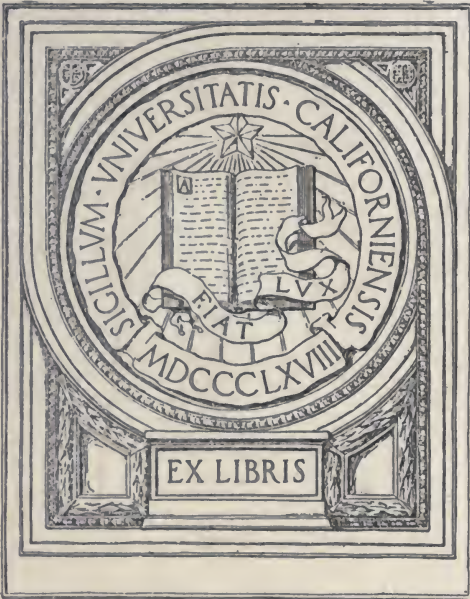
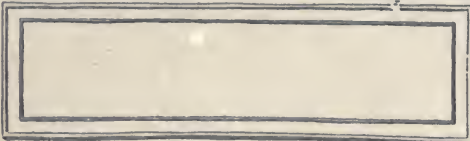


ROUND THE WORLD
FOR GOLD
HERBERT W. L. WAY

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A SEARCH FOR MINERALS FROM
KANSAS TO CATHAY

BY
HERBERT - W. L. WAY

WITH ILLUSTRATIONS AND MAPS.

LONDON
SAMPSON LOW, MARSTON & COMPANY, LTD.

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AMERICA

CHAPTER I

WITH KANSAS CATTLE PUNCHERS

THE *Arizona*, the greyhound of the Atlantic, a boat of the Guion Line, sailed from Liverpool, on September 28, 1889, with passengers who were mostly Americans returning home after a tour in Europe. Our captain was a fine, red-faced man, with snowy-white hair and moustaches, and it seemed to us that he played poker, almost continually, from the time we started until we landed at New York. The game never stopped, night nor day, for as soon as one player left the table there were half a dozen others ready to take his place. A colonel, whom we had on board, was another tough old man, who during all his waking hours was at the card table whenever he was not at the meal table.

We arrived at Queenstown next day, and landed, and, jumping upon a jaunting car, some of us were carried off into the hills to have a drap of the morning dew. When we re-embarked, a fat, overfed priest, from Maynooth, came on board, jolly, and bubbling over with goodwill; but he disappeared the moment the steamer left the harbour, and was forgotten entirely during the whole of the voyage. Just before landing at New York, a thin, sorry-looking man came crawling on deck, and all the passengers were asking who he was, and whence he came, until at last it dawned on some one that he was the once jolly priest of Maynooth. Upon the first evening on board, only twenty people out of one hundred and sixty appeared for dinner, and seventeen of these retired before it was half through. No more than two others and I stayed to the end. I felt as fit as a fiddle, and have never experienced *mal de mer* in my life. Indeed the more the vessel tossed the bigger was my appetite.

Mr. J. P. Thompson, an English ranchman in Texas, was returning from England with his bride, and of all those on board he was the man I envied most, for I was going out into the unknown to found a home for my future wife, and this task he had already accomplished. Mr. Thompson had gone to America eight years before, with £200, and during the voyage had lost half of this amount, at play with professional sharpers, who infest the Atlantic boats, that they may fleece young and inexperienced travellers. Most of the rest of the £200 went to the land sharks, who wait at New York, to pick up any amounts that may have eluded the cunning of the rogues on board the boats. However, Mr. Thompson saved just enough to take him to Texas. There he got work on a ranch, and had to drudge excessively hard for sixteen dollars a month. Often he was in the saddle for twenty-one hours out of the twenty-four, sometimes having to ride full gallop after a stampede for fifteen or twenty miles in pitch darkness; but now, after eight years, he was half owner of a ranch of 10,000 acres. This shows what may be accomplished by perseverance.

One hundred and fifty miles from New York we stopped to pick up a pilot, the captain having consigned two, who hailed him previously, to the infernal regions, for disturbing him at poker. As we drew nearer to New York, I was astonished to see a great many men, who were travelling steerage, and who, during the voyage, were dressed more or less like tramps, turn out now dressed in fashionable frock coats and silk hats. I presumed they were men who had painfully scraped together sufficient money for a trip to Europe, and had spent all, except just enough for a steerage passage home. I heard one of them remark as he crossed the gangway, "Now begins the hunt for the Almighty Dollar."

Mr. Buckley, who was Mr. Turnly's agent, met me at the docks and saw me successfully through the customs. Mr. Gerald Earle then met me, and escorted me to the Metropolitan Hotel, in the Broadway, and took me round New York, over Brooklyn Bridge,

all round Central Park and the Zoological Gardens, and then to Messrs. Drexel and Morgans' Bank. There the manager absolutely refused to open an account with me, or to take charge of my money for nothing ; so I cashed my draft at \$4.85, and put my money in my pocket in dirty greenbacks.

We had landed in New York on October 7, and I left next day for Kansas. Even then I had not got my land legs, for the pavements appeared to rise in front of me, and I nearly fell by stepping in the air, and, *vice versa*, I tried to step lower than the earth, when the pavement appeared to sink. We stopped at Chicago for two hours and I walked along the lake front, and into the city. My impression was that the city was very dirty, and that about half the people I met were drunk. The journey down to Kansas City was very rough and ready, and it was worse still from Kansas city to Harper, where I was met by Paddy Magill. Thence we had a fourteen-mile drive to Runnymede, across the prairie, in a buggy, drawn by a pair of bronchos, down steep river banks, through a river, up the other side and over fearfully rough prairie roads, at full gallop the whole way to Paddy Magill's ranch. There I met Mr. Armand Pierce and Mr. Goodrich, the former standing at the front door *in puris naturalibus*, with each leg in a pail of water, having a bath. Goodrich was thrashing a broncho in a Studebaker waggon, and abusing the wretched animal's mother in stentorian tones ; but the broncho would only squeal and kick, and refused to budge an inch.

The house consisted of three rooms: a parlour, a kitchen and a bedroom. Goodrich and I slept in the bedroom, Pierce in the kitchen and Magill in the parlour. We had to do all the cooking and washing up between us and to make our own beds. This last was not a long job, for in reality it was never done. The bedclothes consisted of nothing but thick cotton quilts, for there were no sheets nor blankets. No one in the colony spent a halfpenny on comforts of any kind, and there did not appear to be any money in the district except such as was in the hands of

the newly-arrived tenderfoot. If you were asked to go to the store for necessaries, you were given some farm produce to exchange for them, for all trading was effected in kind. Hard work was the order of the day, doing chores—feeding pigs, cattle and other live stock, herding cattle or breaking in horses.

The day after I arrived, I was sent off to Turnly's ranch, and was given a horse to ride. I was told to mount it in the yard, which was deep in sand, or I should never get on at all. It took me half an hour to get away, the beast bucking and plunging round all the while; but I stuck to it like a leech and when at last I got it out, off it went like the wind in the opposite direction, away from Turnly's ranch, nor did it stop until we got to the town of Norwich, eight miles away, where it pulled up trembling like a leaf. I did not dismount, but took it back at a gallop all the way, saying, like John Gilpin:

“ 'Twas for your pleasure you came here,
You shall go back for mine.”

This he seemed to enjoy rather than otherwise. I found the horse had only two paces, walking and racing.

When at last I arrived at Turnly's ranch, which was only half a mile beyond Magill's, there stood Fitzroy with a lariat rope, threatening to rope me. I galloped on, shouting "Go ahead," whereupon he threw the rope round my waist, and jerked me out of the saddle though I remained upon the horse's back. This eventful first day I finished by fetching hay, and drawing water for cattle and horses.

The following day was Sunday, and we spent it in roping and throwing four or five wild bronchos, just up from Texas, that had cut their legs to pieces in barbed wire. I never saw such wicked, malicious brutes in my life. They would kick, bite, or strike at you with their fore legs, on every opportunity; but Magill managed them with great skill, and when they were bound helplessly, they lay and squealed, and looked at you with eyes of hate.

We turned out of bed each morning at 5.30, and did chores ; then I went off with a pail and a gun to a pasture a quarter of a mile distant, with a good-sized stream running through it, and shot up the stream, generally getting a brace or two of duck and the same of quail or snipe. After this I milked the cow. Small game was very plentiful there in the shape of duck, thirteen different species, quail, snipe, curlew, teal, jack rabbits and cotton tail rabbits, the jack rabbits being really hares. Few beside me bothered to shoot, but lived on eternal bacon called sowbelly, which in reality it is, coarse horrible stuff. Butchers' meat was very hard to get, yet it never seemed to occur to any one to shoot game, although it was so plentiful no further away than their very doors. No liquor was drunk on the ranches, but there was a free indulgence in it when a town was visited. Tea, coffee and milk were consumed at every meal, and when we were out of stores, as was often the case, a substitute for coffee was made from burnt corn and rye. Of water it was necessary to drink sparingly, for it was full of salts, and acted like Epsom salts. The climate was remarkably healthy, so much so that it was a case of here no doctor need apply. Quinine, pronounced qui-nine, each "i" sounded as in wine, appeared to be the only drug, and it was taken for all complaints. My own outfit was laughed at as unnecessarily large, costing enough, as the other settlers said, to fit up three farms.

The furniture in the house consisted of three deal chairs, a deal table and four cots, each cot with a steel spring mattress. On retiring to bed our boots and coats were taken off, and then we rolled ourselves in quilts. As far as I could see with regard to the average ranchman, the rest of his clothes were not removed until they fell off. The floors of the houses, as a rule, could not be found until they were dug out. Goodrich told me that the floor of our bedroom, and the floor of the kitchen were dug out the day before my arrival.

Soon after my coming to Runnymede I happened to be at

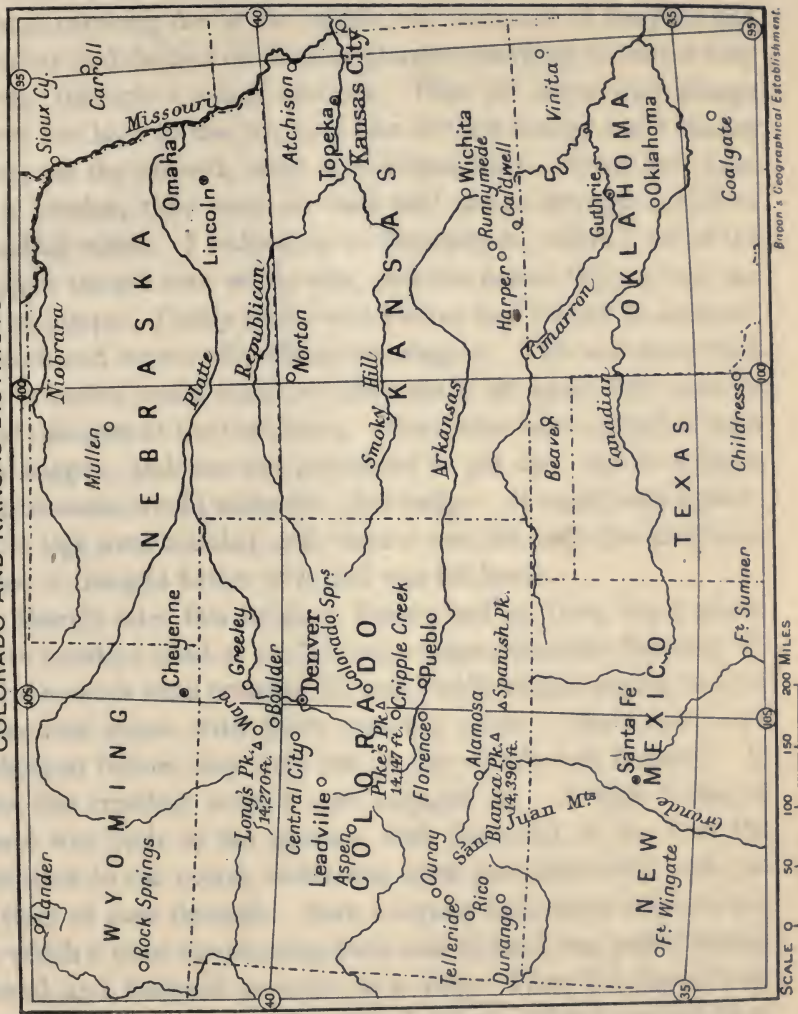
the house of a near neighbour, the twenty-years old son of an English clergyman, and a public school boy. He asked me to dinner, the mid-day meal, and began to break eggs into a frying-pan caked with black grease. He next put upon the table plates which much resembled the frying pan, for they had never been washed. I said, "Let me wash these," at which suggestion he laughed, and said, "What, aren't they clean enough for you?" He then took a black cocoa pot from the stove, poured a little cocoa on my plate, and rubbed it round with his sleeve.

All this slovenliness came from having so few ladies in the community. Every dollar that was made went in stock—pigs, cattle and such things; but never a dollar was spent on refinement or comfort. Yet, thanks to the delightful climate, and to the hard work, the settlers kept well, although they ate most unwholesome food, half-cooked, new bread made with baking powder, baked fresh for each meal, and eaten hot, and coarse, half-rancid bacon every time they came to the table.

Herding cattle was a job I enjoyed, as Magill had a tame old broncho that had done nothing else for years, and it would stand as still as a horse of bronze while I shot off its back. I used to go out herding on this old horse, with a book and a gun, and while the cattle were grazing I would lie full length on its back and read. A broncho is either an angel or a devil; it all depends on the way it is brought up. Those reared by grangers on a homestead, and handled every day, are as tame as tabby cats, but it is very different with those brought up on the range, and not broken until they are five years old.

An incident happened one morning with our wild, untamed bronchos which I thought was going to end fatally for me. Paddy Magill asked me to come down to the steeplechase course, then under construction down at Runnymede, to be used by the Englishmen and the Irishmen, for there were more Irish than English in the colony. Both gave their time, and the loan of their teams and waggons, gratis. We had, after great difficulty,

Map of the
COLORADO AND KANSAS DISTRICTS





harnessed the horses, and had hitched them to the waggon, and I was standing at their heads while Paddy got into the waggon, when the noise behind started them. They went forward with a bound, catching me in the middle, on the point of the pole and crossbar and dashed off in wild plunges, carrying me about fifty yards, through a peach orchard. Then an extra wild plunge threw me high in the air, over one of their heads, and I landed safely on the ground, more scared than hurt. Freed now from their burden, they went on their wild career through a field of standing maize. I walked on to Runnymede, where I found the waggon turned over on its side, and the horses lying across one of the jumps. Paddy Lecky and Fitzroy had started to excavate a ditch and were coolly filling the waggon. This was more than the bronchos could stand, so they made off again, but came to grief this time at the next fence. There they were unhitched from the waggon, and one was persuaded to get up ; but no amount of persuasion would make the other budge. It would only squeal ; so its legs were hobbled, and there it was left until the afternoon, when it thought better of it and was led home.

Shortly after this incident Turnly had up from Texas about three hundred head of cattle from a range called the Running W. All the cattle were branded W, and Paddy bought eighty head of cows and steers, with thirty running calves. These had to be dehorned before they were put in the corrals and fattened. It was the cruellest work I ever engaged in. A high V-shaped fence was built in the pasture, with the point of the V at the entrance to the corral, which was open just sufficiently wide for a steer to pass through. Here a strong framework was erected, in which a steer was securely fixed, and its head was pulled tightly round and fastened securely to a ring. Then the horns were sawn off, close to the head, with a hack saw, blood spurting from the stumps in all directions to a distance of from six to eight feet. We were all saturated with blood during the two days that it took to dehorn the lot, calves and all.

The following day was spent in branding calves, which were about a year old. A professional cow puncher can throw a calf neatly, and brand it without any fuss; but we spent most of the day rolling about in the mud, wrestling with the animals rather than branding them. A neighbouring granger, Doc Nye, came to help us with his bulldog towards the finish, and gave us an exhibition of the dog's skill. He would point out a Texas steer to the dog, and very quickly the dog had the steer by the nose, holding it to the ground, while the steer stood as quietly as a lamb.

It was sad to see how dehorning the cattle took the spirit out of them. Before the operation they were absolutely wild, but immediately, and for ever after, a child could do what he liked with them for they were completely cowed.

Doc Nye told me he had been a nigger doctor, down south, at one time, but found he killed more niggers than he cured, so he quitted "fooling around with niggers," and took up farming.

I began now to get very tired of this sort of work, and made enquiries round to see if I could buy a farm. I spent more time in Runnymede, and bought my old friend the broncho that ran off with me the day after I arrived. I had taken quite a fancy to him now, and entered him for the half-mile flat race at the Runnymede races, where, ridden by Magill, he refused to start till every other horse was well away; then, as if to show what he could do, he picked up every horse and was leading well, but refused to face the crowd, and bolted from the course. After the race I tied him to the back of a waggon, from which he broke loose, and galloped in a bee line across the prairie. I did not see him again for a week, when I was told he was in a pasture, near Harper, fourteen miles distant, still saddled and bridled.

At this time Runnymede began to grow rapidly. A new hotel was opened, a new church was in progress, a grocery store and a hardware store had been completed. In course of erection were a dry goods store, a butcher's shop, livery stables, and a coal and lumber yard. One of the features of the place was a well-

stocked nursery garden, and Major Seton established a soda-water and soft drink manufactory. We had also a grain store, a bowling-alley, a picture frame factory, and photographic studio. So new, however, was the colony that its founder was still with us, Francis J. S. Turnly—Ned, we all called him—who owned the grocery store and the post office, but lived upon a neighbouring ranch.

Messrs. Wade and Blood owned a farm and lived there at one time, but used their house as a target for six-shooter and rifle practice until it was unfit to live in, and so at this time the farm was derelict. They lived in a stable built by Wade, near the Runnymede racecourse, where he owned and trained racehorses. The two slept in the stables with the horses in the racing season, and batched with Dick Watmough in the winter. Wade went by the name of Sadness, and Blood by the name of Bones.

New arrivals were landing in the Colony continually now that the Runnymede Arms Hotel was opened, and race meetings, polo, lawn tennis, and coyote hunting became the order of the day. Two polo clubs sprang into existence, the flat racecourse and steeplechase course were finished, a set of four lawn tennis courts were levelled and a scratch pack of hounds, under the mastership of Harry Hoblyn, was improved by the addition of some Maryland foxhounds. It became now a case of polo two days a week, hunting two days and lawn tennis on Saturdays, when one or another of the ladies undertook to provide tea. A race meeting took place about once a month during the summer, and thus in one way or another work became the last thing thought of, for the settlers were soon demoralized in the midst of so many newcomers who brought ready money with them and wanted to be amused. If you needed some article from the dry goods store in a hurry it was not very encouraging to find the store locked, and a notice on the door: "Gone to the polo field; will return at 6 p.m."; and it became a matter of arranging a time with the owner when he would be at his store.

During November it grew very cold at times. One day, when I was milking the cow, in my shirt sleeves, it was warm and sunny. Then, suddenly, the wind veered round to the north, bringing icy chilliness; and in less time than it takes to say it the grass was thickly covered with white frost. On returning to the house, half frozen, I was told that the thermometer had gone down 40 degrees in five minutes. Early in December, while Magill was away in New York and at a time when we had neglected to replenish the larder, I had my first experience of an American blizzard. It gives no warning, except in a rapid fall of the barometer, and as there was no such thing in the Colony we were utterly unprepared. The whole atmosphere became of a heavy leaden colour, and at the same time a terrific north wind sprang up, bringing an immense volume of driving snow as hard as shot. In this it is impossible to live, and while it lasts no one dares to go outside his door. By the end of the first day we had eaten everything in the house except potatoes, and as the blizzard lasted with unabated fury for three days and nights we were all famished. The blizzard ended as suddenly as it had begun. While it continues all chores are neglected. The cattle would not eat if they had the chance, for they encounter a blizzard by standing back to the wind, with all four legs bunched together, their heads down, and their backs arched, looking the picture of misery.

When the blizzard had ceased, we walked over to Jim Wright's farm, on the adjoining quarter section, and asked for a square meal. All they had in the house was salt pork and sauerkraut, of which they gave us a liberal supply, and we tucked in as if we had never eaten before, not wisely but too well, and the hour of reckoning soon came. We lay about in the snow, in Magill's orchard, in a temperature nearly at zero, with perspiration pouring from us, as we prayed for death. In my youth, I had, on one occasion, suffered from tobacco poisoning, after sitting still and smoking three cigars. Upon that occasion, after trying

to walk I found I could not stand, and crawled into some bushes to lie there in agony for hours, hoping the ground would open and swallow me. I thought until I had eaten sauerkraut that no sensation could be more terrible than tobacco poisoning, but I know now that there is even a deeper misery than that which too many cigars can bring. I did not lose the taste of that sauerkraut for three weeks.

When we had recovered a little we went to feed the stock, and to see the extent of the damage wrought by the blizzard. About a dozen head of cattle were lying dead in the corral, and were being devoured by hogs, and five or six others were too weak to rise. While we were discussing what was the right thing to do, Paddy Magill returned from New York, and as by this time the hogs were attacking the poor half-dead beasts, Magill fetched his six-shooter and put an end to the cattle.

CHAPTER II

FARMING A DESERT

SOON after this incident I agreed with Magill to purchase a farm which his father, Colonel Napier Magill, had acquired as a speculation. The farm was about two miles from Runnymede and the price was fixed at \$17½ an acre. It was a quarter section, or 160 acres. The whole state of Kansas, and I believe all the agricultural states of America, are divided into square miles, or 640 acres, called a section of land. Each section has a roadway, sixty feet wide, on all four sides, and each section is sub-divided by a road 30 feet wide, running each way through the centre, leaving four quarter sections of 160 acres each, the usual size of Kansas farms, though several well-to-do farmers own a section, or even more land. The farm had a neat three-roomed house, with a large cellar cut out of the rock under the house, a stable for two horses and a cattle corral. Two wells had been sunk, one in the corral, and one by the house. A fine orchard, two acres in extent, had been planted with eighty apple trees and eighty peach, plum and apricot trees, all in good bearing order. Forty acres were fenced for pasture, and eighty acres ploughed for corn. Thirty acres were left for hay, in prairie grass, and ten acres left for homestead, orchard, gardens, and other purposes. A belt of cotton-wood poplars was planted round the orchard, and several black locust (acacia) ailanthus and catalpa trees were planted about the homestead. A good stream of water ran through the pasture and past the corner of the homestead, so that altogether I was in possession of an attractive farm.

I now bought a team of horses, and a Studebaker waggon,

and made a little money carting timber, building materials and coal from Harper and Norwich to Runnymede. The tenant of the farm, by name Hoover, was due to leave in March; but he said it was his intention to move out as soon as he had harvested his crop, probably in January.

One morning, while I was walking with a gun over the farm, I met an animal I did not know coming towards me. It was black and white, with a bushy tail standing erect. It did not attempt to move out of my way, so I bowled it over to see what it was, and picked it up, without a moment's thought, before life was extinct. Then I knew, from the awful odour, that it was a skunk. I was never able to wear my nether garment nor my boots again, for the odour is one that stays with you.

Some other animals of the prairie are the coyote, or prairie wolf, which has much the same habits as a fox in England, living in holes, or sleeping out on the prairie or in cornfields, and stealing fowls at night. The jack rabbit is as already stated very like the Scotch blue hare, and the cotton-tail rabbit is almost identical with our common rabbit, but it appears to have lost the art of burrowing. Then there is the mink, which lives on the banks of streams, like the racoon, which is also found there. Tortoises exist in large numbers and often choke the rakes during the hay making. They lie also in the ruts in the roads, and cause your buggy to jolt over them. It would need a heavy waggon to crush one.

There are snakes in great variety. The bull snakes are often six feet in length, but these are harmless. I killed one just gorged with fifteen quail's eggs, which I took out whole. Then there are puff adders, garter snakes, mocassins, and rattlesnakes. It is often said that the rattlesnakes, owls and prairie dogs live together happily in the prairie dog towns, but the truth is that the prairie dogs first make the holes and live in them, then comes the rattlesnake, which goes down the hole and devours the prairie dog, and when the hole is empty the owls take possession

for breeding purposes. It is true they all live in the towns together, but hardly on terms of friendship.

The rattlesnake is a very lazy animal, and, as a rule, needs a lot of worrying to make it angry. The grangers, ploughing bare-footed in the spring, often turn it out of its winter quarters in gopher holes, and I have seen them put their bare heel on its head and screw it round. When a rattlesnake is gorged you may pick it up in your hand.

The principal game birds are quail, fat as butter, with breasts like cricket balls. The male birds are very fond of standing on a stone or small eminence and calling, "Bob White, Bob White, Bob White." They are particularly easy to shoot, for after they are once flushed as a covey they will only rise again singly, and have to be almost trodden upon before they will take flight. Prairie chickens are much shyer birds. The grangers take a waggon to the feeding ground, and throw out a line of maize; then they hide in the waggon and raise the side boards, so as to form a loop-hole to shoot through. They wait until a number have collected and shoot them *en masse* with their heavily charged ten bores. Bitterns are very plentiful on all streams. The Americans call them thunder pumps, as the noise they make greatly resembles a pump working. The turkey buzzard, in reality a carrion vulture, is a very useful bird, always scouring the country for carrion. It nests in the sand hills. One day, when I was driving through the sand hills, I drove one off its nest, and got out to take the eggs, of which there were two. I was armed only with a buggy whip, and had to lash the bird hard as it swooped down upon me.

The Kansas prairies must have been a very favourite spot for the huge herds of bison that formerly roamed the country, for every low-lying or swampy place is covered with wallows, and skeletons, bones, horns and teeth are ploughed up in profusion on any part of the prairie.

The Runnymede church was finished by the end of February,

and the Right Rev. Elisha Thomas, Bishop of Kansas, assisted by the Rev. Dr. Beatty, of Wellington, came to consecrate the new building. Major Seton and Mr. Francis were elected churchwardens. After the consecration ceremony, Capt. Percy Wood and Miss Sophie Turnly were married. This was the first wedding in the new colony, and it was celebrated with great festivities.

Mr. Capel, a son of the rector of Great Easton, in Essex, now came as a new hand to Paddy Magill's, and we found we had both many of the same friends in Essex. He had been a cowboy on the range in Texas for three years. Dr. Frazer, another Essex man, from Witham arrived at this time, with his wife and daughter, also Mr. Hudson, from Yorkshire, who purchased a half interest in the town site, and 300 acres of land from Ned Turnly.

In the middle of January, 1890, when I was returning from Norwich with a load of coal, a man ran after me and asked if I were going south-west, when, on saying I was, he jumped on the waggon and told me his name was Norman and that his brother lived at Mistley, in Essex. We found we had very many friends in common, and he knew my father, Lewis J. Way, Captain in the West Essex Militia. He was farming near Norwich, and had been in the States for thirty years.

On January 21 Hoover moved out of my farm, and I moved in on the following day, taking George Despard to batch with me, and if he liked the farm we were to farm it in partnership. Our first work was to build a corn crib, and to buy 640 bushels of corn at twelve cents a bushel. In Kansas the term corn denotes maize. Next we built a score of pig-sties, and bought twenty sows at six cents a pound from Mr. Quigly, at Harper, and thirty-seven head of young cattle from Mr. Norman. Then we planted 200 ailantus trees for shade, and 200 black locust trees (acacias) for fence posts.

It is necessary to burn off the pastures before the new grass grows in the spring; but before doing this the farmer should

plough a fireguard round it. We ran the plough twice round, thinking that would be sufficient, and set fire to the grass, which was very dry at the time. Instead of lighting the fire at the edge of the fireguard, and burning it back against the wind, we set it alight in the centre of the pasture, so that the head fire rushed forward with the breeze, jumped our guard before we had time to think, went straight through our hay land, and on for two miles, to the sandhills bordering the Chicascia river. We and about twenty of our neighbours spent the rest of the day, and all night, beating out the back fires with strips of wet carpet. Fortunately very little damage was done, for our neighbours had efficient fireguards ploughed round all they wished to preserve; but we lost all our hay and a number of fence posts. From this time forward prairie fires were of almost daily occurrence, and on some nights, as we surveyed the complete circuit of the horizon, it appeared as though the whole country were on fire.

In April the severest wind storm the country had experienced for ten years broke upon us as Despard and I were driving out of Harper with a waggon load of timber and provisions. The wind and rain were so blinding that we could not see where to drive, and we got into a mud hole, up to the hubs of the wheels, and the horses up to their middle. We immediately unhitched the animals and got them out; then we hitched them to the end of the waggon-pole, with a long rope, so that the horses were on solid ground, and whipped them up. They swerved, breaking the waggon-pole off short. We unharnessed them, threw the harness into the waggon, drank half a bottle of whisky to keep us from freezing, and galloped home as hard as we could. We had no chance to tackle the waggon again until the storm abated three days later. We then had to procure a new pole from Harper, and to dig the waggon out, and we were agreeably surprised to find that nothing had been taken from it. We took Mr. Pfister, a Swiss, who owned a farm near ours, to help. He was a very original character, who looked forward longingly for



MR. H. W. L. WAY AND MR. G. DESPARD
AT RUNNYMEDE.



VESTAL MINE, RICO. AFTER
EXPLOSION.

Sundays, when he hitched up his waggon early in the morning, and started for the Deutch Church, in Harper, with his whole family, taking their meals with them, and spending there the whole of the day. He was as poor as a church mouse, and told Despard and me that we had no chance of ever going to Heaven unless we became poor like him, for the minister told them that it was easier for a camel to go through the eye of a needle than for a rich man to go to Heaven, so that unless we gave all our money to the church, and became poor, we had no chance. He told us he lived entirely upon the proceeds of his farm, and only allowed his wife for housekeeping a dollar a month, which was spent on sugar. His crops were always mortgaged as soon as the seed was sown, and he had chattel mortgages on all his stock, live and dead. I met the poor fellow some months later, when I had some business with a lawyer in Harper. Pfister came in and implored for more time before his mortgage was called in, to which the lawyer answered, "Not one minute," with loud emphasis. Poor Pfister stood there writhing in agony, with perspiration dripping off him. Then the brutal lawyer added, "Not one minute, sir. That knocks the sweat out of you."

After the storm, Harper and Runnymede had the appearance of bombarded towns. They were completely wrecked, nearly every roof was off, or half off, and small stores and detached buildings were strewn about in the cornfields outside the towns. At Harper a store was lying upside down.

On April 28, Despard and I drove forty-eight miles to Caldwell, where we put up at the Leland Hotel, kept by Sam Woodson. We intended to have a look at the Cherokee strip, which was soon to be opened for settlement, and if we liked the place we were to choose a location for a farm. Upon the following day we rode twenty miles into the strip, which contains six million acres of some of the finest pasture in the States, divided into pastures containing 50,000 to 200,000 acres, enclosed with barbed wire fences. There were said to be over a million cattle grazing in the

strip, which was rolling prairie, with good streams running along the valleys.

In May we got out plans and specifications for building a new drawing-room and two new bedrooms, as I intended to marry in July.

George Despard had now become a partner in the farm, and we fenced in three ten-acre hog-proof pastures, in one of which was sown rye, sorghum in another, and corn in the third, for fattening our now rapidly increasing stock of pigs. Our breed of pigs were the Poland China, whose chief recommendation is that they fatten very quickly on very little food, and are splendid rustlers, that is, they are able to hunt for food for themselves. They are, as a rule, black pigs with white shoulders. In our pasture we had a miniature cañon, with bluffs of red shale, below which was rough ground, covered with bush, 50 to 100 yards wide, through which ran the stream. Many of our sows would go into this cañon to farrow. The bush was so dense that it was almost impossible to find them, and if we did we had to run off post-haste with the old sow after us, barking like a dog. There the pigs stayed without any food from us until the young ones weighed from twelve to fifteen stones. We were often agreeably surprised to see a sow we had not set eyes on for months come back to the farmyard with six or eight fat jointers ready for market.

In May, a terrible disaster befel the colony. Every one in the settlement had made a night of it, giving Dick Watmough a send-off, as he was going to start next morning for England. The party became very hilarious, and did not break up until three o'clock next morning. Consequently the town did not rise very early, which was most unfortunate, for between eight and nine a fire broke out in Freyer's livery barn, just across the road from the hotel. Dick Watmough and Bomford were sleeping in the office of the livery stables, which was just inside the big sliding doors. Bomford, who had just got up, saw that a fire had started at the far end of the barn, so at once he roused Dick, and shouted to

him that the barn was on fire. Then he rushed to the horses, cut as many loose as he could, and ran out only just in time to save himself. Dick evidently had not taken the warning seriously, and remained in bed until the fire reached the office. He then jumped up in his pyjamas, and rushed out, followed by the flames, which swept out of the doors sixty feet across the road. He spun round in the middle of the road two or three times, fell, and was burnt to a cinder in front of a crowd of people who could do nothing to save him. A strong wind was blowing at the time, eleven horses perished, and the whole barn was burnt to the ground in five minutes. This completely paralyzed the colony, for Dick was a great favourite with every one, and was one of the best all-round fellows in Runnymede. Bomford was terribly cut up about it, as he insisted that the responsibility rested on him, because he was in charge of the barn. Nearly every one in the colony offered him a home, but he came to live with Despard and me. The hotel had a very narrow escape; all the windows facing the road were cracked by the heat, and all the paint was blistered. It was saved only by hanging wet carpets out of the windows, and by continually drenching them with water. My famous broncho, which I had sold to Bomford a few weeks previously, was the only horse rescued from the barn, and he was saved by tearing a hole in the side of the building, through which he was dragged by force. He was badly burnt behind, his tail and hind-quarters being almost cooked. He was at once turned into a pasture, whence he walked straight to the river. He lay down, put his head under water, and deliberately drowned himself. The colony was never the same after this incident of the fire, which seemed to take the heart out of it, and from that moment it began to dwindle. Every one in the colony attended Dick's funeral at the Harper Cemetery, and all subscribed to a memorial stone erected over his grave.

Our new rooms were commenced on June 1, at which time our crops were looking splendid; our maize was three feet high,

and oats and wheats were in full ear and commencing to ripen. Hoblyn had now started a temporary livery barn in Runnymede, and on June 3 McGregor hired a buggy and team, and asked Captain Faulkner and me to accompany him to Harper. The horses were remarkably fresh, and were more than McGregor could manage ; but all went well until our farm was passed, when, on going down a hill, the singletrees grated on the wheels of the buggy. This was more than the horses could bear, and as they had been itching to bolt all the way, off they went now like the wind. We knew that before us lay a very steep descent, with a narrow, rotten bridge at the bottom ; so we all tugged at the reins and tried to turn the horses into a cornfield ; but, in getting out of the ruts, first Mac flew out, then I, and then Faulkner, and the buggy turned upside down. I appeared to land on my head, and had the sensation of spinning round on it like a teetotum for some minutes. At last I sat up and looked round, and there I saw Mac and Faulkner in the same positions, too sore to move. At length we got up, and, finding no bones were broken, we walked on, coming across a wheel here, and a seat there, distributed along the route, until the mangled remains of the buggy, mixed up with broken harness, were found lying in a confused heap on the road. The horses, as far as I remember, were never seen again ; if they were, it was weeks afterwards.

With the advent of summer a great change came over the prairie, which was then covered with beautiful flowers, yellow predominating. It appears that whenever prairie land is first broken up, sunflowers grow in profusion, though before the ploughing there is not a sign of one. The seeds must lie dormant for years. Yuccas are plentiful on waste land and in the sand-hills, and a very beautiful mauve flower, like wistaria, having a single raceme to each plant, grows on the prairie. The tumble weed is a very curious plant, quite spherical, two feet in diameter. It blows across the prairie in thousands in the fall, and chokes up the fences.

A great many beautiful small birds come with the summer, the commonest of which is a mynah, called the red-winged starling. These go about in large flocks, and are very destructive to corn crops. It is a black bird, with a scarlet tuft on its shoulder. The blue jays are also very pretty. The American robin resembles our blackbird, and a very tame little dotterel stands about on any bare spot in the farmyard, or outside the houses, and calls "kill deer, kill deer," all day long.

By the end of June our new rooms were finished, and on July 13, Mr. and Mrs. Hope Hooper, Despard, several friends, and I went to Wichita, as I was to be married on the 15th, and Mrs. Hooper had kindly consented to chaperone Miss Kitching in the meantime. George Despard was to be best man. We put up at the Carey Hotel, and Miss Kitching arrived next day, having travelled from England with Miss Ethel Fenton, who lived in Nebraska. We were married by the Rev. Dr. Rhames, Dean of Kansas. Now that the ice had been broken by Captain Wood and by me, weddings and engagements became quite fashionable in the colony; and when Mr. and Mrs. Hooper retired from the Runnymede Hotel, Mrs. Turner, a widow, and her daughter, came out from Norwich to take charge of the place. Soon afterwards Fitzroy married Mrs. Turner, and Paddy Magill her daughter. With the advent of a larger sprinkling of ladies in the colony, Runnymede became much more respectable, with a more up-to-date and civilized appearance. A few months later, my wife's mother came out to live with us, and as we still had a spare room we looked about for a pupil, when I heard that Arthur Bond, whom I had known in England, was coming to the States to seek his fortune; so it was fixed up that he should come to us, and see what he thought of farming.

With the real hot weather came myriads of locusts, and an enormous variety of insects, among which Colorado beetles were among the worst. They stood so thickly on our garden fence that the wooden pales were invisible, and every vestige of potato

and tomato leaf disappeared like magic. The chirping of multitudinous locusts filled the air the whole day long, and when the cicadæ joined them the noise was terrific. At the end of July, just when the maize was six to eight feet high on full tassel, and looking splendid, along came the much dreaded hot winds, which are like a blast from a furnace, and every stalk of corn was scorched to straw in two days, and hardly a grain was harvested in the whole of Kansas. Then came the trouble. Corn went up in price by leaps and bounds, until it reached sixty cents a bushel, and hogs became a glut in the market, and dropped in price from six cents a pound to one and a half cents, or could hardly be given away. We had been merrily feeding twelve-cent corn to six-cent hogs, and suddenly found ourselves feeding sixty-cent corn to one and a half-cent hogs. Every small farmer was practically bankrupt. Before this catastrophe every one in Kansas burnt corn on the cob for fuel, as being more economical than coal, for corn was a drug on the market at ten and twelve cents a bushel. Now it was gold to those who had it.

We had, by this time, more than two hundred head of fat hogs, and we were forced to market them as best we could. We immediately stopped feeding them on corn, as it was far too valuable, and enclosed them on scorched-up pastures, feeding them on peaches and water melons and such fruit, but, not being accustomed to this sort of feeding, a great many broke loose, and got into our neighbours' melon patches and gardens, and were shot with rifle bullets. Twenty of these animals, in order to get out of the great heat, excavated a hole under our haystack one night, and the stack fell on them and killed the lot, including two performing pigs, which were very fat, and used to come to the kitchen doorstep every morning at breakfast time, and sit on their haunches and beg for food. We had taught them to do so since they were quite small. A neighbour also sued us for damage to his crops by our hogs running through his corn. The case was tried before Mr. Jesse Jones, a blacksmith and judge combined.

Each side employed a lawyer, and these were extremely amusing. The trial took place in "chambers," that is to say, in the learned judge's bed-chamber, he lying back on the bed chewing tobacco. Our only defence was that as the hot winds had previously scorched up the crop there was no corn to be damaged, and our lawyer, wishing to be emphatic, shouted, "As the sun shines on the bald-headed pate of the learned judge," that is so. The end of it was that each side was to name an arbitrator, and these were to decide the damage. If they could not agree, the judge was to appoint an umpire. Needless to say, the arbitrators could not agree, and the umpire gave heavy damages against us, which we paid in kind, giving hogs to the amount of the judgment.

Kansas peaches are hard to beat anywhere in the world. Our trees had 1000 to 1500 perfect peaches per tree of both clingstone and freestone varieties, and varying in colour from snow-white to blood-red through every shade of yellow and orange. The drawback is there is absolutely no market for them. We picked a waggon-load carefully, packing them in boxes, and took them to Harper, where we were offered only ten cents per bushel for them. We took them back and gave them to the hogs.

In September we experienced a cyclone in Runnymede, where I had just arrived in a sulky with Mrs. Kitching. I was talking to Senator Francis, in the street, when we heard a roar in the distance, and saw a heavy, black, funnel-shaped cloud, with a tail, just skimming the ground. Mr. Francis became alarmed, hurried Mrs. Kitching into the grocery store, and told me to be prepared to lie down in the street the moment it reached the town. The roar became louder as the cloud approached, and now the black funnel could be seen whizzing round like a top and advancing rapidly. Just before it reached the town it struck the nursery garden, and tore up young trees and tons of earth which it carried up into the cloud. Fortunately it then lifted, and passed over the town, the bottom of the funnel a hundred

yards above the houses. Even then the houses rocked to and fro, the wind tearing off thousands of shingles from the roofs, and taking up small sheds bodily. It cleared nearly all the timber out of Wood and Nixon's timber yard, scattering boards all over the country. After passing above the town it struck the Chicaskia river, and completely emptied a wide stretch, and finally disappeared, leaving sheds and timber of all kinds strewn over the corn fields. It had performed many freaks, one of which was the lifting of Charlie O'Connell's waggon over his house, and depositing it in a cornfield, apparently none the worse for its flight.

