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X.—Travels in Great Tibet, and Trade between Tibet and Bengal. By C. R. Markham, C.B., F.R.S., Secretary R.G.S.

[Read, April 26th, 1875.]

OF all the regions which remain to be explored, and fully brought to the knowledge of geographers, that of Great Tibet is among the least known and the most important. Until tonight no account of this region, derived from the personal observation of an actual traveller, has been submitted to a meeting of this Society, with the single exception of that of the Pundit who was sent by Colonel Montgomerie to Lhasa in 1865. It is indeed to that distinguished officer that we owe all our recent knowledge of Great Tibet; and one of the main objects of the present paper is to furnish some account of two more recent journeys which have been made in Tibet by Colonel Montgomerie's emissaries. But I am also able to bring to your notice the work of two Englishmen who explored portions of Great Tibet many years ago. The results of their labours have remained hidden in forgotten manuscripts until now; and as no European has since followed exactly in their footsteps, and they are consequently still the most recent European explorers of this region, their narratives continue to be as valuable and as interesting as if they had been written this year. The first of these forgotten explorers is Mr. George Bogle, who was sent by Warren Hastings to the Court of the Teshu Lama just a century ago. The second is Mr. Thomas Manning, a private traveller, who reached Tibet in 1812, and is the only Englishman who has ever visited its capital—Lhasa. Bogle and Manning are the only two Englishmen who have ever crossed the Tsampu.

It is necessary that I should first define the limits of the region to which the name of Great or Central Tibet applies. Our general knowledge of that country is still derived from the work of Du Halde and from the old maps of D'Anville, published 130 years ago, and based upon the famous survey of the Chinese Empire undertaken in the reign of Kang-hi, and commenced in 1708. Tibet was surveyed by two Lamas, who had been instructed and trained by Père Regis and other Jesuits at Peking. Their map extended from Sining to the



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to face page 299 The figures denote the height XPLORERS in feet above the Sea level. The Longitude is in accordance with the old value of the Madras EPAL observatory (80° 17. 21.) L.Bul Cho Montgomerie. JANG NAMCHO CHIDMO LAKE (TENGRI NUR) (Salt) 15190 Ningkorla SyPk Urip On Dhog La Tulung Chubu Gonpa I 0 ahmaputra or Narichu Sangpo (or Tsampu AMDOK CHO
LAKE
(Piahte or Palte Lake)
13500 G Hot Spring Ramcho L. (Shamtzo of Bogle) Bhomtso Donkia La Pauhunri 23186 Chumalari Kanchinjinga Walungsamgola









source of the Ganges, and, when it was delivered into the hands of the Jesuit missionaries at Pekin at 1717, it was found sufficiently accurate and consistent to enable them to construct from it a map of Tibet, from which D'Anville compiled those which still form the basis of modern delineations of the country.

But although the survey of Tibet was executed by native Lamas, the country was visited by Jesuit missionaries in the seventeenth and eighteenth centuries. In 1661 Fathers Grueber and Dorville set out from Peking, and reached Lhasa after a perilous journey of six months, and they eventually crossed a formidable pass into Nepal, and arrived safely at Agra. It is said also, that two other missionaries, named Hippolito Desideri and Manoel Freyre, set out from Goa in 1714, and reached Lhasa two years afterwards. But their narrative, after leaving Ladak, breaks off abruptly. Father Horazio de la Penna, with eleven companions, has, however, a stronger claim to be remembered. He went from Peking to Lhasa in about 1717, at the very time when the Lama surveyors were at work; and, after remaining 30 years in Tibet, he died at Patan in Nepal, The results of his labours, including much historical information, were published at Rome by Father Georgi, in 1762, including a Tibetan grammar; and this is the only source from which we derive some knowledge of the succession of the early Kings of Tibet.

It is from these, and less accessible Chinese sources, that Klaproth, Csoma de Körös, Hodgson, and Henry Strachey, were enabled to divide the limits and political divisions, and to give

us a general idea of the topography of Tibet.

