

western side of Jebel Shushina, as the route between these two points was known to be difficult owing to the Kharashaf patch. The relative positions of this peak and the camp in Bu Gerara were fixed by compass survey. The group was then moved in longitude till the peak was on the long compass ray. As the position for the camp in Bu Gerara thus found corresponded to well within a minute of the longitude found by chronometric meridian distance from Kairowin, on the assumption of the zero rate found for the stay in Camp I. and the journey between Kasr Farafra and Mut, this astronomical position was accepted. The watch ran down in Kairowin after a set of observations had been made. Another set was taken when the watch had been restarted, and from these the distance to Kasr Farafra was ascertained. A position for Camp II. and an absolute longitude by lunar altitude in Bu Gerara were rejected as bad; so, too, were some of the pairs of theodolite observations (FL and FR) taken in other camps.

ACROSS THE CHUNG-TIEN PLATEAU.

By F. KINGDON WARD, B.A., F.R.G.S.

LI-CHIANG FU, formerly the capital of the powerful Moso kingdom reduced, so it is said, by Hunanese soldiers whose mixed descendants now form the population of the city, is by no means the pretentious place which the designation Fu (since repealed, in the case of all cities save provincial capitals, by the present government) would seem to imply, being but a small unwallled city on the edge of an irregularly shaped plain, 8200 feet above sea-level, and completely encompassed by high mountains. Though the original centre of the Moso kingdom, yet pure Moso are, in my experience, to be found rather in the neighbourhood of Wei-hsi, above the Mekong, than round Li-chiang. Of Tibetan origin, their religion is a form of Tibetan Buddhism, but they have their own priests and monasteries. The mixed Chinese and Moso people of the city and surrounding districts are called by the Chinese simply Li-chiang families, though they still call themselves *pen-ti* (aborigines), resenting the term Moso.

The quickest but by no means the most favoured route between Li-chiang and A-tun-tzŭ is viâ the Chung-tien plateau, a route which on account of its loneliness and its high passes, particularly that over the dreaded Pei-ma-shan, is carefully eschewed by the Chinese muleteers, while even the Li-chiang men can rarely be persuaded to go beyond Chung-tien. Consequently it is necessary to employ Tibetan animals the whole way, waiting in Li-chiang till a Tibetan caravan comes in, or going to Chung-tien with local animals, to change animals there—a plan which I adopted since for botanical work. Chung-tien was a more favourable place in which to be stranded than Li-chiang.

