The
Geographical Journal.

No. 5. MAY, 1894. Vol. III.

A JOURNEY IN MONGOLIA AND IN TIBET.*

By W. WOODVILLE ROCKHILL.

One of the greatest profits a traveller gains from his first journeyings in an unknown country is rather the determination of the field of research than the data he then brings back, which, of necessity, are hastily gathered and frequently misunderstood from unfamiliarity with the country, the language and the modes of thought of the people. Such, at least, has been my experience, and so it happened that, not satisfied with the results of a first journey in Tibetan countries made in 1889, I found myself in September of 1891 again on my way to China to complete, in a measure, my former researches among the Tibetan tribes of the north-east, and to extend my explorations towards the interior as far as possible. I hoped, if fortune favoured me, to be able to reach India by a route of which I had heard, leading to Shigatse, in Ulterior Tibet, without passing on Lhasa territory,† for in this latter country I knew I should meet with insurmountable obstacles—man-raised barriers more difficult to overcome than any snow-covered mountain or wind-swept desert.

On November 17th I reached Peking, where I passed twelve days waiting for the renewal by the Tsung-li Yamen of the passport it had given me in 1888.

* Paper read at the Meeting of the Royal Geographical Society, February 27th, 1893. Map, p. 444.

† I should use the term *Deba-zong* instead of "Lhasa territory," but the latter is more readily understood, if less exact.

ROUTE MAP of EXPLORATIONS IN MONGOLIA AND TIBET

by

W. WOODVILLE ROCKHILL

in

1891 - 1892.

SCALE 1 : 2,027,520. 1 INCH = 32 MILES

10 0 10 20 30 40 50 100 150

Mr. Rockhill's route in Red.

Note. At points along the route underlined in Black, sextant observations were taken.

The numbers (200-400) indicate relative altitudes in feet above the route.

S.P. — Snowy Peaks

Explanation of Tibetan & Mongolian words

Chu	River	Kutul	Pass	Shan	Mountains
Gol	Stream or River	Kutun	Town	Shara	Yellow
Gomba	Monastery	La	Pass	Tsahan	White
Ho	River	Nor	Lake	Tsaidam	Salt Swamp
Koko	Blue	Ozan	River	Tso	Lake
		Ula	Mountain Range		

The heights above sea-level are given in an appendix to Mr. Rockhill's paper.

Published by the Royal Geographical Society.

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Turner & Shawe, 43 Brewer Street, London W.

The provinces I was authorized to visit were Kan-su, Su-chuan, the Kokonor, Turkestan, and Yun-nan, no mention being made of Tibet. This form of passport I found quite sufficient, for no routes being designated on it, I was at liberty to follow the most roundabout way in going from one of the provinces mentioned to the other.

On December 1st I left Peking for Chang-chia-ko (Kalgan), accompanied by one Chinese servant, we and our luggage tightly stored away in two carts hired to convey us to Kwei-hwa Cheng.

At Kalgan I remained for four days making some purchases, and taking sextant observations to fix as well as possible this the starting-point of the route-survey I proposed carrying on from here to the end of my journey. Leaving this great frontier mart, the road led up the valley of the Yang-ho, remarkable for groves of willows, from which the river takes its name, for cave-dwellings called "fairy caves" being warm in winter and cool in summer; and for curious truncated cone-shaped towers along the foot of the hills, which the people say were once "gun towers," where the inhabitants defended themselves against Mongol or Tartar raiders. They are some 30 feet high, 12 to 15 feet in diameter on the top, and surrounded by a wall a few feet from the base. They are so numerous, and placed so regularly along the base of the hills, that the explanation given me of their use would seem incorrect; but I cannot now suggest a better one.

Passing the little Chinese village of Tsahan-obo, we entered the pasturages of the Chahar Mongols, the principal of the so-called *Yo-mu*, or "herdsmen" tribes, who are debarred by the Chinese from all save pastoral pursuits. These Chahar have to tend the imperial herds and flocks, and they supply to the Emperor a contingent of ten thousand men in time of war. Unlike other Mongol tribes, they have no chieftains of their own, but are under the rule of the Chahar Tu-tung, a Chinese Lieutenant-Governor residing at Kwei-hwa Cheng. They are generally demoralized by their proximity to and too intimate intercourse with the Chinese; many are opium smokers, all hard drinkers, and I found among them but little of the pleasing, frank, and cordial manners met with among the remoter tribes of their race.

The country between Kalgan and Kwei-hwa Cheng is about 4600 feet above sea-level, cut by low ranges of loess-covered hills running from east to west, in many places the loess over 100 feet deep. In this region, and in fact as far west as the Kokonor, rain had fallen but little for two years, scarcity was felt, and in many places there was already a famine. At Chang-ko, a day east of Tsahan-obo, the Dragon or Rain king had been prayed to, first by the men, then the women and children, but all in vain. The local official in flowing robes and tasseled hat had also besought the Lung Wang to send rain; the sky remained cloudless, and still vast flocks of sand grouse with much rustling of wings kept sweeping continually over the country,

a portent that the awful drought was not yet to end, for it is said, "When the sand grouse fly by sell your wives."

On December 18th I reached Kwei-hwa Cheng, passing vast flocks of sheep and herds of camels on their way to supply the Peking market. Abbé Huc has so well described this great frontier town that there remains little more to be said of it.* Its trade is chiefly in sheep and camels, in goat and sheep skins, tallow and camel's hair. Its people, all Chinese, and some eighty thousand in number, are about as rascally and depraved a lot as I have ever seen in China. The town is dirty and ill-built, and the inhabitants pay a ground-rent varying from 10 to 50 cash for each $\frac{1}{6}$ of acre (*mou*) to the Mongol owners.

I was anxious to learn if there were trade relations between this point and Chinese Turkestan, Hami, or Kulja. I found that only occasionally a few Chan-to visit this town, bringing little but Hami raisins and dried melons. A few more go to Pao-tu, and some push on as far as Hsi-an Fu; but the trade on the whole is insignificant.

Leaving Kwei-hwa on Christmas Day I reached two days later the Yellow River, at Ho-ko (Dugei or Dugus in Mongol), a place of considerable importance on account of its soda works, and which may prove to be the Tenduc of Marco Polo. Extensive ruins crown the hills behind it, and the town of To Cheng, called by the Mongols Togto, is a mile north of it. Crossing the Yellow River, here some 400 yards wide, I found myself in the country of the Jungar Mongols, the easternmost of the seven Ordos tribes forming the Ike-chao league. At present the first prince of the Ordos is the chief of the Jungar or Jungar-ta. In time of war he commands the Ordos contingent, and is hence known to Chinese as the Ordos Generalissimo. He succeeded to the Prince of Washun, his office being given him by the Mongol Superintendency at Peking, which is always guided in its selection by the importance of the presents made it by the different candidates.

The Ordos country along the Yellow River has been settled within the last thirty years by Shen-hsi Chinese, who had fled from their homes on the outbreak of the Mohammedan rebellion. These colonists rent land from the Mongols, and, though the whole country seemed to me a sandy waste, they told me it was fairly fertile when well irrigated. The Mongol owners of the land have retired into the interior, or adopted to a great extent, when living near the Chinese, their customs and mode of living.† It was my intention to traverse the Ordos country to Teng-

* The valley of the Hei-ho ("Black River"), where the town of Kwei-hwa stands, is bounded to the north by a range of rugged mountains stretching west to the Alashan Range. On most of our maps they are called In-shan, but this can only be a defective transcription of Ta-ching-shan, the only name I heard used. West of Pao-tu the range is called Wula-shan, then Lang-shan as far as Alashan.

† Prjevalsky on his route map of this section of country has it that it is thickly settled by Chinese. At the present day such is not the case; villages are not very numerous nor very large.

ko* on the Yellow River, but on reaching Hsiao-nor, a station of the Belgian Catholic Mission, I found it impossible to carry out this plan without considerable delay, as a guide would be necessary, and I must carry forage for the whole trip, some seven days. So I crossed over to the left bank of the river and remained on that side till I reached Lan-Chau Fu, the country most of the way a desert waste of drifting sands. Alashan (or Alaksha, as the Mongols call it),† through which my route led, extends from a little to the east of the flourishing Christian communities of San-tao-ho-tzu to Shi-tsui, where the province of Kan-su begins. Travel is rendered difficult all the way by the innumerable deep holes made over the face of the country by licorice diggers, this root being the most valuable export of this section of country. Where these pitfalls are not found, soft sand, irrigation ditches, willow brush and alkaline bogs alternate to take away what little comfort there might be in travelling through this wind-swept barren land.

Ning-hsia Fu, where I stopped for a day to hire carts to take me on to Lan-Chau, is just beginning to rise from its ruins; but even now but a small portion of the land without its walls is built over, and no Mohammedan is allowed to dwell inside the city, so fearful are the authorities of a fresh uprising. This city is the Irgekotun of the Mongols, the Egrigaia of Polo. In his time it was famed for its *camlets*, "carried over the world for sale." At present the rugs made here are equally famous among Mongols and Tibetans, to whom most of those manufactured are sold, so that they are but rarely seen in China.‡

The plain surrounding Ning-hsia, from Shih-tsui-tzu to Chung-wei Hsien, a distance of about 175 miles, is in many places covered with drifting sand, in others it is an alkaline marsh with here and there patches of mixed loess and gravel. Chinese enterprise has converted this unpromising plain into one of the most fertile districts of the province. Huge irrigation ditches starting from Chung-wei and Ta-pa carry water all over the plain. One passes every mile or so bustling villages where wheat and rice, the country's chief products, are sold; and one finds pears and apples, persimmons and chestnuts, and all manner of vegetables. These great canals were made, it is said, in the seventeenth century by order of the Emperor Kanghsi.

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* Teng-ko is in Mongol Tungor, and is Prjevalsky's Ding-hu. It is a very small village on the right bank of the Yellow River, though, curiously enough, it figures on most maps as being on the left bank. It is known to have existed in the thirteenth century, and was probably, until the late rebellion, a place of considerable importance, as it is on the direct road to Kwei-hwa and Peking.

† But the name is not, as far as I can learn, a Mongol one; at least, no one could give me a satisfactory explanation of it.

‡ Mongols and Tibetans call these rugs "Alashan Rugs," and Chinese speak of them as *tsai-jung-tan-tzu*, "velvet or plushy carpets." Sir Henry Yule tells us ('Marco Polo,' 2nd edit., i. 274) that the word *Khamlat*, whence is derived our "camlet," also bears with it this idea of plushy. Can the present rugs be Polo's camlets?