This most interesting region consists of the elevated plateau in rear of the first great chain of the Himalayas, which overhang the Gangetic Valley; and Central or Great Tibet is that portion which is watered by the Tsampu, or the Brahmaputra in its upper course, and its tributaries. Tibet is divided into four great provinces; namely, Kam, or Eastern Tibet, of which we know little or nothing, but which is believed to be cut up into deep gorges by the upper courses of the Yang-tse, the Cambodia, the Salwén, and Irrawadi; Ari, or Western Tibet, which has been pretty thoroughly explored by our surveying parties; and the two provinces of U and Tsang, called Utsang, which form Great Tibet. The latter region is bounded on the west by the Marian-la, and the mighty Kailas or Gangdisri Mountain overlooking the sources of the Ganges and the Sutlej; on the south by the outer range of the Himalayas facing the Gangetic Valley, and containing the loftiest peaks in the world; and on the north by another lofty range, called by Hodgson the Nyenchhen-thánglá chain, which separates the country of villages and cultivation from the nomadic hordes on the still loftier plateau of lacustrine drainage between that chain and the Kuen-lun. The eastern boundary of Utsang, or Great Tibet, is not so clear. It can be ascertained by a scrutiny of the lists of towns given by Klaproth and D'Anville as situated in the provinces of Tsang and U, and of Kam or Eastern Tibet respectively, and by drawing a line of separation between them. Such a line places the eastern boundary of Great Tibet along the River Kenpu or Dihong, and includes the whole course of the Tsampu or Brahmaputra above the outer Himalayas within it. Great Tibet, or the two provinces of U and Tsang, thus has an extent of about 750 by 250 miles, and is a region the inhabited parts of which are from 10,000 to 14,000 feet above the sea, bounded by lofty ranges to the north and south, with an inner range traversing it, and separating the watershed of the Ganges from that of the Tsampu. It has thus two systems of drainage. The Tsampu, or Brahmaputra, traverses the whole region from west to east, and receives tributaries from the Nyenchhen-thánglá Range on the north, and the northern slopes of the Himalayan outer and inner chains on the south. The rivers which rise between the inner and outer ranges of the Himalayas either flow, like the Arun (Kosi) and the Lopra-cachu* of D'Anville, through gorges in the outer chain to Bengal into the Tsampu, or into lakes between the two chains.

This grand plateau may in some respects be likened to the Collao of Peru lying between the maritime and eastern cordilleras of the Andes. Both sustain great flocks and herds; and in both a similar ruminant is used as the beasts of burden, the llama in Peru and the sheep in Tibet. In Peru the Lake Titicaca, at 12,000 feet above the sea, is used as a means of communication by a line of steamers; in Tibet the Tsampu is a fluvial highway for merchants and their goods, also at a height of 12,000 feet above the sea; Tibet and the Collao of Peru alike abound in the precious metals, in salt and borax, but Tibet is more difficult of access. On one side the Collao has the maritime cordillera with passes leading to the Pacific coast, on the other the auriferous range of the Eastern Andes overlooking the rich alluvial plains of the Amazon. Great Tibet is more isolated. To the south the mighty range of the outer Himalaya can only be traversed by passes of extreme difficulty, and which are closed by snow during part of the year; while to the north a still more formidable journey over

^{*} Shubanshi, in Assam.

snow-clad plateaux and through fearful mountain gorges, which occupies several months, awaits the traveller who would pass from Tibet to China.

The people of Great Tibet, and their priestly rulers, have a strong claim upon the attention of European inquirers. It is to Chinese exclusive policy, and not to the Tibetans, that our ignorance of their country is due. In former days the intercourse between Bengal and Tibet was frequent and unchecked. Tibetans are of Chinese race, and their language is allied to Burmese; but their Buddhist religion, their extensive literature, their written character, and their prevailing modes of thought, are all derived from India, and prove that for centuries there must have been an uninterrupted ebb and flow of commerce through the now closed passes of the outer Himalayan range. The monasteries in every part of Tibet, even the most inaccessible, with their armies of monks, the innumerable banners and monuments on every pass, all point to ideas which had their origin and long prevailed in the valley of the Ganges. The belief which forms the basis of Tibetan policy is of Indian origin too, and the Dalai Lama himself is an incarnation, in a certain sense, of a Hindu prince, the holy and sinless Sakva-More strictly he is the incarnate Bodhisattva Padmapani, or Avalokitesvara, the heavenly representative of Sakvamuni. The Dalai Lama is the ruler of the province of U. with his capital at Lhasa; but an equally sacred incarnation rules over the Province of Tsang, namely, the Teshu Lama, whose capital is at Shigatze, and who resides in the adjacent palace of Teshu-lumpo. The Teshu Lama is an incarnation of the great Tibetan reformer Tsonhhapa, who flourished in the fourteenth century. The Tsampu River has been described as the boundary between the two provinces of the Dalai and the Teshu Lamas, U being to the north and Tsang to the south. But this is not exactly correct. Bogle mentions Chan-namling and other towns north of the Tsampu as part of Tsang, while an examination of the lists of towns given by Klaproth and D'Anville shows that several towns reckoned as being within the province of U are south of the great river.

The Lamas say that the intercourse between Bengal and Tibet fell off after the Muhammedan conquests in India; and it was still further interrupted by Chinese interference, and by the turbulent chiefships of Nepal and Bhutan on the outer slopes of the Himalayas. But there was nothing in the state of affairs to prevent a renewal of the old intercourse between Bengal and Tibet, and the establishment of friendly commercial relations, and this was perceived by the great statesman who established and consolidated our Indian Empire. Warren Hastings, the

