DONATIONS TO THE MAP-ROOM FROM MARCH 25TH TO APRIL 8TH, 1878. —French Charts, 31 sheets (*Dépôt des Cartes et Plans de la Marine*). Ethnographische Karte von Russland, 2 sheets (*Dr. A. Petermann*). Turkey in Europe, 16 sheets (*Quarter-Master-General's Department*). United States Charts, 2 sheets (*Commodore Wyman, U.S.N.*). Die Europäische Türkei. Ost-Russland und Kaukasien. Die Staaten der Balkan-Halbinsel nach den Grenzbestimmungen des Friedens von S. Stefano, 3 März 1878. Neue Aufnahmen in Nord-Australien, nach Ringwood und McMinn (*Dr. A. Petermann*).

The PRESIDENT, on taking the Chair, announced that the Council that day had awarded the Gold Medals of the year as follows:—

The Founder's Medal.—Baron F. VON RICHTHOFEN. For his extensive travels and scientific explorations in China, during which he mapped a great part of the Northern and Central Provinces of the Empire, and made observations of great interest and originality on their Physical Geography; also for his great work now in course of publication, in which the materials accumulated during his long journeys are elaborated with remarkable lucidity and completeness.

The Patron's Medal.—Capt. HENRY TROTTER, R.E. For his services to Geography, in having conducted the Survey operations of the late Mission to Eastern Turkistan, under Sir Douglas Forsyth, which resulted in the connection of the Trigonometrical Survey of India with Russian Surveys from Siberia; and for having further greatly improved the map of Central Asia by uniting his own work on the Upper Oxus with the exploration of the Mullah and Havildar further to the West, so as to give, for the first time, a nearly continuous delineation of the course of the river, from its sources in the Pamir Lakes to the frontiers of Balkh.

The first Paper to be read was by Capt. Gill, on his travels in Western China and on the eastern boundaries of Tibet. Part of his journey was along the route taken by the late Mr. Margary, who was killed on the borders of Yunnan and Burmah. The second Paper would be by Mr. T. W. Goad, on the United States' Topographical Survey of New Mexico.

1.—*Travels in Western China and on the Eastern Borders of Tibet.* By Captain W. J. GILL, R.E.

[ABRIDGMENT.]

BEING at Shanghai in January last, anxious to see something of the little-known Central China, I was not slow to accept an offer made me by Mr. Consul Baber, whose name is well known in connection with the Grosvenor Expedition, that I should accompany him to Ch'ung-Ch'ing.

Thence I travelled by myself for a couple of months through Tzŭ-Liu-Ching, Ch'êng-Tu, Li-Fan-Fu, Sung-Pan-T'ing, Lung-Ngan-Fu, and back to Ch'êng-Tu, where I was joined by Mr. Mesny, a gentleman whose long service under the Chinese Government, and

intimate knowledge of the language and ways of the people, enabled him to render me the greatest assistance, and to whom I am mainly indebted for the admirable and friendly relations we always maintained with the officials and the people.

With him I travelled to Ta-Chien-Lu, Lithang, Bathang, Atentze, Tali-Fu, Yung-Ch'ang, Têng-Yüeh-T'ing, and Bhamo, whence an English steamer took us to Rangoon.

Of the journey to Ch'ung-Ch'ing I need say but little: it has been admirably described, and the route accurately surveyed by Blakiston.

At Ch'ung Ch'ing we were fairly in the province of Ssŭ-Ch'uan, one of the most beautiful, perhaps the richest, and for foreigners, certainly the most pleasant in the empire; endowed by nature with every charm of variegated scenery; giant mountains in the north, of whose peaks of perpetual snow little more has been known, than the wild statements of ancient geographers, that one of them attained a height of 36,000 feet; fertile plains, where in the driest season the rice-crop never fails; and undulating hills, where streams have cut deep channels in the soft sandstone. The hand of man has not been slow to utilise these advantages; everywhere the hills are laid out in terraces for cultivation, irrigation is carried on to an almost inconceivable degree, and, although the inhabitants have not learnt the art of making water run up hill by itself, one of the most remarkable features in a Ssŭ-Ch'uan landscape is the sight of the countless contrivances and water-wheels by which water is raised.

Riding down a stream, I have seen as many as twenty or thirty wheels, 24 feet in diameter, turned by the current and lifting water at the same time.

Standing on the top of some hill and looking down on a plain, dotted over the landscape a number of mushroom-like objects are observed, which, on close inspection, turn out to be the umbrellas under which coolies sit, and all day long, by a species of little treadmill, lift the water from one field to another.