I must pass on rapidly to Hsi-ning Fu, in Western Kan-su, for my journey was to Tibetan countries, and I must not take up your time speaking any more of China, however interesting the subject may be to me.

Passing through Lan-Chau Fu, which I reached the day after the Chinese new year (January 31st, 1892), I followed, as far as Hsi-ning, the route up the valley of the Hsiho I had taken in 1889; then, stopping only a night at Hsi-ning to send word to the men who had followed me in 1889 into Eastern Tibet to join me at Lusar (Kumbum), I made for that most convenient village, which I reached on February 11th. The men responded promptly to my call, and so I was at once relieved from what had given me so much trouble on my first journey—getting men who did not fear to face the real hardships and more or less imaginary dangers of the Tibetan and Mongol wilds. While my headman was busy buying mules, saddles, clothes, and supplies for the journey westward, I decided to visit the Salar and some of the agricultural Tibetan tribes near the Yellow River.

On February 17th, when I left for the proposed trip, it snowed heavily, the first snow we had had since passing Tsahan-obo, in Eastern Mongolia, and we experienced considerable difficulty the next day in making our way along the narrow, slippery bridle-paths which led us across the Nan-shan. This range, the eastern portion of the South Kokonor chain, offers a most admirable illustration of the mode of formation of the loess and of the continual redistribution going on, and the formation of new deposits under the action of the torrential rains which for months every year deluge this section of country. Here in this loess-covered country I found that the "Aborigines" (Tu-jen), and they alone, live for the most part in cave dwellings or in houses in which the rear portion is dug in a cliff of loess. Of the history of these tribes I know nothing, save that they undoubtedly occupied this country long before any of the other non-Chinese tribes now inhabiting it. The question suggests itself, Are not these Tu-jen of the same race as the Man-tzu who dug the caves in the valley of the Yang-tzu, in Su-chuan? The caves of the latter are more highly ornamented than those of Kan-su, but then the Man-tzu excavated theirs in sandstone, whereas the northern Tu-jen had only friable loess to work in, which offered no scope for ornamentation.

The first place we stopped at south of the Nan-shan was Tsapa, a place of some importance, with a small garrison commanded by lieutenant, a substantial wall, a mosque, and some three hundred families more than half Mohammedan. It is a stopping-place between Lusar and Han-chung, in Shenhsi, for salt smugglers. They buy the salt at Lusar from the Tibetans, who get it in the Dabesu-gobi, east of Dulan-kwo, and bring it to the market without having to pay any duty, and by following this trail no likin stations are met with, and a fair profit is realized.

Beyond Bayan-rong, an unimportant sub-prefecture, we crossed a high and difficult mountain, the Ra-ja shan, and stopped for the night at Lamo-shan-ken, a village of Kargan Tibetans. These Kargans, from long intercourse with the neighbouring Salar, have for the most part become converts to Islam, and certainly gained somewhat by the change, being cleaner, more enterprising and richer than their Buddhist compatriots. Nor can the work of conversion have proved a difficult task for the Salar; they had only to let the Tibetans see the lives they led, and how much more work they got out of their women-folk than any neighbouring people, to gain them over at once to their faith. The converts have nobly walked in the footsteps of their teachers; the men work as little as the Salar, relinquishing without a murmur all the household drudgery to the women, who seem to revenge themselves by bullying their lords and masters on every occasion. Their change of faith appears to have added a little to the characteristic pugnacity of all Sifan. Hardly a day passes that a man is not killed or maimed in some one of these Tibetan villages. The men pass most of their time making or repelling attacks, and every commanding hillock near a village is occupied by sentinels watching every line of attack.

We came to the Yellow River nearly in front of I-ma-mu-ch'wang, "the village of the Iman," the abode of Han Pao Ahon, the chief priest of the Salar. Crossing over on the ice we entered the village, and after some difficulty found lodgings in one of the houses, for there are no inns in the country.

The Salar (or Salaris) have no written tradition concerning their advent into China; they say, however, that the first of their people who came to this country arrived in the third year of Ming Hung-wu (A.D. 1370). They were but three, and drove before them an ox loaded with all their worldly goods, and had come from Samarkand, whence they had been driven by a civil war. They stopped where now stands Katzu-kun, the first and largest of Salar villages. They were soon followed by others of their people, and their settlements grew in number and in size, so that at the present day they number some forty thousand souls, scattered in several hundred villages between Hsun-hwa Ting and Fei-tzu (Shui-ti) chuan, a village about 40 miles further west. Their country is divided into eight "*kun*" or "thousands," hence the name usually given to it by the Chinese, Salar-pa-kun. There is, as far as I know, nothing improbable in this tradition; moreover we find the name of Salar as that of a large tribe living at the present day near Merv in Turkestan, beside the Sarik and Tekke. Though I have not read anything concerning this eastern branch of the Salar in Chinese historical works, there is every reason to believe that a more careful examination of them than I have been able to make will supply corroborative evidence of the truth of the oral tradition.

From the Salar villages I turned westward and travelled to Ku-ei-te, the trail leading over the high, steep foot-hills of the ranges which here hem in the Yellow River. The mountains south of the river were covered with forest-growth, pines, juniper, birch, and cyprus. In little clearings were Tibetan log-cabins surrounded by patches of culture where barley and wheat were grown, and to which water was often carried, as in Switzerland, by long troughs cut in pine logs propped on high poles. The houses are flat-roofed, and but a storey high; inside there is no partition wall; one end of the building serves as a stable, in the other the family sleep on a Chinese *Kang*, or stove-bed, headed by a big Tibetan cooking-stove where the tea cauldron boils, and over which is a prayer-wheel, turned in the heated air as it escapes through a big hole in the roof. Most of these Rong-wa (agricultural Tibetans) are followers of the Binbo religion, and in some corner of every house is a little altar with a bowl containing offerings of the products of the country—barley and wheat, yak hair and sheep's wool—to Shenrab, the great god of their faith. Over the houses, tied to long poles, white flags wave printed with prayers and charms to ward off danger; and below the house, in a log hutch built over the brook, a big prayer-barrel is kept turning ever by the water as it dashes by. I reached Ku-ei-te on February 26th. This frontier town lies in a narrow plain some 6 or 8 miles long. In it live some three hundred Chinese families, and in the surrounding plain are numerous agricultural Tibetans (Rong-wa). Mohammedans are not allowed to reside in or near this town—a punishment for their having massacred the sub-prefect at the outbreak of the late rebellion. The climate is warm; but it is said to be an exceedingly windy place; little snow falls here, though for six months of the year the surrounding mountains are covered with it.

Ku-ei-te produces wheat, millet, and hemp, most kinds of vegetables, also pears, peaches, apples, water-melons, and jujubes; but the place has no trade—a few lambskins, some musk, and rhubarb are all it exports.

I crossed back to the left bank of the Yellow River on leaving Ku-ei-te, and passing by Karang (Count Szechenyi's Kashan) and over the Laye Pass, made my way back to Lusar, which I reached on the 29th, to find nearly everything ready for the final start westward. It was, however, March 14th before we left, so long does it take in this home of procrastination to complete arrangements.

The supplies I carried with me were for six months, and consisted of tsamba (parched barley meal), flour, tea, rice, and vermicelli (*kua-mien*), besides a stock of sugar, rock-candy, dry jujubes, raisins, etc., all most useful in these countries where small gifts are being continually exchanged, and where a present always calls for a return one of at least equal value.

My party, as finally organized, consisted of the headman, Yeh Chi-

cheng, who had been with me in 1889, a cook picked up at Kwei-hwa Cheng, and three Hsi-ning men, who had also been with me for some time on my first journey. All of them were Mohammedans, and, with the exception of the cook, typical Chinese frontiersmen—travellers from their childhood, and speaking fluently both Mongol and Tibetan. I had six ponies and seven pack mules, but, so as to keep the latter in good condition as long as possible, I loaded all the luggage, some 1500 pounds, on donkeys hired to go as far as the Dabesu-gobi country, some ten days' march, the mules only carrying barley to feed them along the route. As money I took with me 1000 ounces of silver, some 500 rupees, and goods for barter of about equal value. Each man was supplied with a sheepskin gown, fur cap, wadded trousers, heavy leather boots, felt stockings, and rain-coat, and a sheet of felt to use as a saddle-cloth in the day and a couch at night. Two copper kettles, one for tea, the other to cook food in, a couple of ladles and a bellows, completed, with two very small blue cotton Mongol tents, our equipment, which I found satisfactory and sufficient, though scarcely luxurious. Two sets of extra shoes were taken for each of the horses and mules; unfortunately we did not take a large enough supply of nails, for, not being good smiths, we spoilt many, and for a long time had to leave our animals unshod, which resulted in their feet becoming tender, and in the ultimate loss of the whole lot, not one reaching the journey's end.

Once more crossing the South Kokonor range, this time by the Hung-mao-pan-tao, I came to Sharakuto, a little frontier post commanding the roads to Gomi on the Yellow River, to Tankar, and to Dulan-kwo, west of Kokonor. Leaving behind us the low Jih-yueh shan, which here marks the frontier of Kan-su, we traversed the valley of the Rhirmo-jong (or Tao-tang-ho), the only stream of any importance which empties into the Kokonor from the south, and entered the basin of the Wayen-nor, one of the numerous lakelets which dot this region. The country is an undulating plateau, bounded by low hills running east and west. To the south-west in the direction of the Yellow River we could see, a hundred miles away, snow-clad peaks rising above the bare reddish maze of mountains. Not a tree, not a shrub anywhere, here and there a black tent and a little flock of sheep huddling together to escape the fierce incessant west wind. This is the country of the Panaka or Panakasum, who, coming from south of the Yellow River, have within the last fifty years dispossessed the Mongol owners of the land, driving them back towards the bogs and desert wastes of the Tsaidam. It is a magnificent pasture-land, but poorly watered, except at the foot of the mountains, the little streams either disappearing underground or becoming after a few miles so brackish that the water is undrinkable.

From the Wayen-nor * we could see the mountains which mark the

* Wayen is a Tibetan corruption of the Mongol word *bayan*, "rich, prosperous."

famous Gork gold-fields, from which the Yellow River and the "three days desert" (Kurban Tara) separated us. Discovered in 1888, they yielded to the Chinese, who flocked to them, over 10,000 ounces of gold in less than two years; but now they are abandoned, the primitive methods of the gold-washers being only remunerative with the richest gravels.