first Governor-General, and the only one whose name is a household word among the natives of India, lost no opportunity of extending the influence of the East India Company, and improving the condition of the people under his rule. Not the least important of his measures was the re-establishment of direct intercourse with Tibet, on occasion of the mediation of Teshu Lama after the Bhutan War. He resolved to despatch an envoy across the Himalayas, one on whose abilities and discretion he could rely. The great statesman had trained a school of rising administrators, such as Kynynmond Elliot, whose early death in Orissa he so deeply mourned; Clevland of Bagulpur, the first to tame the wild Sonthals, and whose name is still remembered among them; George Bogle, and others of equal mark. The choice of Warren Hastings fell upon the young secretary of the Board of Revenue, George Bogle, who set out for Tibet in company with Dr. Hamilton, an assistantsurgeon on the establishment, and an officer of the Teshu Lama named Paima; and after some detention in Bhutan, the travellers reached Pari-jong. This is at the pass at the head of the Chumbi Valley, which divides Bhutan from Tibet, separating the deep and wild gorges, well wooded and fertile, which slope down to the Bengal plains from the bleak plateau of the Tibetan side. In front were the grassy uplands patched with snow on which no Englishman had ever before set eyes, and on his right towered the sacred peak of Chumulari, 22,944 feet Mr. Bogle, accompanied by Dr. Hamilton and above the sea. their Tibetan companion Paima, set out from Pari-jong, and entered Tibet on the 24th of October, 1774. This mission was politically important, and its results were of great geographical I think, therefore, that a brief reference to Mr. Bogle's discoveries, and to some of the incidents of his journey (time will not allow of more), can scarcely fail to be interesting to the Meeting.

Four days after leaving Pari, Mr. Bogle discovered two large Alpine lakes, called Shamtzo and Calutzo (the first is called Ramtchieu by Turner, the second is not named by him), connected with each other by a stream. He also traced the river flowing out of the Calutzo Lake, and found that to be a tributary of the Brahmaputra, and identical with the Penanang-chu. The name of the second lake and the direction of the outlet are entirely new geographical facts. The lakes were half frozen over, and were well stocked with ducks and other wild fowl. Antelopes, kyang, and hares were also seen; and it was observed that animal life of all kinds was much more abundant on the bleak uplands of Tibet than in the wooded gorges of Bhutan.

But here a slight difference occurred between Mr. Bogle and his Tibetan friend Paima. The British Envoy was naturally anxious to have some sport, while the Tibetan looked with horror on acts of bloodshed, especially when actually within sight of the sacred peak of Chumulari. Paima strongly objected to shooting, insisting that it was a great crime, that it would give much scandal to the natives, and that it was particularly unlawful within the liberties of Chumulari. Mr. Bogle had many long discussions with him on the subject, and tells us that "they were supported on the side of the Buddhist by plain common-sense reasons drawn from his religion and customs; on the side of the British Envoy by those fine-spun European arguments which serve rather to perplex than to convince." The latter gained nothing in argument; but at length a compromise was arranged. Mr. Bogle agreed not to shoot until they were fairly out of sight of the holy mountain, and Paima consented to suspend his prohibition in solitary and

sequestered places.

The march down the Valley of the Penanang-chu and across the inner chain of the Himalayas to the Tibetan towns of Giangtze and Painom has been described by Turner, who followed along the same road a few years afterwards. Turner never went beyond Teshu-lumpo, while Mr. Bogle crossed the great river Tsampu, near Shigatze, at a point where it is about the width of the Thames at Putney. Having drunk some of its water, washed his hands and feet, and thrown a rupee into it, he embarked in the ferry-boat, of which there were several at this place—well-built, flat-bottomed barges, about 25 feet long, consisting of a flooring of thick planks, and perpendicular sides, about 4 feet high, with an opening at either end, cut down to 2 feet, the whole bound together with bars of iron, and painted white. There was a large oar on each side, pulled by two men, and pushed by another facing them, while a woman helped, by hauling on a line made fast to the end of the blade. The steering is managed by a large oar from The boat carried over twenty-three persons, seven horses and fourteen asses, besides baggage. The river is not rapid at this place, and great herds of bullocks and flocks of sheep were waiting on each side for a passage. In the summer a lighter kind of boat is used for transporting goods, made of hides, with ribs of willow-poles, about 8 feet long by 4 broad. Mr. Bogle saw many of them on the bank, keel up, and some, with an end raised, serving as habitations for the boatmen.

The flocks of sheep are used as beasts of burden. Some were coming from the wild and desolate country to the north, laden with salt; others were returning from Giangtze with cargoes of barley. Mr. Bogle describes them as large animals, with horns extending horizontally. He met flocks of 1200 sheep, each carrying two bags of grain weighing from 20 to 25 lbs. They were very obedient to the shepherd's call, and if any of them happened to stray they were easily brought back by the shepherd's dog.

After crossing the Tsampu, Mr. Bogle marched up the valley of the Shiang-chu to Namling, and went thence to a small palace, called Desheripgay, in a gorge a few miles beyond Namling, where the Teshu Lama had resided for two

years, owing to the prevalence of small-pox at Shigatze.

