or *Kiang nga* never enters the province of *Yunnan*, but keeps far to the west of it, the whole principality of *Panmo* being interposed.” (HAMILTON, p. 36 of his Account.)

In answer to this, M. KLAPROTH could not again remind us that though this may be true of the *Irawadi* of the *Mranmas*, it may not be so of the “ *Irawadi* of Geographers;” he would be well aware that the latter was understood and intended by Dr. HAMILTON, who perfectly well recollected the story of the four *Chinese* of the *Universal History*. I do not think it worth while to enter on a discussion of their travels. ‡ HAMILTON has said enough on the subject; but indeed it appears to me that citing such authority, or the “ *renseignemens authentiques*” of our great Geographer RENNELL, is wilfully recurring for information to a period when much of what is now perfectly understood was the subject of mere conjecture.

I was assured by a party of *Shams* from *Yunnan*, that there is no river to compare with the *Sadiya Brahmaputra*, within thirteen days' journey of *Banmo*. The river alluded to by them at that distance, appears to be the *Lan-tsan*, or *Kianlong-kiang*. The *Nou-kyang* is, as we are told by HAMILTON, much inferior to the *Irawadi* at *Bhanmo*,

* He has often shown considerable intelligence in geographical matters.

† It must not be forgotten, that while Dr. HAMILTON was pursuing these inquiries at *Amerapura*, there were there some *Chinese* Ambassadors from *Yunnan*, who also gave him information.

‡ They might have embarked on the *Bhanmo* river.

which is described to me as larger than the *Sadiya Brahmaputra*, but inferior to the great united stream of the *Lohit*.

If it were incumbent on me to mention every statement with which M. KLAPROTH has thought to strengthen his arguments, I should have to quote P. GAUBIL'S (mere) opinion, that M. D'ANVILLE was right in placing *Ava* on the great *Yarou Ssanpou*—(he does not say a word about its entering *Yunnan*)—and the evidence of the maps published during the reign of KHIAN-LONG, on which it is written in *Manchou** characters, opposite to where the *Dzangbo-tchou* or *Yarou Dzang-bou-tchon* leaves *Thibet*, that this river passes through the country of *Lokabadja* (or *H'Lokba*), and enters *Yunnan*; but, as I have proved satisfactorily, I hope, that so important an error has been committed on this point, surely that whole mass of evidence will no longer be thought trustworthy.

However, in justice to M. KLAPROTH, I must draw attention to the large eastern branch of the *Irawadi*, called in my map by its *Singfo* name, *Shúmat kha* †—I ask, had M. KLAPROTH been aware of the existence of this considerable river, should we ever have heard of the *Pin-lang-kiang* in *Yunnan*? or seen the petty *Banmo* rivulet magnified into a mighty stream? I think not; and those who inspect my map will agree with me. With regard to the origin of the *Shúmat kha*, I have no positive statements to offer; the *Singfos* are generally of opinion that it is something larger than the western branch, though not materially, and it seems not at all improbable that it is the river mentioned by the old man who was captive amongst the *Lamas*, as rising in the snowy mountains of the *Khana Deba's* country, and flowing to the south near where he saw the source of the eastern branch of the *Dihong* turning to the N. W. ‡

If the opinion of *Mandchous* and *Chinese* be deserving of confidence, is not that of the *Thibetians* resident upon the *Sanpo* equally so?

* These maps have led M. KLAPROTH into an error, acknowledged by himself—for he corrects it in his second map. It is written similarly in *Mandchou*, opposite the "*Moun-tchou*," that it unites with the *Yaron Dzangbo* in *Lokabadja*. M. KLAPROTH now considers it to be our *Dihong*.

† The *Léphat Singfos*; it is also called *Sinmat-kha*.

‡ Vide p. 411 of this Memoir.

A party of *Bhotiya* and *Lhasa* merchants, one of whom had travelled from *Lassa* to *Pekin*, assured Mr. SCOTT at *Darang*, in *Asam*, (in 1826), that the *Brahmaputra*, on the banks of which they then stood, is the *Tsanpo*, or large river of *Thibet*. From *Nipal*, we understand, that the *Thibetians* always assert the same thing, and referring to TURNER for the opinions he derived from them at *Teshoo Lomboo*, we find a degree of accuracy in their idea of the river, which was not to be expected.

“It passes *Lassa*, and penetrates the frontier mountains that divide *Thibet* from *Asam*. In this latter region it receives a copious supply from the sacred fountains of the *Brahmakoond*,* before it rushes to the notice of Europeans below *Rungamutty*.”

The evidence derived indirectly from the *Thibetans* at the sources of the *Brahmaputra*, has already been recorded, p. 410 of this Memoir, and this, as I have there observed, deserves consideration more particularly, since those people must be perfectly aware whether or not they are divided from the rest of *Thibet* by a large river. However, they not only deny the existence of such river, but inform us positively that the *Lhasa* river is the same as the *Dihong*.