Some 40 miles west-south-west of the Wayen-nor, we passed into the basin of the Gunga-nor ("Egg lake"), into which the Huyuyung flows. This is the principal stream of this region, its chief feeders being the Muri-chu and Wahon-chu, which have their sources in the mountains to the south. I could not ascertain whether the Gunga-nor had an outlet into the Yellow River, but am inclined to think it has, though possibly its overflow may find its way under the loose sands which cover the eastern end of the depression in which I saw its glistening surface. As we advanced towards the high mountains to our south-west, which, by the way, are the eastern extension of the range I traversed in 1889 to the south of Dulan-kwo, and there called Timurte, black tents and flocks of sheep became more numerous. On March 25th we camped on the Muri-chu, near some twenty or thirty tents of the Chu-ja Panakasum. Here the donkeys hired at Lusar were to leave us, and it was necessary to get pack-yak and guides to take me by the direct, but rarely followed, trail, across the mountains to Shang.

On the 28th, we entered the valley of the Wahon-chu (or chuka), and made our way in two days to the foot of the pass leading into the basin of the Tsahan-ossu, one of the big rivers of the Tsaidam. It took us two days to cross this pass, the most difficult I have met with in my travels in these regions. Snow was deep on either side to some 3000 feet below the summit, soft snow hiding the jagged rocks over which we stumbled, horses and men frequently disappearing between them. The trail, hardly visible even in summer—for this pass is only crossed at rare intervals by small parties of yak hunters—we never saw, and we had to pick our way as best we could up the steep mountain sides to the top, 17,000 feet above the sea-level. Two nights we camped in the deep snow, our animals without grass or water, huddling together under projecting ledges of rock. We now entered the valley of the Tsahan ossu ("White River"); on every side were mountains of reddish granite sprinkled here and there with loess. For four days we followed this stream, which I found was the upper course of the Shara-gol ("Yellow River"), crossed in 1889 in the Tsaidam north-east of the village of Barong (or Barongkure).*

Leaving the Tsahan-ossu, we camped on April 3rd on the southern

* This river, only second in importance to the Bayan-gol itself among the water-courses of the Tsaidam, is not, as an examination of existing maps might lead one to suppose, the Upper Tsa-tsa-gol. This latter flows to the north of it, and has its sources on the west slope of the mountains where the Tsahan-gol rises.

slope of the Koko-kutul ("Blue Pass") amidst cedar and juniper trees, the first we had seen in these regions. This was the head of the fine grassy valley of Keter-gun, inhabited by some sixty or seventy families of Rerin Panaka. In its lower portion it is called Derben-chin ("Four catties"); and at its mouth, near the village of Shang, are Mongols who live in mortal dread of their aggressive, thieving neighbours.

I stopped only a few days at Shang to take some observations and make purchases of food; then, sending two of my men with all the baggage to the camp of my former acquaintance, the chief, or Zassak of Barong, I left with his headman, Dowe, my former guide in Eastern Tibet, who had come to Shang to welcome me, and two of my Chinese, to visit once more the Tosu-nor and fix its position and altitude. I met at first with determined opposition from the Abbot (Kanpo) of Shang, who gave orders that no one was to accompany me, as it was my intention to try and catch the horse and fish of gold living in the waters of the lake. I talked him out of this conceit, however, and was able to make the journey in peace, though not in comfort, for I was so unfortunate as to have my horse drowned while crossing the Yohure (or Yogore) gol on the ice, nearly sharing the same fate myself, and my two Chinese, in consequence of my bad luck and disgusted with the hardships we had daily to encounter, decided to leave me on returning to Shang.*

On April 16th I was back at Shang, where I induced an old Chinese trader I had known there in 1889 to guide me to Oim, a little valley near the Ike-gol, where the chief of Barong had his camp. Had it not been for old Ma Shuang-hsi, or "Double luck" (thus called because his father's cow had calved on the day of his birth), I should have had to find my way there as best I could, for I was nearly boycotted on returning to Shang—my two deserters and Dowe having poisoned the minds of both Mongols and Chinese against me.

The prodigious credulity of the Mongols is well illustrated, I think, by the following: Some five hundred years ago, they say, there was an Emperor of Russia, or some foreign country, who was desirous of knowing what was in the sun and moon, whether they were peopled or not, and if they were hot or cold. He took fifty Mongol men and as many women, shut them up in a crystal casket which could fly through the air, and started them off on their voyage of discovery. Since then they have never been heard of, and Mongols have frequently questioned me concerning them, and asked me what I could advance in extenuation of this piece of cruelty. No one believed me when I said I had never heard of this wonderful voyage, and all thought I was looking for their

* The Tosu-nor ("Butter Lake"), called "Lake of a myriad hills" (*Tong-ri tso-nak*), in Tibetan, is some 40 miles long from east to west and about 2 miles broad. Its altitude is 13,500 feet above the level of the sea. Its position as placed (conjecturally) on our maps is approximately correct.

long-lost brethren when they saw me observing the sun with my sextant. The Tibetans, it is but fair to add, are not a whit less credulous; more than one I have overheard saying that I had a battalion of soldiers concealed in the little camera I carried with me. My prismatic compass, others contended, enabled me to detect treasures in the earth and to see the farther side of mountains; and with my sextant I angled for the sun. When I came back from the Tosu-nor to Shang, the Kanpo, a Tibetan, asked me where I proposed going. "To Lob-nor," I replied, not wishing to discuss my plans. "I supposed that was your intention," he rejoined. "You have caught our horse and fish of gold in the Tosu-nor, and now you want to get the frog of gold of the Lob-nor. But it will be useless to try; there is in the whole world but the Pan-chen Rinpoche of Trashilh-unpo who is able to catch it." Various reasons, but principally the procrastination of the chief of Barong, kept me in his camp in the Oim valley until April 29th, when I left for the Tsaidam,* having decided to travel through it to Taichinar, and thence make my way to the Tengri-nor.

Just before leaving Oim I took into my service a Taichinar Mongol, Bitcheren Panti, or "The Little Scholar," by name. A clever man, able to turn his hand to any trade—blacksmith, carpenter, saddler, tailor, and exorcist—he had been twice to Lhasa, and I thought him a valuable addition to the party. His story is not without a tinge of wild romance. Until five years before I met with him, he had lived on the Naichi-gol, near Golmot, in married bliss; but his wife grew tired of him, left him, and became the wife of a neighbour. Marriage in these countries is easily entered into and more easily dissolved, and generally the abandoned one takes the separation with perfect equanimity. Panti, for some strange reason, felt himself wronged; he gave out he was going to Lhasa on a pilgrimage, and, having stolen all the horses of his favoured rival, he fled to the mountains and made his way to the Alang-nor, his design being to go to the Goloks country and lead a band of these brigands against his native place. When near the Tosu-nor he met a party of yak hunters from Shang, to whom he told his story. They persuaded him to go home with them; after a while, he gave in his allegiance to the ruler of Shang by presenting him with a pony, and buying a half interest in a house and a wife, he settled down to his trade of carpenter. Now, however, he was homesick, and he longed to get back to Taichinar; the few ounces of silver he could earn with me would enable him to start life afresh in his native swamps. He and his brother, of whom I shall have to speak later, accompanied me to near the Tengri-nor, and I was well satisfied with his services.

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* This term "salt swamp" only applies to the plain; the mountain region on the south and east sides of it has no name applicable to the whole range, but a host of names, Burhan-bota, Kwo-shili, etc., each referring to a section of the chain.

At the village of Barong * I got four camels to carry the loads as far as the Naichi-gol,† and thus spare my mules in this horrible morass, where we waded for a fortnight through mud and water knee-deep, or else through drifting sands. Travelling as near as possible to the base of the southern mountains, so as to keep out of the great central swamps, we reached Tengelik on May 5th, and the Naichi (or Naichiyin) gol on the 11th.

On the way we passed through the ruins of a walled camp built by the Chinese, when marching on Tibet in the Kang-hsi reign. It is known as Nomoron-kutun, "the town of Nomoron," from the little stream which flows by it. Around it the Mongols of Zun grow their barley in clearings in the dense willow brush which here covers the country, and within its deserted walls lives a Tibetan hermit. A little to the west of this is a *Mizar*, the tomb of some now-forgotten Mohammedan saint; at present the place is only known by its Mongol name of *Ungerhe-baishing*, "the cave dwelling." Occasionally we saw Mongol tents on some dry spot in the swamp, and each time with renewed wonder that human beings could live in such a place as the Tsaidam, where there is but swamp and sand, willow brush or briars; where mosquitoes and spiders thrive; where the wind always blows, the heat of day is intense, and the cold of night piercing. Fear alone holds them there—fear of the Golok and Panaka prevents them from occupying the rich pasturages along the clear streams in the mountains to the south of their God-forsaken plain.

I stayed at the Naichi-gol two days, rearranging the loads and buying what little food I could to replace that used on the road. On May 17th we left, and travelling up the Kurban Naichi valley came, on the 23rd, to the deserted site of an old camp, where the grass was so fine that I decided to remain here a few days to let the horses and mules pick up a little after the fortnight of starvation they had just passed through. Here I was joined by Bitcheren Panti's brother, the headman, or *Jalang* of Golmot,‡ and known as Samtan Jalang.

It was agreed between us that if he guided me to the Tengri-nor I should pay him 50 ounces of silver, and I promised an additional 50 ounces if we managed to reach Tashilunpo. Wherever he left me I was to give him a tent, pack-horses, provisions, etc., with which he and his brother might return home.

On May 27th we made our final start for Tibet, crossing on the 30th

* Barong-kure or baishing, in Tibetan Barong-kangsar, *Kure*, *baishing* and *kangsar* mean "village." Prjevalsky's *khyrma* is probably the Mongol word *kerim*, also meaning "village."

† Or Naichiyin-gol, "the River of Naichi;" *yin* is a genitive suffix in Mongol.

‡ This name is usually written on maps Golmo or Gormo. Golmot appears a better transcription. The name means "many rivers." The adjacent river called Patagonto on our maps is in reality called Baternoto-gol, "Mosquito Nest River," a most appropriate name for a river of the Tsaidam.

the range to the south of the Naichi River by the Sharakuiyi-kutul ("Yellow thigh-bone pass"), some 30 miles west of the Naichi-daban by which Prjevalsky and Carey had travelled. From the summit of the pass we saw, some 50 miles to the south, a long range of dark hills stretching east and west—the Kokoshili, or "Blue hills." To our west rose the huge snow-peaks of Prjevalsky's Shapka Monomakh, where the north branch of the Chu-mar (or Namchutu-ulan-muren) has its source, and on our left a cone-shaped snow-peak, the Amnye-malchin-mengku of the Mongols,* stood boldly out. Through the broad valley between us and the Kokoshili ran several small streams flowing into the Chu-mar, or losing themselves in pools of salt water or in the hillocks of sand with which the plain was studded. The soil was bare except for a few moss-covered tussocks, some stunted weeds against which the sands had drifted, and here and there a blade or two of coarse and brittle grass pushing its way through the sand. A few wild asses, some antelopes, and a stray bull yak were the only living creatures we saw in this broad expanse, which it took us three days to cross.