The Envoy describes the palace, the retinue, and the ceremonies and receptions with graphic minuteness; and he formed a deep and lasting friendship for the sacred person of the Teshu Lama himself which had a temporarily important influence on British interests, and, if the two men had lived, might have led to permanently good results. The Lama was then about forty years of age. Although endowed with a portion of omniscience and many other divine attributes, his Holiness accommodated himself to the weakness of mortals, and endeavoured to make himself loved rather than feared. The expression of his countenance was smiling and good-humoured, his disposition open, candid, and generous. He was extremely merry and entertaining in conversation, and told a pleasant story with much humour and appropriate action. Mr. Bogle describes the ceremonies of blessing the people, the religious services, and the grand procession from Desheripgay across the Tsampu to Teshu-lumpo, when the Lama returned to his capital. He was on most intimate terms of friendship, not only with his Holiness, but with his young nephews, the Pyn Kushus, and his nieces, the nuns, with whom he had a great deal of laughing and merriment. During a week in March Mr. Bogle and Dr. Hamilton went to a country seat of the Pyn Kushus, on the northern bank of the Tsampu, whence they obtained a magnificent view of the windings of the river and adjacent mountains, and where their hosts exerted themselves to amuse them by hunting-excursions, and to please them by the most cordial hospitality; for the Pyn Kushus made no scruple about shooting when by themselves, and showed Mr. Bogle some good sport with greyhounds, got up matches with bows and matchlocks, and a grand hunt after musk-deer. But they had some fear lest they should get into a scrape with the Teshu Lama if these transgressions were mentioned to him. On the whole, nothing could exceed the cordial friendship which sprang up between Mr. Bogle and the Teshu Lama's family.

When the Envoy finally left Teshu-lumpo on his return to VOL. XLV.

Bengal, on the 8th of April, 1775, he tells us that he took "his last farewell of the Lama with an aching heart, having become strongly attached to him for his civilities, his bewitching manners, and his amiable character." Nor was this friendship of a fleeting kind. A correspondence was kept up between the two, after Mr. Bogle had returned and was appointed Collector of Rangpur. The letters from the Teshu Lama (one of which is on the table) were written in the curious Tibetan character, on paper made from a species of *Daphne*, which grows in Nepal and Bhutan. At Rangpur Mr. Bogle established a fair, with special immunities and advantages for the Tibetan and Bhutanese merchants, and encouraged the intercourse between Tibet and Bengal by every means that his official position gave him, and with the warm support of the Governor-General.

Unfortunately the good Teshu Lama was induced by the Emperor of China to visit Peking, where he died of small-pox; and in the same year, 1782, Mr. Bogle died at Rangpur. There can be no doubt that the way had been paved for opening the passes into Tibet for traffic and free intercourse. But the premature loss of the negotiators was a death-blow to the bright hopes that were justified by their friendship. Besides his journal and letters, Mr. Bogle drew up valuable reports on the trade of Tibet, on its religion and politics, and on the people. On his death all his papers were packed up and sent to his friends in Scotland, and they have remained untouched and unutilized, in a house in Ayrshire, until the present year. It is true that Warren Hastings did not lose sight of his plans respecting Tibet; he sent a second embassy under Captain Turner in 1783, which reached Teshu-lumpo, following Mr. Bogle's route exactly, but not going beyond that point. good Lama was then dead, his successor was an infant, and the only result of the mission was the publication of Captain Turner's interesting narrative in 1800.

The death of the Teshu Lama and of Mr. Bogle, and the retirement of the great and enlightened statesman who placed them in communication with each other, were the unfortunate events which put an end to the friendly, commercial, and diplomatic intercourse between the two countries. And there were evil influences of another kind at work. In Mr. Bogle's conversations with the Teshu Lama there is frequent allusion to the turbulent and aggressive policy of the Gorkha Raja of Nepal, and to the hindrances he was placing in the way of commercial transactions between India and Tibet. At last the Nepalese army invaded the province of Tsang, and plundered the monastery of Teshu-lumpo. This led to intervention on the part of China, and in 1792 a great Chinese army marched into Tibet,

utterly defeated the Nepalese at Dingri Maidan, drove them across the Himalaya, and dictated a humiliating peace within 20 miles of Katmandu. From that time the political influence of China in Great Tibet has been paramount; and although the internal administration is not interfered with, Chinese troops remain in occupation, and the exclusion of foreigners is enforced by officially watching the Bhutan, Sikkim, Nepal, and Ladak passes.

It has been said that the watch is so strict as to render it impossible for any Englishman to have passed into Tibet since 1792. But this is not the case, as is proved by the fact, that in 1811 Thomas Manning actually reached the city of Lhasa, although it is true that he is the only Englishman who

ever succeeded.

The journey of this adventurous traveller has never been described, and his manuscript narrative has remained unused in the hands of his family ever since. This is the second English traveller to whose labours I desire to call the attention

of the Meeting.