Nor is art neglected by the gentle people of this happy province, and the traveller, as in the evening he nears his journey's end, long before he arrives at the city where he is to sleep, is made aware of its vicinity by the numerous triumphal arches built across the road. These—ornamented with rich carvings, most artistically finished, of household scenes or official duties—have generally been raised by some widow to the memory of her deceased husband; and in these the design is as elegant as the workmanship is finished. The careful way in which everything is roofed here must strike the eye of any traveller.

Houses, gateways, bridges, triumphal arches, and, indeed, almost

wherever it is practicable to put a roof, there one is sure to be; even the walls are often coped with glazed tiles, so that the timber-work, being built in the most solid manner and carefully protected from the weather by an efficient covering, lasts an incredible time, even in a country where rains and snow are regular in their occurrence.

Besides the officials, the people of this province are mostly either merchants or agriculturists, the literati—that generally highly-favoured class in China—being held in light esteem by the men of Ssŭ-Ch'uan; and to this is probably owing the fact that foreigners are always treated with great politeness, as wherever opposition to foreigners is carried to any great extent, it will generally be found to be owing to the influence of the literati class. This was, I believe, the case at I-Chang when there was some rioting, to which I have referred; and during my stay at Ch'ung Ch'ing the literati of that place posted an inflammatory placard in very bad rhyme, which Mr. Baber translated into very good verse. This was, perhaps, not quite so witty as it would have been had he been the author instead of the translator. The placard seemed to be treated by the people there with the contempt it deserved, and throughout my wanderings in Ssŭ-Ch'uan I never heard an uncivil word. The dominant characteristics of the Chinese race are inquisitiveness and curiosity, and in this the people here are not behind their countrymen of other provinces. In some of the towns, however, their natural politeness seems to overcome even their curiosity, and I have often sat with my door open to the public thoroughfare, engaged in writing—an occupation that always caused the most profound interest—and have been left completely undisturbed.

The agriculture of the Chinese has, I think, been somewhat over-rated. The chief point in which they are superior to other nations is the exceeding care they take that nothing be wasted. Nevertheless the people is eminently an agricultural one. In their ways, their customs, their buildings and their food, there is a wide distinction between them and the pastoral races that are found on their frontiers. In the habits of these there always remains a trace, and often something more than a trace, of the nomad life; whilst in China proper and amongst the Chinese everything betokens the ancient and high civilisation of a people that have taken root in the soil.

In every city and almost every village in China inns are found, an indication of a people accustomed to live in houses, and who when obliged to travel must have a roof to shelter themselves; the very coolies, poorly as they are paid, never sleeping in the

open, but invariably expending some portion of their small earnings for night accommodation. Amongst the Tibetans, and in the Mantzu or barbarian population in the mountains, this is not the case; the people all originally leading a wandering life, the idea of inn accommodation has not penetrated into their habits. A Chinaman will under no circumstances sleep outside if he can help it; in Tibet the master of a good house will as often as not be found passing his night on the flat roof; whilst the hardy people in the winter time can sleep with their clothes half off, and their bare shoulders in the snow. In China no house is complete without its table, chairs, and bedsteads, rough and clumsy though they often are; in Tibet these accessories of life in a fixed habitation are always wanting.

Amongst the Chinese, mutton can rarely be obtained at all; they themselves think it very poor food: the love of a Mongol for a fat-tailed sheep is proverbial, and the natives of Tibet are not behind them in their taste. Although not exactly forbidden by their religion, the idea of killing an ox is very repugnant to the agriculturists of China, because—they say—it is ungrateful to take the life of the useful animal that draws the plough, and in the large towns the butchers are nearly always Tatars. The Chinese, as they never were a pastoral people, never kept flocks and herds; milk and butter are therefore practically unknown to them: Tibet may safely be called a land flowing with milk and butter; the enormous quantity of the latter consumed by a Tibetan is something startling—butter in his oatmeal-porridge and huge lumps of butter in his tea.

The ordinary food of a Tibetan is tsanba, or oatmeal-porridge, and buttered tea.

As a rule he does not drink much milk, partly because it is all made into butter, and partly because, owing to the filthy state of the vessels, milk always turns bad in a few hours; but the traveller who makes his tastes known can always obtain an unlimited supply. Tea is often brought to him made altogether of milk without any water at all. The Tibetans also eat sour cream, curds, and cheese; and this brings a Tibetan bill-of-fare to an end, which, in its constituents and in its simplicity, bears the stamp of the nomad pastoral race.