In the autumn Palmer took over the mastership of the hounds, and greatly astonished the Americans by hunting in pink. After a time the coyotes were all killed or driven out of the country so drag hunts became the order of the day; and, as there were no natural fences on the prairie a line through all the cattle corrals round the country was taken, the American farmers staring in absolute bewilderment during the first two or three hunts. Afterwards, they compared notes, and agreed to stop the mad Englishmen from smashing their fences. They turned out in a threatening attitude, with pitchforks and shot guns, and thus put an end to the sport.

Despard and I took on a farm hand named Burge, to work the land while we confined our efforts to doing chores and useful light employment. Burge was a true born American, and spoke the language delightfully. If you told a funny story his remark was, "I'll be dol garned." Anything pleasant was, "Gees Borse"; anything unpleasant was, "A dog gone thing." A man he did not like was, "An ornary sort of man." An answer in the affirmative was "A-youp," or to be emphatic, "Yes, sirree." No was "nope." A lawyer in Harper, Mr. Sam Sisson, used to be greatly annoyed at the way we Englishmen spoke, and would tell us, "You Britishers are no use in this country; with you it is always 'God Save the Queen' wherever you go, whereas with us it is always, 'God D——n the President.' Why can't you

say caalve and haave and laafe instead of calf, half and laugh ; why don't you call me Saam, and become good American citizens ? Every other European does, but you English, never." An American, who came to stay on the farm, while erecting a wind-mill pump, told us the only difference he could ever see between an Englishman and an American was that an Englishman would spell " Saloon " with a hess and a ha and a hell, two hos and a hen, whereas an American would spell it with an S and an A and an L, two Os and an N. Senator Francis, who farmed just outside of Runnymede, told me he could not endure the English law of primogeniture, under which the eldest son succeeded to all his father's estates, and all his brothers and sisters were his servants. Mr. Francis was State Senator for Kansas, and, on most subjects, a very well read man.

The first English child born in Runnymede was Miss Violet Wood, and the second was my own daughter, May, born on April 14, 1891, when the peach blossom was in full bloom.

By the following summer Runnymede had proved a failure, and a general exodus took place in the autumn. Mr. and Mrs. Hope Hooper went to live in Wichita, Burder migrated to Canada and joined the North-West Mounted Police, George Despard went to South Africa and joined the Cape Mounted Police, Bob Slack died in hospital in Chicago as the result of an accident which happened to him while he was riding in a race at Runnymede. Captain Filleter also died, and Captain Murrey Faulkner, Lobb, and Hoblyn returned to England. Paddy Magill went to Kansas City, Bomford to Chicago, McGregor to the Golden School of Mines at Golden City, Colorado, Hancock I afterwards met tea planting in Ceylon, and Ned Turnly eventually returned to Ireland. Our party migrated to Denver, Colorado, to seek " fresh woods and pastures new." Kansas is marked on all ancient maps as the Great North American desert, and ought to continue to be so marked until a gigantic system of irrigation is devised to water this parched up state.

CHAPTER III

MINING ROUND RICO

WE started for Denver in October, 1891, and I was armed with letters of introduction to Dean Hart, the popular Dean of Denver; to Mr. Alfred Rickard, a mining engineer of Denver and Central City, kindly given me by Ned Turnly; and a letter also to Mr. Thomas Goad, a mining engineer, given to me by Mr. R. F. Grantham, a civil engineer in Whitehall, to whom I was articled for four years. It was a case of "root hog or die," for I was almost penniless.

We found lodgings in rooms in Pennsylvania Avenue and Twentieth Street, recommended by Dean Hart, and as Christmas presents and greetings were beginning to appear in the shop windows it occurred to me immediately that it would be possible to turn to profitable account my accumulation of butterflies, moths, and other interesting insects, collectively called bugs in the States, by making Christmas cards. For this purpose I bought a gross of cabinet size photograph cards, and ordered a like number of strong cardboard boxes an inch and a half high to hold them. I then lettered in decorative water colours a suitable sentiment regarding the season on each card, gluing two small pieces of cork on each. Into the cork I stuck the pins of two or four insects, using principally Camberwell beauties, clouded yellows, crimson speckled footmen, bumble bees with bright coloured bodies, praying mantis and cicadæ, all of which were very plentiful in Kansas. Having agreed with a stationer in Arapahoe Street to exhibit them in his window and to sell them at a dollar a piece, for a commission of ten cents on each, I took a dozen down as soon

as I had completed that number, and they were all bought by a customer who was in the store at the time. This was very encouraging, so I stuck to it hard, and as they sold like hot cakes I cleared \$90 in about three weeks.

In the meantime I had an interview with Mr. Goad, who was kindness itself, and gave me the use of his splendidly equipped drawing office, with all its instruments, including an air brush, a machine which greatly facilitated the colouring of plans, and made them look like prints by blowing colour in a fine spray through a needle pointed syringe by the aid of compressed air, which had to be pumped into a cylinder before it was used. Mr. Goad kindly got me a few jobs to keep me going, by introducing me to his friends as a draughtsman, and Mr. Douglas Browne came in a few days after I had started work with an enormous roll, measuring fifteen feet by twelve and a half feet, a plan of a tangled mass of mining claims at Rico, a mining camp in the San Juan Mountains in South-West Colorado, where he was engaged in consolidating a lot of independent mining claims into one workable whole. He wanted the plan reduced to the size of a sheet of writing paper so that it might appear in a prospectus.

The plan was brought to me at five o'clock on Thursday evening, and the reduced plan had to be in the printers' hands at ten o'clock on Saturday morning. By working all the day and half the night, I had it finished and took it round to Mr. Browne at nine o'clock on Saturday morning. He was very pleased with it, and asked me what it was worth? I said I thought \$25, as I had been compelled to sit up late each night in order to finish it in time. He exclaimed, "Twenty-five dollars! If it is not worth fifty dollars, it is not worth a cent," and he wrote me a cheque for fifty dollars.

Douglas Browne gave me a good deal of work after that, but all through the winter employment was scarce. This gave me plenty of time to study geology, mineralogy, and text-books on mining and metallurgy.

In the early spring I went to Central City with Mr. Alfred Rickard, and stayed four days, going through the Gold coin mill and the mine, which was 2,300 feet deep. The railroad from Denver to Central City passes through Golden City, a place which nestles in the foothills at the mouth of Cherry Creek, where the Golden School of Mines is situated. I went also two or three times with Mr. Goad to the Poorman mine and to the Sovereign People at Caribou, a drive of twenty-two miles by coach-and-four from Boulder City, up a mountain torrent, which we had to cross twenty-five times over bridges. I then stayed on Mr. W. S. Ward's ranch outside Denver, and made a new map of the estate for him.

Mr. Ward had returned from England only recently, after having spent three years at Oxford University, where he took his degree, although he was sixty years of age. Previously he had been manager of the very successful mine, The Morning Star, and now went into partnership with Mr. Goad, in inspecting, managing and reporting on mining, industrial and land enterprises. He owned a very excellent farm outside Denver, on which was a large lake. The land was very fertile, was perfectly irrigated, and grew an abundance of alfalfa (lucerne).

In June, Douglas Browne made me a definite offer to join his staff on the Rico-Aspen Consolidated Mining Company, as assistant surveyor and draughtsman, at \$125 a month for the first year, and \$200 a month for the second. I was very glad to accept this offer, for I wanted to gain experience in mining, yet I was sorry to leave Denver, a charming city, nestling in a hollow in the Rockies, on the Platte river, at an elevation of 5,280 feet, just a mile above sea level, with Long's Peak rising on the north-west to 14,270, and Pike's Peak on the south to 11,320. Pike's Peak was, I believe, first made famous by General Pike, who, seeing the mountain from afar on the plains, endeavoured to reach it, and after making three or four days' journey towards it, retired, saying he could get no nearer to it, for the

THE RICO—RETURN MINING CO'S PROPERTY

SHOWING ENTERPRISE GROUP, RICO-ASPEN GROUP & OTHER SURROUNDING PRODUCING MINES



H. WAY.

PLAN OF RICO—RETURN, ENTERPRISE AND RICO-ASPEN COMPANIES PROPERTY.

mountain retreated in front of him. Later it has been famous for gold rushes, and prospectors in prairie schooners (caravans), labelled "Pike's Peak or Bust," have come across the prairie from all directions in the hope of finding gold. They returned later, with their caravans labelled, "In Pike's Peak we trusted; by God we are busted." Later still, came the rush to Mount Pisgah, an adjoining mountain, but in its turn that also was deserted for the famous Cripple Creek, the valley between Pike's Peak and Mount Pisgah, with its Stratton Independence mine.

Denver was a beautifully built city, the residence of all the millionaire mine owners of Colorado, who had fine houses on the avenues between Broadway and the city park. These avenues were laid out in the form of boulevards, with broad side walks of red sandstone, and they had a stream running on each side of the road, also a width of lawn with maple and plane trees planted down the centre; adding greatly to the beauty of the avenues were the extensive lawns and shrubberies of the private residences. These ran down to the edge of the side walks, without any fence or wall to hide them from the view of the passers-by. The city park was as fine a recreation ground as any in Europe, with carefully tended beds of beautiful flowers, on long stretches of lawns, with a fine lake in the centre. In Broadway the Brown Palace Hotel was as magnificent as any in the country, fireproof throughout, and with its own artesian water. The principal business blocks were on Sixteenth and Seventeenth Streets, and notable buildings were the Equitable, Boston and McPhee Blocks. Moreover, the stores from Broadway to Larimer Street, between Sixteenth and Seventeenth Streets, were as good as the most fastidious could desire.

I set out for Rico on July 30, a journey of more than 400 miles on the Denver and Rio Grand Railway, through some of the grandest mountain scenery in the world. Americans make no bones about running railway lines over the most rugged of mountains, and do not go to the expense of tunnelling. They

have no time to tunnel; they just contour and zigzag, with switchbacks over the highest passes. After leaving Pueblo we climb over Marshall Pass, which has an altitude of 11,000 feet.

The black cañon is a magnificent sight. On entering the cañon, an observation car is tacked on behind the train for any one to go in who wishes to do so; but it is a very disagreeable experience, for as the engine devours coal wholesale while it is climbing, the smuts and grit thrown back from the funnel fill your eyes, and make you horribly dirty.

An equally interesting bit of scenery is the head of the cañon below Trout Lake, where the train actually goes up a spiral before starting on its journey of switchbacks to the Trout Lake Plateau, 9,720 feet above sea level. It appears to jump from crag to crag on the edge of an abyss before it attains a foothold on the plateau. Trout Lake is in the middle of a beautiful park, spoilt only by the railway. The grandeur of the pine forest and the scenery surrounding it would be hard to surpass.

On arriving at Rico I found accommodation at the Enterprise Hotel, run by Mr. Petherbridge in rough and ready western style, where all courses of each meal, breakfast, dinner or supper, are shot off a tray upon the table at once, on a score or more little dishes, by the hash slingers, or biscuit shooters, as the waiters and waitresses are called.

Rico, a town of about 2,000 inhabitants, boasted twenty-one saloons, open always, day and night, each with a roulette table and a faro table. The wheel spins or the cards are dealt as long as there is any one to play. Most saloons have a motto on their walls to indicate that they trade only for spot cash. "In God we trust; all others cash," or "To trust is to bust. To bust is Hell. No trust. No bust. No Hell." The saloons and gambling tables had practically the whole of the miners' wages every month.

Amongst the mines which supported the town of Rico was the Enterprise Mining Company's mine, run by Messrs. Posey

and Crawford, of which Dan Kirby was superintendent. Shortly afterwards Mr. T. A. Rickard was appointed manager and he appointed Mr. Stephens superintendent. Then there was the Rico-Aspen Consolidated Mining Company's mines, of which Mr. Douglas L. V. Browne was manager. This was one of the David Moffat group. These two groups of mines on Newman Hill, at the foot of Dolores Mountain, were on the famous blanket ore deposit, the discovery of which forms one of the most romantic stories in the history of mining.

When Mr. and Mrs. David Swickheimer worked at the Enterprise shaft, they were, like many other prospectors, without any apparent chance of success. Upon the surface there was no outcrop of any vein to promise wealth, nor in the shaft itself any indication that ore might be found in depth. Yet, somehow, there was that vague hope which gold miners have that they might "strike it rich," and so they plodded on, sinking slowly through the toughest of tough limestone, often having to stop work for a time through lack of funds. Mr. Swickheimer ran a saloon and worked in the mine alternately, and Mrs. Swickheimer operated the hoisting plant.

At last came the day when they had sunk into such low water that they determined to abandon the shaft, when, to their joy, Mrs. Swickheimer won a good round sum in a lottery, and in this way the situation was saved. Work at the shaft was resumed and the miners dropped right on to the rich contact blanket vein, out of which they took over \$1,000,000 worth of ore in two years and then sold the mine to Messrs. Posey and Crawford for a similar sum.

The Rico-Aspen group is an extension of the Enterprise Group. The Swansea group belonged to Mr. Theodore Barlow, for whom Mr. Henry Klingender was the manager. Other mines not on the contact veins were the Union Carbonate and the Black Hawk groups, which produced carbonate of lead ore. On Niggerbaby Hill were a few smaller mines, of which the Iron

Mine promised well. Mr. Douglas Browne was at this time busy consolidating another group of thirty-four mining claims and forming a new company, named the Consolidated Rico Return Mining Company, to work them.

The first thing I did on arriving at Rico was to measure, survey, and write a report on all the old workings on these claims, and take samples for fire assay. These claims were all situated on an enormous dyke of eruptive rock, commonly called "Bird's Eye Porphyry," through which presumably all the veins of the Enterprise and of the Rico-Aspen groups outcropped at the surface, and there was no contact or blanket vein, such as was formed in the two groups last mentioned, by the fissures opened up from below striking the thick tough bed of limestone, which they failed to penetrate, and spread out laterally, forming the blanket vein. Thus the contact or blanket vein only existed in the sedimentary rocks, between soft black shales and the tough limestone forming the roof. Here the conditions for the deposition of mineral were most favourable, and remarkably rich gold and silver ores existed in the forms of silver glance (argentite), brittle silver (stephenite), ruby silver (pyrargyrite) with pyrites and galena. The vertical fissure veins only carry pay mineral for a certain depth below the contact from which this ore has been borrowed. These fissure veins are riband veins of very great beauty, the ribands being composed of quartz, chalcedony, carbonate of manganese (rhodochrosite), of a rose-pink colour. The riband veins are loosely built up, forming many hollows or vugs, which are often encased with very beautiful crystals of quartz, calcite and rhodochrosite, with nodules of argentite, and crystals of stephenite, pyrargyrite, pyrites and galena and zinc blende. The ores below the influence of the blanket vein, and in the whole of the fissure veins, after they enter the dyke, consist of low grade lead and zinc sulphides, and are too poor to pay for working. The formations and occurrence of ore are very similar to those in Aspen and in Leadville, but the ores of New-

man Hill are of a considerably higher grade, the average value of the contact vein being 300 ounces of silver and three ounces of gold per ton of rock. The Rico-Aspen mine was capitalised at \$5,000,000, and employed 250 to 300 miners; Mr. Lee Wood was superintendent.

Shortly after I arrived a mining war broke out between the Enterprise mine and the Rico-Aspen. The miners working in the Vestal mine could hear distinctly the working of a compressed air drill going pom, pom, pom below them. They reported this, and Mr. Douglas Browne immediately ordered a winze to be sunk with all speed to intercept the intruders. They broke in on the top of the invaders in about thirty feet and Mr. Browne then sent two shift bosses down with rifles, and they ordered the enemy's miners out of the level and kept watch while a large bulkhead was built of big balks of timber at the bottom of the winze from the mud sill to the roof, six feet apart, with the intervening space filled with rock.

Lee Wood and five miners were down the winze giving the finishing touches, when a voice shouted from the other side of the bulkhead, "Look out, we are going to fire a big shot." Lee Wood immediately told the miners to clear out. He, himself, coming out last, had only got a few feet from the winze when the mine rang out with the explosion of a whole case of dynamite placed against the bulkhead. Most of this was blown up the winze upon the level above, and Lee Wood and the miners were all more or less severely injured, as they had no time to reach a place of safety. Lee Wood was thrown twenty feet along the level, and was carried out of the mine insensible. The doctor spent three days picking chips of rock out of him; but fortunately he had the constitution of an ox, and no permanent injury was effected.

In the meantime the Enterprise miners came up the winze, with all the ingredients for a smudge fire, consisting of old rubber boots, sulphur, and cayenne pepper. With these

they filled one of the Rico-Aspen trucks, lit it, and sent it rolling under the Vestal shaft, barely giving our miners time to be hauled up the shaft in the cage without being suffocated by the noxious fumes. There was a strong draught through the Enterprise workings, up the winze, and up the Vestal shaft. After this the Enterprise miners were set to work to saturate the whole of the Rico-Aspen timbers with coal oil, and to place scores of cases of dynamite all along the levels, connected with electric wires, to which detonators were attached. When all was in readiness a button was pressed, and the welkin rang with a terrific explosion, shaking Newman hill to its foundations. The mine timbers and shaft burnt for two weeks, throwing out volumes of dense yellow smoke from the mouth of the Vestal shaft, which was like the entrance to hell. It was impossible to get within a hundred yards of it.

Mr. Douglas Browne telegraphed at once to Denver, ordering a hundred Winchester rifles to be sent up so that he might lay siege to the Enterprise mine. In the meantime, however, the law had got to work, and injunctions were issued by each party to stop the other from intrusive operations. Mr. Eben Smith, the vice-president of the Rico-Aspen Company, arrived with Judge Williams and Judge Kincaid, and half a dozen mining experts. Later in the evening the cases of rifles arrived, and then it became a battle royal between Mr. Douglas Browne and the lawyers as to whether armed force or the law should take its course. Mr. Browne, smarting under the insults of the Enterprise Company, was for capturing their mine by storm, but the lawyers and mining experts said they would throw up the case if armed force were used. Neither party would give way, and pandemonium reigned all night long at the Rico-Aspen office, when many high words were used on both sides. With daylight, prudence prevailed, and Mr. Browne allowed the law to take its course, the battalions on the side of order being too strong for him. Revenge was obtained, however, a few days later when Mr. Browne was driving

his brake, full of mining experts, down from the mines at his usual pace, which was full gallop. A wheel went over the edge of the road, and all the experts were pitched into a sea of young birch trees which covered the mountain side.

Before the case could come on a great deal of surveying had to be done, many plans made, and much evidence worked up as to the course of the veins, for the Enterprise Company claimed that the disputed vein was identical with a vein cut six hundred feet away in the Jumbo shaft, while the Rico-Aspen Company declared it was the Vestal vein, from which they had taken a large quantity of ore during the last two years.

It was impossible to flood the Vestal mine to extinguish the fire because the drainage had been through the Enterprise mine, since the winze had been sunk ; so the only thing to do was to let the mine burn out. This took about two weeks, and on the first opportunity Mr. Eye, the surveyor, Bishop, a shift boss, an expert flashlight photographer and I, went down the Aspen shaft, which connected with the Vestal workings at the 600 feet level, and which was intact. On reaching the Vestal workings we found every timber in the mine burnt out, but otherwise very little damage had been done to the mine. The attempt to blow up the mine had been simply a waste of dynamite because of the surrounding cherty limestone, which was hard, tough and thick, especially that which formed the roof of the contact vein. This had at an earlier period of the world's history withstood the immense forces of the dynamic action which had opened the fissures below ; its violence had been restricted by this obdurate material which, in effect, had said, " Thus far shalt thou go, and no farther." Where shale formed the side walls the levels had been widened to ten or twelve feet, but the roof would have stood if they had been double the width. Débris, which had come down from the raises and stopes, after the timbers had been burnt, filled the levels. We discovered a miner's rifle near the top of the winze, the stock burnt away, and the barrel twisted out of shape from the force of

the explosion. Several flashlight photographs were taken to be handed in as evidence to the court when the trial came on.

At length, as the mining experts could not agree whether the vein was the Jumbo vein or not, and as the problem was impossible of determination unless a level were opened, the court decided to allow the Enterprise Company to run a level along the vein to settle the point before going on with the case. The ore extracted was to be sold, the money deposited with the court, and some one appointed by the Rico-Aspen was to keep a survey of the course of the vein, keep account of the tonnage of ore shipped, take samples daily in sealed bags for fire assay by a disinterested assayer, and see that the order of the court was properly carried out. Mr. Browne applied to the court to be appointed, but that the court would not allow, as it was thought there was too much ill-feeling between him and Kirby. So, at Mr. Browne's request, I was appointed to the post, and in order to keep on good terms with the Enterprise miners I took a box of cigars and a bottle of whisky into the mine daily.

The Enterprise mine was entered by a long, straight tunnel, with a tramway, for taking the cars in and out. The gradient of the tunnel was very steep, and mules would be continually coming out at a sharp trot, pulling ten or twelve cars of ore. I usually went into the mine on a car, to avoid meeting a train coming out; but on one occasion I was taking a company of mining experts to inspect the vein, and asked the shift boss to order a stoppage of the cars until we were through the tunnel, as the experts wished to walk in. As soon as he said it was all right, we started in. The tunnel being narrow, the cars nearly filled it between the timbers, and when we had proceeded about a thousand feet into the tunnel the electric light suddenly went out, and at the same time we could hear a mule train coming at a rattling pace. We yelled, and shouted, and struck matches to look for a place of safety, but there was no room to stand in the timbers. However, our shouting frightened the mule, which stopped, and was

knocked down by the impetus of the cars behind. The front car went over it, and so got off the rails, jammed in the timbers and stopped just in front of us. We all breathed once more, and were thankful for having our own skins saved, though we were sorry for the mule, which had to be killed.

A couple of months' work proved that the vein was a parallel vein about 200 feet from the Jumbo vein. The court eventually granted 525 feet of the vein to the Rico-Aspen and seventy-five feet to the Enterprise, who were to repay the Rico-Aspen for all ore extracted from their part of the vein.

In October we started to make a new survey of the Vestal mine, and after surveying the surface we had to carry the line down the shaft, to connect with the underground workings. This is done by dropping two plumb lines of thread down the shaft, as far apart as possible, without touching the timbers, and then by reading the compass bearing at the surface and from the level below, the line will be identical. To steady the plumb-bobs at the bottom of the shaft, 600 feet in depth, two pails of viscid oil were provided, but the great difficulty in steadying the lines was caused by the volume of water continually pouring down the shaft, on the one side nearly boiling water from the pumps, and on the other the natural ice-cold drainage from the mine workings. To my lot fell the management of the plumb-bobs below, while Mr. Eye managed the lines and theodolite on the surface. In order to get the line below as accurate as possible I had a large drawing board fixed on the top of the pails of oil, on which was glued and tacked a strong sheet of drawing paper, and through the paper and board were cut two round holes four inches in diameter, for the lines and plumb-bob to pass through. Then, on every opportunity when one of the lines was steady for a moment, I put a straight edge against the thread and ruled the line with a pencil, on each side of the hole. As soon as I had marked each hole all round the compass in this way I fixed a circular piece of paper over the holes with drawing pins and completed the lines through

each to an apex in the centre, then stuck a needle in the centre of each, which gave the true line.

By the time this was completed, Mr. Eye had come round through the Aspen shaft and took the bearing. All this occupied more than three hours. I was dressed in a suit of overalls, a thick double-breasted mining mackintosh, and an American oil-skin slicker, with a pair of high rubber boots, and a wide tarpaulin hat; but in spite of all this clothing I was soaked to the skin. On coming out of the mine I walked down to Rico, about one and a quarter miles, in a hard frost, during which my clothes froze stiff and hard, and I got a bad chill which turned to typhoid fever. This laid me up in bed for six weeks, but my wife nursed me through all this danger with the greatest tenderness and care, directed by Dr. Landon, a very charming and capable doctor. Shortly after I got out again I developed a ravenous appetite, and in a very short time grew stouter and stronger than I had ever been before.

During my illness events had been marching. The Rico-Aspen won its case and was awarded very substantial damages. Mr. Douglas Browne, who could not agree with the directorate of the mine, resigned his position as manager, and the miners all went on strike for higher wages, which caused the mines to close down for six weeks, when the miners gave in rather than starve. A new manager was appointed, and, acting as the proverbial new broom, he made a clean sweep, so that I received a month's notice to quit. Mr. Litchfield, who was now appointed surveyor, was one of the mining experts engaged in the lawsuit, and I do not believe there was a more accurate surveyor and better draughtsman in Colorado. In the meantime silver had fallen considerably, in anticipation of the repeal of the purchasing clause of the Sherman Act, and the mines opened with only one quarter of their former staff of men.

In order to keep employed, I started in as ore sorter at the ore sorting sheds at the mouth of the Syndicate tunnel on the Rico-



THE RICO-ASPEN CON. MNG. CO.

THE ENTERPRISE MNG. CO.

THE NEWMAN GROUP

THE CON-RICO RETURN MINING CO.

THE RICO

Aspen, at two and a half dollars a day. Also I put in a tender for a new shaft that was to be put down, by contract, for a new company, formed to prospect for ore under the town site of Rico, the manager of which was Mr. Fisher, late of the Sheridan mine at Ouray. Through a certain amount of influence I got the contract to sink the first fifty feet at \$14 a foot, and started on February 26, in biting cold weather and in a driving snowstorm. I got together a very good gang, which I arranged to work in three shifts of eight hours each. The company supplied and cut the timbers, and we had to hang them. The first eighteen feet was through a detritus of broken rock, sand and gravel, and the shaft, twelve feet by six feet, was completed to that depth in twenty-four hours. Fisher was very pleased and promised me the next contract to sink to two hundred and fifty feet. Thus all went merrily till we reached a depth of forty feet, when the night shift worked all night, hoisting running quicksand, and made no headway. When I came in the morning the whole shaft was ruined. My partner, Clarke, as soon as he had examined the shaft, rushed off as mad as a hornet, and pulling each man of the night shift out of bed, fought him to a finish. It took us double as long as we had taken to sink the shaft forty feet to put it in order again. The run continued to the surface, and all the timbers were loosened and displaced. When the shaft was put in order once more, with one and a half inch iron rods run through the wall plates, we used close timbering for the next five feet, and then we reached bed-rock. That was the end of the shaft episode, for we struck there such a volume of carbonic acid gas that no one could live in it. We waited several weeks to see if the volume of gas would diminish, and while we were waiting the shaft filled with water to the level of the quicksand. It was like a boiling caldron at the bottom, the gas rising with such force, and in such large volumes, as to dash the water in all directions, keeping it in a continual turmoil. No other shafts were sunk, and the company died a natural death.

The road in front of our house in Rico was a steep incline, and was given up entirely during the winter to bobsleighing and coasting. During the whole of the day young men and maidens were dashing down at a furious pace, and dragging the bobsleighs and coasters back up the hill, or, as a cute American put it, you experienced a flash like greased lightning, and then a weary walk up the hill, dragging a bobsleigh.

CHAPTER IV

OUR CABIN IN COLORADO

I NOW went into partnership with two English miners, named Batchelor and Faragher, who had worked on the Foxdale mine, in the Isle of Man, before coming to the States. Both had been employed on the Rico-Aspen before the strike. We formed a plan for pegging out and working a group of mining claims at the mouth of Barnett Gulch on the far side of the Dolores river, which ran through Rico, and gave the name Dolores to the county. Altogether we pegged out six claims, fifteen hundred feet by three hundred feet each, two of which lay on a farm run by an irascible old man named Moore, who came out with a shot gun when he espied us pegging mining claims on his farm, and fired it off in our direction with the idea of scaring us ; but finding it did not answer, he came forward, and not wishing to commit murder, contented himself with hurling maledictions at our heads. After we had explained the law to him, that farming in a mining district could be carried on only on sufferance, and only so long as the land was not required for mining purposes, and after we had told him further that we should disturb him as little as possible, if he behaved himself decently, as we should only require sufficient surface ground to sink a shaft, he tried a game of bluff, and, striking a dramatic attitude, shouted, " Sir-r-r-r. This farm is my property from the mudsill of hell to the ridgepole of heaven ! "

We registered our claims at the land record office, of which the head was Mr. Lewis, who told us we had a perfect right to peg out claims on the farm, so after fulfilling the requirements of the law,

by sinking a ten-foot hole on each claim; we started a shaft on a corner of Moore's farm. Our operations did not interfere with his farming operations in the least, but every morning we found that our shaft had been filled with water from his irrigation ditch. This, as the shaft began to gain in depth, became a nuisance, so finally we got the old man to peg out two more claims and take a share in the group, an arrangement which quite satisfied him.

One day, while I was running the lines of the Newman Hill veins across the valley, to ascertain where they would strike our claims, I was stationed with a theodolite on Newman Hill, and noticed an excited crowd coming out of Rico, some in buggies, some on horseback, and others running. I turned the telescope on them, and saw them stop outside a dago dugout, that is, a cave dug out of the hill-side, and used as a dwelling by the Italian railway contract labourers. The sheriff and his assistants crawled into the cave and dragged out a corpse, which they put in a buggy and conveyed back to Rico, where it was recognized as the body of a miner who was known to have left Rico the evening before, with a friend, for Durango, to look for work, each having just drawn a month's pay, amounting to \$90 apiece. A telegram to Durango brought a reply that a man answering the description of the dead man's companion had just arrived with the money on him, and had gone to the hospital to have his head bandaged, for it was badly cut. The murdered man had his head completely smashed in, and a search round the dugout brought to light a fish⁷ plate from the railway line, caked with blood and hair. Evidently there had been a fight on the line, when one man had seized a fish plate and had murdered the other, and had then concealed his body in a disused dago dugout, and had gone off with the money.

Next day the man was brought by train to Rico, and locked in the "cooler." I was having dinner in the hotel when the sheriff came in for his meal, six-shooter in hand, with his prisoner,

as was the custom there. Mr. Petherbridge entered the room and asked for prepayment in cash, saying the county owed him so much for feeding prisoners and he could get nothing out of the county treasurer. Thereupon the sheriff sent over to the Treasury to ask for the money, and the answer came back, "No funds available." "That is good enough for me," said the sheriff, who marched out with the prisoner, saddled two horses, and rode to the county line. There he told the prisoner to dismount and "get," and if ever he set foot in the county again he would shoot him on sight.

Rico was getting "a very tough name" at this time. Shortly afterwards I was standing in the street in the town when I heard a shot in the saloon behind me, and going in to see what was the cause, I found two men struggling on the floor. One scrambled to his feet while the other lay like a log, and was lifted upon the faro table. A doctor was sent for immediately, and on his arrival he ripped off the man's clothes and found a hole right through him. The bullet had entered his stomach, had gone out on one side of his spine, and he died almost as soon as the doctor arrived. The sheriff came in a few minutes and made the other man, Fay, his prisoner. It appeared that the two men were miners on the Enterprise who had walked down from the mine together, as they did almost daily, and had entered the saloon, where they had a drink together. Fay then went off, had a wash and a change of clothing, and came back to the saloon, where he found his friend still at the bar in his working clothes, with his mine hat caked with mud and candle grease. Seeing Fay enter in his respectable clothes, with black wide-awake hat on, he jocularly exchanged hats, when Fay, who was a sullen sort of chap, lost his temper and demanded his own hat back instantly, throwing the other hat upon the floor. As it was not returned, Fay went across the road to a hardware store, purchased a Colt's forty-four six-shooter and a box of cartridges, and loaded the six-shooter in the store. He then went back to the saloon, and

getting the drop on his friend, he demanded his hat back at once or he would shoot. His friend, after making reflections on Fay's mother, said, "Fire away; you haven't pluck enough." However, Fay pulled the trigger, shooting his friend clean through the body; but before he fell he rushed at Fay, who was a big man, seized him, and both men fell to the ground together.

When the trial came on Fay's lawyer objected to any juryman who had not killed his man previously. He then made a magnificent speech, marching up and down the court-room with his hands deep in his trousers pocket, chewing a big cigar all the time, and saying that any man who made reflections on another man's mother as the dead man had done, deserved to be shot every time, ignoring the fact that these reflections were in daily and hourly use by nine miners out of ten, as terms of endearment. The jury, after a few minutes' consultation, said Fay had done the only thing an honourable man could do in protecting the honour of his maternal parent, and he left the court without a stain on his character.

During the same week in which this murder took place, two gamblers laid wagers as to who could take most morphine without succumbing. They sat in a saloon one evening for a trial of strength, and at length one was bowled over and went into a sleep from which he never awoke. The winner was put under the care of a doctor, who, in order to keep him awake, continued to pour strong coffee into him, and had him marched up and down the town during the whole night, lashed with buggy whips all the time until he was raw. I knew the man during the two years that followed. He was always more or less demented, and was never good for anything again.

After sinking our shaft to a depth of fifty feet we found we could get no further without a hoisting engine and sinking pump, so we shut down until a chance came for raising sufficient capital for the purpose. We thought this chance would be likely to come with the next mining boom. The litigation in connection

with the once famous Johnny Bull mine was settled, so that in a short time the mine would be offered for lease by the agents, Messrs. Thomas, Bryant and Lee, attorneys, of Denver, and it was anticipated there would be a rush of applicants, as the Johnny Bull bore a very high reputation. It is on record that over \$400,000 worth of ore was extracted in the first year after its discovery, in 1880, when it was jumped by a party of seventy-five men, armed with Winchester rifles, the leader of whom claimed the mine by prior location. This incident was followed by litigation, which dragged on for twelve years, during which time the shaft and tunnels had all caved in. The mine was situated about seven miles from Rico, on the summit of the range, at the top of Horse Gulch, between Leslie Mountain and Calico Peak, at an altitude of twelve thousand feet above sea level.

Fred Day, who owned the adjoining mining claims—the Rebecca, Triangle, and Big Wink—in partnership with J. W. Winkfield, was very anxious to take a share in the lease if it could be secured, and in May, 1893, came up with me to inspect the mine. We rode the first four miles, and then had to tie our horses and walk the last three miles over seven to twelve feet of snow. Very little was to be seen of the mine, on account of the depth of snow at that time; but the view from the summit of the range was magnificent, looking west over West Dolores, beyond which lay a wide arid plain called Disappointment, on which cattle were running. In the extreme distance were the mountain ranges of Utah, and south-west we looked over the Montezuma valley, famous for its Aztec cave dwellings, where many relics of Aztec pottery are found. In this valley is situated the town of Cortez, beyond which the view stretched across the arid wastes of Arizona to a range of hills said to be two hundred miles distant. To the south the view into New Mexico was blocked by Calico Peak, and to the east, looking over Rico and Dolores Mountain, the view unfolded the wildest collection of mountain peaks, in which were hidden the mining camps of Telluride, Ouray and Silverton.

To the north lay Mount Wilson, towering above everything to a height of 14,260 feet.

We went up again, early in June, when the sun's rays had gained more power, so that we found the dump clear of snow. We collected a sample bag full of ore, consisting of erubescite or peacock copper ore, and melaconite or black oxide of copper, which gave an assay result of three ounces of gold, sixty-eight ounces of silver, and thirteen per cent. copper. There was very little of value left in the dump, but what had been taken away was very valuable. All ore containing less than four ounces of gold and two hundred ounces of silver was thrown on the dump, as being of too low grade to work. At that time all ore had to be packed on mules and carried to Alimosa, a distance of one hundred and thirty miles, over almost impassable tracks, and thence by train to the Argo smelters, a few miles out of Denver. Returns at Denver show that ore was shipped from the mine, giving \$23,000 per ton of ore. During the intervening years since the mine was closed, the dump has been searched over and over again by prospectors, whose task was very easy, for the black ore is seen at once amongst the snow-white decomposed felsyte rock. The shaft was like the crater of a volcano, for after the timbers had rotted away the decomposed rock had caved in on all sides, forming an inverted cone forty feet across the top.

In the meantime, I had been in communication with Mr. Charlie Thomas, of the firm of Messrs. Thomas, Bryant and Lee, about leasing the mine, and I had got the support of several influential friends in Denver, notably Mr. Alfred Rickard, who eventually joined me in the lease, though shortly after it was granted he gave up his interest as he had too much other business to attend to. Mr. H. de Courcy Hamilton joined me in his place. At the end of June we engaged Myler's mule train to take up our mining tools, dynamite, provisions, and other necessaries. One obstreperous mule which had for part of its pack a case containing twelve dozen eggs, started bucking down the street, throwing

out eggs on all sides until the last one was broken. Another case had to be purchased, but this was packed on a different mule.

Work was commenced by starting a tunnel from the Rebecca mine, to cut the Johnny Bull vein three hundred feet below the old workings. Fred Day and Jacob Winkfield gave a lease of the Rebecca, Triangle and Big Wink mining claims, with an option to purchase, extending over two years. Fred Day retained an interest in the lease and also joined in that of the Johnny Bull, as also did Frank Robertson, and Freeman Day. Fred Day and I took it in turns to cook, sharpen drills and picks, and cut firewood for two weeks at a time, and work in the tunnel the next two weeks. We built a blacksmith's shop outside the mouth of the tunnel, and ran a long snow-shed of big logs from the mouth of the tunnel to the dump, for snow slides were likely to come down over the mouth of the tunnel in winter. Our cabin was safe in the midst of heavy timber. We had visitors up at the cabin frequently, and altogether the life was most enjoyable and exhilarating. We gave several picnics on Leslie mountain, and took our visitors there at three o'clock in the morning to see the sun rise, with the same effect as is seen from the Rigi in Switzerland.

Our cabin proving too small, we added a bunk house, built of pine logs, to hold six men, filling in the chinks between the logs with chips of wood, and plastering them with mud. The first night we slept there, we were kept awake by a continual gnawing of the new logs by porcupines, and we had to go out five times to kill them by banging them on the head with a club. These animals are of an immense size, very fat and covered with short spines. It is fatal for a dog to attack a porcupine, for it uses its short tail, which is covered with barbed spines, as a weapon of defence. The spines are very loosely fixed in the tail, and the animals have the knack of throwing them off directly they touch anything. I have seen dogs with their mouths full of spines, and it is almost impossible to extricate them. The only thing to do

is to shoot the dog to prevent it from going mad. These porcupines have feet as big as a man's hand spread out, and so are able to walk on the snow. Their tracks have been mistaken often for bear's tracks. I once cut off a dead porcupine's foot and took it down to Rico, calling it a bear's paw, and I was believed by nine people out of ten.

The water running from the tunnels and springs round the Johnny Bull mine was rank poison, as it was charged heavily with sulphate of copper in solution. This was precipitated on all iron or steel tools used in the mine, and soon gave them the appearance of bright copper. In the ancient workings and dump of the mine, several old moyles, gads and pieces of drill steel were found completely converted into copper, for as the iron had dissolved it had been replaced by copper. People who did not know of this drank the water, which made them violently sick with the first mouthful, a merciful provision of nature. Thus we had to live on snow-water, and our cabin being on the north slope of the range, we had some huge banks of snow, which never melted, even in the summer, so that we had no difficulty in securing a supply. We used to fill pails with snow, and stand them on the stove to melt, always adding a few drops of tincture of iron to each pailful.

We lived almost entirely by the gun and rifle, for game of various descriptions was very plentiful. Ruffed grouse and ptarmigan were always with us, and also the snowshoe rabbit, an animal that has adapted itself to its environment, and becomes grey in summer and snow-white in winter. It has developed enormous furry pads on its feet, and these, as its name implies, enable it to run over soft snow as easily as on the ground. Thus it is able to evade its many enemies in the form of ermine, martens and foxes.

Ermine, or stoats, are very plentiful, and become snow-white in winter. Martens and ermine we always skinned for we could sell their coats in Denver. In addition to those which we shot

we caught a great many martens in traps in our winter larder, for it was an open shed in which we hung our winter supply of beef and venison. This was always frozen as hard as a rock.

When the snow has been from twenty to forty feet deep in winter, I have often watched a marten hunting for grouse. It will go right through the forest, climbing one tree after another, and, if, after climbing a fir tree, it sees no grouse in the branches, it jumps off, taking a header into the snow thirty or forty feet below. Up the next tree it goes, and if it espies any grouse it will stalk them carefully, then, springing upon one, marten and grouse will fall into the snow together.

Ground hogs, woodchucks or marmots are found in large quantities, living in holes in the detritus and loose rocks on the mountain-sides, near the streams ; but the little coney lives among the large loose rocks at the summits of the peaks, high above vegetation, where he sits on his hind legs on the top of a rock and squeaks out ee, ee, ee. He spends the whole of the short summer running down the rocks to where vegetation grows, collecting as much as he can carry at a time, and climbing to the top again, where he builds miniature hay stacks for winter consumption when he is covered with twenty or thirty feet of snow.

The little chipmunks, or ground squirrels, of which we had two species, one nearly twice the size of the other, were our greatest friends. The small kind were the tamest, and lived under the floor of the cabin all the winter, having a hole like a rat hole, up which they would come at every meal and climb up our legs and so upon the table, where they would sit and eat the pieces of bread and biscuit that we gave to them. Left alone, they hibernate during the winter ; but with the warmth of the cabin, which was covered with snow six or eight feet above the top of the roof, all the winter, they kept quite lively.

The only birds that stayed with us during the winter were the pine crows and camp robbers. The former are grey birds, somewhat resembling the Royston crow, but smaller. These birds

kept a long, funnel-shaped hole open all the winter, through the snow, to one of our windows, down which one, or more, came every morning at daybreak, and banged on the glass with its beak, until we got up and opened the door. There was no need for an alarm clock for us. Then they would come into the cabin and eat any scraps that were thrown to them. What they loved more than anything was a live mouse, which they would catch as quickly as any cat, and we had a good many mice in the cabin sometimes.