I shall proceed to examine how far M. KLAPROTH derives advantage by supporting his view with arguments from Physical Geography.

He concludes that the great periodical rise of the *Irawadi*, and its rapidity of current, can only be accounted for by assigning it a distant source in the snows of *Thibet*.†

* We had not at that time any notice of the *Kund*.

† He refers us to “Two years in *Ava*, p. 233.” The Author of that clever little work hazards the opinion that the sudden “risings of the river are attributable to the melting of the snow, in the mountains of *Thibet*: for although the *Irawadi* derives a vast supply of water from the numerous streams which flow from the *Yemadoug* and other mountains, yet it is impossible they could be so rapidly swollen by the rain as to create this sudden increase of water.” Surely a sudden increase is more likely to proceed from rain than from the gradual melting of snow. This Author further inform us, that the periodical risings are generally three in number in one season, and that the last is the forerunner of the river’s ebbing to its lowest state. BUCHANAN says, that it began to fall on the 17th September. Then the last sudden rise occurs at a period when we know that the snows suffer very little further diminution. After the rapid thaws of May and June, there remains no great portion of the mass of snow which is situated within reach of the sun’s influence.

I shall show, on the other hand, that analogy furnishes us with the conclusion that within the limits prescribed by my researches to the sources of the *Irawadi*, there is sufficient space for the formation of a river of great magnitude, and the question will then appear to hinge upon this point. What is the magnitude of this river compared with others.*

We have certainly been told that, in the rainy season, it would be impossible to make way against its impetuous current, were it not for the strong southerly breezes which then prevail; but to those who are acquainted with the *Ganges* and *Brakmaputra*,† this is saying no more than that it resembles those rivers in the periodical difficulties of its navigation: and when we further recollect that the *Irawadi* is, in one place, contracted in breadth by its high banks to four hundred yards‡ (of which we have no similar instance in the others§) we cannot consent to allow that the difficulty of stemming its current is a convincing argument of its *superior* importance.

“ During the dry months of January, February, March, and April, the waters of the *Irawadi* subside into a stream that is barely navigable: frequent shoals and banks of sand retard boats of burthen.”|| “ I see here,” says Dr. BUCHANAN in his Journal, “ some boats poled along in the very middle of the river, where there does not appear to be more than six or eight feet water: It is deeper, however, towards the steep bank.” Dr. HAMILTON¶ says of it generally, that it is equal to the *Ganges* or *Brakmaputra*, and I am not aware that any one has rated it higher, but Officers, whom I have questioned on the subject, who had sufficient opportunity of forming a judgment during their long sojourn on its banks, in the course of the late war, compare the *Irawadi*, above its junction

* It is to be regretted that those who had the opportunity did not give us a section of the *Irawadi*, and the velocity of its current.

† The latter particularly.

‡ Two years in Ava.

§ Immediately below *Gohati*, hills confine the *Brahmaputra* to the breadth of one thousand two hundred yards, the narrowest in its course through *Asam*; there, in the rainy season, boats are necessitated to be moored till a westerly breeze springs up of force sufficient to carry them through the narrow strait: but there is often great difficulty even where the river flows in an open bed. When coming down the river in the latter end of October 1825, I saw a fleet of Commissariat boats (at that time very much required with their supplies for the army) which had been twenty-five days between *Goalpara* and *Nagharbera* hill, a distance of thirty miles, and there was no remarkable wind to impede their progress.

|| Symes' Embassy, p. 24, ed. of 1800.

¶ Vol. 3, Edinburgh Philosophical Journal, p. 37.

with the *Kenduayn* to the *Ganges* opposite *Futtehghur*, and consider it generally as very inferior to the *Ganges*, where having received its vast supplies from the *Goggra* and the *Soam*, it spreads its great breadth over the plains like some great inland sea.*

But I am not anxious to deny high rank to the *Irawadi*. I am only jealous of its taking precedence, without authority, of its noble compeers.

I may assume, I believe, that the magnitude† of the rivers of similar countries bears always some proportion to the space‡ drained, so that knowing the extent of country, an estimate might always be formed of the comparative magnitude of its rivers : provided, however, that the similarity of the districts compared, extend to the climate as well as other physical features.

For comparison with the district drained by the *Irawadi*, particularly on the upper part of its course, no country could be more happily selected than *Asam*, similar to it, as far as we are informed, in every particular. The elevation not materially differing, the rains commencing at the same season and equally abundant, the same large proportion of hill tract to plain country, and high mountain ranges, supplying in each the distant sources of their larger streams.

Asam, with its bordering districts, including from the meridian $90^{\circ} 30'$ of longitude on the west, to the heads of the sacred *Brahmaputra* on the east, and from the crest of

* This evidence would carry greater weight were I at liberty to name my authority. I would not rest much, however, on what must necessarily be so vague as any person's opinion of the comparative magnitude of rivers when formed without sufficient data.

