TRAVELS AND RESEARCHES

IN THE

INTERIOR OF CHINA.

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I. A JOURNEY OF EXPLORATION IN WESTERN SSŬ-CH'UAN.

(Read at the Evening Meeting, June 13th, 1881.)

Maps, p. 202.

1. On the Road to the Capital.

I passed under the western gate of Ch'ung-ch'ing on the morning of July 8th, 1877, full of the pleasurable anticipation which precedes a plunge into the unknown. The road from Ch'ung-ch'ing to the provincial capital had, it is true, been already trodden by more than one European; but beyond that point the whole of the western border, with slight exception, was untraversed. My project was, after reaching Ch'êng-tu, to make an excursion to the sacred mountain of Omi, and thence, travelling viâ Ya-chou, to descend into Yünnan by way of Chien-ch'ang—a route of which no account exists, except the short notes left us by Marco Polo. From Yünnan I intended to return by following as closely as possible the banks of the Upper Yangtzŭ. I was fortunate enough to complete the journey with no sort of serious difficulty and but little inconvenience.

A word or two with respect to transport may be useful. No traveller in Western China who possesses any sense of self-respect should journey without a sedan chair, not necessarily as a conveyance, but for the honour and glory of the thing. Unfurnished with this indispensable token of respectability, he is liable to be thrust aside on the highway, to be kept waiting at ferries, to be relegated to the worst inn's worst room, and generally to be treated with indignity or, what is sometimes worse, with familiarity, as a peddling footpad who, unable to gain a living in his own country, has come to subsist on China. A chair is far more effective than a passport. One may ride on pony-back, but a chair should be in attendance. I venture to attribute Baron v. Richthofen's

* With additional footnotes supplied by Colonel H. Yule, C.B., and Captain W. Gill, R.E. These notes are distinguished from those of Mr. Baber by the initials of their authors.

unlucky encounter on the pass above Ch'ing-ch'i Hsien partly to his having travelled without a chair; indeed, the natives told me that, seeing him ride about the country in what appeared to them a vague and purposeless manner, they imagined him to be a fugitive from some disastrous battle. A chair is, moreover, very useful as the safest vehicle for carrying instruments, and for stowing away all those numerous odds and ends which it is troublesome to unpack frequently from trunks. The mat cushions and arm-pillows with which it is furnished make the coolest and most comfortable bed which can be wished for in hot weather, when laid upon a couple of square tables or a stratum of planks. My coolies were hired by the month, at 300 cash—about tenpence—per diem for each man. The conventional stipulation is to pay only 100 cash on days when no travelling is done; but, as the weather was at its hottest and I did not intend to linger on the road, this clause was omitted. The traveller should have a written agreement made out, and should insist upon having a *fu-t'ou*, or head coolie, among his men, who will be responsible for their discipline.

The comfort and convenience of a traveller is very much at the mercy of these porters, more especially in the case of a foreigner. It is far preferable to engage them from a Fu-hong, an establishment licensed for the purpose by the local government. Coolies can be hired off the street more cheaply, but the traveller will possess little control over them. Each porter has to pay ten cash a day to the Fu-hong, which appoints a fu-t'ou to represent its authority *en route*, and to collect the percentage. The reason of this apparent extortion is that native officials travel free of expense for coolies and baggage animals, and the burden falls upon the Fu-hong, which has to supply them gratis. The percentage paid by every coolie—or rather, by every private traveller—is by way of providing for such contingencies, and of yielding beyond these a sufficient surplus for the keeper of the establishment. I engaged fifteen coolies, and was therefore paying about sixpence a day for the travelling expenses of native functionaries.

In addition to this levy by the manager of the Fu-hong, the fu-t'ou also collects a similar percentage for his own use and emolument. In return for this privilege he is expected to find substitutes for coolies who may fall sick on the road, to be responsible for losses and thefts, to watch the baggage during halts, and generally to maintain order and discipline. The western Chinese are a fair-dealing, justice-loving people, and the fu-t'ou is always a person of prominent honesty. When, therefore, an exorbitant demand has to be made, he invariably suborns one of his coolies to put it forward, and when the exaction is detected, he is the first to condemn the odious conduct of the extortioner.

Crossing the grave-covered hills outside the city, we soon reached the fortified post of Fu-t'ou-kuan, about four miles' distance, a remarkably picturesque knoll protecting the isthmus of the peninsula of rock

on which Ch'ung-ch'ing is built. So long as the encircling rivers are commanded, and this outpost is held, Ch'ung-ch'ing is secure from attack. Here the road divides, one branch leading to Pi-shan Hsien, and the other, which we were to follow, being the great highway through Western Ssŭ-ch'uan, and probably the finest road in China. For a few miles beyond it would be considered a handsome road in any country. Passing under numerous stone portals (*p'ai-lou* or *p'ai-fang*) of massive structure and elaborate carving, and paved with large sandstone slabs or cut through the solid rock, the avenue winds along between rows of huge commemorative tablets. These are monoliths rising in some cases 22 feet above ground, in proportion much like the larger masses of Stonehenge, and engraved with deeply cut characters. They are all more or less recent, as also are the p'ai-lous. The roadway may be said to be undergoing constant renewal wherever it is hewn in the rock, for many of the beggars, who abound near this point, are armed with iron-pointed sticks, with which they prod out an infinitesimal particle of rock while entreating the alms of passers.

Three days' journey of 17 or 18 miles each, carried us to Yung-ch'uan, the first city on the highroad to the capital, through a very broken country, crossed at intervals of about seven miles by ranges of 1000 feet or less elevation above the general level, which run approximately N.N.E. As seen from the road, the land is rather sparsely wooded with bamboo, cypress, oak (Ch'ing-kang), and with the wide-branching banyan, the only use of which seems to be to afford its invaluable shade to wayfarers. Cultivation is everywhere dense; indeed, with the exception of graves and the immediate neighbourhood of houses, and Government works such as the ancient walls which here and there close the approach to a pass over the hills, and the few slopes which are too steep for agriculture, every spot of ground is tilled, and most of it terraced. Not much store is set by the wheat crop, the Ssŭch'uanese being, at any rate in the southern districts, a rice-eating people. The rains are very irregular. The present year, however (1879), has returned a good rice crop, reputed to be nine-tenths of the best possible harvest; and my register shows that rain fell on ten days in April, eleven in May, thirteen in June, and seven in July. Success seems to depend chiefly upon a plentiful rainfall in June and fine weather in July, but in the early part of the latter month a moderate fall is desirable. Maize and millet have this year shown a deficiency of 50 per cent. below the assumed maximum, owing to the July dryness, but a failure of these crops, which are devoted principally to the distillation of spirits, is not a serious disaster. On the Tibetan border, but still on the great plateau, i.e. in the region of which Batang may be considered the centre, the rainy season is almost perfectly regular, extending from the beginning of June to the middle of August, the rest of the year being fine; and from what I can gather, this weather system impinges variably upon

Western Ssŭ-ch'uan, making July, which independently should be, perhaps, our dryest month in Ch'ung-ch'ing, a very untrustworthy season. Thus, in July 1878 rain fell on fifteen days. Famines of wide extent are not frequent in the province, but it is easy to gather from the gossip of country folk that local scarcity is neither unknown nor unexpected. It might be supposed that the numerous rivers which permeate the country between Ch'ung-ch'ing and the capital would be available for purposes of irrigation; but they pass through it without effectually watering it. There are few rivulets, and the surface is so irregularly worn down that there are almost no flat valleys; even level bottom lands of small extent are rarely met with. The fields, therefore, lie too high above the water-courses to be irrigated from them by means of the usual machines. The soil, again, is by no means rich, and is generally very shallow.

Nevertheless, the industrious and timely care of a numerous population has made the district the greenest of all Chinese hill-grounds. Without much claim to the grandeur of abruptness, although some of the ranges rise to 1500 feet above the hollows, the scenery possesses a tranquil charm too varied to be monotonous. The face of the country is all broken up into little nooks, amphitheatres, and dells, so that the road is always turning corners and winding into new prospects, and when it ascends a ridge it sometimes almost loses itself among shrubberies and plantations, which cut off the view of cultivation, and give a sudden impression of seclusion.

Besides the usual farm produce, and a good deal of opium, the district possesses mines of iron and coal. It is very possible that the latter may, before long, when steamers ply on the Upper Yang-tzŭ, develop into an important source of trade. Even at present it is worked on a considerable scale in a range four or five miles west of a village named Ma-fang Bridge, which seems to be the centre of the coal trade, and to which the output is carried, among other modes of transport, on the backs of cattle shod with straw sandals. I was told that the principal mines are eight or ten in number, and that one of them keeps a hundred men at work day and night to draw the coal from the workings to the pit's mouth. Each man is said to bring away about a hundredweight ten times in the twenty-four hours, which would give 50 tons per diem for one pit, no small production for a Chinese mine. At Ma-fang Bridge the coal sells for 100 cash per cwt., but at the pits the same quantity may be had for 70 cash, or say five shillings a ton. A small river runs through the village, and will one day, it is to be hoped, float the coal down to the Yang-tzŭ. The range where the seam occurs is locally celebrated for its general productiveness; the natives are fond of impressing upon visitors the information that "coal grows inside it, and opium outside."

Another local lion is the bridge which gives its name to the village of Ma-fang. A really pleasing tradition is attached to this unpretending

arch, and is worth recording, if for no other reason than its novelty amid the odious bathos of stories about dragons and phœnixes which form the stock of Chinese folk-lore. The legend relates that when the bridge was completed, and the opening day dawned, a wedding procession escorting a newly-married bride happened to come down the road. It is a custom, or for the credit of the story is said to be a custom, that the person who first crosses a new bridge should be allowed the privilege of naming it; but in practice an official of all available distinction is induced to lend his presence for the occasion. On the day in question, however, the local magnate was not forthcoming, so the engineer, with phenomenal gallantry for a Chinaman, invited the bride to supply a name, which she did in an impromptu verse to this effect:—

"Across a new-made bridge to-day,
A new-made bride I take my way;
The bridge shall bear the bridal sign
And join my husband's name with mine."

The bride's name was "Fang," and the husband's "Ma," and the bridge is called Ma-fang Bridge to this day. The story obviously ought to be true, but, if it is not, the reason is that young Chinese ladies have neither permission, courage, nor ability, to pronounce themselves in such fashion.

We were to have lodged, the first night of our journey, in the large village of Pai-shih-yi, but at 10 P.M. the thermometer showed 93°, and in the crowded precincts of the inn 95°. Sleep being utterly out of question, I started again at 11 P.M., and walked on through the night, having been told of a high ridge, six or seven miles ahead, on the crest of which I hoped to find four or five degrees of lower temperature; but it was not until two o'clock in the morning that I neared its base, only to find it separated from me by a deep glen hidden in such trackless obscurity that it was impossible to find the way across. The night, though moonless, was astonishingly brilliant; Mars, Jupiter, and Saturn were all blazing simultaneously, and it was precisely this illumination which threw the hollow into so dense a shadow. The village of Tsou-ma-kang is built on the hither side of the glen, and I looked about for a spare corner of street to sleep on during the cool hour which precedes dawn; but the villagers, driven out of their houses by the heat, were lying naked on the pavement, and what was still more repulsive, they had lighted fires in the roadway to keep off mosquitos. It is odd how populous a village looks when all its inhabitants, or at any rate the male division, are spread out lengthwise on the streets. There was no help for it but to retrace a good deal of road in search of a clear spot on which to take a nap; and a proof of the density of cultivation in this part, which is one of the few flats, comparatively speaking, of Ssŭ-ch'uan, is that I spent a good half-hour in finding a bare space large enough to lie on. The roadway was not available,

for passengers were trooping along it pretty continuously. Hiring one of these to fan me, for my cavalcade had not come on, I slept until shortly after daybreak, and then crossed the glen, finding on the other side a cool hill-top crowned by an ancient fortification. Near the summit a fresh, clear stream, the only cold water in the country at such a season, issues from a spring and winds down the sward. Future travellers who may journey westward from Ch'ung-ch'ing in the summer, will do well to make this point their first stage.

Yung-ch'uan is a mere country town, possessing no manufacture except that of paper fans, for which it has gained a certain celebrity. A curious industry carried on in its vicinity is that of pickling frogs. The animals are captured by angling in the paddy-fields, and the hind legs are cut off, dried, salted, and sprinkled with chili pepper. Frogs are eaten pretty generally all over China, but I never before heard of this process of pickling.

As the river, which runs six miles or so beyond Yung-ch'uan, is neared, a belt of country of a more broken and irregular nature is entered. As above remarked the hill-systems of this part of the province run N.N.E. and S.S.W., but the general fall of level of the country is at right angles to this direction, and is followed by the rivers which pay their tribute to the Yangtzŭ. Such a condition compels the rivers to pierce or turn innumerable obstacles, and gives them very devious courses, which add greatly to the picturesqueness of the district. On the southern side of the Yangtzŭ much the same character prevails, with the exception that the general slope occurs in a converse sense, and is more severe, the level rising somewhat rapidly towards the border of Kuei-chou, and the mountains being much higher and strangely abrupt. And whereas the rivers on the left bank of the Yangtzŭ have overcome all obstacles with fair success, some of the streams on the other side have broken down altogether, and failed to make a passage. When a deadlock of this nature occurs the stream undermines the sandstone and disappears into a chasm to reissue, no doubt, further on. It seems evident that the hollows where this phenomenon occurs must have been lakes at no remote period; indeed, in many places they still form intermittent lakes, the access of water during the spring and early summer months being too great to find free exit through the tunnels. It thus happens every few years that productive rice-bottoms are inundated and yield nothing. The population of such valleys, which in favourable years are of course the most fertile, subscribe from time to time a good deal of money for schemes of drainage, but with very little effective result. This seems a point where the skill of European engineers might be introduced with certain and speedy advantage. A steam pump or two, or perhaps some adaptation of the siphon principle would easily drain off the greater part of such shallow overflows.

The river which the high road crosses by the Shuang-shih bridge a few miles beyond Yung-ch'uan, has an exceptional northern course, and winds delightfully along through a succession of wide pools, separated by beds of rocks and overhung by wooded cliffs. The bridge, evidently a structure of great age, which has undergone frequent restoration, is of a very primitive construction. Stone slabs piled rudely one on another form the piers, which support wooden beams laid across them. The foot-way is forty yards long, and is roofed throughout like all the wooden bridges of Ssŭ-ch'uan. It is surprising to meet with structures of this rudimentary nature in a province where stone is employed in huge masses with an apparent carelessness of expense, and which boasts the finest stone arches in China. In this instance the bridge is very ancient, and it has been found more convenient to repair it than to replace it; but the same style is still employed in cases where the timid Chinese mason considers the channel too broad for an arch.

A little conversation with natives soon satisfies the traveller that Ssŭ-ch'uan is practically a young province. They speak of K'ang-hsi and Kien-lung as monarchs of remote antiquity, and their chronology hardly reaches further back than the end of the Mings, about 1645. That the country was peopled, or more correctly speaking repeopled, in the early part of the present dynasty, is, however, an historical fact which does not require any additional proof. Some scant account of the anarchy which depopulated the province during the progress of the Tartar invasion will be found in the concluding chapters of De Mailla's 'History of China,' and is no doubt based on the experience of Jesuit missionaries who were in Ssŭ-ch'uan during the period described, for there is, of course, no Chinese history of the time. The most remarkable and ultimately almost the only figure in the story is a certain Chang Hsien-chung, who gained possession of the province in 1644 and proclaimed himself Emperor of the West in Ch'êng-tu. There is a difficulty in the way of understanding the policy of this ruler, which it is to be feared will always remain insuperable, for his simple mode of government was literally to condemn all his subjects to summary execution. I have collected from De Mailla the subjoined list of some of the reforms which the imperial nihilist introduced:—

Massacred.—32,310 undergraduates; 3000 eunuchs; 2000 of his own troops; 27,000 Buddhist priests; 600,000 inhabitants of Ch'êng-tu; 280 of his own concubines; 400,000 wives of his troops; everybody else in the province. *Destroyed.*—Every building in the province. *Burnt.*—Everything inflammable.

This programme appears to have been got through in about five years, 1644–1649. Many stories are current about this singular potentate; among others the following detail, not recounted by the historian, which occurred after the capture of Ch'êng-tu. By way of diverting his wife, to whom he seems to have been devotedly attached, he cut off the feet of the women who had been slaughtered and built three pagodas

with them. Unhappily his material was not quite sufficient to complete the third monument, and the artistic eye of his empress detected the lack of symmetry, whereupon the humorous monarch chopped off her feet and added them to the summit. Chang's hatred of the human race, and indeed of the whole animal kingdom of Ssŭ-ch'uan, is explained by the Chinese, not adequately, by his having inadvertently sat down upon a bed of nettles, a plant for which the province is famous. His whole story reads like an extravagant burlesque, but its general truth cannot be doubted. The Ssŭ-ch'uanese believe that very few of the natives survived, and when I protest that a good many must have been left, otherwise the Tartars, who are known to have slaughtered their hundreds of thousands, would have had nobody to massacre, they reply that the Tartars massacred the soldiers of Chang Hsien-chung. That devastator was the first of his army to fall by the Tartar arrow. He died a most heroic and glorious death, charging the whole Manchu host alone and almost unarmed.*

The present inhabitants of at any rate the southern part of the province are nearly all descendants of immigrants who came in under the present dynasty from the east. Most of them claim Hu-kuang as their fatherland, but near Jung-ch'ang Hsien I found a colony of immigrants from the Canton province, who profess to be able to speak Cantonese on occasion; but from their pronunciation of the numerals and a few other words it is clear that their progenitors were Hakkas. One of these colonists claimed my acquaintance on the ground that his cousin had visited England, but on examination it transpired that he had mistaken Shanghai for that country.

The market town of Yu-ting-p'u, reached by a steep approach 12 miles or so beyond Yung-ch'uan, deserves passing notice for the commercial importance of its central position between the three cities of Yung-ch'uan, Jung-ch'ang, and Ta-tsu Hsien. Its chief industry is the manufacture of agricultural implements from iron which is mined in its vicinity. The little town—for it deserves the name—is a good instance of the populousness of a province in which there are not a few villages rivalling the cities in extent and surpassing them in trade. So far as the country between Ch'ung-ch'ing and the capital is concerned, perhaps the most busy and peopled district is that which begins about this point and extends to the city of Tzu-chou; it is one of the least mountainous parts; it has good water communication by a commodious river and its affluents with Lu-chou, and consequently with the eastern provinces; and two specially important products, salt and grass-cloth, furnish staples for a thriving industry. Its agriculture, again, favoured by the comparative level, and in some degree by the exceptional possibility of irrigation from the river and its tributaries, is successful above the average, particularly in sugar. It is to the trade arising from these

* De Mailla, however, states that he was surprised during a reconnaissance.

sources that the existence of so many large villages is to be traced. Speaking broadly, the purely agricultural parts of Ssŭ-ch'uan are remarkable for the absence of villages properly so called. In the eastern provinces proprietors, tenants, and labourers, with a few shop-keepers and artisans, gather together, apparently for the sake of mutual protection, in an assemblage of houses surrounded by a mud wall, often at some distance from their fields. But in Ssŭ-ch'uan the farmer and his workpeople live, it may be said, invariably in farm-houses on their land, and the tendency is to the separation, rather than to the congregation, of dwellings. Thus when several sons divide an estate and their increasing families demand more house-room, they generally prefer to erect new houses on each separate inheritance, rather than, as in other provinces, to build close to the original family mansion, or to enlarge it. It thus results that the whole country is dotted over with cottages at a short distance from one another, picturesque and frequently spacious edifices composed of a strong timber frame filled up in the interstices with walls of stone below and mud above, and roofed evenly downwards from the ridge pole, with only a slight slope to broad eaves, which—without any upturn at the corners, such as the typical Chinese roof possesses—form a wide verandah. The resemblance which these dwellings bear to the old style of English houses has been noticed, I think, by Captain Blakiston, and, with the exception of the roof, which reminds one of a Swiss *châlet*, the similarity is striking in outward aspect; the wooden framework, black with seeming paint, shows out vividly on the whitewashed walls, and embowered as they generally are in a clump of greenery, the Ssŭ-ch'uan cottages convey a delusive impression of cleanliness, comfort, and neatness which it does not require a very close approach to dissipate. The hypothetical paint turns out to be grime, and the whitewash mostly efflorescence. Being, however, more spacious, they are probably more healthy than the crowded mud-huts of other provinces, and at any rate it must be an advantage to so filthy a people as the Chinese to live as far away from one another as possible.

Baron v. Richthofen, in drawing attention to this broadcast distribution of habitations, remarks that "people can live in this state of isolation and separation only where they expect peace, and profound peace is indeed the impression which Ssŭ-ch'uan prominently conveys." There is doubtless much truth in the observation; but the expectation of peace must have suffered many and grievous disappointments. Perhaps a more precise explanation is that the immigrants, refugees, and exiles—for tradition relates that people were sent in chains to colonise the province by K'ang-hsi—who came in from distant localities in the early days of the present dynasty, naturally built apart upon the lands which were allotted them, having in general few family ties which would induce them at the outset to build in communities, and, moreover, speaking

various dialects. No serious invasion occurred to modify this condition for nearly two centuries, until the Taiping outbreak made it necessary to unite for common safety. It is interesting to notice how this emergency was met by so scattered a population. They subscribed together and built stone walls round some convenient hill-top on which they took refuge at the approach of the rebels, leaving their lands and houses to be ravaged. But the separate system having now become established, it did not occur to them to build houses inside the walls; so that the fortifications remain uninhabited and isolated, and will doubtless so remain until the next invasion. They are very common on prominent heights, especially near the Yangtzŭ, and Captain Blakiston has indicated several of them on his chart under the name of "redoubts." The native name is *chai-tzu*, a word which has much the same meaning.

Another characteristic of the purely farm life, as distinguished from village life, of the agricultural population is the markets (*ch'ang*). These are generally long streets lining the main roads, consisting of shops owned by the farmers and let to traders on market-days, which fall on every third, fourth, or fifth day, as the case may be. These gatherings are the centres of news, gossip, official announcements, festivals, theatrical shows, and public, and even family meetings. If a bargain for the sale or renting of land has to be concluded, the matter is put off till market-day. If a marriage is to be negotiated by the heads of families, the high contracting parties go to market to draw up the preliminaries and to ratify the convention. All produce is disposed of at the same centre. The peddler, the barber, the blacksmith, and the tinker all repair thither, and it is there that the rustic makes his purchase of the longcloths and woollens of Europe and America. It will easily be understood that these fairs are very lively scenes on the days of meeting. They are indeed so thronged with traffickers and blocked with merchandise that it is difficult to make way through them.

A traveller ignorant of the system is exceedingly surprised to find, a few miles beyond so commercial a village, as it appears to him, another of equal or it may be of much greater extent utterly void of inhabitants. On inquiring the cause of its desertion he will be told that it is not market-day, and he will gradually come to understand that there are few villages in agricultural Ssŭ-ch'uan, but a great many market-places.

In manufacturing districts, however, the case is very different, and from Yu-ting-p'u forwards large villages are frequent.

On July 12th we passed through Jung-ch'ang Hsien. The public Examination Hall afforded us lodging during the breakfast hour. In a lumber-room behind the institution I discovered two wooden cannon which had evidently been discharged, though I was told that they were

loaded with gravel instead of shot. Each was seven feet long, the exterior diameter at the muzzle being about nine inches, and the bore four inches. They were circled with seven bands of hoop-iron less than one-eighth of an inch thick, the band round the muzzle being a little stouter, and, besides these, two strips of iron were laid in along the sides. From the muzzle to the vent, which was simply bored in the wood, measured about four feet, and the rear tapered away to a slightly curved tail. The whole affair weighed about 80 pounds. It was in the teeth of such war-engines that the Taipings, or their fellow marauders, got possession of the place.

The interior city seemed rather poor and dilapidated, but it contains a good many handsome shops. A large proportion of the citizens are of Cantonese descent. Starting again at 10 A.M. we passed through the suburb, more than a mile long, and suddenly came upon an affluent of the Lu-chou river. The stream is about 80 yards broad, with little current, and is crossed at the end of the suburb by a handsome stone bridge of six or seven arches, over which the high road passes. Instead of following it, however, we took boat and dropped down with the current some four or five miles, meeting a good deal of traffic, chiefly coal, bricks, and coffin-planks. But the principal industry of the place is grass-cloth (*ma-pu*), of which we noticed no small quantity laid out to bleach on the banks. Four miles or less from the city a ledge of rock, supporting a slab bridge of some forty arches, runs right across the stream, allowing exit to the water through one narrow opening between six and seven feet broad. All boats must, of course, be built by this inexorable measurement.

The thermometer here stood at 101° in the best shade I could find, but a more satisfactory exposure at 3 P.M. showed 98°. A child had died from the heat shortly before we arrived, its parents having brought it down to the river to cool it. Heat apoplexy, known in Ssŭ-ch'uan as *Lei ssu*, or death from exhaustion, is a common and well-known cause of death among the Chinese, and there is, in my poor opinion and experience, no reason to suppose that foreigners are more liable than natives to suffer from it. The latter, no doubt, resist exposure to the direct rays with greater impunity, but they are on the other hand less able to bear up against the weakening effects of a long period of exceptional heat, though relieved by the constant use of the fan and the habit of sleeping naked. The nightly attacks of musquitos are not a whit less formidable to the Chinaman than to the Englishman, and much severer cases of the inflammation known as prickly heat may be found among the Ssŭ-ch'uanese than among the European colonists of Hong Kong or Shanghai.

A native of Chekiang who was with us volunteered the information that in his province fatal cases of sunstroke are unknown, although people sometimes die of drinking cold water. In his opinion, the

Ssŭ-ch'uanese are more susceptible on account of the thinness of their skins.

Disembarking not far from the slab-bridge, we travelled five miles to the large village of Shao-chiu-fang, which owes its importance to a manufacture of pottery in terra-cotta introduced during the last six or seven years only. Our sole ambition was to make our way westward out of the heat, which rendered abhorrent all thought of visiting kilns and clay-works, but as we neared Li-shih-chên, another spacious and industrious village, 22 miles from our morning station, a cool breeze sprang up and depressed the thermometer to 86° at 9 P.M.

On July 13th a heavy fall of rain delayed our start until 8 A.M. Four miles brought us to Shih-yen-kai, a village lying on another small affluent of the Lu-chou river, crossed at this point by a stone bridge on piers which are carved to represent lions and elephants. The whole place resounded with the clang of smithies. I was told that the iron is not mined in the neighbourhood, but is brought from Lao-jên-shan, in the magistrature of Pi-shan, near Ch'ung-ch'ing. Five miles beyond Shih-yen-kai the affluent is again crossed at the gate of Lung-ch'ang, a Hsien city which is the centre of the grass-cloth (*ma-pu*) trade. There is a large export of this article to the eastern provinces, as it is both cheap and fashionable; but it is held much inferior to a similar fabric produced in Kiangsi, and is three or four times cheaper. The best quality I could obtain in the city cost me about sixpence a foot.

As far as Lung-ch'ang the road is excellent from a Chinese point of view, but beyond that it is in a very ruined and dislocated condition. Certainly no highway is so handsomely and expensively ornamented as this with stone portals (*p'ai-fang*). Most of them are erected by dutiful sons in honour of widowed mothers who have restrained themselves from contracting a second marriage. Perhaps the dread of a stepfather accounts in some degree for these pious dedications. Not a few commemorate the administrative virtues of some local official, but these are notoriously paid for in many cases by the official himself and by an interested claque. A third category is built in honour of centenarians, but these are as unauthentic as the others: a Chinaman's age increases very rapidly after seventy-five, and he becomes a hundred years old and upwards in about a decade. In a country where such passive virtues as widowhood, office-holding, and longevity are thus prominently distinguished, one would doubt whether more energetic civic qualities abound. However, the peculiarities of Chinese architecture and sculpture appear perhaps at their best in these monuments. The heavy curled roof is toned down, and the understructure is shapely and solid, so that they are mostly in very good preservation. With the exception of the human figures in relief, which, intentionally or not, all tend to the comic, the decorative details are pleasing. I noticed wall-spaces carved in imitation of basket-work with excellent effect, an idea suggested possibly by

the wattled walls of the poorer cottages or outhouses. All are built of stone; near Yung-ch'uan and Jung-ch'ang a dun-red sandstone predominates, and about Lung-ch'ang a warm and very agreeable cream-coloured variety. Inside the cities very ancient specimens, with the surface almost entirely peeled off, may be seen, and upon these the houses have gradually encroached, until they are now more than half built up. On the road, most of them are quite recent. The varying styles of p'ai-fang in different parts of China would make an interesting study, and it would be useful archæologically to discover and authenticate the earliest examples. It has been sought, without much justification, to connect them with the introduction of Buddhism; but I venture to think that they are nothing more than developments of the primitive monuments, of which the great triliths of Stonehenge are the type—two posts and a lintel. The Chinese have added a great deal of decoration, and an upper storey, and have protected the edifice with a roof; other modifications have inevitably ensued, according to the materials employed. Thus, in Peking, where wood is used in the construction, and beams of appropriate size are costly and rare, while tiles are easily made and greatly admired, the p'ai-fang is little more than a top-heavy roof perched on poles—a hideous object. In Yünnan Fu, pottery is largely introduced into the ornamentation, with a too gaudy and glaring result. But in Ssŭ-ch'uan the simplicity of the design is not sacrificed to details; colour is very seldom employed, and the whole structure is of stone; no roof is added to it, although the summit of the upper story often simulates a light roof and is carved to imitate tiles. That many of them are graceful and pleasing monuments may be accepted on the faith of Von Richthofen, who remarks:—"No traveller can help being struck with the great artistic perfection of the triumphal arches worked in red sandstone which abound in the country. . . . Some of them are masterpieces of Chinese art."

Two structures of characteristic style are met with throughout China, the pagoda and the p'ai-fang. The former, of which I shall have something to say further on, is probably of direct Indian origin, but with the exception of the remarkable Sanchi Tope, I do not know if there is any Indian exemplar of the p'ai-fang.* It seems to be peculiarly Chinese, and it may not too credulous to expect that similar buildings or traces of them may be discovered in the ruined cities which are found, according to the reports of travellers, in the region beyond the north-west frontier, the supposed cradle of the Chinese family. If simplicity and grace at one end of a line, and grotesque degradation at the other, may be taken as showing the direction in which an artistic idea has travelled, the

* The *p'ai-fang* or *p'ai-lou* is the *toran* of India. Besides the stone examples at Sanchi another has since been found at Bharhut. The *toran* is represented in bas-reliefs (e. g. at Amaravati, see 'Tree and Serpent Worship,' 2nd. ed., pl. xcvi. fig. 3); and the thing itself, in its original timber form, is still used at Hindu weddings (see Fergusson, 'Ind. and Eastern Arch.,' p. 95; Cunningham's 'Stupa of Bharhut,' p. 8, and pl. iv.).—[H.Y.]

design of these portals must have been derived from a source which spread south-eastward across the provinces.

It would be a very interesting research to trace back the mention of the p'ai-fang to its earliest occurrence in Chinese literature. The second word of the compound seems to be used in an exceptional, or perhaps original, sense, and to mean mound.

Fourteen miles, more or less, beyond Jung-ch'ang we passed the village of Shuang-fêng-yi, where I was supposed to be the Roman Catholic Bishop of Ch'ung-ch'ing on his way to the capital, summoned thither by the Governor-General to answer for various crimes. On other occasions I was taken for a Miao-tzŭ chief, or a high dignitary of the Buddhist church. Captain Gill, I heard, had stopped near Lung-ch'ang to examine an exceptionally fine banyan, and with such baleful effect that, according to my informants, the tree fell down a few days after his departure. I have frequently been asked how many feet into the earth I could see. On the other hand, a Scotch missionary was accosted near Ch'êng-tu, and asked if it was true that all foreigners were blind. Native ignorance of anything extra-Chinese is so dense that it cannot be described; it can only be illustrated. I once stopped to inquire, in Chinese, of course, of two men who were hoeing a field, what was the purpose of a mound hard by. After listening with evident interest to my question, and without making any reply, one of them remarked to the other, "How much the language of these foreigners resembles ours!"

Eight miles further, we suddenly struck the main Lu-chou river, fully 200 yards broad, slow, shallow, and beset with sandbanks, and took boat at the busy little town of Pei-mu-chên, which may be considered the port of the city of Nei-chiang, some seven miles further on. Nei-chiang (meaning mid-river) lies near the neck of a peninsula, at the extremity of which, but on the other bank, Pei-mu-chên is built. Thus, after dropping a few miles down the stream, we landed, walked a few hundred yards, and again came upon the river at its upper curve. Just as we sighted the city, I observed near the bank a bamboo tube supported vertically 10 feet above the ground by a light scaffolding and stays of rope. Several low buildings surrounded the construction, and on entering I saw a strip of bamboo 1½ inches broad by ¼ inch thick, issuing rapidly from the bowels of the earth through a hole, five inches broad, in a flagstone. The bamboo strip, joined to other strips by lashing, passed over a roller, and on following it into a shed, I found that it was being wound on a whim by a pair of buffaloes attached to the circumference. In a few minutes the connected strip, 260 feet long, had all issued from the hole, bringing up a bamboo pipe 50 feet long. When the bottom of the pipe rose clear of the ground a workman seized it, opened a valve in it, and several gallons of salt water shot out into a tub placed alongside. The end of the bamboo strip being fastened to the bottom of the pipe, or

bucket, as it may be called, could not of course support it vertically after it had cleared the mouth of the well from which it had brought up the brine; but it was kept erect by its top entering the stout tube, or guide, which had first caught my eye.

The buffaloes were then ungeared, the bucket dropped of itself at a great pace to the bottom of the well, where the brine pressed open the valve and again filled the bucket; the buffaloes were reattached and revolved in their orbit, and so the method of working brine-wells in Ssŭ-ch'uan was made clear.

The brine runs from the tub through pipes of the unfailing bamboo into pans, in which the salt is evaporated over coal-fires. The coal seemed very light, and is copiously watered to improve its effect. I could get nothing out of the valve-man, who was stone-deaf, and little more out of the buffalo-driver, in consequence of the noise of the revolving whim; but in the evening we found a merchant of Nei-chiang who owned a well at the great salt-works of Tzŭ-liu-ching, a long day's journey south-west of this, and who talked freely about his property and the method of working it. I need not repeat what Von Richthofen and Captain Gill have already written respecting the manner of boring the wells. The merchant bewailed the great expense he was put to for buffaloes; he keeps two hundred, costing about Tls. 40 (say 12*l.*) a head. The Tzŭ-liu-ching wells are worked at high pressure, the buffaloes being driven round at the best speed that can be got out of them. Only the most powerful beasts are suitable, and are fed at 300 cash (tenpence or a shilling) per diem. The buffalo suffers severely from the hot atmosphere and the unnatural haste; for although he can gallop at a good round pace under excitement, he is by nature a sober, sluggish animal, and is not happy without a cool bath twice a day. Consequently the poor beasts die off rapidly, and support a thriving trade in hides; much of the Ssŭ-ch'uan glue has the same origin.

Probably there is no Chinese industry to which steam-power could be applied with more immediate and obvious advantage than to the raising of brine from these wells. Those which I saw at Nei-chiang are not more than 300 feet deep, but at Tzŭ-liu-ching some are bored to more than 2000 feet. The gear which connects the revolving drum with the wheel over the well's mouth does not multiply speed, so that the buffaloes at each operation have to march or run the same distance as the depth of the well; hence they have to be driven fast to obtain a remunerative output, and "it is the pace that kills." Some adjustment by which they could pull harder, but travel slower, would be an advantage to all parties, but in any case the buffalo is very ill-suited to such work. The substitution of steam- for beef-power would not diminish the need for human labour; a man at the valve and another in the stable, with a boy to guide the buffaloes, are all that the present system requires for the mere raising of the brine, and as many, or more, would be employed if steam-

power were used, while the greatly increased outflow of brine would afford occupation for more hands in the evaporating shed. At Tzŭ-liu-ching the boilers could be heated by gas, the fuel by which the evaporation is now effected.

The boiling-pans are five or six inches thick, and weigh some 16 cwt. apiece; few of them last longer than a year, since the salt has to be evaporated to dryness, and the fire soon burns or cracks them. They are cast in various places, but chiefly in the neighbourhood of Lu-chou, and are not sold, but let, to the salt-workers, who, as the odd trade-technicality puts it, "buy the pan without the iron" ("Mai kuo, pu mai t'ieh"). When a pan is burnt through it reverts to the foundry proprietors, who recast and relet it. The hire under these conditions is forty or fifty taels, carriage expenses being borne by the hirer.

The Nei-chiang salt-production is comparatively unimportant, and there is no gas. The most noticeable industry of the district is perhaps sugar, the cultivation of which begins somewhere near this point, and follows the valley of the Lu-chou river down to the Yangtzŭ. On the latter stream the cane is grown thickly from P'ing-shan Hsien, the limiting point, to Ch'ung-ch'ing, or even further down. But the importance of Nei-chiang depends principally upon its advantageous river communication. Junks of large capacity easily ascend thus far with full cargoes of cotton, which is here disembarked and distributed over a wide district.

Our journey on the 15th led us through a most luxuriant valley to the city of Tzŭ-chou, still following the river and crossing it just before entering the city. At the ferry we poled out to a depth of 12 feet, and then took to our oars to cross the channel. Small steamers could in all probability reach this place at any season, but a long though not violent rapid, and a wide stretch of shingle-beds and reed-flats, do not afford good promise of a higher ascent unless during floods, when the water sometimes rises 20 feet above its mean level. Between the two cities the river is about 200 yards broad. Tzŭ-chou is about 24 miles from Nei-chiang; the pleasantest part of the stage is near Yin-shang-chên, a large village somewhat more than half-way, where the road, carried along a rock-terrace which overlooks the river, passes through groves of a well-kept and park-like appearance. This seemingly artificial neatness is frequently met with where Ssŭ-ch'uan roads cut through a steep hill-side.

Tzŭ-chou is a clean and substantially built town, possessing no special commercial significance. Beyond it we entered a district where no rain had fallen for forty days, except in a few light showers, although further south there had been an exceptionally copious fall. The crops were in a pitiful condition; millet seemed to suffer most, but the paddy, which, as it requires irrigation, one would expect to be the first to succumb, seemed capable of holding out longest of all, although the fields were as dry as

the sandstone road. Little or no work could be done, and the natives seemed to be keeping holiday: even in the smallest market-villages theatrical performances were being exhibited, gaudy processions wound among the slopes, and the parched fields were gay with banners; but this display was no merry-making: its purpose was to propitiate the spirits and to avert the calamity of famine. During the day's march I observed that about half the millet was dead, that the people were pulling up the maize, and that the cost of rice had risen in four days from eight cash a bowl to twelve cash; yet the country folk, though anxious, seemed by no means depressed, and I was told that even if the crops in this neighbourhood fail altogether, other parts of the province are sure to be productive, and there is no danger of starvation.

Ssŭ-ch'uan manners are easy and simple, and when no convenient roadside hostel was near and the breakfast hour approached, we used to enter the most commodious cottage, and spread our frugal meal there as a matter of course. Sometimes we took possession of an empty house, the family having gone to market or to the fields. We were generally received with a frank welcome, but the fear of officialdom is so strong that the arrival of my sedan-chair was apt to cause uneasiness, from a suspicion that I was a military commander with a tendency to make requisitions. In such circumstances, I would open conversation by inquiring how far it was to the nearest inn, and would find an opportunity of explaining indirectly that I had brought provisions with me and wanted nothing but fire and water; by which time my servant would have made some progress into the good graces of the inmates by a few unobtrusive salutations and compliments, and by purchasing half-a-dozen eggs or a fowl with the readiest money. By some such diplomacy we always gained free approach and fair accommodation. A good way is to pick up a guide (a small boy is preferable) before arriving at a village, and to treat him unusually and unexpectedly well. Another plan in doubtful cases is to make no show of being hungry, but to sit down and smoke, buying something casually and paying for it after a little bargaining, which has a good effect, and then on second thoughts conceiving the idea of breakfasting. Many such devices occur according to cases, but in general there is no difficulty in gaining the villagers' confidence. We breakfasted to-day among a bevy of countrywomen, wedded and single, who were engaged in spinning cotton, arranging the threads for the looms, of which two were in operation, and preparing the vermicelli called *kua-mien*. In one corner was a buffalo lazily turning a mill, and in another a labourer working a noisy winnowing box with a treadle. Three children, each about three years old, were enjoying the freedom of the floor and the society of the cocks and hens and a pig, and, though unweaned, took very kindly to the cakes we had brought from Ch'ung-ch'ing. Some children, by the way, are not weaned until the age of five years or more. Customers entered from time to time to buy the

kua-mien, our coolies came and went just as they pleased, our cooking was conducted in a corner, and beyond a few questions prompted by courtesy or curiosity, nothing interrupted our repast or the day's routine of the cottagers. All this went on in the same apartment, half room, half court, about 35 feet square. Suddenly the sound of a gong and a bell is heard outside, and everybody runs to the door, to see a procession of nearly naked youths carrying poles with some green plant tied to the tips, headed by the gong-man, who is a village elder, and a youngster with the bell. A standard-bearer with a gay paper banner brings up the rear of the procession, which marches sedately down the little street on its way to perambulate the droughty fields, in hope to induce the local genii to grant a fall of rain. The officials of the district are everywhere conducting the regulation rites for the same end, and as they will continue the ceremonies until the rain responds, they will persuade themselves that their entreaties have prevailed.

Pai Fo Ssŭ—"white Buddha shrine"—a temple 20 miles, or less, distant from Tzŭ-chou, received us for the night, and turned out to be a place of unusual interest. Vague accounts have from time to time been published of a Chinese sect who worship a deity called Tamo and regard the cross as a religious symbol, a story which has led the Roman Catholic missionaries to identify Tamo with St. Thomas, and to accept as proved the tradition that the Apostle made a voyage to China. On the other hand, the Tamo of Buddhism is, if I am not mistaken, a well-authenticated patriarch who came to China in the sixth century. It was,

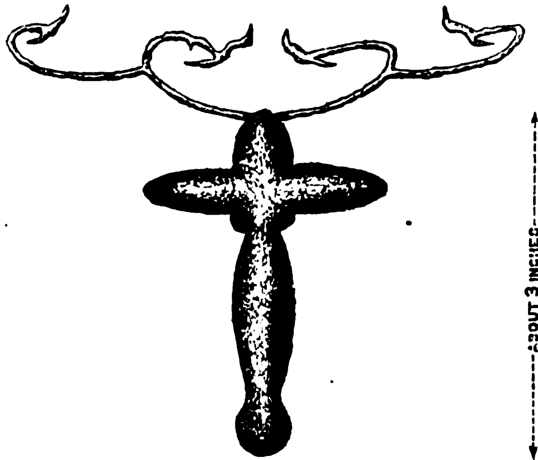


FIG. 1.

therefore, very curious to discover in this temple a graven image of the apostle, whether of Christianity or of Buddhism, depicting him with very marked Hindu features, a black complexion, and with a Latin

cross on his breast. I append a rough sketch (Fig. 1) of the symbol, which in the original is carved in relief and coloured red. Images of Tamo are numerous in Ssŭ-ch'uan temples, and he is nearly always—I think I may venture to say always—represented with black or very dark features. I have never heard of any other case of a cross being attached to his effigy.

The sketch (Fig. 2) represents a stone pillar, one of a large number of similar objects which are met with at the foot of the low hill on which the temple is built. They appear to have no connection with Tamo or the temple, but to belong to a separate cult. They are votive offerings dedicated to the tutelary genius of the spot, in recognition or in hope of a favourable response to prayers for fruitful marriage. Archæologists will probably see in them a wide-spread symbol of Nature-worship. They are composed of an upright stone pillar, from three to eight feet high, which transfixes a square slab, the whole being carved in sandstone. About thirty of them stand in couples in a confused clump on the roadside, all more or less chipped and fractured, and on the smooth face of a low sandstone cliff a great number—I counted more than two hundred—are seen carved in low relief, also in pairs. The bas-reliefs are of unknown antiquity, but some of the roadside pillars, though much dilapidated, seem comparatively recent. The votive purpose for which they are erected is familiar to the people of the neighbourhood. I was informed that they are called masts, or poles (*wei-kan*); but when I ventured to ask what connection exists between masts and a flourishing progeny, no one could explain the relation or, indeed, showed any interest in the subject.

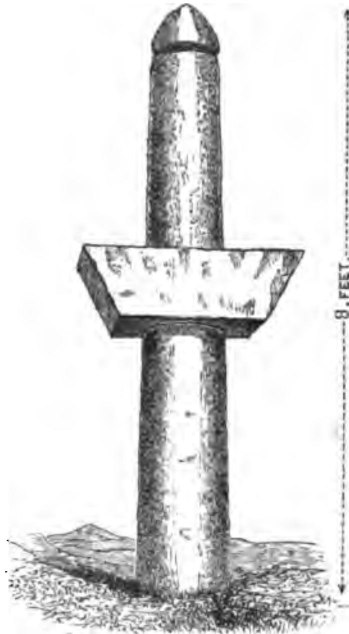


FIG. 2.

What is the meaning of the two masts which are set up beside the door of every official residence in China? They are generally assumed to be flagstaves, but I have never seen a flag exhibited, and they are unprovided with halliards. And what is the purpose of the transfixed piece which these poles carry? It is imagined to be a "top"—like the "main top" or "fore top"—but it has no such use, and is altogether too frail; moreover, there may be one, two, or three tops, according to the rank of the resident official, without any relation to the height or structure of the mast. The supposed top is named by the Chinese

tou, meaning a bushel, a measure of grain, where the allusion to fertility is obvious. Furthermore, I have seen cases where the mast is built up of stone. The official masts resemble the Pai-fo-ssŭ pillars in all respects except size, and the variations necessitated by their construction in wood. The cone on the mast-head survives, and the *tou* retains invariably the shape of the cross-slab in the sketch, but being made of wood is, for economy's sake, put together in open framework. The Chinese can explain neither the origin of these official poles nor their use, merely asserting that it is an immemorial custom to set them up outside public buildings.

Near the summit of the hill at the foot of which these sculptures are found I came upon several ancient tombs, of which all that the natives could tell me was that nobody knows anything about them. They are nearly covered by the present cultivation. Each construction contains half-a-dozen or more sepulchral chambers built side by side, and along the front runs a gallery on which they all enter. The whole system, including the gallery, is roofed, panelled, and floored with large stone slabs, perhaps six feet by three, though some are larger, put together with much accuracy and skill; the rock seems to have been first excavated, not as a foundation, but so to speak, as a receptacle, of which the slabs form the lining. The chambers are high enough for a man of average size to stand upright in (say five feet eight), and four or more broad, by some eight feet in length. The gallery is a little higher, and is entered with difficulty from the outside by low, square ports, which seem to have been originally closed. The tombs now contain nothing but a few human bones and fragments of pottery, which are as likely to be fresh as ancient, since modern beggars live and die in such places wherever the landlord's indulgence or negligence allows. Immediately outside the walls of Ch'ung-ch'ing there are many ruined tombs of a somewhat similar style, the latest bearing dates of the Ming dynasty.

On the 17th, after passing the market of Nan-ching-i, which is eight miles from the temple, we saw, four miles further on, what is a rare sight in China—a pagoda in course of construction. Five stages were already completed, reaching a height of 60 Chinese feet, the lowermost story being of stone and solid, i. e. without any hollow interior space, and having a base of 11 yards square. The second story, of brick, was octagonal externally and circular inside, the thinnest part of the wall measuring eight feet through. The third story was in the same style, but the fourth and remaining stages were octagonal inside and out, and the rest of the tower was to be completed on the same plan to a total height of 130 feet. A very frail segmental scaffolding outside enabled the builders to raise their materials, but access could also be gained by ladders placed inside. There seemed to be no scamping of work, and although the tower was to have been finished from foundation to spire

in six months, the bricklayers were proceeding very leisurely and intermittently with their business. The bricks were in course of manufacture in sheds below, and the stone had been quarried from the base of the hill. The estimated cost of the monument was given me by several independent informants at between thirty and forty thousand taels, equal to about 10,000*l.*, which, as the solid contents may be approximately calculated at about 50,000 cubic feet, gives the heavy rate of one pound sterling per five feet. But it is notorious that if these pagodas are built for any other purpose than the benign geomantic influence which they shed over the countryside, it is for the advantages which they bring to local committees of construction.

A population which subscribes for such costly and unproductive works must be fairly well-to-do; but, perhaps, a more convincing proof of affluence is found in the numerous bridges of the province, massive and even luxurious causeways, which would fully satisfy the sense of symmetry were it not for some defect in the curve of the arches. These appear at first sight circular, but on a nearer approach a tendency to a point is noticed, not decided enough to be pleasing, and yet quite sufficient to afflict the jaded traveller with the uneasy feeling that the architect was not sure whether his arch would turn out to be pointed or circular, and had left it to take its chance. The want of a prominent keystone increases the unpleasantness, the vertex being defined by the division between two voussoirs. These bridges are, however, very solidly and truly built, and are far superior to anything of the kind in Eastern China.