The camp robbers also were grey birds of the build of magpies. They were not so tame as the pine crows, but when your back was turned they would make a dash into the cabin and seize on a coveted morsel, and fly off with it. It was commonly said that the nest of a camp robber had never been discovered, and that the United States Government had a standing offer of a big reward for any one who could show a genuine nest.

During the summer the mountains to their very summits were covered with humming birds. I never saw more than two species, one the beautiful little ruby throats, which are very pugnacious little birds, fighting any other bird, no matter what its size, that comes in their way in nesting time. The other kind, not nearly so common, was canary coloured. The humming birds are attracted evidently by the beautiful array of flowers that covers the mountain sides during the whole of the summer. The first flowers to come up are small yellow lilies, not unlike very small single daffodils, which poke their heads through the snow before the hill sides are clear of it. These do not grow below 10,000 feet altitude. A little later, a profusion of flowers come into blossom. *Aquilegia* grows in variety, and the common large single mauve columbine is the national flower of Colorado. Then we have delphinium, that is the blue larkspur, monkshood, and most beautiful of all, the mariposa lily in a number of shades, also a lovable little flower like a minute passion flower and with a very sweet smell. In addition I noticed blue gentian and wild roses. There were no trees round the Johnny Bull mine, except pines and spruce ; but

a little lower down there was a thick undergrowth of birch trees, jumpers, and a great quantity of wild raspberry canes, which bore most delicious fruit.

With July of that year came the greatest calamity that could have befallen Colorado, the Silver state, and that was the repeal of the purchasing clause of the Sherman Act, whereby the United States Government purchased four and a half million ounces of silver monthly. This clause had bolstered up the price of silver, and had been a sop to Cerberus since 1890, when an agitation arose for the remonetization of silver. Alas, poor silver! Battered from pillar to post, legislated against by England in 1816, by the other European countries afterwards, and then by the United States in 1873, until its natural parity of fifteen to one with gold had been reduced to the ignominious ratio of thirty-two to one. Thus has the people's money, and half of the wealth of the world, been driven out of circulation, and to what end? Simply that the great bank corporations may secure control of the money markets, and so establish their power over the welfare of the people. It follows that if half of the wealth of the world is withdrawn, the remaining half appreciates to double its former value, and yet people talk as though it were the silver that had depreciated in value, when the fact is that silver, and every commodity on this earth, keeps on a parity, as silver is the natural standard of value. On the other hand, gold, of course, appreciates in value as the currency is contracted. Still, as monometallists control legislation, it is only beating the air to talk bimetallism.

The evil news fell like a bombshell in the mining camp, and the immediate effect of the repeal of the clause was the closing down of all silver-lead mines, for only those mines whose ores carried a fair proportion of gold could keep working. Six hundred men were thrown out of work in Rico alone. The mines could not sell their ore, nor get paid for what the smelters had bought, and so they could not pay their men. All the stores immediately

stopped credit, and would only sell for spot cash, most of the business houses in the mining camps and in Denver went bankrupt, and one bank after another closed its doors and suspended payment. I had my money in the First National Bank at Rico, and at once drew half the amount and placed it to my credit in the Rico State Bank, owned by David Swickheimer. Upon the following morning the First National Bank closed its doors, and, after delaying a month, posted a statement that deposit notes would be issued payable as to twenty per cent. on March 1, 1894; twenty per cent. on June 1; twenty per cent. on September 1; twenty per cent. on December 1, and twenty per cent. on March 1, 1895—rather a hopeless state of affairs. Thirteen banks closed their doors in Denver in one week, and money was so “tight” in the place that when a hundred four-year Oregon horses that had been shipped to Denver for sale arrived, at the commencement of the smash, the owner could not pay the freight, and so they were put up to auction. They realised \$90 the lot, or ninety cents each.

Within a week the miners in the mining camps got desperate; hold ups and highway robberies became events of daily occurrence, and there were several attempts to burn the town for the purpose of pillage. The provision stores were robbed openly in the daytime of sacks of flour and of eatables by desperate men with families to feed. At the Johnny Bull mine some one watched us all out of the cabin, and then robbed us of twenty pounds of bacon, a ham, a sack of sugar and a sack of oatmeal. In the Rockies, as a rule, a prospector’s cabin is sacred, and can with perfect safety be left all day while the prospector is working his claim.

About once a week, Fred Day and I would go on shooting expeditions, to replenish the larder, our bag generally consisting of ruffed grouse and ptarmigan. The ruffed grouse were very plentiful in the pine forests, a covey, generally resting on a fallen tree, were very tame, and would sit craning their necks out to

look at us. We shot them sitting, for owing to the density of the forest it was next to impossible to shoot them flying. We shot at their heads as they craned their necks out, and they would generally sit while three or four were shot before the rest would fly away. Americans always shot them with a rifle. I have often seen a prospector bring in fifteen or twenty birds, each shot through the head with the bullet from a Winchester rifle; a bird shot in the body they would not bother to pick up.

Ptarmigan, on the other hand, were always in the open. Round the summit of Leslie mountain was a very favourite place in which to find them, and these we always shot flying. They are never found far below the top of the range. Deer could be got in any numbers, but you had to go further afield and camp out at night on a well concealed spot at the edge of an open glade so as to shoot them at sunrise when they came to feed. The Indians were allowed out of their reservations at certain times to hunt deer. They would drive a whole valley at a time, and kill eighty to a hundred deer in a day for the sake of the venison, and for the pelts for buckskin.

Wapiti are scarce, but we heard of them being killed occasionally, and round the summit of Mt. Wilson were small herds of big horns, or Rocky Mountain sheep; but there was a very heavy penalty for shooting one, because they were preserved by the United States Government, to save them from becoming extinct. We had no time to hunt for deer, but waited till some hunter came along with a loaded packhorse, and bought what we required.

In August, John Little, a brother of Charlie Little, bookkeeper on the Rico-Aspen Mine, came to tram for us, that is to clear the tunnel of rock, after blasting, for which purpose we kept a tramway laid from the face of the tunnel to the dump. In September, when snow began to lie permanently on the ground, we bought half a dozen fat bullocks and drove them to the mine, where we slaughtered them, and hung them in a shed, in quarters, for our

winter supply. They were at once frozen hard, and never thawed again till they were cooked. From the beginning of September the snow lay thicker on the ground every day, and soon became too deep to walk in ; so we laid in a supply of pine planks, twelve feet long and four and a half inches wide, by three-quarters of an inch thick, for making skis, or Norwegian snow shoes. For this purpose we sawed through the middle of the width of the plank for a foot in length, and soaked the sawn end in boiling water until it was soft, then bent it round a roller previously constructed to the correct curve. We next screwed the split ends together with a succession of small screws and left it to dry, when it retained its shape. Then, in the centre, we nailed two pieces of rubber pulley belting, one on each side, with holes punched in for lacing up ; and finally, after rounding off the bent toe to almost a point, and waxing the bottom with melted wax candles, smeared on with a brush, the shoes were ready for use. We each carried a hickory wood pole, eight feet long, for the purpose of steadying ourselves and to act as a brake, which we applied by sitting on it after we had placed it between our legs. A most hilarious time we had before we became proficient, taking many an awkward header into the snow. Fred Day was the only one who was an old hand at the game, so he acted as instructor.

I usually went home to Rico on Sunday morning, before breakfast, returning to the mine on Monday. In the winter I always wore tan coloured goat skin clothes, lined with corduroy, which were very warm, and felt stockings, three-quarters of an inch thick, over my ordinary socks, with rubber and cloth snow boots so that my legs appeared as though I had elephantiasis. I often arrived at our house in Rico with long icicles hanging from my eyebrows, joining my eyelashes and moustache, and hanging two or three inches below. I had continually to melt the icicles off my eyelashes to enable me to see. The journey of seven miles to Rico, 3,000 feet below, took from half to three-quarters of an hour ; but the return journey occupied the whole

day, zigzagging up the mountain sides on the long Norwegian snow shoes, with a rope twisted round and round from end to end of the snowshoes to give a foothold in the snow. During very bad weather, with snow continually falling, we were sometimes bottled up at the mine for three weeks together, as we dare not go out on snow shoes for fear of creating a snowslide, for one of these is often caused by cutting through the soft snow, and when once the snow begins to slide no power on earth can stop it. The spot where our cabin was situated was quite secure from snowslides, because heavy timber was growing to near the summit of the ridge ; but the entrance to the tunnel was just in the danger zone, and from this point to the far side of Leslie Mountain, the slopes were bare of timber, and the snow was banked up forty feet high on the top of the ridge, and combed over fifteen to twenty feet in a most menacing attitude. We knew that if the comb became too heavy it would break, and would start a snow slide that would go thundering down the hill side, collecting thousands of tons of snow on its way, crashing through the forest, snapping off trees like matchwood, carrying away log cabins, mine buildings, machinery and all into the valley below, where it would keep them buried for years before the mass of snow, which would be compressed into ice, would melt. The vibration of the air caused by a shout has been sufficient, in some cases, to break the overweighted comb, and to cause a snowslide. We never dared to venture on the snow until a crust had been formed upon its surface. Thus we had to wait until the sun came out to melt the upper layer of the snow, and then until the frost of the following night had formed a crust, for we knew that this crust, however slight, was sufficient to hold the snow together and to prevent it from sliding.

By December our tunnel had penetrated more than two hundred feet into the mountain ; and needed only to be timbered for the first twenty-five feet. The tunnel was six feet six inches high, three feet wide at the top, and four feet wide at the bottom, with a

ditch nine inches deep on one side, and tram rails two feet apart, laid on ties sunk in the floor four feet apart. The tunnel had a gradient of one in twenty. At two hundred feet we began to be troubled with carbonic acid gas, and as the gas got worse at two hundred and fifty-five feet, we decided to put up a rise to the surface for ventilation, a distance of sixty feet. We started rising from below, and sinking from the surface, and at the end of January we had the ventilating shaft completed, the rise and the shaft meeting exactly. This shaft induced a strong draught through the tunnel, and overcame all the difficulty with regard to bad air. By February 14, 1894, we had completed three hundred feet, and knew we might cut the vein now at any moment if it continued at the same dip as shown in the old workings. At three hundred and twenty feet we cut a vein of erubescite half an inch wide, and this filled us with enthusiasm; but we went on driving the tunnel to four hundred feet without striking anything more, so that our feelings were changed to great disappointment, for we were now fifty feet beyond a vertical line dropped from the old shaft, whereas the vein at the surface dipped towards the tunnel. We thought it was of no use to drive further, so started to rise on the vein and followed it up as far as we dared without breaking into the old workings, for we knew that this would cause a run of rock. Even as it was, water seeped through unpleasantly. There was no improvement in the vein, which pinched to a seam in places. We worked all through the summer and autumn, raising and running levels on the vein, and cross cuts into the hanging and foot wall, but all without any result, and in November we were forced reluctantly to abandon the mine. The only conclusion to be drawn was that there had existed a large pocket of ore which had been worked out before the mine was jumped.

In the early summer, funds began to run very low, and I gave up working in the mine, and took a contract to run a cross-cut on the Enterprise mine, under T. A. Rickard, and earned sufficient

in this way to keep the others supplied with food. At this time Mr. Rickard had an assistant at the Enterprise mine named Marvin, a remarkable horseman, who gave many exhibitions of riding in the streets of Rico. He would throw down a pocket handkerchief, then go full gallop at it, drop down almost under his horse, hanging to on the saddle by one hand and by a spur, pick up the handkerchief, and be back in the saddle in an instant. There was a rearing horse in the town that no one could master, but he took it in hand and cured it in half an hour. When he mounted, the horse at once began to rear, so, seizing it by the forelock, with a jerk of the reins he pulled it over backwards, landing gently on his feet behind the horse's head. This he did three times, and the animal never reared again.

Mr. Rickard shortly afterwards sent Marvin as superintendent at the Yankee Girl Mine, at Red Mountain, which was just such another mine as the Johnny Bull, and in the same geological formation, Calico Peak being as red as Red Mountain. I had an opportunity of examining it, as Rickard asked me to accompany him on a riding tour to Ouray, Red Mountain, Silverton and Durango; and back up the valley to Rico, a distance of three hundred miles. This we completed in five days, travelling an average of sixty miles a day. The first day out we were benighted before we found a camping-ground. It was ten o'clock when we arrived at Rockwood, a small village in which all lights were out, and no sign of any one about. We would not wake the people, nor strike a light, for fear of raising an alarm, so we put our horses into a shed, and climbed a ladder into a loft full of hay. We lay down upon the hay as we were, and went to sleep supperless. Next morning, when we awoke, we found a cat with a family of kittens just at the back of our heads.

The ride to Ouray and Red Mountain is through the wildest mountain scenery, along a coach road, with the perpendicular walls of a mountain on one side, and a steep precipice on the other. Often the road is a shelf cut out of the precipice. This route

conducts the traveller over a bridge which spans the beautiful rainbow falls. Here the water comes tearing down the sloping face of the precipice, and, dashing upon the rocks below, sends up an eternal spray, which, whenever the sun shines, gives the prettiest and daintiest rainbow ever seen. At about the steepest spot we passed the mail and passenger coach from Ouray, and there was only about half an inch between the outside wheel of the coach and total destruction. It is said that the detritus at the bottom of the precipice, where flows the Uncomproghre River, is strewn with the whitened bones of men, horses, mules and burros that have fallen over.

We did not stop at Ouray, but went on to Red Mountain and stayed at the Yankee Girl. The road was constructed by the great Pathfinder of the Rockies, Otto Mears, now President of the Denver and Rio Grande Railway, who made the gradients for most of the railways in the Rockies, by first making toll roads and then selling them to the railway companies. I found the Yankee Girl was like the Johnny Bull in many respects. The water in the mine eats up the iron of the tramway track and water pipes in just the same way, through being charged with sulphate of copper. At the Yankee Girl we found Marvin, and stayed at his house, where he entertained us by playing delightfully on his violin. The next night we found rest at Silverton, with Mr. and Mrs. Ed. Stoiber, both of whom were expert mining engineers, Mrs. Stoiber being one of the few lady members of the American Institute of Mining Engineers. They owned the famous Silver Lake mine near Cunningham Gulch, at Silverton, which was making them very wealthy. Mrs. Stoiber's ambition was to be the richest woman in Colorado, an ambition she was well on the way to attain. She described to us how she stood at the entrance to Cunningham Gulch, where their mine was situated, rifle in hand, while a strike was on, and defied the strikers for two days and nights, and not a man passed her. She also described a row she had with the Town Council for

compelling her to move her garden fence back. The Council contended that it encroached upon the side walk and it was war to the knife. She went herself with a theodolite and surveyed the town, pointing out that several of the town councillors' fences also encroached on the side walk, and she forced them to move theirs. She went into the Council Chamber, and defied the councillors, challenging any one who differed from her to fight. She would have beaten any one of them, and they knew it. Then to spite them she bought up the empty town lots round the councillors' houses, and erected huts for niggers and Chinamen upon them. However, if she was a good enemy she was also a very good friend, and entertained us well. She also took us over the new stamp mill. Silverton is very beautifully situated, hidden in the mountain fastnesses, on a plateau above the Rio de las Animas Perdidas, completely surrounded by lofty mountains.

Upon the following day we rode to Durango and went over one of the smelters, arriving back in Rico the day after. Within the town of Rico, and on the outskirts of the town, large deposits of low grade galena (silver lead ore) outcropped on the surface, and could be quarried very cheaply ; but up to this time it had been considered that the quality was not good enough to make it worth while to work. Mr. Patrick now conceived an idea of working it, and erected a concentration plant, and jig mills, on the side of the Dolores river, carting the concentrates to the Rico smelter, run by Mr. W. Brace, not a hundred yards away. The quarry was opened in close proximity to the town, and when the drill holes were charged with dynamite, bullock hides were spread over the holes before the blasting, to prevent the rock from damaging the buildings ; and when the dynamite was discharged, the hides were thrown a short distance in the air, but they effectually stopped the rock from flying. I never heard if the scheme paid a profit, but if it did the profit must have been very small, for in October, when we had given up all hope of finding pay ore in the Johnny Bull, Douglas Browne wrote inviting me to join him

at Ward in Boulder County at \$150 a month, to be raised as the mines improved. Mr. Browne had just got a group of mines, including the Baxter, Columbia, Madeleine, and the once famous Ni Wot mines. Rico at this time had become very dead; work in the Enterprise and Rico-Aspen was only carried on with half the number of men formerly employed, and more than half the miners and prospectors had left the camp. I was very sorry to leave Rico from a social point of view, as we had many friends there—Mr. and Mrs. Walter Brace, of the Rico Smelter, Mr. Garrison, manager of the First National Bank, and his wife and little daughter Dorothy. Another of our friends there was Mr. Edwards, the assayer, who was very amusing in court when he was defendant in a lawsuit brought against him by his next door neighbour, Mr. Koster, the butcher. The case was that Mr. Koster kept chickens, and that every morning one of his hens used to walk into Mr. Edwards' sitting-room and lay an egg in his armchair, which he boiled and ate for his breakfast each morning. Mr. Koster heard of this and sent him a bill for the eggs, which Mr. Edwards refused to pay, so Mr. Koster brought an action against him. In court, Mr. Edwards, who defended himself, told the judge the story of Elijah being fed by the ravens, at the Brook Cherith, when he was hungry, and had nothing to eat; and he went on to explain that his case was analogous, and that the hen was sent by Providence to feed him when mining was at a standstill, and he could get no work. As Elijah was not asked to pay for the food brought to him by the ravens, so he should not be asked to pay for the food brought him by the hen. He did not know to whom it belonged, nor where it came from. He did not enquire; but looked upon it, as it undoubtedly was, an act of Providence. Needless to add, Mr. Koster lost his case.

After going up to the Johnny Bull, and viewing the mine from every point with Fred Day, we reluctantly came to the conclusion that the game was not worth the candle, and that it would be useless to go on with the work, though the Days and Robertson

wished to continue a cross-cut where they thought indications existed of a possible ore chute.

This cross-cut was not completed until some time in November, and then it yielded nothing. Good indications are the road to ruin in mining.

CHAPTER V

DISGUSTED WITH THE STATES

IN the meantime I accepted Douglas Browne's proposition and returned to Denver with my family, who stayed a week with Mrs. Douglas Browne. Thence we went to Ward, a short journey by train to Boulder, nestled in the foothills, the chief feature of which is its University, and then a twenty-two miles' drive by coach to Ward. Until recently there was a railroad right up to Ward, the remains of which are still visible; but a cloud-burst took place at Ward, and this sent such a volume of water down the valley that it completely washed out the railway from start to finish, piling rock and débris four feet high over the farms below Boulder, and spreading consternation and disaster all down the valley. Ward, or Windy Ward, as it is called, is situated in a saddle of the range, at an altitude of 9,200 feet above sea level, with the great divide, the backbone of the continent, towering above it to the west, from the perpetual snows of which the icy wind almost continually sweeps with merciless fury over the town of Ward, which is said to be the windiest spot in Colorado. No snow ever remains on the ground there, except in sheltered places, for the terrific winds sweep it all away down the valley, and the continual blowing of snow, mixed with fine rock, against the windows of the houses, soon gives them the appearance of ground glass. All two-storied houses had long fir poles lashed to them, continuing the slope of the roof down to the ground, on the east sides, for the sake of extra stability. Our house was built on a site excavated from the hill side, so that we walked out of a door on the first floor upon the hill at the back. During the first night



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we slept there, we were startled by a heavy thud against the house, which shook it to its foundations ; and on getting up to find the cause we discovered that a small wooden building that had stood on the hill above the house had been blown over, and had rolled down the hill upon our habitation.

Douglas Browne had got together a very promising group of consecutive mines on the same vein, a strong, well-defined vein, resembling the Gilpin County veins at Central City, carrying large bunches of iron sulphides, with a certain percentage of free gold, and gold in mechanical combination with the pyrites. This was a stamp milling proposition, the free gold being saved by amalgamation, and the remainder by concentration of the pyrites with Frue vanners, for which purpose a fifty stamp mill was in course of erection on the Madeleine mine, which was in the centre of the group.

On the day of my arrival, Mr. Browne sent me up to the Baxter mine to post notices stating that only those working in the mine were allowed on the premises ; when, seeing a man loafing in the fitting shop, I politely asked him if he were working on the property, and if not to keep out. He flew into a towering passion, cursing me and Mr. Browne, and saying he would be running the Baxter mine when Mr. Browne and I were both in hell ; then, bunching himself, he sprang at me like a wild beast, but was caught by the fist of a burly pumpman, who had been with me on the Rico-Aspen. My friend then seized a monkey wrench, and threatened to kill my assailant if he did not clear out. He added, " Don't you fight him, Mr. Way ; he fights with his feet and not with his fists." I learnt afterwards that the man had been leasing a stope on the Baxter mine, and making money before Mr. Browne took the property over and cut short his lease.

My work for the first few months was in the drawing office, making plans for the new mill and other works, and making drawings for a new invention of Douglas Browne's, which was an adaptation of an old device for sizing the ore pulp as it comes

from the stamp batteries, to be called Browne's Hydrometrical Cone Sizers. A set of four were required for every ten head of stamps. It is essential for this system of sizing, which is the simplest, and yet the most sensitive, that the water supply should have a constant head. It does not matter so much what the head is as long as it is constant. That is to say, the tank should be always overflowing, and the water from that particular tank must be used for two purposes only, the supply for the batteries and for the sizers. Another tank taking the overflow from the constant head tank will supply water for the vanners (three of which are required for every ten head of stamps), and for all other purposes in the mill. The volume of water supplied to the various sizers (which have straightway cocks, both for supply and discharge, No. 1 a one-inch cock, and the rest one and a quarter-inch), will be a matter for experiment, and when that which makes the best saving is found, a note is made of the indication on the dial. The pulp coming from the riffles flows directly into the first cone, and meeting the upward current, supplied from the overflow tank, all the heavy particles of pyrites and gangue from thirty to fifty mesh will sink by their specific gravity, and will flow on to No. 1 Frue vanner, while all lighter material flows over into the second cone, where the fifty to seventy mesh will sink and flow to No. 2 vanner, the lighter pulp flowing to No. 3 cone, where the ore from seventy to a hundred mesh will be saved and will flow to No. 3 vanner. The lighter pulp will run into No. 4 cone, where the valuable slimes will be saved, and will flow to settling tanks for future treatment. This patent of Mr. Browne's was afterwards taken up by Messrs. Fraser and Chalmers, who now supply his apparatus.

I also made the drawings for another patent of Douglas Browne's, which provided electric wires inside a steel cable hoisting rope, and so enabled an electric bell to be rung at the hoisting engine from the cage, as it was ascending or descending the shaft. A code of signals was arranged and posted in the cage

and in the shaft house. After this, I was made superintendent and general boss of the California mine, which was also under the management of Mr. Browne. As this mine was two miles away, I had a horse provided for me.

The California mine was very close to the Dewdrop mine, a much-advertised mine, of which Mr. Merrick was manager. It was kept for exhibition as a sort of jeweller's shop, and in connection with it there was published a monthly magazine, setting forth the glories of the Dewdrop mine ("Do drop yours" would have been a more appropriate name), and stating that wealth beyond the dreams of avarice awaited any one who invested. At one time it was the railroad conductors' mine, and conductors were brought up by scores in the coaches, were given a big lunch, and then were taken to see the exhibition of glistening pyrites. After that, of course, they invested. At another time it was the postmen's mine, and so on until all available fields had been reaped.

The journey over the saddle into the gulch on the other side was painfully cold in the early morning, or in fact, at any time. My hands, feet, and lower jaw often lost all feeling, and the process of thawing them was agonizing, for it induced a throbbing ache of the most painful kind. At Rico I never felt the cold; but here, with the continuous, pitiless wind, it was almost unendurable.

My first task on the California mine was that of erecting an air compressor and boiler for the working of Ingersol rock drills so that we might run a cross-cut tunnel to cut the vein. Economy was not one of Mr. Douglas Browne's strong points, and before the Madeleine mill was completed a further decline in silver set in, which caused a semi-panic and tightness of money, so that although Mr. Browne was promised a working capital of \$200,000, all he ever got was \$15,000. Salaries were not paid, but all the staff remained on the understanding that they would be paid as soon as the mill started. In April, 1905, the monthly pay for the

miners was not forthcoming, and they were not to be put off with promises. They wanted hard cash down. The mines were now in debt to the amount of \$60,000, and matters looked hopeless, even though large ore chutes had been opened. Several experts had been up to report, and their lowest estimate stated that after \$150,000 had been spent in putting the mine and mill into shape, it would return a nett profit of \$30,000 a month. Still, though thousands of tons of ore were staring us in the face, money could not be raised to complete the mill or to extract the ore, and the result was that the miners struck and seized the mine, placing armed guards round it, so that they might extract the ore themselves and sell it. Afterwards this is just what they did.

As there was nothing more to do at Ward, we took the coach for Denver, but had the greatest difficulty in getting away. Such treatment as we had received forces honest men to be dishonest. I had to do all kinds of manœuvring and to make all kinds of promises I knew I could not fulfil. Also I began to grow disgusted with the States. There was no honest press; all the papers were subsidized by the monometallists to hoodwink the people. The continued contraction of the currency was the curse of these times. The demonetization of silver was as disastrous as the sudden destruction by earthquake and fire of half the buildings, rolling stock and products, for it destroyed half the people's money at one fell swoop. The full effect of this blow was not felt until the repeal of the purchasing clause of the Sherman Act. Next the appreciation of gold (or depreciation of silver, as we are told to believe) was equivalent to destroying half of what was left, gold having appreciated a hundred per cent., or, in other words, its purchasing power was doubled. Formerly, to buy \$100 in gold a man had to give a hundred bushels of wheat; now he has to give two hundred, and it is the same with all commodities and property. Silver has never depreciated, but has always, and will always, be the standard of value. When silver was $\$1\frac{29}{100}$ an ounce, wheat was $\$1\frac{30}{100}$ a bushel; when silver was \$1 an ounce, wheat

was \$1 a bushel. A year ago silver and wheat were both at sixty cents, and now both are at fifty-six cents. On the other hand, gold is most unreliable as a standard of value, for its fluctuations are all one way; that is, its purchasing power is always increasing. Although Mr. T. A. Rickard offered me work at Rico, at \$175 a month, with a house on the Enterprise mine, as superintendent, or at Red Mountain, on the Yankee Girl, and though I received a letter from my friend, Harvey Pridham, saying how delighted he would be if I went to the Enterprise and batched with him, yet I decided to stay and do my best in Denver. I got enough work to keep me going, reporting on the Peabody Placer mine at Brekonridge for Mr. T. A. Rickard and Mr. Tom Stern; on the Morning Star, at Ward, for Mr. T. Goad; and visiting the Gold Coin mine at Central City, and making a complete new set of plans for Mr. Alfred Rickard; also plans of the Florence oilfields for Mr. Ruthven. In August the California mine at Ward was sold to Mr. Merrick, of the Dewdrop mine, and I was paid eighty per cent. of the \$650 that was owing to me. This enabled me to square off accounts at Ward.

At this time Mr. Alfred Rickard went over to England with his family for a holiday, and while he was there he was engaged by Messrs. Crocker, Percy Tarbutt, Edmond Davis and others to travel through the mining districts of Australia and New Zealand to pick up likely properties for them. He then cabled to his nephew, Mr. T. A. Rickard, asking him to hunt me up to see if I were willing to come with him as his assistant. At the same time Mr. Reuben Rickard, his brother, was engaged by the Venture Corporation, of which Mr. Fred Baker was chairman, to go to Western Australia to report on properties recently taken up on their behalf by Mr. George Seymour, of the firm of Messrs. Bainbridge, Seymour and Co., mining engineers. Mr. Reuben Rickard had engaged Mr. Harvey Pridham, on the recommendation of Mr. T. A. Rickard, as his assistant. I was delighted at

the prospect of going to Australia, and at once accepted the post. At the end of October, Mr. Alfred Rickard came back to Denver, and it was arranged that we should start, accompanied by Mr. Pridham, to San Francisco on the 10th, and there meet Mr. Reuben Rickard so that we might all go out together on the *Mariposa*, due to sail on the 14th, stopping at Hawaii and Auckland, where we were to stay for a couple of months, while the others went on to Western Australia. On the 8th, however, a cable was received from London, asking Mr. Alfred Rickard to return there for final instructions. I was glad of this, as it enabled me to take my wife and daughter back to England.

We started almost immediately for New York, and booked passages on the *Majestic*, the newest steamer of the White Star Line, due to sail on November 13. On board I found Mr. A. B. Rhoder, treasurer of the Rico-Aspen Consolidated Mining Co. Mr. (afterwards Sir) Henry M. Stanley, of Central African fame, was also on board. The *Majestic* was certainly fitted up for comfort in travelling. We arrived at Liverpool on November 20, when I was able to take my family home ; but I had to be in town most of the time. I had an agreement drawn up, whereby I was to receive a salary of £300 a year, and all found, and first-class travelling everywhere. After Mr. Rickard returned to England, probably in less than a year, I was to have a considerable rise of salary, and was to look after the United Australian Exploration Company's property. We booked passages on the P. & O. steamer *Massilia*, due to sail on December 5 ; but at the last minute Mr. Rickard decided to stay, and join the steamer later at Brindisi.

AUSTRALIA

CHAPTER VI

NAKEDNESS OF COOLGARDIE

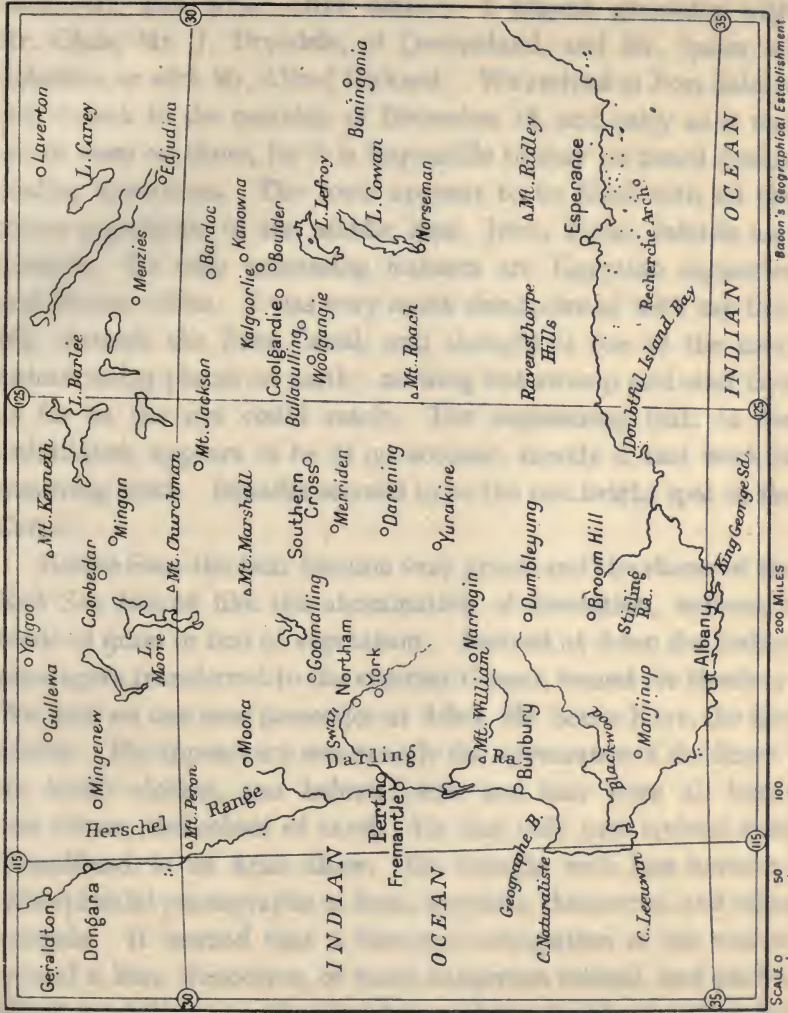
ON December 5, 1895, I started on the P. & O. Steamer *Massilia* under Captain R. Harvey, for Australia. The Channel was very choppy and disagreeable. I sent letters away by the Thames pilot, who left us off Southampton. In the Bay of Biscay we had a terrific gale, which Captain Harvey thought it best to treat with respect, and so headed the wind for twelve hours, making only 113 knots in the twenty-four hours. Even with this precaution we rolled to very near capsizing point. The steamer appeared to roll 45 degrees, but the chief engineer assured us that the worst angle was 35 degrees. It was, however, so bad that Lord Saltoun, Mr. W. H. A. Craig, and I, who were sitting on one of the wooden benches, which had a skylight behind it, over which was a grating of brass rods fixed on a frame, had to seize the brass bars to attempt to save ourselves, when the whole framework gave way, and we were all shot violently into the scuppers with the grating on top of us.

The sea calmed down by the time we sighted Cape Finisterre, and was smooth as glass off Cape St. Vincent. We arrived at Gibraltar on the morning of the 10th, and were delighted to see the gardens full of flowers. There was not time to see half we wanted to see before we were off again. What struck me most at Gibraltar, after the grandeur of the rock, were the thick hedges of stag's horn geraniums. I called on and had a yarn with Col. G. U. Prior before returning to the *Massilia*. Cardinal Logue and suite left the steamer at Gibraltar, and among other passengers who left in the Mediterranean were Mr. Raymond Blathwayt,

who was collecting data for a P. & O. guide-book, and Mr. Ward, an artist, who was painting illustrations for the guide-book, and had painted a portrait of Captain Harvey before we arrived at Malta, and Lord and Lady Saltoun, who joined their yacht at Brindisi. Passengers who were going further afield were the Rt. Rev. E. A. Anderson, Bishop of Riverina, and his family. The Bishop was a great lapidary in his leisure moments, and Mrs. Anderson wore a very beautiful necklace of opal and other jewellery, the stones cut by her husband before he was consecrated Bishop of Riverina. He had just been to England to be consecrated, but he had lived in Queensland, the home of the opal. The Bishop himself wore a large intaglio sapphire, in a ring, the cutting of which was his handiwork. Mr. J. G. H. Glass was on board on his way to India. He was afterwards out in China for the Pekin Syndicate, and was a director of the Upper Yangtse Syndicate, in the interests of which I subsequently made a trip through China, examining the mineral wealth of the country. We had also on board Mr. B. Hyde, going to Australia. The Rev. W. F. Sorsbie, Chaplain to the Forces at Malta, got off at Valetta, where we stopped for nine hours, and saw the sights of the town, notably the famous armoury of the Knights of St. John of Jerusalem and St. John's Cathedral, with its magnificent silver screen. The population of Valetta seemed to consist entirely of English soldiers and sailors, Roman Catholic priests, nuns and tramps. There are more priests to the square mile in Malta than in any place I have ever visited.

At Brindisi we stopped for twelve hours, waiting for the mails. Here Mr. Alfred Rickard and Colonel Anstey joined the steamer. The latter was going to take up the command at Hong Kong. He had a brother in Perth, Western Australia, to whom he gave me a letter of introduction, Mr. Harry Anstey, who, he said, was the first man to discover gold in Western Australia, south of the Murchison, near Southern Cross. My cabin companion as far as Colombo was Mr. E. M. Hobart Hampden, who was on his

Map of the South-Western Portion of
WESTERN AUSTRALIA





Map of the Pacific Northwest showing the location of the various points mentioned in the text.

The map shows the Pacific Northwest region, including the states of Oregon, Washington, and Idaho. Major cities and towns are marked, along with the coastlines and major rivers. The map is oriented vertically on the page.

way to Yokohama, where he was in the Consular service. We played games hard during the whole of the voyage, cricket every afternoon, and whist after dinner. I played generally with Mr. Glass, Mr. J. Drysdale, of Queensland, and Mr. Spicer, of Colombo, or with Mr. Alfred Rickard. We arrived at Port Said at two o'clock in the morning of December 18, and early as it was we all went on shore, for it is impossible to stay on board during coaling operations. The town appears to be filled with all the refuse population of the middle East, Jews, Turks, infidels and heretics. Its only redeeming features are Egyptian cigarettes and Mocha coffee. I was very much disappointed with my first trip through the Suez Canal, and thought it one of the most uninteresting places on earth; nothing but swamp and sand flats as far as the eye could reach. The engineering feat, to the uninitiated, appears to be of no account, merely a vast work in removing sand. Ismailia seemed to be the one bright spot in the Canal.

Before Suez the heat became very great, and the shores of the Red Sea looked like the abomination of desolation, without a blade of grass or leaf of vegetation. Arrived at Aden the Indian passengers transferred to the steamer *Ganges*, bound for Bombay. We took on one new passenger at Aden, Mr. Seton-Karr, the lion hunter. His appearance was exactly the appearance of the desert; his khaki clothes, sun helmet, skin and hair were all burnt one colour, the colour of sand. He had only just arrived from Somaliland, in an Arab dhow. He brought with him innumerable splendid photographs of lions, leopards, rhinoceros, and other animals. It seemed that a favourite occupation of his was to wound a lion, rhinoceros, or some dangerous animal, and photograph it while it was charging him; then, quickly changing the camera for the rifle, lay the beast dead at his feet. Mr. Seton-Kerr assured me he had discovered the Garden of Eden in Somaliland.

The evening after we left Aden was Christmas Eve, when the

stewards gave us a very good concert. On Christmas day we had snow brought on deck on trays, and had some snowballing. The snow was formed by blowing steam into the refrigerator. While we were at Aden I was struck by the peculiarity of the fish caught in the harbour, all of which were armed in some extraordinary way. One especially seemed very curious. It had regular daggers, which fitted closely to its sides when it was swimming peacefully, but when it was attacked the daggers flew out at right angles on both sides.

The day before we reached Colombo, we passed the beautiful little island of Minikoi, a coral island covered with lofty cocoanut palms, with a tall, white lighthouse on the shore, surrounded by a coral reef, on which the surf is breaking continually. We arrived at Colombo on December 31, and stopped for fourteen hours. Here, Mr. and Mrs. Murray Menzies and family left the steamer, also Mr. Yorke and Mr. Pelham, the latter very good at singing in the concerts held on board. All passengers bound for Singapore, China and Japan transhipped here to the P. & O. Steamer, *Pekin*. Ceylon is an earthly Paradise, one of the most beautiful spots in creation. One resident on shore assured me that Ceylon was the Garden of Eden, and after describing to me Adam's Peak, with Adam's footprint on the summit, and other proofs, I still cast doubts on it; but he convinced me at last by saying no one could deny that Adam, before he met Eve, was a Singalee.

We had comparatively few passengers on board for Australia, twenty all told, and after a very smooth passage, with a sea like glass, except when we rounded Cape Leeuwin, we landed at Albany, King George's Sound, on January 12, 1896, and found the usually quiet little town a seething mass of mining men. We put up at the Royal George, and could not get a bedroom for love nor money. We had each measured out for us a space six feet by three feet in the centre of the drawing-room, in which there were three lines of beds made up on the floor, one line up

each side of the room, and one up the middle. We had to consider ourselves very lucky to get even this accommodation, for towards night men who had not been so fortunate were walking about the town offering £5 for a bed. Beds were in every conceivable cranny, on every table, and all over the billiard tables. Such are the conditions during a mining boom. We were told it was far worse in Perth, where you paid £1 for the privilege of erecting your own bed on a roof or verandah. There was no chance of getting a bed in an hotel or house, and at Coolgardie your only chance was to take a tent and camp out; make your own bed and cook for yourself. Mr. Alfred Rickard, who had not been at all well during the latter part of the voyage, was disgusted, and said he would not go north for all the mines in creation, especially as we were informed that typhoid fever was reigning supreme at Coolgardie. Upon the next day 700 more people landed from the *Paramatta*, which had come from Melbourne, and the captain said that thousands were turning away, as there was no room for more on the steamer. He added that he stocked the ship with the usual quantity of champagne for the voyage to England; but the steamer had been drunk dry the day before they arrived at Albany.

Soon after landing I telegraphed and wrote to my two brothers-in-law, Mr. T. Kitching and Mr. J. Kitching, saying I had arrived and asking them to meet me in Perth; but though I stayed in Western Australia until March 20, they did not receive my telegrams nor letters until after I had left the country. It was arranged that I should go to Perth by the Sunday express, on January 19, and I went to the station to book a seat, but was told that every seat was booked until Tuesday, January 28.

On the following day I walked to Middleton Bay, about three miles distant, with Mr. Rickard, and we bathed in the bay. The sand there is all pure white quartz, and the water is as clear as crystal. There were some rocks forming little islands, and these formed good diving platforms. Among these little islands were

several rock squids, with horrible looking arms and suckers, three to four feet long. They climbed the rocks after us, holding on to the crags with their tentacles. When they came near to us we dived over them, and swam to another rock. As we grew tired of their company we threw a large piece of stone at them and so caused them to shoot the ink out of their ink bag and sneak away in the blackened water.

Middleton Bay is a very charming and quiet spot, with a forest of red gums on one side, in which flocks of dark coloured cockatoos were making a great noise, breaking dead branches from the trees with their beaks and throwing them to the ground. On the other side a beach of white sand stretches for miles, fringed with low scrub of the bottle brush shrub, which grows about the size of gorse and bears a scarlet flower, like a bottle brush, at the top of each twig. At the back of this is swampy ground, also covered with the same shrub. While I was walking through this swamp, on a stone-paved road, originally made by convicts, I was startled by hearing a very weird noise, which appeared to begin quite near to me, a sort of wail which gradually increased in volume till the whole country was filled with it. Then it died away, and all was silent again. After a little while it started again. I could not make it out, for nothing was to be seen to account for it. When it was at its height it sounded like a large pack of wolves howling. I learnt afterwards that it was nothing more than the millions of frogs, which inhabit the swamp, giving vent to their feelings.