Making a short stage the first day across the narrow plain and up over

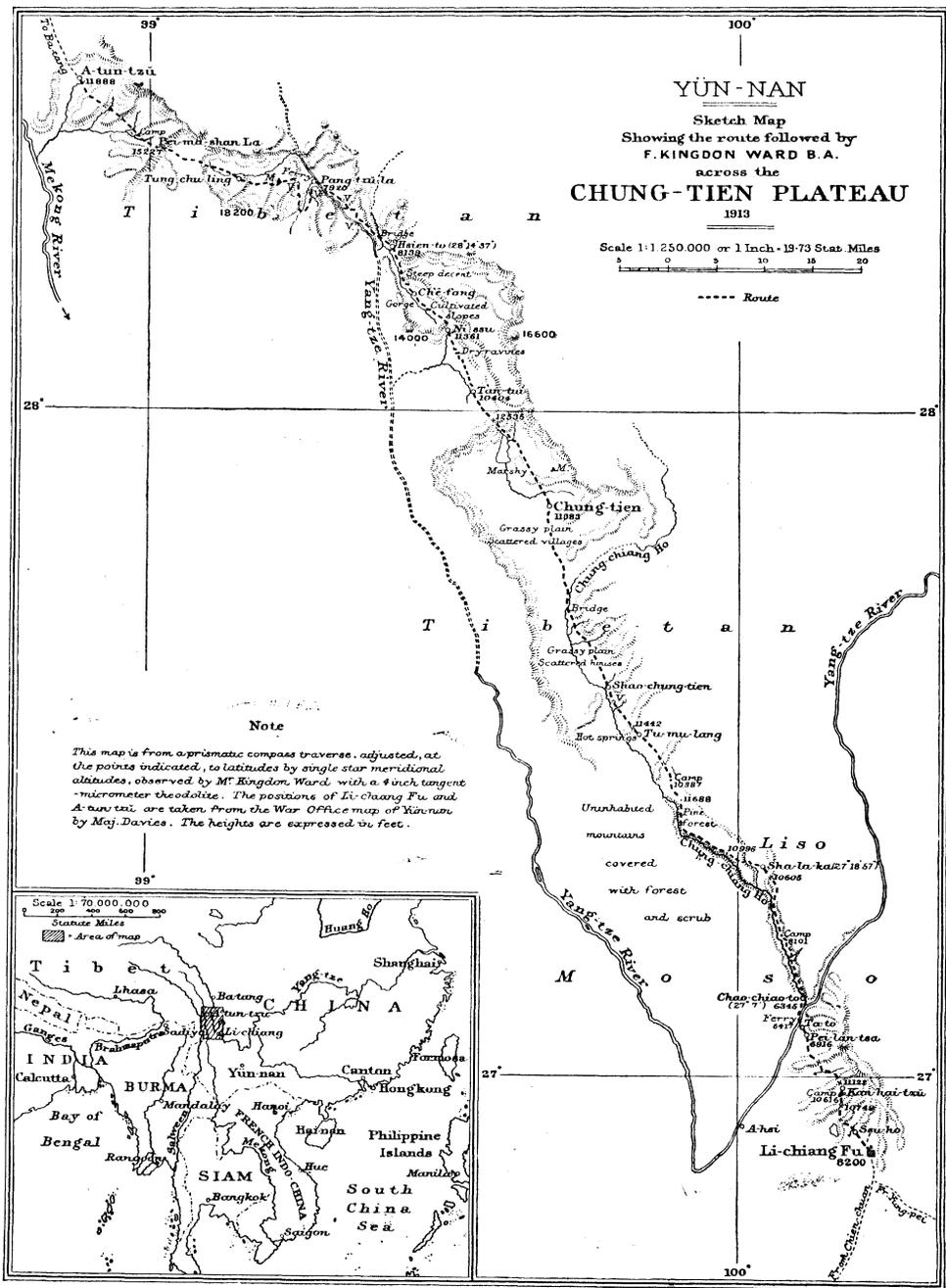
the shoulder of the Li-chiang snowy range, we reached the charming little flat of Kan-hai-tzŭ ("dry lake"), and to the hiss and rattle of a sudden furious squall of rain, pitched camp. The flat, which is surrounded by wooded hills presenting in spring a beautiful mingling of green, yellow, and red leaves unfurling, of gloomy changeless conifers, and of rhododendrons in blossom, and overshadowed to the north-east by the great pile of the Li-chiang range, is completely under water in summer, though at this season the streams from the marshy ground, converging into a deep muddy pit the sides of which clearly display a dozen successive water-levels, find a way out under the limestone rocks. Being far too narrow to drain off the water as fast as it pours into the lake during the rains, however, the exit is doubtless soon choked with silt and rendered useless.

Next day we crossed a low pass and descended to the drier pine-clad slopes of the Yang-tze. Far below rolled the great river just setting out on its long north loop, its yellow water gleaming in the sunshine, its narrow valley bristling with tiny villages and fields of wheat, peas, beans, and not a little of the banished opium. The people are mostly Li-chiang families living in substantial houses of mud and timber, with tiled roofs.

The ferry-boat is a fine big scow, and took our fifteen mules with their loads and about a dozen persons across in one journey. The water was turbid with mud brought down by the melting snow, and the river had no claim now to the name *Fleuve Bleu*, which the French have given it on account of its glorious colour in winter. Though there was a fair current running, not the slightest rapid was visible for as far as we could follow the river with the eye, but a few miles below the ferry, where we turned off to follow up the Chung-chiang, the Yang-tze swings round a corner and suddenly entering a gloomy gorge by a portal not unworthy of the great Bellows Gorge in the famous reaches of Hupeh, bursts its way right through the Li-chiang range, which further west has apparently barred its passage.