After a day's journey of some 17 miles, we once more crossed the Lu-chou river, and entered Tzŭ-yang Hsien. The channel is here about 150 yards broad, and admits junks of large size—say of sixty or seventy tons. The place has no special importance. Chien Chou, a larger city than any we had yet passed, about 24 miles farther, lies in a small plain on the river bank at the mouth of an affluent. Five minutes before reaching its gate we espied a temple of unusual appearance, and strolled into its court sure of finding something new or curious; but it turned out to be, not a temple, but a very ancient pagoda surrounded by low buildings. The pagodas with which Europeans are familiar are polygonal in plan, and generally built of stone; but in this province the older examples are square, and, what is singular in a country where stone is so extensively used, are of brick, coated with a durable white plaster, the well-known *chunam*. As one journeys across China the gradual change in style of these picturesque towers is very striking. In the typical pagoda of the south-eastern provinces the successive stages decrease both in height and diameter; but as the Ssŭ-ch'uan border is passed cases begin to occur in which the fifth or sixth stories are of the same breadth, or as it seems, of even a greater breadth, than the base, so that the outline of a side of the building, that is to say its profile,

resembles the arc of a bent bow when held with the string vertical. Still further west, as in the country we have reached, the old pagodas are square, and their upper stages are generally of very little height. In this Chien Chou pagoda each of the four faces are slightly concave; it is built of chunamed brick; the stories have imitation doors and round windows, and the cornices which divide story from story are not prominent, so that were it not for the suddenly pointed summit it might almost be taken for an English church-tower. It is very unlike the common idea of a pagoda, and yet it is a most authentic pagoda and a very old one, for high up on its eastern face, above a bas-relief of Buddha, is the inscription "Shih-kia-mu-ni Shê-li pao-t'a" (Buddha Shê-li Pagoda). What is Shê-li? I appealed to the attendant priest, who is attached to the place, for information. "A Shê-li," he replied, "is a particle of the essence of Buddha, having no special shape, colour, or substance, but in general it is a minute speck resembling a morsel of crystal, and giving off intense light. Its size may however change infinitely, and it is impossible to set limits to it. An iron chest cannot confine it in the custody of unbelievers, and its radiance on occasion pierces everything, so that there is no concealing it." Much more such like definition was offered me, which might have been credible if one could have understood it. But I have a reminiscence which almost amounts to a sure recollection that Shê-li is a transliteration of some Sanscrit word meaning *relic*;* in which case the inscription indicates that the pagoda contains a relic of Buddha, doubtless a particle of his ashes brought from India by a pilgrim. The extant journals of Fa-hsien, Hsüan-chuang, and others show that one purpose of their visits to India was to obtain relics (probably the term they employ is Shê-li, but I have no opportunity of examining any of their accounts); and here is a fairly authentic instance of the way in which they disposed of their collections.

Eight of the thirteen stories of this pagoda are ascended by an interior staircase, the walls of which are painted throughout with pictures of Buddhist saints and worthies, much in the style of the ruined Burmese temples at Pagán. The priest had no knowledge of the date of the building, and affirmed that there was no means of knowing it. I inquired somewhat deeply into this question, even sending to the prefect of the city to ask his opinion, but he replied that the date could not be ascertained. He himself evidently took no superficial interest in the antiquities of his jurisdiction, for he sent me a rubbing of an inscription which I met with on a singular object lying in the court below the pagoda.

* This is correct. The Sanskrit word is *sarira*, properly "the body," and used by the Buddhists for "relic" (see, for instance, Hardy's 'Eastern Monachism,' p. 212). Of the Sanskrit word the Chinese have made *she-li*, and the Tibetans *sharil*. The latter word occurs several times in Ssanang Ssetzen's 'Mongol Legends,' see Schmidt's transl., p. 249, &c.—[H. Y.]

It is not easy to describe it. Take a well-developed pear and cut it through its thickest part at right angles to its length; in other words cut off its top, then lay it, with the cut surface downwards, on a small book, but the book must be square. Assume the pear to be 2½ feet in diameter, and a little more in height, and to form with the book a solid mass of cast iron. Call this a "Shou-shan," or "Mount of Longevity." This forms the lower part of the machine. For the upper part imagine a coffee-cup without a handle, and solid, also of cast iron, two feet eight inches in diameter, with a spheroidal hollow in its base which fits on to the tail-end of the pear. Call this a "Fu-hai," or "Sea of Felicity." On the face of the coffee-cup, which, as I have said, is solid, as if it were full of coffee and the coffee frozen, are two oblong hollows, as if intended for the insertion of the ends of beams, and at one shorter side of each of these is an oval boss an inch or so in prominence. On the outside again, just below the rim of the cup, are eight shallow hollows which, if they were deeper, would give one the impression that they might have been meant for the insertion of capstan-bars; but although their edges are slightly raised no such supposition can be based on them, their depth not being more than two inches below the level of the circumference. The appended sketches (Figs. 3, 4, 5) will perhaps

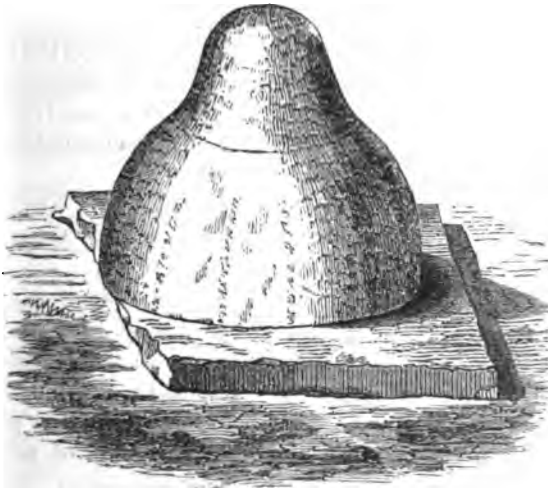


FIG. 3.—A MOUND OF LONGEVITY.

assist this description. The two portions lie a few yards apart on the grass in the open court. The base is a good deal damaged. The upper piece bears in large characters the Buddhist formula "Continually turn the wheel of law for the calm repose of the universe," and on the lower piece is an inscription recording the names of the donors and the date of the mysterious implement, to the following effect:—

"Certain devout persons living in Little West Street in the Yang-an Magistracy, Chien-chou [here follow the names of the contributors] have given alms for the purpose of casting a Longæval Mount and

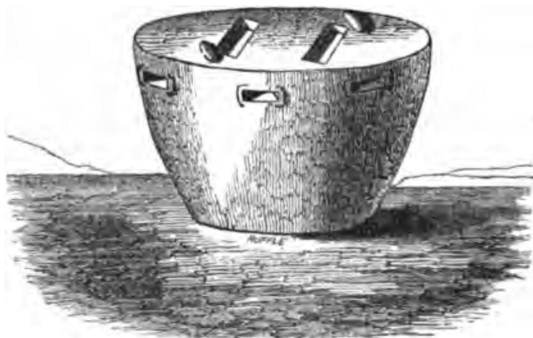


FIG. 4.—A SEA OF FELICITY.

Felicitous Sea for the temple [or temples] of Heavenly Calm and Everlasting Contemplation, so that the wheel may be turned and [two characters are here worn down and illegible] prayers for long life and flourishing posterity.

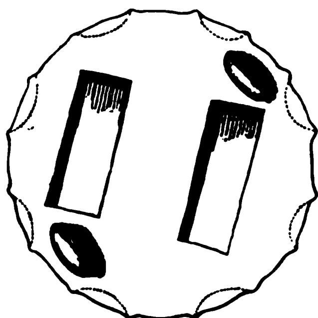


FIG. 5.—PLAN OF THE FACE OF THE SEA OF FELICITY.

"Carefully recorded in the 12th month of the second year of Chien-yen, the cyclic term being Shên-wu [A.D. 1128].

"Hsi-kuang, head-priest, missionary, and Shaman.

"Constructed by Ying Chih-li, foundry master, of Han Chou (a quarter of Ch'êng-tu)."

The Emperor Chien-yen, mentioned in this inscription, is renowned in Chinese history for his Buddhist proclivities. For several years before his accession the Golden Tartars had ravaged the northern provinces, and about, or a few years previous to, the date in question had made themselves masters of all Northern China *except Ssŭ-ch'uan*, and perhaps Shensi. Chien-yen only retained power over the country south of the Yangtse, establishing his court at Nanking, and subsequently in other neighbouring cities. The monument above described shows from the style of its date that the authority of the Golden Horde * was not yet acknowledged in Ssŭ-ch'uan, and thus supports the historical account. Ssŭ-ch'uan was finally conquered some

* *Golden Horde* is generally appropriated to the Mongol dynasty that reigned on the Volga; though the dynasty meant here, which reigned in North China before the Mongol rise, was called also *Kin* or "Golden."—[H. Y.]

130 years afterwards, probably not long before the visit of Marco Polo to the province, and, as usual, all the inhabitants of the capital were massacred.

The base also contains a modern, or at any rate a subsequent, inscription which, as it was getting dark, I could not decipher. The priest, on being consulted as to the use of the machine, told me that it was a pivot, and that on fitting a statue of Buddha to the orifices in its upper surface, and inserting spokes in the eight circumferential cavities, it will miraculously revolve of itself, and indicate the elect among the attendant worshippers. He admitted, however, that he knew very little about its adjustment, and I am disposed to believe him. The most probable solution seems to be that it formed the centre of a wheel, a materialisation of the Buddhist metaphor "wheel of the Law," or "Religion," more or less resembling the so-called praying machines common in Tibet. It must almost certainly have been a pivot, although it is very ill adapted mechanically for such a purpose, and moreover the boss shows no traces of striation. But then it may have been a failure, or no opportunity may have occurred for putting it in use.*

On leaving the city the road crossed an affluent of the Lu-chou river by a bridge 76 yards long, built partly on arches and partly on beams of the *nan-mu* tree. On the footway lie two trunks of this tree, intended for repairs, the larger being 48 feet long, 18 inches in diameter at the thin end, and 32 inches at the butt. The city is environed by fine temples and a most luxuriant cultivation, through which the river winds, 200 yards broad, but full of sand-banks and shoals. Nevertheless a good many large flat boats were coming down. Seventeen miles further the last belt of hills between Ch'ung-ch'ing and the capital has to be crossed. On the highest point of the road, at the foot of a tablet inscribed with the words "Here you are near heaven," I calculated the height above Ch'ung-ch'ing to be 2400 feet, or about 3200 feet above sea-level. The view from near this point is very extensive and striking, the broken country to the east, through part of which we had come, resembling a stormy sea, and the red colour of the soil and exposed rocks mingling in about equal proportion with the green of crops and groves; while on the west, some 1500 feet below, the great Ch'êng-tu plain stretches like a smooth lake and is everywhere covered

* There can be little doubt that the apparatus had been intended for a pivot, or part of the machinery of a revolving pagoda. Hwen T'sang obscurely describes such a revolving cupola over an image of Buddha in the valley of the Upper Oxus ('Pèlerins Boud.,' iv. p. 205). And the envoys of Shah Rukh to China (1420) describe a remarkable structure of the same kind at Kan-chau (in Kan-su Province). This was in the form of an octagonal kiosque fifteen stories high, made of wood and gilt; it revolved on a pivot (see 'Cathay and the Way Thither,' p. cciv.). It is possible that this was a colossal and elaborate form of prayer-cylinder. There is said to be such a cylinder in one of the Lama temples at Peking, which extends through the successive stories of the building to a height of some 70 feet (see A. Williamson, 'Journeys,' &c., ii. p. 346).—[H. Y.]

with a verdure which would be monotonous were it not for the variety of shades.

The plateau on this hill range, contrary to the general condition of Ssŭ-ch'uan plateaus, is but thinly inhabited, but the country near it on both sides teems with villages. The Ch'êng-tu plain, indeed, probably supports as close a population as the most crowded parts of the seaboard. Seven-tenths of the natives at least are of the poorest class, living from hand to mouth, and beggars abound. We had evidence of the difficulty of obtaining employment in the eagerness with which the people touted for the task of carrying my baggage. Out of their slender wage my coolies subhired temporary substitutes at the rate of two cash per *li*, or a penny for four miles. The poorest classes are of course at once affected by a drought, since no work can be done in a hard baked soil. To-day, however, the raggedest were gay, for a fall of rain had set in with good promise of duration. The simple folk sat under shelter and watched the downpour with delighted eyes and admiration of the skilful officials whose prayers had proved so irresistible. The theme of the weather is never tiresome here, but one must not speak disrespectfully of it; the public are warned by proclamation not to provoke the wrath of heaven by complaining of drought.

Ch'êng-tu, which we reached on the 20th, is about 15 miles from the foot of the range. Enough has been written about it by previous visitors to render any description of mine, superficial as it would be, unnecessary. To the traveller who could afford sufficient time to examine leisurely its antiquities and temples it would assuredly afford results of great interest. It is one of the largest of Chinese cities, having a circuit of about 12 miles, and although it contains a good many open spaces and temples with attached grounds, it may be considered well populated. The census of 1877 returned the number of families at about 70,000, and the total population at 330,000—190,000 being males and 140,000 females; but probably the extensive suburb was not included in the enumeration. Perhaps 350,000 would be a fair total estimate.* Its principal trade is in the numerous wild products of Tibet and Koko-nor—furs, rhubarb, musk, medicines, &c., which it purchases with the tea, silk, and cotton cloth of Ssŭ-ch'uan. All Tibetan countries are more or less directly administered or coerced from Ch'êng-tu by the Governor-General; and even distant Nepaul, known colloquially to the Ssŭ-ch'uanese as the country of the "Pi-pêng," sends a decennial mission of tribute, which is permitted or forbidden to proceed to Peking much at the Governor-General's discretion. It is no doubt owing to its proximity to the frontier that the

* For Ch'ung-ch'ing the result of the above-mentioned census was:—

Total population	120,676
Males	75,226
Females	45,450
Number of families	28,117

city is provided with a Tartar garrison, now become undistinguishable from the indigenous citizens. The fiction of a difference of language is, however, maintained, as may be noticed in the case of shop-signs, many of which are still written in Manchu. Ch'êng-tu claims an historical celebrity as having been the capital of the famous Liu-pei, and some vestiges of the palace which he built about 222 A.D. are said still to exist on the site of the present Examination Hall. The tradition that his palace occupied that spot is at any rate not open to reasonable doubt. The reputed tomb of his friend Chu-ko Liang, known otherwise as K'ung-ming—the most popular name in Western China, and the centre of many legends—lies somewhere outside the south wall.*

I had only time to visit one monument, but perhaps the most curious and the least known. A short distance from the North Gate, in the north-west quarter of the city, is an earthwork composed of two mounds some 40 feet high, and 50 feet broad at the top, distant from one another 120 feet, and connected by a lower terrace of about half the height and 70 feet broad. The whole work has the shape of a dumbbell half buried in the ground. Its direction is roughly north-west and south-east. On the south-eastern summit lies the singular object which I had been led to look for, and which had been described truly enough, though vaguely, as a large round white stone. It turned out to be a disc or cylinder of very hard limestone (silicate of lime) of enormous proportions, measuring approximately 18 feet in diameter. It seems to have slipped a few feet down the slope of the mound, and I cannot be altogether sure that its circle is complete, since more than half of it is hidden by superincumbent soil. Nor could I estimate its thickness, of which only 2½ feet are above ground. The surface of the monolith is a good deal worn and fractured, but the true circular form of the circumference is evident to the merest glance, as also is the perpendicularity of the rim to the face. The whole mass might probably be cleared of earth in an hour or two, but as the bystanders told me that any attempt to dig would cause the sky to darken and goblins to appear, I did not think it well to indulge a too intrusive curiosity. I could not find any indication of a similar object on the north-west mound, although analogy would lead one to suspect its presence, buried perhaps in the earth, as seems to have been the case with the extant stone. This huge grave-slab, for such it must almost certainly have been, is known locally as the Quern Stone (*Mo-p'an-shih*, meaning the bed-stone of a quern), and is said to have been brought from Han-chung Fu in Shensi. The mound is called Wu-t'ai Shan (Military Terrace Hill), and tradition makes it the burial-place of an emperor's son—what emperor I could not ascertain.† A Taot'ai of the

* At the temple called Wu-Hou-Tz'ŭ. See 'River of Golden Sand,' ii. p. 18.—[W. G.]

† The explanation given to me was that this was the grave of a concubine of the aboriginal king Shu-Wang, who lived in the third century. See 'River of Golden Sand,' ii. p. 17.—[W. G.]

city, to whom I applied for information, and who was engaged in re-editing the Topographical Account of Ssŭ-ch'uan, had never even heard of the Quern Stone. He was good enough to give me a printed plan of Ch'êng-tu, on which the mound is indicated, but he knew nothing of its builders or their purpose. From whatever quarry the stone was procured, it seems most likely that it was conveyed by water to near its present position, since it is a great deal broader than any road in the province.

2. Mount O.

On the 26th July we took ship outside the East Gate on a rapid narrow stream, apparently the city moat, which soon joins the main river a little below the An-shun Bridge, an antiquated wooden structure some 90 yards long. This is in all probability the bridge mentioned by Marco Polo. The too flattering description he gives of it leads one to suppose that the present handsome stone bridges of the province were unbuilt at the time of his journey.* The main river is a very disappointing waterway, about 80 yards broad in its wider reaches, but often narrowing to 50 yards or less, full of small rapids and shoals, and navigable only by the smallest junks. Our own bark drew at most a foot and a half of water, but in many places the channel drew less, causing us to stick fast repeatedly. The stream being swift—between five and six knots—and the numerous bridges, though generally well built, having uncomfortably small arches, the navigation is not devoid of danger. The luxuriant plain through which we were floating is thoroughly and easily irrigated by means of a modification of the machine known as the Persian wheel: a great quantity of water must be taken up in this way and spread over the country; but when all allowance is made for the diminution of the river, one cannot help surmising that Marco Polo must have felt reluctant to call it the Chiang Shui, or "Yangtzŭ waterway." He was, however, correct enough, as usual, for the Chinese consider it to be the main upper stream of the Yangtzŭ. It was pleasant in the glowing summer weather to glide down through the rich cultivation amid the hum of the huge water-wheels which met us at every turn, and to reflect that here at least is a country which can never suffer from drought. A garrulous coolie whom I had brought with me, for other purposes, however, than to criticise scenery, was loud in his admiration of a region which seemed to him an earthly paradise; and I was beginning to feel some of his enthusiasm, when the spectacle of a naked corpse, which two dogs were devouring on the towing-path, drew from him a burst of delighted laughter, and abashed all sympathy.

* One need not accept the supposition that Marco Polo described things so loosely and inaccurately. On this subject, and on the probability of great changes having taken place in the rivers about Ch'êng-tu, see the Introduction to Captain Gill's 'River of Golden Sand,' p. [37].—[H. Y.]

The limit of navigation for large junks is Su-ma-t'ou, a busy place in lat. 30° 28′ (by obs.). Twenty-five miles or so further down we passed Chiang-k'ou, a flourishing landing-place, at the junction with the river which runs down from Hsin-ching Hsien, some 20 miles away. This branch, locally called the Nan river, is beyond question a wider and deeper channel than that which we had been following, and should be regarded as the main river; but the waters of this plain are so intricately divided and subdivided, that their system is beyond comprehension. That the torrent which issues from the Kuan Hsien gorge should split up into an indefinite number of streams, and that these, after traversing the plain, should ultimately form two separate rivers flowing on different sides of a high range, namely, the Lu-chou river which we have coasted, and the Sui-fu river which we have now reached, would perhaps be credible if the plain were a dead flat, and its soil were an alluvium of considerable depth. But the streams have a swift current; those which I have seen are little below the level of the land; and further they are obstructed by frequent shingle-beds. At Su-ma-t'ou the shore is a thick layer of roller-stones, five to ten or more inches in longer diameter, so closely strewn that they make landing unpleasant. How comes it that this one extensive depression amid a wide ring of mountains should possess in its distribution of waters, and in no other particular, all the character of a delta? The only intelligible explanation seems to be that the distribution is produced artificially; but there is a conflict of authority on the question. Baron v. Richthofen describes the irrigation and drainage as natural,* while Captain Gill speaks of "ingenious irrigation works" at Kuan Hsien which direct the river "into the artificial channels by which the plain is watered." †

Chiang-k'ou is historically famous as the spot where the great rebel Wang-san-huai threw overboard vast quantities of treasure, the plunder of the province, and then burned his vessels, somewhere in the early part of the reign of Chia-ching. A few miles lower down we passed P'êng-shan Hsien, about which point the river widens out after the junction of all its subdivisions, and is called by foreigners the Min—a

* See p. 64 of his letter on Ssŭ-ch'uan.

† The explanation of the phenomena is, I apprehend, to be sought in the "alluvial fan" (or convex delta) structure assumed by the débris spread by a stream which debouches suddenly from a mountain gorge into a flat valley, this structure being taken advantage of by the people to carry radiating channels of irrigation from the mouth of the gorge. "Thus the natural rivers of the country seem to have disappeared, or become merged in the number of artificial watercourses or canals, into which they have been distributed by the industry of the children of the soil. And instead of finding the streams diminishing in number and increasing in volume as we follow them downward, it is the reverse that takes place. There is complexity below and unity above." This is quoted from remarks of the lamented R. B. Shaw on the rivers of Kashgar, in 'Proceedings R. G. S.,' xx. p. 486. He refers to a paper by Mr. F. Drew on the subject, read before the Geological Society in August 1873.—[H. Y.]

name given to it probably by the Jesuit surveyors and perpetuated on subsequent maps, but quite unknown locally. As above remarked, the natives regard the river which we have been descending as the main stream of the Yangtzŭ; when they apply a distinctive name to it they call it the "Fu" river, after the three Fu cities of Ch'êng-tu, Chia-ting, and Sui-Fu (Sü-chou).

The plain begins to break up into hills a few miles below Mei-chou. Some hours before reaching that point my attention had been attracted to a dim but sharp-edged object rising high above the south-western horizon, which I took to be a cloud; but at last, noticing that its profile did not change, I pointed it out to a boatman, who replied with a certain contempt, "Don't you know Mount Omi when you see it?" From the point where I first caught sight of it, its distance was more than 50 miles. There must be something in the conditions of its position which greatly exaggerates its size, for when it is seen across the level country from the edge of which it rises, the mind at once refuses to believe that any mountain can be so high. How it looks from a nearer point of view I cannot affirm, for I have ascended it, travelled all round it, and three times passed close under it, without ever seeing it again, as it was always clothed in mist. Perhaps the mirage of the wide plain lends it an illusive majesty, which is enhanced by its remarkable outline. Its undulating ridge gradually rises to the summit at the southern end, where, from its highest knoll, it is suddenly cut sheer down to the level earth—or nearly so, for the lower fourth part was hidden by clouds—forming a precipice, or, it may be, a series of precipices, which it is disagreeable to think of.

We naturally made all haste to reach such an imposing prominence, and were glad to land at Chia-ting Fu on the 28th, after a journey—not counting stoppages—of twenty-six hours and forty-two minutes from the capital. The distance may be estimated at a little more than 100 miles. The country becomes hilly as the city is neared. What little river traffic we met consisted chiefly of coal and building materials. For more valuable goods it appears that the shorter and safer overland journey is preferred. The situation of Chia-ting at the junction of three large rivers, the Fu, Ya, and T'ung, in a district where wooded slopes contrast with bare cliffs, is very picturesque. Its population may be stated at about 25,000. A very considerable silk trade has its nominal headquarters in the city, but official exactions have in practice driven it to the large village of Su-ch'i, five miles westward, which has water communication by means of a fourth river, little more than a torrent, issuing from the flanks of Mount Omi. White wax and timber are the other principal exports of the city. It lies in exactly the same latitude as Ch'ung-ch'ing, viz. 29° 34′.

The road to Omi Hsien, 15 miles or so from Chia-ting, crosses the

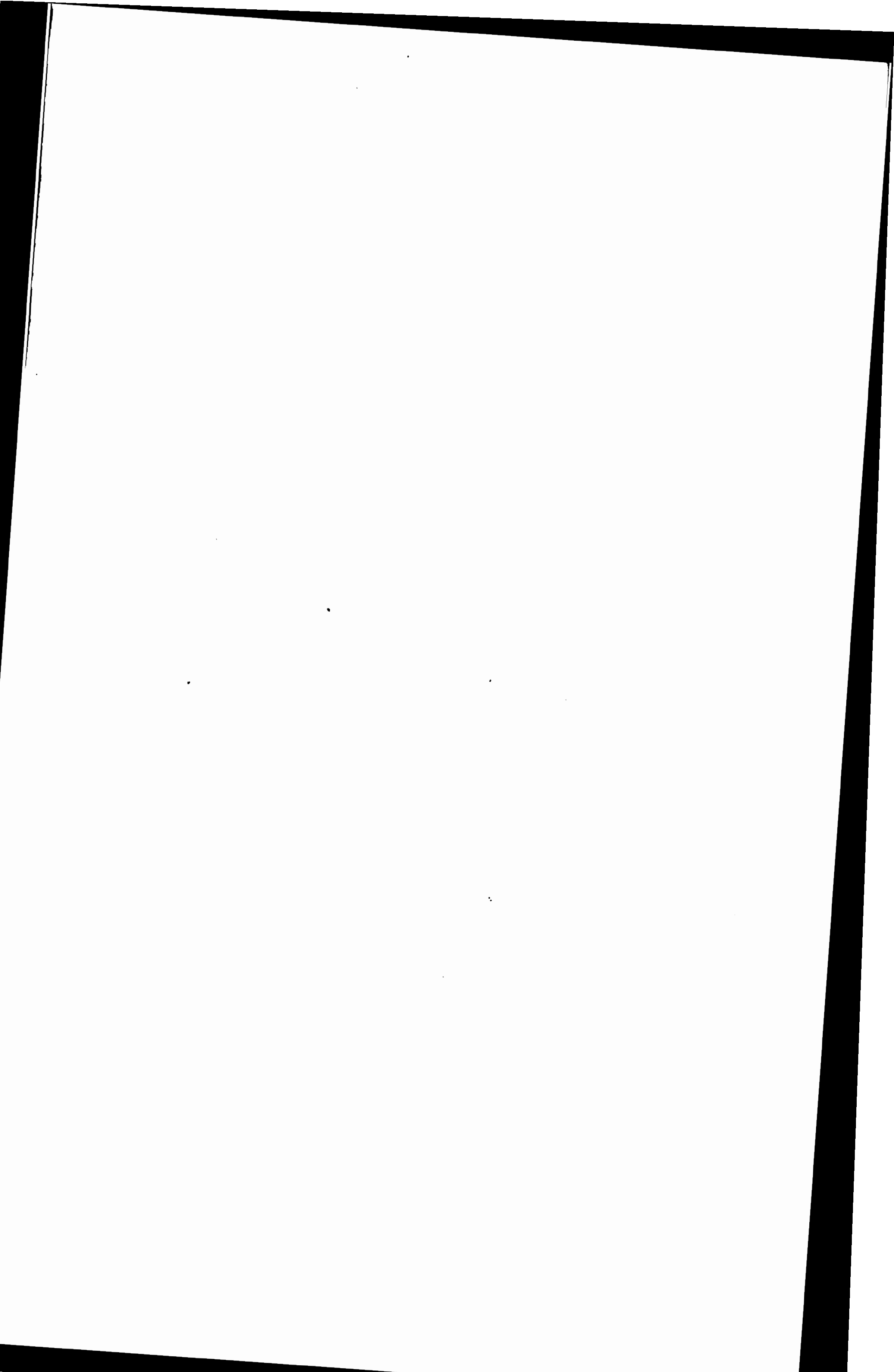


Plate I. to face Page 31.

broadest part of the valley of the Ya, and coasting along the right bank of the Omi river, approximately bisects the right angle formed by the confluence of the Ya and T'ung. It passes through the most luxuriant part of the country in which the famous white wax is produced. As I have described this cultivation in a previous paper, and the valley has been visited by former travellers, I will only mention here that its town of Chia-chiang lies in lat. 29° 44′ 20″ (I obtained no observation at Hung-ya), and that the head of the valley is at the market town of Lo-pa-ch'ang in lat. 29° 53′. The general run of the valley is north-west to south-east, but it is very tortuous above Hung-ya. The southern part, with its silk, white wax, and teeming rice-growth, so easily irrigated by the Persian wheels, may be fairly regarded as the richest nook of China. The little city of Omi, a square of a quarter of a mile on each side, is delightfully placed below the mountain spurs on the edge of a tract, sown with woods and seamed with torrents, which might be called park-like if nature had made it prim. It has a long suburb on the eastern side, and is thickly inhabited, a statement which I make authoritatively, since the whole population turned out to see me pass.

Near the point where the road from Omi city, for all the world like an English country-lane, enters the woods, we found lodging in the temple of Pao-ning-ssŭ. One of the sixteen patriarchs (Lo-han)* whose portraits surrounded my chamber, held in his hand an inscription, of which Plate I. is a careful copy.

On the 30th we travelled up by the bed of a torrent through woods which gradually thickened into forest, passing many a temple and shrine, until we reached the foot of a long series of stone stairs, and climbed to our breakfast halt in a monastery of forty monks—Fu-hu-ssŭ, the "tiger-taming temple." Its numberless halls and galleries, built entirely of timber, contain more than 800 statues of Buddhist saints and celebrities, none smaller than life, and several of colossal size, each having a separate individuality of lineaments, dress, and attributes, and an attitude which is not repeated. A Chinese artist was engaged in putting the finishing touches to a quadruple Buddha with thirty-two arms, standing about 12 feet high, beautifully executed in a very un-Chinese style. Above this a steep climb of 1400 feet, or thereabouts, leads up through pine groves interspersed with nan-mu trees, one of which I noticed 2½ feet in diameter, and more than 150 feet in height; the Ssŭ-ch'uan oak is also abundant. Nearly all the buildings which I saw on the lower slopes of Mount Omi, or O, as it is locally called for brevity's sake, are monasteries, and with the exception of monks, some 2000 in number, there are hardly any inhabitants but a few innkeepers. The land is church property. There is a certain

* This is the Chinese transformation of the Sanskrit *Arhan*, a Buddhist saint, in whom all worldly desire has become extinct.—[H. Y.]

cultivation in small clearings, but generally speaking the whole mountain is covered with forest.

We had thus far, however, only climbed a spur of the sacred mount, and had to undo much of our work by descending again into a deep glen. A broad torrent is here divided by a precipitous island-rock, which is crowned by a temple and connected with both banks by bridges; its crest thickly wooded; its vertical sides bare except where they are festooned with creeping plants; the bottom of the twin abyss filled with seething foam; a spot where a hermit might abide, and a traveller may well linger. Near this point a few stalls are met with, on which the productions of Mount O are exposed for sale to pilgrims. They are more curious than valuable—a kind of ginseng called *o-sêng*, various sorts of tea produced in the vicinity, quartz crystals found in the rocks, carved staves for the support of weary pilgrims, and a kind of cicada with a long fungus growing out of its head. Close to this emporium, a beggar sitting by the roadside, with his back propped against a tree, attracted my notice by the extraordinary size and shape of what I took to be his ears, but which turned out to be the soles of his feet. His thighs and legs ran up behind his back, so that his feet were placed, with the soles in front, between his ears and eyes; a most unpleasant specimen, which I did not care to investigate.

We had now attained the foot of the central mountain, the ascent of which is made painful rather than easy by the stone steps which have been laid down for the benefit of pilgrims; but there are many gradients which it would be impossible to climb without them. The mist thickened round us as our caravan plodded heavily up the devious stairs, with a primeval forest for balustrade, and when we asked an athletic monk, who outstripped us with great ease, how far it was to Wan-nien-ssŭ, our resting-place, it seemed unkind of him to reply "Fifteen miles for you and five for me." We made Wan-nien-ssŭ (Myriad Years Monastery) early in the evening, and in the clump of temples of which it is the centre found much instruction and amusement.

Just below it, in a kind of hostel, is a statue of Buddha twenty-five or more feet high, of a very rude and archaic style, reputed to be the oldest idol on the mountain. It is said to be bronze, but I took it for pure copper. Nothing could be learned of its age. A more artistic work is found in a temple behind Wan-nien-ssŭ, in a separate shrine. Passing under a dark archway we entered a hall in the middle of which, as soon as we could see through the dim religious light, we observed a kind of palisade, and inside it an elephant cast in magnificent bronze, or some such composition, nearly as white as silver. The surface is of course black with age and the smoke of incense, but I was able to judge the colour of the metal by inspecting a patch which has been worn down by a practice of devotees who rub coins on it and carry them away as relics. The size of the image is that of a very large elephant, that is to say some

12 feet high; its peculiarities are that it is somewhat too bulky, that the trunk seems rather too long, and that it has six tusks, three on each side. With these exceptions, if exception can be taken, the modelling is excellent, and a glance shows that the artist must have studied from life, for the folds of skin on various parts of the body, and the details of the trunk, are rendered with great truth and success, though with a certain conventionalism. The creature has been cast in three sections, belly and legs forming the lower, and back the uppermost. The contour of the belly is complete, but on stooping underneath one sees that it is hollow and that the exposed edges are about five inches thick; in other parts the metal is a great deal thicker. Each of his feet stands on a bronze lotus, and on his back the mammoth bears in place of a howda another huge lotus-flower, in which is enthroned an admirable image of Buddha, cast, I was told, in the same metal, but thickly gilt, his crown of glory towering to a height of 33 feet above the floor. Though generally called a Buddha, the image represents P'u-hsien P'u-sa (Samantabhadra Bodhisattva), the saint who is the patron or patroness, for the Chinese credit him with female permutations, of Mount O. The monks told me that P'u-hsien descended upon the mountain in the form of an elephant, and that the casting commemorates the manifestation. But it may more probably bear an allusion to the well-known vision in which the mother of Buddha saw before his birth a white elephant with six tusks.

The fane which encloses the casting is not less curious, being a hollow cube, covered with a hemisphere, and roofed with a pyramid. The walls of the cube are twelve feet thick, and the floor of the interior is a square of 33 feet on each side. The square becomes modified into a circle as the courses rise, by a transition which is gradual and pleasing but impossible to describe clearly without a knowledge of technical terms. Speaking clumsily, the four walls each terminate in a semicircular outline, the summit of each semicircle touching the circumference—i. e. the base—of the dome, and the four corners are each filled with three masses of brickwork, the surface outline of the central mass being an oval pointed at both ends, and the two others spherical triangles. The faces of all three are concave. The circumference of the dome is thus evolved from a square without any awkward abruptness, and it is only on trying to describe it geometrically that the arrangement begins to appear puzzling. To the eye the architectural process of squaring the circle is perfectly simple. The dome however springs from a rim which stands a little back from the circle thus formed, and so gains a few additional feet of diameter and increased lightness of appearance. The vault is to all appearance a hemisphere, very smoothly and exactly constructed. The whole edifice is of brick except, I think, a few insertions of stone blocks in the lower courses. The walls contain a series of ledges on which are placed a number of small images said to be of silver. The only light

which enters is admitted by the two arched doorways, before and behind the elephant.

The outside of the shrine cannot be seen, as it is enclosed in a timber building, which entirely covers it. Clambering by means of this envelope on to the roof, I found, instead of a cupola, a confused heap of brickbats, the debris of a low four-sided pyramid which seems to have been faced with porcelain tiles. The timber casing was absurdly added by the monks to protect the dome from the weight of the winter snow, a fair indication that the shrine was not built by Chinese. So solid a building would probably stand fast even if the whole mountain were upset on to it. The precaution has gone far to defeat its own purpose, for the wooden husk has been twice burnt to ashes, damaging not only the roof but the tusks of the elephant as well. It is said that they were melted off by the intense heat. The present tusks are a feeble restoration built up of plates and bands.

With respect to the age and origin of the shrine and its contents, the most authentic information is found in the Ssŭ-ch'uan Topography to the following effect. "The monastery of 'Clear Water P'u-hsien' on Mount Omi, the ancient monastery where (the patriarch) P'u served Buddha, dates from the Chin dynasty (A.D. 265–313). During the T'ang dynasty Hui-t'ung made his hermitage there. It was named 'Clear Water P'u-hsien Monastery' under the Sungs; Wan-li, of the Mings, changed its style to 'Saintly longevity of a myriad years.' The 'Hall of Great O' stood in front, facing which was the 'monument of Illustrious Patriarchs of the South,' and on the left the 'monument of Sylvan Repose.' The buildings included a series of seven shrines, the first of which contained a 'P'i-lu,' the second seven Buddhas, the third a Deva king, the fourth a guardian deity (Chin-kang), and the fifth a great Buddha; the sixth was *a revolving spiral constructed of brick, enclosing a gilded bronze image of P'u-hsien, sixteen feet high, mounted on an elephant.* In the beginning of the Sung dynasty (A.D. 960) orders were given to set up a bronze shrine and a bronze image also more than 100 feet high. Under Wan-li, the Empress-mother directed the shrine of P'u-hsien, namely, the spirally constructed brick edifice, to be carefully and thoroughly restored, and had the elephant gilt."

The existing building is obviously the "revolving spiral" here mentioned, and the awkwardness of the term, which conveys no idea to a Chinaman, is another proof that the builders were not Chinese. A name has had to be invented for an exotic form of construction, and there is, so far as I am aware, no other instance of a true dome of brick or masonry in China. It seems safe to conclude that the builders of the P'u-hsien shrine, as well as the artist who designed the castings, were Indian Buddhists.*

* In the name "revolving spiral" we seem to have another allusion to such structures as are mentioned in the note at p. 25. In the present case there may have been some

With reference to the patriarch P'u (a religious name which means contemplation), I made inquiries of a learned abbot in Ch'ung-ch'ing; but beyond ascertaining that he lived in the early time of the Chin dynasty, and is an historical personage, I only elicited the unsatisfying statement that "the joy of religion was his mistress, the knowledge of salvation his estate; grace and mercy were his treasures, and charity his vocation. To ask his lay name or his habitation is not permitted."

Hui-t'ung (also a religious name), is said to have flourished during the reigns of the three T'ang emperors Wen-tsung, Wu-tsung, and Hsüan-tsung (A.D. 827–860). The second of these monarchs is the famous iconoclast who melted down all the bronze idols he could lay hold of, and turned the metal into currency. Hui-t'ung, it appears, had influence to save a certain number; but the reason why the elephant was spared is not far to seek. So intractable a mass of bronze could not well be melted whole nor broken up, unless at a cost which would outweigh its intrinsic value.

It does not seem likely that the "great Buddha" alluded to in the above citation, is the bronze (or copper) colossus which now stands in a hostel a few hundred yards from the Wan-nien-ssŭ. If the "great Buddha" had been of bronze the fact would have been mentioned. It may be that the extant statue is all that remains of the "bronze shrine and bronze image *also* more than a hundred feet high." The word "also" has no correlative in the text, but the passage is an extract from some previous work, and the implied reference may well have disappeared in the process of compilation. The height of 100 feet may be taken as applying to the shrine, and perhaps a pagoda-like spire. The existing Buddha is, as I have said, about 25 feet high; and as compared with the elephant is a distressingly feeble conception. The latter, though more severe in style than modern realism is pleased to admire, cannot be refused the praise of excellence, and I am not indulging the fondness of a discoverer in asserting that it would not disgrace a reputable artist of any school or epoch. The only defect I could discover in the mechanical work is that the three stages of the casting are not quite accurately closed together. China is reproached with its lack of ancient monuments, and one may be pardoned a certain self-gratulation upon the discovery of what may be considered, next to the Great Wall, the oldest Chinese building of fairly authentic antiquity, containing the most ancient bronze casting of any great size in existence. It

wooden structure, formerly pivoted in the dome, that revolved. The suggestion of Hindu builders does not help to solve the puzzle of the dome. The description of the square building, with pendentives and circular dome, rather suggests work like that of the Indian Mahommedans of the Deccan in the sixteenth century. (See Fergusson's 'Indian and Eastern Architecture,' p. 560 *seq.*) But place and date are far apart from these, and I commend this very remarkable account to Mr. Fergusson's own consideration. —[H. Y.]

is not every day that a tourist stumbles upon a handsome monument fifteen centuries old.

Before I had done wondering at the brazen monster, and the dome which shields his resplendent rider, a monk who was standing by said confidentially, "Come with me, and I will show you a stranger sight; would you like to see a real tooth of Sakya-muni Buddha?" "Very much, indeed," I replied; and he took me down an imposing flight of steps to a temple near the copper colossus, informing me on the way that Buddha had only four teeth, all of which are extant. I followed my guide into a hall chock-full of gods of brass and clay, and in a few moments the sacred tooth was extracted from a wooden box and put into my hands. I estimated its weight at about 20 pounds, but the priests who gathered round told me that the exact weight is 13½ catties, or 18 English pounds. It is about a foot long, and of a rudely triangular outline: the grinding surface is level, but not smooth, and contains layers of transparent enamel. It is evidently a tooth, and may probably have been the molar of an elephant, or of some cognate beast. Emboldened by the tolerance of the priests, who had no fanatical objection to its minute examination, I borrowed a razor from them and attempted to cut the surface of the relic, but I could make no impression upon the dense fossil ivory. They told me that it had been presented by a Chinese emperor, who gave a similar tooth to a monastery on Wu-t'ai-shan. I protested to the priests that it was an elephant's molar,* but they scouted the idea, affirming that they were well acquainted with the shape of elephants' teeth, which, they said, are "long things like horns sticking out of their mouths." "But," I again objected, "if this was one of Sakya-muni's teeth, and he was reasonably well proportioned, he must have been 140 feet high." "How do you know he wasn't?" they asked; "and how do you know if the tooth hasn't grown since he entered Nirvana?" † Such faith, defended by such dialectics, is inexpugnable, and I withdrew from the controversy.

Wan-nien-ssŭ is 3500 feet above sea-level. We left it on the 31st, and mounted, through rain and fog, up and down—for the path is by no means a continuous ascent—to the temple of Hsi-hsiang-ch'ih. On the morrow we were stopped by heavy rain after three hours' marching of the severest kind, and compelled to spend the day in Chieh-yin-tien, at which point we had reached an elevation of 9000 feet. Nothing was visible through the thick mist during the two days, but the lower parts of the forest trunks and the interminable stairs.

* Mr. Fortune has given a cut of a Buddha's tooth at Fu-chau, which is evidently an elephant's molar. It is copied in 'Marco Polo,' Bk. iii. ch. xv.—[H. Y.]

† The following occurs in my diary written before I had seen Mr. Baber's paper:—"Mashhad, 2nd Feb., 1881.—A man came with curiosities for sale, amongst others an elephant's grinder tooth; the owner declared it was several thousand years old, and was the tooth of an antediluvian man. I asked him how many farsakhs tall that man was."—[W. G.]

We visited several temples, discovering among other curiosities a sleeping Buddha of a very realistic nature; a nude figure lying in a genuine bed, with real blankets, mattress, and pillows complete. In another place two mummies—called by the priests *jou-shên* or "flesh idols"—were shown us as the mortal remains of a pair of saints, set up like ordinary Buddhist images, and very much resembling them. An inspection of the damaged ends of their fingers showed a great many folds of silk bandage surrounding a central core, which was not, however, quite laid bare. There is no reason to doubt their authenticity, though their shrunken faces, which are exposed, are so lacquered and "made up" as to have lost all human semblance.

The abbot of Chieh-yin-tien turned out to be a very intelligent ecclesiastic, and much better instructed in Buddhism than most of his cloth. He had travelled far and wide in Northern China, had often taken a passage on steamers, and was much interested in the subject of locomotive engines since a recent visit to Shanghai and an excursion on the Wusung Railway. His mind had been enlarged by these journeys to foreign parts, and he allowed me to kill a fowl which I had brought with me, probably the first tame bird which had ascended the mountain for ten centuries. All eating of flesh or taking of life is, of course, forbidden by strict Buddhist discipline. Here the severest monastic rules are imposed; even eggs are contraband; but the abbot made no difficulty, and even met me more than half-way. We sat long into the night round the wood fire, baking and eating the fine potatoes which are grown on the shoulders of the mountain, and listening to his remarkable stories.

"Wu-t'ai Shan," he said, "is the most ancient holy place in China, and contains a statue which stood there before Buddhism was preached. But Mount O is more strange and wonderful. Often during the ascent of the mountain have pilgrims been beguiled by the chant of invocations, and the pleasant tolling of bells in lone spots where no monastery lies, and straying from the road towards such sounds, have lost their way. On a sudden they have descried in the thickest part of the forest immense halls in which images of purest gold are seated on jewelled thrones; there they have been daintily fed and delicately lodged by ministering priests, and guided on the morrow back to the main path, but never after their return from the Golden Summit have they been able to find the mysterious abode of their hosts. Sometimes a pilgrim strays into the mouth of a cave from which issues a gleam of no earthly splendour; and lighted by the ray mile after mile without fatigue through stupendous chambers of which he never divulges the unutterable secrets, he at length falls asleep, to awake on the top of O, gazing on the Glory of Buddha. The Glory of Buddha," said the abbot, "is unknown to you, but you may see it when you reach the Golden Summit.

"You do not seem to believe all this. Well, you are not bound to believe it. I believe it myself. You ask me about the Wilderness (Lao-lin) behind the mountain. People will tell you much which is not true. It is partly inhabited by charcoal-burners, potash-burners, wood-cutters, and miners of copper and iron. There are two mountains in it, Mount Wa and Mount Wa-wu, as high as Mount O, but with precipices on every side, so that they can only be ascended by means of ladders, and only in the summer months; in other seasons the falling icicles make the ascent impossible. Both have lakes on the summit. The Wilderness abounds in tigers, white bears, wolves, foxes, monkeys, musk-deer, and wild oxen. Eight years ago I saw a tiger as big as a cow on a rock outside the door. Afraid! No, I was not afraid. Why should a poor monk be afraid of a tiger? The wild oxen are much like common cattle, but shorter in the body and far more active. Those I saw near Mount Wa-wu had long black hair, but generally they are the same colour as domesticated cattle. It is not easy to find them, and they are so savage that people fear to hunt them."

What he told us about the two mountains is fairly true, for I have since caught a distant glimpse of Mount Wa-wu, and ascended Mount Wa, a most singular formation resembling a square tower.* All its four sides are very slightly out of the perpendicular for a height of about

* The upper story of this most imposing mountain is a series of twelve or fourteen precipices rising one above another, each not much less than 200 feet high, and receding very slightly on all four sides from the one next below it. Every individual precipice is regularly continued all round the four sides. Or it may be considered as a flight of thirteen steps, each 180 feet high and 30 feet broad. Or again, it may be described as thirteen layers of square, or slightly oblong, limestone slabs, 180 feet thick, and about a mile on each side, piled with careful regularity and exact levelling upon a base 8000 feet high. Or, perhaps, it may be compared to a cubic crystal, stuck amid a row of irregular gems. Or, perhaps, it is beyond compare. Some day the tourist will go there and compose "fine English"; he could not choose a better place for a bad purpose; but if he is wiser than his kind, he will look and wonder, and say little, and pass on.

The plateau on the top, undulating so slightly that it may be called flat, is a grove of evergreens with a few open glades—the most charming park in the world. The rhododendrons begin 3000 feet below, but perhaps attain their fullest exuberance on the summit. The lake is a marsh, and at least two brooks meander among the knolls. It is not very necessary to add that in perfectly clear weather the unassisted vision extends, on all four sides, to a greater distance than 60 yards—the fog limit of our prospect during the twenty-four hours we spent on the mountain.

At the north-west angle a natural buttress crowned by a pinnacle, not easily discernible from below, offers, though grudgingly, a safe but very narrow and sinuous way to within a thousand feet or so of the summit. Above this, following a track which takes advantage of the accidents of a corner, we wandered among broken cliffs, honeycombed with grottoes and irregular cavities, climbed the rungs of a long wooden ladder, hid ourselves from the rain in crannies and crevices, the sockets of icicles as big as church steeple,—of course there were no icicles in June, but I saw them in March, and heard them fall and remember it—climbed another ladder, followed a level ridge, climbed three more decrepit ladders and several more honeycombed steeps, lost all reckoning, and suddenly struck a gravel path which led us so easily into the park, that if it had not been for the fog we should have forgotten that we were in the clouds.

2500 feet. The abbot's tiger was probably a leopard, a beast which is common in Western China. Musk-deer, foxes, and bears I have seen, but the latter were black, and after a good deal of inquiry I concluded that the white bears are black, with a white spot on the breast.* A special interest attaches to the wild oxen, since they are unknown in any other part of China proper. From a Lolo chief and his followers, most enthusiastic hunters, I afterwards learnt that the cattle are met with in herds of from seven to twenty head in the recesses of the Wilderness, which may be defined as the region between the T'ung river and Ya-chou, but that in general they are rarely seen. There is, however, a certain salt spring a day's journey or more north of Ta-t'ien-ch'ih to which they repair in early summer, and where they may infallibly be found some time in June. The Lolos, hardy and athletic mountaineers though they be, are evidently fearful of molesting the hill cattle—*ngai-niu* in local Chinese. For such sport their weapons and hounds are miserably inefficient. The hounds, a species of thick-built terrier, rough haired and mostly black, with straight legs, a coarse tail and muzzle, erect ears, tan eyebrows, and about 20 inches of height, though very useful for tracking and rousing game, will not face a beast at bay. The Lolos carry a pike, and a quiver of poisoned arrows only nine or ten inches long, which they discharge from a powerful bow made of the wild mulberry. During the four or five days when a band of them, and a pack of a dozen dogs, were living with me, they made continual hunting excursions, and I gathered from their accounts that only a very courageous hound would approach a bear. One evening after their return from the hills they brought me a dog with a wound in his shoulder, saying that a bear had struck him and that the claw had remained stuck in the wound; but when after much difficulty we drew out the supposed claw, it proved to be the quill of a porcupine. A bear had, however, been brought to bay, and my guests admitted that they did not care to attack him. The wild oxen are considered far more formidable game than the bears; they hunt their hunters, and are said to be astonishingly agile; but no doubt some allowance must be made for the feeble weapons of the Lolos. A rude pike is not a likely instrument with which to slaughter a wild bull on the steep slope of a jungle-covered hill, and their arrows are so short that they can only be used at close quarters. Moreover, they carry their poison in a little bag and do not apply it to the arrow tips until the time for action arrives, a habit which must cause hurry and confusion, and be greatly in favour of the bull. The most successful mode of killing the cattle is by planting three pikes in a narrow run frequented by them, in such a manner that they may impale themselves on the points. Another way, which I could not quite understand, is to approach them with a large number of

* See 'Journal de mon troisième Voyage en China,' Armand David, iii. p. 328, where four kinds of bears are spoken of, one greyish (de couleurs grisâtres).—[W. G.]

dogs and men, to separate one from a herd, and to drive him over a precipice.