† Limiting the sense of magnitude to the more legitimate one as applied to rivers.

‡ It does not appear of much importance whether the extent drained be considered, or the actual lengths of the courses of the rivers, as it will be found that these bear a near proportion to each other; for instance, the *Ganges*, down to *Allahabad*, drains 7.9 square degrees; the *Jumna* to the same point, drains 27.1 square degrees; the proportion is 1 to 3.43. The sum of the lengths of the rivers forming the *Ganges* to *Allahabad*, is two thousand three hundred and fifty miles, and of the *Jumna*, ten thousand and seventy, which give the proportion 1 to 4.28. It is not pretended that these measures are accurate. They were made on CARY's large map, and another on a larger scale, would exhibit more water-courses. For the number of rivers introduced in a map, much must depend on the mode of survey, whether detailed or not; in this, probably, the central districts watered by the contributors to the *Jumna* have the advantage.

the *Himalaya* ranges,* (which generally deviate between the 28° and 29° parallels of latitude,) on the north to the line, (which can be traced without the hazard of much error) separating on the south the sources of the rivers contributing to the *Brahmaputra* within these limits, from those flowing in the opposite direction, is an extent of about 15·3 square degrees.

The *Irawadi*, according to my map, drains up to the City of *Amerapura*, 13·9 square degrees, excluding, of course, in this estimation, the whole tract whence the *Kaynduayn* draws its supplies.

Then, were the *Sanpo* supposed to contribute to neither of these rivers, it would be fair to compare the *Brahmaputra* at *Goalpara*, with the *Irawadi* at *Amerapura*:—but who will venture to do this? Add, in imagination, the *Sanpo* to the *Irawadi*, and then by how large a quantity† ought the *Irawadi* at *Amerapura*, to exceed the *Brahmaputra* at *Goalpara*—but who of those who have seen the two rivers, shall we find willing to grant the possibility of such excess, or who will not indeed assert the reverse as the fact.

We can easily estimate the quantity of water drawn by the *Brahmaputra* from the tract within the limits mentioned, since we know the entire discharge at *Goalpara*, and also the discharge of the *Dihong*, the *Dibong*, and the *Brahmaputra*, separately in the neighbourhood of *Sadiya*.

In January 1828, the quantity of water discharged by the *Brahmaputra* at *Goalpara*, including the *Bonash*, was, per second, Cubic feet, 1,46,188.‡

* *Thibet* and the *Sanpo* altogether excluded.

† The quantity to be added is not so great as might without consideration be anticipated. It must be recollected how small a quantity of rain falls in the elevated region of *Thibet*. We are informed that in parts of that country, neither rain nor snow are known to fall, and that some mountains, of the great elevation of thirteen thousand feet (seventeen thousand ?) are never covered with snow.

‡ An account has been given of the manner of taking this Section, and of computing the discharge.

Brought forward, 1,46,188.

| | |
|--|--------------------|
| Captain BEDFORD gives the discharge of the <i>Dihong</i> , at the same season of the year, fifty-six thousand five hundred and sixty-four feet, but the small rivulet, called the <i>Lali</i> , is here included, say..... | 56,000 |
| Remain | Cubic feet, 90,188 |

Here then is proof, in an instance of the fact, that in a country (and climate) similar to *Asam*,* of the extent of 15.3 square degrees, a river of such importance as one discharging, when at the lowest ebb, ninety thousand cubic feet per second, may have its origin.

RENNELL has stated the entire discharge of the *Ganges*, in the dry season, at eighty thousand cubic feet; but he has perhaps overrated it since the quantity of water flowing past the City of *Benares* in April last, was found to be no more than sixteen thousand † or seventeen thousand feet per second.

But the whole extent drained by the *Irawadi*, including its several contributors down to the head of the Delta, or to the point where it remains an undivided stream, is thirty-three square degrees: it follows that, without claiming a larger space for the origin of the *Irawadi* than what appears due to it from the result of my researches, the probability is in favor of its discharging in the vicinity of *Prome*, in the dry season, upwards of one lack and eighty thousand cubic feet per second, or that it is there larger by one-fourth than the *Brahmaputra* at *Goalpara*.

I regret that I want data for continuing the comparison through the rainy season. The only fact that I can state, connected with a rise in the *Brakmaputra*, is, that on the 2d May, 1825, when a considerable extent of its sands yet remained uncovered, it discharged three lacks and seventy-five thousand cubic feet per second, above the mouth of the *Dikho* river, to which must be added (say) forty thousand feet, for the *Borí Lohit*, which separates from the main stream a few miles up the river.