The Chinaman, on the other hand, loves variety. In every tea-house by the wayside that owes its existence to no more opulent class than the coolies on the road, there are always several little dishes of some sort. Beans simple, beans pickled, bean-curds, chopped vegetables in little pies, maccaroni of wheaten flour, macca-

roni made of rice, these—and in the large towns and cities, dozens of dishes made of ducks, pork, fish and vegetables, rice-cakes like muffins, wheaten leavened bread, sweetmeats, and sweet cakes—are to be seen at every turn; and of one or perhaps more of these every coolie will, when he can afford it, give himself a treat and vary his food, the main portion of which is rice, where it will grow, and in the high lands bread made from whatever grain the climate will produce.

In the lower part of Ssŭ-Ch'uan the roads are generally tracks paved with flags, 18 inches wide. This is sufficient for all purposes where the only wheeled conveyances are the barrows with the inevitable creaking wheel. Even these are entirely confined to the plains, never being used in the hill countries.

Goods are almost entirely carried by coolies, who, with a split bamboo over the shoulder, with a basket at each end, run along, in the hot weather naked to the waist, with huge broad-brimmed straw-hats on their heads, straw sandals on their feet, and generally a fan in their hands.

THE ASCENT TO SUNG-PAN-T'ING.

The road from Ch'êng-Tu to Sung-Pan-T'ing is full of interest, both from the natural beauty and magnificence of the scenery, as well as from the numerous historical associations of the country. Here is to be observed the civilised Chinaman in close contact with the mountaineer, who, now driven from the valleys, takes refuge on the steep hill-side or the wild fastnesses of the mountain gorges.

Most picturesque are the Mantzu villages perched on the summit of a crag, their gloomy stone walls with tiny holes for windows, and one high tower standing sentinel over the country.

Almost every village passed on the road has its tale; some marvels of a Buddhist saint, a thrilling story of battle or gentle song of love.

The road is now at the level of the stream—now scooped out of the solid rock or propped up for a yard or two by rickety-looking stakes from underneath—now winding up the side of a valley where a cascade leaps down to join the foaming torrent below; or rising over a spur from the mountains that bound it, the ground is carpeted with beautiful and variegated wild flowers.

Leaving Ch'êng-Tu by the north-west gate, the road for eight miles is across the beautiful and fertile plain. Here the whole country is a perfect network of canals and watercourses, and, as the

plain begins rising at the rate of 10 feet per mile, the streams are all rapid. The number of trees everywhere is very great all along the sides of the road, and between the fields are long rows of willows and a kind of beech; round all the houses are clusters. Now there is a line of fruit-trees, oranges or apricots; here a temple is inclosed by a wall with a number of fine yews inside; and, looking back from Kuan-Hsien, the plain has all the appearance of being densely wooded.

Kuan-Hsien is a busy place, situated at the embouchure of the river that here escapes from the mountains, and, by a number of ingenious irrigation works, is directed into the artificial channels by which the plain is watered. The dams for this purpose are, like all Chinese contrivances, remarkable for their simplicity; large boulders, about the size of a man's head, are collected and put into long cylindrical baskets of very open bamboo network; these cylindrical baskets are laid nearly horizontal, and thus the bund is formed.

The road ascends the left bank of the river between mountains that here rise about 3000 feet above the stream, their sides so steep as to become in places almost precipitous, and now and then there will be on either hand vertical cliffs 400 to 500 feet high; these are of bare rock, and in them the road is often regularly scooped out, sometimes without a parapet, and only just wide enough for laden mules; at others 6 or 7 feet broad, with a stone wall at the outer side.

Beyond Ouan-Chuan-Hsien is seen the first village of the Mantzu, or Barbarians, as the Chinese call them. The word Mantzu seems to be a sort of generic term applied by the Chinese generally to all the aborigines of this country, and many will include in it even the pure Tibetans, though the better informed know how to distinguish between the different tribes.

Perched like an eagle's eyrie right on the top of an almost inaccessible hill, or like wild birds' nests on the face of some perpendicular cliff, these curious villages are very remarkable features in the landscape. The houses are of stone—the lower part with narrow slits for windows like the loop-holes of a fort. The roofs are flat, and on part of these is generally erected a kind of shed.

There are altogether eighteen of these tribes spreading over the country from Yun-nan to the extreme north of Sŭ-Ch'uan. Each tribe has its king—one of them a queen, and they live almost entirely by agriculture and cattle keeping. The king usually derives a considerable revenue from his lands, and every family in his kingdom has to send one man for six months to work on his

estate. In other cases he receives an annual amount of eggs, flour, or wheat from each household. He has absolute power over all his land, assigns certain portions of it to certain families, and if they displease him, or he has any reason for doing so, he displaces them at once and puts others in their stead—all the houses and farm-buildings passing to the new-comer.