I was lucky enough to obtain a pair of horns and part of the hide of one of these redoubtable animals, which seem to show that they are a kind of bison. I do not remember if it is in speaking of this neighbourhood that Marco Polo mentions his "Beyamini"; but if the cattle should turn out to be a new species, *Bos Beyamini* would be a good name.*

It is an easy walk from Chieh-yin-tien to the summit, although a formidable staircase of 400 or 500 feet is encountered at the outset. About this point the pines attain their greatest size. We saw several which divided into two trunks at a few feet above the ground, and which are said to yield the best timber. The path grows easy at about 10,000 feet, where a great variety of flowering plants and ferns line its border. Above that elevation the pines begin to fall off, but the slopes are still well wooded with smaller kinds. Thick beds of weeds are passed, a plentiful growth of large thistles is remarked, then comes a potato-field, and we issue on to the highest point of O, known as the "Golden Summit."

The comparatively level space on the top—about an acre—is so holy that our company reached it in a high state of exaltation. The first object to be examined was a bronze temple of such excessive sanctity that it has been struck by lightning innumerable times. I had been led to suppose that it was still standing, the last of a long line of metallic buildings which had been successively demolished by thunderbolts; but I only found its ruins. The last thunder-bolt had fallen in 1819, since which event it had not been restored. The theory that a lightning stroke proves the sacred character of an edifice may perhaps be a Buddhist importation; the opinion of the Chinese is just the contrary. According to them a person killed by lightning must have been a monster of impiety. They hold, however, that any smooth and bright surface attracts a stroke, and they therefore jump to the conclusion that all creatures with glistening bellies, such as the frogs and eels (or edible snakes) which abound in Ssŭ-ch'uan rice-fields, turn upon their backs by a kind of natural affinity during a thunder-storm, and so attract the flash. Such, at any rate, was the conviction of the priest who showed us the ruins. The masses of metal at present lying in a heap on the summit consist of pillars, beams, panels, and tiles, all of fine bronze. The pillars are nine feet long and eight inches in diameter, the

* It is quite in this region that Marco locates the oxen called *Beyamini*—"very wild and fierce animals." I have supposed the word to be probably a misunderstanding of the amanuensis for *Buemini*, i.e. Bohemian, and that the traveller was comparing them to the German or Bohemian *urus*. It is not possible to say from what is stated here what the species is, but probably it is a *gavæus*, of which Jerdan describes three species (see 'Mammals of India,' pp. 301-7). Mr. Hodgson describes the Gaur (*Gavæus gaurus* of Jerdan) of the forests below Nepaul as fierce and revengeful.—[H. Y.]

thickness of material being rather less than an inch, for of course they are hollow. The only complete beam I could discover was a hollow girder 15 feet long, nine inches broad, and four inches through, the thickness of bronze being much the same as in the pillars. The panels, of which, by supposing the fragments roughly pieced together, I estimated there are about forty-six, are of the average dimensions of five feet by one foot seven inches. They are about an inch thick, but their frames are thicker, and for some unintelligible reason have slips of iron let into their edges. The panels are very handsomely ornamented with seated Buddhas, flowers, and scrollwork, and with hexagonal arabesques of various modification. The tiles, also of bronze, resemble ordinary Chinese tiles, but are twice as large. Besides these there are several hundreds of iron tiles stacked together. Many supplementary fragments, such as sockets, capitals, corner-pieces, eave-terminals, and decorative adjuncts, were lying about, all far too massive to be carried away down the steep mountain even if the priests would have allowed them to be abstracted.

It is not easy to guess what the size and shape of the building has been, since an unknown number of panels and beams lie hidden under the heap of tiles. The priests told me that externally it had two stories, that the interior was 19 feet 6 inches high, the same in breadth, and 26 feet long. If so it could not have been the shrine built by the Emperor Waṇ-li, for an imposing bronze tablet,* which, with pedestal and crown-piece, stands 6½ feet high by 32 inches in breadth, records that the dimensions were 25 feet high, 14½ long, and 13½ broad, and that it was erected in 1603.

A few yards from the site of the bronze shrine is a temple crowned by a golden ball—whence the name of Golden Summit. Passing through this on to a small terrace, we found that we were at last standing on the brink of Shê-shên-ngai ("the suicides' cliff"†), perhaps the highest precipice in the world. The edge is guarded by chains and posts, which for further precaution one is not allowed to touch; but as the posts stand out a little over the precipice, one can easily look down without holding by them. The abyss was nearly full of mist, and I could not see more than 400 or 500 feet into it. The face of the rock seemed vertical. When I first caught sight of the mountain from a distance of 50 miles or more, it might have been likened to a crouching lion decapitated by a downright stroke close to the shoulders, the fore feet remaining in position. The down-cleft surface, i. e. the precipice, looked not more than 15° out of the vertical, but the steepest profile was not visible from that point of view. So far as I could estimate, the

* The tablet contains a very long inscription, couched in the highest style of Neo-Buddhist rigmarole, of which I obtained a rubbing.

† The name is so explained popularly, but *shê-shên*—"to cast away the body"—also means to put off the flesh, i.e. to become a monk or nun.

upper two-thirds at least of the mountain are cut sheer down in this manner. My results for the height give 11,100 feet above the sea for the summit, and 1700 feet for the country below; but from a cause which I need not here explain, the measurement is open to a suspicion of error to the amount of about 500 feet in the case of the summit. Even if that allowance be deducted, this tremendous cliff is still a good deal more than a mile high. It is the outpost of the limestone formation, which on this line of latitude extends westward to the T'ung river, where the syenite and granite of the Tibetan plateau first appear.

Naturally enough, it is with some trepidation that pilgrims approach this fearsome brink; but they are drawn to it by the hope of beholding the mysterious apparition known as the "Fo-kuang" or "Glory of Buddha," which floats in mid-air half-way down. So many eye-witnesses had told me of this wonder that I could not doubt; but I gazed long and steadfastly into the gulf without success, and came away disappointed but not incredulous. It was described to me as a circle of brilliant and many-coloured radiance, broken on the outside with quick flashes, and surrounding a central disk as bright as the sun, but more beautiful. Devout Buddhists assert that it is an emanation from the aureole of Buddha, and a visible sign of the holiness of Mount O.

Impossible as it may be deemed, the phenomenon does really exist. I suppose no better evidence could be desired for the attestation of a Buddhist miracle than that of a Baptist missionary, unless, indeed, it be, as in this case, that of *two* Baptist missionaries. Two gentlemen of that persuasion have ascended the mountain since my visit, and have seen the Glory of Buddha several times. They relate that it resembles a golden sun-like disc, enclosed in a ring of prismatic colours, more closely blended than in a rainbow. As far as they could judge by noticing marks on the face of the precipice, the glory seemed to be about 2000 feet below them. It could not be seen from any spot but the edge of the precipice. They were told, as I was, that it sometimes appears by night, and although they did not see it at such an hour, they do not consider the statement incredible.

It may be imagined how the sight of such a portent, strange and perplexing as it would seem in any place, but a thousandfold more astonishing in the depths of this terrible abyss, must impress the fervour of simple and superstitious Buddhists. The spectacle attracts pilgrims from all parts of China and its dependencies. Even Nipalese occasionally journey to the mountain. The Tibetans, lovers of their native snows, prefer the winter for the season of pilgrimage. The only tribes which do not contribute devotees are the Lolos; but although they are not Buddhists, one of them told me that their three deities Lui-wo, A-pu-ko, and Shua-shê-po, dwell on the "Golden Summit."

The missionaries inform me that it was about three o'clock in the afternoon, near the middle of August, when they saw the meteor, and that

it was only visible when the precipice was more or less clothed in mist. It appeared to lie on the surface of the mist, and was always in the direction of a line drawn from the sun through their heads, as is certified by the fact that the shadow of their heads was seen on the meteor. They could get their heads out of the way, so to speak, by stooping down, but are not sure if they could do so by stepping aside. Each spectator, however, could see the shadows of the bystanders as well as his own projected on to the appearance. They did not observe any rays spreading from it. The central disc, they think, is a reflected image of the sun, and the enclosing ring is a rainbow. The ring was in thickness about one-fourth of the diameter of the disc, and distant from it by about the same extent; but the recollection of one informant was that the ring touched the disc, without any intervening space. The shadow of a head, when thrown upon it, covered about one-eighth of the whole diameter of the meteor. The rainbow* ring was not quite complete in its lower part, but they attribute this to the interposition of the edge of the precipice. They see no reason why the appearance should not be visible at night when the moon is brilliant and appositely placed. They profess themselves to have been a good deal surprised, but not startled, by the spectacle. They would consider it remarkable rather than astonishing, and are disposed to call it a very impressive phenomenon.†

3. The T'ung River.

Returning to the city of Omi we continued our journey up the Ya valley to Ya-chou, and then followed the high road over the Great Hsiang-ling Pass‡ to Ch'ing-ch'i Hsien, a track which has been frequently

* In a rude chart of the mountain, given to pilgrims, the ring is depicted as broken across on both sides in a line passing horizontally through the centre of the disc.

† This remarkable phenomenon is evidently similar to that of the Giant of the Brocken, regarding which see Sir D. Brewster's 'Natural Magic,' 1833, p. 130. I have described a like phenomenon as witnessed long ago in the Kasia Hills of Eastern Bengal: "Standing on one of the highest points in the station at Cherra, about sunset, I have seen my shadow cast on a distant bank of white fog that filled the valley to the eastward; an appearance resembling that of the celebrated giants of the Hartz and the Stockhorn. The figure was surrounded by a circular iris. The heavy fogs that fill the valley to the east of Cherra render this a common phenomenon at sunset. It has since been pointed out to me that any one may witness this phenomenon on a small scale, in going through the grass at sunrise on a dewy morning. Each will see a faint halo surrounding the shadow of his own head" ('Journ. As. Soc. Bengal,' xiii. pt. ii. p. 616). The last-mentioned form of this phenomenon caused that extraordinary personage Benvenuto Cellini to suppose it was a singular mark of supernatural favour to himself in consequence of certain visions he had had: "Dallora in qua . . . . mi resto un splendore (cosa maravigliosa!) sopra il capo mio . . . . Questo splendore si vede sopra l'ombra mia la mattina . . . . e molto meglio si vede quando l'erbetta ha addosso quella molle rugiada," &c. ('Vita di Benv. Cell.,' Milano, 1806, i. pp. 452–3).—[H. Y.]

‡ Both Abbé Huc and Mr. Cooper have confounded this pass with that of Fei-yueh-ling, two days' journey or so further west on the road to Tibet. Captain Gill has of course properly discriminated them.

described and needs no further notice. I take up the thread of our route at the village of Han-yuan-kai, the furthest place reached in that direction by Mr. Cooper, and called by him Hi-yan-ky. From this point forward my journey is indicated on the chart. The Liu-sha river, rising in the Fei-yueh-ling range not far from the top of the pass, joins near Han-yuan-kai a torrent, generally dry, which runs down from Ch'ing-ch'i, and then continues its course to the T'ung river—here called the Ta-tu—which it enters a little below the large village of Fu-lin. The cultivated part of the narrow valley of the Liu-sha is very fertile, but is liable to be invaded by the sand and shingle of its numerous torrents. The environing mountains rise in places to a height of 7000 or 8000 feet above its floor, and abound in precipices of wild grandeur. A good deal of lead, which includes silver, is mined in the rugged region immediately east of it, and gold is known to occur, but is not allowed to be worked. The valley possesses great local renown for its rice, opium, and silk, the exceptional produce of which is easily accounted for by its low level. West of it there is no such low-lying country until the plains of India are reached. The only practicable road into it from the east is over the Great Hsiang-ling, for the southern track along the T'ung river, which I traversed on a subsequent journey, is always dangerous, and in winter impassable for beasts of burden, on account of the deep crevasses with vertical sides which mountain streams have gouged into the limestone. In consequence of these natural obstacles, and of the occupation of a long strip of intervening country by independent Lolos, the only route by which Chien-ch'ang can be reached from Ssŭ-ch'uan runs through this depression, and for similar reasons the still more important road to Tibet, the only road open since the stoppage of the Koko-nor route, takes the same line. These two highways diverge at Ch'ing-ch'i Hsien, which it is natural to suppose should be a place of exceptionally large trade and population. The contrary is the case. It may be safely asserted that Ch'ing-ch'i is the smallest city in China. The explanation of the paradox is that its site is so closed in by steep mountains that there is no room for cultivation. The villages of Han-yuan-kai, T'ang-chia-pa and Fu-lin have accordingly received the benefit of the Chien-ch'ang carriage, while Fu-chuang (otherwise Fu-hsing-ch'ang) and Ni-t'ou (Captain Gill's I-t'ou) have acquired the monopoly of the road traffic with convoys to and from Tibet.

I reached Fu-lin on the 17th August, after an excursion to a parallel valley. A mile or so further on we came upon the Ta-tu river, at this point 2200 feet above sea-level, running in a very rapid stream, about 180 yards broad. The Liu-sha enters it through a wide shingle flat, not much less than a square mile in extent. The main river sweeps in a grand curve from beneath a line of precipices 3000 feet above its waters, and after clearing the shingle plunges into a narrow gorge and

makes its way eastward, past bluffs which ultimately rise, at Mount Wa, to not much less than the height of the "Suicides' Cliff" of Mount O.

The Ta-tu, or to adopt its more general name, the T'ung, should be regarded as the main upper stream of the Min river, since it brings down a much greater volume of water than either of the two confluents which join it near Chia-ting. At Lu-ting bridge, one of the narrowest points, its breadth is a little under 100 yards, but it is not navigable above Tzŭ-ta-ti; even below that town there are so many rapids and obstructions that the waterway is little used. Between Fu-lin and Sha-p'ing it is only practicable, for the whole distance, for timber-rafts which are floated down to Chia-ting for sale; but the danger of the transit is so imminent that the owners of the timber have to bind themselves to provide the raftsmen with coffins in case of fatal accidents. Below Sha-p'ing there is no difficulty. A wilder or more broken region than that which borders the T'ung can scarcely be conceived; there are few reaches which are not overhung by bare cliffs, often of immense height, and yet every here and there, in nooks between the mountain-spurs, lie small cultivated glens which are models of secluded and tranquil beauty. In such spots opium grows to great excellence; the flowers are mostly red, though the Chinese poppy in other districts is generally white. Nothing relieves the monotony of grey crags so gaily as a field of red and purple poppies. Wan-tung is a favourable instance of such dells; but if the traveller turns his back upon the river anywhere near that point, and ascends the hills on the right bank, an hour's walk will carry him away from cultivation, a day's journey will bring him into the thick of pine-forests, and after clearing these he may climb for another day, or longer, to the summit of mountains 17,000 feet above the sea. The Tibetan road, viâ Ta-chien-lu, crosses this range by a pass which, according to Captain Gill, is 14,500 feet above sea-level.

Supposing an explorer to select Tzŭ-ta-ti as his starting-place, and to turn west, with perhaps a little southing, he may ascend the gorge of Sung-lin torrent and march continually uphill for four days, when he will reach an undulating plateau, the pasture-ground of immense herds of half-domesticated yaks. Not a single tree of any kind grows on that highland; every one of my informants specially averred that when the sun shines there is nowhere to be found a patch of shade from dawn to dusk. Beyond the uplands rises a system of forest-clad hills, among which the best rhubarb in China is gathered, and on the further side of these is a valley with a level bottom and a stream some 60 yards broad, called the Wu-la-ch'i. From the Wu-la-ch'i Mien-ning Hsien can be reached without crossing any high range; it may therefore be suspected that its waters are the head of the An-ning river.*

* Maturer consideration leads me to think that the Wu-la-ch'i is that tributary of the Ya-lung which rises in the Cheh-to Pass.

Perhaps the traveller may prefer to take his outset from T'ien-wan for an exploration of these wild ranges, and to ascend the course of the torrent which flows by that village. The prospect of the track he will have to follow will be likely to dissuade him from the attempt half an hour after starting. A zigzag line of foam roars along a fissure between two rows of precipices which interlock one another. The way through is by clambering from rock to rock in the stream; there is no path; nor is there any means of outflanking the precipices, the summits of the ridge being more like the spikes of a prison-wall than the peaks of a mountain. A Sifan who had made the passage told me that it is only practicable for experienced mountaineers unencumbered with baggage. At the western end of the ravine is a fine valley growing wheat, buckwheat, and potatoes, and containing a lake said to be four miles long by two broad, from which the T'ien-wan torrent issues. The Tzŭ-mei Hills, of which we obtained a distant view, lie west of the lake, and beyond the Tzŭ-mei Hills again is the valley of the Wu-la-ch'i.

Less formidable expeditions may be undertaken from Tzŭ-ta-ti. Mien-ning Hsien is made in four days by ascending the Lao-wa Valley, but a high divide has to be crossed, which is difficult for mules. A much easier route to the same city quits the T'ung and mounts the hill-side about two miles below Tzŭ-ta-ti. That village is the headquarters of a Sifan chief, Wang by name, and by title "Ch'ien-hu," meaning "a Thousand Families." There are other chiefs with the style of "Hundred Families." Such designations do not of course intend any precise enumeration of the aggregate of the families under their jurisdiction, but they are, nevertheless, apt to confuse the uninitiated. When, for instance, one meets an "Eleven Hundred Families," it is natural to conclude that such a dignitary must be of more exalted rank than the chief of a thousand. But the error would be gross, "Eleven Hundred Families" being merely the style borne by the eleventh son of a chief of a hundred families. These terms are probably of Chinese invention, since they are also conferred on Lolo potentates. The well-known name *T'u-ssŭ* means aboriginal district, as well as aboriginal chief, and seems to be a general title, employed when precision is unnecessary. Wang's correct Chinese official title is *Hsüan-fu-ssŭ* (officer for diffusing control) bestowed upon him for distinguished services against the T'ai-pings. I did not make his acquaintance personally, in consequence of a delicate question of etiquette; he was afraid to *kotow* to me, and at the same time feared to refuse the obeisance, being apprehensive, as he privately gave me to understand, that his Chinese superiors would in either case disapprove his conduct. Many messages, however, passed between us. Finding that I spent much time at Tzŭ-ta-ti in sextant observations, he sent to ask if there was any underground gold in his village.

These notes on the Upper T'ung were collected, it should be remarked, during a second journey in the spring of 1878. On returning

from Tzŭ-ta-ti I lost all my funds by a burglary at Na-erh-pa, just outside Wang's jurisdiction. The chief burglar escaped across the T'ung into the wildest part of the Ch'ing-ch'i magistrature, and when the local authorities were induced, after an appeal from me to headquarters, to make an effort for the capture of the culprit, the officers of justice started on his trail with two packs of hounds to pursue him, and a set of iron grapnels to seize him. Hearing of my destitute condition, "Wang of a Thousand" sent me, kindly enough, the sum of *7s. 6d.* and a basket of eggs, with a message explaining that many of the country people are affected with leprosy, and that it is therefore dangerous to eat the eggs which are sold in the markets. The spittle of lepers, it appears, is pecked up from the ground by the poultry, which soon become lepro[illegible] lay leprous eggs, and so transmit the contagion to the unwitting traveller. Circumstances which I need not recount led me, some days after the receipt of this timely but inadequate present, to make a second visit to Wang's residence, but I found no opportunity of thanking him; he had gone to avenge an outrage which concerned him more nearly than my losses, namely the desecration and plunder of his father's grave. It was the evening of a market day when we returned to Tzŭ-ta-ti, and it is regrettable to relate that most of the Sifan visitors were drunk. But they are, withal, courteous in their cups. The Sung-lin affluent is crossed by a wire suspension bridge, some 120 yards long, an oscillating and vertiginous structure at best, on which it is difficult to pass a drunken man. Several unsteady Sifans, however, made way for me, and one, a good deal more than half seas over, who assured me that "he was drunk again," would not be dissuaded from escorting me across. Near the bridge I gathered a specimen of manners and customs. A young Sifan woman was lying on her stomach in the roadway, a second woman, her sister, sitting on her back and holding her firmly by the pigtail, while a very robust Sifan, her husband, was beating her about the hips with a large chunk of granite. Interference in such family misunderstandings is best made vicariously, so I directed two of my coolies to intervene, which they did with excessive zeal, carrying the husband by storm and knocking him down. I made them help him up, and then sit with him, one on each side, on a low stone wall, holding his sleeves and sitting on his coat so that he could not rise; but while our attention was too exclusively devoted to calming his excitement, his wife rushed forward and tore a strip of skin down his neck with a stroke of her nails. She made no resistance when we drew her back, but ran off and rejoined her sister. As soon as she had left, her husband, to our great astonishment, became perfectly composed and amenable, actually thanking us for our interposition, which he said he fully appreciated, and entered into discursive details respecting the origin of the tiff. He spoke mongrel Chinese, and I could only understand that the party were returning from the trial of a law case, in course of which the wife had

given evidence on the wrong side, and they were now settling the case out of court. The sister, it appeared, was sitting on the wife and holding her tail as a token of condolence with her under punishment, and not as showing any sympathy with the extreme views of the husband. The latter, while insisting that his wife was a bad woman, promised not to beat her any more for present shortcomings, and went off home. I afterwards met the wife and sister, who looked at me seriously and sadly, but without surprise. The oddity of the affair is that both should so calmly have accepted our unwarrantable interference.

One does not see much of the Sifans between Tzŭ-ta-ti and Ta-chien-lu, since the bottom-lands through which the route passes have been rented or bought by Chinese colonists. The immigration is quite recent. I have it on the best authority that the Sifan landlords of Mo-si-mien could not be prevailed upon to allow their Chinese tenants to cultivate rice until 1876. The Mo-si-mien valley, or plateau—either term is applicable—is so singular a formation that a digression thither will be pardoned. I came down upon it from the pass north of Wan-tung, on the summit of which—8000 feet above sea—there is a magnificent fragment of virgin forest, untouched as yet, though closely threatened, by the woodman's axe; not a sombre and cheerless forest of pines, but a growth of many varieties of trees, among the middle branches of which we saw huge globular bunches of parasitic flowers. Descending from this, we struck a milk-white river, which guided us to Mo-si-mien; but instead of lying in the bosom of a glen, as we expected would be the case, the village is perched on the end of a long mound which rises from the floor of a narrow valley between two unfordable torrents. The end of the mound, beneath which the milk-white stream and the two torrents unite, looks like the bows of some immense ship, ready for launching into the foaming waters which wash its forefoot. The deck, so to speak, is level, and the village occupies the forecastle. The sides seem vertical, at any rate from the route by which we approached, but the appearance is illusory, and we easily ascended by a steep zigzag path. Seeing that the valley bore almost in the direction in which Ta-chien-lu should lie, I determined to keep to it, instead of rejoining the T'ung—which is not far distant—and following the main route by Lu-ting Bridge. The mound in question turned out to be more than three miles long, by a quarter of a mile or so in average breadth, and some 250 feet, or more, high; the surface, generally level, but undulating, is sprinkled with a good many loose rocks of large size—I noticed some of more than 2000 cubic feet—but the mass of it is earth, to all appearance, and I could not discover any rock *in situ*. The two currents run parallel to one another, as will be seen from the chart, on which, for the sake of clearness, it has been necessary to separate them more widely than the truth.

Near the hamlet of Lama-ssŭ, this curious ridge gradually effaces itself to the level of the valley. Its proportions are so great that it did not occur to me, while marching along it, to reflect upon its origin; nor did I know, at the time, that we were beginning the ascent of a range covered with perpetual snow. But after entering the pine forests which begin a little above the hamlet of P'u-tzŭ, it struck me that we had been travelling along the central *moraine* of an extinct glacier; a reference to the chart will show that the tail of the mound springs from a mountain spur between two valleys in precisely the manner which such a formation requires. The lateral moraines would have formed the further banks of the existing torrents; but under the circumstances I did not happen to look for them, and in any case they would have been undistinguishable from the hillsides, covered as these are with long grasses. Moreover, when the enormous glacier finally melted away, the side moraines, previously propped up by the ice, would have slid down into the beds of the present torrents, in which there are enough rocks, indeed, to satisfy the most exacting demands on that head. The central moraine, on the other hand, would merely have subsided without losing much of its mass.

Whatever may have been the origin of the mound, it is well worth the attention of future explorers. The place is not more than a day's journey from the point where the Hua-lin-p'ing road strikes the T'ung, and the traveller who is on his way to Ta-chien-lu may very conveniently send his baggage on by the main road, while himself diverging into this bypath with sufficient necessaries for three days, and so gaining Ta-chien-lu over the *col* of Ya-chia-kang. He will thus reach the town almost as soon as his baggage, and in the pine forest and snowy pass will obtain a foretaste of Tibet.

Not to prolong this digression unduly, I will merely add that we walked for two days up the easiest gradient in the world through dense pines, from the branches of which hung, almost like veils, long streamers of a kind of moss locally called Mu-lu-ssŭ—probably the "fairies' scarf" mentioned by Mr. Cooper—imparting a blue-green tinge to every vista which the never-failing fog would allow us to perceive. A scarlet lichen clothed in many places the rocks which strew the watercourses. At 11,000 feet the pines fade away, but the rhododendrons are so thick that it is not easy to stray from the path. Near this point a kind of francolin walk across the track with the deliberateness of poultry. We attempted in vain to put them up, although we could openly approach them to within six or seven yards; indeed, we went to the length of trying to catch a specimen, with the purpose of throwing him up in the air to see if he could fly. The rhododendrons were too close, and the birds far too clever, to allow of a capture, but I shot a brace with a revolver, by way of giving them law, which is a sufficient proof of their tameness. The highest hostel, a miserable cabin, where firewood is not

to be obtained, since the spot is well out of tree-limit, lies at 11,700 feet above sea. Beyond this the path becomes steep, vegetation disappears, with the exception of a few sticks which look like abortive rhododendrons, and we soon reach the *col* of Ya-chia, 13,000 feet above sea and 4600 feet above Ta-chien-lu. Although there are higher passes in the same range—the Cheh-to of Captain Gill, written Jeddo by Mr. Cooper, is 1500 feet higher—Ya-chia-kang enjoys a pre-eminent reputation for its violent and asphyxiating winds, and is said to be the only pass in the neighbourhood which "stops people's breath" (*hang jên*). The passage is much dreaded in windy weather on this account; but although it was nearly calm when we crossed, we were nevertheless affected in various ways by the rarefaction. One of the porters began to gasp and grow black in the face, but a short rest brought him round. A more curious adventure befell a Sifan who was acting as my henchman, and was burdened with nothing but an overcoat. Happening to require the garment, and turning round to take it from him, I saw him standing motionless in the snow 200 feet behind. As he would not stir when called, I went back to see what had happened to him, and found him fast asleep, all standing. On being waked he complained of nothing but a sensation of drowsiness, which he soon shook off. My own experience was a pleasant one; a headache, which had come on at about 11,000 feet, disappeared completely as the top was neared, but returned during the descent. We saw almost nothing from the summit; the usual mist enveloped us, but a narrow break, opening through it like a tunnel, showed us for a few moments in the south-west a high, jagged peak of the purest and brightest silver, overtopped by the moon, and backed by a patch of pure sky. Framed in very narrow compass by the rim of white fog, the picture was most magical and unearthly; even the stolid Chinese waxed rhapsodical, and cried, "Silver, silver!" but as they think of nothing but silver all their lives, their enthusiasm may have been gross and worldly.

The snow clears off the *col* in May, but as we went down the mountain, which is seamed by the most savage torrent gorges, we left the fog behind, and could see that we had passed between peaks and crags of great elevation. The snow never melts from these, and their height may therefore be assumed to be more than 17,000 feet. North of us, on the other side of Ta-chien-lu, stretched a wide expanse of snowfields and ridges, probably of still greater height. In a few hours we struck the high road to Tibet, at the foot of the Cheh-to Pass, after strolling along a treeless pasture where a herd of yaks, the property of the king of Djia-la, were grazing, and soon trudged into Ta-chien-lu, a small town lying at the western end of a very narrow valley, so narrow, indeed, that for miles together it has no floor but the path and the torrent, which, after 15 miles of cataracts, plunges into the T'ung at Wa-ssŭ-kou; a mere gorge, in short, between two snowy spurs of the range over which

the Cheh-to road passes. One of these spurs is that which we have just crossed, and the other is the region of sierras and snowfields which we saw from Ya-chia-kang.—But Captain Gill will not thank me if I encroach further upon his ground.

That stretch of the T'ung which runs from Wa-ssŭ-kou to Tzŭ-ta-ti has the best claim to be considered the boundary between China and Tibet. In an administrative sense there is no doubt on the subject, since the Ch'ing-ch'i magistrature extends to the left bank, while the right bank is the territory of indigenous chiefs—T'u-ssŭ. Geologically, the same demarcation obtains; the river runs along the line where limestone gives way to granite. The first intimation of the change appears near Tsai-yan-ch'i, on the left bank, where the rock is syenitic porphyry; but a mile or two west of this is a gap of limestone, in which coal is mined, and a little further west, opposite Na-erh-pa, a bluff of pumice abuts on the river. We were told that if the hillside above the spur of pumice be ascended, a hollow full of water will be met with, on the brink of which tradition warns the wayfarer not to talk aloud nor to linger, but to pass on. Such legends often attach to volcanic chasms or craters. What may be the nature of the rock west of this point at the great bend of the T'ung, and on its left bank, I had no opportunity of examining; but from the shape of the hills, and other intimations, it may be judged to be the same as on the opposite bank a short distance above Lao-wa-hsüan, viz. syenite of a fairly close grain. It is by this promontory of syenite, a toe of the Himalayan plateau, if the expression may pass, that the river, or rather the fissure in which it flows, has been abruptly turned athwart into an eastern course. Near Tzŭ-ta-ti limestone reappears, but about Hei-lao-wa comes granite, with a pronounced tendency to disintegration.

Gold is washed above Lu-ting Bridge, in the manner described by Captain Blakiston on the Upper Yangtzŭ. It is also found in nuggets, occasionally of large size, in the border country. At the turn where the highway to Ta-chien-lu leaves the T'ung (i. e. at Wa-ssŭ-kou), gold-borings driven into the rock may be seen on the further bank. I could not approach the place; but the gold was offered me for sale in the shape of pills of clay, full of minute scales of the precious metal. Quite lately, gold has been discovered close to Ta-chien-lu, and the rush of diggers has caused a good deal of embarrassment to the authorities.

Sulphur is procured in saleable quantities from the mountains round Ta-chien-lu; the inhabitants of the ravines may often be seen engaged in the manufacture of matches of the Guy Fawkes pattern, which they split from a pine-plank with a spokeshave, and tip with sulphur. During my penniless residence at Na-erh-pa, I generally used these sulphur chips to procure a flame.

North of Wa-ssŭ-kou the T'ung is called Chin-ch'uan ("gold stream"), a term which is also applied to the district which it drains, governed by

local chiefs, and divided into Greater and Lesser Chin-ch'uan. Nothing whatever is known of it to Europeans, including myself, except that the country was conquered by the generals of Kien-lung, in 1775, after a most determined and heroic resistance on the part of the natives. The story will be found in De Mailla's History, where the people are very misleadingly called "Miao-tzŭ"; there is no doubt that they are a branch of the Sifan, again a misleading term, which I shall be obliged to employ, but which means neither more nor less than what we understand by "Tibetans," though of course there are many tribal subdivisions. I will recur further on to the ethnological question.

However romantic and charming to the traveller's view may be the situation of the villages in this wild region, the inhabitants are exposed to calamities by flood and fire which must render a prolonged residence undesirable. We assisted at a conflagration which nearly demolished Na-erh-pa, and passed many a hamlet which had only lately risen from its ashes. The dwellings are all built of wood, and are situated on the border of torrents, often in very hazardous positions. The Liu-sha-ho ("sand-shifting river") is notorious for its excesses; on a second journey to Fu-lin I crossed a bed of shingle where, a year before, I had passed through teeming rice-fields. The most memorable accident by flood occurred in 1786, when a cliff fell into the T'ung somewhere near Wan-tung, and completely dammed the stream. Warning being duly sent through all the lower country by the local officials, the natives of the gorges, well able to appreciate the danger, took to the hillsides; but the people of Chia-ting Fu, trusting in the breadth of their plain, over which they imagined the water would harmlessly diffuse itself, disregarded the notice, and the cry, "Shui lai-la" ("the water is coming") even obtained great vogue as a street joke. It was holiday in Chia-ting some days after the receipt of the notice, and the light-hearted crowds which gather on such occasions were chiefly attracted by a theatrical representation on the flat by the water-side. One of the actors suddenly stopped in the middle of his *rôle*, and gazing up the river, screamed out the now familiar by-word, "Shui lai-la!" This repetition of the stock jest, with well-simulated terror, as it seemed to the merry-makers, drew shouts of laughter; but the echoes of the laugh were drowned in the roar of a deluge. I was told how the gleeful faces turned to horror as the flood swept on like a moving wall, and overwhelmed 12,000 souls.

There can be no doubt of the main truth of the story, though the number of victims must be greatly exaggerated. 12,000 souls would represent little less than half the population of Chia-ting. The people of the country are fond of relating the story of the theatre, as they well may be; for among records of disaster it would be difficult to find a more dramatic catastrophe.

Leaving Fu-lin, we crossed the famous ferry from which the T'ung takes its local name of Ta-tu ("great ferry") on August 18th. A detour

of some distance has to be made into the eastern gorge to avoid a series of rapids. When the ferry-boat came alongside the usual crowd of passengers tumbled in, all attempting to sit on the same side; and even our pet monkeys, which I found very useful in diverting native attention from my own vagaries, showed signs of not unreasonable alarm. When we stepped ashore, we were in the nondescript region of Chien-ch'ang.

In Ta-shu-p'u, a fortified village a mile or so south of the ferry, we were eye-witnesses of the devastation which a swollen brook may cause. A fortnight before our arrival a fall of hail was succeeded by a violent storm of rain and lightning, and, soon after, a great rush of water from the plateau on the east suddenly issued from a previously dry gully and entered the bed of an insignificant rivulet which runs from the south towards the little town. The fierce flood, urging along masses of rock, utterly destroyed the suburb, burst in the iron-plated town-gate, which had been vainly closed in its way, and drowned or crushed some 200 people who were attending the market. So much is what we were told. What we saw was the battered gate lying inside the wall; a limestone boulder of about 20 cubic feet obstructing the archway where the gate ought to have been; and, outside, a double heap of débris, 120 yards long, representing the houses of the suburb. The street-way of the suburb was all furrowed and disjointed, as if it had been scratched by an immense harrow. Repairs had hardly been begun; but a little further on a fine dyke of cemented blocks was in course of construction, the massive nature of which—it is to be 10 feet thick by 12 feet high—inspires great respect for the gutter which requires such a kerb-stone.

But Ta-shu-p'u can afford to regard with placidity the sudden death of a few hundred market-people, after the scene of slaughter it witnessed fourteen years previously. At the risk of overcrowding these pages with tales of calamity and massacre, I am bound to recite the story—rather, the history—of a crowning mercy which cannot fail to interest those who sympathised with, or who opposed, the rebellion of the Taipings. What became of Shih Ta-k'ai, the assistant king? is a question which foreigners have often asked. I found a reply on the banks of the T'ung. The following account, taken from official sources hitherto unexplored, gains additional importance from its geographical allusions. Most of the localities mentioned occur in my chart; the remainder are indicated in notes.

"In January 1863, after having been routed in a series of engagements on the Hêng river (the stream which enters the Yangtzŭ on its right bank between Sui-fu (Sü-chow) and P'ing-shan, Shih Ta-k'ai, the most ferocious and crafty of the rebel kings, formed his troops into three divisions, one of which he sent from Fu-kuan-ts'un into the province of Kuei-chou. (With this division we are not further concerned.) His lieutenant, Lai Yü-hsin, was despatched into Chien-ch'ang with the second division, Shih Ta-k'ai himself intending to follow with the main

body. Lai's corps of 30,000 or 40,000 men accordingly marched to Hui-li-chou (by what route does not appear), and thence to Tê-ch'ang, where a great many recruits were gained among the opium traders and disorderly characters of the neighbourhood. They reached Ning-yuan Fu on the 16th of March, but were defeated next day, with a loss of 2000, by an Imperialist force; still pressing on, they made an unsuccessful assault upon Mien-shan on the 21st, and were again worsted at Yueh-hsi T'ing, losing their leader, Lai Yü-hsin, who was killed by a Lolo with a stone. Hurrying forward in great disorder, they crossed the T'ung on the 26th, and continued onwards by Ching-ch'i Hsien and Jung-ching Hsien into the T'ien-ch'üan country, through which they passed into Northern Ssŭ-ch'uan." (There they seem to have dispersed, whether of their own intent, or in consequence of repeated attacks, is not clear; but it is fairly certain that a large proportion made off into Shensi and Kansu.)

Shih Ta-k'ai, "careless of distance or danger, and always on the watch for an opening," had sent forward this division to divert attention from his own movements, expecting, it was presumed, that the Imperialist forces would follow in hot pursuit, without looking to their rear or concerning themselves with the possible advance of a second rebel corps. The Governor-General Lo Ping-chang, however, foresaw the design, and made dispositions to frustrate it. In his Memorial on the subject he remarks that "the importance of occupying all the approaches from Chien-ch'ang became evident. The T'ung river, the natural protection of the south-western frontier, rising in the country of the Tien-ch'üan tribes, runs through the Yü-t'ung region, past the Wa-ssŭ Ravine and Lu-ting Bridge, into the Lêng-pien * and Shên-pien districts, traverses the magistrature of Ching-ch'i, and then enters the Lolo territory. We had therefore to guard the line from An-ch'ing-pa † to Wan-kung, a length of more than 200 *li*, including thirteen ferries, exposed to an advance both by the Yueh-hsi road and the track viâ Mien-ning Hsien. And besides this, it was indispensable to hold the line from Lu-ting Bridge to Wan-tung, since there are many places at which the rebels might have crossed the T'ung, supposing them to have previously passed the Sung-lin affluent; a wide flanking movement in that direction would have enabled them to gain the T'ien-ch'üan country.

"A detachment was accordingly sent, under T'ang Yu-kêng, to act between An-ch'ing-pa and Wan-kung; and Wang, chief of a thousand families in the Sung-lin district, was directed to keep the Sung-lin

* *Lêng-pien* and *Shên-pien* are Tu-ssŭ districts respectively north and south of Hua-lin-p'ing. Shên-pien contains very few aborigines. Yü-t'ung is a tribe of the T'ung valley, a little above Wa-ssŭ-kou.

† An-ch'ing-pa is a fertile plateau and village on the left bank of the T'ung, opposite Tzŭ-ta-ti, two or three miles inland. Wan-kung is an insignificant hamlet a few miles east of the ferry below Fu-lin.

affluent with his aboriginal forces, with a view to prevent a turning movement upon Lu-ting Bridge and Hua-lin-p'ing. Another detachment was stationed in reserve between Hua-lin-p'ing and Wa-ssŭ Ravine; and, lastly, a corps was posted at Mo-si-mien to stop any advance upon Ta-chien-lu.

"Lai's band had by this time escaped into Shensi. After measures had been taken to cut off their return, the Lolo chief Ling was directed to occupy the Yueh-hsi passes, so as to prevent Shih Ta-k'ai from entering the Lolo territory. Presents were at the same time distributed among Ling's Lolos and the aboriginal troops of 'Thousand Family' Wang to encourage and stimulate their zeal.

"T'ang Yu-kêng's force reached the T'ung on the 12th of May, Shih Ta-k'ai having in the meanwhile crossed the Upper Yangtzŭ at Mi-liang-pa, entered Chien-ch'ang, found the Yueh-hsi main road blocked, took the alternative route by Mien-ning Hsien, and so descended, on the 15th, with 30,000 or 40,000 men upon the village of Tzŭ-ta-ti, in the district governed by Thousand Family Wang, at the confluence of the Sung-lin with the T'ung. During the night both streams rose several yards in consequence of heavy rain, rendering the passage dangerous, and the rebels began to construct rafts. They made a reconnaissance of the crossing on the 17th, and on the 21st sent down a party 4000 or 5000 strong, carrying 'several tens' of boats and bamboo rafts, upon each of which 'several tens' of the most desperate embarked as a forlorn hope, covered by shields, and advanced to force the crossing. The whole army came out of their huts to support them from the bank and cheered them on with howls which echoed down the gorges like peals of thunder. Our men, however, stood fast, and when the enemy had reached mid-channel opened a steady fire, which killed several chiefs in red uniform and exploded a powder magazine on one of the rafts, hurling the rebels pell-mell into the water. A few rafts which had been carried away by the current were followed up from the bank and sunk, and not a soul of the attacking party escaped alive.

"Nevertheless, during the following night the rebels again reconnoitred the crossing, and appear to have satisfied themselves that it could not be carried. Thenceforward they confined their efforts to the passage of the Sung-lin affluent, with the object of gaining Lu-ting Bridge, and invading the T'ien-ch'üan region, but they were repulsed time after time by Thousand Family Wang, and lost several thousand men in the attempt.

"On May the 24th, Ling, coming up with his Lolos from Yueh-hsi, fell upon the rear of the rebels near Hsin-ch'ang, and after repeated attacks captured their camp on Saddle Hill * on the night of the 29th. From that moment the rebel case became hopeless. After a futile

* Saddle Hill (Ma-ngan-shan) is an eminence on the right bank of the T'ung, a short distance below Tzŭ-ta-ti. The village of Hsin-ch'ang lies on its western slope.

attempt to gain over the native chiefs Wang and Ling, Shih Ta-k'ai, furious at finding himself involved in a situation from which escape was impossible, slaughtered 200 local guides as a sacrifice to his banners, and on the night of the 3rd of June attempted to force the passage of the main river and of the affluent simultaneously. Both assaults were again repulsed. After killing and eating their horses, the rebels, now reduced to the last extremity of famine, were allaying their hunger by chewing the leaves of trees; nevertheless, on the 9th of June they made another general attack upon the crossings, but all their rafts were either sunk or carried away down the swift current.

"The end had come. 'Thousand Family' Wang, reinforced by the Mo-si-mien detachment, passed the Sung-lin on the 11th of June, and assaulted the rebel quarters at Tzŭ-ta-ti. At the same time the Lolo auxiliaries, coming down from Saddle Hill, advanced upon the rear of the position, which was thus completely enveloped. Thousands of the insurgents were killed in the actual attack; but all the approaches to the place being commanded by precipices and confined by defiles, the fugitives became huddled together in a dense mass, upon which the regulars kept up a storm of musketry and artillery, while the Lolos occupying the heights cast down rocks and trunks of trees, which crushed them or swept them into the river. More than 10,000 corpses floated away down the T'ung.

"Shih Ta-k'ai, with 7000 or 8000 followers, escaped to Lao-wa-hsüan, where he was closely beset by the Lolos. Five of his wives and concubines, with two children, joined hands and threw themselves into the river, and many of his officers followed their example. As it was indispensable to capture him alive, a flag was set up at Hsi-ma-ku* displaying the words 'Surrender, and save your lives,' and on the 13th he came into the camp, leading his child, four years of age, by the hand, and gave himself up with all his chiefs and followers. Some 4000 persons who had been forcibly compelled to join him were liberated, but the remaining 2000, all inveterate and determined rebels, were taken to Ta-shu-p'u, where, on the 18th of June, Government troops having been sent across the river for the purpose, a signal was given with rocket and they were surrounded and despatched. Shih Ta-k'ai and three others were conveyed to Ch'êng-tu on the 25th, and put to death by the slicing process; the child was reserved until the age prescribed by regulation for the treatment of such cases."

The above is a condensed extract from an official report contained in the Memoirs of Lo Ping-chang, Governor-General of Ssŭ-ch'uan. The main facts are unquestionably authentic, but the story is of course written from the Imperial point of view, which regards all opponents as bandits and miscreants, who can hardly hope to escape condign

* Hsi-ma-ku lies on the Lao-wa river, some seven miles south of Lao-wa-hsüan.

vengeance. It is therefore vain to expect from it any trustworthy indication of the plan of campaign which guided Shih Ta-k'ai in making these extraordinary detours, or any faithful account of the causes which brought about so complete a disaster; but from inquiry along his line of route, I am satisfied that the explanation is not far to seek. The cause of his action was his inability to cross the Yangtzŭ at or near Sui-fu. The neighbourhood of the Hêng river is a barren region of rocks and ravines, which his large force must very soon have "eaten up"; leaving out of the question the Imperialist statement, which does not deserve much credit, of his defeat in that district, it is evident that his supplies must soon have failed, and that he could not have long maintained his position. Under such circumstances a sudden march upon Ch'êng-tu by Hui-li-chou and Chien-ch'ang offered several advantages. It would at the outset have the appearance of an acceptance of defeat and of a retreat into Yunnan, thus putting the Imperialists off their guard; it would be a march through an undefended district; and by the sudden return up the Chien-ch'ang Valley Ya-chou would be surprised, and the approaches to the capital of the province, and its fertile plain, carried without much difficulty. The superfluous and less efficient part of the rebel forces was therefore sent on an expedition into Kuei-chou, and with the view of drawing off the Imperial troops Lai's command was ordered to advance through Chien-ch'ang.

Curiously enough it was the very inactivity and unreadiness of the Provincial Government which defeated these promising tactics. Lai's division, so far from drawing off Imperialist attention, took the Governor-General by surprise, and passed through almost without molestation; so unimpeded indeed was their march, that I heard of cases where the main body turned back deliberately to avenge insignificant attacks upon stragglers in their rear. Not until Lai had entered Chien-ch'ang did the Governor-General surmise that his capital was exposed to be taken in reverse by such a movement. The dispositions described in his Memorial were in reality made to stop Lai's passage, but came all too late for that purpose, though in the nick of time to prevent Shih Ta-k'ai's advance, which was quite unexpected. It was then only necessary to close the pass—about two yards wide—which leads from Lu-ku to Yueh-hsi, thus forcing Shih Ta-k'ai's army to ascend the main valley, at that point alluringly broad and easy, to Mien-ning Hsien, and so to become gradually involved in the inextricable gorges which border the T'ung. If the river could be held, the rebel force must then inevitably perish from mere starvation.

Only a personal knowledge of the country and of the tribes which inhabit it could have enabled the rebel chief to foresee these dangers. He was utterly ignorant of such details. He probably expected that the Lolos and Sifans would join him or remain neutral, or—as is more likely—with the usual conceit of the Chinese, who esteem themselves

the only fighting people in the world, made little account of their opposition. But it is certain that all the credit of his crushing defeat and surrender is due to these hill tribes, who fought purely for their own hand, and with their exact knowledge of the local defiles and approaches easily cut off the rebel supplies, and then made short work of the blockaded starvelings. In the Governor-General's Memorial cannon, musketry, and rockets play a conspicuous part, but from all I could learn from the natives the battles were mostly conducted with such primeval artillery as bows and arrows, stones, rocks, and tree-trunks.

4. The Chien-ch'ang Valley.

Chien-ch'ang, otherwise the Prefecture of Ning-yuan, is perhaps the least known part of the Eighteen Provinces. Two or three sentences in the book of Ser Marco, to the effect that after crossing high mountains, he reached a fertile country containing many towns and villages and inhabited by a very immoral population, constitute to this day the only description we possess of *Cain-du*, as he calls the district. The fact of its being unexplored is sufficient, without the other inducements held out by the generally sedate Venetian, to make it "a very pleasant country for young fellows to go to."

Our first plunge into the unknown did not, however, greatly prepossess us with its attractions. We ascended a narrow glen between treeless hills sparsely grown with maize to a pass about 2000 feet above the T'ung, then dropped 1000 feet to the bed of a torrent which disappears through a wild gorge to the west, and ascended again to the village of P'ing-i-p'u, bordered by a few rice-fields. Although the vale seems very unproductive, the water-mills for grinding corn are numerous enough to reassure one with respect to the food supply; no doubt a certain cultivation of the ravines on both sides of the route brings a reinforcement of grist. The mill-wheel lies horizontally; and the water, admitted by a side-adit, strikes the spokes, which are planks offering their faces to the current, and so drives a mill-stone having the same axis as the wheel.*

The latter part of the day's route is rendered dangerous by falling rocks. Many loosened masses lie on the hillsides ready to shoot suddenly down on the hollow way from slight disturbing cause. Near the village we passed the corpse of an unlucky pony which had been battered to death in this manner, and were told that four mules, valued at 70 dollars apiece, had lately been crushed near the same spot. After Ta-wan is passed the precipices close in upon the stream leaving barely sufficient space for a narrow path which works along under a wall of rock. The more dangerous bluffs line the further brink of the torrent;

* This is the mill-wheel employed in the Himalaya, in Norway (I believe), and in Sicily; probably in other parts of the world. In the Himalaya it is called *grât*, a word surely identical with *grit* and *groat* in spite of Grimm's law!—[H. Y.]

where a glance into its bed is possible through the border of ferns and wild flowers one sees that it is crowded with blocks whose fresh angularity shows that they have toppled from the heights. In some places such stony cascades have cleared the stream and shot across upon the pathway. Here and there the bluffs under which the way winds not only overlean but even hang down pendulous masses, not of honest limestone, but of a very coarse conglomerate of that rock with pebbles and earth full of spreading roots. The wayfarer has twice or three times to stoop his head under such clusters, and although there is no danger at all he draws a freer breath after passing.