There was only one house at Middleton Bay, a sort of boarding house kept by Mrs. Chinnery, a very charming lady from Albury, New South Wales, whose husband had come to grief on the rocks of fortune, so that he was now up in Coolgardie, hoping to recover all he had lost. Upon the following day, Mr. Rickard and I moved to this house, on his doctor's advice, and Mr. Rickard received a letter from his brother Reuben, giving an account of Coolgardie and the goldfields. He described Coolgardie as very like an

American camp, with far less gambling and shooting, but with fifty times as much drunkenness, which he described as too repulsive and awful to write about. Very little else was drunk but champagne and whiskey. He further said there were a few good properties ; but ninety-nine out of every hundred that had been floated were not worth the paper the shares were written on.

On the 27th I walked down to King George's Sound, to see the *Arcadia* arrive, bringing a fresh batch of mining men ; and on Tuesday, the 28th, I started for Perth, in a very crowded train ; but luckily the carriage was partially emptied at Spencer's Brook, and only three passengers remained, so that we were able to spread out one on each seat, and one on the floor. Thus we slept fairly comfortably all night.

We arrived at Perth at eleven o'clock in the morning, and I got a bed at the Grand Hotel, so that the crush was not so bad as I was told to expect. The heat, however, was very great, for the thermometer registered 100 degrees F. in my bedroom, and ninety-one degrees at seven o'clock next morning.

I called on Mr. Harry Anstey, at the Weald Club, and took a walk with him in the gardens opposite, which were a perfect mass of bloom, oleanders in profusion, and magnificent pomegranate shrubs in full flower. He told me some thrilling stories of adventure, and was favourably impressed with the goldfields, as a whole ; but he was quite as much interested in agriculture as in mining, though he was intent on securing gold on his own ranch in the Darling range, for he had found a reef which assayed four dwts., and this he could trace for three miles.

I took a run down to Freemantle, which is quite an old-world town, with heavy stone buildings, and narrow stone-paved streets, built in the days when it was a convict station. Perth undoubtedly has the most voracious mosquitoes in the world. They devour you all night, in spite of your pillow being soaked in oil of lavender. I mentioned this to an acquaintance in the hotel, who said they were quite abstemious compared with the mosquitoes in Queens-

land, where, if you picket your horse out at night you will find nothing of it in the morning ; but if you look up into the trees you will see the mosquitoes, sitting in the branches, picking their teeth with its bones.

On February 1 I started by train for Woolgangie, the terminus of the railway, *en route* for Coolgardie, and at Northam met Mr. Hugh Wallace, who knew Mr. A. Rickard well at Central City. Woolgangie is forty miles from Coolgardie, and the journey is made by coach, over a road which is a foot deep in a dust as impalpable and fine as flour. It curls over the wheels of the coach, and spreads itself over the passengers on the top of the coach, forming a pile two inches high on their heads, shoulders, arms and knees, just as if they had piled it up purposely, and it is continually falling off all round. It collects on faces and hands, which are in a state of perspiration on account of the heat, and forms mud which has to be scraped off continually. To complete this discomfiture, the plague of flies in Egypt was as nothing compared with the flies here, and they swarm upon you straight off the dead animals which litter the sides of the road. I believe it would be possible to walk the whole distance from Woolgangie to Coolgardie on the bodies of dead camels and horses, which lie at the sides of the road. I found that those who had travelled along this route before had provided themselves with nets that went round their hats and fell over their faces. These were in general use in Coolgardie. I had provided myself with the ubiquitous canvas water-bottle which every one carries, and which continually sweats, so that before long it is covered with a quarter of an inch of mud from the dust that settles upon it.

Arrived at Bulla Bulling, which is about half the journey, we rested for the night. The only shake-down I could get was in the meat safe, and this was really about the best place, for it was free from flies. A particularly virulent fly is the bung fly, which bites the eyelids, and causes them to swell to the size of

half an orange, quite closing the eyes. I have seen men with both eyes completely closed in this way ; but the ordinary fly is the most persistent insect on earth, and if you are unprovided with a net, flicking with the hand is useless. You have to gouge these flies out of your eyes regularly every few minutes. The country is so excessively dry that they attack your eyes for the moisture.

Along the road are a certain number of natural water catchments, formed by large convex granite outcroppings of an acre or more in extent, round the periphery of which a watercourse of clay is constructed which leads any rain that falls into a small reservoir. I was told that in the early days of the mining boom, the water catchments, which originally held the water supply for the natives, were seized by the white men, who shot the natives down in scores as they attempted to take the precious water by night.

We arrived at Coolgardie on February 3, without any luggage, which was all left at Woolgangie, as there was no room on the coach. Your luggage came up leisurely, in wagons, and you were lucky if you got it in a week after your arrival. I went immediately to Kennedy's Hotel, where I had booked a room, a fortnight previously, at £5 10s. a week, and had already paid for two weeks' hire. Notwithstanding this, I found it occupied, and nearly came to blows with the occupier, who put forward the principle that first come first served holds in Coolgardie. The fact that I had paid for my room beforehand had nothing to do with him. However, on application to Mr. Kennedy, he soon set matters right, and I got my room. It was foolish to think I was going to keep it for myself though. The hotel was built entirely of galvanized iron, on a light wooden framework, and my room had galvanized iron walls and ceiling, and was like the interior of an oven. All the doors and windows had to be thrown open before I retired to bed, and no sooner was this done than there was a rush through doors and windows, so that in a few minutes every

available space was occupied with a shakedown, and the verandah and passages outside were covered with recumbent men.

I next sought out Mr. Reuben Rickard and Mr. H. Pridham, who were both at Kennedy's Hotel, and I had a long talk about the goldfields. Mr. Rickard gave it as his opinion that the lack of water was the salvation of the country's reputation. If they had sufficient for milling it would prove a lack of gold in two hundred and ninety-nine mines out of three hundred. He appeared quite sad about it, and foretold a fearful day of reckoning in the near future. He said that at Hannans (Kalgoorlie) alone there were 15,000 miners employed at £4 a week each, £60,000; per month, £240,000; per year, £2,880,000; though the total gold production for 1895 was only £800,000 for the whole of Western Australia. This enormous expenditure was due to the Government's mining laws, which call for one man to work continuously on every six acres, where not one mine in three hundred has gold, and none water. There was a poor supply of wood, no coal, and not one man in a hundred knew a mine from a hole in the ground. He had examined already twenty-two mines, which had been floated for enormous sums, had not seen gold enough to make a sovereign, and had condemned them all as absolutely worthless. He added that when London awoke to the fact, and capital ceased to come in, the state of affairs would be too awful to contemplate.

The town was full of men with properties to dispose of, and short time options, with hard cash down, were to be picked up as easily as blackberries from a bush. I was offered a property the day after my arrival containing fourteen acres, joining Bailey's Reward, on the west. As the owner was very pressing I walked over to look at it. There were two large veins outcropping on the property, with a shaft about thirty feet deep on each, showing nothing but hungry white quartz, without a vestige of mineral. I was to pay £1,500 for a week's option; but as I would not pay one penny for a year's option the deal was soon "off."

On Wednesday, February 11, I got from Mr. W. H. Matthews,

the manager of Bailey's Reward Gold Mining Company, an order to inspect the mine, for which I paid five shillings. This was sent to the Coolgardie Hospital fund. I went with the underground manager down a three compartment shaft, with two cages and one pump and ladder way. The mine makes about one thousand gallons of water in twenty-four hours. The shaft is about three hundred and eighty feet deep, at the bottom of which two men were sinking, the only men working in the mine. Starting at the south end of the hundred feet level, there was nothing but two walls of diorite schist with four to six inches of slickensides, until we came to the big ore chute of quartz, near the surface of which all the specimen gold was found. This chute is about forty feet in length and seven feet in width. It is cut through in several places from the shaft, and shows nothing in the way of free gold. On either side of the quartz there were kidneys of schist, and mispickel at the junction with the walls. On the north side of the chute the walls closed again, and showed only slickensides, which at thirty feet is faulted. No stoping had been done, except near the surface. On coming out of the shaft, and walking about a hundred yards, we came to a second shaft, worked by a windlass, about fifty feet deep, on a regular and constant quartz vein, averaging five feet in width, connecting with two more shafts, in each of which two men were working. There had been a small amount of stoping done, on a rich pocket, from which I took a specimen, but could not find any visible gold. In fact I did not see any mineral underground, with the exception of the mispickel I have mentioned. On regaining the surface I saw that the three last shafts referred to were on a different vein, which crosses the vein with the big ore chute. We then went back to the shaft house on the big ore chute, and I was shown a specimen lump of quartz and gold about two feet square, containing half as much gold as quartz. A network of gold, a quarter to half an inch wide, ran through the quartz in all directions. It would have been impossible to break it, the gold would have had to be chiselled

out in chunks, as the quartz was broken away. Gold quartz like this is very pretty to look at, but, as a rule, it is not of much benefit to the shareholders.

The atmosphere was now very hot and dry, the temperature being 108 degrees to 110 degrees in the shade, day after day, and 98 degrees to 100 degrees at night. The rainfall is about five inches per annum, and as far as I could see never reached the subsoil. There was a sharp thunderstorm on the 10th, and after what appeared to be torrents of rain the dust was hardly laid on the streets. The ground was so hot, and the atmosphere so dry that the streets were parched in a few minutes. This accounts for the water being so heavily charged with salt. The water in the sea contains about three per cent. of salt, but the water round Coolgardie holds thirty per cent. of salt. Looking at a map of Western Australia one would imagine the country to be remarkably well watered, for blue lakes are shown all over it, but the truth is that these are nothing but dry salt pans, over which you can gallop, kicking up the salt encrusted sand behind you. Upon these lakes, as they are called, those most beautiful mirages may be seen that led so many of the earlier prospectors to their death. You imagine you see about half a mile in front of you a beautiful lake of rippling water, with green trees, houses, and people promenading on the opposite banks. You could swear it existed in reality; you travel on mile after mile, but get no nearer to it. If you turn round, and look behind you, over the ground you have travelled, you see exactly the same thing. Many men have left the track to follow one of these mirages, and have been lost and have died. Tracks are so few and far between, and the whole country for hundreds of miles is on a dead level. Each mile travelled is exactly like the last, and unless you have taken your compass bearings very carefully you will assuredly walk round and round in circles until you succumb from fatigue. All water for drinking or for washing purposes has to be condensed. In Coolgardie there are numerous wells, each of which has a furnace

and a condenser, with long lines of galvanized pipes. The owners of these were reaping fortunes, for each gallon of water sells for one and sixpence or two shillings, and a glass of water to drink at any of the numerous bars in Coolgardie costs one shilling, the same price as a glass of beer. The level at which salt water is obtained in Coolgardie is one hundred and twenty-five feet, and in the salt pans or lakes it is obtained at twenty-five feet. At the White Feather (Kanowna), I paid as much as ten shillings for watering my horse. When the camel trains were in Coolgardie they would drink the town dry of water, and men used to buy three or four bottles of soda-water, to wash in, as it was not possible to buy condensed water.

On February 8 I accompanied Mr. Reuben Rickard in a buggy to examine the Miriam mine, situated near the Londonderry mine, and helped him to sample it. We were shown over the mine by the manager, an elderly Cornishman, and saw a beautiful white quartz vein two feet wide. There were three shafts on the property, each about seventy feet deep. After we had seen all there was to see, Mr. Rickard asked the manager to show him the mineralized portion of the vein, at which the manager stared, and said, "I have shown you all there is to see." He was asked then to show some gold, at which he stared afresh, and burst out laughing, adding, "It's gold you want to see, is it? Not many people care about gold out here so long as there is a quartz reef. There ain't enough gold in this mine to make a pair of spectacles for a skeeta (mosquito)."

From this place we drove to the Greenhill mine, where there was a shaft fifteen feet deep, at the side of a quartz boulder, with a drive of ten feet running beneath it. The white quartz boulder was all the quartz even that there was to be seen on the Greenhill. Further comment is needless; and Mr. Rickard's remarks on the result of the day's work were more forcible than polite.

On the same day I was offered by Messrs. Lippman and Vincent an option on a new find called the General Gordon, twelve miles

from the White Feather (Kanowna). Mr. Rickard gave me a form which he said was in general use, and which I copied and took round to the owners, who were to have a buggy ready to take me to the mine at once, on signing the agreement. I found the buggy waiting, but my agreement was laughed at, and another was produced by the owner, which stipulated that the Oceanic Exploration Syndicate was to undertake all labour conditions (*i.e.* to work fifteen men continuously) on February 10. I was to deposit £7,000 by February 27, to deposit another £7,000 in ninety days, and the joint owners were to retain a one-sixth interest in the company when it was floated. This I was requested to sign now, but of course I emphatically declined to undertake to pay anything until I had inspected the property. I was told there were plenty of people in Coolgardie who would be only too anxious to take the mine on these terms, and I fully believe there were. However, as far as I was concerned, there the matter ended for the time being.

In the meantime, I arranged to accompany Mr. Reuben Rickard to Hannans (Kalgoorlie) on February 12, to go over the Great Boulder, Hannan's Reward, Boulder Main Reef, Hannan's Brownhill and Ivanhoe mines, for which he had obtained orders. Mr. Pridham had gone up to Yalgoo *via* Freemantle and Geraldton. On February 11 the owners of the General Gordon gave me till the 20th to examine the mine, telegraph to Mr. Alfred Rickard, and cable to London to give them an answer whether the Syndicate would take the mine on their terms; so I engaged to go on from Hannan's to Kanowna. I started with Mr. R. Rickard on the 12th for Kalgoorlie, twenty-four miles distant, in a buggy. On the road we passed the four-horse coach that runs between Kalgoorlie and Coolgardie, on the top of which I saw an old friend, Mr. Cecil Drew, of the London Stock Exchange, who returned to England on the *Massilia*. The dust on the road was terrible. On arriving at Kalgoorlie, we put up at the Exchange Hotel, of which Mr. H. Rosenthal was the proprietor.

Here Mr. Rickard received a cable, which made him alter his plans, and go on to Kanowna to examine the Golden Cement claims and the Duke of Westminster mine. He advised me to go with him, as it would all be experience gained, and he would be very glad of my help. On February 13 we drove to Kanowna, and stopped at the Criterion Hotel, kept by Mr. M. Donellan, and walked to the Golden Cement claims. It was already purchased by the Venture Syndicate. The cement appeared to be breccia conglomerate, the breccia being composed entirely of fine and coarse angular lumps of quartz, lightly cemented together. After a long search, a few specimens of the cement carrying specks of gold were found; but the dry-blowers had taken the lot, for nothing was left. The cement was an alluvial deposit, filling a depression on the surface, and was about ten feet thick in the centre. It was honeycombed by hundreds of small shafts, down to bedrock, all connected at the bottom. By the West Australian mining laws, the alluvial on any mine may be worked by any one who comes along, and as there is no water for washing or sluicing the gold, an ingenious device of rockers on a barrow is used, whereby the coarse gold is saved dry by its specific gravity. This is a very dusty job. Upon the next day we visited the Duke of Westminster mine, where we met Dr. Brandt, who had constructed an experimental laboratory on the property; but nothing of any value had been discovered, nor was likely to be. The property was large, very picturesque, and would have made a nice residential park, or golf links, but never a mine.

CHAPTER VII

PIGS IN POKES

ON February 14, Mr. Reuben Rickard began the drive back to Coolgardie. He was going to take the train down to Fremantle, where he intended to find a berth in a steamer for Geraldton, and go on to Yalgoo, to examine other mining properties for the Venture Syndicate, while I examined the General Gordon mine. For this purpose I hired a horse at £5 for the day. The animal was a living skeleton, and I explained to the proprietor of the livery stables that I did not want to buy it. He said, "Take it or leave it," and as it was a case of Hobson's choice, I took it, and agreed to water it at the condenser on the edge of the lake. I had a fairly pleasant ride as far as the condenser, eight miles from Kanowna, where I was asked eight shillings for a pail of water, but finally agreed for a pail of water on the return journey also, for ten shillings the two. Every condenser in the country has a small mountain of rock salt near by, which is taken out of the boiler. From the condenser the track goes across the Gordon Lake, which is described by the manager of the General Gordon (Mr. F. M. Krause) as a "depressed area of some five square miles, occupied by ferruginous, saliferous, and gypseous sandy clay, of recent origin." This hot sandy lake, about four miles across, is heavily encrusted with salt, on which a few lean, scraggy lizards, with tails three feet long, were basking in the sun. They ran off with great rapidity, with their long, whip-like tails erect, on our approach. These lakes are most uncanny, on account of the mirages, for, as I have said before, any one who sees these for the first time would swear on oath that there was a lake

of clear, blue, rippling water before him, with trees and houses, and people walking on the shore on the far side of the water. I could not have believed it was not real when I first saw one, if I had not been told of them. As I got near the opposite shore of the dry lake, I could see the General Gordon buildings, and I was met by the man in charge of the property. No work was being done on the mine, and only one prospect hole had been sunk on the whole property. That was about twenty feet deep on a gash vein of quartz in decomposed mica schist. On the surface the vein was six inches wide ; on going down the shaft it rapidly widened, and at three feet deep was four feet wide, showing a fair amount of coarse gold. At six feet deep it had narrowed to a seam, and at ten feet had entirely disappeared, leaving no trace of a vein. This was the whole of the work done, and nothing more than this had been discovered on the property for which I was asked to sign an agreement to pay £14,000 in cash and give away one-sixth interest in the mine. I sat and looked at it, and marvelled. About one ounce of gold, worth £4, for £14,000 ! The vein showed only on one side of the hole ; there was not a vestige even of quartz on the opposite side. As far as I had seen of the country, I thought it was rightly called the " Land of the Golden Nugget." It was like the mirages : the golden nugget was there, to lure men on to destruction, for there was nothing else but ruin behind it. I rode back to Kanowna, sadder and wiser, and wrote to the owners declining the option ; but the General Gordon did not go begging long. It was at once snapped up, and floated for £125,000.

I stayed at Kanowna until the 18th, looking at prospect holes round the country. On Sunday, the 16th, we had a most exciting day. I was sitting writing at a table in the hall of the Criterion Hotel, with Mr. Thomas, when a buggy drove to the door, and two men got out. They were butchers from Kalgoorlie, I afterwards learnt. Each had a beer bottle hidden under his coat, and they had evidently selected two men, standing at the bar of the

hotel, for they went hurriedly in and battered them upon their heads with the bottles. These men, in their turn, seized bottles from the bar and fought and shouted in a way that brought in men from the street, so that in a few minutes a general free fight with bottles was going on, and the air became blue with foul language. Before I realised what was happening, a man came tumbling backwards under the hall table, sending it and the ink flying, and splashing my letter with blood. I seized Mr. Thomas by the arm, and we bolted into a bedroom. Then came Mr. Donellan, the proprietor, and a gang of his men, who pushed almost every one out into the street, and bolted the doors. When we came out of the bedroom to survey the scene, even then two men were lying on the floor behind the bar, punching each other, and the barmaid was smashing a water jug on the head of one, shouting, "You are killing my brother!" The floor and walls of the bar for six feet of their height were spattered with blood, the floor was covered with broken glass, and the whole place had to be swept and scrubbed.

We then ventured outside, where a curious scene presented itself. Heads, faces, and arms were all streaming blood, and clothes were torn to rags. A ring was then roped in on the roadway, and fights in the ring occupied the rest of the day. One butcher from Kalgoorlie had four fights, one after the other, won them all, and then thirsted for more. He challenged any two Kanowna men to come into the ring and fight him; but Kalgoorlie had conquered; the Kanowna men had no more fight left in them. This trouble all arose because a butcher at Kalgoorlie had dismissed one of his assistants, who had been employed immediately by a Kanowna butcher. For this reason the Kalgoorlie butcher brought up a gang of fighting men to lick Kanowna, and so to wipe out the insult. The town was very sparsely inhabited, except by miners.

I left Kanowna for Kalgoorlie on February 19, and stayed at the Exchange Hotel. There I found Mr. Ogle, who had come

out with Mr. Cecil Drew from England. He gave me some patent envelopes and newspaper wrappers he had invented. Upon the following day I hired a horse from Mr. Rosenthal, at £3 for the day, rode out four miles to the Great Boulder, and went over the greater part of the mine with Mr. Hamilton, the general manager, who was the right man in the right place. The Great Boulder mine, on a rough inspection, appeared to be a mineralized dyke, with a network of narrow quartz seams running through it, between two irregular walls of a soft decomposed talc schist. Both quartz and dyke material appeared to be mineralized throughout, and it was said to average six ounces of gold, at a low estimate. The dyke was from six to fifteen feet in width, and, in patches, at frequent intervals along the levels, looked like a jeweller's shop, glistening with fine free gold. The shaft was two hundred feet deep. I was only allowed to go down to the one hundred and fifty feet level, where the dyke was driven on for some seven hundred to eight hundred feet, but the level at a hundred feet was from five hundred to six hundred feet in length. The ore was of a steatitic, greasy nature, and was said to make seventy per cent. to eighty per cent. slimes. There is a twenty stamp mill at the mine, but only water enough to run ten. The density of the water was very great, owing to saline ingredients, and as it was run into settling tanks, and pumped up for use again before it had half settled, it can almost be said that it was liquid mud which ran into the batteries. In consequence of this the gold saved was a very small percentage of the gold contents of the ore. The tailings were all saved in a large pile for future treatment by cyanide. This was the first pay mine, or anything resembling a pay mine, that I had seen since I had been in the country.

After having luncheon with Mr. Hamilton, I visited the Ivanhoe mine, within a short walk of the Great Boulder, and was conducted over the mine by the superintendent. Here appeared to be a similar formation, running parallel with the one described

at Great Boulder, but more solid than that, and not so much decomposed. The shaft was down one hundred and fifty feet, with a level at one hundred feet, some three hundred or four hundred feet in length, exposing an average of five feet of mineralized vein material, showing free gold along the whole length. The gold was coarser than that at the Great Boulder, and the vein material contained considerably more quartz and iron oxides, and was consequently far easier to treat, for it did not slime to anything like the same extent. I was told they saved two ounces of gold per ton on the plates, and that they would begin to cyanide the tailings as soon as they had a plant. Near the north boundary the vein matter was cut off, and was faulted by a large quartz cross vein. On returning to the surface, I went south four hundred feet to a second shaft, down one hundred feet, with a level one hundred and fifty feet in length, which showed heavier and coarser gold, and more quartz; then to a third shaft, down forty-five feet on the vein, which showed coarse gold spotted through the ore. I thought the mine looked more promising for permanent working than the Great Boulder. Up to this time I had looked on the country as a sort of nightmare; but felt considerably happier now that I had got into a real mining camp with real mines. The lack of water was the only thing that stood in the way of success, but that appeared to be a very big obstacle indeed.

I next visited Hannan's Reward, and was conducted through the mine by Mr. Corbould; but I was not nearly so impressed with the possibilities of this mine. I also went hurriedly through Hannan's Brownhill, which has the same character of ore as the Great Boulder, but is more decomposed, with greasy talcose ore. Their new toy plant was just ready for trial, and every one who saw it predicted that the crushing would be a failure.

On my return ride to Kalgoorlie my horse, which had stumbled and come down twice in the morning, was so unstable on his fore legs that he stumbled every other minute and came down three

times in the first mile. It was pain and grief to ride him, so I walked the remainder of the way.

In the evening Mr. Rosenthal talked to me about a new find, just reported, lying sixteen miles from Kalgoorlie, twelve from the Great Boulder, and seven miles south-east from Mount Robinson. He introduced me to one of the prospectors, with whom I agreed to ride out to the find on the following morning ; and if I thought well of it, they said they would give me an option. I told Mr. Rosenthal about the vagaries of my horse in the ride to the Great Boulder, and he agreed to give me another (the only other in the town), which he said was a much better animal. So we made a start at about eight o'clock next morning, and I found that Rosenthal's other horse had a little joke of its own, a piece of pleasantry exactly opposite to that of the horse I had ridden upon the previous day ; for in this horse the hind legs would suddenly give way under it, and it would sit upon its haunches, leaving me to slip off behind. This occurred frequently on the way out, and as the horse could not be urged beyond a walk, travelling was very slow.

We arrived at the new find half an hour after noon, and discovered that the mine was on the edge of a large lake, into which the miners had sunk, and had obtained salt water at twenty-five feet ; but as they had no means of condensing it the water was not of much use to them. My guide, and half-owner of the claim, told me he had a partner ; but as they were without money they could only work on the claim one at a time. His partner worked at the Great Boulder to keep him supplied with food, and every month or so they changed places. Even apart from this, work was carried on very slowly, for they had to carry water from a condenser ten miles distant. They had a native specker with them. These men have marvellous sight, and can speck gold from a distance, while they are travelling through the bush. The partners in this claim had a very good surface show, and had picked out by hand twenty or twenty-five

ounces of gold in small nuggets weighing from a pennyweight to four ounces, though all the machinery they had to work with was an old gold pan perforated with small holes to form a sieve. With this they sifted out the dust in the alluvial ground, and then picked out the gold by hand. They had discovered two veins on their claim, one a large white quartz vein, which outcropped on the surface, and appeared to be barren. The other did not outcrop on the surface, although there was a considerable amount of float lying about, but was capped with about four feet of limonite conglomerate, and was exposed in a costeening pit, about five feet deep. They had no mining tools beyond a blunt prospector's pick and an old shovel. I dry-panned two or three shovelful of alluvial, and obtained a few particles of coarse gold. The owner said he had pegged out the place five days before, and had lodged a claim with the mining department, but he wished to sell his rights before any more work was done. He told me I was the only man to whom he had shown it, but in a few days the country would be inundated with dry-blowers and men with a condenser were coming immediately to erect it. They had pegged out eighty-one acres, for which they wanted £5,000 in cash, and would make any reasonable arrangement with regard to time, though this was not to exceed three weeks; and whoever bought it was not to be allowed to put a pick into the ground before the money was paid. I explained to the good man that I did not think any one was fool enough to buy the claim on those terms. He would not allow a sample to be taken from the vein, and no gold was visible in the few square feet of quartz that had been exposed. No, you had to buy a pig in a poke, and I was told that this was the general practice in Western Australia, a custom which fully accounted for the many dead wild cats that made such a pernicious aroma throughout the country.

On the return journey my poor horse got weaker and weaker in his hind legs, which collapsed under him continually. He had to rest each time for ten minutes or so before I could get

him on his legs again. We were still about three miles from the Great Boulder, when it began to get dark, and I feared we might lose the track ; so, with the aid of a switch, and much shouting, I urged the horse into a trot for about a mile, and then he came heavily to the ground. I thought he was done for, and as no power on earth could make him rise again I took off the saddle and bridle and carried them, leaving the horse for dead, or next door to it, and walked on to the Great Boulder mine. As it came in view, I saw that it was lighted up, and that a big crowd had gathered. I could hear someone haranguing the people, and so the idea came into my mind that something of the same sort that I had experienced at Kanowna was on hand ; but on nearer approach I found it was a Salvation Army preacher addressing the miners.

After leaving the saddle and bridle in one of the houses, to be called for next day, I walked on to Kalgoorlie and told Mr. Rosenthal I had left his horse for dead ; but upon the following morning I was very much astonished to find that the horse had walked back to the stables. After breakfast I spent the rest of the morning in a long queue of prospectors and mining engineers, waiting my turn to take out a "miner's right." When, after a weary wait, I at length got to the office window, I was asked my name. I began to give my first Christian name and the other initials, when the overwrought official shouted, "For goodness' sake, don't give me all the letters of the alphabet—your surname." A miner's right, which costs ten shillings, enables you to prospect and take out mining claims. After lunch I took the coach down to Coolgardie, for I had not heard from Mr. Alfred Rickard, although I had kept him posted as to my own movements, and I found several letters waiting for me at Kennedy's Hotel. Typhoid fever and dysentery were raging worse than ever. It had been as bad as it could be at Kalgoorlie, where all the private hospitals were filled to overflowing, and deaths were very frequent. Nothing else could be expected, with a floating

population of twenty-five thousand men in Coolgardie, and only decent accommodation for a couple of thousand. There were no sanitary arrangements, the water was rank poison, and piles of empty meat cans were on all the waste places, infested by millions of flies. One man was making a small fortune out of the tin cans, collecting them and spreading them on a large sheet of iron, with a fire under it, and thereby melting off the solder and tin, and running it into moulds. Forest fires were continuous throughout the country, owing to the number of glass bottles which were thrown away in all directions, for these acted as burning glasses, and focussed the rays of the sun upon the herbage. All the vegetation was highly inflammable, being of a tough, dry, resinous nature, with roots that penetrated the decomposed rock one hundred and twenty-five feet down to water level. It is said that the vegetation brings certain death to any horse or other animal that eats it. Anyhow, it is significant that the only animals indigenous to the country are lizards, and these live on flies and other insects. A few emus wander through the country, and get moisture by eating a sort of ice plant, the only plant I saw with moisture in its leaves. I never saw an emu, but noticed the track of one on the sand in the Gordon Lake. Baku rot, a sort of scurvy, was very prevalent among miners in out-of-the-way places, caused by lack of green food. At Coolgardie it was interesting to see a waggon-load of onions come into the town. There was a mad rush for it, and the onions, sold at a shilling apiece, were all eaten raw on the street.

On February 25 I received a terrible shock, for news arrived in the town of the death of Mr. Reuben Rickard, at Freemantle, from dysentery, after three days' illness. I heard he had a slight attack before he left Coolgardie, but he thought the voyage by sea to Geraldton would do him good. At Geraldton, however, he grew rapidly worse, and decided to return to Freemantle. There he died in the roads, on board ship, and was buried in Freemantle cemetery. Mr. Faddy was with him, intending to go on to

Yalgoo. I had met Mr. Faddy when I first arrived in Coolgardie. He had been engaged by Mr. Rickard as an assistant, and had been at one time an officer on a P. & O. steamer. Mr. Rickard was a man I greatly respected, and I made a great friend of him during the short time I knew him. He was one of the soundest men on the goldfields, though some thought him too pessimistic regarding the mines, but his reports turned out to be wonderfully accurate. In spite of his unfavourable reports he made a great many friends in Coolgardie, to whom the news came as a knock-down blow, for he was a standing exception to the general rule that prevails in the rush of a mining boom, when a man dies one day, is buried the next, and forgotten the next, especially when deaths are of daily occurrence, as they were here from typhoid or dysentery, and you never knew from day to day whether your friends were alive or dead. Upon the same day I received a telegram from Mr. Alfred Rickard, asking me to return to Albany at once, which I did, arriving there on February 28. At the Albany station, when I was calling for my luggage, I heard the name Way being called from another quarter, so I approached the caller, and found it was Dr. Way, of Adelaide, a brother of the Rt. Hon. Sir S. J. Way, Bart., Chief Justice of South Australia. Dr. Way told me it was his daughter who was running a private hospital at Kalgoorlie, where the postmaster once or twice got mixed with our letters, sending Miss Way's letters to me and mine to Miss Way. Dr. Way kindly put me up at the Albany Club during my stay, and there I met him frequently. On arriving at Albany I drove out immediately to Middleton Bay, and stayed at Mr. and Mrs. Chinnery's house, where I found Mr. Alfred Rickard, very far from well. He told me the good news that we were to go on to New Zealand as soon as possible, and as far as he could see at present we should go to Sydney by the P. & O. steamer *Himalaya*, which was due to leave Albany on March 20. In the meantime he was going to rest at Middleton Bay and wished me to stay with him. I was delighted, for I

was by no means favourably impressed with the Coolgardie goldfields. The country was fit for neither man nor beast to live in. Middleton Bay was a delightful change, and during my stay there I made great friends with Miss Dorothy Chinnery, a charming little girl of six.

I received a letter from Mr. Pridham, telling me he had been re-engaged by the Venture Corporation, and was to take charge of the Golden Cement Claims and the Duke of Westminster mine. I wished him joy of them both. Whether he ever went there or not, I do not know ; but I heard from him next at Yalgoo.

Mr. Alfred Rickard was very anxious to pay a visit to his brother's grave before he left Western Australia ; so on March 14 we took the train for Perth and Freemantle. In Perth, where we slept during the night, we met Mr. Faddy, who accompanied us to Freemantle, and returned next day to Albany ; and on March 20 we embarked on the P. & O. *Himalaya*, under Captain Adamson, and had a bit of a tossing in the Bight. We arrived on the 23rd at Adelaide, where we went on shore, and walked through the beautiful gardens. On arriving at Melbourne I went immediately with Mr. Rickard to visit Dr. Grant, in Collins Street, who pronounced him to be very ill indeed, and said he ought to go home by the next boat, so at once I booked berths on the Orient line steamer *Austral*, under Captain Anderson, which was starting in a few days.

If Western Australia was booming, it was exactly the reverse in Victoria, where most of the banks had closed their doors, and Melbourne was in a state of panic, relieved by the ceremony of opening the new Equitable block of buildings. I was not able to see much of the town, as I was in constant attendance on Mr. Rickard, who was suffering from diabetes, and was now in a very weak state, having lost forty pounds in weight since we landed at Albany. He was cheerful as he went on board the *Austral*, but could not maintain his strength, and died in Adelaide harbour. Captain Anderson delayed the steamer while the funeral took place

in a very pretty and well kept cemetery near Port Adelaide. The chief officer, the ship's doctor, Mr. Allen, and several of the stewards attended the funeral.

I was very sorry that the visit to New Zealand was not now possible. I cabled to the company, to know if they wished me to proceed or to return to England, and received a reply at Albany requesting me to return home.

On the voyage back to England the Indian Ocean was like a mill-pond. We arrived at Naples, on April 30, and I spent some hours in the Museum, and lunched off fresh sardines and chianti. We reached the Tilbury Docks on Friday, May 8. I was very glad to leave the ship, but very sorry to part with the company on board. A great many passengers had their pockets full of money, from having sold claims in Western Australia, and they spent it like men; though I greatly fear the money which flowed from the pockets of the British Public to pay for the mines will never be returned.

THE PHILIPPINES

CHAPTER VIII

ADVENTURES AMONG SPANIARDS

MY stay in England was necessarily very short, as I accepted an engagement, almost immediately, to inspect mines in the Philippine Islands. My wife and I spent a few days with Mrs. Alfred Rickard, at Surbiton, and a few days in Essex. I read in a newspaper about the return of M. Marianski from Western Australia; with some telluride ore, which he had discovered in the mines at Kalgoorlie, and which was on view at the Venture Corporation's office, at No. 3, Princes Street. I called to inspect it, and, meeting one of the directors at the entrance, I talked to him about it, and asked if the ore were sylvanite, to which he replied, "Very likely. It is much the colour of silver; come up and look at it." On examination, I came to the conclusion that it was sylvanite, but not from its resemblance to silver. I met Mr. Fred Baker, and talked to him about Mr. Reuben Rickard, and about the properties of the Venture Corporation. I then went to see Mr. Percy Tarbutt, who was a director of the Oceanic Exploration Syndicate, and he said he wanted me to go out to the Philippine Islands, to inspect and report on mining properties, for the United Australian Exploration, Limited. I had a hazy idea that the Philippine Islands were somewhere in the Pacific Ocean, and asked Mr. Tarbutt, who said he had not the faintest idea; but if I would accompany him to 23, St. Swithin's Lane, we could hunt them out on a map. He told me it had been arranged that Mr. Jansen should go to the Philippines, but now their plans were altered, and Mr. Jansen was going to New Zealand. He wanted to know if I could start for the Philippines at once? I wanted nothing better,

so I accepted on the spot. The properties to be examined belonged to the Gold Mines of Longos, Limited, and the Philippines Mineral Syndicate, and I was provided with letters of introduction to Mr. Frank Karuth and Mr. Walter Newman. Mr. Karuth was a director of the latter company, and Mr. Newman a director of both, and from each of these gentlemen I learnt much about the Philippines, and also from Mr. H. J. Carnegie Williams, who had been the general manager of both companies. Mr. Karuth advised me to start on the *Isla de Luzon*, an English-built boat, belonging to the Campagna Transatlantica, used on the Spanish mail service, between Barcelona and Manila, which was due to leave Barcelona on June 18, arriving at Manila on July 12 or 13. It was advisable not to use the Hong Kong route, in view of the prevailing plague, which might cause a long quarantine in Manila. So I eventually decided to go by the *Isla de Luzon*, a very rash experiment as it turned out, and one which, once tried, would never be repeated voluntarily.

I wrote to Mr. C. Le Neve Foster, Professor of Mining at the Royal School of Mines, to recommend me an assayer, to accompany me, and he recommended Mr. H. McNeill, a brother of Mr. Bedford McNeill, of Code fame, who was delighted to join the expedition; and so we concluded our arrangements by procuring a complete assay outfit from Messrs. Townson and Mercer.

Before we left England the company agreed with Messrs. Stephenson and Fleming, of Glasgow, that I should report on the Bonancita Mines, which were close to the Longos property, the report to embrace extent of properties; extent of development; ore in sight; quality or value of ore; treatment of ore, and class of machinery; water; timber; fuel; labour; estimate of capital required for thorough development, and estimate of working capital required. The manager of the Bonancita property was Mr. Rafael Herrmann, Ph.D., Freiburg, and the representative of the company in Manila was Mr. J. C. Donaldson-Sim.

We left England on June 18, 1896, and went overland from

Map of the
PHILIPPINE ISLANDS



SCALE 0 50 100 150 200 MILES

Bacon's Geographical Establishment

Map of the
 River of the Nile



The sources of the Nile are the Blue Nile, the Atbara, the Sobat, and the Sobat. The Nile flows north to the Mediterranean Sea. The map shows the Nile river basin, including the main river and its major tributaries. The Nile flows north from Khartoum to the Mediterranean Sea. The map shows the Nile river basin, including the main river and its major tributaries.

Calais to Barcelona, *via* Tarascon, travelling with several officers on their way to join the Dongola expedition. At Port Vendres we had some annoyance at the Custom-house on the Spanish frontier, when the discussion over the box that contained our camera and assay outfit could not have been graver if it had been a case of bombs. We had much the same experience at Barcelona, where we arrived on June 20, and found the steamer did not start until the early hours of the 22nd. Barcelona would be a very beautiful town if it were thoroughly cleansed, and if it were given a decent sanitary system. It has beautiful boulevards, and the Park is perfect. We visited the bull ring, where several black bulls were stalled in readiness for Sunday's bull fight. I secretly hoped the sailing of the steamer would be delayed, so that we might have an opportunity of seeing the fight. We stopped at the Hotel Universo, which required a good spring cleaning and an inspection by sanitary engineers.

Life on board the *Isla de Luzon* was not all joy, for neither Mr. McNeil nor I could speak Spanish. We were the only people on board who had paid for their passage, with the exception of a young English mechanic in the second saloon, who was going to Manila to set up a cigarette manufacturing machine. All the rest of the passengers were Spanish officials, including governors of provinces, judges, naval officers, generals, colonels and other army officers, and some non-commissioned officers and men in the second saloon. There were on board some very interesting children, especially those belonging to the governor of the province of Ilo Ilo and his wife. These children and I became great friends, and from them I derived more Spanish than from all the conversation books. It was most disheartening to study a sentence, to learn it off by heart, and then to air it before some Spaniard to be met with *no comprende*.

Upon the first morning we were on board, McNeill and I went to the bath rooms, and found them crammed full of luggage; so we hunted up the supercargo with the aid of the engineer, a Scotch-

man, and asked if we could have a bath, at which he stared in amazement and said the bath rooms were never used except for the storing of baggage ; but after considerable pressure he agreed to have one ready by the following morning, though he said he should have to charge us a peseta a day for the use of it. A list of those using the bath was fixed up in the bathroom, and it showed, at the end of the voyage, that McNeill and I had a bath every morning, one other man had five, and another two. No one else had a bath during the whole of the voyage, and most of the men did not change their clothes once, but slept in them on long deck chairs every night.

We had only two meals a day, breakfast at 10 a.m., consisting of soup, eggs, beefsteak, several made up dishes and vino tinto (claret) and jerez (sherry) to drink, with a cup of coffee to finish with. At 2 p.m. we had lemonade and orangeade served with biscuits, and dinner at five p.m., with vino tinto and jerez. On Sundays and Thursdays we had champagne (free) for dinner. There was very little of the food that we could eat, as everything reeked of garlic and rancid olive oil. A favourite dish with the Spaniards was squids, cooked in the sepia, which came to table black as ink. I could never bring myself to the point to taste this delicacy.

We had a farmyard on board stocked with bullocks, goats, pigs and fowls. As these were let out daily for an airing on deck they made the deck like a pigsty. We both kept very well on board, but lost considerable weight, for we lived almost entirely on fruit, principally bananas, and on biscuits.