Passing over the Kokoshili on June 5th we continued in a south-west direction, making for the western extremity of the Dungbure ("Conch shell") range, whose rugged peaks rose 60 miles away to the south of us, occasionally above the snow-line.

Between these mountains and ourselves several low ranges of red sandstone broke the intervening plain. Grazing was better here than to the north, but the weather was bad, the wind so violent, the snow-storms so frequent and severe, that we could make but little headway. On June 1st the grass was entirely covered by snow, and all hands had to turn out and scrape it away to give our animals a chance of getting something to eat. Samtan Jalang, frightened at the uninterrupted bad weather we had had since leaving the Naichi valley, suggested that we stop over for a day for him to perform the storm-dispelling ceremony at which, he modestly stated, he was most proficient. To this I readily agreed, and at the same time we decided that henceforth we would ration ourselves at one cup of tsamba a day for each man, and 5 lbs. of tea a month for the party. This was made necessary, as the Mongols and Chinese are such enormous eaters that, if left to themselves, they can devour in a day what would satisfy ordinary appetites for five.

On nearing the head of the Namchutola River, and the end of the Dungbure Range, we came upon some small lakelets surrounded by an abundance of grass growing in tussocks. On the adjacent hills were herds of wild yak and asses; and so, though the weather was vile, we rested here for two days; and I shot a fine ass, on which the Mongols

* Possibly Prjevalsky's Mount Subeh. His Columbus Range and the west portion of his Marco Polo Range the Mongols call Kobche-ula. The east portion of his Marco Polo Range they call Konchong-kutur. Namchutu-ulan-muren means "the red river of the meadow."

feasted; but my Mohammedans would not touch it, though they looked on with envious eyes as the others gorged themselves with the savoury meat. Leaving this camp, we crossed a low range of red sandstone hills, and the main chain of the Dungbure was before us. To the west was a "massif" of snow-peaks, and at its southern base a large lake we called Trashi-tsonak ("Lake good luck"). Beyond, as far as we could see, a maze of mountain-peaks, few of which, however, were covered with snow.

In fact, throughout the journey across this high plateau, I was surprised to find so few snow-peaks. No chain, except the Dang-la, rose much above the snow-line, which my observations fixed at about 17,000 feet above the sea-level. Nor do I believe that I saw on the whole journey through Tibet a single glacier, though there was much *névé* on the Dang-la and other chains farther south.

On June 16th we crossed the Dungbure Range, and from the south slope, where we camped, I saw the Buha-mangna ("Yak head") mountain, along whose eastern side runs the high-road to Lhasa, rising amidst a confused mass of low and short ridges, all trending approximately east and west. Over these we picked our way, the weather for a while warmer—so that we left off for a day or two our heavy sheepskin gowns—and we found green grass and some little primroses in sheltered nooks. On the 18th we camped on a feeder of the north branch of the Toktomai ("Gently Flowing") River, and that day was one of rejoicing, for it was the first since leaving the Naichi-gol—twenty-three days before—that we had had neither snow, rain, hail, nor wind, though I am fain to admit that it hailed not far from us, and that we repeatedly heard the crackling thunder peculiar to these high regions, and that shortly after sundown it blew great guns, and, finally, that a heavy white frost covered the ground when we arose the next morning.

Crossing the two branches of the Toktomai, which meet at the base of the Buha-mangna, we saw from the low hills to the south the high and snow-capped Kurban-habsere,* a shoulder, as well as I can judge, of the Great Dang-la. We were now in the basin of the Murus ("*The* River"), the Drechu of the Tibetans, the head-waters of the Yang-tse-kiang, into which all the rivers we had crossed since leaving the Tsaidam find their way. The country was mostly of limestone formation, grazing was good, and game plentiful, but so wild that I could not approach it; and, longing for a change of diet from the invariable menu of tsamba, we made a rolly-poly stuffed with wild leeks, the only luxury the place afforded.

* Kurban-habsere or "the three habsere;" Atak-habsere or "Lower habsere" (probably Prjevalsky's Mount Dorsi), Tumta (or "Middle") habsere and Eken (or "Upper") habsere. To the north-east of the Atak-habsere we saw a high snow-peak, called by my guide Satokto-san-koban-mengku (Bad-boy snow-peak?), which I took to be Prjevalsky's Mount Joma.

I think I have dwelt long enough on this region, its climate and bareness, to give an idea of it. Until we reached the tents of the Namru Tibetans, in July, it changed in no appreciable way. The soil was sandy or alkaline, of limestone or granitic formation; but for ever our route was over low hills or down broad valleys with just enough grass to keep our animals from dying, and fuel so scarce that we could barely find enough dry yak droppings (*argol*) to make our kettle boil.

Twice we crossed the Murus, the second time so near its source that we could see, a few miles away, the little rivulets dashing down out of the snow-clad mountains to form the stream we were fording, and which was not over 2 feet deep, though we were in the midst of the rainy season.

Our route led in a westerly direction along the base of the Dang-la till we came to the extremity of this great range, and found ourselves on the vast lake-covered plateau which some 600 miles further west becomes the Pamir, but is here known to the Tibetans as the Naktsang.* South of the Dang-la we were in Tibet, for the desert we had just crossed is a no-man's land, once inhabited by a few bands of Golok, who found it a convenient lurking-place from which to pounce on caravans travelling to or from Lhasa or on Mongol camps in the Tsaidam, but now deserted. A few stone hearths and rough altars, on which to burn juniper spines at the New Year, alone attest the former presence of man in this deserted waste.

On July 2nd I distributed the last of our tsamba and tea, enough for eight days, if used with the greatest economy; but of this self-denial I had but too good reason to believe my men incapable, and events fully justified my fears—in two days it was devoured, and I had to give them all my scant supply of tsamba and granulated cheese (*chura*), reserving only for myself about a pound of flour and a little tea on which to reach the first Tibetan camp, wherever that might be.

July 4th found us on the top of a pass leading from one to another of the numerous lacustrine basins through which we were for ever going. There was a lakelet here half covered with ice, a few sheldrakes and ducks were flying about, and bunches of coarse grass covered the spongy soil on which the snow was melting. Our pack mules could go no farther, so here we pitched our tents by a little rivulet that trickled down from the red cliffs beside the road, and while gusts of icy wind

* The importance of the Dang-la, which in lat. 33° stretches from long. 90° E. to 97°, on the climatic conditions of the Tsaidam and north-east Tibet, cannot be over-estimated. With an average elevation of probably some 20,000 feet above sea-level, it intercepts the moisture-laden clouds driven from the south-west by the monsoon. While its northern slope is a comparatively dry, arid waste, its southern is during nearly half the year deluged with rain, hail, or snow. The high, rugged range to the east of the Dang-la and to the south of the Upper Hwang-ho (Soloma) exercises a similar influence on the climate of east Tibet. See 'The Land of the Lamas,' p. 174.

swept rain-laden clouds to us, driving the pungent smoke of our fire of wet argol into our inflamed eyes, we huddled together around the little blaze to drink a cup of tea made with muddy, brackish water, and solace ourselves with a pipe. On July 6th we came to the Tsacha-tsangbo chu * flowing westward into the Yirna-tso, which we could see some 20 miles from our route. We had much difficulty in crossing the swollen turbid stream, wading through its swift current, holding up the loads of our mules, and dragging them as fast as we could through the soft sandbanks which divided the river into half a dozen channels, and guiding them around the quicksands. On the south side of the river signs of habitations were everywhere visible in the low walls of cow-dung, which the Tibetans build inside their bleak, cheerless tents to keep out the wind; but still, look where I might, I could see no tent or flock of sheep. So once more we drowned our mighty minds in tea, and without food for the third day lay down in our clothes, now soaked for the last forty-eight hours by the incessant rain, to dream of the fat mutton and buttered tea which did not come. The next day we pushed on, making for a pass in the low mountains before us, and we had not gone many miles when we saw a number of yak and a little flock of sheep wandering over the hills, and then, in a nook, we discerned what we longed to find, and still dreaded to see—two Tibetan tents.

We entered the valley leading to the pass, and camping a mile or so from the tents, I sent Samtan Jalang and my headman to the nearest one to buy some food and ask our road. Soon they returned with a sheep, some butter and cheese, and the news that we were two days west of the Amdo-tsonak, and about the same distance from the north-west corner of the Tengri-nor, or, as these Tibetans called it, the Drolma Nam-tso.†

The people to whom my men had spoken belonged to the Namru tribe, and were under the rule of Lhasa, as were the Amdo, their neighbours to the east. They begged my men not to mention that they had sold them anything, as they had received the most formal orders to hold no communication with travellers coming from the north, a quarter they never visited save when going to the salt lakes we had passed a few days previously. The questions the Jalang had asked greatly excited their suspicion, "for," they reasoned, "if you do not know the country, what are you doing here?" So it was only after making the women of the family some presents of buttons and looking-glasses that he learnt the details I have just given.

The next day we crossed the range, getting from the summit a

* The Zacha Sangpo of our maps, but there placed some 51′ too far north. See map accompanying supplementary papers of the Royal Geographical Society, III., Part 1.

† Drolma Nam-tso, "The Heavenly Lake of Drolma." Drolma, or Dolma, is the name of the deified Chinese consort of the Tibetan King, Strong-tsan-gambo. She is one of the most popular deities of Tibet.

beautiful view of the Namru-tso, a good-sized lake of azure hue, and far to the south of the snow-capped ridges of the Nyin-chen Dang-la, the mountains between the Tengri-nor and Lhasa.

A broad valley lay before us dotted over with tents, and herds of black cattle and flocks of sheep, a low range of reddish hills closing it to the south, and hiding the Tengri-nor from our view. We were now in the midst of the pasture-lands of the Namru and on Lhasa soil, so I braced myself for the war of words which I felt must soon begin. That night we camped near some tents, where we found Lhasa traders stopping, who offered to sell us tsamba and other necessary supplies on the morrow.