The precipices are not high; the highest is perhaps 200 feet. But the inaccessible hill-tops above recede very slightly, and rise to not less than a thousand feet above the stream. That they are inaccessible may be concluded from their being covered with forest growth; no Chinese woodman ever spares a tree which he can approach within reach of axe or fire. Shên-kou (deep gully), as the ravine is called, leads immediately on to the little plateau of P'ing-pa, and through the village of the same name, a straggling collection of wooden huts the inhabitants of which were spending the afternoon somewhere else, possibly at work in the fields. Very little of the upland is tilled; the chief products are barley, maize, buckwheat, and two kinds of tobacco, the *lan hua* and the *ch'erh.* The latter has a shorter and rounder leaf than ordinary tobacco, and affords a much more powerful narcotic. It is said to grow best at high elevations. The few people we met were dressed in woollen cloth of two kinds; one a coarse Tibetan frieze, and the other a close but rather hard fabric woven by the Lolos. Crossing the plateau between low hills denuded of timber, although through the gaps we could see clumps of trees, the groves in which the Lolos burn their dead, we ascended very slightly to a "divide" 7800 feet above sea, at which point we entered upon that part of the road which is considered to be most endangered by Lolo incursions. And in fact a few miles further on we reached a station occupied by a small garrison of Chinese and subject Lolos who keep constant watch against the marauding mountaineers. Spears and firelocks hang ready to hand under the eaves of the pine-built cabins all along the little street; vigilant communication is maintained with the sentinels on the hill-crests, and several of the garrison carried the match for their firelocks coiled in readiness round their wrists. We had met no Lolos before this. The few representatives of that persistent nationality which we here saw, though acknowledging allegiance to the Chinese, and speaking Chinese fluently, retained their native costume in its integrity, and evidently admitted no inferiority to their Chinese comrades in arms.

The post commands a grand prospect of a wide open valley, the trough of an affluent of the T'ung, the only view of Lolo-land anywhere obtainable down the whole length of Chien-ch'ang. The valley runs

approximately from south-west to north-east. Its southern boundary is a long level ridge extending as far as the sight can trace, its crest and upper slopes covered with forest, and its spurs cultivated. It rises in all probability to 11,000 feet and may be surmised to be the western incline of the snowy central ranges of Lolodom, heights of which we afterwards gained a perspective from the further bank of the Upper Yangtzŭ.

We dropped down a boulder-strewn path in half an hour to Hai-t'ang, otherwise Ning-yueh, a small frontier town confided to the charge of a major, whose action is unhampered by the presence of any civil authority. Seven hundred soldiers, under his command, are distributed among various posts in the neighbourhood and receive 3200 cash—say 11*s.* a month per man. The town and all the hamlets many miles beyond are simply garrison stations containing inns for traders and traffic. We did not pass, during the day's march to this place, a single package of merchandise, but were told that in this part of the route goods are detained until a company assembles of sufficient strength to protect itself from Lolo attacks.

The situation of Hai-t'ang is likened to the bottom of a bowl, the rim of which is surrounded by Lolos. A deep gully, however, leads directly down into the valley above mentioned. About six miles from Hai-t'ang, passage is said to be barred by a river which no Chinaman is suffered to pass unless he has found a Lolo to go bail for his good conduct. The Lolos themselves swim or wade across, according to the season, and with the aid of a rope climb a bluff which forms the further bank. Inquiry at many places on the border invariably elicited the assurance that Chinese traders that enter the country under bail are safe from molestation, and make good profits. In matters of trade the Lolos are simple and conscientious, but at the same time they will not calmly endure sharp dealing, still less evident trickery or bad faith.

We climbed out of "the bowl" on to a down, two miles or less in breadth, bordered by low hills on which a few patches of forest survive. The land is very scantily cultivated; the sparse hamlets are all fortified and there are no detached farm-houses; the inhabitants are almost without exception soldier-colonists. Travelling along the level uplands we frequently met well-clothed soldiers in uniform, armed with firelocks, spear, or bow with thick sheaf of arrows, and sometimes carrying all these muniments. They told me that they lived easily, tilling as much land as they pleased at a nominal rent. The extent of waste ground which might be grown with maize, buckwheat, and potatoes, is certainly surprising to one who has but lately quitted the crowded furrows of Ssŭ-ch'uan.

While we were at breakfast several border Lolos gathered round and I had a good opportunity of considering them. They are a far taller race than the Chinese; taller probably than any European people. During the journey we must have met many hundreds of them, but we

never saw one who could be called, even from an English standard, short or undersized. They are almost without exception remarkably straight-built, with slim, but muscular limbs; many of them are robust, but anything approaching the pork-fed obesity of an affluent sedentary Chinaman seems unknown. Their chests are deep, as becomes mountaineers; the speed and endurance with which they scale their native mountains is a prodigy and a proverb for the Chinese. Their handsome oval faces, of a reddish brown among those most exposed to the weather, are furnished with large level eyes. Prominent but not exaggerated cheekbones, an arched but rather broad nose, an ordinary mouth somewhat thin lipped, and a pointed and characteristic chin from which the beard has been plucked. The same process has denuded the upper lip, which is of good proportion. Their teeth are remarkably white and regular, a preservation for which they account by asserting that they never eat roast meat, but always boil their food. Perhaps the most marked character of their faces is a curious tendency to wrinkles, especially on the forehead, which is low, but broad and upright. The lowness of the features may be merely an illusive appearance, since it is overshadowed by a peculiar style of hairdressing. With very rare exceptions the male Lolo, rich or poor, free or subject, may be instantly known by his *horn.** All his hair is gathered into a knot over his forehead and there twisted up in a cotton cloth so as to resemble the horn of a unicorn. The horn with its wrapper is sometimes a good nine inches long.† They consider this *coiffure* sacred, so at least I was told, and even those who wear a short pigtail for convenience in entering Chinese territory still conserve the indigenous horn, concealed for the occasion under the folds of the Ssŭ-ch'uan turban.

I heard however of a subject tribe near Lui-po T'ing which has abandoned the horn, as a concession to Chinese prejudices, but without adopting the pigtail; but since the retention of hair on the front of the head would still be regarded as a horn, while if it were allowed to grow on the back it would be construed into a pigtail, they have hit upon the radical expedient of shaving their heads altogether.

The principal clothing of a Lolo is his mantle, a capacious sleeveless garment of grey or black felt gathered round his neck by a string, and reaching nearly to his heels. In the case of the better classes the mantle is of fine felt—in great request among the Chinese—and has a fringe of cotton-web round its lower border. For journeys on horseback they have a similar cloak differing only in being slit half-way up the back; a wide lappet covering the opening lies easily along the loins and croup of the horse. The colour of the felt is originally grey, but becomes brown-black or black, in process of time. It is said that the

* See also Biddulph's 'Tribes of the Hindoo Koosh,' p. 129.—[W. G.]

† See these horns on figures from a Chinese drawing in Marco Polo, Book ii. ch. lviii.—[H. Y.]

insects which haunt humanity never infest these gabardines. The Lolo generally gathers this garment closely round his shoulders and crosses his arms inside. His legs, clothed in trowsers of Chinese cotton, are swathed in felt bandages bound on with strings, and he has not yet been super-civilised into the use of foot-gear. In summer a cotton cloak is often substituted for the felt mantle. The hat, serving equally for an umbrella, is woven of bamboo, in a low conical shape, and is covered with felt. Crouching in his felt mantle under this roof of felt the hardy Lolo is impervious to wind or rain.

Of their women I have unhappily seen few but the younger folk; joyous, timid, natural, open-aired, neatly dressed, barefooted, honest girls, devoid of all the prurient mock-modesty of the club-footed Chinese women; damsels with whom one would like to be on brotherly terms. Several of them, natives of the vicinity of Yueh-hsi, came to peep at me in the verandah of the inn, their arms twined round one another's necks, tall graceful creatures with faces much whiter than their brothers'. They did not understand Chinese, and scampered away when I made bold to address them. But a sturdy Lolo lord of creation, six feet two high—whose goodwill I had engaged by simple words—went out and fetched two armfuls of them—about half-a-dozen. It would have been unkind to presume upon this rather constrained introduction, especially as they were too timid to speak, so I dismissed the fair audience with all decorous expedition. Their hair was twined into two tails and wound round their heads; they wore jackets, and flounced and pleated petticoats, covered with an apron and reaching to the ground.

In disagreeable contrast to these petticoated Oreads an old Chinese scribe sat near my breakfast-table writing letters to the deceased relatives of the Chinese garrison, enclosing paper, stamped in imitation of money, to defray current expenses in the other world. When duly sealed and addressed, these "dead letters" are burnt, and the Post Office order is supposed to have reached its destination. Even the murdered female babies are furnished with funds by this process. Well-to-do people forward, by the same method, servants, horses, and even concubines of paper and stick; and if the deceased has been an opium-smoker, an imitation opium-pipe, with all the apparatus complete, is transmitted to him. The Chinese imagine this odd custom to be Buddhist; but it is more probably a survival of funeral sacrifice. It at once recalls a practice which Herodotus attributes to the Scythians who, "when their king dies, bury with him one of his concubines, his baker, his cook, his groom, his secretary, his horses, and the choicest of his effects." The Chinese have found it more expeditious and economical to burn all such personal property in effigy.

In the afternoon we descended a series of half-cultivated valleys to the camp of Liao-i-p'u, accompanied by an escort of some twenty

privates relieved every two miles by a fresh squad. The guardians of these lone uplands are very different from the ragged rascals who are supposed to guarantee the peace of Eastern China. They are well and even luxuriously clothed in shirt, uniform jacket, blue knickerbockers, fifteen folds—I have often counted them—of cotton leggings, and the true classic sandal, neatly shaped to the sole and bound round the ankle with coloured strings. A broad flapping straw hat covers their cleanly plaited hair. Their weapons, strange to say, are mostly bright, but this is perhaps attributable to the dryness of the climate rather than to soldierly cleanliness. A sergeant armed with a broadsword led the van, and the rear was brought up by a mounted lieutenant. Every alternate private carried a gingall and match, the rest shouldering spears, tridents, or partisans. Here and there on the hillside a long spear flying a white or red banner outside a hut indicates where a sentinel is, or should be, on the alert against the predaceous wild-men.

Many of the subject Lolos along the border are soldiers receiving pay from the Chinese officials. Some of the little village-camps we passed through consisted of no more than six or eight contiguous houses, with a miniature street down the middle, the whole protected by a strong wall. The population throughout this part of Chien-ch'ang has a very martial air. Target practice with the matchlock alternates with archery every evening, on an exercise ground outside the wall. The bow practice is of the usual feeble character, the utmost effective range being 50 yards, with a very high trajectory and wild shooting.

At Liao-i-p'u we met a few individuals of a Sifan tribe which lives to the west of Chien-ch'ang. The men are dressed much like the Chinese, but, though intelligent and approachable, seem an inferior race to the Lolos. I learnt from one of them that they do not weave woollen cloth, but buy it from the Lolos—a statement which may be doubted. The same informant told me that his people can make themselves understood, with some difficulty, by the Tibetans at Ta-chien-lu. Pleased with my curiosity, he produced from his breast an amulet written on stout paper, which he said contained his name and certain Buddhist charms. Such an amulet is bought from the lamas by every Sifan, at a cost of about 5*s*. The characters were Tibetan, and I seized the opportunity to air my knowledge of that language—a knowledge confined to the invocation "Mani pami hum," which he at once recognised and repeated.

The Sifan ladies of this district wear a broad conical hat made of cane, with a cotton cover stretched over it. A good deal of cowrie work decorates their bosoms, which are further adorned with thin silver plaques stamped with a central boss and a number of smaller surrounding bosses. In some instances this is suspended from a cloth collar on which are sewn separate bosses resembling beads. In other

respects they dress much like the poorer classes of Chinese women, but do not, of course, distort their feet. They are generally robust and vigorous; I have even seen one or two dames, still youthful, of almost herculean, but yet graceful, physique.

I artlessly asked a Sifan if his people were friendly with the Independent Lolos. He seemed to take deep offence at the question, and walked off muttering, "They rob us, they rob us!"

On the 21st of August the road led us by a series of very steep zigzags up the western mountain side. So severe was the work, and so circuitous the way, that we only made about five miles of direct distance, putting up at Pao-an-ying, a camp-village of 120 good-natured soldier-colonists. The next day we came down a narrow valley between hills, unsheltered by a single tree, and without any habitations except a small camp or two. Here and there a patch of maize was passed, but nine-tenths of the flat grew nothing but weeds and wild flowers. The stillness of the place was most impressive. Chinese valleys are generally full of sound; but here there is no running water to attract small birds, and no branch for the cicada to perch on; the crows, so populous elsewhere, find no provender, and there is no voice of domestic animals. A few Lolo girls bringing in scant burdens of firewood, charcoal, and brown-eared rice, troop timidly along with silent barefooted tread to the distant market-place.

As we neared the frowning crags of P'u-sa-kang, on our left, the valley opened out into the plain of Yueh-hsi Ting, the chief town of this disturbed border district. The level is laid out in rice-fields, but so stony is the soil that it must be difficult for the rice-plants to find space for their roots. The road runs for nearly a mile along a high causeway of stones; the cottages are built with stones and fortified with stone walls. Fences of stones border the rice patches, and great mounds of stones are piled at short intervals all across the plain. But in spite of this lavish expenditure of material, the fields are still covered with the same unfruitful mineral, so closely distributed that at three inches from every stone lies another. We crossed perhaps five miles of this strange deposit, which decreases gradually as the city is neared. The stones range from the size of walnuts to that of pine-apples, and of course are rounded. They have clearly been brought down by intermittent floods of a mountain-stream which rushes down a wide break in the western range.

Three or four torrents of considerable size unite their waters on this plain and combine to form the Yueh-hsi river, which runs down into the wide Lolo valley mentioned above, and after a course of 70 or 80 miles enters the T'ung river under the heights of Mount Wa. One of these streams I ascended to its source, half a mile from the roadside, and found half-a-dozen cascades plunging from crannies in the foot of a hill and joining their forces to make a fullgrown river, 30 yards wide

and two feet deep. One source was a small cavern from which the fish are said to emerge with the water; I can at any rate certify that some of them are seven inches long and of excellent flavour. The head of a second affluent, which runs from under a hill three miles S.S.W. of the city, we failed to discover, having overrun the scent. We had, in fact, gone round the rear of its point of issue. It is narrower, but a good deal deeper, than the first stream, and by native account runs under the mountain in full volume from a lake on the further side.

Yueh-hsi T'ing is administered by a magistrate and a colonel with 750 men under his command. There is also a Lolo chief—T'u-ssŭ—who exercises great influence and holds jurisdiction over the subject Lolos. The city is about 700 yards square, is not thickly inhabited, and possesses no commerce, the produce of the plain being locally consumed. I was told that a few miles to the east there are mines of silver, copper, and iron, which until lately were worked by Chinese, but are now in possession of the free Lolos.

In this dale we passed many Sifan maidens, strapping and exuberant queans whom report calls hussies; this must be said without prejudice to well-conducted individuals; but in general the Sifan beauties suffer greatly by comparison with their Lolo sisters, who are obviously gentlewomen. Many a time we met the tall straight Lolo with his fringed mantle strung from his neck over his left shoulder, his wrinkled face peering curiously at the stranger, as he drives a few small but active and clean-made hill-cattle along the rough road. It is the custom for persons of our dignity to present him with a cup of native wine. The potation is a lengthy process, for if any of his compatriots are present he first passes the cup round, everyone taking two or three infinitesimal sips, and then himself, slowly and with much display of appreciative gustivity, imbibes the remainder interruptedly, holding the cup between drinks close to his beardless chin, and all the while uttering profuse rhetorical thanks to the donor. The following speech was delivered to me on such an occasion:—"Your bounty is infinite. You are heaven; I am earth. I am a civilized Lolo, not like the wild Lolos who are no better than Taiping rebels. I am a *Black-bone*,* not a *White-bone*. I serve nobody. I receive the Great Emperor's pay, and keep the peace. There are three hundred and sixty days in the year, and during that period I eat seven hundred and twenty meals, which comes to the same thing. If I have drunk too much wine, and am overtaken by the rain in that condition, I lie on the hillside in my mantle under my hat, and when I wake I am well."

It was easy to take down the words of this discourse, since the orator repeated it several times, leading me to think that it must be part of a Lolo ballad which he was translating for my benefit into Chinese. He took such exceeding pains to satisfy me that twice 360

* See p. 67.

amount, all things being considered, to 720, that it seemed well to assume an air of conviction if for no other purpose than to acquire further information. I asked him how many moons there are in 360 days. "Twelve," he replied; but when I protested that twelve moons would fall short of that complement, he not only appreciated the difficulty but took up an explanation of its adjustment. "Our teachers," he said, "add a number of days to make the year regular." "But," I asked, "how do they know what the additional number should be?" His ready and perfectly satisfying answer was, "They judge by the time of flight of the wild geese."

Such a system, though not minutely precise, is sound at bottom and must inevitably come right in the long run. But the Lolo proceeded to admit that the arrangement is inexact, and added that his teachers—he employed the word *Hsien-shêng*—possess a more perfect method, the principle of which he confessed he did not understand. His explanation amounted to this:—the limits of the seasons, which, by the way, the Lolos count as two only, summer and winter, are indicated by the rising or setting of prominent stars over peaks or gaps in the hills, viewed from certain fixed positions. If his statement be taken as referring to the place of the sun with regard to such stars, as is almost evident, it means very much what the Astronomer Royal means, when he annually exclaims, "Sun enters Capricornus; winter begins."

There is, however, no *primâ-facie* reason for denying that this isolated people may possess the rudiments or, perhaps, the relics of certain sciences in the rough, since there is no doubt that they have books. "I have seen bushels of books, but was not allowed to examine them," is the expression of a French missionary who has visited their borders. Further on I shall be able to establish the most interesting fact that they possess the art of writing, in a form peculiar, it would seem, to themselves.

What the Lolos are, whence they have come, and what is their character, are questions to which I can only make a very incompetent reply; and it must be premised that it would be very unfair to draw a definite general conclusion from a small number of scattered and embarrassed inquiries at points round their frontier. No description of them exists in any extant work, with the exception of a passage to be quoted further on and a few sentences in Captain Blakiston's book. It may fairly be said that nothing is known of them. They have been confounded with Miao-tzŭ, Man-tzŭ, Si-fan, Yeh-jên, T'u-i, and other such like loose names, indefinite Chinese expressions, mostly contemptuous, and altogether devoid of ethnological significance. "Lolo" is itself a word of insult, of unknown Chinese origin, which should not be used in their presence, although they excuse it and will even sometimes employ it in the case of ignorant strangers. In the report of Governor-General Lo Ping-chang, above quoted, they are called "I," the term

applied by Chinese to Europeans. They themselves have no objection to being styled "I-chia" (I families), but that word is not their native name. Near Ma-pien they call themselves "Lo-su"; in the neighbourhood of Lui-po T'ing their name is "No-su" or "Ngo-su" (possibly a mere variant of "Lo-su"); near Hui-li-chou the term is "Lé-su"—the syllable Lé being pronounced as in French. The subject tribes on the T'ung river, near Mount Wa, also name themselves "Ngo-su." I have found the latter people speak very disrespectfully of the Lé-su, which argues an internal distinction; but there can be no doubt that they are the same race, and speak the same language, though with minor differences of dialect.

The country occupied by the independent Lolos, an area of about 11,000 square miles, is called, in conjunction with a good deal of debateable border, "Liang-shan" or "Ta-liang-shan" (Great Ridge Mountains), a designation which does not mean any particular peak or peaks, or special range, but applies to the whole Lolo region, a district mountainous throughout, and containing a few summits which overtop the limit of perpetual snow.

The word "Black-bone" is generally used by the Chinese as a name for the independent Lolos, but in the mouth of a Lolo it seems to mean a "freeman" or "noble," in which sense it is not a whit more absurd than the "blue blood" of Europeans. The "White-bones," an inferior class, but still Lolo by birth, are, so far as I could understand, the vassals and retainers of the patricians—the people, in fact. A third class consists of Wa-tzŭ, or slaves, who are all captive Chinese. It does not appear whether the servile class is sub-divided, but, at any rate, the slaves born in Lolodom are treated with more consideration than those who have been captured in slave-hunts. Near Fu-lin I met a Chinese youth who had been brought up in servitude by the Black-bones, and had lately made his escape. He admitted without hesitation that he had been well treated and not overworked, but averred that he had always longed to escape. In P'ing-shan, on the opposite side of the Black-bone territory, I sent to the magistrate, requesting him to allow some of the hostages, who are usually detained in his residence, to come to my lodging. Two of them were sent round under an escort, and turned out to be old acquaintances, whom I had visited in their prison-house two years previously. One of their slaves, a Chinaman, attended them in durance, into which they had been inveigled on a pretence of trading, and told me that he hoped to return with them when they were released.

Near Ma-lieh a Chinaman who had escaped from captivity informed me that his condition as a slave had been comfortable enough, and that he had no complaint to make on that score; nevertheless, he preferred his liberty. His masters had tattooed upon his forehead an indelible blue cross, as a mark of ownership. The children they capture are

treated like their own children, and grow up to all intents and purposes Lolos; but adult slaves, recently caught, are liable if recalcitrant to severe penalties, being placed in the stocks by night and very poorly fed. In extreme cases they may be flogged with nettles, a punishment of which the severity may be increased to a fatal result by keeping the lacerations wetted with cold water. When the captives become amenable to discipline their lot is easy; they are tattooed with the mark of the tribe, and then treated in all respects as White-bones. The same informant told me that the Lolos make broad roads, and live in fine stone houses.

It might be supposed that the well-conditioned and generally contented slaves are half-breeds by Lolo fathers and Chinese slave-mothers, but such is not the case. Even the T'u-ssŭ—Lolos who hold hereditary rule over tribes subject to Chinese jurisdiction, and who speak and write Chinese and wear the Chinese official dress—never marry any but a tribeswoman. Many Chinese girls are, of course, carried into slavery, but only for the purpose of providing wives for Chinese bondmen.

When a marriage is arranged between a Black-bone and a damsel of his own degree, the bridegroom invites the bride with her relations to a banquet, which is spread on the hillside. After the festival the bride goes home with her friends, and it is not until after the third wedding breakfast that the happy pair are united. Presents are interchanged, of which it seems that the family of the bride obtains by far the larger share. The following account of the nuptial ceremony was given me by a party of Lolos near Mount Wa, and may be implicitly relied upon. The betrothal is ratified by a present, from the husband's family, of three vessels of wine and a pig. On the wedding morning the parents of the bride assemble their friends, and the ceremony is opened by the bridesmaids with a melancholy song:—"In spite of all the affection and care your fond parents have lavished upon you since the day you were born, you must now desert them; never again will you sit beside them at work or at meals. You will not be nigh to support them when they grow old, nor to tend them when they fall sick. You must leave them, and go away to the house of a stranger." Whereto the bride responds, also in song, broken with bitter weeping:—"Leave them I must, but not by my desire or fault. They must bear with my absence; my brothers and sisters will support them. I go to my husband, and my duty will be to help his parents, not, alas! my own. But if any trouble befall my dear father and mother, I shall pine to death; I am sure I shall. Seldom can I visit them; but when they are sick let them send for me, and I will come, I will come!"

The antiphonal character of this chorus led me to inquire if the chant is cut and dried. But A-niu (uncle), a rather cynical old Lolo, whose right eyebrow was obscured by a scar gained in the chase of the

wild cattle, told me that it is for the most part extemporised, and that he thought the girls could go on for ever if they liked. Other passages of this touching marriage service lament the leave-taking, and give advice to the bride's sisters to be submissive, kind, and gentle. In the mean time the bride is being arrayed in rich garments and gawds of precious metal, and when she is fully decked the final strophe of the bridal wail begins, a lyric dread that the groom and his parents will behave harshly to the parting sister. A crisis of tearfulness ensues, when suddenly the brothers, cousins, and friends of the husband burst upon the scene with tumult and loud shouting, seize the almost distraught maid, place her pick-a-back on the shoulders of the best-man, carry her hurriedly and violently away, and mount her on a horse which gallops off to her new home. The violence is rather more than simulated, for although the male friends of the bride only repel the attacking party with showers of flour and wood-ashes, the attendant virgins are armed with sticks, which they have the fullest liberty to wield. "Probably they do not strike very hard," I remarked; but A-niu replied, "Oh, oh! the sticks are thorn-branches,* and the girls lay about them with all their might."

The husband's family furnish the young couple with horses, cattle, and sheep; the parents of the bride supply clothes, ornaments, and corn—chiefly maize and buckwheat.

Among some of the tribes a ceremony is said to obtain which seems too grotesque to be true; perhaps it is only a game. The bride is perched by her parents on an upper branch of a large tree, while the elder ladies of the family cluster on the lower branches. The ardent bridegroom clambers up the trunk, assailed by blows and pushes from the dowagers, and it is not until he has succeeded in touching the foot of his sweetheart that he is suffered to claim her as his housewife.

When a boy is born he is washed in cold water, and his forehead baptised with cowdung to render him robust and fearless. But the birth of a girl is generally regarded with more satisfaction. Indeed, the women hold a very respected position, and may even succeed to the sovereignty of a tribe. The best guarantee a stranger can find who desires to enter the Lolo hills is a female guide, who before setting out puts on an extra petticoat; by Lolo law a traveller thus personally conducted is sacred. If any serious molestation is threatened, the woman, after giving due warning and formally calling upon all present to witness the act, takes off a petticoat and spreads it solemnly on the ground. There the token remains, with its coloured flounces fluttering in the breeze or reeking in the rain, until the outrage has been fully

* The Lolo thorn, which lines every road side above P'ing-shan, is armed with rows of blood-red points half an inch or more in length, all turned the wrong way, like shark's teeth. In some way which I could not understand it may be used for food.

condoned. The neighbouring chiefs are bound to punish the offenders, and until justice has been done the petticoat is as inviolable as an ambassador's flag. I am also informed that the women are allowed to take part in battles, with the tacit convention that so long as they do not use pointed or cutting weapons they shall not be attacked by male warriors.

Although traders pass freely through the whole country, it is clear that the various autonomous tribes are not very amicably united. A captive among the P'ing-shan hostages told me that his chief, by name Kata, had lately crossed from Lui-po to Ning-yuan; and being asked how many days the journey had occupied, he replied, "Kata had to avoid many enemies (*yuan-chia*), and therefore took forty-four days." Now the direct distance from point to point is only about 80 miles. The same informant, who remembered with gratitude my visit to his prison-house during the time of Mr. Grosvenor's mission, cried out, on being told that I had lately passed the borders of his tribe near O-pien T'ing, "Why did you not let us know? Although we are prisoners, we could have sent word to our countrymen, and I warrant they would not have let you go by without a welcome." "But would they have taken me through their territory?" "Certainly they would; but they could not pass you into the country of their enemies."

It is remarkable that Buddhism does not count a single convert among the Lolos. Their cult, whatever it may be, is fostered by a class of medicine-men, who are held in great reverence and monopolise the art of writing. It is very difficult to elicit a reply to questions regarding their religion, but the following traits, gathered from Chinese who had escaped from bondage, are credible. The deities are consulted by tossing sticks in the air, and examining the positions into which they fall; or by burning mutton-bones, the marks produced by the calcination indicating the fortune, good or evil, which has been decreed. The feathers of a fowl, inserted into a split bamboo and thrown on to the roof of a house, avert evil influences. Sheep, cattle, or horses are slaughtered when a disaster threatens, on a kind of insurance principle —"I am willing to sacrifice this, in the hope of preserving that"—the theory, perhaps, of all sacrifice. Trial by ordeal is common. An article of value having been stolen and the thief remaining undiscovered, the people of the place are assembled by the medicine-men, and a handful of raw rice is served out to every one. A solemn period of mastication follows, after which the resultant is spat out, and a stain of blood on the chewed mouthful infallibly betrays the culprit. It is affirmed that the gums of the guilty bleed, and that a confession always ensues.

The order of succession to property and chieftainship is curious; the youngest son generally succeeds, and after him the eldest.

The following stray notes were collected from the P'ing-shan captives. They compare the world to an open hand: the thumb,

stretched out far from the digits, represents foreigners, the forefinger themselves; the middle finger indicates the Mahommedans, the third the Chinese, and the little finger the Tartars. (Perhaps the thumb was, for the occasion, transferred from Tibet to Europe.) The great Emperor of China is imagined to sit enthroned in the middle of the palm. They worship three deities—Lui-wo, A-pu-ko, and Shua-shê-po, of whom Lui-wo is the greatest; all three live on Mount O. Old people say that the Liang-shan tribes are a branch of the *La-ka* (?) family, and came originally from the west. The first three numerals were formely *tu*, *fan*, *yi*, but have been changed. They procure fine woollen cloth from K'erh-ka-ta, which is not far from Chien-ch'ang Fu (Ning-yuan). Tibet is two months' journey from their tribe; and beyond Tibet lies a foreign country from which goods reach them. They have not been to that country. In 1849 a foreigner dressed like myself, but with long beard and black hair, paid them a visit at a place which is five days' journey from Ma-pien, and gave them 20,000 cash—about sixty-two shillings—for a cow and a sheep. They would like to know what has become of him, as he was very friendly. (I have no idea what this can mean; the French missionaries without exception wear Chinese dress.) Some of their people have red or yellow hair. A chief marries three wives, a sub-chief two, and the common people one. They cultivate wheat, barley, and millet, and make wine of these, but grow very little rice. They use knives and forks, and eat beef, mutton, and pork, but not horse or dog-flesh. They make their own swords, three and a half to five spans long, with square heads, and have bows which it takes three men to draw,* but no muskets. Their women wear pleated petticoats, ornaments of silver and gold, and embroidered shoes. Hearing that foreigners possess instruments which indicate the time of day, they would be glad to obtain a specimen.

There is much in the free-hearted manner of these Lolos to attract the traveller, and more in the interest which attaches to so original or aboriginal, a people. Possessed as they seemed to be with half an idea that I was akin to their race, they were everywhere curious to see their far-away tribesman. A European could doubtless stroll over the length and breadth of their meads and mountains in complete security; but he must be furnished with references; an introduction *en règle* is indispensable. They appear to keep a wary watch along their border, and the character of a visitor is soon appreciated at its true value. Should he belong to the category of honest folk he will find no difficulty in crossing the frontier, unless it be from Chinese officials.

Whatever may be the difference between the subdivisions of Lé-su and Ngo-su, it is impossible to deny that they belong to the same family. Physique, manners, and language, all correspond. It is most noteworthy

* See this from a Chinese drawing in 'Marco Polo,' Bk. ii. ch. xlix.—[H. Y.]

that the term *Lé-su*—or some variant of it—is nationally used by several tribes in this part of Indo-China, widely separate from one another both in the geographical and other senses. I find in the work of Abbé Desgodins an account of a people whom he names *Lissou*, inhabiting the region immediately south of Tibet, and to whom he attributes a very independent character. He adds that their language differs wholly from those of the numerous tribes by which they are bordered. Again, in the valuable journal kept by Dr. Anderson of his experiences with the Sladen Mission, mention is made of a people whose tribal name he writes *Lee-saw*, and whom he proposes to identify with the "*Lei-su*" encountered on the Tibetan border by Mr. Cooper. The Doctor's description of his "Lee-saws" as "a small hill people with fair, round, flat faces, high cheek-bones, and some little obliquity of the eye," differs *toto cœlo* from the tall, oval-faced, Aryan-like race I saw on the Chien-ch'ang border. Nor is the resemblance between Mr. Cooper's friends and the Lolos any more striking.

But Dr. Anderson finds great similarity between the language of his Lee-saws and the Burmese. The obvious experiment is therefore to compare the Lee-saw numerals, as recorded in his work, with those of the Lolos, as below:—

	Lolos		Leesaws
	(near Wa-shan)	(near Ma-pien)	(of Dr. Anderson).
1	Ts'ụ	Tchih	Ti
2	Ni	Ni	Hnuit
3	Su	Su	Sa
4	Erh	Li	Li
5	Ngụ	Ngụ	Ngaw
6	Fo	K'u	Chaw
7	Shih	Shih	Tshe
8	Shie	Hei	Hay
9	Gu	Gu	Koo
10	Tch'ie (or Ts'e)	Tch'e	Tsi
11	Tch'i-tsụ	Tch'i-ti	

By which it appears that they are nearly identical. Therefore—but it would be rash to draw conclusions; it is only safe to assert that future explorers will do well to collect further materials.

The speech of the Independent Lolos is harsh, abounding in gutturals and strange vibrating consonants. The Welsh aspirated *l* frequently occurs, as in *hlopọ* (moon), but it is not so easy to aspirate an *n* as in *hnabé* (nose). There is a labial sound which might be written *bwrbwru*, pronounced as if the speaker were shivering with cold, and which is not difficult to imitate; but when the same process of shuddering has to be applied to a lingual, as in the word for *iron*, which I have despairingly written *shu-thdhru*, an English tongue is dumbfoundered. Happily for strangers these odd vocables are freely modified into much simpler sounds without danger of misapprehension.

The following short vocabulary was collected among a small tribe of subject Lolos living on the left bank of the T'ung river, from whose pronunciation much of the primitive uncouthness has disappeared. A parallel column gives a corresponding vocabulary of the language spoken by the Sifans of Tsu-ta-ti. It will be observed that both peoples use Chinese terms for certain natural products; but it should not on that account be hastily concluded that such articles are not indigenous. The Sifans, for example, employ the Chinese name for rhubarb, although that salutary plant is almost exclusively a Sifan export.

	Sifan (properly Menia) of Tsŭ-ta-ti.	Lolo of Left Bank of T'ung River.
1	Tụ	Ts'ụ
2	Nụ	Ni
3	Si	Su, or Soa
4	Jro	Erh
5	Ngei	Ngụ
6	Tch'u	Fo
7	Shụn	Shih
8	Jih	Shie
9	Ngo	Gu
10	Tch'i-tch'i	Tch'ie, or Ts'e
11	Th'sụ-tụ	Tch'i-ts'ụ
12	Th'sụ-nụ	Tch'i-ni
16	Th'sụ-tch'ụ	Tch'ie-fo
20	Nụ-tsụ	Ni-ts'e
21	Nụts-tụ, or Nụts-la-tụ	Ni-ts'e-ts'ụ
30	Si-tsụ	Soa-ts'e
32	Si-tsụ-nụ	Soa-ts'e-ni
40	Jro-tsụ	Erh-ts'e
43	Jro-tsụ-si	Erh-ts'e-su
100	Ta-jia	Ts'ụ-ha
104	Ta-jia la jro	Ts'ụ-ha ni erh
109	..	Ts'ụ-ha ni gu
130	Ta-jia si-tsụ, or Ta-jia la si-tsụ	Ts'ụ-ha-soa-ts'e
197	Ta-jia la ngo-tsụ-shụn	Ts'ụ-hȧ-gu-ts'e-shih
800	Jih-jia	Shie-ha
1000	Tụ-to	Ts'ụ-tpro
Three horses	Mo si-bu	M k'o soa-ma
I	A	Ngo, or Nga
Thou	Nụ	Ni
He	T'ụ	Ts'ụ, or Ha-diu
We	Ao	
You	Nu	
They	T'ou	
Mine	Ei	Ngo-be
Thine	Ni	Ni-be
His	T'i	Ha-diu-be
Ours	Ao-wo, or Ei-wo	
Yours	Nu-wo, or Ni-wo	
Theirs	T'ou-wo, or T'i-wo	
This horse	Mo t'ụ-bu	M ts'ụ-ma

	Sifan (properly Menia) of Tzŭ-ta-ti.	Lolo of Left Bank of T'ung River.
That horse	Mo p'ai-t'ụ-bu	M ha-di-ma
Here	Kwan-p'ụn	Ts'u-ku
There	Wan-p'ụn	Ha-du-ku
What	Ha-ma	K'e-tch'e-ma
Who (what man)	Ha-ma ssụ	K'e-ts'u-ma
Where (what place)	Ha-ma me-li	
When (what time)	Ha-ma tụ-kụ	K'a-t'i
Whither are you going?	Ha-da i-gụ	K'a-yi
Whence do you come?	Ha-da wa-la	K'a la
Come here!	T'ụ-k'ụ-la	Ts'u-ku la
Go away!	Nei-i	Ta-sho
Man	..	Ts'u
Place	..	Mi-di
One year	Tụ tu-tch'e	Ts'ụ koa
One month	Tụ ha	Ts'ụ bu la
One day	Tụ niu	Ts'ụ'nien
Yesterday	Ya-niu	A-ni-di
To-morrow	So-niu	Shih-ta-di
To-day	..	I-ni-di
Last year	Ya-hei	A-hei-o
Next year	So-hei	Nie-ho
Morning	Dja-ma-tch'e	Tchih-gu dji-ti-ko
Evening	Mụn-k'we	Dja-gu dji-ti-ko
Noon	Mjo-dzụ-she	M-erh-ko
Night	K'we	M-k'e-ko
Spring	Mụn-dsie	} Ts'ụ-la
Summer	Mụng-a	
Autumn	Mụ-to	} Mu-ts'ụ
Winter	Mụ-tsụ	
Sun	Ni-ma	He-bu-shio
Moon	Ha-pụ	La-ba
Star	Tchih	Mu-tchio
Cloud	Djie	Mu-nie
Rain	Ngwa-la	Ma-ha
Snow	Yi	Wo
Wind	Mụr	Mụr
North	Tchian-tch'o	
South	Llo-tch'o	
East	Sha-tch'o	Bu-du
West	No-tch'o	Bu-djie
Sky	Mụ	Mu-mie
Fire	Mie-p'u	Mu-to
Water	Djo, or djui	I-gu
Hill	Mbie	Buia
River	Yin-djro-ma	Nui
Stone	Lo-k'wa	Lo-mo
Earth	Za-pi	Mi-di
Wood	Sie	Ssụ-lo
Gold	* N^{2}	Shih
Silver	Mwe	Tch'uo

* The small numerals indicate the "Tones." See p. 78.—[W. G.]

	SIFAN (properly MENIA) of Tsŭ-ta-ti.	LOLO of Left Bank of T'ung River.
Iron	She	Shụ-ṭhdhru
Copper	Nuo^{2}	
Lead	Hie	
Tin	Hie	
Bone	Ro-ku	Shih-wo
Grass	Ndzụ^{2}	Jih-pa
Rice	Tch'e	Dze-tch'uo
Raw rice	N-tch'e	
Maize	Yi-mi (Chinese?)	Yi-mi-dzụ (Chinese?)
Tobacco	Pi-tch'a	Ta-ba (Mapien dialect)
Barley	Mụ^{2}-dza^{2}	Zo
Wheat	..	Sha
Rhubarb	Names borrowed from Chinese	(Chinese)
Silk	Names borrowed from Chinese	(Chinese)
Opium	Names borrowed from Chinese	(Chinese)
Mulberry	Names borrowed from Chinese	Bbu-dza
Potato	Names borrowed from Chinese	(Chinese)
Cotton	Names borrowed from Chinese	(Chinese)
Hemp	Names borrowed from Chinese	(Chinese)
Nettle	Names borrowed from Chinese	Dụ-p'u
Turnip	Names borrowed from Chinese	(Chinese)
Carrot	Names borrowed from Chinese	(Chinese)
Lettuce	Names borrowed from Chinese	
Onion	Names borrowed from Chinese	
Tea	Dja-tcha	La
Willow	Mbo-u	Mo-shoa
Bamboo	He-ka	Ma-tchie
Buried pine	Tchu-si	
Wine	Wo	Djih
Cow	Mwe	Lụ, or Lụgh
Dog	Tch'o	K'e
Goat	Tch'i	Tch'i
Pig	Rgo	Wo^{1}-pa (male), Wo^{1}-ma (female)
Fowl	Rga^{1}	Wo^{4}
Duck	Nta-tsụ	E-pu (male), E-ma (female)
Sheep	Yo	Yo
Yak	Rga^{1}	
Hare	Mi-dzụ	T'a-la
Rat	Gu	He
Snake	Bụr	Vu
Monkey	Mi	A-nuo
Tiger	La	La
Dragon	Ri-dji	Luo
Bird	..	A-tsụ
Fish	..	Hai-yi
Hawk	..	Tchuo
Sparrow	..	A-tchao
Pigeon	..	Si-atsụ
Musk deer	Lie	Lụ-pu (male), Lụ-ma (female)
Wolf	Ndzụ^{2}	Viụ
Fox	..	Mie-guo
Leopard	(Same as Wolf)	Zụ
Bear	Rge	Wo (in a deep tone)

	Sifan (properly Menia) of Tzŭ-ta-ti.	Lolo of Left Bank of T'ung River.
Father	A-ba	A-ta'
Mother	A-ma	A-ma
Elder brother	A-dja	A-mu
Younger brother	N-a	E-ni
Sister	Hei-ma	A-ye
Husband	Si-p'a	Bui-dji
Wife	Ma-mu	Si-ma
Son	Yi-za	Zi-e
Daughter	Zi-e	A-mi-zie
Father's elder brother	A-ba-k'wa	A-bi
Father's younger brother	Bei-ka	A-niu
Father's elder sister	A-ma-k'wa	A-bu
Father's younger sister	N-dza-ma	Bo-ka
Grandfather	A-pu	A-p'u
Grandmother	'A-wa	A-wa
Grandson	Lụ-tchụ	Erh-yi
Granddaughter	Nza-lụ-tchụ	Erh-ma
Nephew, or niece	Ndjih-yi	
Head	We-li	A-tch'e
Hair	Tchi-wo	Djih-p'o
Eyes	Dụ-ku	Ni-ssụ
Nose	Shụm-bu-ka	Ne-bi
Mouth	Shụm-p'a	K'a-p'ien
Ears	Ni-p'e-tcho	Na-bu
Throat	Tao-ka	Li-wu
Lips	Shụm-p'a-ndjro-pi	Mu-p'u
Teeth	Fu-ma (incisors)	Djih-ma
"	Fu-k'wa (molars)	
Tongue	Shih-pụ-tcho	Shie
Chin	Mo-ho-ge	Ma-dji-tch'i-li-ma
Arm	Lụ-tsa	Lu-bu
Hand	Lụ-pa-ka	Lo
Finger	Lụ-shih-ka	Lo-tchi-ze
Finger-nail	Lụ-dzụ	Lo-si
Thumb	Lụ-ma	Lo-ma
Forefinger	Lụ-tch'e	
Middle finger	Lụ-shụn-dzụ-mo	
Third "	Lụ-dji	
Little "	Lụ-ntch'u-pụr	
Body	Kwo-pa	Dji-shi-lo
Breast	Ro-k'u	Di-gwa-ma
Back	Ga-ma	Ko-pu
Heart	Shụm-bu	He-ma
Belly	Yi-p'a	Ha-ma
Leg	Bu-bu	Bbu-sa-ma
Foot	Erh-p'ụ	Tch'i-shi
Sole	Erh-pu-tchuo	
Toe	Erh-shih-wo	Shi-ma (great toe) Shi-tchi-ze (other toes)
Toe-nail	Erh-dzụ	Shi-si
Heel	Erh-gu-bu	K'a-twa-ma
Skin	Rjo-shụ-ndjro-pi	Dji-dji
Flesh	Shih	Shi-ni

	SIFAN (properly MENIA) of Tzŭ-ta-ti.	LOLO of Left Bank of T'ung River.
Plough	Du-ge	Ssų-gu
Hoe	Dzų-pu-tchuo	Tzų-ma
Axe	Wo-tsa	Wu-ma
Saw	Sa-di	Sho
Bow	Si-le-ka	He-ma
Quiver	..	He-bu
Sword	Mbų-tcha	Dji-mi
Spear	Ndji-ka	
Gun	Ni-tch'u	Tch'u
Flint	Tcha-ma-lo-k'wa	Mie-go-lo-mo (tinder-stone)
Drum	Kun-djie	Ko-dzų (Chinese)
Arrow	Me-ka	
Flute	Shih-he	Do-go
Boat	Lo-ge	Lo
Rope	Be-ka	Djia-pa
Paper	Sho	T'ao-wo
Book	Jųn-te	T'ao-shu-pe
Basket	..	T'i-tu-dzų
Oil	Jih-yi	
Salt	T'sų	
Blood	Shuo	Ssų
Clothes	Ga-ma	Tch'ü-ti
Coat	Ya-she-tch'a	K'a-dzų
Trowsers	Za-tsa	Wo-ye
Hat	Mbo[2]	Tcha-mo
Shoes	Zų	Shih-nie
Black	Da-na	A-no-so
White	Dų-lu	A-tchü-so
Red	De-nie	A-ni-so
Green	La-mi	A-lu-so
Blue	Da-ba	A-wu-so
Yellow	Dų-sho	A-shih-so
Good	Ya-lie, or Yan-dų	Bei-so, or Bui-so
Bad	Ma-lie, or Man-dų	A-bei-so
High	Yam-bo	A-mo-so
Low	Ya-nie	E-hi-so
Long	Ya-she	A-shie-so
Short	Ya-djo	E-nu-so
Thick	Ya-du	A-tmbu-sho
Thin	Ya-bu	E-bu-sho
Near	Mbwe-sha	(Same as "short")
Far	Ya-rgo-she	(Same as "long")
Fast	Yan-tch'e	Kwo-tch'a
Slow	Di-wa	A-li-a-li
Old	K'wa-k'wa	Mu[3]
Young	P'u-za	So-lie
Big	Ya-k'wa	I-su
Little	Yie	Dji-su
Strong	Sho-mo-ya-djo	Wo-ni-ko
Weak	Da-ma-shia-tų	P'a-ko
Handsome	Yan-tch'uo	Sü-erh-te-ko
Ugly	Ma-sha-nga	Shih-la-te

	SIFAN (properly MENIA) of Tzŭ-ta-ti.	LOLO of Left Bank of T'ung River.
Clever	Yan-tch'e-tụ	O-dji
Stupid	Man-tch'e	Sụm-sụ-la-djo
Awkward	Ka-tụ	
Rich	Ya-bo	Su-ga-so
Poor	Ma-bo	So-sha
Dead	T'o-shwa	Ssụ-wo
Alive	Dụn-so	Dju-so
Sifan (themselves)	Lo-ssụ	O-dzuo
Tibetans	Ndo-a	La-ma
Chinese	Ndzi	Ha-ga
Lolos	Na-p'a	Ngo-so (i. e. themselves)
Mup'ing Sifan	..	Tu-puo
Come	La-mu	La
Go	Yi	Yie
Eat (as food)	Ngụ-dzụ	Do
Eat (as tobacco)	Ngụ-tche	
Drink	Ngụn-tche	Shi-do
Sleep	K'o-me	E-djo
Beat	Na-ka	Dduo
Kill	K'o-tchuo	Sie
This man is good	T'ụ-ssụ-bu Yan-dụ	T'su ts'ụ-ma bui-ko
This man is better than that	T'ụ-ssụ-bu P'ai-bu Tch'u Yan-dụ	Ts'u ts'ụ-ma ha-di-ma kwa-dzụ
These two men are very bad	T'ụ-ssụ-nụ-bu Ya Man-dụ	Ts'u ts'ụ-ni-ma a-bei
That man is bad	..	Ts'u ha-di-ma a-bei
This horse is faster than that	T'ụ-mo P'ai-mo Tch'u Yan-tch'e	M ts'ụ-ma ha-di-ma kwa-dzụ dzụ-shuo
To drink tea	..	La shi-do
To smoke tobacco	Yi-tch'a ngụ-tche	
I want to sleep	A k'o-me	Nga e-djo-go
I will come to-morrow	A so-niu la	Nga shih-ta-di la
He beat me yesterday	T'ụ ya-niu a-wa na-ka	Ts'ụ a-ni-di nga dduo
Don't beat me	A-wa na-t'a-ka	Nga t'a-dduo
Don't kill him	T'ụ-wa k'o-t'a-tchuo	

In writing the above sounds Sir T. Wade's method has been followed, with the necessary extensions. The vowel *e*, however, is to be pronounced like a French accented *e* (*bébé*), and the vowel *u* with a dot below (ụ), like *u* in the English word "but." *Rg*, in Sifan words, is a guttural *r* with a *grasseyement*.

Both Lolo and Sifan have tones. In a few cases these have been indicated according to the Pekinese scale.

All the way from the T'ung there is no break in the western hills, under the brow of which the road for the most part runs; but near Yueh-hsi it becomes evident that these hills are merely the offshoots of the Cheh-to range, the boundary wall of Tibet. Northwest, or thereabouts, of Yueh-hsi rises a snowy peak which may be regarded as a corner of the Tibetan plateau, since south of it there are no conspicuous

mountains in the line of the range. I only obtained a very fleeting view of it, and even then the summit was hidden by a mass of cumulus; but as the snow-line lay far down the mountain at the hottest time of the year the height of its culminating peak* cannot be much less that 18,000 feet.

The valley of Yueh-hsi opens southward into the territory of the Black-bones, touching their confines at some 15 miles from the city. Our object being to follow the highroad, we edged round the spurs of a high confused mountain-mass, full of gullies and chasms, and turning up a narrowing glen reached the fortified outpost of Hsiao-shao ("little guard"). As we left the main valley, we left cultivation and cottages, and it is evident that caravans hurry through the glen, for at a temporary booth in which we breakfasted we could only procure rice enough for half our party. Hsiao-shao lies at the foot of the Little Hsiang-ling Pass, the most elevated point of the Chien-ch'ang road. The col has an elevation above sea-level of 9800 feet, and though a few hundred feet higher than its "Great" namesake, is easier of ascent. The hillsides are broken up into the precipitous wooded bluffs which Chinese artists delight to portray. Black-bone incursions seldom cross the range, the strong walled camp of Teng-hsiang, 2100 feet below the summit, effectually closing all access down the gorge to the rice-plain of Mien-shan. We were escorted by squads of well-clothed soldier-colonists, and by a pair of trumpeters, whose blasts echoed impressively down the ravines, and every little sentinel blockhouse returned a salute of three gingalls, to the great discomfort of my mule, which at each discharge seemed to apprehend a Lolo foray and threatened to upset me, loosely mounted on a packsaddle, into the profuse nettle-beds which border the track. On the 25th we continued the descent to Mien-shan, a flourishing little town at the junction of two valleys which yield copper and iron (manganese ore). We met several loads of the latter coming in from the mines.

A small river here runs out of Lololand through an open vale and joins its waters with the torrent which had accompanied us from the top of the pass. We followed the united stream through the narrowest conceivable gorge by a path which in one place is excavated, parapet and all, in the face of the precipice, high above the foaming waters, and is closed moreover by solid gates—the pass, in fact, which Shih Ta-k'ai found occupied and did not attempt to carry.† A little further on, the tortuous ravine opens, suddenly, into the main valley of Chien-ch'ang at the important town of Lu-ku (or Lo-ku), a customs and Likin station for the collection of dues on cotton cloth, Yunnan opium, and many other

* The peak bore nearly due west from my station, so that its latitude, as laid down on the chart, is fairly correct; but as I never caught sight of it again, its longitude is only estimated.