Intermarriage goes on between the Chinese and the Mantzu women, but not between the Mantzu and the Chinese women. This is much the same as in Tibet, where the Chinese officials are never permitted to take their wives with them, even the ambassador at Lassa being no exception to this rule. The officials and soldiers, therefore, when in Tibet take to themselves Tibetan wives. The children thus become entirely Tibetan, and when the Chinese officials return to China they usually leave behind them their family. The Tibetans in this are wise in their own generation, for if they permitted the Chinese to bring with them their wives and raise Chinese families, the country would soon become altogether Chinese.

At Li-fan-Fu I visited a little Mantzu village, to which I had to climb by a path inaccessible for either mules or ponies, to a height of 2000 feet above the valley. I sat down in the village school and soon collected a few people around me, who were very willing to give me the little information they possessed.

The Mantzu of this place—or Irun, as they call themselves—are in reality semi-Chinese. They wear the plait, their writing is Chinese, and they all talk Chinese, though they have a language of their own.

The tribe to the west of Tsakoutin have again another language, though the two are very similar. These have also a writing of their own, which appears to be more or less alphabetical, and is from left to right.

The Mantzu here are something like Chinese in appearance. Their dress is the same, but they have good teeth; the Chinese, as a rule, have vile teeth, ill-formed and irregular, very yellow and covered with tartar.

The village I was in was a wretched place. I walked through the streets, which were about 3 feet wide between the high stone walls of the houses. The interiors of these were about as dirty and as dark as Chinese houses usually are.

It is not more than eighteen or twenty years since the Mantzu were driven from these valleys by the Chinese. Every town and village has some tale to tell of the fight with the Mantzu, and the

numerous ruins, which from their appearance cannot be very old, prove how recent were the conflicts in which they were destroyed.

Sometimes a Chinese village is to be seen built close to the ruins of an aboriginal one, and the advance of the Chinese is thus presented to the traveller's eye in a very striking manner.

Two other tribes—the Su-mu and the Ru-kan (or, as the people here call them, the White Mantzu and the Black Mantzu)—live up a river that debouches a little higher up. The Su-mu are always ruled over by a queen. When the Tatars were conquering the land, this tribe happened at that time to have a queen for sovereign, who gave the Tatars great assistance, and, as an honorary distinction, it was decreed by the conquerors that in the future the Su-mu should always be governed by a queen.

Leaving the main river, the road to Li-fan-fu strikes up a tributary, and the scenery changes. Instead of the magnificent verdure we had left, the mountains rise up almost precipitously, and, with the exception of a few blades of grass, are almost bare, standing like a long wall, almost unbroken even by a gully; at the bottom, if there should be a little flat ground, it is converted into fields of barley, divided by walls of loose stone, where a village with its flat roof only wanted a few tall straight poplar-trees to be a model of many a Persian hamlet lying in the valleys of the great Elburz: at a little distance the resemblance was remarkable, and at times I almost imagined myself nearer to the Atrek than the Yang-Tzŭ.

At Sung-Pan-T'ing the Mantzu people have been left behind, and we are fairly in the country of the Sifan. These are much more like Chinese, and are a very wild-looking people. Some of them wear hats of felt, in shape like the Welsh women's, and high felt riding-boots. They have generally very deep voices, and have not such a trivial look about the face. Their language is peculiar to hear; they roll their "R's" very much, unlike the Chinese, who, in many cases, cannot pronounce an "R." They have also a great many of the guttural "Kh," and some sounds almost impossible to catch. Their architecture is almost the same as Chinese, but they do not turn up the ends of their ridges and gables; indeed at a distance the houses look very Swiss. On the hill-sides the roofs are made of planks, laid anyhow, with big stones on them to prevent their being blown off—just as in Switzerland.

The plateau between Sung-Pan and Lung-Ngan is scarcely inhabited. Great droves of yaks feed on the rounded hills that here are covered with grass and brushwood, and where hardly a

tree is seen. Little traffic passes this way, and the very few inhabitants are altogether Sifan.

The plateau, as the summit is approached, is bare and dreary, especially when viewed in mist and rain. A few patches of snow were lying within 50 feet of the highest point of the western face, and the ridge was crossed at an altitude of 12,500 feet. The characteristics of the eastern slopes of this mountain are very unlike those of the west. Its climate appears much more damp. The growth of trees, flowers, ferns, and grass is so luxuriant as to become in appearance almost tropical. Great pine-forests clothe the northern faces of the mountain-sides, while the southern slopes are covered with rich green grass.