Late at night a beggar, whose tent was only a stone's throw from our camp, came and offered to take me to Shigatse in six days. The first four, he said, we would travel through uninhabited country, but after that tents (*drupa*) would be numerous till we reached the Tsang-gi-tsang-bo in front of Tashilunpo. During the day some other people had come to see me, but I had shut myself in my tent pleading inflamed eyes, and only saw them at night, when they could not clearly distinguish my features. They left me, however, with the evident impression that something was wrong about my party, that our ignorance of the roads was suspicious, and that our story of having lost our guide and strayed from our route was not a thoroughly satisfactory one. I went to sleep that night with an uncomfortable feeling of impending trouble, to which I had added the irritation resulting from a violent row with my Mongol guide, whose impudence had steadily increased as time went on, and he felt how important he was to the success of my undertaking.

The next morning by daylight I was awakened by shouts of the Tibetans calling to my men—as is their custom when wishing to enter a tent, to hold the dogs while they came in to see me. The spokesman of the party, a jolly-looking, dirty-faced fellow with long locks of greasy, curly hair falling on his shoulders, and dressed in a gown of the finest purple cloth, saluted me by sticking out his tongue, and making a deep bow with both hands held out towards me, then squatting down, he asked me to remain camped where I was until the Deba of the tribe could come and talk with me. They had all received orders from Lhasa to allow no one to pass through the country. The year before last (1890) the Prince of the Tongut Mongols had been stopped here when on his way to Lhasa, and only allowed to proceed when his passport had been sent there and found *en règle*. His had been the only party which had ever come here from the north. He offered to supply me with food and everything that I might require, for which he could accept no compensation, if I would comply with his request; otherwise I could have nothing. I was obliged to accede to his demands; without food of any kind, I was absolutely at his mercy. While we were

talking I noticed horsemen coming in from every quarter, each with a long matchlock slung across his back, a big sword passed in his belt, and not a few with bows and arrows besides. Before an hour some sixty or eighty of the tribesmen were squatting around fires all about our camp, drinking tea and watching us. My men now felt sure the end had come. They had all heard that death awaited, not only any foreigner who might try to enter the Lhasa country, but all his followers as well. The wild looks and warlike array of our guards filled them with terror. The Mongols passed the day burning sheep's shoulder-blades to divine their fate; a little Halha Mongol Lama, who had joined my party in the Naichi valley, chanted his litanies with wild energy, and my Chinese, with characteristic stolidity, ate their fill and asked that death might come quickly if Heaven had decreed they should now die.

The day following the Deba arrived, preceded a few hours by three officials from Lhasa, who happened to be in these parts collecting tithes for the Tale Lama. The long talks between us which followed during the next three days, the endeavours made by the Tibetans to induce me to go back the way I had come, their efforts to frighten me by pictures of the dangers of travelling in their country, dangers alike from man and the elements, it would be wearisome to relate. I begged them to give me provisions enough to go around their country to the west and thus reach India, telling them that we had only come to their country by accident, pressed by hunger and in ignorance of the roads, that I had no inclination to travel in Lhasa governed country, for my object was to reach Darjiling, not their capital. To all my arguments they opposed but one answer: "If you do not leave this country by the way you came, off will go our heads, for the laws of Lhasa cannot be disobeyed." I produced the passport of the Tsung-li Yamen; the big red seal on it impressed them a little, but as they could not read Chinese, it had very little value. I scored a point, however, when I told them that, after all, my proceedings did not concern them, that, travelling under Chinese protection, it was for the Amban at Lhasa to say what I should do and where I should go. Since they would not listen to me, I would send one of my men to Lhasa to ask that Chinese officials be sent to confer with me here. In consequence of this the Deba conceded that I might go to Nagchuka on the highroad to Lhasa from Hsi-ning, and there talk with the Kanpo, to whom he would despatch a courier advising him of my coming. I would travel by the valley of the Tsang-bo-chu to the north, while the messenger would take a direct and shorter route, and so I would experience no delay. This project suited me fairly well. I had now reached a point where my route nearly overlapped that of Nain Singh when travelling in 1874–5 to Lhasa from Shigatse around the Tengri-nor.* The road I would

* Nain Singh calls this country De Namru. *De* means "district."

follow, if allowed to proceed southward, was that surveyed by this most careful explorer, so I could not hope to add much to our knowledge of the country. If, on the other hand, I followed the route suggested by the Deba, I should see a great deal of new country. So I made up my mind that Chamdo and Ta-chien-lu would be henceforth my objective points, and that I would endeavour to reach at least the former place by routes heretofore unexplored.

My two Taichinar Mongols refused to go any further with me than Namru, and I was heartily glad of it; they had been of very little use since we had left the Murus behind, as the country was new to them—they were timorous to a degree, enormous feeders, and extremely lazy. I gave them their wages, a tent, a kettle, a couple of ponies, and enough food to last them two months, and they left at once in great hurry to get their heads out of the lion's mouth.

On July 13th we broke up camp in the Namru valley, and began our long march eastward. Just before leaving I gave the Deba a *k'atag* (ceremonial scarf), and thanked him for his courtesy and kindness. He said that, as for himself and his people, they would be well pleased to see foreigners visit their country, for they had many things strange and beautiful to sell. Moreover, he now knew that foreigners were not the bad men the Lamas always made them out to be, for I had used smooth words and shown myself amenable to reason; "but," he added, "we Namru are not our own masters, and have to obey the orders of the Lamas of Lhasa, who are bad and cruel. Should we disobey"—drawing his hand across his throat—"off would go our heads!" During my whole stay in the Namru valley, every one had been most polite and anxious to please me. I had been supplied daily with every delicacy of the Tibetan cuisine—sour milk, clotted cream (*pima*), tsamba, mutton, and buttered tea—which our long fast prevented us for days from enjoying, and the Deba had made me many presents, among others a good saddle pony, and now I left with an escort (or guard) of ten soldiers, resplendent in purple gowns, high, wide-brimmed summer hats, and all their many silver-mounted arms and accoutrements.

We followed the road by which I had come till we reached the Tsangbo-chu, which we crossed this time by a good ford, and then for three days we kept up the course of the river over a soft gravelly soil with tussocks of grass and bits of bog, through which we had much difficulty in picking our way. To add to our discomfort, there were violent storms of rain and hail daily, drenching us and our belongings, and making it most difficult to find a little fuel with which to boil our tea. The escort was worse off than we, for we had a tent, while they had nothing but their big saddle blankets in which they wrapped themselves on the approach of a storm, and supperless went to sleep. When the weather was fine they fared, however, sumptuously. On reaching camp five or six went foraging for fuel, two others filled the

kettles, and others started the fires with big goatskin bellows. The little troop was divided into two messes, each with its kettle and bellows, while every man carried his supply of tsamba, dried mutton, tea, butter, clotted cream, and wheat cakes; also a little earthenware pot in which to boil his tea. While the tea was boiling, they drank a cup or two of (*tarak*) clotted cream; then, having well licked their wooden bowls, they fell-to—tea and tsamba as first course, tsamba and tea as second, and buttered tea as dessert. When they had finished eating, they sat till bedtime talking, twirling their prayer wheels, and twisting yarn, their only amusements, for games, with the exception of knuckle-bones, are, I believe, unknown among them.

Occasionally we caught a glimpse of snowy mountains far away to the north, but most of the time we could see no farther than the low hills on either side of the valley.

On the fourth day after leaving the Namru camp, we passed out of the valley of the Tsang-bo-chu over hills of soft wet gravel, in which we sank to our knees, and entered the basin of the Chang-tang-chu, which I am inclined to consider the westernmost feeder of the upper Jyama-nu-chu. From this point we took a slightly southerly course, skirting the foot hills of a range some 20 miles distant, running parallel to our route. The weather grew worse, and the trail worse, if possible. Frequently we had to ford swollen streams, to drag our foot-worn horses through miles and miles of mud; sometimes, even, we rode in river beds, the only place where we could find a solid foothold. For ten days we pushed on amidst every kind of discomfort, burning our pack-saddles to dry our soaked clothes and warm our limbs—stiffened by the cold and incessant downpour.

At last we reached *terra firma* and camped near a pool in the hills not far from the stream, the Dang-chu, flowing southward, and then the Namru showed me to the south Mount Bumza and the road to Nagchuka, and with a hasty good-bye, fearing lest they might be attacked by some of the people of the country with whom they had a long-standing feud, they rapidly rode off.

We had not gone a mile along the high-road when we saw horsemen and pack-mules travelling south, and coming up with them, I found that they belonged to the great caravan which annually at this season goes to Lhasa from Tankar and Kumbum with horses, mules, and Chinese goods to be sold in the Tibetan metropolis. There were about two hundred men in the caravan, and many of them had known me at Kumdum. They were aghast at the meeting, so near Nagchuka. If we arrived at that place together, they would be refused permission to proceed on their journey, for they would be undoubtedly suspected of having guided me there and otherwise assisted me in evading the universally known orders against foreigners. We talked the matter over, and, as it really was indifferent to me whether my progress south

was arrested here or a few miles further on, I told them to send men ahead and notify the nearest post of soldiers that a foreigner was coming, and that they disclaimed any knowledge of his movements and had nothing to do with him. In the meantime, I and my little party rode on some fifteen miles, and camped in a sheltered nook in the gravel hills which bordered the wide river bottom.

Towards evening, six or eight soldiers rode up and asked me to oblige them by remaining camped where I was until the Nagchu Pinbo could come and see me. To this I readily agreed. Some rest was absolutely necessary for the horses, now in a terrible condition, so worn were their hoofs and so lame, that they could hardly put one foot before the other. The next day two Tibetans from across the river came into camp, and from them I learnt that their country was a part of Jyade, a province under the rule of the Chinese Ambassador residing at Lhasa. I sent my headman back with them to buy a sheep and some tsamba, and when he returned he was accompanied by the chief, the Pere Pinbo. He asked me where I was going, and I told him my story and of my desire to reach Chamdo. He invited me to come over to his country, saying that he would do all he could to assist me, exchange my worn-out horses and mules for fresh ones, give me food in plenty, and find me a guide. So it was decided that as soon as I had seen the Nagchu Pinbo I should cross the river and accept his proffered assistance.