† See p. 57.

articles—it would be nearly safe to say *all* other articles. The trade in foreign cottons is insignificant, the native fabric imported viâ Ya-chou being far more suitable to local demand. The principal Lu-ku firm annually distributes 5000 bales of Eastern Chinese cloth, each bale containing forty-eight pieces 30 feet long. The bales cost about Tls. 14 in Hankow, and by the time they have reached Lu-ku they have paid two taels for duty and Likin, and about the same amount for carriage. The average sale at Lu-ku is Tls. 18 per bale, by which it appears that the profit on an outlay of some 20,000*l.* is exactly *nil.* But any one acquainted with the conduct of native trade will easily guess the solution of the mystery, which is that the exchange of silver and the difference of weights and measures is greatly in favour of Lu-ku. These differentiations give the traders a profit of five or six per cent; but most of the import is exchanged for Yünnan opium, a staple which yields a far more gratifying remuneration.

Chien-ch'ang proper, which we have now reached, is a valley, or perhaps plain, lying due north and south, a degree of latitude in length, and, on the average, about three miles broad. The Anning river, an impetuous, shallow, and unnavigable stream, runs down its whole length in a sandy and shingly bed. The mean level of the valley is nearly 5000 feet above sea, and in the course of 50 miles it falls about 900 feet. The steep and high mountains which form its eastern wall, breached only at Ning-yuan Fu, are the home of the Black-bones, while its western boundary is a system of lower, less abrupt, and less wooded ranges, inhabited partly by Chinese and partly by a great variety of indigenous tribes (Sifan, or Mantzŭ), subdivisions of the Tibetan race. Besides being the habitat of the famous wax-insect, the valley and its lateral ravines are reputed to be exceptionally fertile, producing all crops from buckwheat to rice. Its fruits also are unusually large and delicate. Soon after passing Lu-ku we saw crops of a gorgeous purple plant, a cereal called locally "Mantzŭ Hsü-mi"; sunflowers are very extensively cultivated, and it is curious to see their golden faces, eight or ten inches broad, all turning persistently to the east. The cactus is common from Lu-ku downwards, but is not so large or abundant as on the Upper Yangtzŭ above P'ing-shan, where it is used for fencing fields, and even villages.

The discreet and observant gentleman who came this way from Venice six hundred and odd years ago, has recorded that after travelling several days over high mountains he entered a level country, called "Caindu," in which there are many towns and villages. There can be no doubt that by Caindu he means this valley. Colonel Yule, whose admirable edition I can only quote from memory, sees in the word Caindu a variation of "Chien-ch'ang," and supposes the syllable "du" to be the same as the termination "du," "do," or "tu," so frequent in Tibetan names. In such names, however, "do" never means a district,

but always a confluence, or a town near a confluence, as might almost be guessed from a map of Tibet. Ta-chien-lu is a case in point, and serves at the same time to illustrate the formation of a myth. As written in Chinese, the term means "arrow-forge," and successive travellers relate the various explanations by which the Chinese attempt to account for the expression. Abbé Huc gives one version; Captain Gill—small blame to him—another; and my own notes contained a very romantic story on the subject. But I have since learnt that "Ta-chien-lu" is merely the Chinese transliteration of the native name "Tar-tsen-do," which means "confluence of the Tar and the Tsen," the two streams which unite at that place.*

Unsatisfied with Colonel Yule's identification, I cast about for another, and thought for a while that a clue had been found in the term "Chien-t'ou" (sharp-head) applied to certain Lolo tribes. But the idea had to be abandoned, since Marco Polo's anecdote about the "caitiff" and the loose manners of his family could never have referred to the Lolos, who are admitted even by their Chinese enemies to possess a very strict code indeed of domestic regulations. The Lolos being eliminated, the Sifans remained; and before we had been many days in their neighbourhood, stories were told us of their conduct which a polite pen refuses to record. It is enough to say that Marco's account falls rather short of the truth, and most obviously applies to the Sifan. A succinct expression of Chinese opinion is contained in the border saying "Chên-chieh Lolo; kou Sifan," where *chên-chieh* means lady-like reserve, and *kou* broadly hints its antithesis. It has already been remarked that *Sifan*, convertible with *Mantzŭ*, is a loose Chinese expression of no ethnological value, meaning nothing more than western barbarians; but in a more restricted sense it is used to designate a people (or peoples) which inhabits the valley of the Yalung and the upper T'ung, with contiguous valleys and ranges, from about the twenty-seventh parallel to the borders of Koko-nor. This people is subdivided into eighteen tribes, the names of which according to Tibetan pronunciation are as follows:—

1. Djia-la.	7. So-mung.	13. Tchra-tin.
2. Djum-ba.	8. Djiu-tsé.	14. Ma-zu, or Ma-zé.
3. Djia-k'a.	9. Zur-ga.	15. K'ung-sar.
4. Wo-jé, or Go-jé.	10. Tchro-shiop.	16. Pé-ré.
5. Rap-ten and Tsen-la.	11. Gé-shie.	17. Tchran-go.
6. Tam-ba.	12. Pa-ung.	18. Djé-gu.

Djia-la is the native name of the district ruled by the King of Ta-chien-lu, whose style is *Djia-la Djie-po* (King of Djia-la). His

* Horace Della Penna, in his account of Tibetan countries, makes allusion to the state, or city, of Tar-chen-ton, which supplies the whole of Tibet with tea, and lies on the confines of China. It is evident enough that Tar-chen-ton is Tar-tsen-do, alias Ta-chien-lu, the great entrepôt of the tea-trade between Ssŭ-ch'uan and Tibet.

What is said in the text regarding the etymology of Ta-chien-lu, &c., corroborates the suggestions made in notes to Captain Gill's work. See "Introductory Essay," p. [88], and vol. ii. p. 77.—[H. Y.]

Chinese title is *Ming-chêng-ssŭ*, which, if it is to be translated, means "Bright-ruling official." *Djum-ba* is better known to foreigners by its Chinese name of Mu-p'ing. *So-mung*, near Sung-p'an T'ing, may perhaps be identified with Captain Gill's *Su-mu*. Tibetan, or a dialect of Tibetan, is the language of Djia-la and of the last five in the list. Djum-ba possesses a language of its own, and in the rest another different language is spoken. In *Gé-shie*, however, Tibetan is generally understood. The Tibetan alphabet is employed in all.

The tribes numbered from 2 to 13 (Djum-ba to Tchra-tin) extend northwards from Ta-chien-lu to Koko-nor; but Djia-la and the last five, Tibetan-speaking tribes, form a separate division under the general name of *Ménia*, and inhabit, roughly, the valley of the Yalung river. Menia appears in some European maps of the region under the form "Miniak," doubtless the same word; in pronouncing Tibetan many written consonants are suppressed; * the "Bos Grunniens," for instance, otherwise the Yak, is called "Ya" by natives. It will also be found that the Yalung is named on some maps the Minia-chu—Minia river. Again, the native Chinese map applies the name of *Me-li-na-ka* to the territory west of Chien-ch'ang between the Yalung and the Wuliang; but it is possible that this term refers to the country of *Meli*, a distinct region.

Although the main valley of Chien-ch'ang is now principally inhabited by Chinese, yet the Sifan or Menia people are frequently met with, and most of the villages possess two names, one Chinese and the other indigenous. Probably in Marco Polo's time a Menia population predominated, and the valley was regarded as part of Menia. If Marco had heard that name he would certainly have recorded it; but it is not one which is likely to reach the ears of a stranger. The Chinese people and officials never employ it, but use in its stead an alternative name, *Chan-tu* or *Chan-tui*, of precisely the same application, which I make bold to offer as the original of Marco's Caindu, or preferably Ciandu. (See note on the Sifan tribes.)

It was a pleasant change, after the rugged mountain passes, to travel along the broad level vale to Li-chou, a small sub-magisterial city, with a new wall environed by flourishing farm-houses and well-conditioned temples—a city where few are very rich and none absolutely poor. We saw many people clothed in rags, of which they were not ashamed, explaining that they wear their old suits in summer, but possess better garments for the cold weather. Rice and maize are so abundant and so little exported that no one is enriched and no one starves. There is a traffic in goat-skins from the hills, in wax-insects, and of course in

* The name of the town of Darjeeling, well known to Tibetans, is a good example. In Eastern Tibet it is pronounced *Do-gie-lin*, but is written *Rdo-rgie-glin*, meaning "Diamond Country." Western Tibetans, on the other hand, read *T'u-gie-lin*, but write *Stod-rgias-glin*, which means "High Broad Country."

opium, but the whole export amounts to very little. The carriage business, for which Li-chou is the chief station on the highway between Hui-li-chou and Yachou, affords employment to a great part of the inhabitants. Seven or eight miles further on we came to Ning-yuan Fu, the capital of Chien-ch'ang, built on the northern slope of a lateral valley which has been the scene of two calamitous visitations. During the early part of the Ming dynasty the present lake, it is said, had no existence, but was a dry hollow, in which the city lay surrounded by forest. A sudden earthquake, says tradition, shook the place to fragments, and a rush of water from underground converted its site into a lake; after which cataclysm, the forest was cleared and a new city built in the present position. However much precision the tale may lack in date and detail, it is rendered credible by what occurred in the autumn of 1850 (30th year of Tao-kuang, 8th moon, 7th day), when an earthquake threw down two-thirds of the buildings, and even those which remained standing were for the most part wedged up and buttressed by the surrounding débris. The crisis was preceded by a month's continuous rain. Soon after the cessation of the culminating shocks the ruins of the city took fire. It is asserted that only one house remained whole, and that from 15,000 to 20,000 persons perished, but such statements are always grossly exaggerated. Here is the account given me by a survivor:—

"At about ten o'clock in the evening I was asleep in bed. It had been raining very heavily. On the two preceding days shocks of earthquake had occurred, but not violent enough to throw down houses. The second shock was accompanied by a roar like that of a hurricane. When the great shock came I woke up and felt my bed rolling about like a boat in rough waves; the roof of my house was giving way, the tiles were falling on me, and the walls were heaving and bending. I heard the scream of the people in the Examination Hall, and ran out to help the wounded. I suppose I ran out because my roof was falling; but I was dreadfully frightened and did not understand what had happened until I heard the shouts of the neighbours. I found the Examination Hall overthrown, and assisted in rescuing about thirty persons, but not less than fifty had met their death and lay under the ruins. I then went with the neighbours to help such people as might still be alive under the fallen houses. Most of the deaths occurred in private dwellings. Two families, my relations, one of six persons, the other of eight, were crushed every one. I am quite certain that a great deal more than half the population perished. Fires broke out almost immediately in several places, but were kept down by the rain. Widows and orphans, drawing relief from the granaries, did not suffer much on the score of hunger; but while the fires were burning a sudden cry was raised that the Lolos were coming, and although it was false, more than 200 people, principally terrified women, ran into the flames

or drowned themselves. I was at the time, and still am, a doorkeeper of the Examination Hall. I spent the greater part of the next day or two between the walls of my roofless house, warming myself—for it was cold and wet—by burning the beams and rafters, and overcome with great fear. Soon, however, mat sheds were put up outside the city, in which we took refuge. During the four or five days which followed the calamity the ground continued to heave at intervals, so that water jumped out of the water-butts. At every fresh shock the folk ran out of the sheds, fearing to be crushed by their fall, but very foolishly and unreasonably, since the light pole-work and matting could not have hurt any one, and they did not hesitate to sleep under them. The fact is that everybody was giddy and trembling and scared. Many of the dead were buried by their families, but most were laid together in a great pit outside the wall, where I think I helped to bury 300,000 or 400,000 corpses."

In spite of his absurd notion of number, the old man's story is terrible enough. He added that the houses were soon rebuilt, as well as part of the city wall which had been overturned. The place is neither large nor populous, and, lying some distance from the high road, has very little commercial importance. The interior is fairly clean and neat, owing, no doubt, to its having been so recently rebuilt, but the suburb is thin and mean. The circuit of the walls—about three miles, the regulation ten *li* and three *fên*—encloses a good deal of open space.

Goitre is extremely prevalent in this part of the valley, especially among the women. We saw very few cases before reaching this point.

The weather having been unfavourable for sextant work, I took advantage of a change for the better, and of unusually convenient quarters in the Examination buildings, to halt for a day or two. But there was a more special reason for prolonging my stay. A couple of months before our visit a French missionary, the only European besides myself who has ever entered the city, was driven away by the staves and stones of a mob instigated by the Commandant. My arrival, directly protected as I was by a new and determined Governor-General who had already shown his subordinates that the law, which in China means the Governor's fiat, possessed a strong if not a violent arm, was calculated to put the gallant Commandant in a desperately false position. Having publicly given out that he would never allow a foreigner to pass the city gates, and having incited his myrmidons to lapidate the lonely missionary, he found to his horror another foreigner dawn upon the scene, whom, at the risk of his head, he was compelled to protect with an escort of probably the very satellites by whom the previous persecution had been organised. I therefore considered that I should be doing all parties a service by remaining a few days until the thorns on which the anti-foreign warrior was sitting had effected sufficient penetration.

An amusing detail of the situation was that the Commandant

imagined me to be a Roman Catholic bishop. An officer whom he had been directed to appoint as my conductor to the Gold River inquired in all simplicity and sincerity how many times a week I celebrated mass. It must not for a moment be supposed that the natives of Western China draw any distinction between one foreign nation and another; so far from that, they are apt to include Japanese and Nipalese, and even Manchus and Mongols, in the same category with Europeans. One very soon discovers that any discrimination of so minute a character is far beyond the range of native intellect. I was therefore obliged to accept the position of a foreigner in general, without distinction of race or religion, nationality, language, or business. The authorities believed that my errand was to verify the publicity of the Margary proclamation, and accordingly it was generally posted in some situation conspicuous to our view whenever we entered a city. I took every occasion to explain that such was only a part, though a very important part, of my duty. "I wished also to see how officials and people were disposed towards foreigners. I hoped that the civility which I had received would not prove exceptional. I had been sent to the province to inquire about its commerce, its routes, its produce, and its geography generally." It is needless to say that nobody believed me; but as I freely showed visitors everything I possessed, and betrayed what seemed to them a frivolous interest in very unimportant matters, they satisfied themselves that on the whole I was more eccentric than dangerous. Little obstruction, therefore, was placed in my way so far as regards mere travelling, and those officials whose consciences pricked them for previous sins against foreigners seized the occasion to afford me a too ostentatious protection.

It must be admitted that the Commandant took the most delicate care of me; and thereby of himself. I traversed all the principal streets three times escorted by his retainers, and every here and there emissaries might be seen among the multitude maintaining not only order but silence. The natives were evidently well inclined towards me, but were afraid to answer questions. On the third day the Commandant invited me to visit the lake, informing me that he had prepared a temple for my reception. A journey of an hour and a half brought us to a handsome building a few hundred yards up the slope of a hill, overlooking from numerous balconies a lovely scene of woods and water. Nowhere had we seen a temple maintained in such complete repair, order, and cleanliness, and, unable to explain the mystery, we went to examine the shrine in which the idols are installed. There we discovered that we were in the *Commandant's own temple*, not that it belonged to or had been built by him, but in the sense that Jupiter's temple is the temple of Jupiter. It had been erected to him by a public grateful for his successful exertions against the horde of Shih Ta-k'ai. Incense was urning before the Commandant's image, a slavish likeness, with half-

closed eyes, goitrous neck, and long finger nails as black as life. It is, therefore, no hyperbole to call him the idol of his people; but it is very doubtful if the provincial authorities would be satisfied with the presumption of so insignificant a personage as a commandant in allowing himself to be promoted to heaven before his time. The rogue had evidently invited me to behold his deification.

The lake is about eight miles long by two and a half broad, bordered by thick groves, and commanded by gently sloping hills from 1500 feet to 2000 feet above it. The groves are for the most part orchards. Russet pears of unusual size, fine pomegranates, peaches, plums, and delicious oranges shaped like pears with a lemon-like rind, may be had for little more than the asking. The lake is reputed bottomless, like most Chinese lakes; nevertheless, the buildings of the drowned city are said to be visible in calm seasons, and from its submerged ruins chairs, tables, and bedsteads float frequently to the surface!

Crossing the low hills south-west of the lake, we soon regain the main valley. Somewhere before this point a sandstone region begins, through which the Anning river runs in a very sandy bed, spreading its waters, now tinged with red, round many an island and shingle-bank. Though replenished by numberless rivulets, its volume is not greatly enlarged, the increased supply being carried away with a proportionally greater velocity. The vale narrows considerably at the village of Huang-lien-p'u, an advantageous post, in which a customs and Likin collectorate is installed. The officer who had been deputed to escort us hurried past this place, leaving a note to warn us against halting there, on account of the insecurity of the neighbourhood. Whether in consequence, or in spite, of his advice we put up in the most available inn, surrounded by a wall 25 feet high, with a narrow approach secured by double gates of thick pine-slabs, and inside these a strong barricade. I was lodged upstairs in a chamber, the floor of which was encumbered with heaps of rounded stones ranging between the size of apples and turnips, the use of which I failed to divine; but inquiry showed that they were laid up in preparation for a Lolo attack. During the evening a customs officer came in and related how, a fortnight previously, a band of from twenty to thirty Lolos had entered the village soon after midnight, armed with sticks and stones, had burst in the gate of the Custom-house, possessed themselves of 700 taels (about 200*l.*), the produce of the local dues, and, not content with this booty, had invited the officers and underlings, some fifteen in all, to strip and hand over their clothes. Packing up clothes and silver, the marauders proceeded to confiscate the copper cooking-pans of the establishment, and then withdrew. Now this village contains some 150 able-bodied males, and I naturally remarked that it was a shameful thing that they could not protect their property against thirty Lolos armed only with sticks and stones. My visitor, not in the least appreciating the

bearing of the criticism, replied, "Certainly it is very shameful, but how can you expect Lolos, mere savages, to have any sense of shame?" What is still more disgraceful, the robbers were subject Lolos, and not the autonomous Black-bones. "Had they been Black-bones," the visitor explained, "they would not only have plundered us, but they would have carried us off into slavery as well." I afterwards asked the innkeeper what the people do on the occasion of an incursion. "Climb on to the housetops and wait till the Lolos are gone," was his answer. "Then, what is the purpose of the stones which are piled in my bedroom?" "Oh, they are not of much use; the Lolos throw stones much straighter and harder than we can, and practise every day."

The vicinity of Huang-lien-p'u is much infested by wolves, and we were recommended not to venture far from the barricade after nightfall. What with wild beasts and wild men, a less harried existence might be preferable to that of the local commissioner of customs. Ma-li-chai is a larger hamlet, where we found comfortable lodging in a temple at the north end, and received a deputation of village syndics, who were curious to know where Manchester goods came from. Foreign shirtings are only used for the coat-sleeves of women; the fabric is considered very weak, but the price, three taels per piece, does not seem excessive. They had heard of steamers, but were not sure if such conveyances were adapted for dry land. When I inquired what local productions they were prepared to sell to foreign merchants, they replied "opium and pickled mushrooms," and being advised that the demand for such staples would not be lively, they said they were sorry for it but had nothing else. After a desultory conversation they presented a basket of choice potatoes, specimens of native agriculture, and took leave.

Eight or nine miles further on, the high road and the river suddenly turn to the south-east at a point where a valley runs down from a clearly discernible gap about ten miles away in the south-west. Tê-ch'ang, a busy and flourishing village, the centre of the wax-insect traffic, lies at the junction of the valleys, and communicates with the city of Yen-yuan, three days' journey by a road which crosses the gap. The route is considered easy; a ferry somewhere near midway passes a large river, said to be five times as broad as the Anning, i.e. about 200 yards, clearly the Yalung. Yen-yuan, we were told, is a very small city, closely surrounded by hills in which a good deal of copper and some silver is worked. The name of the place means "salt-springs," of which there are five or six, furnishing the consumption of the city itself and of Chien-ch'ang generally. Less than half the inhabitants of the Yen-yuan district are Chinese, the remainder being principally Moso tribes. A journey thither would probably be worth making if for no other purpose than to visit these tribes, who seem to differ from, and in some respects to be superior to, the Sifans. The Chinese consider them very respectable, neighbourly people, and tell me that many of them are

more than half the women carry the unsightly appendage, and we met children about ten years old with very promising dewlaps. Western China should be a favourable field for the study of goitre, since the nature of the country and the habits of the different peoples are so various. The floor of the valleys which we have traversed from Ning-yuan is mostly sandstone, but the ridges, on the east at any rate, are limestone, and the brooks have run a long way through that rock. It should be remembered, however, that the Chinese, as a rule, never drink pure water but always boil it and infuse tea or some substitute. The prevalence of goitre does not seem at all to depend upon the absolute elevation of country. The Ning-yuan valley is about 5000 feet above sea, and the affection prevails in the lowest parts. On the road between Tung-ch'uan and Yünnan Fu, it is most common at T'ang-tzŭ, a village 10 miles south of Hsün-tien-chou, through which runs a hot chalybeate stream at 6500 feet above sea. There the natives attribute it to the local drinking water, and say that they have tried the hot spring as a cure, but without success. In the much more elevated valleys round Mount Do-ker-la, a famous resort of pilgrims near the Yünnan and Tibetan frontier, the natives assert that only those are affected who drink water derived from the melting snows, the inhabitants of villages which are watered by sources below the snow-line being safe from the swelling, as likewise are such well-to-do persons as never drink cold water. In the district of Yu-yang in Eastern Ssŭ-ch'uan, a limestone country, goitre is unknown. It is observable that it is not prevalent in the topmost regions of a country, that is to say on mountains or near the "divides" of plateaus, but occurs in valleys or hollows, though whether the situation be a confined ravine or a slightly depressed and open amphitheatre is indifferent. That the air may stagnate in ravines and so affect the respiratory apparatus is an hypothesis which cannot be accepted in Chien-ch'ang, where I have seen people blown prostrate by the wind.

The apparently conflicting opinions and statements of Chinese on this subject would seem reconcilable if it be assumed that the drinking water of goitrous villages has not merely run through limestone, but has run for a considerable distance through that rock before acquiring its noxious quality. My observation also points to this simple solution of a much debated difficulty.

After quitting Chien-ch'ang we found the villages much more populous than in that overrated prefecture. Kung-mu-ying is large, but Mo-so-ying is 600 yards long, and prosperous withal, containing several spacious and handsome temples, among which that of the Kueichou Guild is the most notable. Kueichou traders are drawn to this remote village by the manufacture of a stout paper, called leather-paper, made from the bark of the Kou (?) tree,* and used for packing the wax-eggs.

* I have since learned that the "Kou" tree is a kind of mulberry, and that "leather-paper" should be "*bark*-paper."

On the 3rd and 4th of September we wound through a very narrow and tortuous valley full of the murmur of rivulets which plunge into the Anning from the mountain recesses between slopes thickly clothed with plantations of the wax-tree. At the village of Chin-ch'üan Bridge, a strong torrent runs in from a parallel valley on the east, under a stone arch which is the southern boundary of Chien-ch'ang. Crossing its stream we entered the district of Hui-li-chou.

For all commercial purposes Chien-ch'ang may be regarded as a mere road from Yünnan to Northern Ssŭ-ch'uan. Its exports are unimportant, consisting chiefly of the wax-insect and of copper, which, however, comes mostly from Yen-yuan. Indeed, the greater part of the insect export also comes from Yen-yuan or the Hui-li-chou region.

At Kung-mu-ying, a very large village, we take leave of the Anning river, which, strongly reinforced by the Chin-ch'üan torrent, slackens its pace and runs south-west down a narrow glen to join the Yalung. A temple built on a small plateau a short distance south of the village of T'ien-sha-kuan affords a commanding view of three mountain avenues, the further course of the Anning, the road by which we have come, and the morrow's track—three vistas, each little less than 20 miles long. The temple gate is a favourite rendezvous of the villagers, and our arrival attracted a knot of gossips who, finding me curious about the prevalence of goitre, collected for my inspection a number of old women dewlapped like camels. They attribute the excrescence to the qualities of the Yen-yuan salt. The salt of Tzŭ-liu-ching, by their account, has no such effect. They are well aware that seaweed, certain kinds of which enter largely into Chinese cookery, is a specific for the swelling; but they do not seem to trouble themselves much about it, declaring that it does no constitutional harm. It is no exaggeration to say that in some villages

Mongol, Indian, or what not, and finding them persistently rejected, abruptly asks the beggar what mountain peak he would prefer as a model for his head-gear. Peak after peak is cited and described, but the beggar is inexorable until Mount *Tisi* is mentioned, which is presumed to be the highest mountain in the world, and the most regularly moulded. Tisi is said to be in Ngari. Then comes the question of material. All the looms of the known world are set at work to furnish silk and cloth, all the steppes of Asia are explored for felt. But the beggar, who, by the way, is no earthly mendicant, but a spirit, will have none of them. Nothing will please him but the sward of a pasture for stuff, the foam of a steep river for tinsel, and a green sunlit forest for a jewel on his frontlet. Therefore the tailor, who I have forgotten to remark is also a spirit, enumerates one by one famous rivers, forests, and pastures, and at length suits his customer with I know not what paragons of Himalayan beauty.

Some day, perhaps, when the powers that be allow us to enter Tibet, the sources of the Irawadi may be discovered in the crown of that beggar's hat. There is little hope of discovering anything, whether fable or fact, under present conditions, unless it be from the like of the excellent Abbé Desgodins, who permits me to support the latter part of this note with his authority.

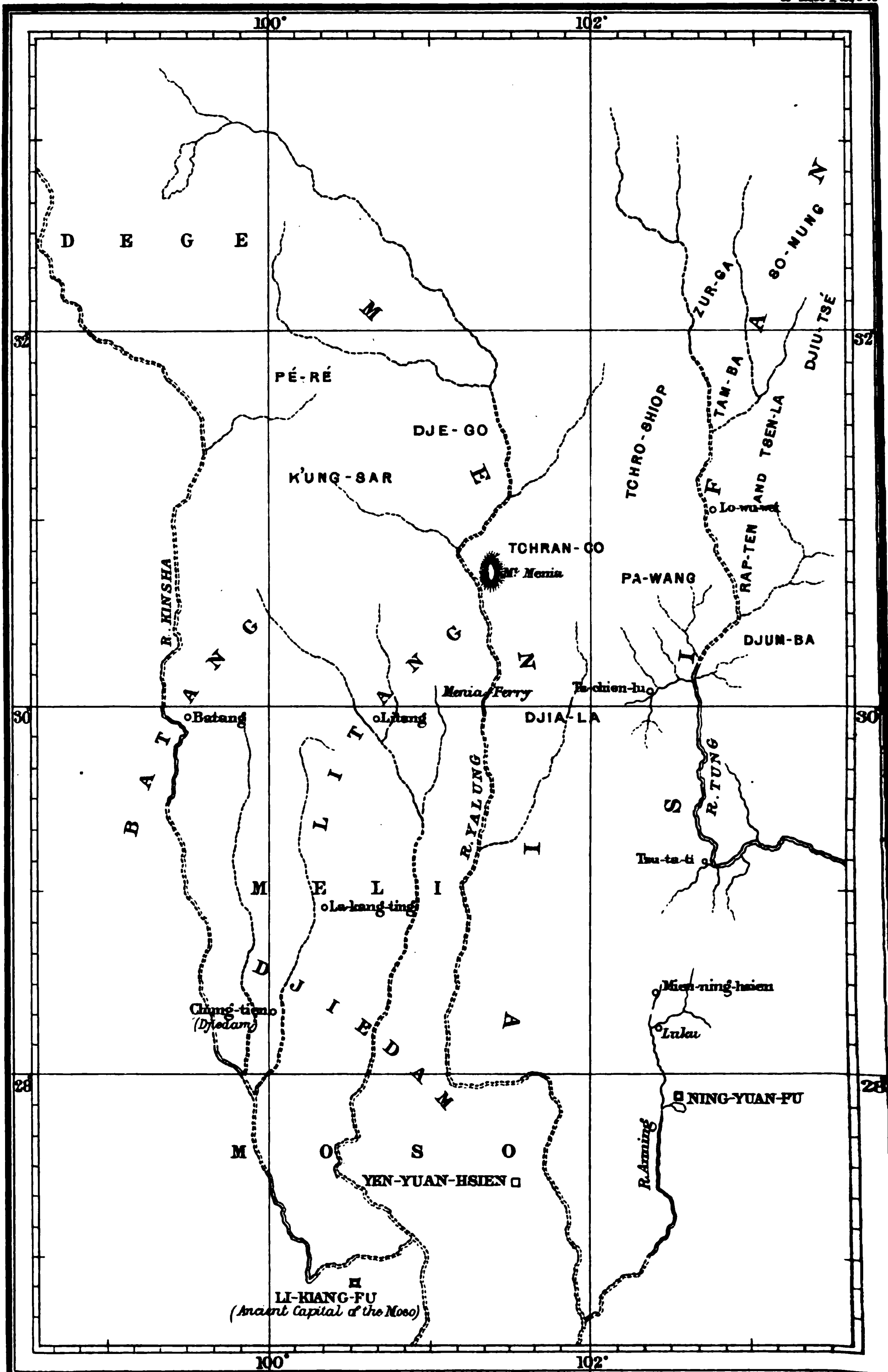
(*Tisi* is the same as *Kailasa*, the Hindu Olympus, lying directly north of Lake Manasarovara. See Captain H. Strachey, in 'Journal R. G. S.,' vol. xxiii. pp. 25 and 48. The sources of the Irawadi will never be found under *that* beggar's hat, I venture to say!—[H. Y.])

We left the flourishing village of Pai-kuo-wan on the 7th, and marched over a low but rough limestone pass to I-mên, a small hamlet lying on the bank of a stream which runs into the Huang-sha valley, and there joins, according to native account, the small river which issues under the Chin-ch'üan bridge. We could see, through a gap, a high steep range, the eastern wall of the Huang-sha valley, which I was told is a long, narrow glen, opening here and there into flats, and partly cultivated; rice does not flourish in it, the streams being reputed too cold for irrigation. Besides copper, it produces coal, a good deal of which was being brought to market in the form of coke. It is ill-famed for wolves and other wild beasts which infest it. While we were breakfasting in I-mên a native came in and reported that on the previous evening a panther had chased a dog into a hut where two women and two children were sitting round the fire. All four were badly torn about the face, and the women were not expected to recover.

Crossing a second low pass, we soon entered a flat-floored rice-grown valley between low level-topped hills, which led us into Hui-li-chou, a large city, with a still larger walled suburb, the houses roughly and poorly built, evidently a centre of trade rather than of residence. The population is perhaps about 30,000. The welfare of the place depends entirely upon the traffic which passes through it, and upon the mines. All neighbouring districts removed from the highway, or unconcerned with the mining industry, are miserably and incredibly poor. Its commerce consists of opium, cotton-cloth, raw cotton, raw copper, worked copper, i. e. copper which has been cast into a semblance of pot or pannikin, so as to evade the government monopoly, zinc, and a variety of articles included under the name of hill goods, such as furs, bones of wild beasts, deer horns, musk, and medicinal herbs and roots. Having alluded to the opium and cotton trade in various reports, I need not here enlarge upon it. Metals are the only local produce, and among these is the famous white copper, an alloy which resembles German silver. It is used by the Chinese in the manufacture of various utensils, chiefly perhaps teapots and waterpipes, and is supposed by them to be an original metal. Analysts have found in different specimens different proportions of copper, nickel, antimony, zinc, lead, iron, tin, arsenic, and silver, but the discrepancy is easily accounted for, since, as Baron von Richthofen has remarked, the original material, produced exclusively near Hui-li-chou, is remelted and alloyed for the trade to suit different tastes or purposes. It has also been erroneously supposed that the composition is the produce of a single unidentified mineral. As I learned from the miners, however, white copper is obtained by the combination of two ores, viz. red copper ore and old copper ore. The red copper ore is copper pyrites, but what the old copper ore may be is not so easily declared. It very much resembles the former, and is of about the same hardness, but a little darker in colour. Its specific gravity is 4·5,

Map illustrating the distribution of the Sifan Tribes

to face Page 98



H. Sharbau R.G.S. del.

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and it strongly affects the needle of a compass. Father Vincot, the accomplished Procureur of the Roman Catholic Mission at Ch'ung-ch'ing, having kindly tested my specimens with the best means at his disposal, calls it nickeliferous sulphuret of iron, but his analysis leaves a residue which he has not succeeded in identifying. The miners told me that a mixture of a small proportion of this ore with copper pyrites yields what is locally known as old copper; a larger proportion gives the alloy called white copper.

Hui-li-chou, according to my result, is 6000 feet above sea-level, an approximation which agrees fairly well with Garnier's calculation of 1900 metres, or 6234 feet.* During our journey down Chien-ch'ang we were favoured with bright weather in the daytime, but soon after sunset the sky generally became obscured. The wind was southerly, and often blew great guns. The thermometer showed at 7 A.M., from the 27th of August to the 5th of September, a mean of 67°, from which it would seem that the climate is three or four degrees warmer than might have been expected.

Note on the Sifan Tribes.—Since the national names of the Sifan, cited above, are trustworthy, and several of them are recognisable on the Chinese map, it seems well to make the most of them as a clue to the involved question of the ethnology of the region. Menia, or Miniak, an unobjectionable designation, includes Ta-chien-lu and the last five. For the rest, Nos. 2 to 13, I would suggest that the name Sifan, which has no very depreciatory meaning, and is occasionally used, should be adopted, and should be confined to them. The lost aborigines who sculptured the caves on the Min river and other tributaries of the Yangtzŭ, and who have not yet been satisfactorily identified with any existing people, may conveniently be called Mantzŭ. The Lolo limits are shown on my chart, and the term Miao-tzŭ, not much employed in Ssŭ-ch'uan, may be relegated as a monopoly to the aborigines of Kueichou. Unless some such arrangement of nomenclature be agreed upon in speaking of these various races, the confusion which has already arisen will become inextricable.

Now let us open the Chinese (native) map, and do our best to identify the position of the twelve Sifan tribes.

Djum-ba is known to be Mu-p'ing.

Djia-k'a means "near the Chinese," but is not discoverable, any more than

Wo-je, otherwise *Go-je*.

* *Addendum.* In his introduction, p. 88, to Captain Gill's 'River of Golden Sand,' Colonel Yule gives 5900 feet as the altitude of Hui-li.

(I regret to find that, owing apparently to my having used a wrong figure in converting the metres of Garnier into feet, all the heights in the note which Mr. Baber refers to are erroneous. They should run: Ta-li-fu, 6955 feet; Yunnan-fu, 6397; Tung-chuan, 7152; Hui-li, 6234.—[H. Y.])

Rap-ten (which includes *Tsen-la*) will be discussed further on.

Tam-ba, meaning "sacred," is obviously T'ang-pa.

So-mung, Captain Gill's Su-mu, lies near Sung-pan T'ing according to my informant, and appears on the native map as "So-mo."

Djiu-tse, or *Djiu-tzŭ*, appears as *Chiu-tzŭ*, immediately south-east of the preceding.

Zur-ga is most likely the Chinese Sung-kang, and Captain Gill's Ru-kan.

Tchro-shiop is undoubtedly Ch'o-ssŭ-chia-pu.

Pa-wang is *Pa-wang;* and

Tchra-tin and

Ge-shie defy conjecture.

The annexed sketch-map, which is chiefly a tracing of the native map (with the above names substituted) shows that the tribes in question inhabit the valley of the Chin-ch'uan, "Gold Stream," a waterway which, for some obscure reason, western geographers have conspired to curtail, although it is the upper course of the T'ung, and in lat. 30° is nearly as broad, and apparently as deep, as the Salwen in lat. 25°. Historians have done it more justice than map-makers. A reference to De Mailla will show how the Emperor Kienlung, "seconding the intentions of Heaven," formed the project of exterminating the natives of its wild gorges, and gave the command of his armies to Akuei. How Akuei soon subjugated the "Little Gold-stream" country; with what difficulty he captured *Lo-wu-wei*, the capital of the "Great Gold-stream," and how the King Sonom fled to Karai; how Akuei *sent the Emperor a map of the country*, and how King Sonom gave himself up, was carried to Peking, and after a grand court ceremony was sliced in pieces; after which the emperor repaired in state to congratulate the empress dowager, attributing all the glory of his success to her virtues, and promoted all the mandarins of the empire, both civil and military.

Furthermore, we are told that "the subjugation of the Eleuts, and the spontaneous allegiance of the Turgouts, form remarkable epochs which do the greatest honour to the firmness, wisdom, and power of Kienlung's rule; but the reduction of the Gold-stream tribes crowns the eulogy of a monarch whom, on account of that single expedition, posterity will not fail to elevate above his predecessors." All this pompous cant about the conquest of a few miserable gorges which geographers disdain to recognise.

The conquest seems to have been completed early in 1775, and doubtless made great stir in Tibet. The news reached the court of the Teshu Lama in March of that year, at which period it happened that a certain Warren Hastings, who took some interest in Tibetan ethnology, had sent Mr. George Bogle on a mission to Teshu-lumbu. Mr. Bogle writes:—"The Lama informed me that news was received

at Lhassa of the Chinese having at length, by means of an immense army, subdued *Ribdyen Gyripo*, the rebellious chief who, with a few thousand brave adherents, had defended himself and his hill-bound country against the united power of the Chinese empire."

Mr. Clements Markham, from whose invaluable work on Tibet I extract Bogle's statement, does not explain the meaning of the words "Ribdyen Gyripo," but the clue we now possess leads obviously to its elucidation. The words are equivalent to *Rapten Djiepo* (or Gyalpo), and mean "King of Rapten"; and since *Lo-wu-wei*, indicated on the Chinese map, was the capital, there is no difficulty in roughly placing the country.

The recognition of the above synonyms will be satisfactory enough to persons familiar with the irregularities which occur in the transmutation of Tibetan names into Chinese. The Menia tribes are disguised as follows:—

K'ungsar	appears as	Hor-k'ung-sa.
Pere	"	Hor-pe-li.
Tchrango	"	Hor-chang-ku.
Djego	"	Hor-cho-k'o.
Maze is unidentifiable.		

These are placed in the valley of the Upper Yalung, north-west of Ta-chien-lu and south-east of the rich country of *De-ge*, or *Der-ge*. Tibetans denote them by the general name of *Hoser k'aga*, which means "Five Hoser tribes," and call their country *Hor* or *Horko*. Hor and the Ta-chien-lu district constitute Menia.*

(*Nota*.—It is, however, quite possible that some other insignificant tribes as yet undiscovered should be included.)

Dull and dry as these notes may be, they cannot fail to be suggestive and useful to future explorers, and I need offer no excuse for adducing a proof or two that the Menia region extends eastward of the Yalung. The crossing of that river on the route to Lit'ang is called by Captain Gill, correctly enough, "Nia Chu-ka"; but the full name is "Menia Chu-ka," meaning *Menia Ferry*, i. e. the crossing from Tibet into Menia. Captain Gill has probably taken note of the curious octagonal stone towers which are passed on the way from Ta-chien-lu to the Yalung, and are not encountered further west.† These ancient buildings were described to me as consisting of two stories, the lower of which is in plan an octagonal star, and the upper a square chamber. The octagonal (i. e. eight-pointed) part is solid to a height of some 12 feet, above which very narrow loopholes are pierced in the angles (not

* This word "Hor" must not be inconsiderately confounded with the Hor which denotes the Turk races of Northern Tibet. The latter is pronounced as in the English word "hurry," the former as in "horrid." At the same time it is quite open to theorists to make as much as they fairly can of so seductive a consonance.

† See 'River of Golden Sand,' ii. 136.—[H. Y.]

the points) of the star. Flat slabs laid on the summit of the octagon support the upper chamber, which has no door, windows, or loopholes. What the use of these buildings may have been is unknown, but the presumption is that they were watch towers; for the present purpose it is enough to know that they are universally said to have been erected by the Menia, and that there is nothing resembling them west of the Yalung on the main road.

Again, the Chinese map indicates a peak, or a range, east of the Yalung and north-west of Ta-chien-lu, under the name of "Mount Meniak" (Min-ni-ya-k'o), or the "Menia mountains."

Menia must be carefully distinguished from *Meli*, a country of which almost nothing is known, lying south of Lit'ang and west of the Yalung. I can only learn that the language of its inhabitants is unintelligible to Tibetans. The Chinese call it the "land of the Yellow Lamas." The *Mili* of D'Anville's map is probably its chief monastery; *Lar-kin-tin* of the same geographer is situated, according to the Chinese map, in Meli territory, and is styled "the monastery of *La-kang-ting*." South, again, of Meli lies *Chung-tien*, also a Tibetan country, which D'Anville has indicated under its Tibetan name of Tchia-tam (*Djie-dam*). Chung-tien is in the jurisdiction of Yünnan, and without digressing much further I will only remark that *Li-kiang Fu* is the ancient capital of the *Moso*, who are called *Djiung* by the Tibetans and *Nashi* by themselves, and that still further south we come to the *Min-chia* (a Chinese term) aborigines, who form a very strong minority of the inhabitants of Tali Fu and the surrounding districts. The sketch-map, which cannot be grossly erroneous, shows the position of most of these tribes. The blackened river-reaches indicate the parts which have been visited by Captain Gill or myself.

To return to Menia and to Dege. A native of the latter country informed me that his fatherland is north of Lit'ang between the Yalung and the Kinsha, and is bounded northwards by the Mongols of Koko-nor. He affirmed, perhaps with patriotic exaggeration, that it is the richest and most populous of all Tibetan kingdoms, consisting largely of cultivated land which yields one crop yearly. From the latter statement we may conclude that its mean elevation is 10,000 or 11,000 feet; the lowest valleys of these regions produce two harvests, while high plateaus like Lit'ang grow nothing at all. On being asked if it is more populous than Lit'ang, for instance, my informant replied that since it supports more farmers than shepherds it is of course more populous. Large villages of thirty or forty families lie somewhat closely over the whole of its extent, and it contains many lamaserais of 200 or 300 monks, some indeed of 2000 or 3000. Forests are rare, informant explaining that the land undulates, but does not break into ravines and ridges; consequently, he argues, there can be no forests of any extent. There are no destitute families. No family is so poor as not to own a

horse, and he considers the horses of his country to be the best in the world. Many of the farmers possess 4000 ounces of silver, but a grazier who owns 2000 yaks is considered wealthy. Each family devotes a son to the priesthood, and the monks are consequently very numerous. The king resides in a lamaserai of 300 monks. The natives are affluent, because their country is independent of Lhassa, and distant from any main route.

In Tibetan countries the distinction between lowlands and highlands —ploughland and pasture—is very strongly marked; wheat is as great a luxury in the latter as beef and mutton in the former, and many other antitheses might be cited, the most remarkable of which is that polygamy obtains in valleys, while polyandry prevails in the uplands. In the valley-farms, I am told, the work is light and suitable for women; but the rough life and hard fare of a shepherd on pastures 13,000 feet or more above sea-level is too severe for the sex. This explanation has been given me by a European of great experience and long residence in these countries, whose personal conviction, though adverse to marriage in his own case, is strictly monogamous; nevertheless, he feels compelled to admit that the two systems, working side by side, mutually compensate the evils of each, and that both are reasonable under the circumstances, and probably requisite. The subject raises many curious and by no means frivolous questions, but I cannot help thinking it singular that the conduct of courtship and matrimony should be regulated by the barometrical pressure.

De-ge, however, is chiefly a country of husbandmen (a word not devoid of appropriateness in this connection). Four thousand ounces of silver is a great sum in Eastern Tibet, whereas 2000 yaks would be considered rather a mean drove by the nomad graziers of Lit'ang. My informant's remark that De-ge is well-to-do because it is distant from any great highway, although it seems to contradict the first principles of political economy, is most undoubtedly logical. The imposts levied upon the subjects of Tibetan rulers are of two kinds—a land tax, which is very light, and a forced contribution for the travelling expenses of officials, which is a most burdensome exaction. Officials, Chinese or Tibetan, travel free of expense, the people of the district through which they pass being compelled to furnish pack-animals and drivers, and to supply all the wants of the magnate and his retinue. When it is remembered that the officials travel with long cavalcades of merchandise, and that the population is about the scantiest in Asia, the severity of such a corvée will be understood. But the evil pierces deeper than this. The contribution of toil, or of kind, is commuted for a money payment much above its value, which the *Debas* (a Tibetan name for Tibetan officials) instruct their subordinates to collect. The subordinates increase the demand, with the view of appropriating the surplus, and send out their emissaries, each of whom again makes a further addition to the levy, so that the sum-

total ultimately amounts to four or five times the expenses of the traveller. This is the great hardship of the farmer, and almost the only source of the private revenue enjoyed by native officials. It must not, however, be supposed that all districts apart from highways are free from the exaction. It is collected generally all over any Tibetan country, through any part of which a main road passes. But De-ge, it seems, is too far away to be affected.

Although Degeans are disinclined to accept the statement, it is pretty certain that their nation has lately acknowledged its feudal submission —"tied its head" (*Gota*), is the local expression—to Lhassa. A supposition seems to prevail among Europeans that the region which geographers have included under the general name of Tibet is an integral state, subdivided for administrative purposes into separate provinces. Although the assumption is quite erroneous, some palliation of it may be found in the general use by Tibetans of the term "*peu*," pronounced as in French (not, with due deference to Mr. George Bogle, like the French "*pu*"), which is written "Bod," and is doubtless the origin of the final syllable of our word "Tibet." A Tibetan arriving in Ta-chien-lu from Lhassa, on being asked from what country he has come, will often reply, "From *Teu Peu*," meaning from "High" or "Upper Tibet." Perhaps "Teu Peu" is the source of our Tibet, and if so it is equally correct to write "Tibet" or "Thibet," since the word Teu is pronounced indifferently with or without an aspirate. A native employs the expression "*Peu Lombo*" ("Tibet country") to designate *en bloc* all the Tibetan-speaking nationalities, without intending to convey the least insinuation that they are subject to Lhassa. The state of which that city is the capital is called "*Lha-sa De*" ("territory of Lhassa"), or "*Deba Jung*" ("land of the Debas," but the etymology of "Jung" is said to be uncertain), and is merely one, although admittedly the most prominent, of a large number of states governed by kings very little disposed to imagine themselves subordinate to the king, or regent, of Lhassa. King Alfonso of Spain may recognise the dignity, and venerate the sanctity, of the Dalai Lama of Rome, but it by no means follows that he acknowledges himself a tributary of Humbert the First. Nevertheless, it is curious to find that the Government of Lhassa levies war, with the direct and avowed purpose of conquest, upon other states without any material opposition, and indeed almost without any notice, on the part of the Chinese Government. An illustration of this condition of internal relations may be found in the story of *Pun-ro-pa*, which was recounted to me as follows:—

In the year 1863 a war broke out between some of the Menia tribes and De-ge, excited, it is said, by the lamas of the latter kingdom. After a vain appeal for assistance to the Chinese Government, the king of Dege "tied his head" to Lhassa-de, whereupon the regent of that country despatched an army to his aid under Pun-ro-pa, a military officer of the

third rank, who succeeded, after some reverses, in routing the Menia and annexing their territory, including even a part of Djia-la, to Lhassa-de. The conquest was consummated in 1866, and Pun-ro-pa was appointed viceroy—a new title for the occasion—of the newly-acquired dominion. He held sole command during the ten following years, living with barbaric state on the steppes in a magnificent tent, on wheels, hung with the skins of Indian tigers, and drawn by the finest horses, or, on grand occasions, by stags. A numerous band of retainers bearing jewelled arms and clothed in rich uniforms trimmed with otter-skins, attended him on his progresses; but a good deal of his time was spent in a residence which he built at Lit'ang.

The villages in the valleys—there are, of course, no villages on the pasture-lands—having been destroyed during the war, Pun-ro-pa set about rebuilding them, and made some attempt to re-establish an administration; but as soon as a certain order was restored, he began to enrich himself at the expense of the submissive public, and speedily caused a revolt. The outbreak was repressed, but he did not succeed in preventing the complaints of the overtaxed Menia from reaching the ears of the regent and ministers of Lhassa-de. Peremptory orders were sent him to relax the excessive impost—a land-tax—which he had instituted, and he was compelled to devise other methods of feathering his nest. The original invention by which he attained his purpose is another proof that a conqueror is not always a judicious administrator. His scheme was based upon an ingenious system of court-fees and convict-labour. All causes were in the first instance submitted to him, but before the pleadings could be heard both litigants were obliged to wash gold for one year in the sands of the Lit'ang river, the proceeds being paid into court, i. e., into the pocket of Pun-ro-pa. Judgments were, as a rule, summary, and the unjustified were returned to the diggings to work out a second term of gold-washing for the benefit of the Bench.

Pun-ro-pa thus became the most prominent personage of his day, and if he could have withdrawn his family from Lhassa no one doubts that he would have declared himself independent. He now entered upon a new career as a diplomatist, having been instructed by his Government to intrigue for the annexation of Lit'ang and Bat'ang. The recovery of the rich pasture steppes of the former state has always been a purpose of the Lhassa regents. During his frequent visits to Lit'ang, Pun-ro-pa had become intimate with the Chief Deba and his brother-in-law the Second Deba; the desirable friendship of the distinguished and opulent viceroy was eagerly sought and freely accorded, and one day Pun-ro-pa's young daughter was brought down from Lhassa in a splendid wheel-tent and married to the Chief Deba. The wedding preliminaries included a contract by which the Debas "tied their heads" to Lhassa, without, however, promising to aid openly in the annexation of their territory.

When the French missionaries were expelled from Bonga, Pun-ro-pa

was deputed to investigate the outrage. The cause of Christianity, as may be imagined, did not derive any very great advantage from his action, but he took the opportunity to gain over the Debas of Bat'ang to the side of Lhassa with the argument: "Lit'ang is already ours, and will soon declare itself; if you do not speedily consent, you will be enclosed in Lhassa-de by the annexation of Lit'ang, and it may then be too late." It is known that the Debas assented and signed a convention of the desired purport, but both of them perished in the earthquakes of 1870, and the natives opine that the document was destroyed in a fire which broke out after one of those memorable shocks.