The descent is very rapid, and lower down the hills on both sides are densely wooded with trees of the richest green.

The Sifan here live only on the tops of the hills, for the Chinese have driven them from the valleys. Every opening has its tale of war and bloodshed, and the new villages and new houses springing up in the valleys show how recent has been the relentless advance of the Chinese.

Further on, azaleas 15 to 20 feet high, covered with masses of blossoms, contrasted with the brilliant hue of the wild peony, while the ground was covered with magnificent ferns and mosses. The road again plunged into gorges, whose cliffs, 500 feet high, shut out everything but a narrow streak of sky.

About 30 miles from Lung-Ngan-Fu, a road leads to the east into the province of Shensi.

Below this the silk-manufacture commences; mulberry-trees, spoiled of their leaves, surround the houses. The cocoons are put out in great flat baskets to dry in the sun, and the women sit spinning at the doors of their houses. Indian-corn is the chief crop and food of the inhabitants. This is now planted in the fields, from which already one harvest of opium has been gathered. Round the villages there is a little wheat and tobacco, and the graceful bamboo again shelters the houses. The limit of this seems to be, as in the other valley, about 6000 feet above the sea.

About 50 miles above Mien-Chou the river is large enough for navigation, and descending to the city with a rapidity quite unknown in land travel, we were again in the plain country. The quiet mountain villages were left behind, and here instead the towns were big and full of people; numbers of labourers in the fields, coolies on the roads, and traffic on the river. There was an appearance of wealth and prosperity, of life and activity, about the country that contrasted remarkably with the miserable poverty we had

left only a few hours before. Sitting in our inn in a noisy town I could hear all the going to and fro in the streets, itinerant vendors selling their wares and crying them out, and the constant chatter chatter of the coolies and people in the restaurant close by.

The city of Mien-Chou is a large, well-built and important place, protected from floods by very extensive well-built river-walls; the streets nice and clean, and free from smells. In the market great quantities of beautiful vegetables were displayed, cabbages as round as cannon-balls, very fine cucumbers, and splendid turnips and bringalls. Leaving Mien-Chou, everything showed that we had now struck a great high-road. Quantities of coolies going both ways, chairs, ponies, and numbers of tea-houses by the roadside, enlivened the scene.

The crops are chiefly Indian-corn, beans, and ground-nuts. Of the last the Chinese make oil, and they are almost as fond of eating them as they are of water-melon seeds, and at all the stalls by the roadside are little piles of some twenty or thirty, which can be bought for a cash or two. There is also a good deal of rice, a great number of melons are grown in the gardens, and quantities of vegetables. The want of rain had been very severely felt here; some of the rice-fields were quite dry, and the Indian-corn looked burnt up. The people were fasting, beating gongs, and burning incense-sticks, and the south gates of the cities were shut, in the hopes of propitiating the skies.

As Ch'êng-Tu is approached, the country is again entirely given over to rice cultivation—the Indian corn disappearing; and as we march westwards there is more and more water, until we again come to the streams running by the road-sides. At Ch'êng-Tu itself there was no want of water; but, being the capital of the province, a fast was ordered, and all the usual devout ceremonies were gone through whereby it was hoped that rain would be brought. The drought when I was there was becoming very serious, but I have never heard that it eventuated in a serious famine in this province, though, as we know, the neighbouring one of Shansi has been the scene of one of the most appalling calamities that were ever inflicted on a nation.

The road from Ch'êng-Tu to Ta-Chien-Lu traverses, roughly speaking, two sides of an equilateral triangle. There is, or used to be, a direct road, but it passes through a country much disturbed by fighting amongst or with the aborigines, and for centuries almost the circuitous route has been considered the great high-road to Tibet.

The plain country is soon left, and 50 miles from Ch'êng-Tu

the mountains that stretch from here to the Himalayas are first seen.

There was still in many parts a considerable scarcity of water. The south gates of the city were shut, and the fast proclaimed made it somewhat difficult to obtain food. But still there was here no real distress amongst the people.

The main body of the Min River—only known here as the Southern River—is crossed just beyond Ch'iung-Chou by a bridge which bears on its walls a tablet with the somewhat boastful inscription that it is the finest in Ssŭ-Ch'uan.

This bridge is 240 yards long and 9½ wide, has 15 arches, and is really a very fine work.

Ya-Chou is a place of great importance, as it is the starting-point of all the commerce to Tibet, to which place tea and cotton are the chief exports.

The most remarkable trade of this place is its commerce in tea, vast quantities of which are sent from here through Tibet and up to the very gates of our own tea-gardens in India.