On the fourth day we crossed the Chung torrent at Chao-chiao-to, and continued up the narrow valley, generally at some height above the river. It seemed impossible that any fish could make its way up such a roaring cataract, yet here were men scrambling along the edge of the river, casting with long bamboo rod into the whirling foam, and in the evening they brought two fish into camp, fine fellows, brown and speckled like trout, which indeed they resembled, the largest weighing six or seven pounds. It was good eating.

After a night of rain a clear day followed, and the snow-peaks of the Li-chiang range were often visible at the heads of the valleys to the east. Leaving the main river, which for some miles thunders through an impassable ravine, we ascended through magnificent conifer forest, many of the trees attaining upwards of 100 feet in height, and crossing a pass, 10,600 feet above sea-level, descended to a couple of Liso huts and pitched our fifth camp. It was a splendid night, though cold, the stars blazing like diamonds, and here I took my third observation for latitude. All



YUN-NAN

Sketch Map
 Showing the route followed by
 F. KINGDON WARD B.A.
 across the
CHUNG-TIEN PLATEAU
 1913

Scale 1:1 250 000 or 1 Inch = 19.73 Stat. Miles

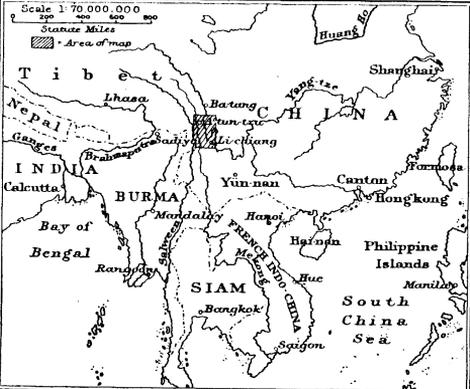
0 5 10 15 20

----- Route

Note

This map is from a prismatic compass traverse, adjusted, at the points indicated, to latitudes by single star meridional altitudes, observed by Mr. Kingdon Ward with a 4 inch tangent micrometer theodolite. The positions of Li-chang Fu and A-tsun tai, are taken from the War Office map of Yun-nan by Maj. Davies. The heights are expressed in feet.

Scale 1:70 000 000
 0 100 200
 Statute Miles
 Area of map



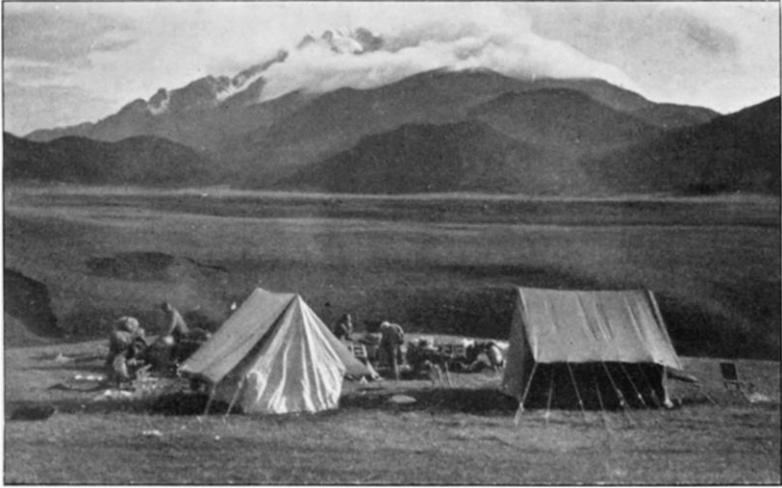
this forest-clad country is very sparsely populated, and after leaving Chao-chiao-to, we had passed none but scattered huts.

Next day, climbing a high spur, we presently emerged on to a ridge far above the Chung river, and continued so all day through pine forests and over plateau country ablaze with pink rhododendron, finally pitching camp in an open marshy meadow at an altitude of nearly 11,000 feet. To the west, the mountains, still covered with snow, though of no considerable altitude just here, are said to be uninhabited right away to the Yang-tze, and all round us the pine forests and scrub-covered hills were as forlorn and deserted as can well be imagined.