It will naturally be asked, what steps were the Chinese officials resident in these countries taking to repress such intrigues and invasions? It must be replied that the *Chantui* (Menia) tribes, against whom the acquisitiveness of Lhassa was more overtly directed, have never completely submitted to China. Moreover, at the period of Pun-ro-pa's career of conquest, Ssŭ-ch'uan was administered by the Governor-General Lo Ping-ch'ang, whose policy was averse to the expensive maintenance of the imperial establishment in Tibetan countries, yielding no advantage to China, already embarrassed and impoverished by the Taiping rebellion. Nor is it the general policy of Chinese officials to interfere in Tibetan disorders. "These are the quarrels of dogs; why should we shed Chinese blood in favour of this or the other brute?" is their ordinary phrase.

The Chinese Commissary of Lit'ang did, however, take alarm at the situation, and by way of making the Debas declare themselves, ordered them to shave their heads and wear the Chinese dress; but he only succeeded in persuading them to do homage on New-year's day in Chinese dress, but without the Chinese coiffure.

The schemes and seductions of Pun-ro-pa were ultimately defeated by the jealously which his success and his pretention had excited at Lhassa. The four Ka-lun (Ministers) of the regent grew alarmed at the progress of his power, and succeeded in causing him to be recalled. For several years he managed to evade the order, until, in 1877, satisfied that he could now aspire to the position of a Ka-lun, or to some new authority which, like his title of viceroy, might be specially created for him, he deigned to return. His eminent services gained him great consideration at first, but his ambition made him so unbearable that he died suddenly in December 1877, in Lhassa. His son died suddenly in the same month and in the same city; and in the same month his daughter, the wife of the Deba, died at Lit'ang. His remaining blood-relations disappeared about the same time, and the family is now extinct.

The moral of Pun-ro-pa's ambition and fall is sufficiently evident, and the King of Djia-la, a confirmed enemy of Lhassa-de, has saved me the trouble of pointing it. A missionary happened to be present when

the news of Pun-ro-pa's death was brought to the king. His Majesty remarked, with a tone of regret, "I wonder what has become of all that gold."

Mr. T. T. Cooper, who passed through Lit'ang in 1868, the year in which Pun-ro-pa went to Bat'ang, does not make mention of the famous Tibetan general; but his account of the Chantui—a name which he writes Zandi—evidently alludes to the war which had just terminated. Soon after crossing the Yalung he hears of "the dreaded Zandi tribe, inhabiting the mountains forty miles to the south-west of this district. Only the year before a party from this tribe had destroyed the house of my host, and carried off into slavery many of his relations. These Zandi tribes, for there is another tribe in the country to the north, are the only Tibetans absolutely independent of the Chinese government. Under the rule of hereditary chiefs they cultivate the mountain glens with bearded wheat and white peas; but they are also bandits on a large scale. Every now and then they issue from their fastnesses, well mounted on hardy and swift ponies, and sweeping through the well inhabited valleys of the more peaceable Tibetans, surprise and burn the villages, and carry off crowds of captives and herds of cattle and sheep to their mountains. The northern tribe is the most powerful; but their present chief is allied by marriage to the old Tibetan king at Ta-chien-lu, and on friendly terms with the Chinese and Tibetan governments; abstaining from predatory excursions, but maintaining absolute independence like the southern tribe. They are very warlike, and appear to be divided into several clans, constantly engaged in deadly feuds with each other, but uniting in one common cause against attacks from without. They also are cultivators, and rich in slaves, herds, and flocks. Both tribes acknowledge the spiritual power of the Grand Lama at Lhassa, and maintain Lama priests."

The "northern tribe" here mentioned is unquestionably De-ge; the king of that state married the sister of the king of Ta-chien-lu. According to Mr. Cooper's information, therefore, De-ge is a Chantui nation.

Speaking of the town of Lit'ang, the same traveller writes: "One thing struck me very forcibly, and that was the peculiar physique of the people, differing from that common amongst the people of Tibet, who are very tall and large framed, having dark complexions, and a profusion of black hair hanging over their shoulders; many of the Lit'angites, on the contrary, were thick, sturdy fellows, with short woolly hair, and light complexion. I tried in vain to obtain any explanation of these racial peculiarities; though it was said that some of these people had come from countries to the south of Lhassa."

It is pleasant to be able to explain Mr. Cooper's difficulty. I ascertained that the "thick, sturdy fellows, with short woolly hair and light complexion," belonged to Pun-ro-pa's body guard, and were natives

of Lhassa-de, or of some neighbouring country, and not of Lit'ang. The difference in shape and feature between the Western Tibetans and those of Kham (Eastern or Lower Tibet) is very marked; but the complexion of these highlanders is a mere question of sun and wind, and dirt.

Addendum.—It will have been perceived by those sagacious persons who deny the value of intuition, that the argument by which I have attempted to connect Marco Polo's Ciandu with the Chantui ought to have elucidated the ethnology of the Tzŭ-ta-ti people, and should at least have shown that the so-called Sifan of Chien-ch'ang lay claim to a Menia nationality. The world contains only one geographer to whom I could have appealed against such baseless and morose objections, and fortunately he has given judgment, even before the appeal could be lodged, in his "Introductory Essay" to Captain Gill's 'River of Golden Sand,' which I have just received. He reproduces a note from Mr. Bryan Hodgson, which speaks of a mendicant friar from ***Manyak**, a native of Ka'kho, six days south of Ta-chien-lu.* Now *Lo-ku* is six days south of Ta-chien-lu, *viâ* Tzŭ-ta-ti and Mien-ning, and is very likely the same name; but however that may be, it is quite clear that Mr. Hodgson's ***Manyak*** was a native of the Chien-ch'ang valley. That ***Manyak*** is the same as ***Menia(k)*** is not worth the trouble of writing.

To hint the nationality of the people of Tzŭ-ta-ti, I have only to write down their numerals, with the numerative affix *bu*, and over against them to place the numerals of Mr. Hodgson's Manyak. But I protest against ***Skwibi**; **Skwibi*** is impossible.

1.	Tụ-bu	Ta-bi.
2.	Nụ-bu	Na-bi.
3.	Si-bu	Si-bi.
4.	Jro-bu	Rĕ-bi.
5.	Ngei-bu..	Nga-bi.
6.	Tch'u-bu	Tru-bi.
7.	Shun-bu	Skwi-bi.
8.	Jih-bu	Zi-bi.
9.	Ngo-bu	Gu-bi.
10.	Tch'i-tch'i-bu	Chê-chi-bi.

The rather long shot registered on p. 83 of the "Introductory Essay"—("the Manyak are probably the Sifan south of Ta-chien-lu")—is, therefore, another hit to be appended to the score of a famous marksman.

Captain Gill has an allusion to Pun-ro-pa, on p. 198, vol. ii. (but spells him with a *k*—Peun-kop-pa—"farewell renown!"), and it is interesting to find it mentioned, on p. 222, "that everything good came from a place called *Turkai*, or some such name, lying to the north of Lit'ang and Bat'ang, and eleven days' journey from both. The chief's best horses came from there, so did his saddles; all the jewellery, except the

Lhassa work, is said to be made in that town, and no swords or guns of any value are turned out from any other manufactory. Altogether it ought to be an interesting place, and well worthy of a visit."

Now *Tur-kai* is the Chinese form of *Der-ge* or *De-ge*.

5. The Banks of the Gold River.

Frequent rains confined us for four days to the Examination Hall of Hui-li-chou, after which, in spite of a still unpromising sky, we turned eastwards and followed for three days part of Mr. Garnier's route, which has been described by Mr. de Carné in the *Revue des Deux Mondes*. It is a strange district, well deserving the attention of a geographer: a barren series of low sandstone ranges curiously devoid of vegetation, about half the surface being thinly grown over, and the remainder, chiefly the upper slopes, consisting of nearly bare rock of a reddish or a brown-red hue. These downs are in fact almost a desert, with a very scant shrubbery of fir-groves. But the heavy rains and wild winds which denude the more exposed slopes fill the glens with a productive soil, and many narrow hollows are carefully cultivated. The grain known as "red" rice grows luxuriantly in these damp, not to say flooded, crevices, and on their edges maize and tobacco are planted, and the broad sunflower bows to the east from a stalk seven feet high. Chili-pods, almost the sole export, attain great size in such favoured nooks, and potatoes abound.

In many places there is no road. The streams are numerous, broad, and violent, but ferries are rare and bridges unknown. We had to make the best of our way through the fords, happy when the water was below our waists; when deeper than that measurement the rapid streams were unfordable and a long détour became necessary. The natives are ragged and ill-fed. Near K'u-chu I saw a girl of ten or eleven years of age, whose only clothing was the embroidered shoes which cramped her club-feet. A more extravagant instance of the influence of fashion could hardly be cited. One day our coolies had a journey until noon on empty stomachs, being unwilling to submit to the demand of four cash for a boiled ear of maize. The sparse hamlets do not afford sufficient accommodation for carriers, who have often to rough it in mat sheds or under the eaves of a hovel, in view of which prospect they provide themselves with Lolo cloaks. Yet this track is a Chinese trade-route, the highway from Hui-li-chou to Tung-ch'uan.

The wealthiest proprietor in the district is a young gentleman of low stature, nineteen years of age, named Lung, whom we met in K'u-chu. His land is let to thirty farmers, who pay him in the aggregate thirty-six *tan* of rice annually. One *tan* is three hundred Chinese pounds, and the odd six *tan* suffice for the wants of his family. The

remaining thirty *tan* are worth about 30*l.*, of which he has to pay 8*l.* in dues, whereby it may be seen that his income is 22*l.*

Determined at all hazards to take the shortest cut out of such a country, we deserted the main route at K'u-chu and struck north-east into the mountains, ascending a slope which rose gradually but continuously until, after a four hours' walk, we attained a ridge nearly nine thousand feet above sea-level. The hill-tops are here much less bare than the region we had abandoned, and even near the summits a few patches of buckwheat may be seen, far distant from any habitation. We did not pass a single native, much less a cottage, in six hours' journeying. There is no road, but only devious paths, which of course lead the villagers to their fields and pastures and do not follow the easiest gradients or the most direct routes. Overtaken by rain, we were very glad to reach, towards dark, the hamlet of Tu-ké, lying in a hollow, of which about two square miles are cultivated, partly with indigo. Some forty mud hovels compose the hamlet; peeping through the doorways, we could see the family circles seated on the mud-floor round brushwood fires, and dining off potatoes and maize. The young people up to the age of fourteen are clothed in a single garment of sackcloth, even the Lolo felt being beyond their means. From this point, to the banks of the Gold River, we were greatly perplexed by a currency question. Soon after leaving Hui-li-chou we found small and debased cash in use, fourteen hundred of which the traveller may obtain for a thousand ordinary cash; but when he finds it necessary after a journey of two days to get rid of the local coinage on leaving the district in which it circulates, he is obliged to pay *fifteen* hundred debased cash for a thousand current coins of the realm. This exchange difficulty enters into every transaction, no matter how insignificant; maize-ears, oil, and rice are all haggled over, and always to the detriment of the stranger. Such a condition, though exasperating, is more or less explicable; but at Tu-ké the circulating medium has fallen to a depth of degradation which almost outvies comparison. There the local cash exchange for silver at the rate of forty thousand per Chinese ounce—in other words, one hundred and fifty of them are equivalent to one British farthing. They are mere rings, rather more than a third of an inch in diameter, without any pretence of a superscription. Even the natives do not generally count them, but rather measure out certain lengths of them on a board. But a further complication arises from the natives refusing to accept payment from strangers in these coins for local produce; the seller demands ordinary coins, and possesses erroneous but invincible opinions about the rate of exchange. Owing to the lack of comestibles, and the abundance of coins, it took us longer in that country to pay for our dinner than to eat it.

The best lodging we can find in Tu-ké is a small ruined temple of one chamber, without deities, doors, or windows. We soon light a

blazing fire of brushwood round which every one huddles in hopes at least to dry his steaming clothes; for the piercing wind and rain, finding easy entrance, allow little prospect of getting seriously warm. A meal of potatoes and maize is not exhilarating, and the blinding smoke and flickering rush-lamp do not conduce to accuracy of mapping or freedom of thought in posting up a journal. In the morning everybody is ill-tempered and mutinous, but a factitious bond of union exists in the general anxiety to get away from such inhospitable quarters, in spite of the continuous rain. In consequence of such troubles, we only made some seven miles on the 15th, glad to find more comfortable lodging in the residence of a T'u-ssŭ, or hereditary chief of subject Lolos, Lu by name. The place is called Ché-po and is nominally a village, but does not contain more than a dozen huts. Lu's residence, however, has evidently been a handsome and extensive establishment; its white walls still show imposingly in the distance; but after passing the court-yard, which retains some remnants of former elegance in a series of stone panels carved with animals and foliage, we found little but ruin inside. The chief is a tall, good-looking young man, twenty-three years of age, a Lolo *pur sang*, but being under Chinese jurisdiction his dress and bearing are Chinese. His manners would be pleasing were it not for the clammy lacquer of Chinese etiquette which his position as a blue-buttoned official has plastered over him. One detects the Lolo, however, even under such disguise; the Chinese skull-cap sits uneasily on his crown, and droops forward with a sidewise cant in the manner of the Blackbone's horn. Occasionally, too, he speaks more directly and boldly than a Chinaman would venture to do. I caught a glimpse of his wife, a graceful, clear-faced girl, as she was engaged in catching a glimpse of me, and remarked her Lolo petticoats and bare feet. Lu's situation, between the Chinese and Lolo fires, is anything but comfortable; the Chinese officials treat him as a savage, while the Lolos regard him as a renegade; his succession to the blue button of chieftainship—or, more truly, of subjection—was only secured by heavy payments to the local Chinese authorities, who were thereby induced to petition the Governor-general for his recognition. He receives no salary. His establishment, his court of justice, his soldiers, officers, escort, and underlings, a hundred persons in all, are maintained at his cost. Although he owns a very wide property both in Lolodom and in the country we have been traversing, agriculture affords so small a return that he expressed his intention of embarking in the wax-insect traffic, or preferably, if he can form a connection, in the import of Yünnan opium. His residence at Ché-po was demolished by Shih-ta-k'ai's army; the total loss which his family suffered by that invasion he estimates at 7000*l.*, since besides the destruction of house-property he was plundered of a collection of valuable objects which had been amassed by an immemorial line of ancestral chieftains. He possesses,

however, other mansions besides that of Ché-po, and in far better preservation. The village of K'u-chu,* otherwise Tsan-yü-pa, is built upon his property. All the mountains and vales between the stream which passes that village and the Gold River have been the domain of his family since the beginning of time, a period which, I displeased him by observing, must have been a good many years ago. His retainers and servants are all hereditary. His people submitted to the Chinese domination during the reign of Kien-lung. Should he have no children the succession is still secure, for he has several hundreds of relations, any one of whom, even among the females, is eligible for the chieftainship. On the Chinese map his territory is written "*Cho-pao*," a corruption of the name of this village.

The plague of his peace has been the Huo-erh-liu (apparently not a Chinese term), a banditti, composed mostly of Chinese outlaws, which infest the border all round Lolodom. The outrages which are attributed to the Blackbones—always excepting the slave hunts—are in general committed by these freebooters. A deep valley called Mu-ti-lung, bounded by a high black-looking range of the same name, which was visible to the northwards during the last two days' journey, had until a few months before my visit been the headquarters of one of such robber-chiefs, Chang San Piao-tzŭ ("Chang, the third spearman") by name, whose habit was to waylay Lolos and to exact a ransom by compressing their heads in an iron ring. Unable to obtain redress from Lu, who is powerless against Chinese, the Lolos assembled, surrounded the village of Mu-ti-lung (otherwise Hsin-kai-tzŭ), secured Chang, conducted him to the bank of a river, and there decapitated him. This act of wild but condign justice has been represented to the Chinese authorities as another Lolo atrocity, and Lu is held responsible for it. During the sway of Chang, Lu had to maintain a force of nearly a thousand men for his own protection, at great expense, and he is now in process of disbursing what is likely to prove a still more formidable sum in presents, which he hopes will secure him against an accusation of murder.

With regard to myself, Lu had received instructions from his Chinese superiors to the effect that "they had not been informed of the purpose of my journey, and that the deputies who had been appointed to escort me from place to place had each and all uniformly failed to discover it. Nevertheless it would be well for him not to cause trouble." Such a system of suspicion and antipathy is pre-eminently Chinese. Incapable of speaking the truth, they are equally incapable of believing it. It was

* Such names as K'u-chu, Tu-ké, Ché-po, Wa-wu, Mu-ti-lung, are Lolo. These several places also possess Chinese names which are little used, although but few Lolos are now found in the country. Lolos, however, still inhabit parts of the district round Ta-ch'iao (*vide* Garnier's chart); a place which, by the way, is called *Old Hui-li-chou* on the Chinese map, and is mistaken for the modern Hui-li-chou on most European maps.

vain to repeat on all occasions the assurance that I had come to see what facilities the country offered for trade, or to exhibit a safe-conduct from the Tsungli Yamên containing the same simple declaration. "Chercher midi à quatorze heures" is a pursuit in which Chinese officialdom has attained high proficiency. In the lower part of Chien-ch'ang the authorities had given out that I was a member of the Imperial Manchu family, sent on a private mission to inspect the border!

Leaving Ché-po we crossed a ridge, descended into a valley, forded a large stream, and then mounted a high range, from the summit of which we descried the line of mountains which form the right bank of the Yangtzŭ. It is not likely that Marco Polo came this way from Hui-li-chou; he probably continued his route southward from that city into Yünnan. But why does he call the Upper Yangtzŭ by the name of *Gold River* instead of *Golden Sand River* (Chin-sha-chiang)? * To any one who feels confidence in the accuracy of the Venetian's narrative the answer to such a question should appear direct and decided—Marco simply wrote down the correct name as it was given him by the natives. And there is in fact no mystery whatever in the matter; the river is never called locally by any other name than *Chin-ho*, or "Gold River." The term *Chin-sha-chiang* should in strictness be confined to the Tibetan course of the stream; as applied to other parts it is a mere book name. There is no great objection to its adoption, except that it is unintelligible to the inhabitants of the banks, and is liable to mislead travellers in search of indigenous information, but at any rate it should not be supposed to asperse Marco Polo's accuracy. *Gold River* is the local name from the junction of the Yalung to about P'ing-shan; below P'ing-shan it is known by various designations, but the Ssŭ-ch'uanese naturally call it "the River," or, by contrast with its affluents, the "Big River" (Ta-ho).†

As we came down the slope we began to notice, at the height of about 4000 feet above the river, that the path had cut deep into the mountain-side and that we were passing between vertical walls of a deposit which might easily be mistaken at first sight for a very soft sandstone. Further on, when the view began to open out as the lower spurs were approached, it became evident that most of the slope was covered with this substance, and to no slight depth judging from the

* Mr. Baber's memory has misled him here. Marco Polo nowhere calls the river "Gold River." The name he gives it is *Brius*, which appears to be a corruption of one of the Tibetan names. He says indeed: "In this river is found much gold-dust," Bk. ii. ch. xlvi.—[H. Y.]

† Between Sha-shih and the confluence of the Tung-ting Lake the Yangtzŭ is sometimes called *Ching-ho*, a name which Captain Blakiston very pardonably confounded with *Chin-ho*. That term, however, means "Thorn River," and is obviously taken from the ancient name (Ching) of the country which the river drains, much as the word *Yangtzŭ* is traced to the kingdom of Yang. The cities of Ching-chou and Yang-chou have retained the names of the primitive states.

fissures which seamed it. Thrusting a knife into the face of one of the walls at about twenty feet below the general surface, we extracted a snail shell and a small calcareous concretion. Still lower down, where the road ran nearly level for a few hundred yards, we passed along the brink of a crevasse with truly vertical sides and sharp edges, about 60 feet deep by 12 broad, having a stream at the bottom and other crevasses branching from it. The colour of the deposit is a brown-yellow, with a reddish tendency; its substance, though not very easy to dig into *in situ* with a knife, crumbles into fine particles and does not differ in appearance from loam. While I was looking into the crevasse my servant, who had travelled with Baron v. Richthofen, came up and said—"This is the kind of earth in which the people of Shansi dig caves to live in; but in that province the precipices are so deep that it makes one giddy to look down." There can be hardly any doubt that he was right, and that this layer of dense and almost rock-like loam is the same as the *Loess* of Northern China.

The discovery in so unexpected a quarter of a patch of vertically cleaving loam cannot fail to interest geologists. It extends from near the Yangtzŭ bank to about 4000 feet, perhaps a good deal more, up the mountain-side. How deep it may be it is impossible to say from so cursory a view, but perhaps 50 feet would not be too high an average. On the right bank at Ch'iao-chia-T'ing, the place where we crossed, the deposit is hardly perceptible, but a mile or two further south the narrow strip of exceedingly fertile land on the river bank, known as Mi-liang-pa, is said to be covered with it. I cannot affirm that it existed westward of the mountain-ridge on the left bank, but I have an *ex-post-facto* idea that thin patches occur between Ché-po and Ta-t'an-kuan-yao. The thickest layer we came across is about two miles up the hill-side above Wa-wu, the village where we struck the river.

With so superficial a knowledge of the subject, and of the locality, it may be presumptuous to possess an opinion respecting the mode in which this soil has been formed; still there is no harm in hinting a suggestion, though it may seem a fanciful one. The idea that the deposit may have been submarine is hardly conceivable. If it had been formed by the steady secretive waters of a lake—as it is very probable that this part of the river was at one time a long lake before it had drained down to its present level by the opening or erosion of the gorges further on—then we should have expected the layer to show a more or less horizontal surface; a condition which it does not in the least fulfil, but merely coats the undulations of hill spurs. Moreover other lakes in the neighbourhood should have amassed a similar sediment, which they have not done. The plain of Tung-ch'uan for instance, evidently a lacustrine flat and indeed still a lake in part, is a peat-bog from which peat is dug for fuel. Under the lake theory one would look for loess, but without finding it, in every hollow above a Yangtzŭ gorge.

Whence then has this exorbitantly thick soil been derived? Is there any contiguous region which is exceptionally soilless? Most certainly there is; for the face of the plateau between Hui-li and K'u-chu, as we have seen, is strangely naked, containing wide expanses of almost bare sandstone. But does any cause exist to convey soil from that district to the slopes of the Yangtzŭ depression? It seems sufficient to reply that the winds of winter and spring blow from the south-west and west, precisely in the requisite direction. But why should such winds fail to carry the particles beyond the banks of the Yangtzŭ? The traveller who descends from Ta-t'an-kuan-yao to Wa-wu will see the obstacle staring him in the face, in the form of a very steep mountain ridge 8000 feet above the river and about 10,000 above the sea.*

A few miles below Wa-wu is a village named P'ei-sha which is indicated on European maps. Probably the Jesuit surveyors paid it a visit; but it seems certain that they drew the course of the river from that point to P'ing-shan Hsien by mere guess-work, and very erroneously.

We crossed the Yangtzŭ, quitting Ssŭ-ch'uan and entering Yünnan on the 18th of September. The river is here 490 feet broad at the narrowest part, and evidently of great depth, running between sandy banks with a speed estimated at six or seven knots in mid-channel. There were no shoals or sandbanks to obstruct its course, and navigation from Meng-ku, 30 or 40 miles higher up, is said to be safe and easy, though very little advantage is taken of it. We saw no vessel except the small and crazy punt in which we crossed. Half a day's journey north, we were told, all boat passage is barred by a succession of cataracts † far more dangerous than any similar obstruction on the Lower Yangtzŭ.

It was our intention to follow a track which keeps along the right bank; but we were told that it was next to impracticable at all seasons, and was now submerged. There was nothing for it therefore but to climb again into the mountains. A mile or more up the slope we entered Ch'iao-chia T'ing, a small, loosely built, and impoverished town, purporting to be celebrated throughout China for its pomegranates, which are grown on the fertile tract called Mi-liang-pa, beneath and south of the town. Here we had to make new acquaintances and obtain,

* The theory of the sub-aërial deposit of *loess*, which Mr. Baber here briefly illustrates, has been worked out by its originator, Baron F. v. Richthofen, with extraordinary elaboration and skill, in his great work 'China,' vol. i.—[H. Y.]

† From Wa-wu to Huang-kuo-shu the river falls, roughly, about six feet per mile; from Huang-kuo-shu to P'ing-shan, about three feet; from P'ing-shan to Chung-ching, more approximately, nineteen inches, and in its lower course less than six inches. From Bat'ang, on the Tibetan border, to Wa-wu its fall is not less than eight feet per mile.

For the difference between the river levels at P'ing-shan and Chung-ching I have computed three results (A) from the barometrical record in Captain Blakiston's book, and three others (B) from a similar record kept by myself when attached to Mr. Grosvenor's

if possible, a fresh conductor. The magistrate of the place, a native of Hankow, was much interested to hear that the foreign settlement is flourishing. The military official is a relative of the Prefect of Tientsin who was punished for complicity in the massacre of 1870. Notwithstanding such advantages, they exhibited the usual dense Chinese ignorance; the military gentleman, for instance, being anxious to know whether the *Duke* of England is also the ruler of France. They informed me that a Lolo foray was expected, and that I had better take the high road, by Tung-ch'uan and Chao-tung; but this I declined to do, wishing to see more of the Gold River. For their objection that there was no road through the mountains I was prepared, having with the assistance of a peddler compiled a list of stages. The officials examined this document with close attention, and after consultation declared that no such line of route existed; which is not surprising, for I afterwards discovered that most of the places were imaginary. They promised, however, to furnish a guide who would conduct us to the bank of the Niu-lan river, but on starting next morning no such functionary put in appearance.

As seen from Ch'iao-chia the ascent looks short and gradual, but having surveyed it leisurely from the heights on the other bank we knew that a whole day's climb was to be expected; and in effect the steep zigzag required eight hours to surmount, including frequent rests. After having ascended a little more than 7000 feet we stood on the top of the pass, expecting to see the plateau of Northern Yünnan stretching before us. No such easy fortune awaited us; the highest point of the pass is a small flat ending abruptly on the east in a precipice some 25 degrees out of the perpendicular, and 1500 feet deep, which again terminates in an undercut limestone bluff, the wall of an encased torrent running in a contrary direction to that of the Yangtzŭ. The further side of this chasm is a broken plateau, partly cultivated,

mission. The three determinations in both cases are derived from the several morning, midday, and evening pressures. (C) and (D) are obtained from a comparison of the *data* in those two records with the mean pressure at Chung-ching for the corresponding periods, registered by myself during the last three years, and duly corrected.

A.	B.	Means.
427 feet.	363 feet.	395 feet.
402 „	384 „	393 „
415 „	373 „	394 „
C.	D.	
378 „	354 „	366 „
416 „	354 „	385 „
437 „	318 „	377 „
		385 „

For the level of the Yangtzŭ at Chung-ching I have obtained 630 feet, a determination which cannot be very wide of the truth, as it is the *résumé* of some four thousand readings for pressure (with Kew corrections) and temperature.

but a few miles southward the surface splits into a wild region of bare crags and gullies.

Our company lodged for the night in a hut the door of which was the only adit for light and exit for the smoke of a fire of dwarf bamboos. The place—or rather a walled hamlet on a promontory close at hand—is called Ai-chuo ("precipice-foot") and is appropriately named. The narrow path, a mere step from one precipice to another, is imminently perilous. At one point called T'an-pêng-tzŭ ("charcoal-shed") it crosses a kind of shoot down which stones and masses of earth descend with very impressive velocity, dislodged from the heights above by wind, or rain, or browsing goats. We saw nothing more formidable than fragments the size of paving-stones come down crashing along with leaps of 100 feet into the gulf below. At this spot the path, which for 50 yards is a foot-wide track rammed with the back of a hoe in the loose slope of earth launched from above, is of course in continuous process of being carried away. There is probably no danger for an unencumbered passenger who can run lightly across, and moreover the approach of the cannonading stones can be heard several seconds before they reach the track; nevertheless our heavily weighted coolies were glad to gain the safe side. In winter an additional danger is caused by falling masses of snow for which reason a man is stationed at the spot to warn travellers.

A little further on we were shown a less abrupt slope down which, on the day before our arrival, a native had rolled some 150 feet, bringing up fortunately in a clump of shrubbery. The poor fellow had superfluously increased the depth of his descent by beginning it from the branches of a tree out of which he fell. Being very thickly clothed he broke no bones, but his face was terribly damaged. When we arrived he was beginning to recover, after an insensibility of fourteen hours.

We were surprised to be overtaken, at Ai-chuo, by the military officer of Ch'iao-chia, who, anxious, as he said, for my safety, had thought it better to come and escort me himself. Strangely enough, almost as if to prove the danger of the track, his servant had fallen over the edge, but in one of the least precipitous places. Although he had only gone down about thirty feet, in two bounds, he seemed seriously hurt and had to be left behind in charge of the cottagers.

The stream which has excavated the floor of this ravine probably enters the Tung-ch'uan river somewhere near its mouth (see Garnier's map). Various ways in which a torrent wears out hard limestone may here be studied from abundant examples. High upright bluffs—there is a splendid instance about three miles above Fa-ni-wo, closing the avenue in that direction; solitary towers and pinnacles left standing in the middle of the ravine, and natural bridges, are all met with. At Fa-ni-wo the track crosses the torrent by a broad natural viaduct; in

other words, the torrent disappears into a cavern from which, after a subterranean passage of several hundred feet, it reissues.* The tunnel was only opened in 1859; before which date the now perforated *bund* of rock was the dam of a lake. The water is said to have burst through underground suddenly, leaving a large expanse of its bed, now a cluster of paddy-fields, high and dry. *Fa-ni-wo* means, and is, a "mud-nest."

From that village to Wei-ku, on the bank of the Niu-lan river, we journeyed for three days over a range the highest pass of which we crossed at an altitude of about 9000 feet. The road is not difficult, unless in such rainy weather as we plodded through. Grassy plateaus well adapted for pasture and wooded glens not too steep for cultivation support a sparse population which lives, in a large degree, on maize and potatoes. Maize keeps for a year, I was told, without becoming mouldy, and potatoes last about half as long. This season, however, the maize had failed, but the natives laughed at the idea of famine since they can procure grain for next to nothing from the lower country. Food is always abundant; the great difficulty is to obtain clothes, money being very scarce. Although to a passing view the people seem plunged in the deepest poverty, they are probably far better off than the famine-threatened millions of Northern China.

From the dangerously steep descent to Wei-ku a grand view is obtained of the Niu-lan gorges—much grander indeed than from the narrow approaches to Chiang-ti where the same river was crossed by the French expedition, and more lately by Mr. Grosvenor. Little idea can be given by mere description of these stupendous gullies. A series of bluffs, height above height, inaccessibly abrupt, rise on both banks to an average of at least 4000 feet above the river, and many peaks reach a much greater altitude. The confined stream is from sixty to a hundred yards broad, with a velocity too great to allow of fair estimate. Speaking roughly, its level must fall some 1200 feet in the twenty miles from Chiang-ti to Wei-ku and has still to fall about 1000 feet before the Yangtzŭ is reached.

Wei-ku pretends to be a market village, but if the residence of a barber be accepted as a criterion it cannot claim the style. The barber is itinerant. The tax-gatherer, on the other hand, is a confirmed resident, collecting a few cash as Likin on the miserable traffic in sugar from Mi-liang-pa. The jurisdiction of Ch'iao-chia T'ing terminates at this point. We crossed the Niu-lan in a ferry-boat sixteen years old, up to our ankles in water, half the crew of four being employed in baling, and after a zigzag climb of 3600 feet found ourselves on the rim of the Chao-t'ung plateau at the hamlet of Shui-kou.

* On the constant occurrence of such phenomena in South-West China, see an interesting extract of a letter from the late Lieutenant Francis Garnier, in the "Introductory Essay" prefixed to Captain Gill's 'River of Golden Sand,' p. [60].—[H. Y.]

The copper for which Yünnan is famous is mined almost exclusively in this part of the province, that is to say from Hsün-tien Chou northwards to the Ssŭ-ch'uan frontier, and from the Gold River eastwards to the border of Kueichou, or a little beyond. The most productive centre is reputed to be in the neighbourhood of Tung-ch'uan. In the low hills immediately south of that city the metal occurs in a pure state, though generally in masses too large to be capable of profitable exploitation. Silver is another valuable product of the same region; the richest mines in the whole Empire, if native opinion may be accepted, are situated close to Lo-ma-ch'ang, a village three or four miles east of Shui-kou. In general the richest fields of both metals lie near the Gold River. No doubt the Lolo country, intervening between this region and the similar metalliferous district of Chien-ch'ang, contains the same resources. The disorders, robberies, jealousies, peculations, and prejudices, which repress mining industry throughout China attain their culmination in this part of Yünnan. Before the mines can be adequately worked Yünnan must be peopled, the Lolos must be fairly treated, roads must be constructed, the facilities offered for navigation by the Upper Yangtzŭ must be improved:—in short, China must be civilised. A thousand years would be too short a period to allow of such a consummation unless some force from without should accelerate the impulse. Perhaps the best hope for the improvement of this region is that the management of the mines may be withdrawn from Provincial control and worked directly under Imperial authority by some such mixed organisation as that which at present regulates the collection of the maritime customs.

There is a good deal of cultivation on these downs in the neighbourhood of Lu-tien and T'ao-yuan and round Chao-t'ung Fu, but the greater part is untilled. At Shui-kou half my company of coolies, alarmed by the widespread apprehension of a Lolo invasion, broke into rank mutiny and made for the Chao-t'ung road; but we had little difficulty in replacing them and rather gained by their desertion, which taught us how to economise carriage. After traversing ten miles of unproductive slopes we descried, near Hui-lu-ch'i, the surprising and pleasant novelty of a *cartroad*, along an open vale grown with maize and buckwheat, and bordered by the red-leaved lacquer-tree, the trunk of which is seamed with black tiger-stripes, the scars of incisions through which the lacquer has been drawn. Farm-houses were now numerous, and many a rude cart built exclusively of wood without a particle of iron was laid up in ordinary at their doors. Ku-chai, where we were glad to find rice, wheat-flour, and a plentiful provision of oil, is the first village worthy of the name which we had seen since leaving Ch'iao-chia. We travelled twenty miles or more along this fortunate vale between low ranges which retain a few vestiges of forest. The pasture-land supports large flocks of sheep, and cattle of a dwarfed race.

A cow is worth about 16*s*., and a sheep about 4*s*. A pony suitable for plough-work fetches 40*s*.

The Chao-t'ung plateau should rather be regarded as a basin; its waters either disappear into the ground or converge by circuitous channels into the Ta-kuan river. A high rim prevents their entering the Niu-lan or (directly) the Yangtzŭ; a fact which seems to show that the gorges in which those rivers run have been split open by upheaval. We ascended this rim as we quitted the vale, and at Pai-fa-ch'i, a hamlet which we reached on the 30th, we had risen to a height of nearly 9000 feet above sea. There are poorer communities in the world than that of Pai-fa-ch'i, but it may serve as a specimen. The hamlet is composed of six huts, including the custom-house, all built of wattle and dab, the latter being cow-dung, since the local mud will not stick. The largest hut measures 24 feet by 10; to secure it against the fierce winds which sweep over the downs, its walls are propped on the outside with poles. A rude plough, two hoes, a flail, an axe, three buckets, a tub, a table two feet high, two stools six inches high, and a comfortable looking wicker bed strewn with hay, form the inventory of the furniture. The goodman is blind, one side of the housewife's face is black, and the child has a stiff knee. The six huts lodge forty people. To build a hut costs 13*s*.; a year's rent for the same is 3*s*. 4*d*., but nobody who can afford to be absent stays here in the winter. The custom-house is also of wicker and cow-dung. The staff of officers consists of a commissioner and four tide-waiters—an eighth of the population. The office furniture is a bed and a hole in the ground, which latter the Commissioner supplies at his own expense with a fire of oak charcoal. Affable as his kind generally are in matters unconnected with business, he invited us to eat our breakfast in this apartment, but as there was not space to stand upright in we preferred the more capacious hut next door. He collects what are called "fourfooted dues"—an *ad valorem* levy on cattle, sheep, ponies, and pigs—and annually returns a total of nine pounds sterling to his superiors, besides supporting himself and under-strappers on the receipts.

Here we were informed that near Lo-ma-ch'ang more than forty silver mines are intermittently worked; that the most productive, called Shih-tzŭ-nao ("Lion-skull") yields eight ounces of silver for every pound of ore; that the rock is exceedingly hard, and that the miners keep large fires burning for ten days together in order to soften it. That the workmen gain little profit, but are enabled to live somewhat more luxuriously than farm-labourers. That before the Mohammedan troubles the mining inspector, resident at Lu-tien, made Tls. 50 (15*l*.) a day by his appointment, but that at present he makes nothing. That in consequence of disorders and maladministration very little work is now conducted, and that the surrounding country is more impoverished than ever.

A few miles beyond Pai-fa-ch'i we reached the point where the track attains its highest level, viz. 9700 feet. A venerable but blasted pine, the only tree within sight, marks the position. The downs are here covered with a dense growth of dwarf bamboo a foot or more high. As we turned a knoll, one of those discoveries which so seldom fall to the fortune of a modern tourist flashed upon me. About twenty miles distant to the north-west, in a cloudless sky, rose a stupendous boss, the culminating point, and the terminal, of a snowy ridge some fifteen miles long. The height of the ridge can only be estimated, as I possessed no means of measuring low angles conveniently. An approximation may however be easily made since the snow lies low upon it during the hottest season. Captain Gill found the snow-line in Eastern Tibet at about 17,000 in lat. 30°; here our latitude is 28°, and we must allow at least a thousand feet for the snow-covered part; 18,000 feet seems therefore the lowest permissible estimate. The predominating boss, which resembles a cap of liberty, rises probably 2000 feet higher. The summit falls to the Yangtzŭ in a series of terraces, which from below appear like parallel ridges, and abuts on the river with a precipice or precipices—which must be 8000 feet above its waters. The undulations of the plateau prevented a fair sight of the gorges beneath, and a turn in the river shut them from view when we descended to its bank. The next visitor, it is to be hoped, will *do* the region more completely. I was standing too near those overwhelming heights and depths to be able to judge calmly of their proportions—physically too near the gorges, and mentally too close to the liberty-cap, although, as I have said, it was some twenty miles away. Later and mature reflection has brought little result beyond a violent desire to go there again.

Being in Lolo-land the mountain is of course inaccessible to the Chinese; but it is a conspicuous object to the natives of the Yung-shan district, who call it "T'ai-yang Ch'iao"—the "Sun-bridge"—surely a magnificent name, and not inappropriate; the setting sun traverses the crown of that portentous causeway.

The mountain-ranges of Ssŭ-ch'uan run, with very little exception, in a direction varying from N.E. to N.N.E., and the Sun-bridge abides by the rule. It seemed therefore almost certain that the Gold River must follow this same general course from Ch'iao-chia to P'ing-shan, and that the elegant northward meander with the graceful turn eastwise provided for it by cartographers is a bit of freehand drawing. This surmise turned out to be correct. The Jesuit surveyors, it is probable, did not visit the stretch between Ch'iao-chia and Fu-kuan-t'sun, but trusted to such information as was obtainable in the neighbouring towns; in their time both banks were in Lolo territory, and indeed they were more concerned with the position of cities than with the minute delineation of rivers and ridges.

Continuing our journey we began to find that the Chao-t'ung plateau

here breaks up into a number of parallel ranges enclosing deep and narrow ravines. At the end of two short marches a sudden turn brought us into the grassy hollow of Hua-ku Lake,—lake being in this instance a euphemism for marsh. Thousands of sheep are here bred for the sake of their wool, which is manufactured into Lolo felt. We bought a sheep for 2*s*., returning the skin to the shepherds. The animals are said to suffer greatly from foot-disease, caused by the dampness of the climate. Rain had here fallen for forty days, with three days intermission, and came on again towards evening with a wild wind. It needs not to describe the misery of a night spent on a bed of hay with a pigsty beside it, a sheepfold next door, and a pair of cats caracoling and romping about the place in the hope perhaps of keeping themselves warm. The cold blast whistled through the cow-dung and wattle, scarcely allowing our bamboo fire even to smoulder. Growing reckless towards morning we woke up the housewife and desired her to turn the pigs out of doors and to take the cats into bed with her; for the interstices of the wattle, though close enough to exclude pigs, allowed free admission to cats. She acceded to this exorbitant request with apologies instead of murmurs, and about noon next day we parted on the best of terms. Here we began a continuous descent, but delayed by the rain, did not reach the Yangtzŭ bank at Yang-liu-shu until the 4th, after two days' downhill, a horizontal distance of eight miles, and a vertical one of 8000 feet. During the first day we passed through the most impressive scenery of Western Ssŭ-ch'uan, but the deep gorges bounded on the further side by the immensities of the "Sun-bridge" must be described by the next traveller; all was invisible to us. Indeed the fog was so little translucent that we were several times brought to a standstill by the impossibility of seeing the path under our feet.

Miao-wa, half-way down, is a hamlet not more than 70 yards square, surrounded with a bastioned mud-wall 20 feet high. A little further on we passed on our right the small city of Yung-shan, high up on the slope. It is said that the geomancers who selected its situation weighed the soil of the neighbourhood bulk against bulk, and choosing that which showed the highest specific gravity, built the city upon it, as being likely to afford the most solid foundation. The weather had cleared, and we could now see here and there the precipitous sides of the "Sun-bridge" peering blackly through rents in the white curtain of mist. Now and again we could just descry the summit, but its dazzling fields looked more like gold than snow, and from our low level the irregular edges of the terraces were projected like peaks upon it. In the north-west, beneath a patch of lighted sky, a long jagged crest sharp and clear as a new cut saw, and not very different in colour, showed the continuation of the range towards and beyond Lui-po-t'ing. From such a position the whole system seemed a wilderness of peaks;

but when we afterwards gained a higher level it became evident that the tendency is to form plateaus rather than pinnacles.

As we were plunging down the steepest of gorge-roads among cliffs and cascades we met General Chung, the commandant charged with the protection of the district against Lolo invasion. The old gentleman, who was on his way to Yung-shan, greeted me very kindly by dismounting, taking off his flapping straw hat, and shaking hands. During the T'aiping wars, he said, he had made friends with many foreigners; and meeting me suddenly in this wild region reminded him of those stirring times. Hearing of my approach he had left instructions at his quarters of Mi-t'ien-pa to make me comfortable. I think the veteran was unfeignedly glad to see me.

Soon we struck the bank of the Gold River near the hamlet of Yang-liu-shu, in lat. 27° 50', where it issues from the mouth of a narrow defile, the height, breadth, and depth of which could perhaps be more easily measured than described. Until Her Majesty's Foreign Office supplies its servants in Western Ssŭ-ch'uan with delicate scientific instruments, or allows them to write reports in blank verse, little justice will be done to the Sun-bridge and its gorges, unless some Humboldt come this way. The stream, now a reddish-yellow mud-colour, runs in rock-strewn whirls and races which snub any question about its navigability. Yang-liu-shu and its neighbourhood is much favoured by Lolo invaders as a point for crossing into Chinese territory. Many an anecdote was told us about their inroads. They were driven across the river in the reign of Yungchêng—a hundred and fifty years ago—and up to the present time the Chinese authorities have contented themselves with maintaining that line, though in a very incompetent manner. General Chung has only 300 soldiers to guard 60 miles of frontier. When the Black-bones project a foray they send heralds several months beforehand to proclaim their intention, and the Chinese, knowing that the severest reprisals would follow any ill-treatment of these emissaries, allow them to return, accept their warning, and retire to a safe distance or assemble in a fortified position. The invaders cross the river at unwatched places in boats built of thin plank (more probably coracles such as may be seen on the T'ung river,) capable of floating six or seven men, and so light as to be easily carried by one. Early winter is the season they generally affect for their forays. They do not kill unresisting people provided a nominal ransom be paid or promised; but vigorous youths, young women, cattle, and salt, are unsparingly carried away. If resistance be offered they destroy crops. Their most trusted weapon, the spear, is a twenty-four foot pole of Ch'ing-kang wood—a kind of oak—headed with a spike four or five inches long. They have no firearms, but commonly use crossbows. The country people seldom make any resistance. Captives who have been carried off may be ransomed, but the price is generally too high. The goodman of my lodging

outside Miao-wa has seven relatives now in captivity, and in twelve years his cottage has been nine times burnt out. A woman whom we met had been delivered from bondage at what seems the moderate valuation of sixteen taels—say 5*l.*—but such a sum, I was told, is difficult to raise. Great numbers of Chinese, for the most part slaves, are to be found in the Lolo country; those born there, or captured young, and who speak the language, are very well treated; many even do not care to return; but when I asked three or four refugees what they had found to complain of, they replied with derisive laughter—"They make us shepherds and woodcutters and only give us one buck-wheat cake a day."

Seeing therefore that the natives live almost next door to slave-hunters, it is not surprising to find all the farm-houses fortified. Here indeed, every Chinaman's house is, literally, his castle; generally a high wall on four sides with a bastion at opposite angles, and sometimes a donjon tower three stories high in the interior; the whole built of mud, and perhaps girdled with a thick cactus-hedge. Additional buildings being often required, fresh works are appended to the original defences, so that in course of time a very picturesque confusion of brown towers and irregular walls results. The interior of such holds is less attractive, being filthy beyond expression.

Persons unacquainted, or superficially acquainted, or one-sidedly acquainted, with the Chinese *régime* will ask how it can be that this paternal government spends ridiculous millions in the recovery of Kashgaria and Kuldja, and leaves thousands of its nationals, within the bounds of its patrimonial eighteen provinces, in a condition or an imminent possibility of arrant slavery. It would be hopeless to think of contradicting such an argument by the authority of the sparse and ignorant witnesses I have been able to interrogate. But fortunately for the interests of truth and credibility I can adduce the evidence of a European, who had the ill-luck to be overtaken by a Lolo foray in the country between Yung-shan and Takuan. It will be observed that he regards the question from a Chinese point of view. As an educated Frenchman, long resident in Western China, he may be considered capable of judgment, and a devoted missionary will not be refused the privilege of credence. For that matter, the mixture of pathos, humour, and piety, which composes his narrative, is luminous with ingenuous veracity.

"In the beginning of 1860 I intended to make an excursion into the country of the I-jên, not only with the object of promoting the conversion of those tribes, but to obtain the release of several Christians who had been carried into captivity. Unfortunately I had laid my plans without consulting the Mantzŭ. The season in which those brigands commit their ravages being already well advanced, we hoped to keep clear of

them, but as will be seen in the sequel our expectation was disappointed. The Mantzŭ and the I-jên are one and the same people; they treat one another as brothers, and indeed are brothers. The only difference is that the I-jên live in submission to the Chinese Government, paying taxes and allowing the officials to visit them, but at the same time retaining complete authority over their own people. The Mantzŭ, on the contrary, have never been reduced to subjection; too feeble to oppose the Imperial forces they have chosen to abandon their country rather than endure a foreign yoke and have taken refuge in the mountains called Liang-shan, which form a considerable plateau, protected by inaccessible heights, between the provinces of Ssŭ-ch'uan, Yünnan, and Kueichou.

"When I started on the 2nd of January I had heard nothing of a Mantzŭ incursion, but on the way, news came of the inroad of a body numbering 3000. It was near noon and a few miles more would have taken us out of danger, ... when on a sudden three of the bandits ran out of a pine-forest towards us and cut off our retreat. I at once gave the alarm and cried, "Sauve qui peut" at the top of my voice, but alas it was too late. One of our party who was on ahead managed to hide himself in the underwood and was lucky enough to escape discovery; the rest of us, three in number, took to flight; two of our enemies stopped to ransack my bundle which had been abandoned to them, while the third followed us up; but the yells of the whole band, which was approaching, took away all thought and power of resistance. My servant, the first to be overtaken, received six thrusts of a spear, and after being stripped of all his clothes was left for dead. Meanwhile I ran with all my might, in company with the man who remained, and already began to have hopes of escaping, when we met another band waiting for us in the way. Seeing them come on, ready to run us through with their spears, I called out that we would surrender. Eight or ten Mantzŭ throwing down their weapons, immediately rushed upon me, and literally raised me off my legs clear of the ground; one pulled off my shoes and socks, another my coat, shirt, &c., all working simultaneously, so that the business was soon over. I felt giddy and dazed during the operation, especially as there was no knowing how it would end, but I remember that I repeated without cessation an invocation to Jesus and Mary.

"Having torn up my clothes, and given every man his share, they set off again, taking me with them. Being among the first to arrive in the plain, we made a short halt to eat part of our booty, pigs, fowls, ducks, &c. Here it is every one for himself; those who had looted anything partook of the banquet; their less fortunate comrades watched them at work. As for myself, squatting under an old wall, I did my best to give the wind as little hold as possible. When any of them came near me I said in a respectful tone—'Master, it is very cold; lend me a garment no matter what, and I will return it.' Many of them laughed, the better made no reply, some asked if I would like a flogging to warm my

back; but one, more compassionate than the rest, gave me a little bit of a cloak, which although too short was of the very greatest service. May the Lord recompense him for that good action.