It was the 26th of July when the official from Nagchuka, accompanied by a number of chiefs, soldiers and retainers, arrived at my camp and pitched his tent near mine. I passed the day talking to them of my plans, of which they had no concern, as my route would lie wholly outside their territory, and on the morrow I bade them good-bye and crossed over the Dang-chu to the Jyade side. The Jyade (*Rgya-sde*) or "Chinese province," extends from east to west over 200 miles and more of country between the Dang-chu and Chamdo, with a probable breadth of 60 or 70 miles; touching to the north, the Dang-la and its eastern branches, and to the south, bordering on the Lhasa governed provinces of Larego, Shobando, etc. Its people have from the oldest times professed the Binbo religion (a form of the devil worship or Shamanism, which has, at one time or another prevailed over most of Asia), a creed not tolerated in the kingdom of Lhasa, which tried for a long time to crush it out of these regions. When, in the 17th century, the Chinese assumed control of Tibetan affairs, they put a stop to the incessant warfare between these two countries by forming a separate province of all the Binbo principalities, and putting it under the supervision of the Emperor's Amban at Lhasa. This province was called Jyade. Thirty-six chiefs or Debas, chosen from among the most influential headmen of the country, are appointed by the Amban, and are in receipt of a yearly stipend from the Emperor of one hundred

ounces of silver. Under these rule numerous chiefs of clans whose charges are hereditary.

Nearly the whole of Jyade is pasture-land above the timber-line (in this latitude about 13,500 feet above sea-level). The people, though poor, appeared to me more light-hearted and freer in their manners than any I had yet met with in Tibet, and this I attribute in a great measure to the absence of large lamaseries in their midst, whose inmates would keep the people in a constant state of perturbation, and crush themunder endless exactions of all kinds. Binbo lamaseries are neither large nor numerous, and the Lamas of this faith with whom I have talked surprised me by their liberal views and readiness to accept new ideas. My favourable opinion of Binbo Lamas was confirmed later by the French missionaries at Ta-chien-lu, who told me that in south-eastern Tibet their work had been greatly facilitated by the good-will and assistance they had received from Lamas of this religion.

The importance of the Binbo religion has not, I believe, been heretofore suspected. All along the eastern borderland of Tibet, from the Kokonor to Yun-nan, it flourishes side by side with the lamaist faith. In Jyade, where there are certainly fifty thousand people, it rules supreme, and in all the southern portions of Tibet, not under the direct rule of Lhasa, its lamaseries may be found. So it seems that this faith obtains in over two-thirds of Tibet, and that it is popular with at least a fifth of the Tibetan-speaking tribes.

In dress and in their mode of living the Jyade differ in no appreciable way from most of the Tibetan tribes leading a semi-pastoral life. In features they resemble other Tibetans, the Lhasa and Shigatse people excepted, who are unquestionably of mixed breed, the men about 5 feet 6 inches in height, of rather slight build, with thick and usually wavy hair falling on their shoulders, to which many add the Chinese appendage of a huge queue of false hair, on which they string finger-rings and a great variety of ornaments fastened to a band of red cloth. The nose is thin and aquiline, with frequently a broad end, the teeth strong and irregular, the eyes usually well set and large. The women are not appreciably smaller than the men, and of about the same build, the younger ones frequently good-looking, but disfigured by the black paste (*toja*) with which they smear their faces to protect their skin against the wind.

The clothes of both sexes consist in a single gown with a high collar—in winter of sheepskin, in summer of *pulo* (native cloth), violet for the men, blue for the women. Sometimes they also wear a light shirt of silk (*buré*), with a high red collar. Boots with cloth tops, fastened below the knee by broad garters, complete this rather picturesque though clumsy dress. The women wear their hair in a great number of little plaits, falling over the shoulders like a cloak and reaching below the waist. Down the middle of the back is fixed a

broad band of red, green, and other coloured stuffs, on which they sew ornaments of silver, turquoise, coral, or any ornamental knick-knack they may own.

The day after reaching the Pere Pinbo's camp he brought to see me Nor-jyal-tsan ("The Standard of wealth"), the Horgo Deba, the great chief of this section of country, and who was about to leave for his home on the Su-chu, some eight days' travel to the east. After a long talk it was agreed that I should go with him; and he promised me protection and a guide all the way to Mer-jong, the first village on Chamdo territory. I presented him with fifty ounces of silver and a few odds and ends, all of which greatly pleased him. "If the sky falls," he said, "it shall strike me alone; you shall not suffer."

Our route led us in a general east-south-easterly direction across the numerous rivers which, coming down from the great mountains to the north, form the head-waters of the Jyama-nu-chu, supposed to be the Upper Salwen. The country was fairly well peopled. We passed every mile or two clusters of tents, near which were herds of yak and little flocks of sheep and goats.

On August 5th we reached the Su-chu, held by the natives to be the main stream of the Upper Jyama-nu-chu, here about 75 yards wide and 8 or 10 feet deep. We crossed it slung by the middle to the raw hide cable which spanned the river, fastened to big rocks on either side. Our luggage was got across in the same way, and the horses swam. Here, at an altitude of 13,700 feet above the sea-level, we found the first village we had seen in Tibet; and I noticed also a few patches of barley. Rhubarb was so very abundant on some of the hillsides that frequently we saw the stalks used to roof the little stone huts the people build hereabout as storehouses adjoining the tents in which they live.

We came on the 10th to the I-chu, the largest river we had yet seen, and which we had great difficulty in crossing. Then we reached the Rama-chu and saw the mountains covered with trees—stunted cedars and pines. Leaving behind the pretty Batasumdo valley, we came, on the 16th, to the Seramdo-chu, where hamlets, resembling from afar our old mediæval castles, crowned every hill, and the whole valley was green with fields of waving barley. This river we crossed in the same manner as the Su-chu.

On August 18th we camped in Nar Peihu, the birthplace of my protector the Deba Nor Jyaltsan, and a few miles below the big village of Chebo Tenchin on the Ze-chu. Here in the night, and with much mystery, came to me a man of Chebo Tenchin, who showed me a sheet of very soiled foolscap, asking me to translate the lines written on it, and which a *pyling* ("foreigner") had given him a few months before. It was a certificate by H. Bower, Captain 17th Bengal Cavalry, stating that the bearer had supplied him with transport, fuel, and fodder, and was dated December 17th, 1891.

When on the Su-chu I had heard that in the first month of the year a party of foreigners coming from the west—no one knew where—had passed eastward by a route parallel and to the south of the one I was following. Their dress, habits, and especially their black cook, had been so minutely described to me that it had left no doubt in my mind as to the truth of my informant's story; and now it was confirmed, and our roads, starting from such widely separated points as Leh and Peking, had finally met in the heart of Tibet.*

While camped in Nar Peihu I noticed many articles of peculiar excellence of manufacture, blankets, baskets, silver and iron work, also red peppers and remarkably fine wheat flour. I learnt on inquiry that they came from Po-ma, or Lower Poyul, a country some sixteen days to the south, and which the Jyade people frequently visit. But very little is known of this country, so I hope a short digression on the subject will be pardoned me. Poyul comprises two districts, Upper and Lower Po, Po-ti and Po-ma. The upper, or mountainous, section of the country is inhabited by a lawless lot of herdsmen; but the lower is an open country, where the climate is warm and the soil fertile, so that with Derge it is held to be the richest region of Tibet. Its present manufacturing pre-eminence is due to a singular cause. During the war between China and Nipal in 1792 a detachment of Su-chuanese troops was sent to the seat of war by way of Pomi, a country nearly unknown at the time to the Chinese. Arriving here, no route could be found leading to Nipal, and struck by the beauty and fertility of the land the soldiers deserted *en masse*, and marrying the women of the country they settled here. 'Tis among the descendants of these Chinese that the beautiful blankets, the fine silver work, and the famous Pomi horses are found.

The whole of Poyul is independent, though nominally it is under the high control of the I-Chin-chai or "Envoy to savage tribes living at Lhasa; a Manchu officer who is colloquially called 'the Third Amban.'"

On August 20th I reached Mer-jong, the first village or rather lamasery, on Chamdo territory, and here we said "Good-bye" to our faithful guide Aniang, the headman of my friend Nor-jyaltsan, who, with his master, had proved himself a true and steadfast friend. Had it not been for the assistance these two men gave me, I should probably have had many difficulties to encounter, but thanks to their untiring kindness I travelled in comparative comfort and without a single disagreeable incident.

Two days after leaving Mer-jong we came to the town of Riwoche

* Between the Namru country and Mer-jong Captain Bower's and my route frequently crossed each other, and along a part of the way were the same, although the names differ. On his map Khemo Tinchin figures as Chumbotinsi. Mer-jong is near his Kezalomba and to the east-south-east of it.

on the Tse-chu, a place famed for its beautiful temple and its picturesque situation at the foot of steep forest-covered mountains between which winds the broad, swift river, here spanned by a substantial bridge of huge pine logs. The Riwoche province belongs to Lhasa, and the Lamas viewed my visit with sullen discontent. From this place we followed the river down for two days, and then came to the Chinese post-station of Nyulda (En-ta, in Chinese), where the soldiers gave us the first fowls and eggs, cabbage and turnips, we had seen for many a long month.

I was not over two days and a half from Chamdo, where we hoped to be able to buy new clothes and replenish our nearly exhausted supplies with some of the good things with which we had been told the Chinese shops of this important town were full. On August 26th we reached the Sung-lo zamba, a fine bridge over the Tse-chu, by which Bonvalot and his party were led around Chamdo in 1890. Here I was met by a high Lama official, who suggested that I should take the same route, and not enter the town, in which the people, and especially the 3000 Lamas of its great monastery, were very hostile. I objected to this, telling him that, as I had come to examine the country, I could not think of going over a road already followed by foreigners; so, after a day spent in arguing the point, he gave me guides and pack animals (*ula*) to go through the southern part of the country as far as Pungda (Pao-tun of the Chinese) on the high-road to China, near where he would meet me with all the many supplies, clothes, etc., that I required, and fresh ponies in exchange for mine.

Our route lay at first over steep and high mountains, then down a valley covered with the most beautiful pine trees, their branches draped in long, cobweb-like moss of light yellow and bright orange. There were many silver pheasants in the thick underwood, and the yak drivers told me that bears, leopards, and wolves were frequently found here. Leaving this behind, we passed into another valley of great beauty, in which I found nearly every variety of tree and wild fruit known to Tibet—cedars, junipers, cypress, pines, and maples, plum and apple trees, cherry and apricot, raspberries, both the orange and red varieties, strawberries and currants.

At Kinda, a little hamlet on the Om-chu at the mouth of this valley, I found the Chamdo Lama waiting for me with all the things I had asked for, and a variety of presents from the Papa Lha, the ruler of the country, thanking me for having complied with his request not to enter the town. From this point I followed the bank of the Om-chu for a day, and then crossing the river on a raft of heavy logs, we climbed the steep Pung-la, and saw from its top the little post-station of Pungda and the highroad to China as it wound up the sides of the Ipi-la, the limestone crags along its summit riddled with holes, so that the Chinese have called it Ku-lung-shan, or "the mountain of holes."