The tea for the Tibetans is merely the sweepings that would elsewhere be thrown away, the poor Chinese in Ya-Chou paying seven or eight times the cost of this for what they drink themselves. It is pressed into cakes about 4 feet long × 1 foot × 4 inches, each of which is wrapped in straw, called a pau, and weighs 24 lbs.

The average load for a coolie is about ten or eleven of these packets. I have seen some carrying eighteen—that is 432 lbs. Little boys are constantly seen with five or six pau (120 lbs.). These men wear a sort of frame-work on their backs, which, if the load is bulky, often comes right over the head and forms in rainy weather a protection from the wet.

A little further on in one of the valleys there are a considerable number of the celebrated insect trees of Ssŭ-Ch'uan. This is a tree on which is bred the insect that produces the white wax of Ssŭ-Ch'uan. These trees are in appearance like an orange, with a smaller leaf. They have a very small white flower that grows in large sprays, now (20th July) covered with masses of blossom, and the strong smell, which was not very sweet, filled the air. This tree is chiefly grown in the Ning-Yuan-Fu neighbourhood, and the eggs are thence transported towards the end of April to Kia-Ting-Fu, where they are placed on the wax-tree, which is something like a willow. Here the insect emerges from his eggs, and the branch of the tree on which he is placed is soon covered with a kind of white wax, secreted. It is this white wax that is so celebrated, and is one of the most valuable products of Ssŭ-Ch'uan.

Ta-Chien-Lu may now be considered as the boundary of China, for up to this point the people are governed directly by the Chinese; but beyond this there are native chiefs who, subject to China, rule over the people. There is a native king resident here, his territory extends to Ho-K'ou.

Ta-Chien-Lu is situated in a small open valley at the foot of mountains, inclosing it on all sides except to the east. The brawling stream that divides the city into two parts is crossed by a wooden bridge, and a good many trees grow about the banks. The streets of the place are narrow and dirty, the shops inferior, and in them are all sorts of strange wild figures, some with matted hair, and others with long locks falling down their shoulders. They dress in a coarse kind of serge or cotton stuff, and wear high leathern boots. The women wear a good many ornaments, some are good-looking and all utterly unlike the Chinese in every way.

Both the women and the men wear great quantities of gold and silver ornaments, heavy earrings and brooches, in which are great lumps of very rubbishy turquoise and coral. They wear round their necks charm-boxes; some of gold, others with very delicate filigree work in silver. These are to contain prayers.

At Ta-Chien-Lu and all through Tibet the Indian rupee is the current coin; and only those who have gone through the weary process of cutting up and weighing out lumps of silver, disputing over the scale and asserting the quality of the metal, can appreciate the feelings of satisfaction at again being able to make purchases in coin.

These rupees come in thousands all through Tibet, Lassa, and on to the frontiers of China, where merchants eagerly buy them up, and by melting them down are able to gain a slight percentage. Curious it is, too, to see the wild-looking fellows as well as Chinamen fastening their coats with buttons on which is the image and superscription of Her Most Gracious Majesty. There is scarcely a regiment in our service whose buttons do not find their way into Tibet. The old clothing in India is, I suppose, sold, the buttons bought by Indian traders and carried across the Himalayas, whence they gradually work their way eastwards. Lower down, imitation 4-anna pieces are used. These must be made somewhere in England.

From Ta-Chien-Lu the road at once ascends to the great plateau. The ascent is not a severe one—a gradual rise up a valley amongst granite rocks, capped at the summit with bare crags of limestone.

On the road are great droves of yaks, with enormous horns and heads like bisons, huge bushy tails, and hair under their stomachs reaching to the ground.

On passing the crest of Cheh-Toh-Shan the great upland country is at once entered. Standing on the summit of the pass, stretched below us was a fine valley, closed in on both sides by gently-sloping round-topped hills, all covered with splendid grass. The richness of the pasture was something astonishing. The ground was yellow with buttercups, and the air laden with the perfume of wild flowers of every description. Wild currants and gooseberries, barberries, a sort of yew, and many other shrubs, grew in profusion.

By the side of a little tent some Tibetans were lying about; their fierce dogs tied up to pegs in the ground, and great herds of sheep and cattle grazing round them.

The road to Lithang is a succession of mountains, valleys, huge pine-forests, and open glades. We must hurry through them.

Just before reaching this city the mountain Shiehla is crossed at an altitude of 13,700 feet. From here gentle slopes lead down about 700 feet to the plain. This is 8 to 10 miles wide, and stretches out for many miles east and west. Opposite, a range of hills bounds the plain; behind it rises a magnificent range of mountains, stretching as far as eye can see to the east and west; snowy peak rising behind snowy peak—where, even at that great distance, vast fields of snow almost dazzle the eye as the sun shines on them.