"By the time the brigands had devoured the few pigs they had killed, the whole band had assembled, composed of from 1200 to 1500 men. It was now getting late, and every one looked for quarters; a good many camped out on the open plain, and the rest found lodging in buildings which the Chinese had deserted on their approach. The troop to which I belonged retired to a good-sized house which sheltered us from the rain, snow, and wind, most luckily for me, for I was not in a state to brave the open air in such weather. Our installation was effected without much ceremony, and I had to wait outside until everybody was suited. The day's chase having been pretty successful, it was merry in camp that night though without much charge for cooking. Nothing can well be simpler or speedier than the manner in which these people prepare their food. Having lighted a great fire with our host's benches, tables, and beds, they threw into an iron pan four or five pigs, large and small, turned them two or three times with a stick, and the beasts were considered to be cooked, although the hair was hardly half singed. The head cook then performed his office and every one came up for a piece according to his rank. I have never been able to understand how those rude gullets could so easily swallow the bristles of the animals. To eat raw flesh is nothing out of the way for people of their condition; but not to remove the hair seems a novelty. By way of dessert they brought in an ox, which was prepared in the same way, hair, hide, and all. Though I had eaten nothing that day, the idea of claiming a share of the banquet did not occur to me; indeed the thought of being offered any was alarming, for it must be remarked that one is obliged to eat all they offer, under pain of incurring their indignation. If any one shows signs of disgust he will have to swallow the filth which they will at once add to his ration, and will get beaten into the bargain. I was beginning to think myself safe, when the man who had given me the cloak came up with about a pound of flesh, all red and reeking with the natural heat of the animal. It may be imagined how embarrassed I was, especially when I saw that the man was watching how I should get through it! My condition was quite wretched enough without making it worse by betraying any repugnance, so I made the best of it by biting off four mouthfuls, which took many a turn in my mouth before passing into my stomach. But when he happened to look the other way I seized the opportunity to hide the morsel, and for want of a better place put it between my feet. He returned a moment after and asked me if I had eaten it all, and when I replied 'You have given me a great deal too much; I will finish it to-morrow,' the good fellow picked it up from where I pointed to it with my finger, and ate it very comfortably, although it was quite cold. This induced me to believe that he had deprived

himself of it for my sake. From that time forward we were very good friends, and I have no doubt that he did much subsequently to set me at liberty.

"After supper I was chained up, but contrary to general usage my hands and feet were left free, and I managed to get a little sleep. The forenoon of the following day was a trying time. My friend and benefactor had gone to pillage in the neighbourhood. Besides going without breakfast and dinner I had enough to endure, and they would hardly allow me to approach the fire. Some would pull my hair, or give me a kick, or a box on the ear, or a blow with a pipe; others amused themselves by plucking my beard, this one pulling out the white hairs and that one the black, while a third, finding the operation tedious, brought a flaming brand and roasted my chin unmercifully. More than once I had a very close view of knife or spear, but there was always some helping hand to put aside the blow, or some tender heart to intercede. At last they sent me to turn the mill, and this was the end of my miseries and the beginning, I may almost say, of comfort. I had scarcely begun work when all the chiefs came to look on; some wondered at my white skin and others made sport of my awkwardness, but before I had ground many handfuls they all cried out together, 'That will do. Come and warm yourself!' It was quite time, for I was all stiff with cold, and could only walk slowly and with great difficulty, so that it was easy to see that I could not long endure such a life. The Mantzŭ accordingly offered to ransom me for 1000 ounces of silver; a little later they reduced the demand to 50 ounces, with 1600 lbs. of salt, and twenty pieces of cloth. 'Well,' I said, 'you do not require overmuch, but how can I raise money here, or find cloth, or borrow salt? You have taken everything I had with me; what can I offer you now I have nothing left?' My arguments were so clear and just, even in the eyes of these brigands, that nothing more was said about a ransom.

"'Do you know who we are?' one of the chiefs then asked me. The question seemed a difficult one to answer, since I did not know what he was driving at. I got out of it with a bit of Gascon slyness, which could not however have deceived anybody, for the chief immediately added 'Well, well! you are frightened to-day. We know you Chinese call us thieves and robbers, but it is you who are the robbers. All this country once belonged to our fathers; they had always been its masters and peaceable possessors until the Chinese came and unjustly expelled them. We were the weaker, and had to yield; our country was neither sold nor given away; we come to collect the rent. If you retire to your own territory you will find that we shall not follow you.' 'But, at any rate,' I replied, 'you need not kill the sick and feeble.' 'If we did not,' said he, 'who do you suppose would follow us? They would all pretend to be sick, and we should never make a single capture.' Unfortunately for the Chinese Government, this is true. It is admitted that the first emperors

of the present dynasty gained possession of Yünnan by the violent expulsion of the aborigines; but it remains to be known whether the latter gave occasion to severe repression by their brigandage.

"During the forty-eight hours, more or less, which I spent with the Mantzŭ, I noticed a fact which has singularly surprised me. I had always supposed them to be an exceedingly corrupt people, for such is the reputation which the Chinese have given them. I can nevertheless testify that with the exception of a few expressions, rather vulgar than indecent, I saw nothing in their manners at which even a Christian need blush. Of course this is no proof that these bandits are always so well conducted when they return to their mountains, but it shows at any rate that they can behave well when they choose, even in the midst of an incursion which is favourable to every abuse of power.

"I thus passed the afternoon of the 5th, and as my masters had shown me a certain kindness, I hoped to be better treated henceforward; but I was soon undeceived; one of my fellow slaves whispered in my ear during a moment when we were not watched, 'Things are going badly—they have resolved to kill you to-night after supper, or before starting to-morrow.' I thanked the man with a nod, for it was unsafe to talk much. Seeing no way of escaping death, I thought of preparing for it the best way I could. Two hours went by in this manner; night had fallen; several had finished supper, and some were still eating. I felt sure my last hour had arrived, especially when they came and took away the little cloak which covered my shoulders. In this extremity my good angel, who doubtless watched over me, inspired me with the idea of making what is here called the *Ch'iu-ch'ing*—the appeal to kindness—and this is how I acquitted myself of the ceremony. Our band was divided into five groups according to the number of rooms in the house; I went to each group and in the attitude of a suppliant exclaimed, 'I appeal to the goodness of your hearts!' The plan succeeded even beyond my expectations. The Mantzŭ, flattered to see me on my keees before them, granted me not only life but liberty as well, which I should never have dared to ask for. In fact, no instance is known of their ever having released a prisoner; it is 'March or die.' It happens now and then that at the moment of capture they dismiss some of those whom they have despoiled—an old woman, for instance, or a disabled man; but the encampment once entered there is no leaving it. This is not merely a general rule, but one which has no exception whatever. Blessed be the name of the Lord who for my sake softened the ferocity of these men! Death had no great terror for me, but the thought that my parents, my brother missionaries in China, and my friends in Europe, would remain in cruel uncertainty about my fate was excessively painful.

"I was beginning to breathe again and to feel the pleasure of life, and almost of liberty, when the man who had seemed all along to take an interest in me drew me apart and said, 'There are several bad people

among us who, notwithstanding their solemn promise, are quite capable of giving you a stab with a knife before starting to-morrow. You had better be off to-night.' 'Where can I go?' I replied; 'the mountain is full of your people, I am ignorant of the way, the night is dark, and I have neither clothes nor shoes; even supposing these difficulties overcome I should still die of hunger and cold. Good young man, make your mercy complete! Let me spend this night under your roof and I will start to-morrow at daybreak!' But it was in vain; I had to go. I cannot conceive why they wanted to get rid of me at such an hour. They must have had some other motive than the wish to put me beyond reach of danger.

"I had scarcely taken a dozen steps, however, when, feeling the utter impossibility of going further, I came back and said, 'Kill me if you like! It makes no difference whether I die indoors or out.'

"The bandits, generally little accessible to compassion, could not help saying that I was much to be pitied, and assigned me a corner of the house to sleep in, where by a stroke of luck I found a few handfuls of rice-straw to spread over me and retain as much warmth as possible. You would not believe how cold and long that night was! Next morning no one thought of hurting me. When the place was a little cleared they let me come near the fire. Seated on the ground, I saw with pleasure that the time for starting was drawing nigh, and while I was impatiently awaiting it, a wag of the party, thinking to divert his comrades at my expense, filled a pot with cold water and came and poured it over my back. This attention of his made everybody laugh heartily, myself excepted. The rascal was about to indulge me with a second shower-bath, but I did not give him time; I gained the door with all despatch, and fear made me find a remnant of strength in my legs when I saw the whole party join in the chase and pelt me with stones. I very soon perceived, however, that they only wished to hasten my flight, and did not really intend to catch me; nevertheless, for greater safety, I jumped into a rice-field, being pretty certain that they would not care to paddle after me through the slough. I purposely fell first on one side and then on the other, pretending not to be able to keep my legs, so great was my dread of being called back in earnest. At last I hid behind a hillock, and when the Mantzŭ lost sight of me they started, leaving large fires burning in the house.

"Sitting and half lying in the mud, it was long ere I ventured to budge. When all was quiet I risked a glance out of the corner of my eye, without lifting my head too far, and at length put my nose in the air and saw the last of the Mantzŭs disappearing over the ridge of the mountain. After making sure that I was really free and that not one of my enemies remained, I went back to the house, where I could at least warm myself at ease; but it was not prudent to make too long a stay. The owner would not fail before long to come out of the cave in

which, with his family, he had taken refuge; and it was to be feared that in the first moment of surprise, and not knowing me, he would make me pay very dearly for the havoc which the robbers had committed in his dwelling. As quickly as possible, therefore, I made myself a broad girdle and a little cloak of straw, and having come upon a basket which was not altogether unlike a hat, I filled it with straw, stuck it on my head the best way I could, and took joyously to the road, thinking much less of present difficulties than of the dangers which I had already encountered.

"In the evening I reached a small (Chinese) village, the inhabitants of which had only partly returned. I had great trouble in finding a lodging; nobody would take me in, because I had no money. I remember that I went from door to door saying the handsomest things in the most doleful tones, without any success. Some, while leaving me in the streets, would recommend me to be patient, remarking that times were bad and that, moreover, I was not the only unfortunate—with other truths of a similar nature. These were the most civil. Others would declare flatly that I was a thief, and that their houses were not meant for people like me. I saw the moment coming for me, not to sleep, but to die, in the street of that inhospitable village. My entreaties and my courage were alike exhausted when I heard some one calling me—'Old fellow! old fellow! come here!' It turned out to be one of those who had refused me shelter. The good man gave me supper and performed that night an act of charity which, to those who know what the heathen are, will seem incredible. There was only one blanket in his house, the others being hidden in the mountain for fear of the robbers. Well, my host had kept this solitary blanket for his own use, and yet he lent it me for the night without being asked, sleeping himself in his clothes on a bench beside a small fire which he relighted more than once without succeeding in getting warm. I am firmly persuaded that the Lord, in his mercy, will give that heathen the Faith, of which he already performs the Works, and I earnestly recommend his conversion, as well as that of his family, to your good prayers."

It may be affirmed with something like certainty that the above is the only paragraph of European literature which makes authentic mention of the Liang-shan Lolos. I need make no apology for extracting it from the 'Annales de la Propagation de la Foi' (latest edition, vol. xxxiv.), since while it illustrates and confirms the results of my inquiries about the redoubtable Black-bones, it gains interest and value from a knowledge, which the writer did not possess, of the large extent of territory occupied by them. The frontier, at almost any point of which Chinese may be hunted for in the manner recounted, has a length of more than 500 miles and lies wholly within China Proper.

It is pleasant to be able to add that although the excellent missionary

has since encountered dangers of a not less formidable kind, his prospect of martyrdom seems more distant than ever.

We kept along the bank as far as the village of Huang-kuo-shu, where, to cut off a wide bend in the river, we climbed 3000 feet up a mountain-spur to Ya-k'ou, a scattered hamlet of fortified cottages. A little further on we selected as our lodging a large farm-house, girt with walls and towers, the only occupants of which were two Lolo women; they told us, however, to make ourselves at home, saying that the master was away, but would doubtless be glad to receive us, and that they would send to inform him.

It was here that I made the most interesting discovery of the journey. The master did not return until next morning, but in the meantime we learnt that he was a Lolo of rank and that this part of the country on the right bank of the Gold River, over which his family once reigned, had submitted to the Chinese under his grandfather. He had received a Chinese education, and, except in the matter of intermarriage, had adopted Chinese forms, though still maintaining relations with the independent tribes on the opposite bank. The room in which I was installed measured some 25 feet by 14 feet, and one-third of the floor was covered to an average depth of about 18 inches with bundles of waste manuscript and printed papers. The Chinese make such collections with the purpose of solemnly burning them, from a pious respect for the art of writing. Now, while travelling along the border, I had been many times assured that the Lolos possess books, the power of deciphering which is confined to their priests, or medicine-men, or magicians, or whatever their correct style may be. The Chinese call them "*tuan-kung*," a word which is generally translated by the uncouth term "thaumaturgist."* I had made every effort to obtain one of their books, but without success. Lu, the Ché-po chief, promised to send me an exemplar, but although I have since corresponded with him no Black-bone classic has reached me. Here then at Ya-k'ou, the point where our route quitted the immediate frontier, an expiring hope prompted me to examine the mass of fugitive literature which encumbered the floor of my chamber. After a hasty dinner I summoned my native clerk and we began an exhaustive exploration of thousands of documents. The search was not so difficult as might appear, since the printed papers, mostly proclamations, placards, and hand-bills, formed three-fourths of the mass and were packed up separately from manuscripts. The Lolos do not possess the art of printing, and we had therefore only to examine the written documents. These were principally drafts of letters, rough accounts, and children's copy-books, the latter in great number. Not wishing our unhandsome

* This looks like the word *tuin*, which was applied by the Mongols (or properly by the Uighurs) to their lamas. See the references in 'Cathay and the Way Thither,' p. 241, note.—[H. Y.]

inquisitiveness to be made public, we had frequently to relax operations on account of interruptions, so that we did not complete our work until soon after midnight. We found nothing to our purpose in any of the packages; but under the last few, almost in the furthest corner, we discerned with gloating eyes the scrap of writing of which a facsimile is appended—a specimen of Lolo characters with the sound of each word, or syllable, approximately indicated in Chinese. (Plate II.)

It might have been expected that the Lolo writing would turn out to be some form of Pali. It shows, however, no relation to that system, but seems to take after the Chinese method. In any case the discovery possesses no small value and raises so many interesting questions that a little exultation may be pardoned. A new people may be discovered anywhere, a new language any day; but a new system of writing is a find of exceeding rarity. Many a rival galled the kibes of Columbus, but the achievement of Cadmus has been deemed so astonishing that his very existence is now denied!

I did not care to carry off the original—"convey" the wise it call—but yielding to a subterfuge which no casuistry can palliate, I made my clerk copy it on a superposed sheet of transparent paper and have since had it cut in wood. When the master returned next morning I asked him if he would allow me to keep the original; but, as we had foreseen, he refused, nor could we obtain from him any consistent explanation of the meaning of the document, although in all other respects he was profusely obliging and hospitable. It is necessary to recount the above discreditable details for the purpose of putting beyond doubt the authenticity of the document and of showing that it was not made to order. Hearing in the course of the forenoon that a lettered medicine-man from the opposite bank was in the village, I asked our host to send for him, which he at once did. The medicine-man, a tall and robust Lolo, with his horn concealed under the Ssŭ-ch'uan turban, appeared to have somewhat reluctantly accepted the invitation, and for a long time I could hardly elicit a word from him. The exhibition of weapons and instruments excited little emotion; but his curiosity was at last pricked by a Nautical Almanack which happened to lie open at a page of Lunar Distances. He carelessly indicated a line of figures and, speaking of course Chinese, asked what they meant. Now by the greatest luck in the world I remembered the Lolo word for *moon* since it is a remarkable word which exhibits the Welsh aspirated *l*; and furthermore, I had a rude acquaintance with the numerals; so that it was easy to reply in the medicine-man's own language "*Hlo-po t'su-ha-ni-fo*"—"Moon, a hundred and six." Whether the translation was correct, within a hundred degrees or so, was of small account; indeed it is quite possible that he may have understood me to say "a hundred and six moons"; but from that moment the ice was broken and communication became easy, mostly, however, to his

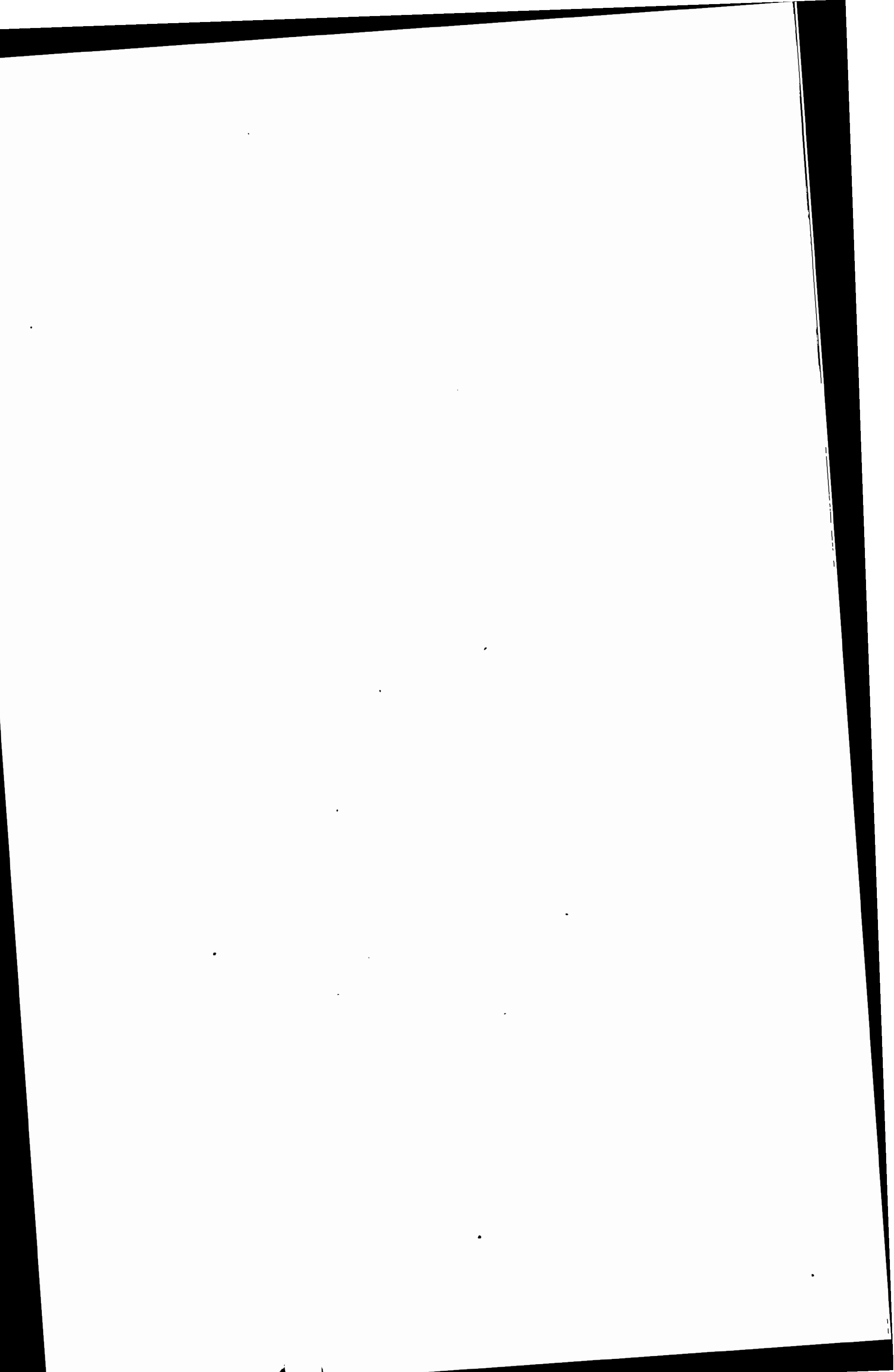
汞古即已段吃來汞紅休松礼金工草林

[illegible]

披殺君一長草殺呂即礼金工餓好夫都

[illegible]

練四一对孤苦呂松礼金[illegible]



advantage, for he was so curious to learn all about the moon and the Greenwich Almanack that it was difficult to change the subject. At last I asked him to write me a few words in his own characters, and here is what he wrote, with the interpretation thereof:—

One

Two

Three

Four

Five

Six

Seven

Eight

Nine

Ten

Horse

Ox

Sheep

Fowl

Dog

Pig

Water

Fire

Red

A-

Tchu

The last two characters are the name of the writer. When he had got thus far a servant came in and delivered a message to him and to my host, which caused them to hurry out of the room with almost disorderly haste, and I never saw either of them again. Their flight was explained, a few minutes afterwards, by the arrival of three military officials from Mi-t'ien-pa, who came to receive me by General Chung's order. It is easy to understand that a Black-bone sorcerer would feel very unsafe in such society.

From Mi-t'ien-pa, which is a comfortable village a few miles down the slope, a direct and easy track leads over the mountain to Ching-ti, but wishing to see something more of the Sun-bridge and his satellites, we

preferred to make a detour by which we could travel in full view of them. The chart gives, probably, a fair general view of the system, but of course makes no pretension to minute accuracy. West of the Sun-bridge, and parallel with it, is a similar ridge, and further west again is yet another, of which we could make out little but its pearly snows. A long, narrow, and exceedingly deep glen runs straight in the direction of the third range, and no doubt brings down a large stream of water; but it was far too profound and obscure for us to descry its floor. A road leads through it into the heart of Lolodom, and I was told by the medicine-man that under proper sureties it may be travelled with safety. Few more desirable explorations could be projected than a journey up that alluring avenue.

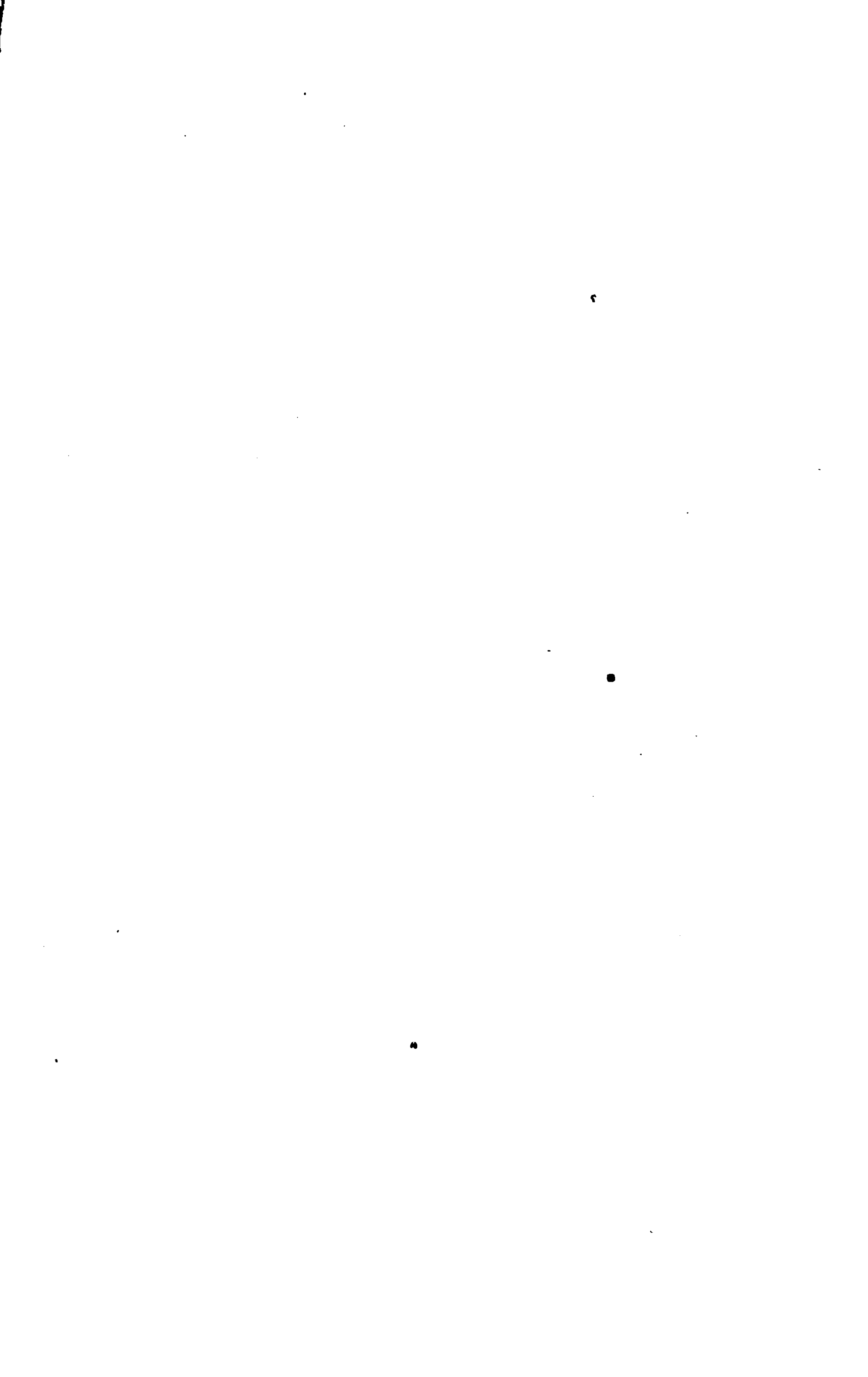
Lung-t'ou—"Dragon's Head"—is the name of a line of precipices which terminate a high plateau further north whereon snow lies during eight months. On a subsequent journey I caught sight of this elevation from a point 60 miles to the north of it, at the door of a smithy a mile and a half west of Lu-lu-p'ing. From that distance little can be distinguished except that it has an irregular surface of large extent—perhaps a mean diameter of 15 miles—and cannot be much less than 12,000 feet above sea. The region which intervenes between the Sun-bridge and the Dragon's Head appears to rise in two, or possibly three terraces from the bank of the Gold River. On the 9th of October all these heights, except the terrace immediately beyond the river, were covered with snow, while we were travelling 5000 feet above sea in a mean temperature of about 60°.

The rest of the journey calls for little remark. We may almost be said to have discovered Lui-po T'ing, a city the position of which has always been a puzzle to map-makers in consequence of the erroneous course which they have assigned to the Gold River. We saw enough of that stream to satisfy us that it cannot be navigated, unless with frequent portages, further than a few miles above Hui-ch'i. At Hui-ch'i we forsook its bank and made directly for Fu-kuan-ts'un, a sub-magistracy which I had previously visited when attached to Mr. Grosvenor's Mission. The road crosses a country of no great abruptness, well wooded, not much cultivated, fairly well inhabited, and abounding in waterfalls. We made P'ing-shan Hsien on the 18th of October. One of my latest reminiscences of the Lolos is that of a lady coming down the road near Lan-mu-p'ing, whom I took at 60 yards' distance for a French sœur de charité, not reflecting how absurd it was to expect such a rencontre in Yünnan. Nevertheless the resemblance of costume was so close that I actually called a halt and awaited her approach; but when she drew near, the sight of a baby which she carried on her back, dispelled the illusion.

Several months after the above was written I was fortunate enough to secure, through the kind offices of the French missionaries, an original Lolo manuscript of eight pages, which had been obtained from a Lolo chief near Fu-lin. The sheets—numbered from 1 to 8 [Plates adjoining

To face p.128

1



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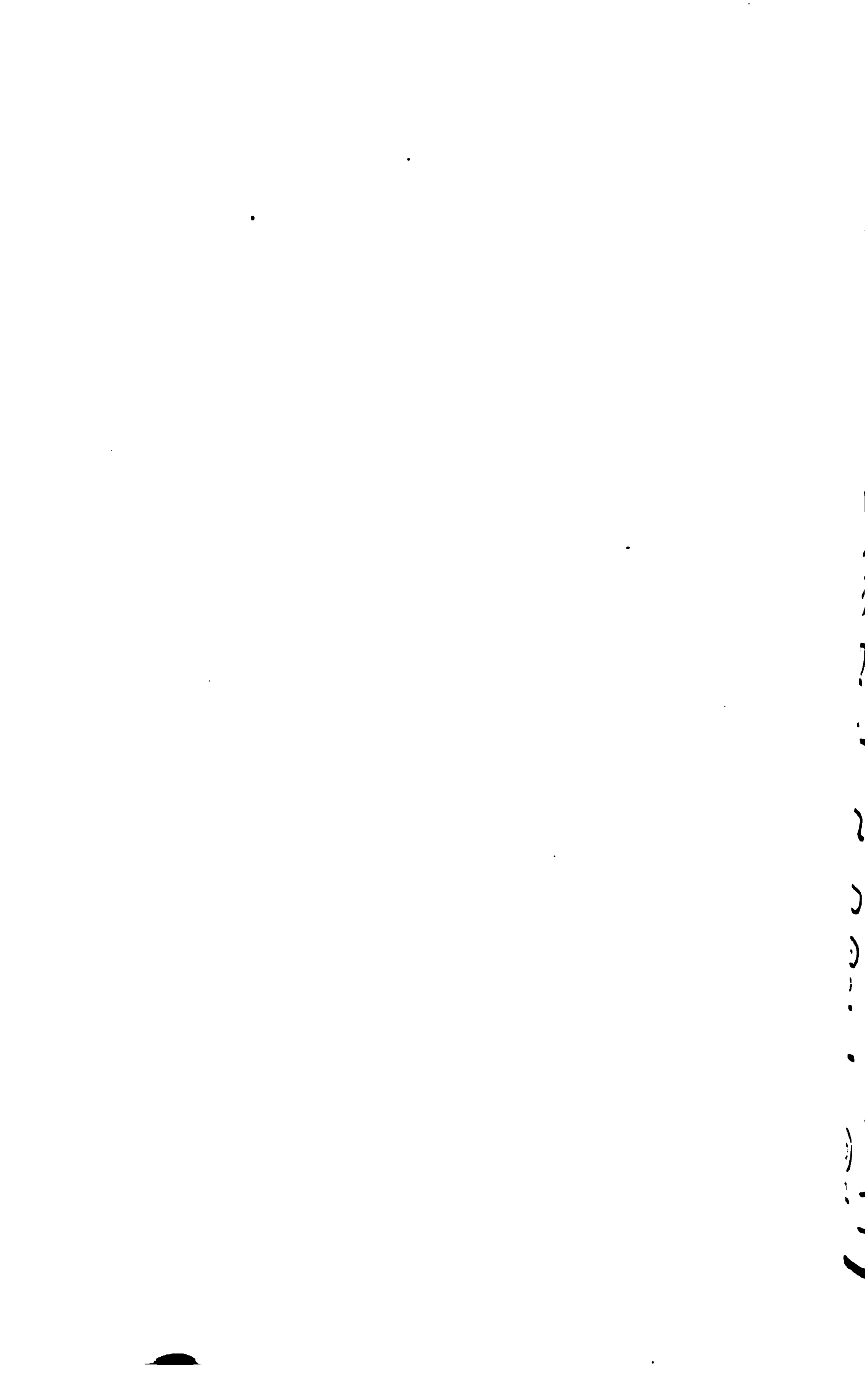
To face p.128



1 to 8]—have been carefully copied from it, page for page and line for line. I am quite ignorant of the nature of the work, and am even unable to declare at which end it begins.

ANCIENT STONE MONUMENTS.

The foregoing narrative will have failed altogether of its intention if it has not succeeded in hinting how great an interest—for the most part an interest in the unknown—attaches to exploration in Western Ssŭ-ch'uan. But the misfortune of the explorer is that he seldom knows where to look, and never knows how much he has missed. The purpose of this note is to indicate one special vein of research which promises a rich output.

A hundred yards or more distant from a country house near Ch'ung-ch'ing, which I have from time to time occupied, lies a mound which is possibly an ancient tumulus; but it has been so eaten into by paddy-fields and effaced by the erection of a modern tomb that its outline is not a prominent feature. Its few square yards of uncultivated sward make it a pleasant spot on which to sun oneself during the rare intervals in which Ssŭ-ch'uan weather combines mildness with sunshine, and it was on such an occasion that I one day detected a straight line faintly delineated on the surface of the turf. Very few moments elapsed before a little removal of soil with a pointed stick disclosed the presence of an oblong slab of sandstone, about seven feet by two and a half, which according to all precedent contained in the records of Aladdin and others should have been countersunk into the mouth of a subterranean cavity. And, sure enough, so it was, although there was no ringbolt by which to raise it. I had therefore to defer lifting it until assistance could be obtained; and since such operations are, in China, punishable by decapitation, or strangling at the least, several weeks passed before occasion served the purpose. When we at last succeeded, after expending much misapplied force and pretentious ingenuity, in raising the slab, we discovered that it was the lid of a rude sarcophagus containing nothing but wet mould, which may have drained in through ill-closed chinks, or have been deposited by previous desecrators. But in any case the sarcophagus lies too near the surface to warrant the inference that it has ever housed a corpse; it is more probably *a blind* to divert curiosity from the situation of the true coffin, which may be expected to repose in some more recondite part of the tumulus.

Nevertheless I was not at all depressed, for a valuable find had already been made. From beneath the head of the lid, which juts over at one end, the landlord of the house had, a few days before, picked out a polished stone axehead of serpentine. When first discovered the instrument was perfect, but the friends of the finder, ignorant of its character and surmising that it contained gold, attempted to break it open by

dashing it against a rock, and seriously mutilated its edges. The tough material offered, as a whole, so stout a resistance to the vandals, that it retains a very presentable and even elegant appearance, and now forms No. 1 of my cabinet of polished stone instruments found in Ssŭ-ch'uan.

That everything must have a beginning is one reason why the collection has not yet extended beyond No. 2, a specimen which owes its discovery to the habit of opium-smoking. In a street in Ch'ung-ch'ing my servant met a smoker scraping the opium-stains from his fingers with its chisel-like edge. The man let me have it for the equivalent of a shilling, and on being asked how he came by it said that he had found it, and another, in a stone coffin in a field near his house. This exemplar, though much dilapidated, is a good specimen of polished flint.

It is therefore undeniable that these objects are found in connection with coffins, though what the connection may be is not clear. The

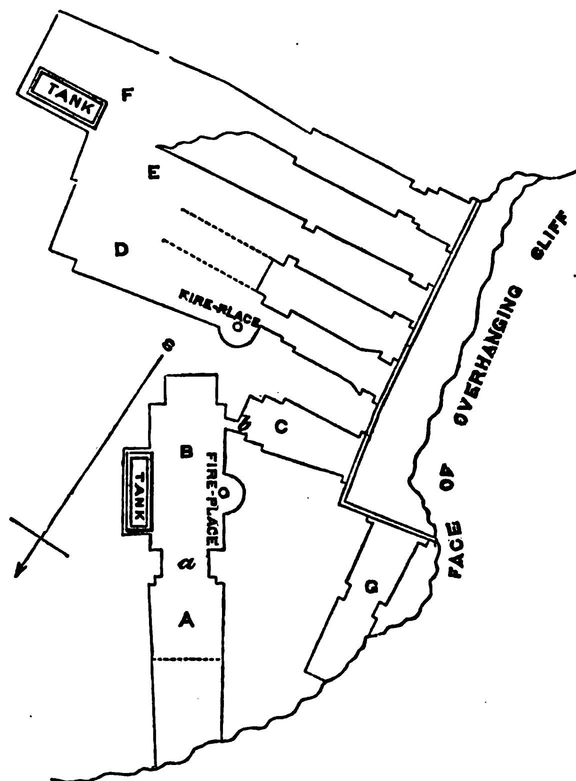


FIG. 6. Scale 16 feet to 1 inch.

natives call them "*hsieh*"—wedges—and conceive that their use was to fasten down the lids of sarcophagi in some unexplained manner. A more plausible supposition is that they were buried with the dead in

conformity with some traditional or superstitious rite; at any rate the theory is impossible that the people who hollowed out these ponderous monoliths worked with stone chisels, and left their tools inside.

It is curious to find in many a farm-house and roadside inn similar sandstone coffers in use as cisterns, though of unnecessary size for the purpose, and to be told that their origin is remote and unknown. However that may be, the explorer cannot help connecting such tanks and sarcophagi with another class of sandstone excavations of which there must exist thousands of shapely and imposing specimens. The first of these constructions—if a perforation can be called a construction—which I visited, is near Ch'ien-wei Hsien, on the Min. The exact locality is indicated on my chart of that river, and the plan (Fig. 6), made on the spot by careful measurement, will help to explain the following remarks.

The series of excavations shown on the plan can only be entered through A, which may be called the porch; the doorway *a*, if it were cleared of the sand which at present obstructs it, would be some 4½ feet high. The distance to which the roof of rock extends over the porch is shown by the dotted line, at which point there are three overlapping lintels. It should be borne in mind that all is part and parcel of the living rock. The uppermost lintel is plain, but on the face of the second is sculptured in relief a couchant animal (Fig. 7), possibly a horse,

FIG. 7.

between two globes, the carving of which is very much defaced. The lintel immediately over the entrance bears the ornament shown in Fig. 8, also much worn down, although its outline is distinct; so far as its condition will admit of exact measurement, it is just an English foot long. Passing through the doorway I entered a chamber some 12 feet long and six feet high beneath the crown of the low arch into which the roof is carefully rounded. On the left is what appears at first sight to be a sarcophagus, but on clearing out the sand I found that it is hardly deep enough for purposes of burial. Still, it seems too deep to have been intended for a bed-place, and although its outer rim is a good deal broken

way in which the wall has been afterwards notched out shows that a second door was added after the completion of the excavation.

The persistent adherence of the architect to straight lines and sharp angles is very remarkable, notably at the inner entrance to chamber C, where so many corners seem quite unnecessary. Another noticeable feature of this complicated cave-system is the extreme difficulty of getting into it. The only entrance is by the neck of chamber C, through which, even in its present enlarged condition, a stout man could not pass. Moreover there is a step in the neck, and the step is undercut. A person in C, by simply pushing a large stone into the hole, could easily close the orifice beyond the power of anything but dynamite to open it from the side of B, and probably this was the intention of the device. But why communication between C and D should not have been effected by means of a doorway in the partition, instead of by clambering round the face of the rock, a transit, by the way, only practicable for grown-up people, is not so intelligible. It may fairly be assumed that C was not designed for habitation, since it is unprovided with doorposts; it was therefore merely a kind of entrance lobby. Perhaps this labyrinthine arrangement was a precaution against surprise. An enemy, or a robber, feeling his way by means of the handholes from C to D, would be helplessly at the mercy of a sentinel posted in G, and the same disposition admirably protects the mouths of the chambers from escalade from below.

Whatever may be the secret of these singular excavations, the key to the mystery lies in the entrance lobby C. The want of parallelism in its walls is exceptional, and it should be noticed that the obliquity of its northern wall causes the difficulty of access to G.

This particular cave contains no seats, but in others which I explored I found bed-places arranged so as to form low and very comfortable settees. The edge of the bedsteads, i. e. the corner which would bear against the back of the knees of a person sitting on them, is rounded —not merely smoothed away, but boldly cut into a liberal curve; while the rear part of the seat falls as it retreats, the whole appurtenance exactly resembling a soft divan with a luxurious spring cushion. This similarity is so striking that I almost unconsciously looked for the feet. Absurd as the hallucination may have been, its justification was undeniable, for the feet are there! The upholsterer has undercut the rock, leaving feet *in situ*.

Enough has been said to show that the excavators were no rude happy-go-lucky borers. A higher idea of their art—I use the word advisedly—is gathered from an examination of the façade. Standing on the ground outside, and fifteen feet or so below, the mouths of the parallel chambers, one sees that the rock has been cut away into a smooth face, leaving the overhanging cliff to act as eaves; and this must evidently have been done before the perforation of the chambers was begun. Several feet above the line of openings a curious ornament

as possible hit the bulls-eye of a corresponding handhole in the wall of chamber D. It was a pleasant excursion, though an infinitesimally short one, which thus landed me in the main compartment of the cavern.

A passage 12 feet long between walls furnished with projections running from floor to roof, the purpose of which arrangement is not at first apparent, leads past a second fire-place and crockery shelf into a large chamber some six feet high. Two chambers have here been broken into one, much of the partition wall still remaining, but it is not easy to decide, from a mere inspection of the breach, whether there has originally been a door between the two, or whether the neighbours communicated with one another by getting in and out of the windows, so to speak. There must however have been some opening, otherwise the smoke of their fire would have stifled the inmates of D. At any rate the chambers differ in plan, and each has its own passage differing in detail as regards the projections on the walls. Chamber E, again, is slightly longer than D, as a glance at the plan will show. Chamber F, runs much further back than the other two, and opens to the external air by a very long passage. Here again the partition is broken away. Chamber F contains a tank similar to the one first mentioned.

We have now visited five apartments, but there is still a sixth (G), somewhat higher in level, and only to be gained by a hazardous éffort of squirming round the inside of the corner from C. When safely landed in it one observes that it commands the mouths of the four parallel chambers, and that its inner end, originally terminating in solid rock, has been broken through, probably during the process of cutting the modern high road which runs immediately below.

The purpose of the projections on the passage walls seems clear enough on the plan, but it is not so evident while one is scrambling about the interior. They can hardly be anything else than doorposts; if there be any doubt it is disposed of by the existence of holes through their edges for the insertion of strings to act as hinges or fastenings. But then the question occurs why should each of the three passages have had two doors, as appears from the plan? To this I reply by another question, why should there be any separate chambers at all, when it would have been so much easier roughly to hew out one large cavern than to take the minute and elaborate pains necessitated by so much subdivision? I imagine that the families who had their dwelling in the rock were respectable folk and loved privacy. By closing both doors each chamber with its passage would form two separate bedrooms. The space between the doors is about the right length for a comfortable bed, leaving room for the sleeper's clothes at one end, and it will be observed that in passage F, the space between the doors remains much the same length as in D and E, although its whole position lies several feet further inwards. Chamber D seems originally to have had only one door. The

uninjured show an even surface, retaining no marks of the tool; this is so noticeable that the flat faces do not look like sandstone, but appear almost as if they had undergone some hardening process. The wall-spaces are divided into compartments, some of which may have been

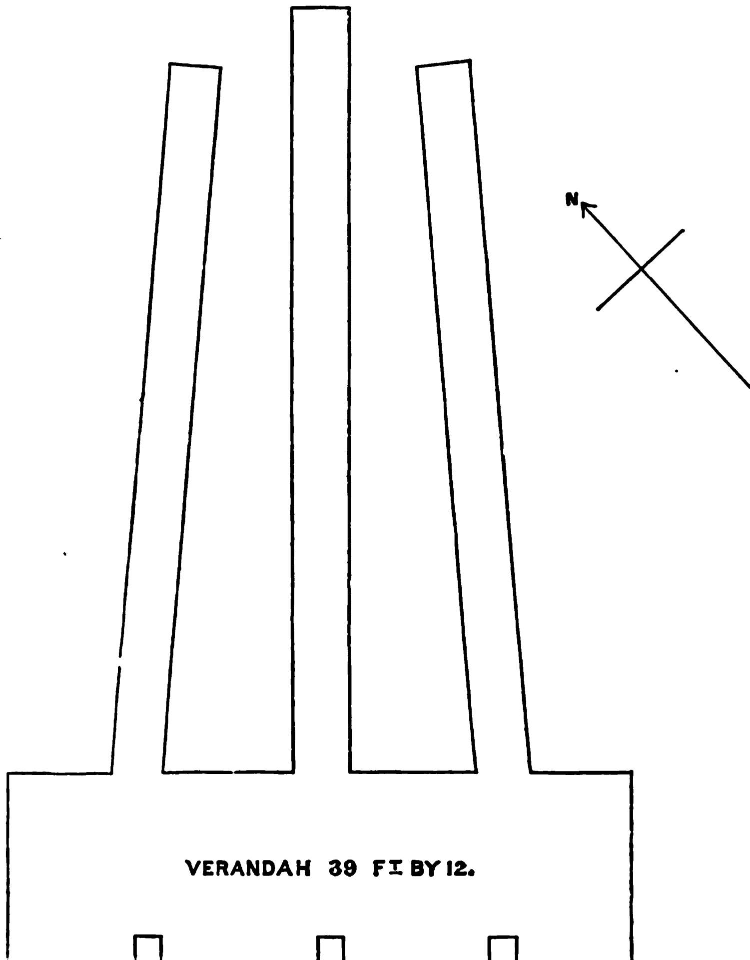


Fig. 10. Scale 12 feet to 1 inch.

sculptured in relief, and others perhaps have formed hollows for the reception of carved panels, but they are dilapidated beyond all possibility of deciding this point.

Very soon I discovered the disc-and-label pattern running along the upper part of the inner wall of the verandah in a condition of almost perfect preservation, and showing the same appearance of comparative hardness observable in other places. The pattern is here most exactly

and precisely carved, and although such an ornament may not seem highly decorative, it accords admirably with the solid and severe dignity of the cavern. One cannot keep one's eyes from it; and soon a certain irregularity is detected, caused by the labels not being synchronous, so to speak, with the discs, although the distances between individuals are regularly maintained in each row. Every fifth label, however, regains vertical coincidence with a disc. Thus, supposing Nos. 1, 2, 3, 4, 5, to represent a series of equidistant labels, and No. 1 to coincide with a disc, No. 5 will be the next to coincide. Fig. 11 is a sketch of the pattern. It did not occur to me to observe how many discs correspond to five labels, but judging from my original sketch the number would be fourteen, in which case thirteen spaces in the upper row are equivalent to four spaces in the lower one. Now it is curious that the length of the verandah compared with its breadth exhibits this same ratio of thirteen to four.

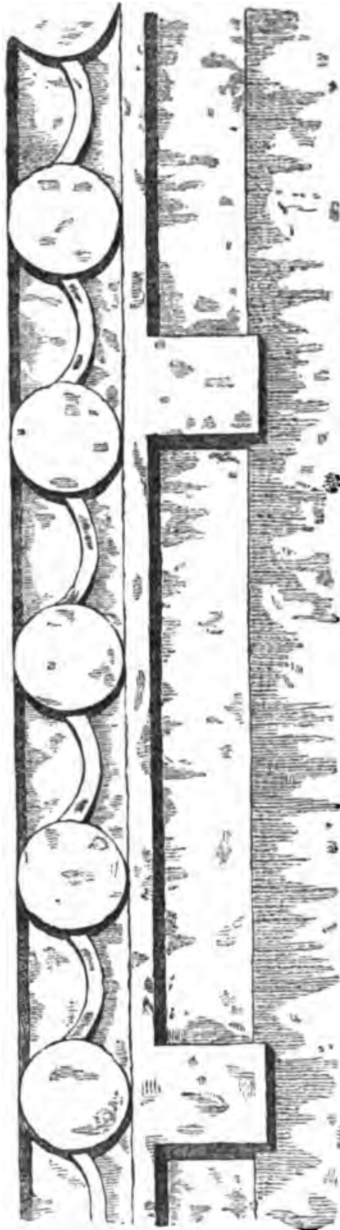


Fig. 11. Each disc about 5 inches in diameter.

The best conjecture I have to offer respecting the origin of this decoration is that it represents a highly conventionalised row of eaves, the discs being the ends of rafters, the festoons indicating the tiles, and the labels the ends of beams. But other carvings which adorn the cavern will not admit of being explained as survivals. The whole design of the verandah and its details is planned with perfect regularity and symmetry except in one striking particular. Between the doorways of the middle and western chambers—but not centrally between them—the trident symbol recurs; but unlike the example first mentioned, its three prongs spring out into several flamboyant branches. There is no carving on the

corresponding space between the central and eastern doorways. On the outside face of the pillars again the same theme is repeated, but with a different rendering in each case. Above the pillars a frieze covered with various details in relief exhibits personages seated upon unrecognisable animals, and at its eastern end is an object the meaning of which altogether defies conjecture, although its preservation is good. I scarcely know to what it can be likened, but it may be distantly compared to the press full of pigeon-holes in which the railway-clerk who takes fares keeps his tickets. In this instance the pigeon-holes are of various dimensions, and some of them are much fuller of tickets than others. I could not make a satisfactory examination of it, owing to the physical pain caused by its inspection. Any one who has suffered from exhibition headache will appreciate the sensation brought on by standing on the verge of a precipice, with one's back to it, and gazing almost vertically upwards at a surface very slightly inclined to the direction of sight. The representation of the object is of considerable size, perhaps five feet high.

A still more remarkable, though not more artistic excavation is that which, for want of a better name, may be called the King's Monument, carved in the body and face of a cliff on the left bank of the Min half way between Tao-ssu-kuan and Mo-tzŭ-ch'ang. It is known in the neighbourhood as the "Man Wang Tung"—Cave of the Mantzŭ King—and will be easily discovered by any one who inquires for it under that name. After ascending the cliff by a steep path the explorer walks along the brink which overhangs the monument until he sees a much steeper path leading down the precipice. Scrambling down the best way he can —there are plenty of weeds to hold on by—he comes after a few yards' progress to a doorway, the entrance to a flight of stairs which plunge into the heart of the rock. At the foot of these is a second flight forming in fact a pair of stairs, which lands him again on the face of the cliff in a small recess profusely carved with defaced and timeworn images, some of which are nearly detached, while others, possibly representing Buddhas, are sculptured in low relief on the sandstone wall. The most imposing effigy is a battered statue, 12 feet or more in height, the face of which is flattened away and pierced with deeply-cut square holes, presenting a most ghastly aspect, and really impressing a momentary horror upon a mind already troubled by the slippery descent and the sudden unexpected stairway leading down to the unknown. Now the word "Man-Wang"—King of the Mantzŭ—is loosely pronounced "Ma Wang," and a native who was with me insisted that the latter is the correct form and should be interpreted "The Pitted King," the evident intention of the square holes being to represent a severe case of small-pox. Unhappily for his most ingenious theory, this statue is not that of the king, and it is more probable that the holes were bored by the original sculptor for convenience in affixing a plaster mask which has been subsequently washed or worn away.

All the carvings in this recess are more or less unrecognisably mutilated. The floor is a mere ledge, without any parapet to save one from the precipice; but a levelled way leads a few yards along the face of the bluff into a kind of closet, wholly excavated in the sandstone, and overlooking the river by a window neatly cut through its thin outer wall. Beyond this is another ledge with a levelled floor about six feet wide, and here the explorer finds himself in full presence of the king.