From this point on I could stop every day in the Chinese post-stations (*tang* or *kung-kwan*) kept along this route by the Imperial government for travelling officials and couriers. The men stationed in them cultivate patches of cabbages, turnips, greens, and tobacco frequently on the roofs of their wretched dens, and in the yards of the little compounds a few fowls drag out a miserable existence, and pigs wallow in the mud which is ever to be found around Chinese quarters. All these soldiers have native wives, whom they say are better than Chinese, for they do *all* the housework, and the husband only has to look after the babies and smoke his pipe. Many of them had been in Tibet twenty or thirty years, and still saw no chance of getting back to their native land. The journey home must be made at their own expense, and they are never able to save a cash of their miserable pay. In fact, most of them are paid in brick-tea at a valuation put on it by the commissary of Batang or Ta-chien-lu, usually double the price for which they can sell it to the natives, who pay them in butter or tsamba, mutton, or yak meat, and so, as they said, "we never even see a bit of silver from one year's end to another."

Crossing the Ipi-la, we were on the territory of Chamdun (or Draya), an independent state ruled by a high ecclesiastical dignitary with the high-sounding title of Chab-gon Rinpoche Lepe-sherab. At the foot of the pass I found a gorgeous Lama and a numerous suite awaiting my arrival. He was a secretary of the great Lama, and had come all this way to beg me not to come to the town. I met all his arguments in favour of other routes by a flat refusal, and, pushing on ahead of him, reached Draya in two days and a half. I stayed here a day to make friends with the people, talking to them and showing them my few belongings. By this means I here and elsewhere got information which direct questioning would never have elicited, for Tibetans, like all Asiatics, are too suspicious to admit for a moment that curiosity can be the only motive that prompts a man to question them about their country, its products and customs.

Between Draya and Gartok (Chiang-ka in Chinese) the country did not vary from what we had seen since entering Chamdo territory—narrow valleys and lofty mountains, some covered with forest growth, others with only grass and wild flowers, others, again, with their peaks deep in snow. The valley bottoms were generally cultivated, thorn hedges enclosing each little field. The houses were nearly hid under the golden mass of wheat and barley drying on high frames erected on the roofs, and from the ends of the rafters swung ropes of drying grass, or strings of turnips. The people differed from one to another canton chiefly by peculiarities of language and the shape of their arms and ornaments. We met very little traffic, only one or two small caravans, none going far west; and I learnt with astonishment, for it was far from what I was prepared to hear, that the trade between China and

Lhasa is mostly over the road through the Horba and Derge countries I had followed in 1889. The road we were on is used by Chinese, and has importance for them alone, as they find shelter and protection at the military stations along it. In this connection it is curious to find bands of mounted robbers—the Shanghe (or Sanghe) Chakba—attacking caravans along this route, between Draya and Batang, at the same localities where their forefathers did in the reigns of Kang-hsi and Chien-lung. Ten or fifteen Tibetan soldiers always joined my Chinese escort when we had to traverse any of these robber lairs; and though we never fell in with any, every one vouched for their audacity and ferocity. These Chakba have no legal status—by that I mean that, having been nominally exterminated a few years ago by the military mandarin of Batang, no further notice can be taken of them—and they can carry on their brigandage without fear of the guardians of the high-road on which they operate.

Gartok, which I reached on September 10th, is the capital of a province of Lhasa called Merkang (or Merkam), with its northern boundary 50 miles to the north-west, on the road to Draya. I was most hospitably received by the lieutenant in command of the Chinese garrison, who was a Mohammedan from Ta-chién-lu, and a relative of people I knew there.

Leaving this place, I reached Batang on the 15th. I was much surprised to find this large place of no commercial importance. Hardly any trade passes through it, and there are only two small Chinese firms doing business here.* The bulk of such trade as there is is in the hands of the Lamas; but they prefer the pawnbroking business, and to lend their money to Chinese at Litang and Chamdo, on whose integrity they can count, and who pay them a high rate of interest. I was detained here three days trying to get the Commissary (*Liang-tai*) to cash a cheque on the missionaries at Ta-chien-lu; but he refused in a most offensive manner, and I had with him the only row I have ever had with a Chinese official. At Batang my surveying work was at an end; and it was with a sigh of relief that I closed my field-book and packed up my prismatic compass. On September 24th I reached Litang, to find the place in a wild state of excitement. There was war between Litang and Chung-hsi over a question of the cultivation of pasture-lands by the latter tribe. Some five thousand soldiers were camped below the town. A fight had already taken place a day or two before, and the spoils of battle—yak and sheep—were herded in the adjacent meadow. I stopped for two days in the Chinese Yamen, and

* The war at Litang had certainly much to do with the complete cessation of travel on the road between Batang and Ta-chien-lu, but still I do not think that this can invalidate what I have previously said about the bulk of the trade passing over the Derge route. I was assured by a number of Chinese traders between the Seramdo chin and Chamdo that such was the case.

then set out for Ta-chien-lu, where I arrived in six days, to be welcomed by my good friends the Fathers of the Mission of Tibet, whom I found waiting for me, as news had reached them two days before that I was on the way.

Here, on the eastern border of Tibet, my journey was practically ended, for, though several thousand miles still separated me from the seaboard, they could be travelled in comfort and with rapidity. Leaving Ta-chien-lu on October 5th, I was in Shanghai on the 29th, exactly eleven months from the time I had left it. In this time I had travelled about 8000 miles, surveyed 3417, and, during the geographically important part of the journey, crossed sixty-nine passes, all of them rising over 14,500 feet above sea-level. I had taken series of sextant observations at a hundred points along the route, made three hundred photographs, collected between three hundred and four hundred ethnological, besides botanical and geological, specimens. For two months we had lived soaked by the rains and blinded by the snow and hail, with little or nothing to eat, and tea as our only beverage; and yet not one of us had a moment's illness from the day we left till we reached our homes again.

From Kalgan to Batang I ran a traverse on an approximate scale of 4 statute miles to the inch, using for that purpose a prismatic compass, and taking the distances with a watch, controlling three or four times a day the rate at which I was travelling by counting my steps (of 30 inches), now on a level road, then going up and coming down hill. I took on an average one bearing to every 1½ miles along the route (about 2500 in all), besides as many side sights as possible for triangulation. On the summits of all passes, at all river crossings, watersheds, etc., the aneroid barometer was read, and throughout the journey, at 7 a.m., 2 p.m., and 7 p.m., the atmospheric pressure, the temperature, and the condition of the atmosphere (clouds, wind, etc.), were recorded. At each camp the altitude was determined by the boiling-point of water, and aneroid readings between two consecutive camps have been compared and corrected by them.

Sextant observations for latitude and time were taken whenever the weather allowed. As I was most anxious not to attract the attention of the people, I only occasionally observed the sun, doing nearly all my work at night. Every three or four days, when the weather served, I stopped for a day or two to get a rate for my watch, and at some six or eight points along the route I made daily observations (equal altitudes of sun, stars, observations for sun's azimuth, etc.) for periods varying from five to fifteen days.

As far as I have been able to compare my work with that of previous travellers, Prjevalsky to the north and Gill to the south, the results are very satisfactory, though of course I lay no claim to great exactitude for any portion of my work; it is but a preliminary reconnaissance executed alone, and under considerable difficulty.

Before the reading of the paper, the President, Sir MOUNTSTUART GRANT DUFF, said: We are always particularly glad to see Americans here, but on this occasion we are specially obliged to Mr. Rockhill, because, at the request of your Council, he has come across the Atlantic, at very considerable inconvenience to himself at this inclement season of the year, simply to read this paper before us to-night. Mr. Rockhill was prepared for his arduous and valuable work as a traveller by a very considerable and varied experience of life. When only a child of ten years old he left his own country, was educated in France, spent many years there, passing among other things through the great military school of St. Cyr. After he left St. Cyr he went into the French legion in Algiers, spent there three years; then he returned into his own country, and saw a great deal on the extreme frontier in New Mexico and the neighbouring districts; after that he passed into the diplomatic service of America, and spent ten years or thereabouts in China and the countries immediately bordering on China. He was for some time Second Secretary at Peking. He was detached on diplomatic duty to serve in Korea; there he spent some time. Then he travelled very widely in Eastern Tibet, and wrote what is much the best recent book we have upon the country, which some of you know as 'The Land of the Lamas.' He then returned again to China, and made this further expedition through Mongolia, round into Tibet, very nearly reaching Lhasa, then by a great circuit regaining Chinese territory. I hope and believe that, large as his travels have been, they are by no means yet ended, and that he has a great deal more of work to do for science. Meantime it gives me the greatest possible pleasure to introduce Mr. Woodville Rockhill.

After the reading of the paper the following discussion took place:—

Sir HENRY HOWORTH: The only two claims I have to speak are, first, that I am probably the oldest friend Mr. Rockhill has in the room; and in the next place, I have written a very long and dull book about the Mongolians. In regard to Mr. Rockhill, he is now exactly what he has always been, the same modest and proficient scholar I have long known him. You will hardly guess that he is one of perhaps three men in the world who know both Chinese and Tibetan, and the only man who is known to have waded through the enormous masses of Buddhist literature of Tibet, an absolutely unknown land to all but himself. Every name in this country has more or less of romance attached to it to those who, like myself, know of its history. Here we have on this map the town of Teng-ru, the capital of Prester John, the wonderful pontiff king Marco Polo wrote so much about. The next town we come to is Ning Hia. Then we have the Non Shon country, where we are told they led a great expedition, of which we get the most romantic accounts and legends mixed up with the curious folk-lore that still survives. Then at Koko Nor you have what is perhaps the most romantic occurrence of which we know—the great migration of a people from one side of Asia to another. The Kalmuks settled on the Volga, feeling the pressure of the Russian taxes, set off on one of the most extraordinary journeys ever made by human beings, traversed two-thirds of Asia, landed north of this range, and a portion settled down by the Koko Nor. It was here they were settled at the beginning of the last century when the great fight occurred between the sacred rulers and the secular rulers of Tibet, and these Kalmuks saved the great chief Lama from the secular emperor, who had usurped authority in Tibet, and it is thus owing to these Kalmuks that the Lamas owe their present position in Tibet. I ought to say I was present last night at a house where Mr. Rockhill was describing previous travels, and showing us of what great value were the travels of Huc. Some travellers, especially Russians, have stated that he was untrustworthy, and his sentences are not always to be taken as sober prose; but we all must feel that his picturesqueness has never been excelled by

any man who has yet travelled in these regions, and I am glad to hear from Mr. Rockhill that his accounts are not only picturesque but in the main true, in regard to what he saw. I really hardly know where to end, as I hardly knew where to begin, as the whole of this country is so full of romance to me. I thank you very much for having listened to me so patiently, and congratulate you upon having this evening so excellent a traveller, so good a scholar, and one who has brought before you so graphic an account of this most interesting and romantic country.