Thomas Manning was a mathematical tutor at Cambridge, who, after leaving the University, brooded over the mysterious empire of China, until at last he resolved to undertake a voyage to Canton to study the language, and then to attempt the exploration of the unknown interior. Manning was the friend and correspondent of Charles Lamb, who, during 1803, frequently urged his friend to give up the intended visit to Independent Tartary, as he called it. "The reading of Chaucer has misled you," writes Lamb. "Do not credit his foolish stories about Cambuscan and the ring, and the horse of brass. Believe me, there are no such things. 'Tis all the poet's invention. horse of brass never flew, and a king's daughter never talked with birds. These are all tales. Pray try and cure yourself. Take hellebore. Pray to avoid the fiend. Read no books of voyages, they are nothing but lies, and O, do not go to Independent Tartary!" But all remonstrances were in vain, and armed with a letter of introduction from Sir Joseph Banks, he sailed for Canton in 1806. After remaining there for some years, studying the language, he proceeded to Calcutta, whence in September, 1811, he set out on his adventurous expedition to Tibet. It would appear that he applied to be employed officially as an Envoy, for when the Chinese authorities at Pari hinted at overtures for opening commerce between Tibet and India, he exclaims, "I cannot help feeling what fools the Company are to give me no commission, no authority, no instructions. Fools to neglect an opportunity they may never have again." Manning was obliged to go as a doctor, and in disguise, and of course his difficulties were thus multiplied tenfold. Fortunately he encountered a Chinese general on the frontier at Pari-jong, who was civil to him, and with whom he travelled to Lhasa. From Pari to Giangtze he followed the route taken by Bogle and Turner, but there, instead of turning west to Teshu-lumpo, he crossed the inner range of the Himalaya, and reached the famous ring-shaped lake of Palti or Yamdok-chu.

Manning's journal is a personal narrative, containing many incidents of the road, and is especially valuable for its account of Lhasa and of the Dalai Lama; but it contains little geographical information; and if it had not been for the accounts of Bogle, Turner, and the Pundit of 1865, it would not be easy to make out his route. He skirted along the Yamdok Lake for several days, and gives the Chinese name for it as Haitu (little sea). But he does not appear to have known the map of D'Anville, or the peculiar form of the lake with its large island as there delineated. He merely says, "from the opposite margin of the lake rose diminutive mountains in a continued chain." He further says that the water of the lake is said to be very unwholesome, and that it is not used for drinking. Manning crossed the Tsampu in a large and good ferry-boat, and reached Lhasa without further adventures. The Dalai Lama was then about seven years old, and the traveller was much impressed by the refined beauty of his Holiness. He had the simple and unaffected manners of a well-educated princely child. His face was poetically, even affectingly, beautiful, and he was of a gay and cheerful disposition; his mouth perpetually unbending into a graceful smile, which illuminated his whole countenance. Mr. Manning's narrative of his stay at Lhasa is full of interest. He intended to have pressed on to China by way either of Sining or Bhatang, but eventually he was obliged to return to India by the road he came, finally leaving Lhasa on the 19th of April, 1812.

Thomas Manning was the last Englishman who ever entered Great Tibet; and only two Europeans have since been at Lhasa, namely the Abbé Huc and Gabet in 1846. Manning's journey shows that, even after the Chinese campaign of 1792, Europeans could pass from Bengal, through Bhutan, to Lhasa; and that the difficulty of recovering the ground gained by Warren Hastings and Bogle is not insuperable. But since 1812 the work has been confined to enquiries and to visiting the heads of passes—so far as Englishmen are concerned. Csoma de Körös did much valuable service in this way. Mr. Hodgson, during his long residence at Kathmandu, collected a mass of information respecting the geography, ethnology, trades, lan-

guages, and literature of Tibet. Captain Pemberton, during his mission to Bhutan in 1838, and Mr. Eden, in 1864, made further additions to our knowledge, which has been still more recently extended by the investigations of Mr. Edgar. But the list of those who have actually reached the head of the passes leading to that forbidden land, which was formerly explored by Bogle, Turner, and Manning, is very brief. First among them are Dr. Hooker, the President of the Royal Society, and the late Dr. Campbell, who reached the Donkia and Kongra-lama passes (18,500 feet above the sea), leading from the head of the Tista Valley in Sikkim, to Tibet, in 1849. Dr. Hooker also visited two passes leading from Nepal. 1870 Captain Chamer went as far as the Donkia Pass; and in 1871, our associate, Mr. W. J. Blanford, accompanied by Captain Elwes, explored the passes leading from Sikkim to the Chumbi Valley, and visited those of Donkia and Kongra-lama, leading to Tibet. But no one, since the return of Manning in 1812, has ever reached Pari-jong, at the head of the Chumbi Valley, the pass most used and most practicable, and by which all the three English explorers entered Tibet.