A river winds through the centre of the valley, and numerous streams run down from the mountains on each side, and at this season of the year, when covered with luxuriant grass and wild flowers, one can hardly regret that the excessive cold prevents anything else from growing. No cereals of any kind nor potatoes can be raised. Just round the houses at Lithang a few half-starved cabbages and miserable turnips appear to be the only things that can be produced.

Lithang is a cheerless place, situated at an altitude of 12,500 feet. The people said that it rained here every afternoon in the summer, but that the mornings were generally fine.

Though there are only 1000 families in the place, there is in the city a Lamassery containing 3000 Lamas, and within 5 miles another not much smaller. This Lamassery is adorned with a gilded roof, which has cost a large sum of money, notwithstanding the miserable poverty of the place.

Its chief productions are gold, sheep, horses, and cattle.

There are 300 Tibetan soldiers and 98 Chinese soldiers scattered about the neighbourhood.

The natives said that Ta-So, the last mountain-pass between us

and Bathang, was a very bad medicine-mountain. The inconvenience caused by the rarefaction of the air at these great altitudes is attributed by them to subtle exhalations, and they always speak of a high mountain as a medicine-mountain. Before reaching this, the magnificent mountain of Nen-Da, 22,000 feet high, is passed.

Near the top of Ta-So we found ourselves in a little circular basin, about 100 yards in diameter, surrounded on all sides, except that by which we had come, by steep and ragged precipices 300 feet high. At the bottom was a little pond of clear water.

No opening was anywhere visible in the savage walls of rock, but up one side a desperately steep and rough zigzag led to the top. Just over the crest of the pass (15,600 feet) is a great basin 2 miles in diameter, and such a wild and savage scene I never before looked on — a very abomination of desolation. Great masses of bare rock rising all round; their tops perpendicular, torn and rent into every conceivable shape by the rigour of the climate. Long slopes of débris that had fallen from these were at the bottom; and scattered over the flat of the basin, great blocks of rock lay tumbled about in most awful confusion amongst the masses that cropped out from below the surface. Three or four small ponds formed in the hollows were the sources of the stream that, descending from the basin, plunged into another valley, and, falling rapidly, soon became a roaring torrent, dashing through mile after mile of dense pine-forest.

The stillness of this place was very remarkable. The air was so rarefied that I could hardly hear the horse's feet only a few yards off, and when quite out of hearing of these, as I walked on alone, the silence was most impressive.

The town of Bathang is quite new, having being destroyed a few years ago in a frightful series of earthquakes that, lasting over many weeks, devastated the whole neighbourhood.

The plain of Bathang only covers an area of a few square miles, producing barley, wheat and Indian-corn.

The climate is remarkably warm, although it is at an altitude of 8000 feet.

It is on a small river of about 25 yards wide, that five miles lower joins the Chin-Sha, there 170 to 200 yards wide.

Bathang contains 300 families residing in about 200 houses.

It is chiefly remarkable for its immorality and its Lamassery, containing 1300 Lamas, whose golden roof cost upwards of 1000*l*.

To Tali-Fu.

To insure our safety on the road to Atentze the chief magistrate of Bathang came with us to that town, accompanied by the native chief and a large retinue, which day by day increased in number, until on the 3rd of March we had 300 men with us.

Then, when we had reached the place where the great Lassa road branches off, on a high plateau in a storm of wind and sleet the somewhat exciting spectacle lay before us of an encampment of 300 Tibetans turned out by the Lamas to bar the road to the centre of Tibet.

The boundary between Yünnan and Bathang is crossed at the Tsa-leh mountains 14,500 feet above the sea. This is also the water-parting between the two rivers, the Lan-Ts'ang and Chin-Sha. The country gradually descends from this point, the scenery changes and the climate becomes warmer.

Atentze (10,000 feet) on the western slope of the mountains is a Chinese town, but the people are still thoroughly Tibetan, even the Chinese talking Tibetan better than their own language.

The prevalence of goitre in these districts is something appalling; some attribute it to the water, others to the salt, but, whatever the cause, two-thirds of the population have swellings on their throats, some of enormous size.

All the country between the two rivers is covered with forests, in which there many wild beasts—amongst others, wild oxen and monkeys were reported.

From Atentze the road again crosses to the Chin-Sha River and follows it for two or three days, when it, for a third time, crosses the ridge and descends to the city of Tali-Fu.