The new Governor of Batangas was on board with his suite, and they began to gamble as soon as we left Barcelona. They played with Spanish cards, which are marked with cups, coins, daggers and crowns instead of with hearts, clubs, spades and diamonds. By the time that we reached Port Said, the Governor had won every penny possessed by the whole of his suite, and on our arrival at that port he rushed off to the roulette tables and

staked his money so recklessly that in a short time he lost the lot, in spite of warnings, for he was told frequently that the tables were not run "on the square." He then came to me and wanted to borrow *dos libros* (£2), promising to repay me on his arrival at Manila; but I declined, telling him I thought it very strange that he should come to an Englishman to borrow money when there were so many of his own countrymen from whom he might obtain a loan. I was urged to lend money at every port, until we arrived at Singapore, where the Governor got into serious trouble with the police, at the Hotel de l'Europe, and was "run in" and fined \$50. He sent for me, and asked me to pay his fine, promising to repay me as soon as he arrived at Manila, and I foolishly advanced the money. After our arrival at Manila, I saw nothing of him for a week, and then I met him in the street. He said he had been looking for me to repay me ever since we landed, and he asked me now to walk round to the bank with him; but, on passing a wine shop, he suggested that we should have a bottle of wine together, and I accepted his invitation. When the bottle was empty, he jumped up, saying a friend of his had just passed; would I excuse him for a minute? He rushed off, I waited for about half an hour, paid for the wine, and departed, taking his walking-stick as a trophy. I never saw him again. *Sic transit gloria mundi*. One good point about the Spaniards is that they do not drink to excess. Drunkenness is almost unknown in Spain. We had no bar on board the steamer, and all liquors at meals were free.

We arrived at Port Said on June 27, and all went on shore while coaling was in operation. Aden we reached on July 2. While we were passing down the Red Sea there were three deaths among the stokers, through excessive heat; so two or three of the other passengers and I went down into the stoke holes to see what they were like, and found the temperature was 145 degrees F. It was just a dash down and up again, or we should have succumbed. It was much worse than a Russian bath. Prickly

heat attacked me badly after we had left Suez, and it stayed with me until we got back to the Mediterranean on our voyage home.

The captain took us to the south of Socotra, and after passing Cape Guardafui we were struck by the S.W. monsoon and had a real good tossing for a couple of days, which bowled over our Spanish friends like ninepins. I enjoyed it, for the perfect calm we had experienced since we left Barcelona was very monotonous. The ship's company included a Roman Catholic padre, who suffered badly from *mal de mer* and could not now hold his daily services. I had attended one occasionally during the earlier part of the voyage and he certainly was the champion fast reader. I do not think it was possible for any one to follow him. I never saw a Spaniard go to a service, but the senioras and seniorettas went to every one.

We arrived at Colombo on July 9, and MacNeil and I enjoyed a good dinner at the Bristol Hotel. We were much amused at the numerous catamarans, loaded with little black urchins shouting *hab a di, hab a di, hab a di* (have a dive). They are expert swimmers, and dive for coins, which they will always get before they reach the bottom of the harbour. After our dinner we took rickshaws, and rode to the Galle Face Hotel, had a cigar and coffee, watched some good games of billiards, then returned to the steamer at one o'clock in the morning. We did not leave the harbour until half-past five.

After we had left Colombo the food grew decidedly worse. The farm-yard had disappeared, with the exception of the goats, poor, pathetic looking animals that I dared not look in the face. They roamed about the deck all day, and appeared on the table at night. I watched the cooks preparing the meat. They ran a skewer through, in lines, an inch apart, and followed each up with a stick of garlic.

On passing Achin head, the most northerly point of Sumatra, we steamed between the island of Pulo Way and the mainland, a narrow strait with very pretty scenery on both sides. We had

some terrific thunderstorms, with torrents of rain, in the Straits of Malacca, during which the captain twice stopped the steamer, for he was unable to see ahead.

We arrived at Singapore on July 15 at three o'clock in the afternoon and left again next morning, arriving at Manila on July 24. We were met at the dock by Mr. White, the general manager of the Philippines Mineral Syndicates and Longos Groups of mines, and by Mr. Herrmann, the agent in Manila, who got our personal luggage through the Customs without inspection; but the officials said they would have to detain the assay outfit for inspection. We could have it *Monñana*. That terrible word, meaning to-morrow, is the curse of Spain, for with them to-morrow never comes. Mr. White had procured excellent quarters for us at the English Club. There were about two hundred Englishmen in Manila, engaged in business, very few Spaniards, except officials, a large Chinese and Malay population, and a great many mastecios (half-caste Spanish and Malay), who have the vices of both parents and the virtues of neither. Before leaving Manila I had to show my passport at the Governor's office, where I was told I must give it up until I left the islands. This I refused to do, as I had received strict instructions from the Foreign Office in London that I was not to part with it upon any consideration whatever. The passport bore the personal signature of Lord Salisbury. As I could get along no further with the officials I went to the British Consul, Mr. E. H. Rawson Walker, and asked for his assistance. After a great deal of official talk I was allowed to keep the passport.

We left Manila on July 24 by the steamer *Romulus*, belonging to Mr. John McLeod. We were accompanied by Mr. Herrmann, but Mr. White was too unwell to go with us. We arrived at Pasacao at one o'clock in the morning on the 26th, landed in surf boats, and then went to an old deserted house, where we slept on our deck chairs until morning. Then we started on a twenty-five mile drive, across the island, to Neuva Caceres, the capital of

the provinces of Ambos Camerines, with a train of six carriages, each drawn by two small ponies of about twelve hands high. We had a carriage for each person and also one each for our luggage. We passed through several native villages, in which all the houses were light bamboo structures, thatched with palm leaves, standing on poles six feet above the ground. The natives were mostly *in puris naturalibus*, though some wore a scanty garment of light muslin; but all looked very clean and tidy, the women had very ample raven locks that hung down behind to their knees. We stopped and had lunch in one of the native houses, and were very well treated. The drive occupied the whole day, for the roads were in such a shocking state that we had to get out continually and help to pull the carriages out of mud holes, and to mend bridges, which broke down after the passage of each carriage.

The trees and flowers were magnificent, and we admired specially the glorious orchids, often three or four species hanging from the same tree in full blossom. Cocoa-nuts were our salvation, for they were young and tender, with delicious cool milk, and flesh like curds and whey. We stopped often, and sent the drivers up the cocoa-nut palms to bring them down. We saw also innumerable birds, notably large flocks of hornbills and parrots, and swarms of large bats, which were mostly asleep, hanging in the trees. Indeed, some of the trees were black with bats, hanging there in thousands. There were also scores of monkeys, chattering among the branches, and very many wild pigs. The trees were beset by masses of huge creepers and other parasites, so that the whole country is covered by an impassable forest, some of the trees one hundred and fifty to two hundred feet high, with rattan canes climbing to the tops of them, then trailing to the ground, and climbing again to the top. The undergrowth is of palms, bananas, guavas, bamboos, and a numerous variety of giant ferns and grasses. Along the coast and upon the banks of the rivers are large tracts of mangrove trees.

Arrived at Neuva Caceres, we stayed with a rich Spanish

farmer and hemp-grower, whose house was decorated with trophies of Spanish bull fights. He was a retired matador, and told us stories of notable combats which rather lost their point, as they had to be translated by Mr. Herrmann. After lunch next day, we went on board a small steamer which had been chartered for our use, and we steamed for thirty miles down a river to the eastern side of the Island of Luzon, and thence out into the ocean; but as we found that a typhoon was expected we went back into a natural harbour in an island close by the mouth of the river. The weather soon grew ominously dark, and a terrific wind rose. Fortunately we were well protected in a snug little harbour, for the typhoon kept up all night, and we did not start again until daylight next morning. We arrived soon after six o'clock at Daet, where mails were landed, and we went ashore. I was told, in Manila, to visit some pottery works here, where the clay used was full of gold, which could be seen glistening on the outside of the water pots. On an inspection I found this to be tenderfoot's gold, or yellow muscovite mica. The clay here is composed of the decomposition of felspathic rock, containing this mica. I bought two water pots, as specimens, to prove to my friend in Manila that his swan was only a goose after all.

From Daet a run of twenty-seven miles brought us to Longos, at the mouth of the Malaguit river, where we landed and followed for about half a mile a tram line belonging to the gold mines of Longos. This brought us on July 28 to Mr. White's bungalow, built in the regular native style, about six feet from the ground, on poles. The bungalow was square, divided through the centre each way with walls ten feet high. There were no ceilings, and a high roof covered the whole, so that the air could circulate freely above and below the rooms, an arrangement which kept them fairly cool. The roof was made of bamboo poles, tied with rattan cane, and thatched with palm leaves. The walls of the house were all composed of sliding windows in the form of numerous sliding panels, fitted with thin translucent oyster shells

three inches square. One hundred and five shells went to a panel, and there were thirty-one panels to a room, containing three thousand two hundred and fifty-five oyster shells, or thirteen thousand and twenty shells in the four rooms. The windows were open all day, but were shut at night on account of the heavy dew, which saturates everything that is exposed to it. In this climate you may not stay out even on the broad verandahs round the bungalow after sunset, for your clothes become saturated in a few minutes. The dew drips off the roof all night like heavy rain. The gold mines of Longos are situated on a promontory, about three-quarters of a mile wide, and nearly two miles in length. The rock formation consists of a coarse granitoid gneiss, capped with a soft greasy hydromica schist, which has been eroded to a great extent, leaving the gneiss bare. These formations have been fissured in a N.E. and S.W. direction, forming strong, well defined mineralized quartz veins, carrying iron sulphides with small quantities of lead and zinc sulphides. The whole country is covered with a *débris* formed from the decomposition and erosion of the rocks, and this *débris* supports a dense growth of timber of all kinds, mangrove trees along the shore, and, in the interior, timber trees of hard and soft woods, with a thick undergrowth of palms, canes, tree ferns, creepers, and other growths. The natural erosion caused by the heavy rainfall has formed the country into a series of rounded hills, rising, in the centre of the promontory, to a height of five hundred feet, and thence gradually rising to the main range, which forms the backbone of the island. Between these hills are depressions, with watercourses, flowing to the Malaguit river on the east of the promontory, and to the Paracale river on the west. The attempts at mining have been of a most primitive kind, without the use either of drills or of dynamite; but with crowbars, pickaxes, hammers, gads and moyles, so that the sinking of shafts has been a very slow process. Consequently all drifts have been run either on the footwall or hanging wall, in the soft, decomposed country rock, leaving

the veins intact as being too hard and too solid to work, and no ore had been stoped. Much work had been done, half a dozen shafts had been sunk from forty to ninety feet, but all in the country rock, and not on the veins, so that they gave no information whatever. A ten stamp mill had been erected, and had been worked, but I was told that it gave no result at all, as there was no free gold, and the concentrates were not saved. A careful sampling of the various veins by fire assay gave an average value of three pennyweights seven grains per ton, so that it was of too low grade to pay.

Paracale, now a small village, situated on the west bank of the Paracale river, was once an important town of seven thousand inhabitants; but it was destroyed during a rebellion. Much mining, both placer and vein mining, has been done by natives, under Spanish superintendence, at various intervals from the year 1572, on the tributaries of the Paracale river. An adventurer, named Juan Salcedo, was the first man to discover gold there. In 1754 Francisco Estergo did a considerable amount of work; but as the ore does not average more than one pennyweight per ton it was wasted energy, though it is astonishing what low grade ore the natives can work at a profit. They are satisfied with saving one real's worth of gold a day, value $2\frac{1}{4}$ d. These ancient workings are called the mines of Megallanos, Germania and Nuova Californias, and full reports of them are to be seen at the Spanish Board of Mines, with records of assay results made by the Laboratorio de Manila.

CHAPTER IX

MINES AND MARTIAL LAW

ON August 2 we started for Mambulao, another group of mines thirty miles west, and stayed there till August 8. We rode twelve hand ponies and took three pack ponies. It poured in torrents during nearly the whole of the time, and we were almost always in a state of being wet through to the skin. At one time we had to leave our ponies and walk along a very rough road to examine a prospect hole. We crossed a dry nullah by a wooden bridge and when we returned an hour later the bridge was washed away and a roaring torrent five feet deep was rushing down the nullah. The natives made a chain across by standing in the water with their arms locked together, and on this human bridge we struggled across as best we could, hanging on to the natives. We were only just in time, for in another quarter of an hour the torrent was quite impassable. We also had to cross a river close to the sea shore about a hundred yards wide, on a very primitive bridge built of bamboo poles, two of which were driven into the bed of the river to form an X bound in the centre at the crossing with rattan cane. There was one of these X's in about every twenty feet, and in their crotches another bamboo pole was laid. Along the tops of the crossed bamboos a stout rattan cane was fixed for a hand-rail. It was anything but an easy bridge to negotiate, with a swift current running beneath, and when the middle of the river was reached Mr. Herrmann, with a wild yell, jumped into the water on the upstream side of the bridge. Fortunately his servant was just behind him, and he jumped in after him, seized him with one hand and one of the bamboo poles with the other. He was

hauled upon the bridge again, and was conducted safely across. He then told us that he jumped into the river because he looked down at the water and so induced the illusion, common in such a position, that the whole bridge was being carried out to sea. He thought his only chance was to swim ashore and so made the plunge.

Our baggage ponies had to swim the river with the baggage, and it looked rather hopeless to see our portmanteaus at first on the top of the water, then gradually filling and sinking so as to saturate the contents. Before we started again we had to unpack them, wring the water out of our clothes, and partially dry them in order to lighten the loads.

On reaching Mambulao, we saw the famous Ancla de Oro mine belonging to the Spanish Government. It has a fine stone arched entrance, and is the mine from which came the gold for the equally famous hen and chickens, in the Spanish regalia. The ore is of extremely low grade, and is worked by thousands of natives, who crush it in *arastras* made of blocks of quartz, and then grind it by hand to an impalpable powder between two large smooth quartz stones, and wash it in small gold pans made from half a coconut shell. The Tagales, of all the native tribes, are the only people who are natural miners. They have done nothing else for centuries, and when they are working for themselves are quite satisfied if they earn from one to two reals a day; but if they work for wages they expect four reals, about ninepence a day. The difficulty is that they work only about half the time they would in a Protestant country, for every other day seems to be a Roman Catholic holiday or saint's day, upon which they would not think of working.

The Mambulao group of mines, belonging to the Philippines Mineral Syndicate, adjoin the Ancla de Oro and consist of San Mauritio, two *pertinencias* (29a. 2r. 24.58p.). La Conception and Santa Gertrudis. San Mauritio, which is the only claim that is worked, is situated about half a mile north-east of the village

of Mambulao. The geological formation is precisely the same as at Longos, and the vein characteristics are the same, the quartz carrying iron and copper pyrites, with small quantities of zinc blende and galena; but the gold contents are rather higher, averaging about eight pennyweights per ton, over a vein averaging three feet in width.

The Tumbaga group of mines is situated about five miles distant, where the rock is crystalline limestone, which has been split by a dolerite dyke. It is possible to see the formation in the mine workings only, for the dense vegetation and alluvial deposits prevent any inspection of the formations outside. The vein of quartz and calcite three inches wide follows the contact of the dolerite and limestone for about ninety feet from the shaft, which is ninety-seven feet deep; then it enters the limestone. There is no mineral of any value while the vein follows the contact; but, on entering the limestone, pockets are found at intervals containing a few handfuls of ore, showing free gold, both filiform and granular. I had one of these pockets assayed, and it gave one hundred and sixty-five ounces per ton. The total length of the level was one hundred and sixty feet, and it was very wet, making about three thousand gallons of water an hour. This water was extracted by a Cornish pump with an eight-inch column. Another shaft was unwatered by natives using baskets of closely woven rushes with wooden handles. They stood on the timbers on all four sides of the shaft, and passed up the baskets in very quick time, and in this manner soon unwatered the mine. But all this trouble seemed vain, for the shaft did not show anything of value.

A Huntingdon mill had been erected for crushing the ore, and copper plates had been fitted for saving the gold by amalgamation; but these had been abandoned, as I was told the mercury always got floured; the reason I did not discover, unless it was that the men used oil lamps in the mine.

On our return to Mambulao we found that Dr. Enrique Abella,

the chief inspector of the mining department, had arrived with his staff, and we spent the evening together at the hostlery. I never saw so much beer drunk. Some of the members drank more than twenty bottles at a sitting, and seemed none the worse after it. One of the doctor's staff was a hypnotist, and he gave us an exhibition of his skill, which was remarkable. He performed some marvellous feats of thought-reading. I was sceptical about his performances until he asked me to think very hard of something he was to do: so, seeing a German sitting on the opposite side of the room with a gold watch and chain, I immediately wished hard that he would exchange the German's gold chain for mine. This, after going into a trance and rolling about the room a time or two, he did, though very roughly. I was then forced to believe in his powers.

After packing and sealing all my bags of samples we set off next morning for Longos in torrential rain; but as that was of daily occurrence it was of no use to wait for fine weather. The roadways were all swift-running streams, and we were soaked to the skin all day. However, we had a plentiful supply of whiskey and kept off chills by a liberal use of it.

On the way back we visited a mining concession called Felicidad, three miles from Mambulao, at an elevation of six hundred feet above sea level. Very little work had been done. An adit of sixty feet in length cut a series of five small veins, from two inches to twelve inches wide, from which I took samples that assayed an average of three pennyweights six grains per ton of ore. Near by, in a native village, we discovered an Englishman, Mr. Newby, who was suffering very severely from beri-beri, and we persuaded him to return to Manila with us, to see a doctor. He was living in a native hut, on native food. He had been prospecting for gold on his own account, but had not found much.

We next visited the Bulalakao group, consisting of three claims, ten miles from Mambulao, where the rock formation is identical with that of Longos. All the workings on the property

have been abandoned, and most of them have caved in. An adit on the Neuva Galacia claim is still standing, about forty feet in length, showing a quartz stringer, varying alternately from one to two inches wide, and pinching to a seam. Nothing of value was to be seen, but I was shown some gold-bearing quartz, with visible gold, said to have come from the adit. There were three old shafts on the property, all now full of water, and others had caved in; but I inferred from the size of the dumps that these shafts are merely prospect holes.

After this, we paid a visit to the Louisa mine, four miles from Longos, where the strike of the vein and the formation of the rocks is the same as at Longos. There was a quartz vein, eighteen inches to two feet wide, showing in a cross cut that had been driven recently to cross cut the vein, from which samples give assay results of about seven pennyweights of gold and five of silver. A number of prospect holes and short adits had caved in.

The last mine we saw before we reached Longos was the Rosalia, about two and a half miles from Longos. There the formation consisted of a coarse gneiss, which was fissured north-east and south-west, the fissure being filled by a riband vein of quartz from six inches to two feet six inches wide, carrying from four to eight inches of ore in the centre, of a base, refractory nature, containing sixty per cent. zinc blende, fifteen per cent. galena, fifteen per cent. iron pyrites, and ten per cent. quartz with small values of gold, silver and copper.

When we reached Longos, we found that Mr. White had arrived, and had brought the assay plant, which enabled Mr. McNeil to commence his labours. I sampled the Longos veins and went to inspect the Bonancita gold mines, which adjoin the Longos group to the south, and consist of seven concessions, each containing two pertinencias (a pertinencia being 14 acres 3 roods 12.29 poles). Five veins had been discovered having the same strike as at Longos, that is thirty-six to forty degrees E. of N., with



LONGOS MINE, ENTRANCE.



LONGOS MINE, BUNGALOW.

a dip of sixty to seventy degrees S.E. They are strong, well-defined, parallel quartz veins, showing every appearance of continuity in depth, although this had not been proved because the workings had been carried on only by tunnelling beneath the outcrop, at the most sixty to seventy feet deep. The ore is similar to the Longos ores, carrying small values in gold and silver in association with iron and copper pyrites, with occasionally small quantities of galena and zinc blende. In the adit on Santa Marta a large quartz vein is exposed, carrying a sulphide ore, a sample of which gave returns of gold six pennyweights twelve grains, and silver four pennyweights thirteen grains. The same vein is exposed also in the Santa Eladio tunnel, and as far as could be seen here, and in the Santa Marta tunnel, had an average width of six feet. A sample taken in the Santa Eladio tunnel gave returns of gold one pennyweight seven grains, and silver, seven pennyweights twelve grains. A second vein was cut in the Santa Barbara cross cut, which was followed underground at a depth of fifty to sixty feet beneath the surface, to La Muy Rica, having an average width of one foot nine inches. Four samples from this gave an average of six pennyweights of gold per ton, and small value in silver. Don Carlos has two veins exposed, which are very much shattered, and these gave only a trace of gold. I took a bulk sample of these ores for concentration tests, and found they would make a six per cent. concentrate, or seventeen to one. Good timber for fuel and for mining purposes is at hand in any quantity. Coal, in the form of lignite, is found in many places in the islands, principally in the Island of Zebu, and in the Island of Luzon, near Neuvo Casseries; but it was worked in a desultory manner, and no regular supply could be relied on. Mr. Rafael Herrmann, the manager, who was a brother of Mr. E. Herrmann, and his assayer, Mr. Voit, conducted me through the mines, and gave me every facility for inspecting them.

While I was at Longos I went for a row for ten miles or so up the Malaguit river, with a gun and a gold pan, accompanied

by Mr. White. We landed on likely looking gravel bars and washed several pansful of gravel, getting a string of colours every time, and occasionally a grain or so of coarse gold, the largest being the size of a wheat kernel. Bird life along the river was very plentiful. On the first trip we shot six bittern, three different species, two large blue and orange kingfishers, eight sandpipers, a parrot, two egrets in beautiful plumage, and four hornbills. These birds attack the fruit trees in large flocks, and are very noisy. Every evening, shortly before sunset, a large number of flying foxes used to leave the island and fly out to sea, I presume to other islands. As a rule they flew much too high for us to shoot them, but I caught one flying low on one occasion, and brought it to grass. Its body was about the size of a rabbit, and it measured four feet eight inches across the wings. Round Longos there were several pythons that used to rob the hen-houses at night, and there were a great many monkeys about always. I fancy they were macaques; they walked about on all fours, and were rather larger than an Irish terrier. They were very curious and took such a great interest in the assay office that when all was quiet they would climb upon a fallen tree trunk at the back of the office and peer in at the windows. They would make off with a great chattering if we walked to the windows to look at them, but if work were continued, and no notice taken of them, they would stay. Hornbills were always at Longos in large flocks, ungainly and untidy birds, whose only accomplishments appeared to be making a noise and devouring fruit. I was told that in the breeding season a hole in a tree is selected for the nest, and after the eggs are laid and the hen bird commences to sit, the male bird builds up the hole with mud so that there is only room for the beak of the hen bird to protrude. In this way he keeps her a prisoner, feeding her till the young are hatched, when he breaks away the wall of mud and releases her. I presume this is done to protect the eggs from predatory birds and animals. The esculent swallows as they are called, though it is their homes

that are edible, built their translucent gelatinous nests in the tunnels of the mine and rocks at Longos, and they were collected by the Chinese just when the shell of the nest was finished, and before the birds commenced to line it. Chinamen collected also many of the *bêche-de-mer*, slimy black sea slugs often called sea cucumbers, which were picked off the coral beach. There is a wide lagoon all round the headland, with a coral reef round the outer edge. In the lagoon the water is clear as crystal, with beautiful fairy-like forests of coral at the bottom and fish all the colours of the rainbow, including ruby red and azure blue, swimming between the coral trees. I induced some natives to make for me a collection of corals and shells. When first they are brought up they are considerably discoloured, but the natives have a method of bleaching the coral until it is as white as ivory, and of cleaning the shells of all incrustations and sedimentary deposits. On the shore, near the mouth of the Malaguit river, an enormous skeleton of a whale was lying, looking like the wreck of a ship, with the planks torn off, exposing the ribs. The huge bones were bleached white in the sun.

At the end of August we received a telegram from Manila saying that an insurrection had broken out, that Manila was besieged, and that a steamer had been chartered to proceed to Malaguit to bring us back, because we were not safe at Longos. As luck would have it, we had nearly finished our work, and as the boat did not arrive for a week we had time to finish all our assays, and were ready to start when it did arrive. Mr. Newby was carried on board in a very weak, emaciated condition, and it looked doubtful if he would reach Manila alive. The return journey took us eight days, for we went round the southern part of the Island of Luzon, and called at Masbate for a cargo of cattle. While we were passing from Luzon to Masbate, we passed a steamer, which we hailed. Both vessels stopped, when our captain sent a rowing boat over to the other steamer to ask for the latest newspapers. A bundle of papers, of about half a hundredweight

was sent. When they arrived every one rushed to get news of the insurrection, and found that a practical joke had been played on us, for they were all more than a year old. We thought the joke a very feeble one. When we were off Masbate we took on a local Malay pilot to conduct us into the harbour. He arrived in a rather large sailing boat, which he fastened to the side of the steamer by a long rope, so that it was towed behind ; but while the pilot was manœuvring the steamer to get to her moorings the boat sailed out at right angles to the steamer, and then came at it full tilt. The wretched pilot rushed at once to the side to save his boat, and at the same moment the captain rushed at him in a towering rage, seized him by the hair of his head and dragged him back to the wheel, kicking him severely for leaving his post. In the meantime, his boat came with great force, smashed its bow in on the side of the steamer, and sank. Our moorings were more than a mile from the land, to which a boat was sent, taking out the end of a steel rope with it, which was unwound from a big drum on deck. On reaching the shore, cattle were tied all round the boat with their heads well out of the water, and the boat was hauled in by the donkey engine. When the side of the steamer was reached a steam crane hoisted the poor cattle on board by a rope round their horns only. This cruel method caused many of their horns to come off the bone and fall into the sea or upon the deck. It was a wonder that the wretched animals did not have their legs broken too, for they were let down on deck none too gently.

On our arrival at Manila we heard firing going on at Cavite, just outside, and we sent Mr. Newby to the Hotel Oriente, where he was seen by a doctor, who pronounced his condition to be hopeless, and the poor fellow died two days afterwards. He told me he had been an engineer on the Tanjon Paka dock at Singapore, before going to the Philippines. Mr. White kindly procured us rooms at the English Club, where I spent some days preparing and writing reports on the mines, a précis of which I cabled to

the United Australian Exploration Company, who cabled back asking me to hand a copy of my Bonancita report to Mr. Donaldson Sim, who, I fear, was greatly disappointed at the result of my inspection. Messrs. Stephenson and Fleming, of Glasgow, were displeased also, because they had an idea that the ores of the Bonancita mines would yield some ounces of gold per ton. As soon as the report of my examination was handed to them they arranged for their own manager and assayer to examine the veins and assay the ores. He found Santa Marta would average one ounce per ton, and Santa Barbara two and a half ounces per ton. I should have been very pleased if I could have reported such results. I learnt that Mr. Fearby, whom I had met in Western Australia, had examined the Bonancita group more than two years before, with no very grand returns ; but much development work had been done since then.

Manila by this time was under martial law, which made it very inconvenient to go about the town, especially after dark, for then your carriage was stopped at every street corner by a soldier shouting *Alto* (Stop), and shoving the point of a bayonet into the open window as soon as the driver pulled up. He then said, *Qui viva* (For whom do you live ?), to which you had to answer, *Espania* (Spain) ; and lastly, *Qui Henti* (What sort of man are you ?), to which you would reply, *Buono Henti* (a good man). If you went through the catechism correctly you were allowed to pass on to the next corner. Some young bloods would insist on shouting *Inglisa* (England), and they were "run in." Most of the Englishmen in the town lost their revolvers and rifles on the same night. It appears that prior to the outbreak of the revolution a house-to-house visit was paid by some of the leaders, and all the Englishmen's boys (servants) were persuaded to join the revolution. They had then to swear an oath and sign their name in their own blood on a roll, and to give a list of revolvers and rifles belonging to their masters. On a certain night all had to seize their masters' arms and ammunition, and to go and join

the rebels. I was told that the organizers of the outbreak sent to Mr. John McLeod, and offered to make him their first president if he would be their leader. Several rebels were shot near the English Club, and the authorities would not remove their bodies for some days, but left them as a warning to others. Rebels, when captured, met with scant courtesy. Some were taken out upon the Lunetta (a sort of parade and pleasure ground on the sea-front) and shot there with Mauser rifles, the nickel-cased bullets doing so little damage that often three to four bullets passed through a man's chest before he fell. Shortly after the revolution broke out a large number of rebels were imprisoned in an old powder magazine, with no ventilation, when, as in the Black Hole of Calcutta, the greater part were suffocated. Large numbers were sent out to sea, presumably to the Caroline Islands; but it was said that the captains had instructions not to land them. This meant walking the plank and feeding the sharks. The cruelties practised by the rebels were of a far worse nature. They had an ingenious method of making cannon. They would cut down cocconut palms, and take the butt end for the breech. Then they would hollow out the inside and bind it tightly all round with hoop iron. The life of these cannon was about eight shots.

Our intended visits to other mining properties in the Philippines having been frustrated by the revolution, which seemed likely to continue, we booked passages on the steamer *Zapphiro* for Hong Kong, intending to catch the steamer *Empress of Japan* for Vancouver. We left Manila on September 20, 1906, and the steamer was very full of fugitives, mostly rich Chinamen. One especially interested me. I don't remember his name, but he was said to be the wealthiest Chinaman in Manila. He lived in the lap of luxury, and did not raise his hand to anything all day long, but was waited upon continually by his five wives, Malay, Chinese, and half-castes, who ministered to his every want, one manicuring his long finger-nails, another tending his queue, a third holding his food on a tray, while a fourth fed him.



MANILA. RECEPTION OF TROOPS.



MANILA. RECEPTION OF TROOPS.



On arriving at Hong Kong we were disappointed to find that the *Empress of Japan* had been damaged, and would have to go into dock for three weeks ; and as the *Kaiser i Hind*, one of the P. & O. steamers under Captain Daniel, was starting next day we booked passages by it. Captain Daniel was one of the right sort and very tactful. It requires the cleverest diplomacy to manage the heterogeneous mass of passengers who travel in the East. On one occasion an American, who chewed tobacco, upset the feelings of many of the passengers by sitting in his deck chair and expectorating all around him on the deck. They asked the captain if he could not stop him, so he called a quartermaster, and told him to take a pail and a mop, and to follow the gentleman about, or stand by his chair, and use them on every occasion when the need arose. This very quickly cured the American of his bad habits, and that, too, without a word being spoken. On another occasion, a bold Chinaman wandered up once or twice from the Chinese quarters and occupied a passenger's deck chair, so the passenger asked the captain to have him removed. Captain Daniel came up behind him, seized him by his queue and quietly but firmly led him back. There is no resisting Captain Daniel, who is a man of gigantic proportions. At Singapore Captain Daniel pulled McNeil and myself out of bed at four o'clock in the morning, and invited us to go for a row in his gig, an invitation we were delighted to accept. As soon as we got into the boat, Captain Daniel told us to row eastwards, which we endeavoured to do, pulling away with all our might ; but we lost ground as rapidly as we had expected to make it. We found then that we were pulling against a current of about ten knots, and rapidly went astern of the ship, towards the mouth of the straits. Captain Daniel waved to us now to pull in to shore, when, in a few strokes, we found ourselves in a backward current, which took us just as rapidly back to the steamer. Indeed, we should have rushed past the vessel if the quartermaster had not thrown us a line and hauled us in to the steps.

At Colombo we transferred to the *Oceana*, and picked up at Ismailia the same officers with whom we had travelled across France when we went to Barcelona. In addition to these there were General Archibald Hunter and several war correspondents, including Mr. Seppings-Wright, returning from Omdurman. Mr. McNeill and I landed at Plymouth on October 25, 1896, when, after settling the Philippine business with my London directors, and going to Glasgow to interview the directors of the Bonancita mines at the offices of Messrs. Stephenson & Fleming, I took a few months' holiday before embarking on fresh adventures.

SIAM

CHAPTER X

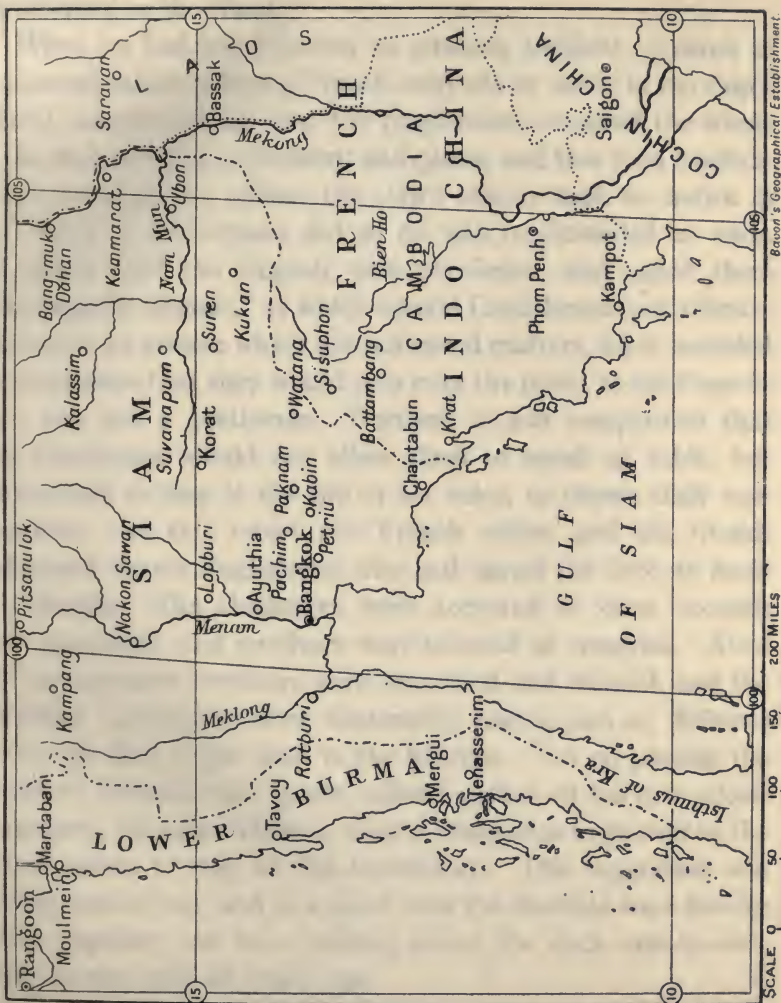
TO KABIN AND WATANA

EARLY in 1907 Mr. Percy Tarbutt introduced me to Mr. George Cawston, who was chairman of a company called the Siam Company, just formed for exploring Siam and taking up mining concessions, of which they had already had the offer of several. This company was formed at the instigation of Mr. Newman, who said he could obtain any concession in Siam with the exception of the throne; and Mr. Cawston offered me the post of mining engineer to the company to examine and report on all the properties under offer. This post I accepted. Mr. Cawston was at the same time sending out the first Peking syndicate expedition to China to endeavour to get concessions. The members of the expedition were Señor Luzzatti and Mr. H. B. Vaile. Their expedition turned out most successful, as they obtained very valuable coalfields and iron mines in Shansi and Honan, and also vast oilfields and railway concessions. Mr. Vaile and Señor Luzzatti had both visited Siam, Mr. Vaile on the Bang ta Pan gold mine on the east coast of Siamese Malaya, and Señor Luzzatti had taken up the concession of the Chantabun and Krat gem mines, formerly known as the Sapphires and Rubies of Siam, Ltd., on the opposite side of the Gulf of Siam. It was agreed that we should all start together from Marseilles, on the Messageries Maritimes steamer, *Natal*, leaving Marseilles on April 11. I left London upon the 9th, in wet, dull weather, but found the sun reigning supreme at Marseilles, where the vegetation was far more advanced than it was in England. The horse chestnuts were already in full bloom. We left Marseilles in

delightful weather at half-past four in the evening, and next morning we passed through the Straits of Bonifacio. We went also through the Straits of Messina, and arrived at Port Said on April 16. There were twelve other Englishmen on board, Mr. Anderson, a banker from Birmingham, on his way to Cairo; Mr. Herbert Phipps, one of the popular twin brothers of Shanghai, who was going to start a new business in furs and feathers in Tientsin; Messrs. Montgomerie and Russell, of the Chinese Customs. In addition to Englishmen, we had on board men of eight other nationalities. Frenchmen, of course, predominated, because of the many officials returning to French colonies; Portuguese, Dutch, Austrians, Germans, Chinamen, Malays and Abyssinians. Five of the last-named were Christian priests, and they were said to have the oldest Christian manuscripts in their care. I made friends with Dr. ten Kate, a Dutchman, who was a doctor of science, on his way to report for his Government on the fauna and flora of the Dutch Indies.

We passed Perim on April 20, and arrived at ten o'clock next morning at Djibouti, which I thought was the hottest place on earth. We landed at the end of a long jetty and found the place to be an abomination of desolation. There were swarms of little Somali children running about as naked as they were upon the day they were born, and looking as if they had been polished with a blacking brush. In the market place were several Abyssinian warriors, with long spears, and shields made of lions' hide, and wicked-looking, angular daggers in raw hide sheaths decorated with brass wire work. I purchased one of the daggers and a shield, also a whip made of rhinoceros' hide, and then went to the post office, where all the passengers had collected to buy postage stamps. I bought a whole set of Djibouti stamps, which are about the size of luggage labels, also a set of Obock stamps, and a set of Abyssinian. The postmaster had anticipated the wishes of collectors for used stamps by having a quantity of envelopes addressed to him from Herar, with a whole set of

Map of the
SIAM AND CAMBODIA DISTRICTS





U.S. GEOLOGICAL SURVEY

FIG. 1. PHYSICAL MAP OF THE GREAT PLAINS OF NORTH AMERICA. The position of the Great Plains is shown by the shaded area. The map shows the general character of the physical features of the region, including the Rocky Mountains, the Great Basin, and the Great Plains proper. The map is based on the work of the U.S. Geological Survey.

stamps affixed. These he sold with the envelope intact. After a walk round the bay with Mr. Montgomerie and Mr. Russell, we returned to the *Natal*.

When we had left Djibouti an amusing incident occurred in the second saloon, where a French army officer wrote in the ship's official complaint book that the Englishmen occupied the whole of the deck for their amusement and games, and that if an Englishman committed an offence the ship's officers took no notice of it; but if a Frenchman did so he was reprimanded at once. He added that the English were privileged, and called them "Incongruité Anglais," at which several Englishmen took offence, and wrote an answer which did not mend matters, for it included the statement that they would pass over the insult as the Frenchman was not a gentleman. Further, it was complained that this Frenchman would not allow them to speak at table, but commenced to sing at the top of his voice, to drown their conversation. At this retort the French officer and his friends challenged the six Englishmen who had signed the book to duels at Colombo. The challenges were accepted at once, seconds were appointed, and revolvers were selected as weapons. After this arrangement revolvers were unpacked and cleaned, and the intending combatants were continually taking aim at different objects on deck to get used to the firearms; but on passing the Island of Minnicoi the captain called together all the first saloon passengers, and asked them to form a committee to go over to the second saloon to stop all this tomfoolery. This suggestion was quickly carried out, and in a short time the duellists were having drinks together and were walking about the deck arm-in-arm, much to the relief of every one.

We arrived at Colombo in bright sunshine on April 28, after a night of thunderstorms and drenching rain, and disported ourselves on the verandah of the Grand Oriental Hotel, or in the fascinating jewellers' shops, where rubies, sapphires, and moonstones reign supreme, supplemented by cats' eyes, alexandrites,

and star sapphires. Most of the passengers slept at the Grand Oriental Hotel.

Next day we left for Singapore, where we arrived on May 4, and put up at Raffles' Hotel. I called on Mr. Oram, of the Hong Kong and Shanghai Bank, with Mr. Phipps, who kindly proposed me for the club, and then I drove with Messrs. Montgomery and Russell to the gardens, on the outskirts of which I was charmed with the abundant growth of sensitive mimosa, a most apologetic plant. Its relative, the flame of the forest tree, is most beautiful too at Singapore when it is in full bloom. We also called on my old friend the chimpanzee in the Zoo, and upon the poor tiger, which looked depressed, cooped up in a cage a great deal too small for it. Upon the following day I engaged a German-Australian prospector, named Reissing, at \$175 a month and board, and called on and dined with Mr. F. Elliot, an old friend from England. We started on May 7 on the *Hecate*, one of the Alfred Holt boats, for Bangkok, and I found on board Mr. Graham, who was on his way to join the Siamese Revenue department. We had a tremendous tossing in the Gulf of Siam, and to me this was rather pleasant after our remarkably smooth passage to Singapore. Captain Bell appeared to be kept on the bridge most of the time. On May 11 we struck a sandbank, and were delayed till the next high tide. When the tide was at its lowest there were only a few inches of water, and the lead of the plumb line stood half way out of the water. Luckily the boat was built with rolling chucks, so she stood quite steady.

On the 13th we arrived at Bangkok, and engaged rooms at the Oriental Hotel. The custom-house authorities insisted on taking my revolver and gun case, which they kept for a week, and when I went to fetch it away, I found the leather case completely destroyed by white ants. The bottom of the case was almost all gone, and what was left stuck to the floor when we removed the case. I received compensation from the authorities in the shape of a new canvas case from Falke and Beideck's store.



KLONG TAPAN HAI, BANGKOK.

I was met on landing by Mr. Bleck, of Messrs. Clarke and Company, the company's agents, at whose house I met Mr. Tregay, a mining engineer for Messrs. Punchard, Mactaggert and Company, who had recently reported on the Kabin mines. Mr. Graham and I had luncheon with Mr. Lewis, an English tutor to the King of Siam's sons, and Mr. Stringer, the British Vice-Consul. Mr. Lewis afterwards conducted us over the King's palace, which is very gay and gaudy, with glittering pagodas and grotesque statues, in grey marble, of men and women of all nations. Within the palace are several magnificent wats, or temples, notably Wat Poh with its huge reclining Buddha, covered with sheets of gold, on the soles of whose feet are pictures carved in mother-of-pearl of the whole history of Buddha, and Wat Pra Keo. Wat Prom Manivet, and Wat Sudat are also worthy of a visit. Three sacred white elephants are kept in the palace grounds. These are not born white, but become so in consequence of a skin disease. That portion of the palace in which the king's hundreds of wives and children reside is, of course, not open for inspection. Outside the palace are some very large lawns which must cover more than twenty acres of ground, used for sports of all kinds and golf, by the king's permission.