This total cessation of intercourse, either diplomatic or through English travellers, gives the arrangements of Colonel Montgomerie for exploring Tibet, by the agency of natives, an importance which can scarcely be over-estimated. journeys of Colonel Montgomerie's Tibetan emissaries have been completed, and the results worked out; and one, that of the Pundit of 1865, has already been discussed at one of our Meetings. This explorer traversed the Nepal pass of Kirong, first sighted the Tsampu at Tadum Gumpa, and travelled down its valley to Lhasa. At Talla Lobrong the Pundit found the height of the Tsampu Valley to be 14,187 feet above the sea; at Shigatze, 11,822, so that there is a rapid descent. From Janglache, an important place on the Tsampu (or Narichu) mentioned by Bogle, to Shigatze, a distance of 85 miles, merchants and their goods are conveyed down the river in boats. The Pundit also describes the Yamdok-cho (Palti) Lake, visited by Manning, as being 45 miles round, but only 2 or 3 wide, because it encircles a large island with hills rising 2000 or 3000 feet above its surface, as delineated on D'Anville's map. But the Pundit, in contradiction to Manning, says that the water is sweet. The Pundit was at Lhasa from January to April, 1866, and fixed its height at 11,500 feet above the sea. On his return he traversed the whole length of the valley of the Tsampu from Chusuljong (11,300 feet) to Tadum (14,187 feet), and thence 140 miles higher up to the Marian-la Pass, which separates Tsang from Ari, or Great Tibet from Little Tibet.

Colonel Montgomerie's second Tibetan explorer set out in 1871. He crossed a pass in Eastern Nepal, called Tipta-la (Wallangchoon), which had been visited by Dr. Hooker in 1848, reached the Arun river, a tributary of the Kosi, and after traversing two other passes, discovered a large lake 20 miles long by 16, called Chomtodong, 14,700 feet above the sea; which he mentions as part of the boundary between Sikkim and Tibet. He then crossed the Lagu-lung Pass (16,200) feet) over the inner Himalayan range, and reached Shigatze. All this was new work; but the most interesting part of the journey was that from Shigatze back into Nepal, when he crossed the great plain of Dingri-maidan (13,860 feet), where the Nepalese were defeated by the Chinese army in 1792. Thence he followed a trade-route down the Bhotia Kosi, through a fearful gorge. The road crosses the river no less than 15 times, 3 by iron suspension-bridges, and 11 by wooden bridges, 24 to 60 paces long. At one place the sides of the gigantic chasm were so close that a bridge of 24 paces would span it. Along the perpendicular wall of rock a path is supported on iron pegs let into the face of the rock. The path is of stone slabs covered with earth, only 18 inches wide, a third of a mile long, and 1500 feet above the roaring torrent. Such are the stupendous difficulties which have been overcome in establishing communications between Nepal and Tibet.

The third explorer, a young Tibetan, who had been thoroughly trained for the work, was dispatched by Colonel Montgomerie, in 1871, to explore the unknown regions north of the Tibetan watershed of the upper Brahmaputra or Tsampu. He reached Shigatze in November, and having purchased 50 sheep to carry the baggage, he crossed the Tsampu at the point where Mr. Bogle had been ferried over in 1774, and followed Mr. Bogle's route to Namling, on the right bank of the Shiang-chu river. It is interesting to find that, on more than one point, the long-forgotten journal of Mr. Bogle furnishes evidence of the accuracy of Colonel Montgomerie's explorer. Thus the Chom-gonpa, where, according to the explorer, there are 100 nuns, is in the very spot where Bogle stopped with the Teshu Lama, and was

visited by nuns.

The explorer advanced north from Namling with the intention of crossing the range, called by Hodgson the *Ninjinthanglá*, and of exploring the great Namcho Lake—the Tengrinor of D'Anville and the Chinese surveyors. The range was crossed by the Khalamba-la Pass, 17,200 feet above the sea, on the 8th of January, 1872. In this mountain-range there are numerous hot-springs and two Geysers, which throw up jets of water to heights exceeding 60 feet. The water, in falling again,

freezes and forms pillars of ice up to the full height of the jet. These pillars are 30 feet in circumference, and the water within them, which is thrown up with great noise and violence, stood at a temperature of 183°, the boiling-point at that elevation

being only 183.75°.

The great lake to the north of the mountain-range is called Namcho, or the "shy lake" (Tengri-nor of our maps), and was found to be 50 miles in length by from 16 to 35 miles broad. To the south it is bounded by the Ninjin-thanglá Range, consisting of snowy peaks flanked by large glaciers, and culminating in the magnificent peak of Jáng Ninjin-thanglá, which is probably more than 25,000 feet above the level of the sea. The range was traced for more than 150 miles, running in a north-easterly direction. To the north of the lake the mountains are not so high. Between the Ninjin-thanglá and the Kuen-lun Ranges the lofty plateaux are inhabited by nomadic tribes and bands of robbers; there is no cultivation, and the monasteries are the only fixed habitations. The drainage is into the salt lakes at the lowest levels of this region, the chief of which is the Namcho or Tengri-nor.

The Namcho Lake is considered sacred; and although at such a very great distance from inhabited districts, and at so great an elevation above the sea, there are several permanent Buddhist monasteries on its banks and on islands, which are visited by large numbers of pilgrims. The lake is 15,500 feet

above the level of the sea.

The explorer, making the monastery of Dorkiá, on the western shore, his head-quarters, made the complete circuit of the lake, and found that it had no outlet. The largest influent is the Nai-chu, a very large stream coming from the east, about

40 paces across near the mouth.