At noon next day we set out again, crossed a low pass, and descended abruptly from the wooded country to a broad grassy valley; it required no second glance to convince one that these big square houses dotting the green turf, these scaffoldings, these tall poles with narrow tattered flags fluttering from them, and these herds of shaggy yak belonged to none other than Tibetans. We had entered the grazing country, with all those glaring contrasts which such a fundamental change of livelihood implies.

For the remainder of the day, and all next day, we traversed one narrow plain after another. The river, now flowing swiftly but quietly between high sheer banks of sand and gravel, has in the course of its meandering left higher terraces to the east, and the tributaries from this side having cut across them and at the same time left terraces of their own, the valley presents a curious spectacle, in places reminding one somewhat of the Bournemouth chines, in other places of the artificial dykes seen in the Fens. Scattered along the valley are substantial houses, rarely more than a dozen together, usually only three or four; they are not flat roofed, but built with gable ends and roofed with shingles kept down by stones. There is some cultivation, but for the most part the ground is too marshy, and is given over entirely to grazing. Here and there the valley, which averages a mile and a half or more in breadth, is constricted by a spur jutting out from the main eastern range, crossed by a low pass.

Towards dusk on the evening of the eighth day (we had made very short stages, and the last mules had added an extra day's journey) we reached the village of Chung-tien, nestling against a low range of hills which here divides the valley. I was now glad to enter the big dark kitchen of the inn and warm myself by the crackling fire, the leaping flames of which, curling round an immense iron pot in the centre, afforded the only illumination, and indistinctly lighted up the central pillar (a pine trunk round which I could not nearly clasp my arms), the heavy smoke-grimed beams above; the clean family altar with its rows of shining brass cups, and the painted walls fading away into the gloom beyond. I had not been in the room half an hour before an officer in uniform, followed by two soldiers, one of whom swung a lantern a yard high, entered, and accosting me with scant ceremony, spoke thus :



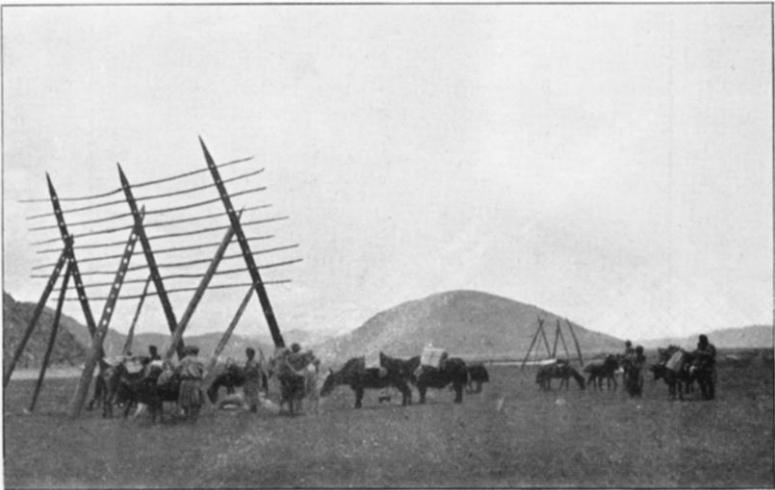
CAMP AT KAN-HAI-TSI, LICHANG RANGE IN BACKGROUND.



THE YANG-TSE AT THE FERRY BELOW KAN-HAI-TSI.



A CORNER OF CHUNG-TIEN.



A HALT ON THE CHUNG-TIEN PLATEAU.

“ Do you understand Chinese ? ”

“ A little.”

“ Where are you going ? ”

“ To A-tun-tzū.”

“ Have you a passport ? ”

“ Yes, it is in my baggage ; I will send it to the Yamen to-morrow.”

“ You are not going on to-morrow, then ? ”

“ No, I have no mules yet ; the Li-chiang muleteers do not wish to go on.”

The officer bowed and withdrew, and I was left to reflect further on the rise of western China, the great shadow of a military domination which is slowly overspreading the country.