His Majesty is represented by a very successful statue almost detached from the rock, and about as large again as life, seated on a bench in an easy and not ungraceful posture with one foot crossed upon the opposite knee and a hand laid upon the ankle, the body inclined slightly to the left and the face turned still more in the same direction. Although the work is not very delicate, it cannot be called rude. The sitter has an air of simple and unpretending affability, immensely differing from the "stuck-up" deportment of Chinese potentates as rendered by native sculptors; none but a born artist would have dared to portray an Oriental magnate in such unaffected guise. I should not even have observed the dress, but for a remark of my servant who noticed that the closely fitting coat was more like my frock-coat than a Chinese robe. The garment reaches to about mid-thigh, or a little lower, and very loose trowsers almost cover the shoes. The work is in fair preservation, and even much of the colouring has survived.

Perhaps the king's image is of later date than the other effigies. The people of the neighbourhood seem to take no interest in their conservation, but the approach to the grot is so secluded that they run little risk of gratuitous assault. No immediately local tradition, so far as I could learn, is attached to them. A Chinaman is always delighted to afford the fullest information about matters of which he is totally ignorant, but when he has remarked that the principal statue represents a Mantzŭ king, and inferred that it was carved by the Mantzŭ, he considers the subject exhausted. Whether the Mantzŭ—the aboriginal inhabitants of Western Ssŭ-ch'uan—were exterminated, absorbed, or exiled, is a question which historical research must solve; a stray traveller cannot expect, or be expected, to decide it. Mr. Alexander Wylie was the first to draw attention to these caves, and Baron von Richthofen makes allusion to them; but the proposed identification of their architects with the modern "Sifan," the twelve tribes who people the valley of the Upper T'ung, can hardly be more than a hopeful conjecture.

The Lolo chief who spent a few days with me under the precipices of Wa Shan professed to be acquainted with the Man Wang cave, and assured me that the statue portrays a certain Hsi-po, an ancient Lolo king—date unknown—of four powerful tribes, called Lin, Lung, Ma, and Wan, whose territory extended from Yueh-hsi to Chia-ting. It may be that Hsi-po is the same as the deity Shua-hsi-po, mentioned above; at any rate the Lolos worship Hsi-po, and burn as incense to him the

fragrant twigs of a dwarf fir which grows only on the loftiest summits. When speaking Chinese the Lolos call him Ma Wang—the Horse-king. "When we begin any enterprise," said the chief, "we invoke his name, much in the same way as the Chinese call upon Omito Fo. He is called the Horse-king because he could ride 500 *li* (100 miles) in the time it would take to cook a fowl (half an hour). The Chinese killed him, and ate his heart." Very likely this legend contains a grain of truth which more direct light may illumine.

The three caverns above described are the most elaborate I have seen, and the only examples I have gone many yards out of my way to visit. Hundreds, probably a great many hundreds, of a less artistic category exist, square or oblong chambers of five to eight feet, and some six feet high, entered by a doorway a yard or more square, which is cut into jambs on all four sides as if for the insertion of door-slabs, to close the opening. No trace however remains of such slabs. These are the most frequent, and are often excavated side by side, half a dozen together, in a convenient cliff, an arrangement which shows a certain resemblance to that of the ancient tombs at the temple of Pai-fo-ssŭ, mentioned above. Some of them, indeed not a few, are drilled high up in the face of a bluff, and impossible of approach; but in general their embrasures are level with the soil, or even beneath it in places where earth and fragments of rock have fallen from above and raised the surface. I have seen one instance, on the right bank of the Min above Chia-ting, where no less than twelve portholes, apparently entering upon caves of this character, are arranged with almost geometrical precision in three tiers, one above the other, and very close together. There is probably an internal communication between them, but they are too far aloft to be scaled without the aid of longer ladders than the Chinese employ. Caves of this kind, in one irregular tier, are common near Ch'ung-ch'ing, and some single specimens are met with even in the city. A case has occurred within my knowledge of a citizen digging in his garden at the foot of a low rock and coming, at four or five feet beneath the surface, upon the entrance of a cave which, however, contained no remains and, like all the rest, was unprovided with a door. A trustworthy observer informs me of an example near Ch'i-chiang Hsien, about 50 miles south of Ch'ung-ch'ing, which has been carved in a loose boulder of sandstone; in process of time the boulder has been upset, probably by a flood, in such a manner that the doorway now lies uppermost, like the mouth of a pit.

Another kind consists of a short gallery containing the settee above described, and sometimes a tank. There are many varieties of this species which it would be tedious to describe: enough has been said to show the interest and extent of the subject and to promise a rich reward to the patient explorer.

Two or three leading facts may be regarded as fairly established.

The caves are always situated near running water; but they do not occur, curiously enough, on the Yangtzŭ. Even if I had not failed to find them along the banks of that river, Captain Blakiston's silence on the subject would be almost conclusive. Again, none of them contain inscriptions. Brown, Jones, and Robinson, have indeed incised their signs-manual and recorded their *impressions de voyage* in the free and accepted manner of tourists, whether Chinese or cockney; but the style of such impromptus is easily recognised. If the caverns had been designed by Chinese architects, every instance would have exhibited a prominent and symmetrical inscription; the absence of anything of the kind is a proof that the constructors were not Chinese, and seems to indicate that they were not Buddhists, still they may have been early Buddhists. The ante-chapel leading to the King's Monument is carved, as already remarked, with small bas-reliefs very much worn down, which look like presentments of Buddha, and moreover colossal rock-statues are here and there met with in the cave country. One such, about 200 feet high, purports to be carved in the cliff opposite Chia-ting, but I failed to discover any trace of the sculptor's hand except in the face, which is roughly rounded from a projecting rock, and furnished with a plaster nose six or eight feet long. A more genuine colossus is found two days' journey east of Chia-ting, where, as a Russian traveller informs me, a hill has been hewn into a seated image of Buddha "several hundred feet high, which far overtops the roofs of the surrounding temples."

The last point worthy of remark is that while the Ssŭ-ch'uan caves are pierced in sandstone bluffs, the Lolo and Sifans inhabit a region of hard limestone in which such extensive perforations are impossible. It will consequently be hopeless to look in their countries for modern examples of such works with a view of supporting the theory that either of them are the descendants and representatives of the ancient Mantzŭ.

A persistent and plodding exploration of these interesting monuments will have to precede the formation of any trustworthy opinion respecting their design and their designers. The caves are of many kinds, and may have served many uses. They may have been tombs, houses, granaries, places of refuge, easily defended storehouses, shrines, memorials, and even sentry-boxes, according to their disposition and situation. The local Chinaman, a person of few thoughts, and fewer doubts, protests that they are the caves of the Mantzŭ, and considers all further inquiry ridiculous and fatiguing. His archæological speculations have not been greatly overstepped by my own theory, which I offer with diffidence, that these excavations are of unknown date, and have been undertaken, for unexplained purposes, by a people of doubtful identity.

Previous to the reading of the above paper,

The PRESIDENT said that he believed Sir Rutherford Alcock, their former President, was the author of the plan for the improvement of foreign diplomatic

service in China, the good results of which were now being reaped. Sir Rutherford persuaded the Government to establish in that country a school for the education of promising young men in the Chinese language, as well as in other necessary diplomatic information. Among these students Mr. Baber was one of the most distinguished. He acquired a remarkable knowledge of the Chinese language, and was chosen to accompany Mr. Grosvenor in a journey which extended across the whole of the southern portion of China, when the inquiry was made into the manner by which the unfortunate and gallant officer, Mr. Margary, met his death. Subsequently, he was appointed a consul at the principal town of West Ssŭ-chuan, and it was in the remoter portions of that province that the explorations were conducted which were described in the paper. In the absence of Mr. Baber, the paper would be read by Captain Gill, who had himself received the gold medal of the Society for his extensive and accurate explorations in China, the results of which had been given in one of the most valuable works upon Chinese travels which had ever issued from the press. Captain Gill was the personal friend of Mr. Baber, and travelled for three months with him up the great river through which the heart of China is entered. At the same time, the particular part of China about to be described has been visited only by Mr. Baber. It was commonly thought that in these days voyages of discovery were made rather to enlarge existing knowledge than to find new regions or new people, but Mr. Baber had visited an absolutely new country, and had been fortunate enough to come across a people of whose existence, race, and character, hitherto nothing at all had been known.

After the paper,

Sir Rutherford Alcock said the Society was very fortunate in having received a paper so full of original matter, and of such great scientific value as that of Mr. Baber. They were also fortunate in having (in the absence of the able writer) such a distinguished Chinese traveller as Captain Gill to read it. No one who was acquainted with Mr. Baber would fail to value not only his powers of mind, but his originality. His paper manifested a sense of humour in the narrative of his careful observations. He (Sir Rutherford) was glad to know that the paper had been written by a gentleman who first made his appearance in China while he was Minister at Pekin. Mr. Baber had previously distinguished himself at Cambridge, and had fully justified the hopes that were formed as to his future career. His discovery of what appeared to be a new language, and of a new people never before visited by any European, not even by Marco Polo, was a feat that could be reserved for very few in the present age of the world.

M. Terrien de LaCouperie said: Je suis très-honoré et ne saurais trop remercier le Président de son très gracieux appel à mes études spéciales à propos de l'une des plus importantes contributions qui aient été depuis longtemps fournies à l'ethnologie et à la linguistique de l'extrême-Orient. Je ne saurais jusqu'à présent dire que peu de chose du MS. Lolo envoyé par Mr. Colborne Baber. J'en ai eu communication grâce à l'amitié du Capitaine Gill, mais sans avoir eu aucune connaissance des nombreuses et valables informations contenues dans le rapport qui vient de vous être soumis. La copie xylographiée que j'ai examinée comprend sur huit feuillets 1800 mots dont 450 différents, en plusieurs textes qui ne sont pas tous de la même main et me semblent traiter de matières variées. Un mot est répété plus de cent fois, quelques uns une cinquantaine, un plus grand nombre de vingt à trente et ainsi de suite progressivement; le plus grand nombre est celui des exemples uniques. L'écriture est phonétique composée d'un petit nombre de caractères, moins de quarante; elle est alphabétique, les lettres se combinent en groupes. Le fait le plus remarquable à signaler et qui au premier moment causera quelques surprises à cause des théories prématurées est son extrême ressemblance avec quelques écritures

du grand archipel d'Asie. Son affinité est remarquable avec les écritures des Lampung et des Redjang de Sumatra auxquelles se rattachent celles des Battaks, Bugis et Mankassars, et probablement plusieurs autres plus à l'est. Si l'on veut bien se rappeler que l'anthropologie nous a signalé depuis quelques années l'existence et l'extension ancienne vers le sud de la race au type dit Caucasique à laquelle appartiennent les Lolos, on sera moins étonné de ce fait. Mais là ne s'arrêtent pas les affinités de cette écriture remarquable. Le Major Clarke, dans ses fouilles à Harapa dans le Pendjâb, a trouvé il y a quelques années un sceau en pierre qui a été publié par le Général A. Cunningham dans un des 'Reports of the Archæological Survey of India,' et ensuite dans son 'Corpus Inscriptionum Indicarum.' Or, la légende de ce sceau est en caractères pareils à ceux des Lolo, du MS. Baber. Et le savant archéologue lui attribue une antiquité de quatre à cinq siècles avant notre ère. D'un autre côté, je me permettrai de rappeler que j'ai signalé à la Royal Asiatic Society, l'affinité de l'alphabet Coréen et d'un ancien alphabet du Japon avec l'écriture Indo-Pâli d'Açoka, affinité qui est à considérer, comme le prouvent certaines formes archaïques des caractères, non comme une dérivation, mais comme un parallélisme par suite d'une origine commune. Enfin, l'écriture des Lolos offre les ressemblances les plus remarquables avec cette écriture d'Açoka, la plus ancienne connue de l'Inde; mais ces ressemblances ne sont pas le résultat d'une filiation directe de l'une à l'autre. Leur ensemble conduit à considérer l'écriture des Lolos comme faisant partie d'une famille d'écritures plus ou moins perfectionnées ultérieurement, dont nous trouvons l'origine, par la même série d'affinités, dans l'emploi phonétique d'un certain nombre de caractères chinois avec leurs prononciations de l'ouest de la Chine, emploi fait par les états frontières, selon toute probabilité, pour faciliter leurs relations commerciales. Les caractères Chinois auxquels ces écritures comparées nous conduisent en dernier ressort, appartiennent à l'écriture progressivement réduite qui était en usage en Chine quelques siècles avant notre ère et qui fut officiellement abandonnée en 211 av. n. è. Nous en trouvons de nombreux exemples non seulement sur les inscriptions mais encore sur les monnaies de l'époque. Il est une autre écriture des aborigènes de la Chine dont je suis heureux de pouvoir dire ici quelques mots, parceque son étrangeté nous est expliquée en partie par l'écriture des Lolos, dont elle parait être une variété fort grossière. C'est celle des Na-shi ou Mossos, qui n'éxiste plus qu'entre les mains des *tomba* ou sorciers et dont le P. Desgodins, le missionnaire au Tibet bien-connu, a pu prendre une copie qu'il a envoyée à sa famille en France, et dont je dois la communication à l'obligeance de M. Girard de Rialle. Cette écriture, outre un grand nombre de signes et de combinaisons comme celle des Lolo et d'anciens caractères Chinois? contient une masse de figures mythologiques, divinités, animaux, caractères bouddhiques, &c. Le British Museum est redevable au Capitaine Gill d'un très-beau MS. Na-shi, qu'il a eu l'heureuse chance de se procurer en passant à proximité de leur pays, pendant son remarquable voyage. Le Capitaine Gill, comme Mr. Colborne Baber, a droit à la reconnaissance des orientalistes. Mais tout ceci demande à être exposé dans un mémoire scientifique avec l'ensemble des preuves discutées au menu; ce qui ne saurait être fait dans une simple communication verbale déjà trop longue et dont je vous prie de m'excuser.*

The PRESIDENT, in proposing a vote of thanks to Captain Gill, said the paper was

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* Since the above was spoken, I have been able, by the kindness of Mr. Bates, to avail myself of the two other documents of Lolo writing sent by Mr. Baber; viz. the bilingual page and the list of twenty-one words. The result of this further inquiry is that I have nothing to modify in the foregoing statements, and that the Lolo writing is undoubtedly phonetic, and presents the most remarkable affinities with the writings of Sumatra to which I have referred.—T. de L.

sent by Mr. Baber to that gentleman with a request that he would forward it to the Royal Geographical Society. Captain Gill did as he was requested, but the value of the paper was only beginning to be ascertained when the Society received a notice from the Foreign Office saying that it ought not to have been forwarded to the Society, but should have been communicated to the Foreign Office. It had been sufficiently examined to show that it was entirely of geographical and in no respect of political interest, but of course the Society could not refuse to surrender it as it had been sent by an official connected with the Foreign Office. At the same time representations were made to the Foreign Office, and a hope was expressed that it might be returned to the Society. Hardly twenty-four hours before the meeting a letter was received from the Foreign Office requesting that the Society would furnish them with a printed copy of the paper in order that it might be placed in the archives. Captain Gill had, therefore, had the very difficult task of making selections from it at very short notice, but the specimens that had been read showed that Mr. Baber was not only a man who could think, but one who was able to express his thoughts in the most felicitous manner. At the same time it was impossible by a few extracts to convey to any audience an idea of the amount of minute and valuable information contained in the paper, which included several sheets of observations most carefully taken. The author had acquainted himself with all the knowledge required by the traveller who desired to obtain accurate information. His observations and his admirably made charts rendered the paper one of unusual and extraordinary interest, quite apart from the fact that the region discovered was inhabited by so singular a people as the Lolos appeared to be. The paper would shortly be published, and would justify the eulogiums passed upon it by all those who had had an opportunity of reading it.

APPENDICES.

APPENDIX A.

Corrected Readings of Temperature and Atmospheric Pressure at Ch'ung-Ch'ing.

The station is a house in the street known as Chiang-chia-hang, 225 feet above the level of the Yang-tzŭ, in latitude 29° 34′ N. and longitude 106° 50′ E.

The annexed table gives the monthly means of temperatures recorded three times a day at the hours indicated.

Temperature.

	1877.			1878.			1879.			1880.			Mean.		
	9 A.M.	3 P.M.	9 P.M.	9 A.M.	3 P.M.	9 P.M.	9 A.M.	3 P.M.	9 P.M.	9 A.M.	3 P.M.	9 P.M.	9 A.M.	3 P.M.	9 P.M.
Jan.	..	..	..	42·6	..	44·8	46·3	49·5	48·0	44·6	47·6	46·7	44·5	48·5	47·3
Feb.	..	..	..	..	..	..	49·6	[illegible]3·5	51·8	47·5	50·1	48·7	48·5	51·8	50·2
Mar.	..	..	..	..	..	..	52·[illegible]	55·9	55 0	57·2	63·5	60·6	54·6	59·7	57·8
April	66·1	71·9	66·6	..	..	..	65·0	70·5	67·4	63·5	69·6	65·5	64·9	70·7	66·5
May	70·0	74·2	72·0	..	..	..	69·4	77·0	74·5	71·0	76·6	73·4	70·1	75·9	73·3
June	76·4	82·2	78·6	..	..	..	75·7	81·0	78·1	74·1	78·6	75·7	75·4	80·6	77·5
July	..	..	..	79·1	84·0	80·6	82·7	88·3	84·9	80·2	85·7	82·5	80·7	86·0	81·5
Aug.	..	..	..	82·1	87·9	85·0	83·2	90·2	86·0	..	..	..	82·6	89·0	85·5
Sept.	..	..	..	77·4	83·8	78·1	77·0	82·5	78·6	76·3	83·6	79·6	76·9	83·3	78·8
Oct.	..	..	..	65·2	68·1	66·8	64·3	66·6	65·3	66·5	70·1	68·0	65·3	68·3	66·7
Nov.	..	..	..	57·7	60·9	59·0	57·6	60·9	59·4	..	..	..	57·7	60·9	59·2
Dec.	49·9	..	51·5	49·9	52·9	51·6	49·7	52·9	51·5	..	..	..	49·8	52·9	51·5
											Mean	..	64·2	69·0	66·3

The pressures shown in the following table were read from aneroid barometers, whose index error was frequently tested by comparison with boiling-point thermometers (with Kew corrections).

Pressure.

	1877.			1878.			1879.			1880.			Mean.		
	9 A.M.	3 P.M.	9 P.M.	9 A.M.	3 P.M.	9 P.M.	9 A.M.	3 P.M.	9 P.M.	9 A.M.	3 P.M.	9 P.M.	9 A.M.	3 P.M.	9 P.M.
Jan ..	..	..	..	..	..	..	29·49	29·34	29·42	29·48	29·33	29·42	29·485	29·335	29·420
Feb. ..	..	..	..	..	..	..	29·35	29·21	29·29	29·35	29·23	29·33	29·350	29·220	29·310
March ..	..	..	..	..	..	..	29·29	29·17	29·24	29·30	29·17	29·23	29·295	29·170	29·235
April ..	29·22	29·13	29·18	..	..	..	29·13	29·00	29 08	29·20	29·05	29·16	29·183	29·060	29·140
May ..	28·97	28·86	28·93	..	..	..	29·01	28·89	28·92	29·04	28·95	29·00	29·007	28·900	28·950
June ..	28·87	28·78	28·84	..	..	..	28·91	28·81	28·89	29·00	28·93	28·98	28·927	28·840	28·903
July ..	..	..	..	..	..	..	28·85	28·77	28·83	28·89	28·81	28·87	28·870	28·790	28·850
August	..	..	..	..	..	..	28·97	28·86	28·93	..	..	..	28·970	28·860	28·930
Sept. ..	..	..	..	..	..	..	29·11	28·99	29·09	29·19	29·06	29·14	29·150	29·025	29·115
Oct. ..	..	..	..	29·36	29·28	29·33	29·35	29·25	29·32	29·41	29·31	29·37	29·378	29·280	29·340
Nov. ..	..	..	..	29·55	29·42	29·50	29·39	29·26	29·33	..	..	..	29·470	29·340	29·415
Dec. ..	..	..	..	29·52	29·38	29·44	29·40	29·27	29·34	..	..	..	29·460	29·326	29·390
											Mean	..	29·212	29·095	29·166

A comparison of these readings with data supplied in Dr. Fritsche's 'Climate of Eastern Asia' places the station at 845 feet above sea-level.

The above means have been employed in calculating the altitudes in the next Appendix, i. e. Ch'ung-ch'ing has been taken as the *Lower Station* and 845 feet added to all results.

APPENDIX B.

Calculation of Altitudes.

Although I carried no hypsometrical apparatus by which to test aneroid readings, my lines of route cross very happily altitudes previously determined by Captain Gill, and I am thereby enabled to deduce the requisite corrections and to obtain fairly trustworthy results. The first stations of comparison occur a little beyond Ya-chou; the contrast between Captain Gill's record and my uncorrected readings was as follows:—

Station.	Date of Mr. Baber's visit.	Mr. Baber's Uncorrected Readings.	Date of Captain Gill's Visit.	Captain Gill's Corrected Mean Pressure.
Kuan-yin-p'u	Aug. 10, 7 A.M.	26·51	July 15	27·17
Yung-ching Hsien	" " 9 P.M.	26·68	" 16	27·35
Huang-ni-p'u	" 11, 9 "	25·37	" 17	26·03
Ta Hsiang-ling	" 12, 7 "	20·77	" 18	21·30
Ch'ing-ch'i Hsien	" 13, 9 "	23·72	" "	24·48

Allowing for the difference of date the comparison shows an index error of 0·77 + which I have accordingly applied to all subsequent readings.

No.	Date.	Place.	Corr. Bar.	Corr. Ther.	Bar. at L.S.	Ther. at L.S.	Deduced Altitude	Remarks.
	1877						feet.	
1	Aug. 17, 4 P.M.	Fu-lin	27·57	78	28·87	88	2175	On Ta-tu river.
2	" 18, noon	Pass S. of Ta-shu-pu	25·23	75	28·92	86	4770	
3	" " 9 P.M.	P'ing-i-p'u	25·11	73	28·94	84	4910	
4	" 19, 3 "	Pass above Hai-t'ang	22·77	73	28·89	88	7700	
5	" 20, 7 A.M.	Hai-t'ang or Ning-yueh	23·71	62	28·97	78	6490	
6	" 21, 8 "	Liao-i-p'u	24·27	62	28·98	80	5870	
7	" 22, 10 "	Kuan-ting	23·61	72	28·98	82	6720	
8	" " 10 P.M.	Yueh-hsi T'ing ..	24·72	72	28·96	82	5380	
9	" 23, 11 "	Hsiao-shao	23·81	67	28·97	81	6440	
10	" 24, 11 A.M.	Hsiao Hsiang-ling	21·27	71	28·98	84	9710	On summit.
11	" " 10 P.M.	Têng-hsiang-ying	22·91	69	28·97	82	7550	
12	" 27, 7 A.M.	Lu-ku	24·80	65	29·00	76	5290	
13	" 28, 6 "	Li-chou	24·94	66	28·98	74	5110	
14	" 30, 7 P.M.	Ning-yuan Fu ..	24·99	76	28·99	83	5135	
15	" 31, 11 "	Huang-lien-p'u ..	25·21	70	29·00	80	4870	
16	Sept. 1, 10 "	Ma-li-chai	25·22	69	29·00	80	4860	
17	" 2, 9 "	Hsiao-kao-ch'iao	25·67	72	29·01	81	4380	
18	" 3, 10 "	T'ieh-hsiang-fang	26·01	75	29·00	80	4000	
19	" 5, 7 A.M.	Tien-sha-kuan ..	25·62	68	29·04	74	4430	
20	" 6, 7 "	Mo-so-ying	25·72	65	29·04	74	4300	
21	" 7, 7 "	Pai-ko-wan	23·82	58	29·04	74	6435	
22	" 9, noon	Hui-li Chou ..	24·26	67	29·03	81	6000	
23	" 12, 6 A.M.	T'an-kuan-yao ..	24·23	61	29·05	71	5980	
24	" 13, noon	Liu-shu-wan ..	24·39	75	29·04	81	5895	
25	" 14, 7 A.M.	Near K'u-chu ..	24·54	68	29·06	73	5650	On river.
26	" " 3 P.M.	Summit of ridge	22·07	72	29·00	83	8695	
27	" 15, 7 P.M.	Tu-ké	22·83	58	29·06	80	7670	
28	" 16, 9 A.M.	Ché-po	23·44	58	29·11	77	6965	
29	" 17, 8 "	Ta T'an-kuan-yao	24·92	63	29·10	75	5240	
30	" 18, noon	Near Wa-wu ..	28·05	74	29·07	80	1900	On Gold River.

No.	Date.	Place.	Corr. Bar.	Corr. Ther.	Bar. at L.S.	Ther. at L.S.	Deduced Altitude	Remarks.
	1877						feet.	
31	Sept. 18, 8 P.M.	Ch'iao-chia T'ing	27·41	70	29·10	77	2580	
32	„ 19, 4 „	Ridge on R. B. of Gold River ..	21·98	72	29·02	82	8815	
33	„ 20, noon	Ai-chuo	22·68	71	29·10	79	7960	
34	„ „ 7 P.M.	Mao-p'o	23·47	63	29·11	78	6940	
35	„ 22, 8 A.M.	Fa-ni-wo	23·86	61	29·14	73	6470	
36	„ „ 1 P.M.	Summit of pass ..	22·03	50	29·10	79	8630	
37	„ 24, 8 A.M.	Ta-p'ing	24·55	56	29·17	73	5670	
38	„ 25, 9 „	Near Wei-ku ..	27·25	63	29·18	74	2780	On Niu-lan river.
39	„ 26, 9 „	Shui-kou	23·97	54	29·19	73	6340	
40	„ 27, 9 „	Hei-lu-ch'i	23·12	48	29·20	73	7320	
41	„ 28, 8 „	Ku-chai	23·42	52	29·19	72	6970	
42	„ 29, 8 „	Hsin-kai-tzŭ ..	23·50	49	29·21	68	6835	
43	„ 30, 8 „	Yuan-chia-ta-ti ..	23·28	49	29·21	68	7095	
44	„ „ 10 „	Pai-fa-ch'i	21·97	47	29·23	73	8730	
45	„ „ 3 P.M.	Highest point of Downs	21·29	48	29·12	77	9540	
46	Oct. 1, 7 A.M.	Yeh-chu-chai ..	22·04	49	29·22	66	8600	
47	„ 2, 10 „	Kuan-chai	21·97	49	29·25	72	8760	
48	„ 4, 7 „	Hsin-tien-tzŭ ..	26·02	57	29·24	64	4060	
49	„ 6, 9 „	Near Huang-kuo-shu	28·91	69	29·28	68	1200	On Gold River.
50	„ „ 4 P.M.	Ya-k'ou	25·07	70	29·15	71	5090	
51	„ 8, 8 A.M.	Mi-t'ien-pa	25·65	63	29·28	64	4525	
52	„ „ noon	Ting-chiang-ao ..	24·93	71	29·25	69	5340	
53	„ 9, 7 A.M.	Ta-wu	26·17	57	29·28	63	3945	
54	„ 10, 7 „	Lêng-fan-kou ..	26·37	56	29·28	63	3735	
55	„ 11, 7 „	Ching-ti	27·67	63	29·29	62	2425	
56	„ 12, 8 „	Kuo-ch'üan-t'an ..	29·04	70	29·32	63	1115	A few feet above Gold River.
57	„ 15, 7 „	¾ mile N. of Nan-mu-p'ing	26·80	60	29·32	61	3330	
58	„ 16, 7 „	Chuo-pang-ai ..	27·38	63	29·32	61	2745	
	1878							
59	Mar. 16, 9 A.M., 3 P.M., 9 „	Fu-lin	27·87	55	29·22	58	2145	In village (see Nos. 1 and 73).
60	„ 18, 9 A.M., 3 P.M., 9 „	Ho-ch'ang-pa ..	27·76	55	29·22	58	2250	
61	„ 22, 9 A.M., 3 P.M., 9 „	Tzŭ-ta-ti	27·54	64	29·20	59	2465	A few feet above Ta-tu river.
62	Apr. 19, 5 P.M.	Pass between T'ien-wan and Wan-tung ..	23·32	71	29·04	70	7020	
63	„ 21, 8 A.M.	Pass between Wan-tung and Mo-si-mien	22·17	59	29·13	64	8410	
64	„ 22, 8 „	La-ma-ssŭ	24·52	53	29·13	64	5590	
65	„ 23, 8 „	Ta-ch'iao	22·27	39	29·12	64	8135	
66	„ 24, 8 „	Pass between Ta-ch'iao and Ta-chien-lu	18·69	32	29·12	64	12820	
67	May 7, 9 „, 9 P.M.	Ta-chien-lu ..	22·03	56	29·00	70	8480	Capt. Gill has 8346
68	„ 20, 9 A.M., 9 P.M.	Lu-ting-ch'iao ..	25·42	70	28·95	72	4515	„ „ 4640
69	„ 24, 8 A.M.	Hua-lin-p'ing ..	23·19	61	28·97	69	7050	„ „ 7073

No.	Date.	Place.	Corr. Bar.	Corr. Ther.	Bar. at L.S.	Ther. at L.S.	Deduced Altitude	Remarks.
	1878						feet.	
70	May 24, 10 A.M.	Fei-yueh-ling ..	21·34	62	28·97	73	9410	Capt. Gill has 9022
71	„ 25, 8 „	Ni-t'ou	24·91	69	28·97	69	5090	„ „ 4882
72	„ 26, 8 „	Fu-chuang	26·09	73	28·96	69	3790	„ „ 3878
73	„ 30, 7 „	Fu-lin	27·34	71	28·95	67	2450	In upper chamber of temple. Accept 2150 for level of river.
74	„ „ 3 P.M.	Ma-lie	24·69	73	28·87	78	5290	
75	„ „ 9 „	Ma-lie-shao ..	22·80	67	28·92	74	7540	
76	June 1, 8 A.M.	Huang-mu-ch'ang	23·93	58	28·95	71	6150	
77	„ „ 4 P.M.	So-i-ling Pass ..	21·74	55	28·86	79	8775	
78	„ 2, 9 A.M.	Ta-t'ien-ch'ih ..	24·10	63	28·95	73	5985	
79	„ 5, 11 „	Summit of Mt. Wa	20·37	48	28·90	75	10545	
80	„ 11, 7 „	Chin-kou-ho ..	28·04	71	28·90	71	1695	
81	„ 12, 9 „	Shui-tiao-lin ..	26·24	68	28·93	75	3600	
82	„ 13, 9 „	Hsin-ch'ang ..	27·12	66	28·93	75	2670	
83	„ 17, {9 „ / 3 P.M. / 9 „}	Chia-ting Fu ..	28·66	75	28·89	75	1070	On river.
84	.. ..	Huang-mao-kang	1670 ft. above Chia-ting Fu				2740	
85	.. ..	Yü-lung	2430	„	„		3500	
86	.. ..	Ts'ai-kou	2560	„	„		3630	
87	.. ..	Omi Hsien	400	„	„		1470	
88	.. ..	Mt. Omi	9770	„	„		10840	
89	.. ..	Lung-ch'ih	1660	„	„		2720	A few feet above lake.
90	.. ..	Lu-lu-p'ing ..	2560 ft. above Chin-kou-ho				4255	
91	.. ..	P'ing-shan Hsien	..		..		1025	

The following levels, observed in 1876, are somewhat less trustworthy :—

No.	Date.	Place.	Corr. Bar.	Corr. Ther.	Bar. at L.S.	Ther. at L.S	Deduced Altitude	Remarks.
	1876							
92	Feb. 4, 3 P.M.	An-pien	29·27	52	29·25	51	870	Probably too low by 100 feet.
93	„ 9, 7 A.M.	Lao-wa-t'an ..	29·00	41	29·32	45	1140	
94	„ „ 1 P.M.	Summit of Li-shan	26·18	46	29·28	50	3865	
95	„ 10, 9 A.M. / 9 P.M.	Ch'i-li-p'u ..	27·48	48	29·34	48	2610	
96	„ 14, 8 A.M.	Ta-kuan Hsien	26·35	42	29·34	47	3725	
97	„ „ 1 P.M.	Yang-liu-shu ..	25·86	48	29·27	51	4195	
98	„ 15, 9 „	Wu-chai	24·22	39	29·31	49	5950	
99	„ „ 1 „	Ta-ngai-tung ..	23·84	50	29·27	51	6410	
100	„ 16, 9 A.M.	Wu-ma-hai ..	23·48	38	29·35	48	6805	
101	„ 17, {8 „ / 2 P.M. / 9 „}	Chao-t'ung Fu	23·67	44	29·29	50	6585	
102	„ 21, 9 „	Lu-tien	23·78	35	29·30	52	6420	
103	„ 22, 3 „	Ma-tsao-kou ..	22·93	43	29·21	54	7380	

No.	Date.	Place.	Corr. Bar.	Corr. Ther.	Bar. at L.S.	Ther. at L.S	Deduced Altitude	Remarks.
	1876						feet.	
104	Feb. 23, 8 A.M.	Chiang-ti ..	25·78	42	29·32	48	4300	100 feet above Niu-lan R.
105	" " 1 P.M.	Ya-kou-t'ang ..	23·60	61	29·27	52	6750	
106	" " 9 "	I-chê-hsün ..	24·05	54	29·29	52	6220	
107	" 24, 3 "	Shan-hu-shu ..	22·98	44	29·21	54	7335	
108	" 25, 8 A.M.	Hung-shih-ngai	23·84	31	29·31	49	6330	
109	" " 9 P.M.	Tung-ch'uan Fu	23·10	36	29·28	52	7190	
110	" 27, 3 "	Ch'ê-lu-ching ..	21·00	52	29·20	55	(?)9000	Beyond range of aneroid.
111	Mar. 1, 1 "	Liu-shu-ho ..	23·40	70	29·24	54	7020	
112	" " 9 "	Hsün-tien Chou	23·84	58	29·28	53	6470	
113	" 2, 1 "	Chiang-so ..	23·72	69	29·24	55	6650	
114	" " 9 "	I-lung	23·33	54	29·27	54	7040	
115	" 4, 8 A.M.	Yang-lin	23·71	56	29·30	50	6610	
116	" 5, 1 P.M.	Fên-shui-ling ..	23·22	63	29·23	55	7190	
117	" 17, {7 A.M. 9 P.M.}	Yun-nan Fu ..	23·78	51	29·25	55	6490	

APPENDIX C.

LATITUDES OF POSITIONS.

No.	Station.	Object Observed.	Deduced Latitude.			Mean or corrected Latitude.			Remarks.
			°	′	″	°	′	″	
1	P'ing-shan Hsien ..	Star N.	28	39	6				
2	" ..	Sun	28	39	8	28	39	7	On river bank at east end of city.
3	Yen-tzŭ-ngai	Sun	28	24	0	28	23	49	
4	T'an-t'ou	Star S.	28	19	49	28	19	38	
5	Lin-chiang-ch'i ..	Sun	28	9	23	28	9	12	
6	Summit of Li-shan ..	Sun	28	3	21	28	3	10	
7	Ta-ngai-tung	Sun	27	31	29	27	31	18	
8	Cha-shang	Sun	27	25	23	27	25	12	
9	Chao-t'ung Fu ..	Star S.	27	20	42		..		Examination Hall.
10	" ..	Sun	27	20	29				
11	" ..	Star S.	27	20	41				
12	" ..	Star S.	27	20	49				
13	" ..	Sun	27	20	43	27	20	30	
14	Cha-la-hsün	Sun	27	16	31	27	16	20	
15	Chiang-ti	Star S.	27	0	1				
16	"	Star N.	26	59	39	26	59	50	
17	Ya-kou-t'ang	Sun	26	54	52	26	54	41	
18	I-chê-hsün	Star S.	26	49	30	26	49	19	
19	Shan-hu-shu	Sun	26	42	48	26	42	37	
20	Hung-shih-ngai ..	Star S.	26	37	38	26	37	27	
21	Tung-ch'uan Fu ..	Star S.	26	24	59	26	24	48	Examination Hall.
22	Hsiao-ch'ang-t'ang ..	Sun	26	19	49	26	19	38	
23	Chê-chi	Star S.	26	14	37				
24	"	Star N.	26	14	20	26	14	28	
25	Lai-t'ou-p'o	Star S.	26	1	42				
26	"	Star N.	26	1	39				
27	"	Sun	26	1	8				
28	"	Star S.	26	1	27	26	1	40	

No.	Station.	Object Observed.	Deduced Latitude.			Mean or corrected Latitude (N.)			Remarks.
			°	'	"	°	'	"	
29	Kung-shan	Star S.	25	45	7				
30	,, ...	Star N.	25	44	49	25	44	58	
31	Liu-shu-ho	Sun	25	40	9	25	39	58	
32	Hsün-tien Chou ..	Star S.	25	34	6				
33	,, ..	Star N.	25	33	34	25	33	50	
34	Chiang-so	Sun	25	26	28	25	26	17	
35	I-lung	Star N.	25	22	9	25	22	20	
36	Ho-k'ou	Sun	25	17	11	25	17	0	
37	Yang-lin	Star S.	25	13	36				
38	,, ...	Star N.	25	13	18	25	13	27	
39	Ch'ang-p'o	Star S.	25	7	46				
40	,, ...	Star N.	25	7	43	25	7	45	
41	Fên-shui-ling ..	Sun	25	5	24	25	5	20	
42	Pan-ch'iao	Star S.	25	3	6				
43	,, ...	Star N.	25	3	18	25	3	12	
44	Yun-nan Fu	Star S.	25	2	41				
45	,, ...	Star N.	25	2	35				
46	,, ...	Star S.	25	2	45				
47	,, ...	Star N.	25	2	55	25	2	44	
48	Liao-i-p'u	Star S.	28	54	37	28	54	0	
49	Pao-an-ying	Star S.	28	49	53	28	49	15	
50	Têng-hsiang-ying ..	Star S.	28	28	22	28	27	44	
51	Ning-yuan Fu ..	Star S.	27	54	14		..		Examination Hall.
52	,, ..	Star S.	27	54	3				
53	,, ..	Star N.	27	52	41	27	53	25	
54	Huang-lien-p'u ..	Star S.	27	41	19				
55	,, ..	Star N.	27	40	10	27	40	44	
56	Ma-li-chai	Star S.	27	32	8	27	31	30	
57	Hsiao-kao-ch'iao ..	Star S.	27	22	14	27	21	36	
58	Chin-ch'üan-ch'iao ..	Sun	27	11	32	27	10	54	
59	Hui-li-chou	Sun	26	39	35		..		Examination Hall.
60	,, ...	Sun	26	39	35	26	39	0	
61	½ mile N.W. of Hsiao-pa	Sun	26	34	23	26	33	45	
62	Liu-shu-wan	Sun	26	35	56	26	35	18	
63	Wa-wu	Sun	26	53	47	26	53	10	
64	Ch'iao-chia T'ing ..	Star N.	26	54	14				
65	,, ..	Star S.	26	55	29	26	54	51	
66	Ai-chuo	Star N.	26	55	5				
67	,, ...	Star S.	26	56	32				
68	,, ...	Sun	26	56	6	26	55	48	
69	Mao-p'o	Star N.	26	57	55	26	58	33	
70	Niu-ko-ch'ang	Sun	27	2	58	27	2	20	
71	Near Lung-shu ..	Sun	27	18	29	27	17	51	
72	Pai-fa-ch'i	Sun	27	33	2	27	32	24	
73	San-chia-chai	Sun	27	39	27	27	38	50	
74	Yang-liu-shu	Sun	27	50	48	27	50	10	
75	Huang-p'ing	Star N.	27	52	0				
76	,, ...	Star S.	27	53	23	27	52	41	
77	Sha-ho	Sun	27	57	22	27	56	44	
78	Kan-t'ien-pa	Star N.	27	57	16				
79	,, ...	Star S.	27	58	40	27	57	58	
80	Huang-kuo-shu ..	Sun	28	0	2	27	59	24	
81	Ya-k'ou	Star N.	28	0	26				
82	,, ...	Star S.	28	1	35	28	1	0	
83	Ting-chiang-ao ..	Sun	28	5	3	28	4	25	
84	Yu-fang-kou	Sun	28	13	26	28	12	48	

No.	Station.	Object Observed.	Deduced Latitude.			Mean or corrected Latitude.			Remarks.
			°	′	″	°	′	″	
85	Ching-ti	Star N.	28	13	42				
86	"	Star S.	28	14	51	28	14	16	
87	On bluff E. of Ching-ti	Sun	28	15	5	28	14	27	
88	Kuo-ch'ün-t'an ..	Star S.	28	13	29	28	12	51	
89	Hsin-tien-tzŭ	Sun	28	14	51	28	14	13	
90	Huang-lung-ch'i ..	Sun	28	35	41	28	35	3	
91	1¼ miles W. of Ming-yuan Bridge.. ..	Sun	28	38	38	28	38	0	
92	Sui Fu (Sü-chou Fu) in mouth of River Min.	Sun	28	47	23	28	46	43	
92a	2 miles above Niu-shih-pien	Sun	28	48	11	28	47	31	
93	½ mile above middle of Chu-kên-t'an ..	Sun	29	25	31	29	24	51	
94	Mouth of T'ung river	Sun	29	34	4	29	33	24	
95	Chia-ting Fu (middle of east wall) ..	Sun	29	34	40	29	34	0	
96	Ta-t'ien-ch'ih	Sun	29	24	0	29	23	20	
97	Mu-hsü	Sun	29	21	18	29	20	38	
98	Fu-lin	Sun	29	21	46	29	21	6	
99	Ho-ch'ang-pa	Sun	29	21	29	29	20	49	
100	1 mile W.S.W. of Lao-wa-hsüan	Sun	29	14	48	29	14	8	
101	Tzŭ-ta-ti	Sun	29	17	53				
102	"	Star S.	29	17	27				
103	"	Star N.	29	16	0				
104	"	Sun	29	17	28	29	16	44	
105	Lao-wa-hsüan	Sun	29	15	38	29	14	58	
106	Na-erh-pa	Sun	29	16	22				
107	"	Star N.	29	14	37				
108	"	Star S.	29	16	14				
109	"	Star N.	29	14	38				
110	"	Star S.	29	16	13	29	15	25	
111	Ch'u-la Ravine ..	Star N.	29	19	50				
112	"	Star S.	29	20	53	29	20	20	
113	Ta-chien-lu (100 yards N. of South Gate)	Star N.	30	2	40				
114	" "	Star N.	30	2	25				
115	" "	Star S.	30	3	49				
116	" "	Star S.	30	3	28	30	3	5	
117	Lu-ting-ch'iao	Star N.	29	54	27				
118	" ..	Star S.	29	55	8				
119	" ..	Star S.	29	55	24				
120	" ..	Star N.	29	54	43	29	54	55	
121	Fu-chuang	Star S.	29	33	23	29	32	54	

APPENDIX D.

Longitude of Positions.

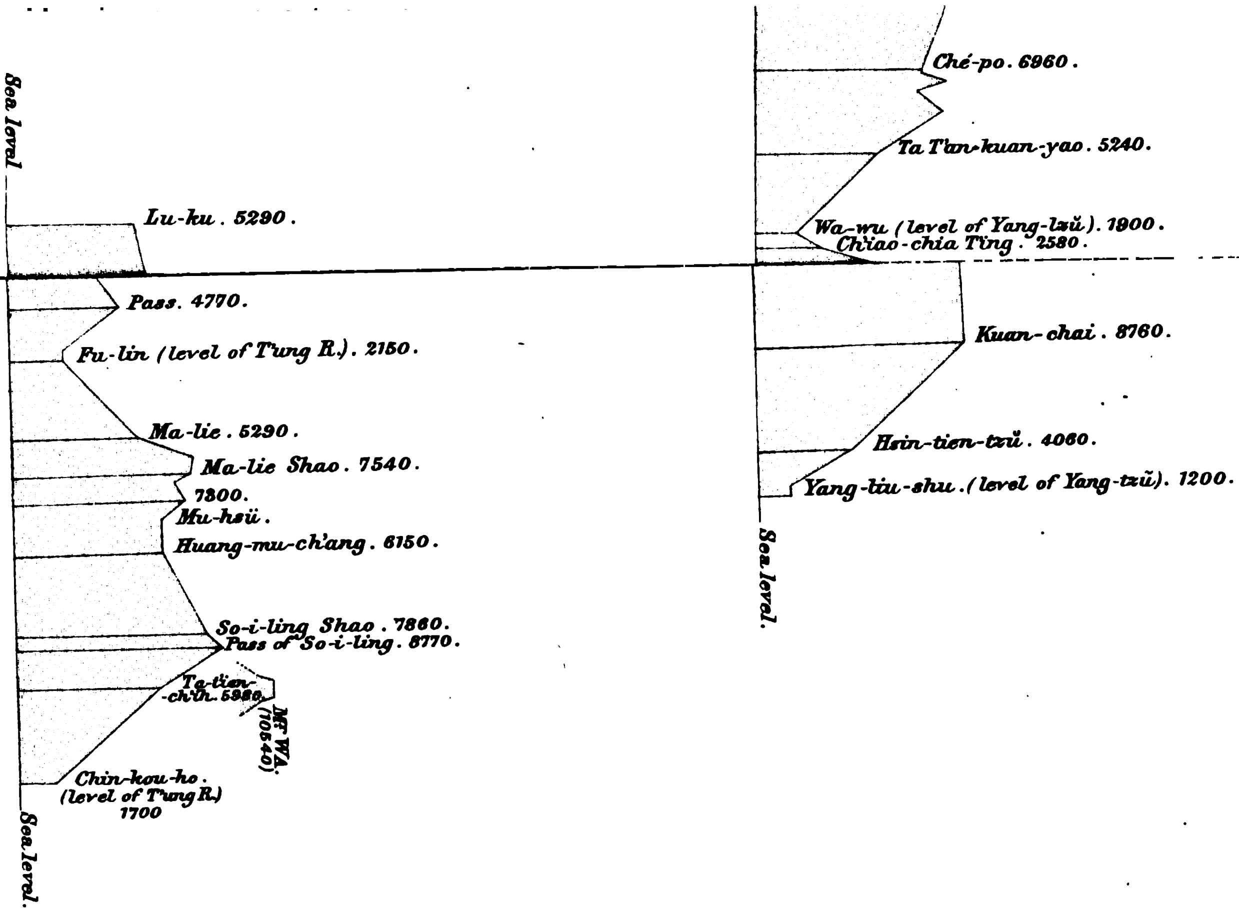
No.	Station.	Date.	Method of Observation.	Longitude E.		Remarks.
		1877.		° ′	° ′	
1	Ch'iao-chia T'ing	Sept. 18 ..	Lunars	Jupiter W. 103 3·5 Saturn E. 102 39	102 51·2	Accept 103° 5′.
		1878.				
2	Tzŭ-ta-ti ..	March 24 ..	Do. ..	Spica W. 102 39·5 Jupiter E. 102 39·3	102 39·4	See No. 4, below.
3	Do. ..	„ 25 ..	Do. ..	Spica W. 102 27·6 Altair E. 101 33	102 0·6	Rejected.
4	Na-erh-pa ..	April 7 ..	Do. ..	Sun W. 103 1·2 Pollux E. 102 26·3	102 43·8	Station No. 2 is six miles west of Station No. 4 by D.R.; the two results may therefore be accepted as substantially correct.
5	Chia-ting Fu	June 19–25	Chronometric difference with Ch'ung-ch'ing	.. ..	104 0	
6	Sui Fu (Sŭ-chou Fu)	„ 21–25	Do. ..	.. ..	104 51·6	Capt. Blakiston has 104° 55′.
		1880.				
7	Ch'ung-ch'ing Fu	June 22 ..	Eclipse of Moon	.. ..	106 50·7	Capt. Blakiston has 106° 50′.

APPENDIX E.

Magnetic Variation.

No.	Station.	Date.	Mag. Var.	Remarks.
		1876	° ′	
1	Yunnan Fu	Mar. 11, P.M.	4 10	Mean: 4° 50′ E.
2	„	„ 12, A.M.	5 30	
		1877		
3	Lu-ku	Aug. 26, P.M.	3 0	Chien-ch'ang Valley: Mean Mag. Var. about 4° 10′ E.
4	Ning-yuan Fu	„ 28, „	4 20	
5	„	„ 29, A.M.	5 30	
6	„	„ „ P.M.	5 0	
7	„	„ 30, „	4 0	
8	Hsio-kao-ch'iao	Sept. 2, „	3 0	
9	T'ieh-hsiang-fang	„ 8, „	4 45	District of Hui-li Chou: Mean Mag. Var. about 5° 10′ E.
10	Hui-li Chou	„ 9, „	5 40	
11	Chiang-chou	„ 12, „	4 25	
12	Lo-po-ti	„ 19, „	6 30	Mountainous region on right bank of Gold River.
13	Ai-chou	„ 20, A.M.	5 15	
14	1 mile N. of Yeh-chu-chai	Oct. 1, „	30 0	
15	San-chia-chai	„ „ P.M.	7 30	
16	Hsin-tien-tzŭ	„ 3, „	4 10	Valley of Gold River: Mean Mag. Var. about 3° 40′ E.
17	Near ditto	„ 4, A.M.	4 0	
18	Ya-k'ou	„ 6, P.M.	3 0	
19	„	„ 7, A.M.	3 40	
20	Near Ching-ti	„ 10, P.M.	3 30	
		1878		
21	Sui Fu (Sŭ-chou Fu) ..	Feb. 14, P.M.	3 0	Min river: Mean Mag. Var. about 2° 45′ E.
22	Tao-ssŭ-kuan	„ 24, A.M.	2 30	
23	Lu-lu-p'ing	Mar. 6, „	4 30	Region of T'ung river: Mean Mag. Var. probably about 4° 30′ E., with great local deviation.
24	On Ma-lieh Mountain ..	„ 13, P.M.	4 35	
25	Near Lao-wa-hsüan	„ 21, „	7 25	
26	Tzŭ-ta-ti	„ 22, „	7 50	
27	Hsiao-ma-chang	April 16, „	4 50	
28	Ta-chien-lu	„ 25, A.M.	8 50	
29	Lu-ting-ch'iao	May 20, P.M.	4 30	

To face Page 152.



Edwd Weller, Lith.