Bangkok is the Venice of the East. It is built on both sides of the mighty Me Nam river, with klongs, or canals, running at right angles. The principal canals are Klong San and Klong Tapan Hai, and on the banks of the last-named is situated the famous Wat Saket, in the grounds of which are thousands of stinking vultures, which devour all the dead bodies in Bangkok. After the flesh has been stripped off, the bones are placed on an iron grating and burnt, and the ashes are collected by the relatives and placed in an urn. This is really a very sanitary way of disposing of one's relations; but I fear it will not commend itself to other nationalities.

There is a splendid system of electric tramways in Bangkok to the wires of which are attached the telephones, an arrangement

which makes it impossible to hear, when the trams are running, and as they go past every few minutes, making a loud buzz in the receiver, it was a case of, "Hollo, are you there—oh, d—n ; wait till this wretched tram has gone by. Hollo, hollo, are you there—dash, here comes another tram. Hollo, are you there. Hollo, hollo, hollo, d—n — — —." and you give it up as hopeless. If the devil had tried to invent any better method for making men swear he could not have found one.

In Siam the women are a far more important factor than the men. They do most of the work and business, and are well-made, elegant, little women, with fine, coffee-coloured skin, and with short hair standing upright all over their head. Their worst feature is their teeth, which are black through continually chewing betel (areca) nut and lime, pulped to a paste in a mortar. Each quid is wrapped round with a slightly bitter leaf, like sorrel. The Siamese men are very weedy compared with the women. It looks as though it would not take many generations to stamp out the Siamese as a separate people. Chinamen swarm into the country, take Siamese women as wives and breed Chinese children. No matter what nationality Chinamen marry into, the children born have always the appearance of pure Chinese. There are no half-castes where Chinamen are concerned.

The city of Bangkok is a city of smells, for artificial sanitation there is none. The only sanitary agent is the tidal river, which makes a semblance of a clearance of the city's refuse at every tide. Along the banks of the river and klongs are floating houses and shops, and most of the native population of the town carries on its trading and marketing in sampans cut out of a single log of wood, and every European trading house has its steam launch. The principal industries are those carried on in teak saw mills and in rice mills, conducted by the Borneo Company, the Bombay Burmah, the Arakan, and Clark and Company. The Government departments of the country are conducted mostly by Europeans. The revenue is collected by Englishmen ; the police officers are

Englishmen from the Burmese Police force. The navy is commanded by Danes, and the army by Belgians.

In the meantime I was preparing to visit the Kabin Gold mines, and cabled to Paris for leave to inspect the Watana gold mines, both in the Bang Pa Kong valley. I engaged an interpreter named Nat, and a cook and boy, the former Siamese and the two latter Chinese, and engaged passages on the *Choet*, which was to sail on April 29. The *Choet* was a sort of glorified steam launch, with Malay captain and crew, and it plied between Bangkok and Pechim on the Bang Pa Kong or Sakoi river.

On the 18th I saw Mr. Hall off to Vancouver. He was connected with the Phailin concession belonging to the Chantabun ruby mines. Then I dined with Mr. Hunter and staff of the Hong Kong and Shanghai Bank. On the 26th I breakfasted with Mr. Louis Xavier, the Portuguese Consul, and doyen of the Consular service in Bangkok, and I agreed to inspect the Bor Rung Rang, and Bor Pong Khow mines, near Sisaphone, and the Bien Ho lake on the borders of Cambodia. During my stay I was elected a temporary member of the Bangkok Club, for which Mr. Bleck kindly proposed me. The club is a great institution, where every one collects after business hours till dinner time, to play cards, billiards, skittles and lawn tennis, and to absorb innumerable vermouthis and whiskeys and sodas. Upon the evening before I left, I dined with Mr. Finch at the establishment of the Borneo Company, and left next day on the *Choet*, going down to the mouth of the Me Nam, across the head of the gulf, and so into the Bang Pa Kong river, where we tied up for the night. The journey was interesting, but far from pleasant. As a rule no one travels this way but Chinese coolies, and on this occasion the deck was packed from end to end with them. I had engaged a cabin and went to look at it; but it was an unspeakable horror, from dirt and cockroaches, which remained undisturbed in full possession. They swarmed all over the cabin and were two and a half inches long and an inch wide, so I ordered my boy to set up my camp

bed on the deck ; but he could not find room, for every inch was taken up by extended Chinamen, so I appealed to the captain, a Malay, wearing nothing but a sarong, who came and kicked and cuffed a few Chinese who objected to move. He then chalked a line on deck, about six feet by four feet, and dared a Chinaman to go inside the line. The captain was very fond of kicking and punching any one who did not obey him on the instant, and in crossing the bay several of the crew were very severely handled. The water is very shallow, and the channel very narrow, so that the plumb line was going all the time. Even with this precaution the launch was continually running her bow into sandbanks.

Next day we stopped at Petriou, to unload passengers, and to take in firewood. As the river narrowed it became unbearable with the stench of rotten buffaloes and other animals. All up this valley rinderpest was clearing the country of cattle, and as the buffaloes died they were dragged to the river, stripped of their hides, and then sent on their journey to the gulf. If the people had only stuck a knife into the stomach of each animal before throwing it into the river they would not have floated, but without this attention they came down the river distended with gas like a balloon. In self-protection I took out my rifle and sank dozens of them ; but I should soon have run out of ammunition if I had continued to sink them, for their name was legion.

At Petriou is a large rice mill at which I met Mr. Echart, a German, who was in charge ; and he kindly conducted me over the mill. As soon as we had taken on board a supply of firewood we resumed our voyage. The poor crew had a sorry time while they were loading, for the captain seemed thoroughly upset about something, and he was swearing hard in Malay, and was cuffing and kicking the men at every opportunity. Shortly after we left Petriou, a dead elephant came floating down the river, looking like a balloon. I fired several shots from my rifle into it, but made no impression. Upon the next day we arrived at Pechim, the limit of navigation for the launch, and here I met Mr. Giles,



DOOR AT WAT POH, BANGKOK.

a government revenue collector, who took me over the old stamp mill of the Kabin mine, now in total ruin. The mill was built for the King of Siam, in the year 1872, when the mine was taken over from Luang Na Wah, who had opened it and worked on a royalty. The Governor of Pechim at that time was Phra Pi Cha, who had the mill built and fortified, and he worked the mine and mill for the king. He spent money lavishly, and erected much machinery. A railroad was built from Kabin to Paknam, with a three feet three inch gauge, and thirty-six pound rails. From Paknam the ore was carried by boat to Pechim, where a thirty stamp mill was erected and surrounded by a massive wall with fortifications. In 1876 the mill was moved to Kabin, and re-erected at the mines ; but three years later the mine was found to be unprofitable to the king, who discovered, however, that Phra Pi Cha had become very wealthy, and so presumed that he had appropriated the gold to enrich himself. He found also that Phra Pi Cha had surrounded himself with an army ; so, in order to get hold of him, he gave a big banquet in Bangkok, to which he invited all his chief officials, Phra Pi Cha among them. All unsuspecting he attended, and on his arrival in Bangkok the king had him seized and taken back to Pechim, where he was beheaded under the archway at the principal entrance to the mill. After this Phra Ong Kamalet leased the mines, on a royalty, and worked them in a desultory manner, until 1881, when the open cuts had reached sixty to a hundred feet in depth, so that it was too difficult to handle the ore by hand labour. Most of the machinery had been abandoned, so the mines were closed down, and nothing more was done for a period of ten years. Now we see no other remains than the immense walls and the famous archway, with the brick boiler chimney standing in the centre, up which has grown a tree which spreads its branches out at the top of the chimney. The trunk exactly fills the chimney, and within a short time must burst it asunder. Here I found a most comfortable house-boat belonging to the Société des Mines de Kabin, a French

company now in possession at Kabin. The boat was originally built for the king, and was used by him for some time.

Upon the following day we had a grand view of a herd of wild elephants, raiding the poor natives' rice fields, about half a mile inland from the river. I was told that the natives were not allowed to kill them, but had to be content with driving them off, for the district was part of the king's special elephant preserve. In the evening we arrived at Paknam Kabin, nine miles from the mine, overland, and I had a message conveyed to M. Beauverie, the manager of the mines, to dispatch ponies and buffalo carts, but he sent back word advising me to go round by boat to Ta Chak, which was two miles from Kabin. It was late now, so I decided to stop the night with Luang Visut, an old Chinese trader who acted as agent for the company in transshipping goods upon buffalo and bullock carts for the mines.

When I was leaving Bangkok I was told that the Bang Pa Kong river was infested by all the bad characters in Siam; and, as I was taking ten thousand ticals in silver for pay day at Kabin, I was advised to keep a loaded rifle always in the cabin. The criminals from Bangkok are all sent up to Pechim, where you may see them in gangs, working with chains linking their legs together, an arrangement which gives them frightful sores. A common form of fetter for linking the ankles together consists of a U bolt round each ankle, connected with a sliding iron bar at the back of the leg. This makes locomotion very awkward, for the unfortunate wearer can only shuffle along with difficulty. At Paknam Kabin I was warned again, but found the natives very peaceable and friendly. The river narrowed considerably, and the banks were infested with monkeys. At one point twenty or thirty jumped into the river, one after the other, from an overhanging branch, and swam across in front of the boat. I shot a few for food for the boatmen, who appeared to relish them, but I had great qualms at killing them, for they are so human. I tried a monkey curry, but found the meat very tough and sinewy. One



SERVANTS AT KABIN.



TREE GROWING IN CHIMNEY
AT PECHIM.



SYDENHAM RAILWAY.

I shot had a young monkey clinging uninjured to it, and an oarsman who worked at Kabin kept it and brought it up on condensed milk. I also shot several pigeons, herons and bitterns from the boat. I saw very many adjutants, or marabou, round the villages, but I did not shoot any because they are such excellent scavengers. An adjutant will drive a lot of vultures away from a carcase, and the vultures dare not return until the adjutant is gorged.

I slept the night of June 2 on the house boat, and arrived at Ta Chack, where I found a pony and buffalo carts awaiting me. I proceeded along a level road to Kabin, and there I met M. Beauverie, the director of the mines ; M. Michael, the assayer ; M. Pottier, the accountant, and Dr. Seligman, the doctor. Here I stayed until the 10th, examining the mine. M. Beauverie and the staff were taken quite by surprise that an English company had been given an option on the mine, and felt hurt that they had not been kept informed. Nevertheless they treated me with the utmost consideration and showed me all there was to see. At this time Mr. St. Stephens, who was the underground manager, had gone to Singapore to meet his wife.

Kabin is eighty miles from Bangkok in a direct line ; but one hundred and ninety-four miles by water, for in a boat we must follow the windings of the river. The surroundings of the mine show the reckless extravagance of Phra Pi Cha. The old thirty stamp mill stands a ruin, white ants having destroyed and riddled the timbers. Locomotives, rolling stock, traction engines, centrifugal pumps and other heavy machinery of various descriptions meet the eye at every turn, much of it never used, but all now depreciated by weathering and by jungle fires. The mine in Phra Pi Cha's time cost little to work, as it was exploited by unpaid forced labour. In 1891 Mr. Sydenham Clarke obtained the concession, and the royalty to the King was fixed at five per cent. on the gross output. Up to that time the mine had been worked entirely by open excavations on the surface, and to-day these

are reservoirs for water. Mr. Clarke started two shafts, the Clarke shaft and the Beresford shaft, near the two largest old workings, Bor Yai and Bor Mac. The natives have no inclination to work, and if they do consent to be employed it is only to get money with which to gamble; yet labour is plentiful, because Laotians from the district round Luang Prabang, in Annam, and Annamese will come in any numbers wherever work is to be obtained, and both the Laotians and the Annamese are much stronger and finer men than the indolent Siamese. On one occasion the wife of one of the staff, recently arrived from England, was told that the natives employed on the mine came from Annam, and she remarked, "Oh really! I have often read of the Annamites in the Bible, but I had no idea they came from this part of the country." Chinese coolies are engaged for surface work, but they will not work underground. They say the Gold God will kill them if they go underground for gold; but he allows them to work for it on the surface.

The mine has been opened for two thousand feet along the vein by three shafts and by numerous old workings, the Clarke, Beresford and Sydenham shafts. The rocks of the Kabin Concession consist of metamorphic sedimentary strata of the carboniferous period, which have been upheaved, and which now stand vertical. They were left with open fissures, in the contacts of the limestones with the sandstones, which have been filled by infiltration from both walls, forming a very uncommon vein matrix of grossularite or green garnet, composed of lime alumina, and silica, with seams of quartz and calcite running through it. The gold runs in chutes, and is visible at intervals throughout the chute. The vein is disturbed and faulted by intrusive dykes, but is easily picked up again because it follows the contact.

Kabin is famous for Siamese cats and scorpions. The cats are most fascinating animals, with cream coloured bodies, and black faces and paws, and light blue eyes. The scorpions I found most frequently in the bathroom, where I often killed as



LUANG PRABANG, ANNAM.

many as eight or ten in a morning. I collected about thirty, containing five or six different species, and took them to Mr. R. I. Pocock, of the entomological department of the British Museum, arachnidæ being his special hobby. Later I received the following letter from him saying I had sent two new species.

BRITISH MUSEUM (NATURAL HISTORY).

Cromwell Road,
London, S.W.

1/7/98.

DEAR WAY,

I forgot to ask you the name of the locality where you collected the beasts you brought in to me yesterday. I remember you said it was near the frontier of Cambodia; but if the area or district or village or whatever it is where you found them *has* a name, I should be very glad to know it. If not, perhaps you could tell me roughly its distance from the sea or the nearest place of importance, and also the altitude.

I have handed on the reptiles and insects to their respective departments. Although there is nothing new amongst them, they are very welcome as additions to our series.

With my beasts you were more fortunate, two of the specimens representing new species. One of these is a scorpion—not the big black chap nor the yellow spotted smaller kind, but a smaller black flat fellow with a weak tail. The other new thing is the whip scorpion. When I saw it yesterday I thought it was a specimen of the same species as the one Flower sends. But it is quite distinct. I am very pleased with it, and the new scorpion, and am really very much obliged to you for taking the trouble to bring them.

With kind regards to Mrs. Way and yourself.

Yours sincerely,
R. I. POCOCK.

I now made preparations for an expedition to Watana, and announced the fact to my cook and boy, who both resolutely declined to come, saying no Chinaman could live there, but that they all died within a week. However, they changed their minds on a promise of ten ticals a week extra while they were there. The day before we started I rode with Mr. Carn, one of the foremen, to East Kabin. We set out after an early breakfast, and took the wrong track in the jungle. After wandering along native tracks for hours we found ourselves at noon back at Kabin. We had luncheon and started again, but we had not

gone more than a mile when my pony, to get away from the terrible horse flies, inky black creatures fully an inch long, which nearly send the ponies mad, rushed into the jungle and threw me, for I could not pass under the dense mass of boughs. The pony then ran back to Kabin. He performed the same feat a second time, but did not get away again. Near to East Kabin, on a grassy glade, we saw seven peacocks, which ran off out of sight.

In the old shaft at East Kabin was a curious sight. There were millions of long-legged spiders with little round bodies, each the size of a small pea, and the legs two inches in length. They stood as thickly as possible all round the shaft and all throbbed in unison, moving their bodies up and down through half an inch of space, keeping exact time. The shaft had caved badly, so that there was nothing to see but the dump.

On June 11 I started for Watana with twenty coolies, three ponies and four buffalo waggons. We followed a glorious road sixty feet wide, as straight as a die, made by Siamese soldiers when they were at war with the people of Cambodia. We stayed at Sakao, a telegraph station, where I noticed that the Siamese operator was cultivating the poisonous thorn apple in his garden. I asked him why he cultivated that poisonous plant, to which he answered, "By and by bad man come, stop here; I give him this to drink; he die." So I took good care that he did not go near my food or drink for fear he should have taken me for the bad man. The rains here had flooded a large low-lying piece of ground adjoining the telegraph operator's house, on which I noticed a number of duck. I managed to bring down four and found they were whistling teal. The whole country here is covered with limonite conglomerate, on the surface of which are round limonite iron pebbles, some as large as buck shot, and some larger. These completely cover the ground.

Next day we intended to reach Watana and started in pouring rain. I rode on and got miles ahead of my waggons, soaked to the skin, and arrived at the village of Watana, where I waited at



LUANG PRABANG, ANNAM.

a Siamese store till my waggons came up, and dried my clothes at a fire. Towards evening a coolie arrived with my mackintosh and said the waggons had stopped for the night about three miles back. The roads were so bad that they could not come on. I rode back and found my tent pitched, and the dinner cooked. Fires were lighted all round the camp to keep away tigers, and a mai yung tree was set on fire to illuminate the camp. You have only to cut a piece of bark off a mai yung tree and put a match to the sap, and it will burn like paraffin oil, and will continue to burn with a very bright blaze all through the night, without doing the tree much harm. The Siamese draw the sap, which coagulates and forms a resinous gum useful for caulking the planks of boats. When the bullocks and buffaloes are tethered for the night each has a small wood fire lighted under it. This is their salvation, for it keeps away the terrible horse flies and mosquitoes, which would otherwise give them no rest all night long. The gibbons were making a continual noise all through the jungle, cooe, cooe, cooe, very loud at first and very slow, then gradually quickening the pace and finishing with a noise like the dropping of a stone on ice. These gibbons are the greatest gymnasts in the world, swinging from bough to bough all day and flying through the air from tree to tree, performing the most wonderful feats with the greatest ease and grace and without ever missing their mark. The rain ceased soon after I got to the tent, and the night was fine.

We arrived at Watana upon the following day, June 14, but Nat, the interpreter, was missing and did not return for two days. He then looked very sorry for himself. It appears that he sneaked off to a village in the evening and got very drunk, and when he came back he was feeling very unwell. He stripped himself stark naked, lay on the verandah, and got a coolie to tread him up and down, taking steps not more than an inch or two at a time. This novel form of massage appeared to make him quite well again.

CHAPTER XI

WANDERINGS IN SIAM

THE country between Kabin and Watana is low lying and very swampy, and the plague of flies in Egypt could be nothing compared with what people suffer here. Huge swarms of horse-flies and mosquitoes fly round you all day ; the former biting with sharp dagger-like bites on every opportunity, and nearly driving your pony mad. Then every branch you pass under has several dry leeches reaching out to fasten upon you. The rattan canes, too, which hang in festoons from the tops of the highest trees, have long, almost invisible tendrils hanging over the roadway, with hooks like the finest fishhooks, and these hook themselves into your clothes and flesh in the most annoying way. An ear seemed to be a favourite spot in which to catch. In places the mud was almost up to the hubs of the cart wheels, and this made travelling very slow. The ponies have a happy knack of rushing blindly into the jungle occasionally to get rid of the swarm of flies ; and they make a practice also of lying down in the middle of a stream to roll if you do not use the whip constantly while you are crossing.

At Watana I met Mr. Van Dyk, a Dutchman, who, although very civil, did not want me, and had no intention, as I could see, of allowing me to examine the mine, notwithstanding that I had full permission from the directors in Paris. Mr. Van Dyk was born in Borneo, educated at the Golden School of Mines, Colorado, U.S.A., and had been manager of a tin mine in Swaziland. I waited at Watana from June 17 to 25, cabling to London for instructions. Meanwhile I walked over the surface of the mine and saw a well-defined white quartz outcrop, completely



SIAMESE NATIVE WOMAN.

barren of mineral, although Mr. Van Dyk showed me some remarkably fine specimens of gold in quartz which greatly resembled the gold quartz in Bailey's Reward Mine at Coolgardie in Western Australia.

In the meantime Mr. Reissing had become very ill with dysentery. I warned him continually about drinking water that was not boiled; but he pooh-poohed the idea, saying he had drunk water in every country under the sun and was hardened to it. He appeared to have an abnormal thirst, but seldom drank anything stronger than water. My cook also grew ill from sheer funk with a form of cholera, non-infectious. He quite made up his mind to die, and he did die afterwards in the native village, after having been ill for three days.

My waggoners left me on the 16th, saying they must return and plant their rice fields before the rainy season commenced in earnest. At this time we were getting about two inches rainfall a day. Watana is not a healthy place in the wet season, for it is situated in the middle of a morass. The miners were all dosed with rum and quinine every day, and the doctor hands round four grains of quinine every day to each of the staff as a preventative. Mr. Van Dyk told me there were plenty of peacocks, Argus pheasants, and other game birds to be had in the hills one and a half miles away, also elephants and tigers. On the 24th Mr. Van Dyk informed me he had received a cable from Paris requesting him to show me over the property, but that did not mean I could examine the mine or take samples from it. In fact I could not go underground at all as the pump had broken down, the mine was filling with water, and would remain flooded until they could get new parts for the pump. I immediately commenced to pack for a return journey to Kabin. Reissing was now very ill, and not in a fit condition to be moved; but he insisted on coming in a bullock cart, and I thought it best to get him out of that unhealthy swamp. My boy too was very ill with fever, and so I was a general hospital nurse. I sat with

Reissing a good deal every day after he was taken ill, and played cribbage or euchre. On the return journey I thought every day would be his last, for after leaving Watana he developed sprue, which is nearly always fatal. I had telegraphed from Watana for the houseboat to meet us at a village on the river below Sakao. We left Watana on June 25 at half-past six o'clock in the morning, and made a long journey to Sakao, where we arrived at half-past five o'clock in the evening, and next morning we arrived at the river at half-past nine in the morning, but found the houseboat had not arrived, and did not until half-past four in the evening. We could hear the *tong long, tong long*, the cry of the peacocks, quite near, so I took my gun and went off into the jungle to try to bag one. I was fortunate enough to come upon three, and shot one, a beautiful bird, with a magnificent tail. I shot also a brace of squirrels and a monkey for the coolies. We arrived at Ta Chak at half-past five, and I rode to the mine and put Reissing in charge of Dr. Seligman. I stayed at Kabin until July 3, when I left for Bangkok. On the 1st Mr. and Mrs. St. Stephens arrived with their infant son. Mr. St. Stephens is a Royal School of Mines man, and was on the Kolor gold fields before he came to Siam. I took the opportunity of going through the mine with him and learnt many things of interest. Mrs. St. Stephens was a great lover of Siamese cats, and must have had about twenty at their bungalow. The Siamese cat lives principally on lizards, as there are no mice nor rats.

We arrived at Bangkok on July 7, and at once I sent Reissing to the hospital. He was so weak that he could not stand, and on his case being diagnosed it was found that he was suffering from sprue, pneumonia, and fever. The doctor said his only chance was a sea voyage, so he was put on board the next steamer for Singapore; but he died on the second day out. I stayed with Mr. Bleck at his house in Messrs. Clark and Company's compound, and wrote my reports on Kabin, and had several interviews with Admiral de Richelieu (the head of the Siamese Navy)



AYUTHIA, ME NAM RIVER.

Mr. Andersen, Mr. Macarthy and Dr. Dointzer, owners of mining claims near Lopburi. I had previously met Mr. Andersen in London before starting, and Captain Rousing was now in the city offering the mining claims to Mr. Cawston, so it was arranged that I should go up at once and report on them. The claims had been reported on very favourably before by M. E. Callens, a French mining engineer. I made arrangements to start on July 14, and upon the evening before, I dined with Admiral de Richelieu and his wife. I started upon the following morning in a steam launch up the Me Nam river, and arrived at Ayuthia, the ancient capital of Siam, where the big krall is erected for the annual royal elephant hunt, which the king attends in state. For this occasion several hundred hunters are sent off weeks before, to drive an enormous tract of country, and to round up the herds of elephants, which are driven into the krall, out of which a certain number are selected for sale to train for work in the teak forests.

On the 16th, I arrived at Lopburi, where I met Mr. Herman, a Swiss, with whom I went to call on the governor, who asked for my passport, and informed me that he could not allow me to proceed without one. I informed him, through my interpreter, that I was very sorry but I had to start to-morrow morning for the mines, and hoped he would help me to get some bullock carts at once, and I would telegraph immediately for a passport. He was adamant ; so I got wild, and told him I would report the matter to Prince Damrong, the Foreign Minister, and to the British Minister, under whose auspices I was travelling. They had not said it was necessary to have a passport, and I advised him not to delay me. When the interpreter, Nat, had finished, Mr. Herman called me on one side, and asked if I knew what my interpreter had said ? Instead of repeating what I had told him, he was saying to the governor, " Mr. Way, who is the dust off the soles of your feet, humbly implores your excellency to allow him to proceed on his journey, and hopes your excellency will not delay him longer than is necessary. When he returns to

Bangkok, he will inform his excellency the Minister of Mines, and the British Minister, of your excellency's great kindness." I felt as though I should like to punch Nat's head; but he explained that if he had said what I told him he would be thrown into prison immediately and made to work in chains. I stayed for the night in the Government salah, a floating house on the river, built on a raft of long bundles of bamboo poles. These floating houses are anchored to a tall pile at each end of the building, by a piece of rattan cane attached to a ring of the same material, which is thrown over the pile and so is allowed to rise or fall with the river. Next morning I called again on the governor, and informed him that I had received a telegram from Mr. Bleck saying he had sent my passport, and asking him to procure waggons for me to be in readiness to start as soon as it arrived. Later I received a formal call from the governor, who said that he had procured bullock carts which would be ready to start on the 19th. On the 18th I had lunch with him, and he showed me over his palace. While I was there some young Siamese ladies arrived, and he informed me that he was sending them as a present to the king. On the 19th he called and said the carts were not ready, as they had to be repaired, and that he had received a telegram from Prince Damrong to say I was to be allowed to start at once, and my passport would follow. He promised that the carts would be in readiness next morning.

While I was at the salah, Nat boasted of his great swimming feats, and turned some somersaults and double somersaults into the river from the verandah of the house. He challenged me to a swimming race across the river, about eighty yards wide, which I accepted. I found a very strong current in the middle of the river, and this carried me down a hundred yards before I landed upon the opposite side. Nat never came more than a quarter of the way across and then returned. I found the return journey more than I had bargained for. On account of reeds and swamps, I could not get higher up the river than a point



GOLF CLUB, BANGKOK.

opposite the salah, so I had to swim up the side for some distance before I made a dash across ; and, as I had not been swimming for a long time—I was all but exhausted, and could not have swum another stroke when at last I caught hold of the bamboo raft. I never felt so near the end in my life, neither before nor since.

I started again on the 20th, with seven bullock carts. The Governor came to see me off with a great deal of kow towing and good wishes for my health and welfare, and a present of chickens and ducks, a bunch of orchids, a large piece of fat pork and some jars of filtered water. The day's travel was through a very fertile country, all extensive rice fields, on which I saw several ibis and cranes, and shot a brace of bamboo partridges and a blue teal. I slept at the rest house or salah, in the village of Ban Kluce. The salah consists of a large open shed, with a raised floor three feet from the ground. The shed is divided by lines of pillars reaching from floor to roof. You pick out the best site for a bedroom, and then wrap a roll of printed cotton three feet wide round and round four posts, spirally, as high as you like, and so form a private room. We had an escort of ten soldiers, supplied by the governor, as he said we might be attacked by dacoits. Upon the following day we slept at the village of Poo-Ka. From this place I travelled next day fifteen miles to Ko Sam Rong, over rolling hills, and across plains covered with rice fields, and then rested in a salah. My transport refused to come any further, as they said they must go home and attend to their rice fields, so I refused to pay them until they procured fresh bullock carts for me. I went for a walk through the country with my gun, and shot some blue teal, whistling teal and partridges, and on a low range of hills I picked up some quartz float, with green garnet crystals, showing much the same characteristics as the Kabin vein. The country rock was crystalline limestone, capped with limonite conglomerate.

During the following day we had to cross a wide river, flowing

into the Me Nam, by what was said to be a shallow ford; but in places the water was over the top of the waggons and the bullocks had all they could do to keep their noses above water. I had to perform an acrobatic feat, and balance myself on all fours, on the top of the waggon. During this performance everything in my pockets, including my watch, went to the bottom of the river. When we arrived across the river I offered five ticals for the recovery of my watch, and two for the recovery of a pair of scissors. Every coolie went off to try his luck, and as the river was too muddy to permit them to see, instead of diving down to hunt with their hands, they went down feet first, felt about with their semi-prehensile toes, and within half an hour both watch and scissors were recovered, the watch still going. This speaks volumes for the make of the watch, an American Waltham, with screw back and front, absolutely watertight and dustproof. I believe these watches are manufactured especially for the mining fraternity; at all events a great many are used in the mining camps of the Rocky mountains, and that is where I bought mine.

We stopped for the night at Chou-saradett, and on July 24 arrived at the village of Bo Ki Riew, and met Mr. Heggie, who was prospecting the claims for the Danish Syndicate. The country round the village is mostly covered with a foot or two of travertine, which the natives work for gold. They break away the travertine, and find alluvial gold in the interstices of the limestone and eruptive rocks, in which there are veins of lime-alumina-garnet (grosularite) and quartz in the contacts with eruptive dykes. Very little work has been done to prove the veins, notwithstanding M. Callen's favourable report. The country was flat with the exception of two hills, Kaw Kawk and Kaw Ka Bawk Nak at the north end of the concession. Altogether three prospect holes have been sunk, one on the syndicate's concession, one on Mr. Macarthy's, and one on Mr. Ferando's concessions. I took samples from all three, and panned them without finding gold of any practical value. I started twenty coolies to work

clearing out the prospect hole on the main vein, the outcrop of which was from eight to twenty feet wide, and also to cutting trenches across the outcrop. We continually crushed and panned samples, with very poor results, obtaining only a minute trace of gold occasionally. The natives have made slight excavations on the veins, but evidently did not find them profitable, and natives will extract rock, and crush and pan it, if they can average only twopence a day. The most extensive old working is on Mr. Macarthy's concession, Bor Ka don. On August 1 I stopped the work, for the results of the panning did not improve, and paid the coolies at the rate of 48 atts per day. Sixty-four atts go to a tical, which is nominally worth one shilling and two pence. I then started with Mr. Heggie, on August 3, to visit Bor Heeb, another concession belonging to Admiral de Richelieu's syndicate. Upon the first night we stopped at Chou-Saradett, during the next night at Ko-sam Rong, and on August 5 at Tapan Soung, four miles from Bor Heeb. During the day we passed some large outcrops of grosularite and quartz veins, carrying some iron pyrites. Upon the next day we walked to Bor Heeb, passing first Bor Lek, which consisted of a large deposit of hæmatite, then Bor Hin, another blow of hæmatite. At Bor Heeb are two veins, one a contact vein, fifty inches wide, carrying iron and copper pyrites and galena in a matrix of calcite and quartz. Here was a prospect hole fifteen feet deep. I took samples, had the samples assayed at Kabin, and they showed very poor values in the precious metals. The other vein was a wide grosularite vein, carrying iron pyrites in small quantities. I crushed and panned a sample of the ore, and could not find a trace of gold. I was told that three foreigners (English or American) from the Kabin mines, in the days of Phra Pi Cha, ran a tunnel for one hundred feet on the vein, and the remains of this are now to be seen, caved in to the surface. The three foreigners all got fever and died there, and I was shown their graves with the remains of a rough wooden rail round. Since then no work has been done there.

On August 7 we arrived at Lopburi, where I telegraphed for a steam launch to meet us at Ban Peng, and upon the following day we left Lopburi, in three boats, at ten o'clock in the morning, and arrived at Ban Peng at half-past eleven in the evening and stayed for the night at the Roman Catholic mission. Next morning we left in the steam launch, and arrived at Capt. Scarlett's abode.

Capt. Scarlett is a Scotchman, the owner of a line of steam launches to Bangkok, and he gave me a splendid welcome, and treated me right royally. He asked my Chinese boy if he was fond of music, to which he answered "Yes." So he told him to kneel and hold two brass handles. He then turned on the electricity and we heard the music. The Chinaman little thought when he said "Yes" that he was going to provide the music himself. Captain Scarlett had some bowls of Chinese fighting fish, one in each bowl. These fish are ordinarily bright blue, but when they are put together, or even when the bowls touch, they turn bright red. If two are put in the same bowl they will fight to the death. The Chinese and Siamese have fighting-fish matches, and bet heavily on the result.

In the morning I left early, for it is a long stretch to Bangkok. Soon after sundown, when lamps were lighted on the launch, Ni, the interpreter, was lying asleep in his bunk when he suddenly jumped over to my side of the launch, with a scream, and a look of terror as if the "devil" were after him. I went to investigate, and found a large white fish, weighing twenty-five pounds, jumping all over Ni's berth. I was told it is a common trick of these fish to leap to a light, and the natives lure them at night with lights, which cause the fish to jump into their boats. After all had quieted down, another, about the same size, jumped into my side of the launch, and whacked and punched me about unmercifully until I captured him. I came to the conclusion that these were the real fighting fish of Siam.

I arrived at Bangkok on August 10, at about eleven o'clock at



STREET SCENE, BANGKOK.

night, and went to stay with Mr. Bleck. I stopped in Bangkok until the 21st, writing reports, and cabling to the company. Also I sent my samples to Dr. Bott, the government assayer and analyst at Singapore. The residents of Bangkok are extremely hospitable. I dined out every night with some one, Mr. Hunter, of the Hong Kong and Shanghai Bank, and staff; Messrs. Cox-Edwards, Tozier, Palmer and Nutall; Mr. Stringer, the vice-consul; Mr. Graham, of the revenue department; Mr. Norman Johnson, of the Bombay Burma Company; Mr. Finch, of the Borneo Company; Mr. Mitchell Innis, of the financial department; Mr. Stivens, of the Arakan Company, or with others.

On August 20 I went with a number of people interested in mining to the British Legation to discuss the mining laws of Siam with Sir George Greville, K.C.M.G., H.B.M.'s Minister in Siam, with the object of getting some of their defects rectified; and left next day for Kabin on the miserable little Choet, which stuck in a mud-bank all night at the mouth of the Bang Pa Kong river. At Petrieu we picked up ten large rice boats in tow, and this made the pace very slow until we reached Pechim. We had another view of a herd of elephants browsing a few hundred yards from the river. At Pechim I hired a steam launch to tow the houseboat up to Ta Toom, where I found Mr. Catalani, an Italian, who was an agent for the Kabin mines. I arrived at Ta Chak on August 25, and rode to Kabin on a pony, stayed with M. Beauverie, and gave my whole attention to the running of the mine and the mill. In the meantime the Siam Company had taken over the mine from the French company, a change which must have been very galling for the French staff, especially at this time, when the French Government were endeavouring to include this section of Siam in the French sphere of influence. However, if the Frenchmen felt much chagrin, they did not show it to any noticeable extent. M. Beauverie left the mine on September 30, and Messieurs Pottier, Michel, and Seligman shortly afterwards. As we parted very good friends it was hard to understand the

reason for an article which appeared during the following week in the Tonkin paper, *L'Avenir du Tonkin*, and which was reprinted in the *Bangkok Times*: "It appears that the Kabin miners, commencing with the English master miners, and finishing with the subjects of His Siamese Majesty—that embryo king—conducted themselves in the most despicable fashion towards their chief. We have personally known M. Beauverie well, and from the kindness of his nature, his learning, and his incontestable ability in his profession, he was a man who knew how to gain for himself the esteem of all, both his chiefs and his subordinates. But it was enough for him to be a Frenchman to induce these English wretches to stir up against him that abject Siamese population, that scum of the whole of Indo-China. Every day for a long time M. Beauverie was exposed to continual threats and insults of every sort, till at last the attitude of these coolies, English and Siamese, became such that his friends, fearing for his life, did all that they could to get him recalled to Paris, and removed from this pitiful scene, where he would certainly have lost his life. We hope the day is not far distant when we shall be able to put down conduct of this kind as it deserves; conduct such as, for some years, has too often been witnessed under this infamous and wretched government. Then, in thrusting those populations below the last degree of the social scale we shall make them understand that there is their proper place, and that their right to figure among the nations of the world cannot be seriously discussed, were it only for a moment."

The excuse for this sudden outburst of acrimony, for which there was absolutely no foundation in anything that had actually happened, must be that at that time there was more bitterness between the French and English in Siam than in any other part of the globe, on account of mistrust of each other's intentions. At the time that M. Beauverie left I was instructed by the company to take over the management of the mine, a post I was not at all keen to have, for I much preferred to be travelling. Accordingly

I did my best to secure the management for Mr. R. de H. St. Stephens, but the directors preferred a new broom, though they agreed to Mr. St. Stephens remaining as my assistant. Eventually I stayed here as manager for two years, and had Mr. St. Stephens' valuable assistance for fifteen months. The rest of the English staff consisted of Mr. R. Law, chief mechanical engineer, and eight Cornish miners. Turners, fitters, and carpenters were all Chinese, with the exception of one Malay fitter. The underground miners were all Laotians, working under the Cornish miners, who acted as shift bosses. After Dr. Seligman had left us we had to rely on a Chinaman—Dr. Chin—who had acted for some years as dresser to one of the English doctors in Bangkok. He was excellent for dressing the wounds of coolies, who were always coming to grief in the machine shops and saw mills. In addition to dressing wounds, Dr. Chin ran in our village an opium den and a gambling saloon, in which fan tan was played.

My cook was Ma Hong, whose husband was cook to Mr. St. Stephens. Ma Hong always kept a heavy cane at hand in the kitchen with which to belabour her husband if ever he came near her; and he always kept a can of boiling water on his stove to throw over his wife if ever she showed herself near his kitchen. They had three children, two girls, Bi and Se, and a boy called Si.

A ten stamp mill had been reconstructed from the wreck of Phra Pi Cha's old mill, having stamps weighing five hundred and sixty pounds, with shoes of cast iron, which could only crush the more friable ore, and would be themselves smashed to pieces on tough quartz ore. The gold produced averaged one hundred and fifty ounces a month. When the first royalty, which amounted to seventeen ounces, was due to the King of Siam, he sent a message that he would like to have it in a bar, to use as a paper weight. In October my boy ran off one night with a bag of one hundred and fifty ticals, and my revolver, which he had extracted from my portmanteau by cutting round the lock.

I could not trace him for some months, and when I heard he was running a ricksha in Bangkok I did not prosecute him, because I knew that no worse punishment could have been given him.

There is very good snipe shooting at Kabin towards the end of the rainy season. They begin to come in September and are large and very fat. My favourite way of having them prepared was to have about eight of them cooked in a pie, and this was not eaten until it was cold. Then the birds came out caked in jelly. I received now the assay result of samples from the mines beyond Lopbouri, and I was surprised to find they averaged one and a half pennyweights a ton, for I did not expect any would yield above a trace of gold.

There are more cats to the square yard in Kabin than in any place I know. Mr. and Mrs. St. Stephens had nine in their bungalow; the Frenchmen had seven or eight, and the Cornish miners about twelve. I generally had half a dozen sleeping on my bed at night. They learnt the trick of getting under the mosquito curtain; and as I always slept with all doors and windows open they could come in and out as they liked.

We had a guard of four Affredis at Kabin, who patrolled round the mill and European bungalows at night with rifles. I always made a practice of marching round the native village with the head man, Khoon Prome, every Sunday morning, when the village had to be spotlessly clean. Any one who had a dirty house or yard on Sunday morning had to clear out of the village, and each owner of a house had to clean the road in front of his house. In this way the village was kept healthy. A market was always held on the village green on Sunday morning for the sale of fruit and confectionery, and cheap Birmingham and German trinkets. I suffered terribly from prickly heat, which never left me for a day during the whole of the time I was in Siam, though in December the nights are quite cool, and in the early morning the natives come to work wrapped in blankets with their teeth chattering. The thermometer seldom goes much below



LEC.



MA HONG'S SON.



SIAMESE VILLAGE, WITH PAPAYA TREE.

sixty degrees Fahrenheit, but occasionally it sinks as low as fifty-six degrees. I ordered a turkey from Singapore for Christmas, and this created quite a sensation among the natives, who had never seen one before. Lieut. Flower, of the Northumberland Fusiliers, came up to Kabin with his wife to hunt for frogs and other reptiles for the Royal Museum at Bangkok. He was a son of Sir William Flower, head of the Natural History Museum at South Kensington, and he was seconded from the regiment, while it was at Singapore, to take charge of the Royal Museum for the King of Siam.

In December I prepared to start for Sisaphone, to examine and report on Mr. L. Xavier's mines, a few miles from the great lake below Ankhon, on the borders of Cambodia. On December 27 Mr. Scott, a mining engineer in the Siamese Mining Department, came on an official visit to Kabin, to inspect the property; but unfortunately he could not go down the Beresford shaft, because the night shift, after drilling the face of the hundred-foot level, had lit the fuses and had ascended the shaft. The next shift found the mine five feet deep in liquid mud. When the mud was pumped out it was discovered that the shots had broken into a large vug, twelve by fourteen by twenty feet, which had caused a run to the surface, undermining one of the tramways.