On the following evening the ssu-wu-chiang, or military official, called and took tea with me, and two days later (being now marooned in Chung-tien for lack of transport) I returned the call, and was entertained for half an hour by the several heads of the military faction. As for Chung-tien itself, situated in the midst of this bleak grassy plateau, at the headwaters of the numerous streams which pour down their waters from the snows to north and east, there is little to be said for it. Solid wide-roofed houses jutting out at all angles into the narrow crooked streets, a fine temple now partly occupied by the soldiers, and the village pump, round which all the gossip of the place is daily exchanged, sum up its external appearance. I made the altitude 11,300 feet, while Major Davis gives it as 11,500, the same as A-tun-tzū ; the Chinese, however, say that it is higher than A-tun-tzū, though they are judging it only by appearances, and by the fact that it is much colder than the latter place.

The people are of mixed Chinese and Tibetan, or perhaps Moso origin, numbering between 150 and 200 families, and the pure Tibetan element finds representation in the big lamaserai at the valley head, 5 miles distant, a village in itself. The various Tibetan tribes, as one may call them for lack of more precise information, or at all events the Tibetans of the various settled valleys and plateaux of the Marches, have each, amongst the women, their own method of binding the hair, which thus forms a good index to where a woman comes from. In Li-chiang it is a single pigtail hanging down ; in Chung-tien three pigtails hanging down, but a day's march to the north it is a score or more of narrow plaits gathered together below and continued in an artificial plait of considerable substance, the whole being then bound on top of the head like a low turban. In A-tun-tzū the fashion is a single thick plait, artificially lengthened, bound round the head and finished off with two silk tassels. And so on—instances might no doubt be multiplied throughout the Marches. It would seem that the tyrant custom dies harder with women than with men, since the former adhere to many of their own, particularly in the matter of dress, long after the latter have conformed to Chinese fashion. This, however, is less true of the Tibetans, who are little influenced by the Chinese, than

of the smaller and more isolated tribes of Yunnan. In these bigger trading centres where the Chinese have long since established themselves, however much the women may conform to Chinese custom in the matter of dress (and this seems to be little beyond the wearing of trousers beneath the skirt), each still keeps a complete native dress for weddings, festivals, and so on.

After spending four days in Chung-tien I obtained *ula* from one of the officials, and we started again on May 28, with yak and ponies. North of Chung-tien the ground is very marshy, and green as an English lawn, here and there cut up by low hills, between which we presently obtained a fine side peep at the monastery. It was a beautifully clear day, and from the low pass we had a splendid view over the broad plateau, rimmed in on three sides by pale limestone crags which towered above us; to the south-east, near the source of the Chung-chiang Ho, was a fine snowy range, all those streams which rise north of Chung-tien on the plateau itself, apparently finding their way into a lovely little lake situated at the extreme end of the plateau.

Descending to the village of T'an-tui smothered beneath peach trees and golden pæonies, our yak and ponies were next day exchanged for thirty-five porters, nearly all women; soon we were far down in the hot dry ravine, and another march brought us to the Yang-tze, here flowing due south. For five hours we travelled up that ugly bare valley without crossing a single stream of water; toiling up and down the rough-hewn path, the parched rocks flinging the hot air back at us, now a thousand feet above the river, now not a hundred, far away round ravine after ravine, all as dry as the Sahara we travelled, till my lips cracked and I was ready to drop with thirst. At last we found ourselves amongst piles of gravel and numbers of small naked children, coloured gamboge from their occupation of sifting sand in the wind; there were other groups down by the river washing the sand—they were the gold-seekers of Pang-tzū-la. Here was the big triangular ferry-boat awaiting us, and we were soon across and climbing up to the village. How warm and sunny it was here! The minimum thermometer did not fall below 61° Fahr., and though we were nearly 8000 feet above sea-level, they were already harvesting the wheat. Two nights later we were freezing in our tents on Pei-ma-shan at 13,700 feet.

For the four days from Pang-tzū-la to A-tun-tzū over the Pei-ma-shan pass (15,300 feet) we had mostly donkey transport, and A-tun-tzū was reached on June 3, where glorious sunshine awaited us after the snow and rain of Pei-ma-shan.

NEW LAND NORTH OF SIBERIA.

THAT the possibilities of geographical discovery on the larger scale are by no means exhausted is proved by the news received during October, of the discovery of new land in the ocean north of Siberia, at no great