After returning to Dorkiá, the explorer once more set out on the 11th of February, 1872, and a few days afterwards he made a short excursion to the northward, and discovered another smaller lake, called Bul-cho.* But on the 18th, as the travellers were about to start, a band of sixty armed robbers arrived on horseback, and, in spite of their entreaties, took away all their clothes and provisions, leaving them nothing but the instruments. After much begging, the robbers gave them back a piece of cloth each, with two sheep and two bags of food, but added, that if they gave any more trouble they would be killed. The explorer had intended to have made his way from the Namcho Lake to China; but after the robbery he was obliged to march as quickly as possible in the direction of

^{*} Bul means borax. It is the chief source of supply for Lhasa.

Lhasa, where they were likely to get into inhabited ground soonest. After suffering many privations, the explorer recrossed the mountains by the Dhok-la Pass, and reached Lhasa on the 9th of March, whence, after a long and difficult journey, he returned to the head-quarters of the Great Trigonometrical Survey. His route-survey extends over 320 miles of a hitherto entirely unknown country; the chief discoveries being the position, size, and elevation of the great Namcho Lake, and the

height and direction of the Ninjin-thanglá Range.

Thus, through the labours of these three brave and intelligent native explorers, Colonel Montgomerie has furnished us with exact geographical knowledge respecting three of the passes between Nepal and Tibet—of Kirong, the Nilam-la, and Tipta-la; respecting the whole valley of the Tsampu from the Mariam-la Pass to Chusul-jong; the famous lake of Palti or Yamdok-cho; the position of Lhasa; the great chain forming the northern boundary of the basin of the Upper Brahmaputra; the Namcho Lake, and the interior drainage of Northern Tibet.

This information, combined with the investigations of Hodgson and others, and the personal observations of Bogle, Turner, and Manning enable us to form a sufficiently accurate idea of the trade-routes leading from India to Great Tibet, up the gorges of Bhutan, Sikkim, and Nepal; and of the physical features of the great plateau in rear of the Himalayan

ranges.

Commencing from the east, the first trade-route is through the country of the Towang Bhuteas, who are directly subject to Lhasa, down to Udalgori in Assam. Next we are told by Captain Pemberton, who traversed nearly the whole of Bhutan from east to west in 1838, that there are several passes leading from Tibet into the valley of the Manass, the traders finding their way to Dewangiri at the foot of the hills, and afterwards repairing to a great annual fair at Hazu, opposite Gowhatty in Then comes the pass of Pari-jong, by which Bogle, Turner, and Manning found their way from Bhutan into Tibet, and whence Tibetan traders proceeded by Paro and the Baxa Dicar to the fair established by Mr. Bogle at Rangpur. Rangpur duties were abolished, and buildings were erected for the convenience of the merchants, as well as of their animals and goods, the annual cost to Government being only 70l. The Bhutan caravans arrived in February and March at Rangpur, returning in May and June; merchants were thus attracted to Rangpur in great numbers, and the excellent arrangements for the benefit of trade, which were made by Mr. Bogle, continued for half a century after his untimely death. But Bogle's arrangements were neglected; and since 1834, when the Government aid was discontinued, the Rangpur trade has almost entirely ceased. At the Assam fairs, gold-dust, salt, musk, cow-tails, woollens, and horses, are exchanged for lac, madder, silk, cloth, and dried fish.

The eastern Sikkim Passes leading into the Chumbi Valley, called Jelep-la, Guatin-la, Yak-la, and Cho-la, have recently been examined by Mr. Blanford and Mr. Edgar. They are rarely interrupted by snow for many days, and form an alternative route to that through Bhutan, up the Chumbi Valley to Pari-jong. Further north is the Tankrala Pass, 16,083 feet above the sea, which is the most snowy pass in Sikkim, and the The Donkia-la, at the head of the most difficult of access. eastern branch of the Tista, is 18,466 feet above the sea, and the Kongra-lama Pass, at the head of the western branch, is lower (15,745 feet). They are used by Tibetan herdsmen, who bring their cattle to graze in Sikkim, and by the people in the upper valley of the Tista branches, the Lachin and Lachung, who twice a year carry wood into Tibet, and bring back loads of salt in return.

The passes from Nepal into Great Tibet follow the tributaries of the Kosi River. The two easternmost were visited by Dr. Hooker, and one, the Tipta-la, was crossed by Colonel Montgomerie's second explorer. The more westerly pass, by the Butia Kosi, was used by the same explorer on his return to India through Nepal. Its appalling difficulties have already been alluded to; and this is not the route adopted by the Chinese Army in 1792, when it advanced upon Katmandu. The easier military pass to the westward is closed to commerce by the Chinese officials. It leads by Jongh-a-jong to Kirong.