Captain Bower: I have really very little to say about Mr. Rockhill's travels, save one thing one cannot help admiring. Whereas in my journey I was able to make all preparations in Leh in British territory, and then to start fairly across the desert, he, on the other hand, had a long journey before he reached the desert; the really difficult part of his journey was therefore very much more difficult than mine.

Mr. Delmar Morgan: The Society is much to be congratulated on Mr. Rockhill's first appearance among them this evening. For years we have heard of him and his explorations in Tibet. We have read his book and the articles published by him giving the results of his first journey, but this is the first time the Royal Geographical Society has had the opportunity of welcoming him. Mr. Rockhill's success is largely due to the pains he took to learn the language of the natives. Even as a boy he studied Eastern languages, and several years' residence at Peking enabled him to pursue his studies till he became a good Tibetan scholar. To this knowledge of the language, and to the coolness and intrepidity he displayed on critical occasions when the slightest mistake might have been a matter of life and death, Mr. Rockhill owed his success in penetrating so far into that lama-ridden country, and in learning so much of its geography.

The late General Prjevalsky, in his three expeditions into Tibet, greatly extended our knowledge of its physical geography. Mr. Rockhill has not only done this, but he has told us more than was ever known before of the religion, the politics, the habits, and the languages of that country. All this he has touched on in his paper, and our best thanks are due to him.

The President: You will, I know, instruct me to express your very cordial thanks to Mr. Rockhill for his admirable paper. It is very seldom we enjoy the advantage of listening to one who is not only a most distinguished traveller, but a most distinguished scholar. He has put at our disposal to-night a history of his travels; and I am authorized to say that he is about to assist us by editing and annotating most fully the documents we have for some time wished to lay before the members of the Society—the account by one of the Indian native explorers of a visit to Lhasa and other portions of Tibet. It would be very improper in me to sit down before I also express your thanks to Sir Henry Howorth, one of the greatest authorities on these parts of Asia; to Captain Bower, to whom we have listened so recently; and Mr. Delmar Morgan.

Mr. Rockhill's Map.—The map to accompany this paper has been reduced from the original prepared for the Smithsonian Institute by Mr. Rockhill. It is constructed from a traverse survey, positions of many places having been fixed by astronomical observations, and the heights determined by boiling-point thermometer.

The following table of Heights above Sea-level of places on Mr. Rockhill's map, will be found serviceable:—

HEIGHTS ABOVE SEA-LEVEL.

By Boiling-Point Thermometer.

	Alt. in feet.
Kalgan	2,555
Kalgan (Fritsche)	2,706
Kalgan (Prjevalsky)	2,709
Tsahan-obo	4,824
Kwei-hwa-Cheng	3,635
Hoko (Yellow River)	2,997
Chiang-pan	3,153
Ashan	3,114
San-tao ho-tzu	3,450
Kwan-ti	3,404
Shihtsui	3,665
Ning-hsia Fu	3,723
Ta-pa	3,427
Chung-wei	4,005
Ying-pan-shui	5,326
Chung-chang-tzu	7,373
Lan-chau Fu	5,167
Lan-chau Fu (W.W.R. '89)	5,446
Lan-chau Fu (Bell)	5,500
Hsin-Cheng	5,340
Hsiang-tang	5,629
Hsi-ning Fu	7,509
Hsi-ning Fu (Prjevalsky)	7,500
Hsi-ning Fu (Kreitner)	7,559
Hsi-ning Fu (W.W.R. '89)	7,608
Lusar	8,907
Lusar (W.W.R. '89)	9,376
Sha-erh-wan	8,861
Tsa-pa	9,332
Bayan-rong	9,269
La-mo shan-ken	7,004
I-ma-mu Chwang (Yellow River)	6,582
Fei-tzu Chwan	7,112
Kuci-Te	7,634
Kuci-Te (Prjevalsky)	7,500
Sharakuto	10,967
Sharakuto (Prjevalsky)	11,300
Wayen-nor	10,198
Kaba Talen	9,508
Erte-chuka	10,280
Hato	10,207
Tso Kadri	9,797
Tsatsa-chuka	10,136
Muri-chuka	11,211
Wahon-jamkar	13,750
Kokosa (by aneroid)	15,207
Tsahan-ossu (1st Camp)	13,042
„ (2nd Camp)	12,279
„ (3rd Camp)	„
„ (4th Camp)	11,555
Koko-kutul (Camp below)	12,375
Shang Chia	9,939
Shang Chia (W.W.R. '89)	10,552
Yogoré-gol (2nd Camp)	10,791
Kawa-obo	11,845
Tosu-nor	13,179
Oim	12,533
Barong-kure	9,243
Barong-kure (W.W.R. '89)	9,809
Shudenge	8,833
Shara-tolha	8,799
Tengelik	8,735
Bolang	8,631
Tolieken	8,715
Tsahan-kol	8,525
Naichi-gol	8,925
Kano	10,720
Tsahan-toha (Naichi-gol)	10,725
Chibeke (Naichi-gol)	11,241
Buhutai (Naichi-gol)	11,793
Tator (Naichi-gol)	12,133
Kure-bori	12,500
Kure-bori (Prjevalsky)	12,285
Sharakuiyi-kutul	13,788
Chuwu-doksai	15,152
Elesu-nor basin	14,442
Elesu-nor, Bank of	14,497
Kokoshili-eken	15,077
Kara-daban	15,292
Olon-horgo	15,716
Namchu-tola muren (Camp 2 miles S. of)	15,471
Shire-hor	15,572
Ulan-ula (N. side)	15,898
Ulan-ula (S. side)	15,514
Dungbure-eken	15,826
Camp, June 17	15,289
Toktomai-ulan-muren (1st Camp N. branch)	14,897
Toktomai-ulan-muren (2nd Camp N. branch)	14,819
Toktomai-ulan-muren (S. branch)	14,345
Murus (2 miles N. of)	14,745
„ (1·5 miles S. of)	14,900
„ June 23 (2 miles W. of)	15,317
Camp, June 24	15,729
Camp, June 25	16,343
Dangla-eken	16,479
Camp, 19 miles W.S.W. of preceding	16,150
Camp W. of Dangla	15,891
Chib-chwang-tso (Lake Glenelg)	15,988
Camp S.W. of Chib-chwang-tso	15,807
Camp 20 miles S. of preceding	16,223
Camp S. of pass	16,355
Camp on pass, S.S.E.	16,076
Camp 21 miles S.S.E. of preceding	15,650
Tsacha-tsang-bo chu (2 miles S. of river)	14,700
Camp 8 miles S. of preceding	15,118
Namru Valley	15,018
Camp Tsacha-tsango-bo chu (July 15)	15,212
Tsacha-tsang-bo chu basin (July 16)	15,370
Chang tang chu	15,687
Camp 8·5 miles E.S.E. of preceding	15,845
Camp 18 miles E.S.E. of preceding	16,299
Camp 20 miles S.E. of preceding	15,931
Camp 15 miles E.S.E. of preceding	15,278
Trashiling (1·5 miles E. of)	14,946
Chingo	15,430
Nashe-chu	14,176

	Alt. in feet.
Camp August 1st	14,747
Song-chwang sumdo	13,364
Pon-ta	14,410
Tsega (Su-chu)	13,210
Gentse	13,345
I-chu. Here join Bower's route. His *Ita* valley, my I-chu valley	13,067
Angenong	14,157
Rama-chu	12,780
Ramnong-chu	12,672
Po-la-ga	13,672
Churema (Near Bower's Shersamdo?)	12,927
Sagotong (Ru-chu). (½ mile N. Bower's Tashiling Monastery)	12,096
Biwakanag	13,040
Laha (Nar Peihu). (Bower's Khembe Nar)	12,130
Pene-ringu	14,111
Mer-jong (Bower's Maru Camp 115)	12,711
Pomundo	13,843
Ke-chu (Bower's Kichi)	12,709
Riwoche	12,269
Tse-chu	12,061
Nyulda (Bower's Logamda)	11,942
Sung-lo-zamba (Tse-chu)	11,722
Ge	12,515
Kinda (Om-chu)	10,050
Nuyi (Village 300 feet above Nom-chu)	10,117
Pungda (Bower's Pandesar)	12,292
Bagong (Bower's Bandathing)	12,018
Kungsa	11,622
Chamdun-Draya	11,709
Ra-jong (Bower's Rajwa) (1 mile below)	12,560
A-jod (Bower's Asi)	12,870
Lar-tang	12,385
Rishod (Bower's Rashwa) (4·8 miles above)	13,652
Gartok (Chiang-k'a)	12,240
Guhu	11,728
Jinkanding	11,619
Gura (Dre-ch'u)	8,031
Ba (Batang)	8,223 / Gill. 8,546

PRINCE HENRY THE NAVIGATOR.

A SPECIAL meeting of the Society was held on March 5, at the University of London, to commemorate the Fifth Centenary of the birth of Prince Henry the Navigator, the father of modern discovery and modern geography. The President, Mr. Clements R. Markham, C.B., F.R.S., occupied the chair, and there was a very large attendance of Fellows of the Society. Among those present were the Duke of York, the Portuguese Minister, Lord Amherst of Hackney, Admiral Sir Anthony Hoskins, Admiral Sir Arthur Cochrane, Admiral Sir F. Richards, Admiral Lord Walter Kerr, Right Hon. Sir George F. Bowen, the Right Hon. Hugh Childers, Lord George Hamilton, General Sir Francis de Winton, General Sir F. J. Goldsmid, Sir Eyre M. Shaw, Sir John Kirk, General W. H. Goodenough, Sir Clement Hill, Sir Henry Howorth, Sir G. Taubman Goldie, General Sir Thomas Gordon, the Hon. G. N. Curzon, Mr. F. C. Selous, Captain V. L. Cameron, and the Warden of Merton.

The PRESIDENT, in opening the proceedings, said: We are assembled this evening to commemorate the fifth centenary of the birth of that illustrious Prince to whom geographers and navigators will ever look as the founder and the creator of their science in modern times. We venerate his memory when we reflect upon the ability, the valour, and the indomitable perseverance and energy which he brought to bear upon work that is so dear to us; and that veneration is enhanced when we know that he combined with those high qualities a piety and a purity of life which have only been recorded elsewhere of a Marcus Aurelius, an Alfred, and a St. Louis. Before dwelling very briefly on