I started for Sisaphone on December 31, accompanied by Mr. Scott as far as Watana; and by Khoon Pier, a friend of Mr. Louis Xavier's, and son of the late Foreign Minister. Khoon Pier had been educated in England, and had graduated at Balliol College, Oxford. A few years later he went to England as Siamese Minister to the Court of St. James. As he could speak English and Siamese perfectly, I did not take an interpreter. Upon the first night we slept at Sakeo, and on January 1 we pitched our tent and slept in the jungle, surrounded by fires. On the 2nd we slept on the edge of a very beautiful lake, under a group of tamarind trees, and in the morning shot some whistling

teal. Upon the 3rd we camped on the banks of another lake, on the shores of which were two splendid crested cranes and several adjutants and vultures. The roads up to this point were very good, and passable in the wet season. Before proceeding on our journey upon the next morning we were visited by natives, who told us of some ruins called Sidakok Prasad, where they said that tigers lived, and had young ones every year. We armed ourselves with rifles and six-shooters and went off to explore, accompanied by Khoon Pier's bull terrier. The natives were very loth to accompany us at first, and said that no natives would go near the place, for the tigers would kill them. However, we explained to them the use of our rifles, and gave them a practical demonstration, which so far reassured them that they agreed to show us the way. Our route lay about a mile along a track through the densest jungle, and then we came to more open ground, covered by immense trees, in the midst of which was what appeared like a fine old Norman castle, in complete ruin, built of immense slabs of cut limestone dovetailed into one another. There did not appear to be any mortar or cement used. Evidently this was a fortified palace of bygone days, and the tradition is that it is of the same date as the ruins of Ankhor. The arches over the doorways were built of two huge stones leaning together, and so forming pointed arches. Only the stone walls were standing, but there were several grey marble and stone statues lying about in fair condition. There were large trees growing through the floors of the rooms, the upper stories and roof of which had entirely disappeared. We entered the building very cautiously, and sent the bull terrier to explore, but as no tigers were found we gained confidence, and came to the conclusion that the tiger story was a myth, especially as there were no signs of any ever having been there; yet when we looked for the natives they were nowhere to be seen. Their courage had failed them when they came within sight of the ruins, and they had run back to our camp. Before we left this building

Khoon Pier knocked the head from one of the statues, and took the head to Bangkok.

Our baggage carts were ready to start when we returned, and we travelled through a low-lying country, impassable in the rainy season, and arrived at the village of Swaichik, the inhabitants of which were more Chinese than Siamese. The village is on the banks of a river which flows into the Bien Ho Lake, and thence into the Mekong river. We put up in a commodious salah. Adjutants were very numerous and tame, regarded evidently as the scavengers of the village, and so exempt from molestation. They ate any scraps we threw out. I shot one with my revolver from the salah. They are repulsive looking birds, with a very strong odour.

We travelled seventeen miles to Tasueah on January 5, and pitched our tent in the grounds of a wat, where the priests kept many tame pigeons, birds which are usually considered sacred. The priests, however, asked me to shoot some while they were on the ground feeding. I said I would shoot some if they would make them fly, and they were delighted at seeing them shot as they flew round.

On the 6th, as we were travelling through a very wild country, we came suddenly upon a herd of elephants, which, commencing to stampede as we approached, went crashing through the jungle at a great pace, smashing down all the small trees in their mad rush. Every big tree in the neighbourhood was caked with mud where the elephants had been rubbing. This country is entirely wild and uncultivated at the present time, though it had been in a high state of cultivation during some previous era, for there were the remains of large pepper plantations, now thickly covered with immense tufts of pampas grass.

We arrived at Bor Pong Khow on January 6, and lodged on the mine in a two-roomed bungalow built entirely of bamboo, and thatched with attap, the leaves of a plant which grows on the river banks with a large fan-like leaf. It is commonly used

for thatching native-built houses all over Siam. We stayed at Bor Pong Khow until the 19th. There was a large, native, old working on the vein known as Bor Yai, now filled with water, which was used as a bathing and drinking place by wild elephants and by tigers every night. Each morning their fresh tracks were to be seen in the mud round the hole, and the trees in the neighbourhood were plastered with wet mud. The calcite and quartz in the mine varied in width from a mere seam to a vein five feet wide, and was composed of ribands of both kinds of rock. The vein was greatly faulted by huge eruptive dykes, some of which the vein penetrated. Other dykes cut through the vein. Where the vein crosses a dyke it is always valueless. By constant crushing and panning of the ore I never failed to obtain a string of colours, which I put at five or six pennyweights. The vein carried also in very small quantities galena, iron pyrites, and a little filiform native silver. It was not possible to unwater the old workings because I had no pump; but I set ten men to work cutting trenches across the vein at both ends of Bor Yai, and I crushed and panned a great many samples. I had also five men working on Bor Lek—small hole—in contradistinction to Bor Yai—large hole—a few hundred yards away, on a parallel vein of similar characteristics.

On the 10th I rode out to Bor Rung Rang, six miles distant, where natives washed the sands of the creek for gold. I tried several pansful, and got colours every time. On my return to Bor Pong Khow, I panned all the creeks in the neighbourhood, and never washed a panful without getting a few colours. If the gold were concentrated, instead of being so widely disseminated, it would make a much more satisfactory mining proposition.

We rode on the 13th to a stream which is navigable from the great lake to a place to which machinery could be brought up from Saigon in the rainy season, and on our return we were surprised to find the French consul from Korat, and his retinue,

at Bor Pong Khow. The poor man had travelled all the way from Korat for the purpose of meeting M. Beauverie, and he was very much disgusted to find that now an Englishman had forestalled the French. He could hardly contain his wrath when he was told that M. Beauverie had returned to Paris, and that an English company had taken over Kabin. He was so upset that he would not stay to luncheon, but ordered his carts to get ready to return at once. He was gone in less than an hour.

On January 19 I started back to Kabin, taking four cartloads of ore and sealed samples for assay. At Tasueah we camped again in the wat ground, and walked through the village, where I found a large pig with two front legs, but only one hind leg. It looked as though the pig had been born so, for the leg was entirely missing, and the animal had only one ham, and no sign of a scar or wound. In all other respects it looked in excellent health. Two days later, while I was walking round the edge of a lake called Hungsi, on the banks of which we had pitched our tent, I shot a peacock in beautiful plumage, with a tail five feet in length. On passing the road to Watana, my boy made off while I was riding some distance ahead of the carts, and I never saw him again. We put up for the night at Dahn Patrong and arrived at Kabin on the 27th, and found M. Weiss on his way to Watana. I stayed at Kabin until February 14, writing reports and making fire assays of the ores from Bor Pong Khow, and then I started for Paknam, accompanied by Mr. St. Stephens, Dr. Seligman and M. Pottier, thinking I was leaving Kabin for ever. I went in the houseboat to Donda Bek, where I tied up and slept in the houseboat. Next day I arrived at Pechim, and took passage on board the *Smudsin*, another miserable steam launch, officered by Malays. We arrived upon the following day at the mouth of the Bang Pa Kong, and stuck in a sandbank while we were crossing the bar. There we remained for sixteen hours, and did not get off until two o'clock in the morning. We arrived at Bangkok on February 18, and stayed there a month with Mr. Bleck. I spent

most of my time in endeavouring to get a prospecting concession of the Si Sa Wat district, and in the evenings enjoyed the hospitality of Bangkok to the full. We had some famous games of poker, meeting at different houses once a week. The party consisted of Messrs. Hunter, Bleck, Norman Johnson, Stevens, Mitchell-Innes and myself. The differences were settled up monthly. Mr. Mitchell-Innes, acting as secretary, wrote me a very witty letter, which unfortunately I have mislaid, asking for a cheque in settlement. It was written partly in Latin and partly in English verse, and finished with, "I grieve for thee, my brother Jonathan, etc.," to which I answered, burlesquing a poem of my grandfather, Lewis Way's, for the purpose, "Facit indignatio versum."

How long I do lament and loudly blame
 My recklessness, repentance comes too late.
 How oft my fate, with dreams of avarice great,
 Beheld the stacks of chips, piled up to Fame ;
 For sure I deemed my welfare all her aim,
 And long, myself (but why now curse my fate)
 Strove stubborn Hunter, to that lore to tame ;
 But subtler cards were his, with wisdom played.
 Chequam qui meruit ferat.

Soon afterwards I advised the Siam Company to drop the Danish Syndicate property at Lopburi, and it was taken up by the Bombay Burma Company, who, I hear, agreed to take an option on the property and spend £5,000 in opening it up to prove its value. Mr. Swan and Mr. Richardson went to commence operations ; but I heard afterwards that they found nothing, and abandoned it.

Towards the end of March I prepared to make a journey to Chantabun and Phailin, to examine the sapphire and ruby mines ; and also to examine another property belonging to the Danish Syndicate, called Kao Wai, when, to my delight, on March 20 I received a cable saying, the directors considered it desirable that I should return to London to consult with them. First I was to return to Kabin to make sure that everything there was in order, to peg out extensions of claim and to make other arrangements.



DOOR OF WAT PROM MANIVET
BANGKOK. 95.

DOOR OF WAT PROM MANIVET, BANGKOK.



I left Bangkok on March 23, arrived at Pechim on the 25th, had breakfast with Mr. Giles, reached Paknan Kabin on the 27th, and rode to the mines. There I found that the ore had improved considerably in value in the Sydenham shaft, and this improvement brought the mill run for April up to two hundred and seven ounces of gold.

On April 5 the interpreter, a half-caste named Eisenberger, came with a very long face and said he had been ordered by the priest to go to Bangkok to be married. He said he was very sorry for he did not wish to go; but he dared not disobey the priest. He told me that the Roman Catholic mission had a boys' and a girls' school in Bangkok, and found them situations when they left school. When they grew old enough to marry, the mission chose a wife for them from the girls, and they had to marry. I told him not to go, and said I would write to the priest to state that he did not wish to marry, and that I would not let him go; but next morning I found he had gone, and had left a note for me saying he dared not disobey the priest.

Mr. and Mrs. St. Stephens went off to Bangkok for a fortnight's holiday upon the following day, and on the 22nd we had one of the worst storms I have ever experienced. The clouds were so low that the thunder and lightning seemed right on top of us, and came simultaneously. When the storm was over we found it had killed two of our buffaloes, and had split a huge mai yung tree to matchwood. Two days later Mr. and Mrs. St. Stephens returned and I started for Bangkok, where I engaged a berth from Captain Bell on the *Hecate*, which was starting in a few days for Singapore, where, after staying a few days at Raffles Hotel, I caught the P. & O. *Chusan* for Ceylon. The Brough Company were on board on their way home after a theatrical tour in Australia. Half way to Colombo we celebrated Queen Victoria's birthday, when, alas, I ate not wisely, but too well, of snipe from the refrigerator, which were moderately high, and suffered accordingly with a bad dose of ptomaine poisoning, during which

my cabin companion, Mr. E. E. Steel, behaved like a brick, and was most long-suffering and kind. At Colombo I was carried on a litter placed in the captain's gig, and taken over to the P. & O. steamer *Rome*. However, I was convalescent by the time we arrived at Aden and perfectly well by the time we arrived at Brindisi, where I disembarked and went by train to Boulogne.

I stayed for five months in England, drawing out plans and specifications with Messrs. Fraser and Chalmers for a new twenty stamp mill, and during this time I met M. Beauverie in London, and we laughed over the ebullitions of *L'Avenir du Tonkin*. I took him to Kew Gardens, where he wished to see the young *Hevea Braziliensis*, *Ficus Elastica*, and other rubber trees, for he was thinking of establishing plantations in Anam. The superintendent of the gardens very kindly came and explained the characteristics of the different varieties.

I went also to Paris for a week, with Mr. H. E. M. Bourke, to report on the mine to the Paris shareholders of the Société des Mines de Kabin, the chairman of which was M. Berger, of the Ottoman Bank.

CHAPTER XII

LIFE AT KABIN

I RETURNED to Siam in November, 1899, with my wife, on the P. & O. R.M.S. *Arcadia*, joining it at Marseilles. On board was Major Bower, famous for his journey across Tibet, from Leh to Ta Chien Lu. He was now on his way to Wei-hai-wei, to form a regiment of Chinese giants. He was accompanied by a son of Sir Evelyn Wood, Mr. Charles Wood, who was a host in himself on board. Miss Ainsley also was a passenger, and afterwards she married Major Bower, at Shanghai, where she was going to stay with her sister, Mrs. Boulard, whose husband managed the Eastern Telegraph Company's affairs at Shanghai. From Colombo we travelled on the *Parramatta* to Singapore, and stayed at Raffles' Hotel until the *Hecate* came in, and was ready to start, when we went with Captain Bell to Bangkok, accompanied by General Kologrieffhoff, who was on a tour of inspection of all the railways in Southern Asia. He studied the Siamese language hard all the voyage, and in the week's journey became quite expert.

On arriving at Bangkok we stayed at the Oriental Hotel, on the verandah of which, upon the day after our arrival, two coolies brought a huge live python, with a rope round its neck, and a coolie on each side leading it. The snake must have been nearly twenty feet long, and they had caught it with a noose while it was swimming in the river. Mr. Leon Owens, the manager, purchased it and put it in a cage in the square in the centre of the hotel.

We spent Christmas in Bangkok and proceeded to the mines

immediately afterwards. In the meantime the machinery for the new mill had arrived at Paknam Kabin, had been unloaded on the low water beach, and was now lying half under water, for the river fluctuates considerably in depth, according to the occasional rains. Two hundred tons of Portland cement in barrels were entirely ruined, and all the smaller pieces of the mill were completely hidden under water. One of the new mortars we had passed twenty miles down the river, lying on a sandbank. After "blowing up" Luang Visut for being so careless with the cement, we started for Kabin.

My wife had a new experience in driving in a Siamese bullock waggon, a conveyance that is built entirely of wood, each wheel having a short wooden axle of its own that squeaks eternally. The nine miles to the mine of screeching from the axles and of bumping and jolting in the ruts was more than her nerves could bear. Two days after we arrived, Mr. and Mrs. St. Stephens started for Bangkok *en route* for England.

The first thing to be done was to send a crab winch to Paknam, to haul all the machinery to the top of the bank; and divers had to be employed to secure many of the parts, which were in ten and fifteen feet of water. Next, a new straight road had to be cut from Paknam to the mine, and a great deal of timber had to be felled to make a substantial corduroy road across swamps. This was necessary, because the heaviest parts of the machinery were two six-ton boilers, and a fly wheel for the Corliss engine in two parts, each part weighing five and a half tons. A traction engine that was lying in the jungle at Kabin we deprived of its wheels and on this we constructed a strong trolley. We first loaded one of the boilers, and it took us twenty-two days to convey it to Kabin, because the wheels of the trolley were sticking in the mud almost continually, and had to be jacked out each time. Water buffaloes too are very difficult animals to manage, and they are very slow. As many as forty-eight were employed on the swampy ground, though sixteen could manage the load



HAULING ORE FROM BERI SFORD SHAFT.



MACHINERY AT PAKNAM.

on dry ground. The second boiler was brought up in nine days, and after this, as experience was gained, a load took five days to travel the nine miles. Mr. Robert Law, our mechanical engineer, was indefatigable in his efforts to hasten the machinery, and was always full of resource when difficulties arose, as they did constantly.

Our social party at Kabin was now enlarged by the arrival of Mr. and Mrs. Owen. Mr. Owen was a millwright sent out by Messrs. Fraser and Chalmers to erect the stamp mill, while Law erected the boilers and Corliss engine.

The coolies and Chinese were many of them refugees from Siamese justice, who sought sanctuary on the foreign mining concessions, and were our most constant and often our best workers. Under the then Siamese treaty the Siamese Government had no jurisdiction over the foreign mining concessions, so could not claim the culprits. This the refugees well knew, and so were on their best behaviour, realising that if they misbehaved they would be handed over to Siamese justice. In this connection I received a letter from the Governor of Pechim as follows, "To the director of Kabin Mines. The Governor of Pechim sent this summons to the Governor of Kabin to ask the director of Kabin mines to allow his officers to arrest the Chinaman that killed his fellow-countryman, and also eight of his friends who were also concerned in the matter. If you will agree to the above please answer." I had received the hint in Bangkok, before I first came to Kabin, that on no account was I to give up a man if he stayed by me and worked well, for if this were once done the men would be afraid to come to work for me. The same state of affairs exists in all the European compounds in Bangkok; so I answered the Governor of Pechim that I could not allow him on any account to interfere with my workmen, who were industrious, steady people, and as long as they behaved themselves at Kabin I should protect them. After the receipt of my letter the Governor attempted to get the men by strategy, and came to pay me a

formal call, with all his suite. As they came upon the verandah of my bungalow I recognised a rather gaudy-striped suit of pyjamas that had been stolen from me at Pechim while I was trans-shipping into the house boat. The suit was now being worn by one of the chief of the Governor's staff, who, I afterwards learnt, was the doctor. The Governor was most affable, and talked on every subject but the Chinamen, but while we were conversing, I presently heard loud talking, and a row going on in the neighbourhood of the Beresford shaft. Then the head Chinaman, with Pezulah, one of the Affredi watchmen, came running up to the bungalow in a very excited manner, and said that some soldiers had taken a number of the Chinamen prisoners, and were marching them off. On hearing this I ordered out the Affredi guard, told them to take their rifles, pursue the men and bring them all back to the bungalow. I then questioned the Governor, who said he was ignorant of the whole affair; but when the Affredis returned with the soldiers and prisoners, and I asked them what the dickens they were up to, they produced a paper, which my interpreter read, saying that the Chinamen were to be given up peaceably to the Governor of Pechim's soldiers, by order of the director of the mines. At this I rated the old Governor well, told him I had never heard of such impertinence, and added that I should report him to the Government in Bangkok. After this little incident our friendly relations ceased, and the Governor and his suite made off, looking very crestfallen. Having beaten the old Governor I let the matter drop; but I heard afterwards that some time before this incident he had these men as prisoners at Pechim, working in chains, but that they made their escape and came to Kabin. For this negligence the Governor was censured, and was told that if he did not recapture the prisoners he would be degraded. This was the reason for his desperate attempt to smuggle them off.

My interpreter at this time was an old African negro, named Chivers, who had been thirty years in Siam. He was a great



ARRIVAL OF MACHINERY AT KABIN.



COOLIE, BUNGALOW, KABIN.

character, and was so conscious of the humorous side of everything that he would often laugh so much while he was interpreting that he could not speak. One of his weaknesses was for the crude castor oil used on the mine for lubricating. This he would spread thickly on bread, and eat it with avidity. He had originally come out from the United States of America, with Dr. Cheek, a missionary, who eventually made a vast fortune out of teak and elephants up at Changmai, in the Siamese Shan states.

We now began to hold a service every Sunday evening, when we mustered twelve or fifteen Englishmen. The Cornish miners were Wesleyans, and all attended regularly at first. We had also the interpreter, and Mrs. Law played the organ, a small American organ, her own property. I read the evening service and the second lesson, and we sang five or six hymns ("Ancient and Modern"). After a few Sundays the Cornishmen ceased to attend, so I asked the reason, and this turned out to be the hymns. They had always been used to the Wesleyan hymn book. So I sent off for some new Wesleyan hymn books and after this the attendance was always very good.

About this time we began to collect orchids, and in a short time our verandah was a blaze of colour. The coolies used to go and gather them. We had fourteen different species, some of which were very beautiful. The coolies brought us also a number of very beautiful birds. One was a small species of bittern, about a foot high, fawn-coloured, which we kept loose on the verandah, where it would sit with its long neck bent double, so that its head rested on its body. Upon the day that it arrived each cat stalked it in turn, and when puss got within striking distance out went its head and neck like a dart, giving puss a sharp stab. After this the cats never molested it again. Another bird was a very small green parrot, about four inches high, which always slept hanging head downwards, holding on to the perch by one leg with its head tucked into its wing. Still another bird was a magnificent pheasant, with feathers like polished bronze and a

ruby fringe at the top of each feather. I have since searched for this bird in the Natural History Museum, South Kensington, and in the Zoological Gardens, but have failed to find it. We kept also a young Simpai, a very pretty, yellow monkey, with an abnormally long tail. This monkey had a most piteous cry when it required food or attention, "Ou ee, ou ee." It was a most affectionate animal and was never happy when it was left alone. Our other pets were numerous and included Siamese cats. These lived almost entirely on lizards, the very numerous, small, translucent lizards that run about the walls and ceilings eating mosquitoes and flies. Such lizards have suction pads on their toes, and these enable them to cling to the walls. The cats would not touch the tucktoos, geckos, or tokays, which are sacred in every house, for they stalk and devour all the insects that settle on the walls or ceiling. They are grey green with pink spots and call out quite loudly "Tow kay, tow kay," or as some interpret it, "Tuck too" at all hours of the night. In the daytime they hide behind a picture,¹ or in some crevice away from the light. It is not wise to let your cats get fat, for if they become plump they will assuredly disappear, and go into the Siamese cooking pot. My wife once gave a kitten to Khoon Prome, the headman of the village, and she asked him during the following week how it was getting on? He answered, "It was very good, I eat him." The natives are very fond of lizards as food, and you often see half-a-dozen lizards, stuck through with a wooden skewer, roasting over a charcoal fire. There is a big tree lizard, resembling a large pike on legs, which the natives sell in the market for as much as five or six ticals for food. Fish and rice are the chief foods of the Siamese. Occasionally I used to shoot fish for them by throwing half a stick of dynamite, with an ignited fuse attached, into the river, when the natives would rush into the water after the explosion and bring out about a bushel of fish. The small fry were killed outright and floated, but the natives had to dive for the big ones, which were only stunned. Repulsive-looking fish, mostly of the

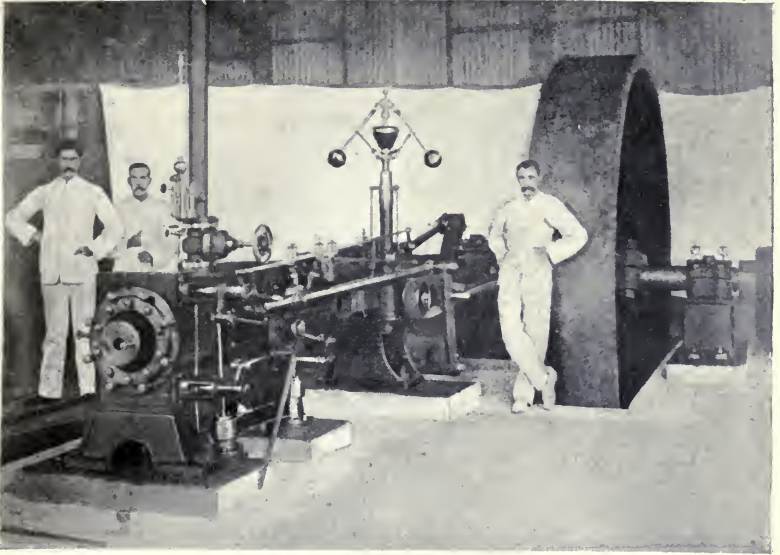
cat fish tribe, but they were very good as food. The great drawback in the eating of fish killed in this way is that all the bones are loosened by the shock. This makes the fish difficult to carve satisfactorily.

By the end of April we had all the machinery for the mill on the ground, and had set up the two large boilers and the smoke stack, 90 feet high and four feet six inches in diameter, which was made of wrought iron sheets rivetted together before erection. Raising it into position was a very ticklish job. For this purpose we cut down three trees, fifty feet long, and one foot in diameter, and raised them in the form of a derrick, with a pulley block attached by a chain at the top, through which ran a steel cable, fixed to a crab winch. The smoke stack had four guy ropes, to guide it into position. The work was nearly completed, the smoke stack was erect, and was being lowered upon its foundation, and when it was within six inches of its cast iron base plate, the chain at the top of the derrick broke, and down dropped the chimney, exactly into its proper place and was held firmly by the guy ropes. This little incident sent a thrill through every one; but fortunately no one was hurt, and no damage was done.

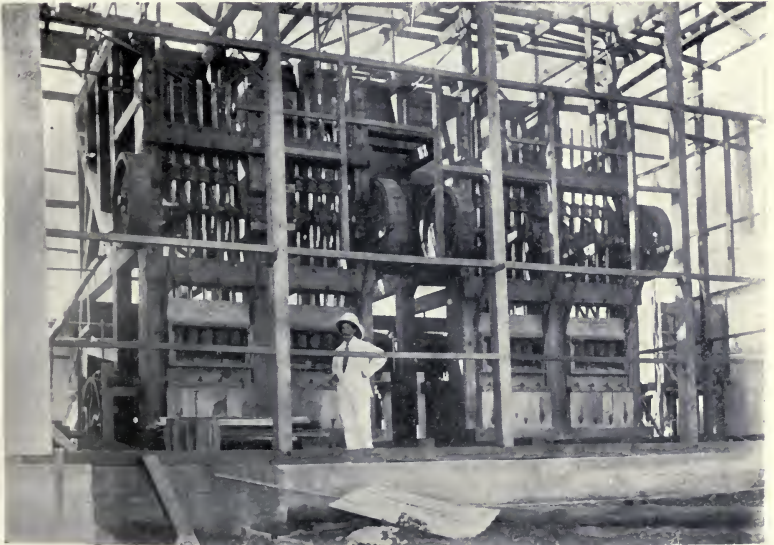
The twenty stamp mill was built to run direct from the Corliss engine, by a shaft running from the centre of the huge fly-wheel, immediately at the back of the battery frame.

At this time labour began to get very scarce, for the Laotians and Siamese returned to cultivate the rice fields, and we had to import Chinese coolies. A batch of fifty arrived in the middle of June, and turned out most unsatisfactorily. During the first month eight died of cholera, thirty ran away, and the remainder struck for higher wages. One night they attempted to set fire to the new mill by soaking cotton waste in paraffin. Fortunately, the watchman saw the flames, fired his rifle in alarm and then rushed in and turned on the fire hose. These Chinese coolies were always shamming sickness, and saying they had cholera, in order to get a dose of Collis Brown's chlorodyne, which

contains opium. I could judge pretty well if a man were really ill, so made the malingerers take first a dose of castor oil, which they detest. This very soon stopped their little game. The Chinaman's appetite during the mango, melon and pineapple season is insatiable. He gorges himself, and thus produces cholera, a sickness the Siamese native never had. It is marvellous what pain the Siamese will bear without flinching. A coolie one day cut open the sole of his foot, to the bone, by treading on a broken glass bottle. He sat and laughed and talked while I stitched it up, and never made a murmur. As a rule, however bad the accident, the Siamese will not come for treatment until the wound is in a very unhealthy state. My chief remedies in these cases were powdered bluestone first, until the wound was clean, and then iodoform and a bandage treatment, which was always successful. The Siamese are a remarkably healthy race, and wounds heal very quickly. I used to be employed in the dispensary and surgery every morning from 9 till 10; but, not being a practitioner or surgeon, only the simplest remedies were used, and only ordinary cases were treated. Any ailment needing skilled treatment was sent to Bangkok. Ma Wart, the wife of Dr. Chin, our Chinese dresser, wrote the following letter to Mrs. Way: "Dear Miss Way, Esq. Sir, I got belley eak and have no medechien to cure it. will you kindly to let me have some of your Crorodyne if you please me kindly send to me by the bearer, and oblight your Faithfully mai wart, miss Dr. Chin. 28 oegust 1899." In May, Mr. Thomas Teague arrived as millman from South Africa. His father was well known as the manager of Carn Bræ and Tin Croft in Cornwall. He took over the old mill and began to dress the new copper plates with silver amalgam, which I made from Siamese ticals. By the end of June the new mill was nearing completion, but I was feeling very much run down, partly owing to a nasty carbuncle on my elbow, and I felt I should like a change to a more salubrious climate. In addition to this, I objected to being tied down to a mine, and much preferred prospecting expe-



CORLISS ENGINE, KABIN.



NEW MILL, KABIN.

ditions into unexplored countries; so I sent my resignation to the company, saying I would stop to see the new incline shaft down to the one hundred and sixty feet level, and I would give the new mill a month's trial, after it had been completed. On 29th June I received the following reply by cable: "Company has been formed similar to Pekin Syndicate with the object getting concession Upper Yangtse. Names of Board of Directors are Cawston, Miller Managing Director Bengal and Nagpur Railway, White Managing Director Marine Insurance Co., Little, of Chungking, Sechuan, appointed Agent of the Company to deal with Chinese. Will you accept position Company's Engineer to examine to report to prove the value of the properties? Awaiting your reply by telegram." It did not take me long to consider. I cabled back at once, accepting; and asked if it were desired I should return to England. I received in reply, "Upper Yangtse Syndicate agree to terms. There is no necessity you return, as Little, accompanied by wife, will probably arrive Shanghai 14th September. Can you manage to meet him there, they propose leaving Shanghai for Chungking, September 20?"

On August 21, Mr. Penberthy, the new manager, and Mr. Wells, his assistant, arrived at the mine, quite unexpectedly, having walked up from Paknam, nine miles away, with water knee deep most of the way. This experience was not calculated to put them in the best of tempers. Such is the way of the Siamese telegraph service that, about half an hour after they had arrived, a telegram was handed to me announcing their departure from Bangkok. Mr., or Captain, Penberthy, as he was generally called, asked my wife on his arrival if she objected to swearing, and when she indicated a distaste for it, he said, "Then please show me a quiet spot, where I can go and swear for ten minutes." I could not blame him so long as he confined himself to anathematising the Siamese telegraph service. I told him he had broken the record in walking up from Paknam in the rainy season, to which he replied that I had hit upon his character; he was a

record breaker, and also, a mine maker or a mine breaker. I could quite believe it ; there were no half measures with him.

I agreed to remain as manager for a fortnight until he got into the ways of the mine and of the men, and so that I could settle up the August pay sheet. Pay day was always on the morning of the first Sunday in the month. The new incline shaft was now down to the one hundred and sixty feet level, with hoisting plant and skipway in perfect order, and running. The vein in the bottom of the shaft was sixteen feet in width, averaging ten dwt. of gold per ton. On August 26 the new mill was ready to start, so we had a light lunch and champagne carried down to the works, and drank " Success to the New Mill." Steam was up, my wife opened the throttle of the Corliss engine, all was set in motion without a hitch and worked as smoothly as could be.

After handing everything over to Capt. Penberthy, we left Kabin on September 6 in buffalo waggons, the two miles to Ta Chak being entirely under water, four feet deep in the shallowest parts, and in many places the buffaloes and drivers had to swim. My wife travelled in a waggon with a high platform erected upon it, on which a wooden armchair was lashed ; but these precautions were not sufficient, and she was wet up to her knees. I sat on the top of a waggon load of boxes, and the waggon jolted so much that I feared I should be thrown off, boxes and all ; so I stood in the waggon, up to my waist in water in the deep places. Arrived at Ta Chak, we found waiting for us a steam launch, which had been engaged to take us through the canals to Bangkok. Our first business on the launch was to unpack our boxes, to dry our clothes. In the rainy season it is possible to reach Bangkok through the irrigation canals which connect the Bangpakong river with the Me Nam river without having to cross the Gulf of Siam, and this shortens the journey considerably.

On the 27th, we got into the Me Nam about seven o'clock in the evening, and put on full steam in order to reach Bangkok that night. While we were having dinner, we were both thrown

violently off our seats. The launch reared up to an angle of 45 degrees, and all but capsized. We had struck one of the floating teak logs, that are always such a great danger in the river, and had endeavoured to mount it; but, luckily, we slid off. After this incident we ran through several networks of bamboo fishing stakes, and finally arrived safely at Bangkok at one o'clock in the morning, and put up at the Oriental Hotel.

We brought three fine Siamese cats with us, my wife meaning to take them to England, one beautiful tom cat and two females. These, although very tame at Kabin, went nearly mad on the steam launch, and gave us no peace. The two female cats we left in a cage downstairs; but the tom, my special pet, which I had brought up by hand from a kitten, and called Lek Lek, meaning very small—(Lek being small, and Lek Lek very small)—we took to our bed-room, thinking he would make himself at home. We had no sooner got into bed and put the light out, however, than he began to walk round the room, caterwauling in a frightful manner. I rose, and took him in my arms to pacify him; but found him all claws. This was not very pleasant in thin pyjamas, so I threw him down, when he took one bound at me from the corner of the room, and landed on the top of my head, which he tore violently with his fore-paw claws, while he dug his hind claws into my neck. I quickly knocked him off, took a dive under the mosquito curtain, and literally saturated the bed with blood. I then watched for my opportunity, crept out under the curtain on the opposite side, and opened the door, out of which he rushed, followed by a well-aimed boot. That was the last we saw of him. The two female cats in the cage we found had been carried down the garden, soon after we left them, for as they had made such a caterwauling their removal had become urgent. As they were still in a state bordering on frenzy, we determined to take them no further, so gave them away to friends.

After waiting a few days in Bangkok, we took a Holt boat down

to Singapore ; but before starting, Mr. Leon Owens arranged with some old Siamese woman to procure for us some Siamese porcelain, to take home. Mr. Leon Owens, who has lived all his life in Siam, and was brought up with King Chululongkorn when he was a child, told me that this porcelain was made more than three hundred years ago in China exclusively for the Siamese palace. It is heavily enamelled in red, green and white, has portraits in white enamel of Siamese deities, and would not be taken for porcelain unless it were closely examined. I was told also that every piece offered for sale has been smuggled out of the palace, and that those who possess it will not sell it to foreigners unless they are leaving the country. The only pieces I have seen are jars of various sizes, with covers having a triple pagoda-like handle on the top, basins of various sizes, and Chinese-shaped handleless tea cups, with a cover on the top. The ware is extremely ornamental and handsome. We purchased seven jars, two bowls, and one tea cup and cover, and as soon as we had packed our new possessions we went on board, and said good-bye to Siam. Arrived at Singapore, I saw my wife off to England on board the P. & O. boat *Chusan*, and two days later started on the P. & O. *Paramatta* for Shanghai.



MANAGER'S BUNGALOW, KABIN.



MR. AND MRS. WAY AT KABIN.

CHINA

THE LOLO COUNTRY, TIBET AND BURMA

CHAPTER XIII

MINES AND MENDACITY

I LEFT Singapore a mass of prickly heat, a torment which always beset me the moment I landed in the tropics, increasing in violence until I was covered from the roots of my hair to the soles of my feet. It stayed with me with diabolical persistency until I went to sea again, when in a cooler atmosphere it soon disappeared. One must not say too much against prickly heat, because it is a good safety-valve against more virulent tropical disorders. More virulent, but not more disagreeable disorders, for with prickly heat you can easily imagine you have scarlet fever, measles, chicken-pox, and all other eruptive fevers at the same time. All this, however, is upon the surface. Internally, matters seem to go on as before, so that you are able to work as usual and just have to put up with the external inconvenience.

I was not sorry to go on board the old *Paramatta*, for it brought recollections of the first time that I boarded her at Albany, in the early days of the Western Australian gold boom, when on her voyage home she was drunk out of champagne between Adelaide and Albany. I always long to be at the breaking up of the *Paramatta*, to annex some of the beautiful panelling, and the carved overmantel and supports in the saloon. It is easy to understand Captain Alfred Symons' love for the old *Paramatta*, for although Commodore of the P. & O. fleet, he preferred this old boat and the China seas to the more modern boats on the Australian service. The old Commodore and the beautiful old boat appeared to belong to one another. Captain Symons endeared himself to all on board, and when I met him at luncheon, at Mr.

Robert Little's house, the day after we landed in Shanghai, I found he was as great a favourite on shore.

Mrs. Rivett Carnac was leaving the boat at Singapore to join her husband in Bangkok, and here too we lost Mr. Stephens, a mining engineer, on his way to the Pahang gold mines. He hailed from Cambourne, and knew Captain Penberthy and Mr. Wells, then at the Kabin mine in Siam. Amongst those who continued the voyage were Mrs. Nicolson, the wife of General Nicolson, who was off on her own account to endeavour to obtain mining concessions in China; Commander Travers, who was on his way to join H.M.S. *Victorious*, in Japanese waters; and Mrs. Ebert, returning to Shanghai after a season in England.

We arrived at Hong Kong on September 28, when the recent visitation of a typhoon was plainly visible, for the shipping in the harbour was in considerable confusion; especially had H.M.S. *Tamar* a very battered appearance. Here we were joined by Major Berger, in command of the Hong Kong regiment, who was on his way to Wei-hai-wei for a holiday. We went to the top of the peak in the cable tramway, where there are pretty gardens with cages of birds and small animals, and whence you obtain an excellent view all round. Then we paid a visit to one of the many silversmiths, where I purchased a very fine rose bowl of silver, punched by hand into beautiful designs of bamboo, prunus, dragons, Chinese temples and other objects. This I sent home to Mrs. Way as a memento. We started now for Shanghai, arriving there on October 4, twenty-four hours late, after what was called a terrible journey; but with my experience of the Atlantic, the Bay of Biscay, and the Australian Bight, I did not think much of it. Besides, I was too interested in great arguments between the soldiers and the sailors as to whether the Marines were a useful adjunct to a ship's company on a shore expedition. Commander Travers argued that sailors were the better men on sea or land, and he cited the case of Ladysmith. Before I left the boat I purchased a half-plate camera, from Mr. Rice, the ship's doctor.



THE BUND, SHANGHAI.



PAGODA, NEAR CHING-KIANG.

I had seen him take splendid photographs with it daily, and later, when I started from Kiu Kiang, up the Poyang Lake, I thought and hoped I was taking scores of photographs. These I brought back to Shanghai to be developed, and had the mortification to find the plates were all absolute blanks. That was my first and last experience with a camera. I confess a camera has its uses; but its abuses are also very great. I always despise and hate the people on board ship, and in the hotels and gardens of the East, who persistently go about, camera in hand, snapping whom they may devour. They delight in snapping you when you are taking forty winks after lunch, or when you are playing shovel-board, and then produce a photograph of a figure in some distorted attitude which no man ever occupied in real life and say it is you.

When I arrived at Shanghai, one of the most delightful, wholesome, clean, and certainly the most cosmopolitan city in the East, I went to the Astor House, the most comfortable hotel in the town, and situated in the American quarter.

Here I met Mr. and Mrs. Archibald Little. Mr. Little was agent in China for the Upper Yangtse Syndicate, for which I was to endeavour to get mining concessions. That is to say, Mr. Little was to treat with the Chinese, and I was to examine and report on the properties. Neither Mr. nor Mrs. Archibald Little require any introduction from my pen, for they are already so well known in the literary world. I had the good fortune to travel up the Yangtse Gorges with Mr. Little, and I found him to be a walking encyclopædia upon every subject connected with the Celestial Empire. He knew the Yangtse river by heart, from Shanghai to Chungking, and had some thrilling story or legend to tell of every place of interest that we passed upon that magic river. I never travelled with a better informed nor with a more entertaining man. He had made it his aim in life to conquer and control the river and its terrible rapids by steam navigation. Mrs. Little, so well known for her graphic descriptions of Chinese manners and customs, is a woman of equal attainments. During my stay of

about three weeks in Shanghai Mrs. Little was holding meetings and lecturing on the aims of the Tien-su-Hui, or Anti Foot Binding Society, of which I became a life member. Fungee, a Chinese diplomatist, subscribed at the same time, and afterwards told me he did so to please Mrs. Little, though all the time he was a confirmed believer in the benefits of footbinding, because it kept the wives at home, when otherwise they would be gadding about. Besides, the daughters would never get married if they had large feet. He went on to expatiate upon the blessings of polygamy, saying that when we English become civilized we shall also become polygamists. Mrs. Nicolson also stayed at the Astor House, and she was very keen about getting a concession of the Shin Tan rapid on the Yangtse, in order to blow up the rocks in the rapid or to cut a canal round it. This would be a very difficult task, for the river is never at the same level for two days together, and it has a difference of two hundred feet between high and low water. The rapid is near to Yun Yang Hsien, in Szechuan, and it was formed in 1896 by a huge landslide, about eight hundred yards by four hundred yards, which slipped into the river after rain, on the greasy slickensides in the contacts of the shales and sandstones that are natural to this locality, for a vertical depth of nearly 100 feet. The Chinese suppose the landslide to have been caused by angry dragons, and when some engineers were sent by the Chinese customs to endeavour to improve the passage, they were not allowed to do so by the officials until they had tried to persuade the dragons to depart without the use of force. The chief magistrate solemnly read them an order to return to the sea, from whence they came, and told them that if they did not do so they would be destroyed by Western methods. As the dragons did not withdraw the engineers were allowed to go to work ; but they were unable to do much. However, the Chinese were satisfied, for a couple of sturgeon, twenty feet in length, were killed by a blast of dynamite, and of course it was assumed that these were the offending dragons. It is said that these sturgeon live on the



LITTLE ORPHAN, A ROCK IN THE YANGTSE RIVER,
NEAR CHING-KIANG.



PRISON FOR REFRACTORY WIVES.

bodies of Chinamen, for scarcely a day passes when one is not drowned in the whirlpools of this rapid. When I was sailing down the Yangtse in a kwadza, near to Kiu Kiang, I was hailed by a Chinese junk, and going on board I found a Chinaman, who had had the calf of his leg completely eaten off by a sturgeon, or some fish allied to the sharks. The poor fellow had fallen overboard and before he could be rescued he was attacked. The leg was caked with a tobacco poultice. I washed this off carefully in hot water, dressed the leg with iodoform and wadding, and advised him to see a doctor as soon as he could.

Mr. Shockley also was at our hotel. He had returned recently from examining the alluvial deposits of the Amur river. I called on Captain Purvis, who was in charge of the Pekin Syndicate's affairs, and I met Dr. Dudgeon, of the Yangtse Trading Company, with whom I had travelled in the *Natal* when I was on my way to Siam upon my first visit.