The objection has been made that the *Sanpo*, where it is lost in *Thibet*, is necessarily a very large river, and on the other hand, that the *Dihong*, where I last saw it within the

* And the contiguous territories.

† For this information, I am indebted to the kindness of J. PRINSEP, Esq.

mountains, is too small to be the channel of such a stream. The first part of this objection has been answered in a foregoing note, but much more might be adduced to *prove* that a river having its rise in and flowing through that arid and elevated tract, must be very inferior in comparison with one draining a country with a moist climate; but, indeed, the *Sanpo*, up to the ninety-seventh degree of longitude, drains a smaller space than the *Ganges* to *Benares*, the former being 33·8 degrees* and the latter 37·0 degrees, yet it is considerably larger. The second objection has also been met in a note to a former part of this paper. True, the *Dihong* was but one hundred yards† wide, yet the steep slope of the mountain's sides induced an impression that the bed must possess immense depth: but pursue the question to calculation, and all appearance of difficulty vanishes. Suppose the discharge still fifty thousand feet per second, and the mean velocity of the current at that spot three miles per hour, the mean depth required to give that discharge is but thirty-seven feet—the *mean* depth in the dry season at *Goalpara*, where the breadth is twelve hundred yards, is twenty-one feet, and the depth of the principal channel there thirty-three feet. And supposing the discharge the same, and the velocity no more than two miles an hour, the mean depth required is but fifty-five feet: also, I conceive, far within the bounds of possibility.

It must not be forgotten, that to connect the *Sanpo* with the *Irawadi*, according to M. KLAPROTH'S view, not less than four hundred and fifty miles (by the most direct possible route) must be added to the course of the *Sanpo*, over and above what is necessary to connect it with the *Dihong*. This is not his only difficulty: in addition to those I have already stated; his second map still requires considerable alterations in longitude to bring in my Surveys, cramping still more the crowded streams, which, with most unnatural parallelism, crawl in nearer contiguity than is known in any other part of the world, through his map, between the sources of the *Brahmaputra* and *China*.

Notice has already been taken, in an excellent article ‡ on the subject, in the *Oriental Quarterly Magazine*, that M. KLAPROTH was entirely mistaken in supposing that TURNER

* Including from the highest ridge of the *Himalaya* to the thirty-first degree of latitude, sometimes a little more. M. KLAPROTH'S map would give it less space.

† The breadth is said to be greater further within the hills. I have seen a cane bridge, of eighty yards length, over the *Brahmaputra*. The *Abors* declare that the *Dihong* is always too wide to admit of a bridge being thrown over.

‡ Memoir on the Course of the Great River of *Thibet*.

did not take any astronomical observations for the position of *Shigatze* or *Teshu Lombu*, and of the consequent error which he has probably committed in altering the latitude of *Lassa* one degree*. The whole of the lower part of the *Sanpo*, from *Lassa* eastward, suffers a similar alteration in his map, which has given room (in space) for the formation of a considerable river, called by M. KLAPROTH, *Mon Chu*, evidently the *Om Chu* of RENNELL, and our *Subanshiri*, though M. KLAPROTH now considers it to be our *Dihong*. This river has not, however, so much as six square degrees allotted to it; but if the course of the *Sanpo* be restored to its former parallel of latitude, and the *Subanshiri* introduced—no insignificant river, since it discharges, in the dry season, sixteen thousand feet per second—the space for the growth of the *Dihong* will be, in M. KLAPROTH'S map, most sadly curtailed—reduced, indeed, to nothing.

I think that I have hinted at the probable cause of all the discussion which we have had on this subject in the early part of this *Memoir*. The *Brahmaputra* was described to us as a diminished stream, “little more than a hill torrent,” and it “seemed very improbable, that such a small body of water could run the distance it is represented or supposed to do.” The *Dihong*, in which alone we could look for a continuation of the *Sanpo*,† was totally lost sight of,‡ and long remained forgotten. Time was given to originate Theories,§ and to search for Geographical anecdotes amongst antiquated *Chinese documents*, and the delay which occurred in furnishing information from hence, (from the spot) allowed conjecture to grow into certainty.

* The *Lamas* who were sent to survey *Thibet*, were mathematicians, instructed for the purpose: It is hardly possible that they can have erred one degree of latitude in their survey of the short distance between *Lassa* and *Teshu Lombu*, (about one hundred and fifty miles) and their position of the latter agrees closely with that given by TURNER, from observation. I would not contend for their *extreme* accuracy, or even for an approximation to accuracy, excepting in the position of places actually in their route. They seem to have possessed very little judgment.

† This would have appeared from the first, had Lieutenant BURLTON'S account of the discharge of the rivers been published.

‡ It was never adverted to as a river of great importance, till a letter of mine to the Editor, appeared in the *Government Gazette*, about January 1826.

§ Captain McLACHLAN'S “Theory” appeared in the *Edinburgh Philosophical Journal*.