Once the intercourse between Bengal and Tibet by means of these passes was frequent, and it should certainly be the aim of our rulers to restore it. The Tibetans have always shown themselves desirous to promote such intercourse, and there is certainly no reason why the policy of permitting the passes to be closed through the jealous and selfish exclusiveness of the Chinese Government should be continued. Bogle enumerated the products of Great Tibet as consisting of gold, musk, cowtails, wool, and salt. He said that the genius of the Tibetan Government was favourable to commerce, and that no duties were levied on goods, so that, in his time, many foreign merchants had settled in Tibet. Cashmirian traders had establishments at Lhasa and all the principal towns of the country, and the Gosains, or trading pilgrims of India, resorted to Tibet in large numbers. Their trade was confined to articles of great

value and small bulk, and they travelled without ostentation and often by paths unfrequented by other merchants. The Kalmuks annually came to pay their devotions to the Lamas, bringing camels laden with the furs and hides of Siberia. The Bhuteas brought the products of Bengal and Assam; while the Chinese had established themselves in great numbers at Lhasa, and carried on a lucrative trade in the teas, porcelains, and brocades of their native country. The merchants of Bengal and Bahar sent their goods by the passes of Nepal and Bhutan. They consisted of broadcloth, indigo, pearls, coral, chank, spices, tobacco, sugar, white cloths, satins; and the returns were in gold. cow-tails, and musk. It was this trade which Warren Hastings did so much to foster, and which Bogle, as collector of Rangpur, encouraged by the establishment of a fair, and the grant of

privileges and immunities.

But all the ground gained by these able administrators in the last century has since been lost. Mr. Edgar, the Deputy Commissioner of Darilling, tells us a very different story in 1874. Owing to the insecurity of the roads, the trade between China and Tibet is now much less considerable than was formerly the The chief article is tea of a coarse description and unpleasant flavour, which sells at Lhasa for eight annas the pound; and so totally have the English neglected the Tibetan markets, that actually Chinese tea is imported through Tibet into the British district of Sikkim for the use of the inhabitants, although tea is grown on the spot. European and Indian goods mainly reach Tibet through Nepal and Ladak, and consist of broadcloth, cottons, corals, pearls, tobacco, opium, and some rich The exports from Tibet by these channels are blankets, musk, cow-tails, borax, ponies, gold and silver, but no wool. There is also some local trade with Sikkim and Bhutan. great wealth of Tibet lies in its flocks and herds; and enormous quantities of wool and ghee might be imported into Bengal at cheap rates, if good practicable passes were once opened. route proposed by Mr. Edgar is by a bridge across the Tista in Sikkim, and a road thence to the Cho-la Range.

In the present paper I have endeavoured to bring to the notice of the Society the valuable results of the journeys of Mr. Bogle and Mr. Manning, which have only now been brought to light, and to give a brief account of the recent labours and discoveries of Colonel Montgomerie's explorers in Great Tibet. These accounts embrace part of a very important subject, namely, that of the re-establishment of friendly commercial intercourse between Tibet and Bengal, a subject which will most assuredly receive attention in the near future. One thing is certain, that any steps that may be taken to open diplomatic intercourse

with the Teshu and Dalai Lamas, or to promote trade through the Himalayan Passes, cannot fail to add to our stock of geographical knowledge.

XI.—Narrative of an Exploration of the Namcho, or Tengri Núr Lake, in Great Tibet, made by a Native Explorer, during 1871-2. Drawn up by Lieut.-Colonel T. G. Montgomerie, R.E., F.R.S., &c., Deputy-Superintendent G. T. Survey of India.*

During 1871 a party was organised with a view to exploring some portion of the unknown regions north of the Tibetan watershed of the upper Brahmaputra. The party consisted of a semi-Tibetan, a young man who had been thoroughly trained for the work, with four reliable assistants engaged from border districts; one of these latter had been employed on a former exploration in a subordinate capacity, and his experience, as far as travelling in such countries was concerned, would have been exceedingly useful, but unfortunately he was unable to get more than a march beyond the frontier, because the officials on the other side of the Himalayas were determined to arrest him if he proceeded further, though his ostensive object was trade. This being the case, there was nothing for it but to arrange for his return, and to substitute another man in his place. This was managed satisfactorily after some delay.

The exploring party then passed from Kumaon into the Tibetan province of Hundes or Nari-khorsum. At first they got on very well, but towards the end of July, when in the neighbourhood of the Mánsarowar lake, their progress was for some time interrupted by a band of mounted robbers, who had made an incursion from the east; they succeeded in evading the robbers, but had to take a circuitous route by Púrung. instead of going direct to Shigatze from Mánsarowar, as first arranged. The party reached Shigatze on the 24th of November, and remained there twelve days, making inquiries as to the best route to go to the Tengri Núr Lake, and preparing for the journey. Sheep were the only animals likely to stand the journey, as the roads were too stony for yaks, and the country was too cold for donkeys; the explorers consequently purchased fifty sheep, and put all the baggage on their backs. The party left Shigatze on the 6th of December, marching as far as the "Naisang" village; on the 7th they crossed the great Brahma-

^{*} Vide Map, p. 299.

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