The country for many miles round this city still bears the traces of the Mahometan rebellion; ruined villages and terraced hill-sides, where now no crops are raised, attest the sparseness of the population. Ssŭ-Ch'uan is over-populated, and a very little Government assistance would enable the people to emigrate to this province. This, however, they cannot obtain, and it must be a long time before this beautiful and naturally wealthy country can again become a flourishing one.

Tali-Fu itself is now, with its ruined houses, a melancholy place, and its dreariness was not lessened by the pitiless rain that descended in a continuous stream day and night for the few days of our stay.

For many days before reaching this city we had been almost always marching in heavy rain, and the valleys were now all

flooded—so much so that the rice crop was lost, and in Tali-Fu I saw myself the young rice, on which the ear had hardly formed, being sold in the streets as green fodder for animals.

To T'ÊNG-YUEH.

From here we followed in the footsteps of Mr. Margary, and the expedition that was sent to inquire into the circumstances of his death. Wherever we went, and whoever it might be that spoke of Mr. Margary, he was always referred to in terms of almost affectionate regard, and, standing at the scene of his cruel murder, I could not but feel what a loss the country had sustained in that brilliant young officer, who, through sickness and the difficulties surrounding a pioneer in new and untravelled districts, had not only carried out with singular tact the delicate duties entrusted to him, but had also known how to portray in striking and vivid colours the many new scenes presented to his view, and to leave a faithful and lasting record of the strange peoples and countries through which he passed as a legacy to regretful countrymen.

I lifted my hat as the only tribute of respect I could pay to one whose memory will long be dear to the hearts, not only of those who knew him, but of all who value the noble qualities of uprightness, courage and determination.

The direct road from Yung-Ch'ang was pronounced impracticable, owing to the fact that it passes over a plain entirely depopulated by the plague that appears every year in June or July. In describing the symptoms to me, the people said that a lump like a boil, about the size of half a small walnut, suddenly appeared on almost any part of the body; there was absolutely no attendant pain, and twenty-four hours was the outside that a person could live after the appearance of this lump.

Boccaccio thus describes some of the symptoms of plague at Florence in 1348:—"Here there appeared certain tumours in the groin or under the arm-pits, some as big as a small apple, others as an egg. But they generally died the third day from the first appearance of the symptoms, without a fever or other bad circumstance attending."

From Defoe, also, may be gathered that the plague of London was somewhat similar; but he was not himself an eye-witness of this terrible calamity, nor does he anywhere give a distinct account of the symptoms.

Near Yung-Ch'ang, my informant said that during July, August, and September, more than 1000 people died of this complaint. A

traveller who had passed the stricken districts in July said there were scarcely any inhabitants left, and that the dead bodies were lying about unburied; he added that the disease had moved southwards, and was raging in another district.

Beyond Yung-Ch'ang is the valley of the Lu-Chiang, so unhealthy that no stranger can at any time sleep here (so they say) without getting fever. In the summer months it is quite impassable. Even the inhabitants leave it, and ascend to the mountains.

The miasma that rises is said to be a reddish mist; the ordinary white mist that I often saw hanging over the valleys in this neighbourhood is said to be harmless.

We were fortunate in the time of our passage, and the sun shone brightly as we crossed the curious suspension-bridge that spans the river. It is in two spans of 73 and 52 yards; but for greater ease in tightening up the chains, the two are not in the same straight line. In construction each span is identical with that I have already described.

In rainy variable weather at no season of the year will any one attempt the passage of this valley; and Marco's words, "So unhealthy that no stranger can pass in the summer-time," were brought strongly to my mind.

At Man-Yün, or, as it is usually called, Manwyne, we were delayed for weather. This (end of October) was not the regular rainy season in which no traffic of any kind is ever thought of; but, nevertheless, three consecutive days and nights of heavy rain made the muleteers refuse to attempt the onward journey.

But little traffic was met with on the almost uninhabited country to Bhamo, where Mr. Cooper, himself "one of the most adventurous of travellers," knew well from experience how best to administer the hospitality to which he was prompted by his sympathetic and kindly heart.

Here coolies, mules, and ponies were left behind, and coal and iron swiftly bore us down the broad bosom of the Irrawaddy to home and civilisation.

The above Paper will appear *in extenso* in the 'Journal,' vol. xlvii.

The President said Capt. Gill had determined by an elaborate series of observations, which would appear in the 'Journal,' but which time had not permitted to be read, the altitudes of the various mountainous regions he had traversed. No previous traveller had done this; and their perfect scientific accuracy might be relied on, as his hypsometrical instruments had, since his return, been tested at the Kew Observatory. His work had been done from a pure love of Geography and Science, and entirely at his own expense.