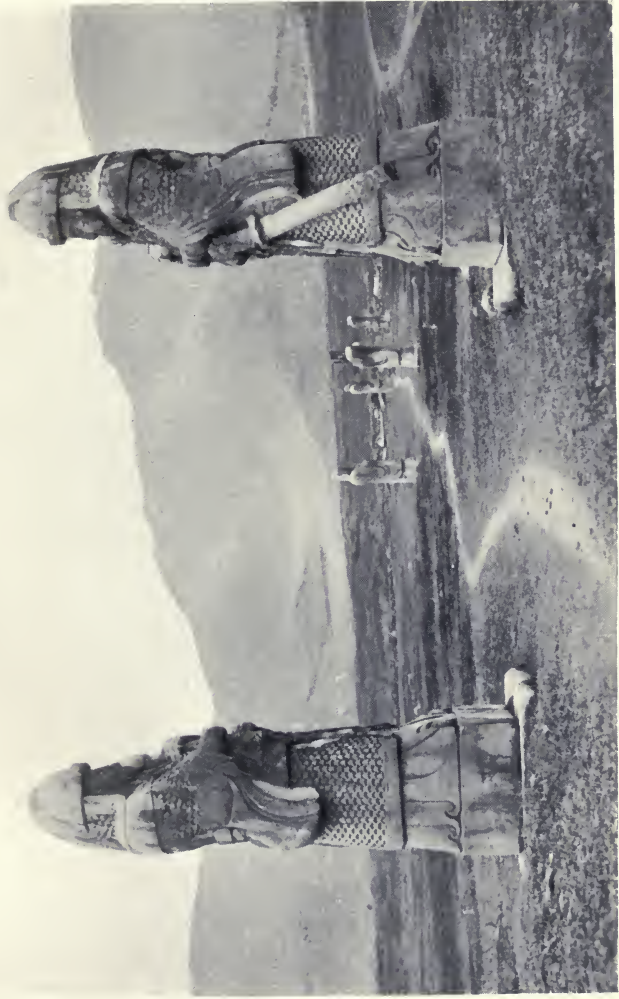
In the meantime Mr. Little had negotiated with various Chinese mine owners for properties in the hinterland of Nanking, Wu-hu, and Kiu Kiang, and these I began to examine on October 11, 1899, leaving Shanghai on the *Poi Yang*, one of Butterfield and Swires' very comfortable river boats. My first stop was at Nanking, where the vastness of the walls and the immense gateway almost take your breath away as you approach the entrance to the city from the river. The walls must be over one hundred feet thick at the base and thirty feet at the top. On the outside the walls present a perpendicular face forty feet high, built of long, dull, grey-coloured bricks, with the maker's name stamped on each, so that his tale of bricks could be counted and distinguished from those of the next man. An Englishman who lived at Nanking told me the walls were of stone, and that no one knew where it came from, for there was no stone like it anywhere. I hazarded the opinion at once that the walls were of bricks and that these were made of clay from the moat at the foot of the walls. The same man told me that the colossal figures of animals and

warriors in grey limestone, forming the avenues at the Ming tombs, a mile or so outside Nanking, came from Peking; but it was very obvious that they came from the limestone hills to the south of the city.

Mr. Little told me some terrible tales of Nanking at the time of the Tai-ping rebellion; how the city was besieged for sixteen years before the wall was breached, and how the rebels massacred every living soul when the city was taken. He told me he traded with both armies, and was the first Englishman to enter the city after the massacre. So long as the walls stood, the city could endure a siege for any length of time, for it is self-contained. The walls are twenty-two miles in circumference, and they enclose many farms, woods and lakes, so that you may shoot wild pheasants, woodcock, and wild duck in large numbers within the walls.

Mr. Mark Allen very kindly housed me while I was staying in Nanking. He was a student at the Chinese Customs College, with nine fellow-students, five English, one French, and one American, one Austrian, one Irish, and one Dutchman. Each student has his own bedroom and sitting-room, and his own tutor, with a common dining-hall and a large recreation ground with lawn-tennis courts and stables. The lawn-tennis court was made of mud which, when dry, was painted green. This was not satisfactory. A curious custom in Nanking, and one which I have not noticed in other Chinese cities, is the sale of hot water. Men are continually walking the streets carrying a pail of hot water on each end of a pole, and when you are ready for a bath in the morning you send your boy out and he procures you two pailfuls of hot water in as many minutes for ten cash.

The Ming tombs lie to the south of the city upon a grassy plain, on which deep trenches cut in long lines by the Tai-pings still remain. Before you reach the tombs you pass long avenues of immense stone animals, each cut out of a single block of grey crystalline limestone. These figures must be from ten to twelve feet high, and they represent elephants, camels, horses and men in



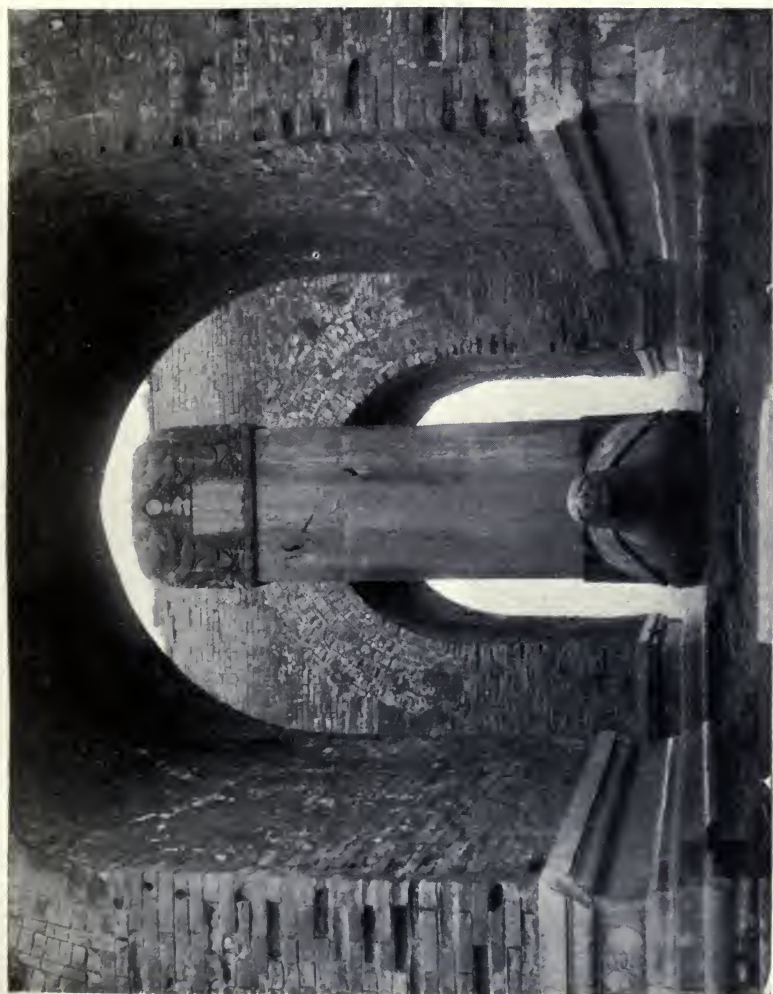
STATUES AT THE MING TOMBS, NANKING.

armour, guarding the Fung Shui of the tombs, and leading evil spirits astray, for the avenues do not lead to the tombs, but wander aimlessly across the plain to deceive them. It is a great pity that the Ming tombs are not protected from the ravages of sightseers. Every European who visits them endeavours to bring away a green or a yellow glazed tile, and there are always Chinese on the spot ready to get one for a small sum. At the present time I do not think it would be possible to obtain a brick from the porcelain tower at any price. One of the oldest English residents there showed me two, which he said were worth \$10 a piece. The imperial palace of the Mings, or Forbidden City, has fallen into ruins. Nothing remains but immense, thick walls, surrounded by a deep and wide moat full of water. Outside this is a house for refractory wives, a building of solid stone, without windows, and with a heavy portcullis across the doorway. The roof is covered with a dense miniature forest. "Abandon hope all ye who enter here."

I now received from Mr. Little a list of mines to be inspected. In the hill country, south of Nanking, when ponies and pack donkeys were ready to start, I endeavoured to mount a Chinese saddle. It was a real Chinese puzzle. The saddle is perched one foot six inches above the animal, and the stirrups come only to a level with the pony's back, so that your knees are nearly on a level with your chin. It is purely a matter of balance whether you stay on or not. I watched with great interest my escort of six soldiers trying to mount, and I should say that they were foot soldiers who had never ridden previously, for they pushed one another up into the saddle, and were for all the world like the White Knight in "Alice Through the Looking-glass." As soon as they were pushed up on one side they fell off upon the other, and I did not wonder at it. Eventually I borrowed an English saddle from my friend Allen, and telegraphed to Rosenbaum, in Shanghai, for an English saddle and bridle. These I found waiting for me on my return to Nanking. My

White Knight escort must have been very sore before the end of the day, for I should say that each man fell off six times during the journey. I discovered later that these men are not soldiers at all, but chai jens, or yamen runners, who are the scum of the cities, and make a precarious living by doing odd jobs for the officials.

The first mineral deposit I was taken to see was at Tong Cha San, five miles from the city walls. The hills are of grey crystalline limestone, capped with conglomerate, and the prospect consisted of green carbonate of copper stain in the crevices of the limestone rock ; but the owners had not considered it necessary to put a pick into it. I reminded the broker who had secured the options on these mines for Mr. Little, that one pound of copper would stain the whole range of hills. I was then taken to another copper mine, with a shaft said to be seventy feet deep, but as it was full of water, and there were no means of pumping, I took his word for it. There were, however, about fifty tons of ore at the surface. I was told that the high grade ore would run fifteen per cent Cu, the medium ten per cent, and the low seven per cent. I took samples, had them tested in Shanghai, and the result came out one and a half per cent and a trace, just as I had expected. Our next mine was at Ching nu Tong, sixteen miles from the city, where I found a coal mine with a shaft one hundred and seventy feet deep, said to have been sunk by a Frenchman. Anyhow it was timbered in European style. The coal measure was about five feet thick, dipping slightly to the north, and full of seams of clay and iron pyrites, very dirty and sulphurous, and now abandoned. We slept in the late manager's house, which was in a fair condition. We next visited Che Ya San, ten miles from the city, to see a blow of hæmatite iron, stained with copper. This was unworked. I took samples for future testing and slept at a very mean joss house, where we spread our beds at the feet of grotesque gods with evil looking faces. We then went on to Tong Ya San, to



GIANT TORTOISE, MING TOMBS, NANKING.

see what was described as a gold and copper mine. The rock formation there is granite, in which were two or three half-inch seams of iron pyrites. These had never been touched by a pick. I asked our friend the broker how it was that the Chinese did not work these excellent mines themselves? It was only the hope that he still had something good up his sleeve that held my pent-up ire from breaking loose. Here I climbed by means of stone steps, a beautiful wooded hill, about seven hundred feet in height, to a large monastery, said to be a thousand years old, with three hundred monks living there. The old abbot was most hospitable and kind. I was asked not to bring any animal food into the monastery, as they were a very strict order and lived on a purely vegetable diet. They brought into my room a large round box, three feet in diameter, with partitions radiating from a circle in the centre. The spaces were full of dried and preserved fruits in a great variety. I attended the evening service, and much enjoyed the weird chanting in monotone, accompanied with gongs and drums. It was most impressive. The whole scene was very like what might have been witnessed in a Roman Catholic monastery. The tonsured monks wore cowls and cloaks of different colours according to rank; they all wore rosaries of jade, quartz, or amber beads, and possessed some very fine old China vases. On the top of the hill they had large groves of cypress trees, a very valuable wood for building junks. The hill sides were full of flowers, camellias in full bloom, pinks, carnations, beds of blue gentian, and wild roses. There were also trees of cork-oak, and Spanish chestnuts full of fruit. I saw many pheasants, but I had no gun with me.

Next day at Tai-bin-sai I was taken to a coal mine of carboniferous shale, and to a silver mine, which turned out to be a coarse gneiss with large flakes of muscovite mica of a silvery hue. I could have slain the broker, with pleasure, if hope had not still held me back. Next I went to Sze-wah-sen, to see a gold mine. This was a seam of pyrites, an eighth of an inch wide, in granite.

I could bear it no longer, and decided to return to Nanking and to consign the broker to a torture chamber if possible. I never could quite make out what was in this man's mind. I do not for a moment think that he believed he was showing me anything of value ; and I am certain he did not consider I was such a fool as to think it of value. I believe that if I could have got to the bottom of him, that he wished me to conspire with him to defraud my employers and to share the plunder with him.

On arriving at Nanking I was sorry to hear that Lieutenant Charrington had paid a visit to Nanking, with Admiral Seymour, and had just departed. I had a collection of Siamese coins for him ; but on my return to Shanghai I found Captain Montgomery, his brother-in-law, there with the *Bonaventure*, so I left them in his care for Lieutenant Charrington. Two days later, Mr. and Mrs. Little arrived in Nanking. I visited the mint with Mrs. Little and met Mr. Wharton, who was in charge. He said he had given up all responsibility for the weight of the dollars and other coins, for whenever he was away from the rolling mills, where the sheets of silver are rolled out to the thickness of the coins, a Chinese official would steal in, and screw up the roller, so that the sheets came out thinner and made more dollars, but, of course, with diminished weight. Before I left Nanking Mr. Little had got hold of another coal mine, so off I started to Man-fu-san ; but there was nothing to be seen except a dump of bituminous shale. In the meantime Mr. Conger, the United States minister, had arrived at Nanking, and I had a yarn with him on the mining camps of the dear old Rocky Mountains of Colorado.

My next visit was to Wu-hu, and I travelled there with Mr. J. Grant Birch, whom I afterwards met again in Cheng Tu Fu. I arrived at Wu-hu on November 7 in the early hours of the morning, and finding the whole town asleep, I pitched my bed in a shed at the custom-house, and next day put up with Mr. Mortimore, the British Consul, to whom Mr. Little had given me a letter of



ENTRANCE TO YAMEN, NANKING.

introduction. I then hired a houseboat from Mr. Bredenburg, at \$4 a day.

We started on the 9th with two coal mine owners, Chang-pu and Chang-su-san. I walked on the bank of the river with my gun most of the day, and shot a pheasant, some snipe and wild duck. On the 11th I visited the Nue-san coal mine, which had a four-foot seam, with limestone above it. Over this was quartzite capped with conglomerate. Below the coal were shales and limestone. Thus we had the same formation as in the Nankin hills, but here the coal had rather a better appearance.

The mine was on the edge of a lake, on which were several thousands of wild duck. I reckoned there was about a quarter of a mile square of solid ducks. This country has a succession of big lakes, joined by canals, on which are millions of wild duck, hundreds of thousands of geese, white and grey, and tens of thousands of white swans, besides a great variety of large and small water birds from pelicans to sandpipers. This is a true sportsman's paradise, and is the only country I have ever been in where you may become surfeited with shooting. You can lie on a grassy bank and shoot duck for evermore. Beside the wild ducks, there are millions of tame ducks, which the Chinese herd with long bamboo poles. In the laying season the eggs are collected in barge loads and are taken down to the albumen factories at Wu-hu. There are also many wild pheasants and snipe.

I visited another coal field at Fung Wan San, long since abandoned. The shafts had all caved in, and nothing but shale was visible on the dumps. I next went to see what was called a copper mine. It consisted of a blow of limonite iron ore. On November 13 we arrived at Ning Kuo Fu, when I paid my respects to the hsien, and then called on the China Inland Mission, where I met Mr. Jackson, who was dressed in Chinese costume. He invited me to accompany him to see some executions which were to take place outside the city wall. Just as I had reached Ning

Kuo Fu I had noticed all the town, especially the Chinese women, in gay costumes, going towards the gate, but I did not then know the reason. I declined the invitation, but Mr. Jackson went from a sense of duty. He had been in the place for two years, having joined the mission from Cambridge University. He appeared to be fascinated with my costume, and said it was very refreshing to see a man in English clothes. He had not seen such a sight for two years. I took him back to my houseboat, and offered him a whiskey and soda and a cigar; but with a longing look he said both were against the rules of the mission. Walking through the town a little later I was sickened at seeing the headsmen making a house-to-house call, exhibiting the sword, and the heads of the slain carried by their queues, and collecting a few cash from each house for the ghastly sight. Two women, I was told, were executed at the same time, by strangulation with a silken cord. While I was walking in the mission garden I flushed a woodcock, so sent for my gun and shot it and three quail also.

Next day I went about ten miles south of Ning Kuo Fu to see another coal mine, which turned out to be a peat bog. I let out at Mr. Chang Pu for his rascality, and he said, "Just now belong little young coal, by and by little more old, get all ye same hard coal." I explained to him that we were not in the habit of locking up our money for a million years while peat metamorphosed to coal, and so we tramped on to some hills where coal was being extracted. This was a friable lignite, very sulphurous and full of pyrites. We then climbed to the top of Chuen San (Dog Hill). Here was a coal mine from which coal was being carried to Ning Kuo Fu on donkeys. This mine belonged to a local merchant, who enlarged on the beauties of the mine. I was feeling rather put out at being shown so much rubbish and told him it was very poor stuff, at which he got excited and said there was much better below. I told him that unfortunately I could not see beyond the point of my pick, whereupon he flared up and said he had a very poor opinion of me as a mining engineer. A

Chinese mining engineer would pour some medicine on the ground which would enable him to see through the rocks to the centre of the earth.

I afterwards visited the Po-san (woman's hair) coal mine, in which the coal was of the same quality. Next day I inspected Mu-san coal mine, and was taken also into a wild, hilly country of limestone bluffs to see a gold mine, of which I had great hopes. There were several interesting looking caves in the limestone, into one of which I walked boldly, but made a rapid exit when I heard a weird hissing noise, and, looking up, I saw in the semi-darkness a pair of huge eagle owls, with eyes as big as saucers, sitting on a ledge of rock. I had not the heart to shoot them, they looked such magnificent creatures, and I had no means of preserving their skins. At length we arrived opposite a high limestone bluff, with a smooth face, on which was cut a pair of immense doors, on the panels of which was a long inscription in Chinese characters. My friend Chang-pu pointed to this with pride as the gold mine. My interpreter Ah Fu read the inscription to me: "When the doors of the mountains are opened they will expose great wealth in gold and silver and other minerals which will make all Chinamen rich beyond the dreams of avarice, and there will be no more poor people in China." At first I was too much amused at the absurdity of the thing to be angry; but on regaining my composure I told Ah Fu to let him have it hot and strong for wasting my time in this manner; so he let fly in Chinese, which he afterwards translated to me: "You belong fool pigeon, you no true man. My master belong true man, he savé, you no can fool my master. What for you tell my master, have got one piecie gold mine, one piecie coal mine, when no have got, you belong one shame man. I savé, my master no wantchee you boverie he any more. Mr. Little have give you \$100 never mind, he lose that money never mind, my master no wantchee looke you any more you all ye same one shame man."

I arrived back at Wu-hu, on Saturday, November 18, and found

Mr. Mortimore preparing to start in his houseboat for a shooting expedition. I did not need to be asked twice to accompany him, so after sending a telegram to Mr. Little: "Extensive coal field can only be prospected by diamond drill; coal at surface no good," I set out with Mr. Mortimore. I might have said with regard to the coal field that it was no good for Englishmen, only good for Chinamen, as my cook said to me when he returned from market with a fine bamboo shoot. However, he cooked it for me and very good it was, like the heart of a cabbage. We arrived at the shooting ground at night, and slept in our houseboats. Next day we walked through a pasture country, with farms dotted about, accompanied by half a dozen beaters, and we shot twenty pheasants, some teal, quail, partridges, and snipe.

I left Wu-hu on November 20 for Shanghai, and took all my samples of coal, iron, and copper to Mrs. Moore, an assayer, the only lady assayer I have ever seen and a very competent one too. I explained, with emphasis, to Mr. Little that it is absolute waste of time to take a Chinaman's word that he has a valuable mine. The Chinese had showed me mica for silver, pyrites for gold and shale or peat for coal. They must take me either for a knave or for a fool. The only way to get a fair idea of what the value of a mine is, is for the owner, or broker, to bring samples to the office for assay.

Mr. Little left for Peking on November 23 to endeavour to have an oil concession in Szechuan ratified. In the meantime, I enjoyed three weeks in Shanghai, occasionally visiting Mrs. Moore's assay office, while she was testing the calorific power of the coal samples, determining the quantity of disposable hydrogen and the percentages of carbon and ash, and I was not surprised to find that all my samples of coal were quite useless for commercial purposes.

I spent an hour or two daily interviewing Chinese pawnbrokers and dealers, with the object of purchasing snuff-bottles, of which I was an ardent collector. Snuff-bottle collecting is one of the

most fascinating of hobbies. I found it generally took ten days to purchase a really fine snuff-bottle at its commercial value. Most of these bottles are carved out of unique specimens of minerals. The most highly-prized are made from jadite (apple green), nephrite jade (dull green), pink coral, quartz crystal, either clear, smoky, or amethystine, chalcedony, rose quartz, aventurine, and from beautiful agates, jaspers and bloodstone, moss agates, and quartz crystal with rutile needles called *flèches d'amour* and many other varieties. In addition to those fashioned in minerals there are beautiful bottles cut in cameo, in Pekin glass.

CHAPTER XIV

THE PO-YANG LAKE

I LEFT Shanghai on December 10, and was not sorry to leave, for we had a two days' snow-storm, and Shanghai was covered with snow over one foot deep. It was driving snow, hard as shot, with a north wind that froze you to the marrow. We arrived at Kiu-kiang on the 13th, and stayed at a boarding-house kept by a Chinese widow, whose late husband had been an Englishman in the customs service. Several of the customs officials lived there, and the good lady made the place very comfortable. I set about hiring a kwadza (house-boat) for a journey up the Po-yang lake. In the meantime, I received a letter from Mr. Little, with a list of mines on which he had obtained options. He added that I should have ample time to examine the mines and be able to meet him at Kiu-kiang on January 5, to proceed with him to Chungking. He did not know what difficulties I should have to encounter. I started on the 17th and sailed down the Yangtse, eighteen miles to the entrance to the lake, passing the Hu-kau fort and the Great Orphan, an immense rock, on the east side, and on the west the Kowling range of hills, where the China clay (kaolin) is found. This clay is carried in junks to King-te-ching, where most of the old Chinese porcelain was made. The petuntse (or Cornish granite) also, the other main ingredient of porcelain, is found higher up the Po-yang lake. King-te-ching is an unwallled town near Ya-chow, on a tributary of the lake, and used to have three thousand furnaces ; but after its destruction by the Taepings its glory departed. On the second day out we anchored for the night near the centre of the lake, when, at midnight, a

hurricane attacked us and the kwadza broke loose from the anchor so that we drifted in a terrific gale, and through driving snow, upon a mud bank. Early next morning, our twelve coolies were out, stark naked, up to the waist in ice cold mud and water, pushing and shouting with all their strength, trying in vain to get her off; but she would not budge an inch. The poor lao-ta (skipper) was in a frenzy, shrieking and screaming at his men; but it was hopeless, for the water was visibly falling. On the 19th we hailed two passing tugs, firing into the air to attract their attention; but they took no notice of us. We were now high and dry on a mud bank two feet out of water, with a sea of mud for half a mile all round us. A little later we hailed a rowing boat, which came up a narrow creek to within shouting distance, and the man agreed to go to Wu-sung at the head of the lake to engage another house boat. Thousands of sea gulls came to feed on the mud bank, and I amused myself shooting them as they flew by. At night we were alarmed by finding our boat was surrounded by eight Chinese pirates, wading nearly to their waists in mud, armed with heavy clubs. I hastily armed Ah Fu and my cook and boy with revolvers and shot gun; I took my mauser pistol, and so we gave them a reception they little anticipated, for they were expecting to find only a Chinese crew in charge of a cargo. I made Ah Fu order them to place their clubs on board or be shot. After they had delivered them up I ordered them down into the forehold and battened them down, intending to bring them to justice; but next morning I was told they had forced the hatchway and had escaped. It is more probable that my lao-ta had thought it best to befriend them, and to let them go, for no noise was heard in the night and we certainly must have heard them if they had forced the hatchway.

On the 22nd relief came in the shape of another boat, but it was a very poor exchange for the fairly comfortable kwadza we left. It was quite a small rice boat, with a round thatched covering open at each end, across which an old sail cloth was

fixed to keep out some of the draught. I was carried at a snail's pace on the shoulders of coolies from one boat to the other. We had no stove on the new boat, so I sat in an ulster, with my feet in a Jaeger sleeping-bag, almost frozen. We had no sooner got off than it began to blow and snow, and in a short time turned into a furious blizzard, with driving yellow snow, or snow and sand mixed. We drew up at the side of the lake, in deep water, with our bow resting on a sandbank, and the cook brought me his brazier of charcoal, on which he cooked our meals. At the end of three days the blizzard ceased, the leaden sky broke, and once more we had sunshine. Soon the boat was flooded with melted snow, leaving about a foot of wet sand over everything. I went out to stretch my legs while the boat was being cleaned, and luckily I took my gun, for walking over about a mile of sand hills I came to a farm, where a dozen Chinamen were hoeing with enormous hoes as big as spades. The Chinaman digs with his hoe, and never uses a spade. On seeing me they stared at first in the aimless way in which only a Chinaman can stare ; then they came toward me shouting Yang kwai tse (foreign devil), and brandishing their hoes. I handled my gun as though I meant to use it and this kept them at a distance of fifty yards ; but they followed me nearly to the boat, chattering excitedly and shouting, Yang kwai tse. How tired you get of hearing it shouted eternally !

By the time the boat was cleaned it was too late to proceed. On Christmas morning we started again for Nan-chang-fu, the capital of Kiang-si ; and passed Wu-sung, the head of the lake, where two immense timber rafts were emerging from the river and entering the lake. These rafts were built of fir poles, the size of scaffold poles, twenty feet out of the water, two hundred feet long, and sixty feet wide. On the top of each were three or four wooden houses.

On December 28 we arrived at Nan-chang-fu, and I proposed to call on the Fu, but Ah Fu said he " no savé foreign man custom ; must call on he Chinese fashion." So for the first time I treated

MAP OF CHINA

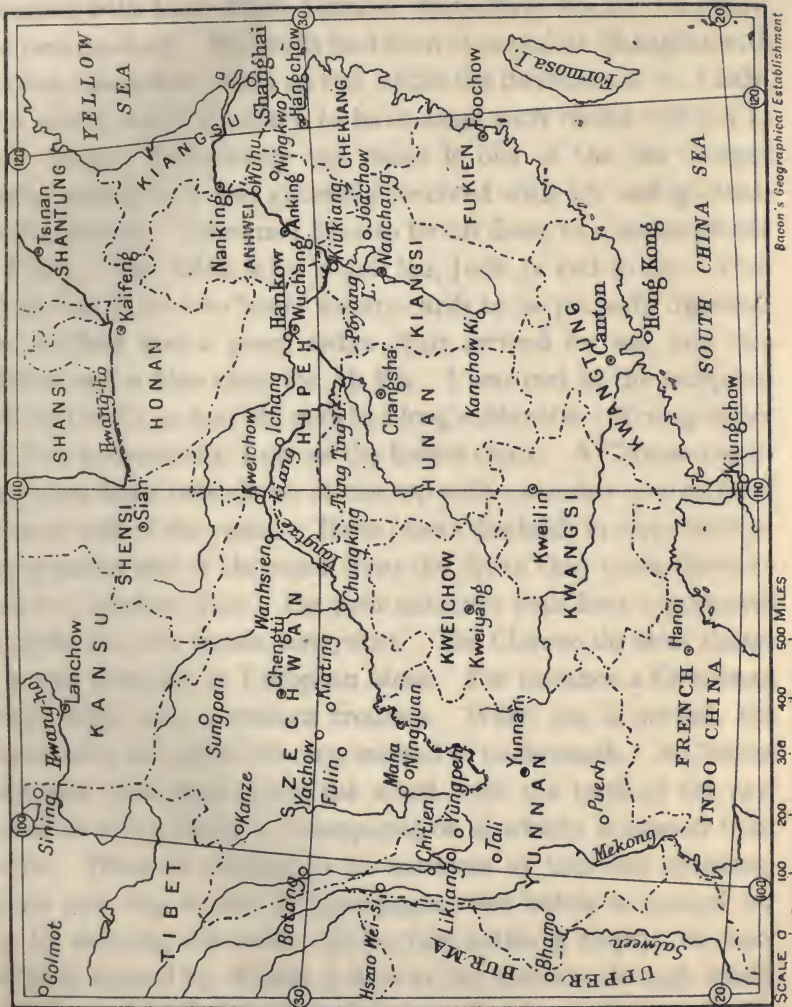




FIG. 2. COUNTY

Scale: 1 inch = 1 mile
 This map is a reproduction of the original map of the County of
 Madison, Tennessee, as shown in the "General Gazetteer of
 the State of Tennessee," Vol. 1, p. 100.

an official with proper Chinese etiquette. My card bearer marched through the town with his red portfolio full of red cards a foot long, stamped with large black Chinese characters, Wa Ho Po (Way, the peacemaker). My cards had been stamped at Shanghai with Chinese characters, black on red, under the direction of Mr. Little, who said it was customary to have some such motto suffixed to your name. Fortunately my name is one of the old Chinese family names, so I was generally received with joy and gladness by the officials. All names have to be cut down to a monosyllable in China ; thus Little is Li, Morris Mo, Jack Ja and so on. After I had waited for two hours for my cards to be properly digested, four soldiers and a green sedan chair arrived for me, and two soldiers and a blue chair for Ah Fu. I was met in the reception hall by the Fu, a dear old man in a long sable robe. Acting under Ah Fu's instructions, I sat on the lowest chair. A Chinese reception room has a twin divan at the top with a number of armchairs on each side of the room. These chairs diminish in style until at the opposite end of the room from the divan they come down to a sort of kitchen chair. On your entrance your host commences to shake his own hands, not yours. The Chinese do most things in a way contrary to European ideas. For instance a Chinaman wears skirts and a woman trousers. When tea is served, the saucer is on the top of the cup, instead of underneath. A Chinese carpenter saws from under the wood, with the teeth of the saw upwards, and a bottle of champagne or of whisky is opened from below. There is method in his madness in this last instance. When you buy a case of champagne, one bottle is opened for use by drawing the cork. When this bottle is empty the next bottle is opened by drilling a hole in the bottom, through which the contents are drained into the empty bottle ; and so on to the end of the case. Thus your boy has eleven bottles, with the corks and the labels intact, to sell for a high price to a rascally Chinese wine merchant, who fills the bottles with inferior wine, and then blows a borax bead into the hole with a blowpipe, thereby

hermetically sealing the bottle for sale again as containing first-class champagne. To circumvent this fraud those who know the trick take a knife and destroy the label on each bottle, and so ensure a fresh bottle being opened every time.

While the old man was shaking his hands and asking the usual questions as to whether I had eaten rice ; what my honourable name was and so through the list of conventional enquiries, I sat on one of the lowest chairs, at which he gesticulated wildly, inviting me up to the divan. At this I protested that I was not worthy to advance further. Then I reluctantly moved up, a few chairs at a time, until I reached the divan. Now as I had intended to go there all the time I cannot see why I should not have gone straight there in the first place, and so have saved a lot of time and worry. I always had done so until now, but the officials along the highway of the Yangtse are used to the barbaric Englishman. Likewise I had always drunk the tea provided for me, and had presented my cup to be filled again, whereas a visitor is not supposed to drink his tea until his host drinks his. This shows that the interview is over and then you drink your tea and go.

On this occasion I evidently was treated as a highly-honoured guest, and instead of tea a bottle of foreign wine was called for. This turned out to be a bottle of Bass's ale. I should not have complained at all if we had not been required to drink the ale out of small wine cups, the size of liqueur glasses used for drinking spirits. The ale seemed to have been kept on a shelf in the kitchen, for it was so very much " up " that we got nothing but froth.

The interview ended, I went to call on Mr. Nicholls, of the American Mission, and his wife and three children. They were the only foreign people in the city, and I stayed the night with them. Mr. Nicholls had only been at Nan-chang-fu about eight months, and was the pioneer missionary. There was a perpetual crowd packed tightly round his fence, peering through the pales, and there had been ever since he came. The townspeople did not appear very partial to foreigners, and the eternal Yang kwai tse was heard

everywhere. I tried to visit some curiosity shops in search of snuff bottles, but I had to give it up, for the crowd pressed round me, feeling my clothes and jabbering like monkeys. These people could not have shown greater curiosity if I had descended from Mars. Ah Fu repeated some of their remarks, such as : " He must be very strong ; his feet and legs are encased in iron." I was wearing gaiters and boots. Another replied, " But he must be very poor ; he wears no silk."

After staying for two days with Mr. Nicholls I started again in my houseboat for Kien-kiang, to see some coal mines, and I had got about a mile above the town when it began to snow. On came another blizzard, and thus I spent New Year's day, cramped in the little rice boat, over a basin of charcoal. Upon the next day I could bear it no longer, and as the gale showed no sign of abating I returned to Nan-chang-fu. Mr. Nicholls told me I could get any quantity of coal from Kien-kiang, in the market, so I sent Ah Fu to procure some, and bring it to the boat. It had the appearance of, and proved to be black shale. I put some lumps on the charcoal fire, and it blazed up for a few minutes, and then died out, leaving a hard grey ash which remained in precisely the same shape as that assumed by the shale before it was burnt. Nor was it much reduced in weight. After this experiment I thought it would be of no use to go further, especially as on the 5th I had to meet Mr. Little, from whom I received a telegram urging me to return. As the gale subsided during the night I started early next morning down stream. We had gone about half way to Wu-sung when blinding snow began again, and my skipper refused to budge. Then, luckily, a steam launch hove in sight, going up stream, and the captain promised that on its return next day he would tow our boat to Kiu-kiang. This he did, but stopped at Wu-sung, when our skipper refused to move until the blizzard had ceased, so there we stopped for two days, and arrived at Kiu-kiang on the 9th. I met Mr. Little, who wished me to go back post haste, with Mr. Wong, to examine some coal

mines belonging to him at Law-ping. With a new house boat we started back for the lake on the 10th, while Mr. Little went on to Ichang, to wait for me. On the following day we were becalmed in the channel of the lake, for the water had subsided, and only a channel was left, with a stretch of mud flats as far as the eye could see. Here we stayed for two days alongside of another kwadza, with a German on board, who had a guard of twenty Chinese soldiers. On the advice of Mr. Little I resolutely refused to take an escort on board, because they are overbearing and incense the people. Yet when a row is created they are the first to run away. On the 13th we set sail in a fair wind and arrived at Ya-chow, up a creek on the east side of the lake, on the 15th, and at Law-ping on the 18th, just as it was getting dark. When the next morning came I walked over a level plain on which were a number of hollows with mounds round them, indicating ancient pits, which had a foot of soil and turf on the top, and looked as though they had not been worked for more than a century. Some low hills at the side of the plain consisted of soft sandstone and shale. After Ah Fu had stormed at Wong for wasting my time, he found he had business in Kwang-sin-Fu, a few miles away, and disappeared from view. King-ti-ching, the town where the porcelain is manufactured, can be seen in the distance up the creek. I was told it was of no use to go there, as I should not be allowed to see the works ; so, sadder and wiser, I headed once more for the Po-yang Lake, and arrived at the Great Orphan on the 24th. Here my kwadza was boarded by likin officers, who wanted to examine my effects for likin duty. This I absolutely declined to allow them to do. They then argued that as I was travelling on a Chinese junk I was liable to pay likin, but I knew enough of Treaty law to be sure I was right in refusing to pay. As they persisted in their claim I told Ah Fu to give them my card and say I would appeal to the British consul at Kiu-kiang. So one of the officials said he must stay on the boat until the point was settled. On our arrival at Kiu-kiang I consulted the consul, who said he

was afraid I should have to pay as I was on a junk belonging to a Chinaman. However I was not satisfied and went on to the Imperial Maritime Customs and saw the inspector, who told the official it was very impudent of him to ask me to pay, as of course being an Englishman I was exempt. From this and other incidents I have come to the conclusion that the British consul in China exists for the purpose of protecting the innocent Chinamen against the unscrupulous Englishman. Upon that day, the 24th, an absolute calm set in, and, creeping along a few miles a day, we arrived at Kiu-kiang on the 29th.

Much fishing is done on the lake and on the streams that run into it. At Wu-sung the Chinese were fishing with cormorants, which have a ring round their necks to prevent them from swallowing big fish. A small fleet of boats goes out, with half a dozen cormorants sitting upon the gunwale of each boat. As soon as they espy a fish, they dive for it, and bring it to the surface, when bird and fish are picked up in a landing net. The bird is then presented with a small fish as a reward. I was amazed to see what large fish a cormorant will catch. Often a fish so large is caught that it will pull the bird under the water two or three times before it is landed.

The Chinese fish also with otters. A large round purse net, twenty-five or thirty feet in diameter, is thrown out of a boat with great dexterity, so that it falls upon the water stretched to its full extent. The net is weighted all round the edge, and has pockets all round the inside. Before the net has sunk to the bottom, an otter is slipped in through a hole in the centre of the net, and he roots out the fish from the bottom of the river, so that they are caught in the pockets as the net is pulled up from the centre, with the same action as may be seen in the shutting of an umbrella. At Wu-sung there were about fifty otters lying on the river bank, chained to a long pole. Another method of fishing is followed by means of a boat, on which is fixed a hand winch that carries a line, 200 to 300 yards long. The line is detached

from the windlass and fastened to a stump of an oar, with which a man rows in short jerks, while another man rows him up the river. This long line has large fish hooks attached to it at intervals of three feet, and as the line is jerked through the water the fish are hooked in the gills, in the back, or in the side. After rowing for a short distance, the line is wound on the windlass, and the fish are removed.

On January 30 I left Kiu-kiang *en route* for Hankow. On board a curious incident occurred, which shows how alike one brother can be to another. The only other passenger on board, a young Englishman, whose name I did not know, was looking over a number of the *Graphic* with me. We came to a page of portraits of officers going to South Africa, when I said, "That man is very much like you." His answer was, "That is very probable, because he is my brother." The portrait was that of Viscount Crichton. Upon the next day, the 31st, we arrived at Hankow, where I stayed for a week, while all China was celebrating the New Year. Here I met Dr. Reed and his wife staying at the hotel in the French quarter. It appeared to be the only hotel to stay at in Hankow, but it would have been better, before building such a magnificent hotel, to have made a road to it. At this time a foot of snow had just melted, leaving Hankow a sea of mud, which, from the English quarter to the French hotel, was ankle deep. It needed three coolies to push and drag a rickshaw at a snail's pace to the hotel. There did not appear to be much else in the French quarter except the hotel, which seems to be far too large for the whole of Hankow; but they say it fills up, brimful, when the tea sales are on. Upon my last night in Hankow, I dined with Mr. Charles Gordon, the oldest resident in the town; Captain Oldham, of H.M.S. *Snipe*, and Captain Booth, of H.M.S. *Redpole*, were there also.

I left for Ichang on February 8, the first opportunity I had after the celebrations of the Chinese New Year, in a Japanese boat, the *Ta Yuen*, which was evidently not built for Europeans,

for the saloon and passages are not much over five feet six inches high, so woe betide the tall man who jumps up suddenly. I should have developed a permanent kink in my neck if I had been compelled to stay on board for long. The water was low in the river and the channel not very wide. While she was backing to turn a corner the boat ran her rudder into a mud bank and broke some essential part of the steering apparatus; but the engineer was equal to the occasion, and fixed chains to each side of the rudder. While we were passing a village the Chinese crowded upon the bank and pelted the boat with stones; but the captain was very forbearing, and would not let the passengers retaliate, though several stones fell on deck. We arrived at Ichang on February 11, and I found Mr. Little, who had a house and hong there. I met also Captain Chadwick, of H.M.S. *Esik*, and while I was on board the *Esik* I saw what are known as white porpoises, playing round the ship. They are slightly pink, the colour of a Yorkshire pig. I was told that there are a great many in the Yangtse, but these were the first I had noticed. The country round Ichang is very picturesque and gives you a fore-taste of what is to come.

About ten miles before we reached Ichang we entered a conglomerate formation of great thickness, forming high cliffs on each side of the river, called here the Tiger's Teeth gorge, with high mountains rising beyond. The conglomerate hills weather in the form of pyramids, and opposite to Ichang, across the river, is a perfect pyramid five hundred feet high, which spoils the Fung Shui of the town, so that temples and a pagoda have been built at great expense to counteract its evil influences. It is considered a feat to row across the river here, nearly a mile wide, climb to the top of the pyramid and come back within the hour. I enacted the performance, but not against time, though it did not look an impossible task.

On my arrival at Ichang, Mr. Little immediately set about hiring and fitting up two kwadzas for our journey up the gorges,

and at mid-day on February 14 he started up the Ichang gorge, accompanied by my kwadza, while I slept on board the *Esk*, where a concert was being given that night by the crew. Early next morning Captain Chadwick sent me off in his pinnace in charge of Lieutenant Chetwood to overhaul the kwadzas before they reached the first rapid.

He must, indeed, be devoid of imagination and of a sense of the sublime who could see the grandeur of the Ichang gorge and not be impressed most profoundly. At this point the overlying conglomerates give place to sandstone cliffs which rise perpendicularly to a height of more than a thousand feet from the edge of the water. Here, too, the river is so deep that a plumb line of a hundred fathoms, or six hundred feet deep, does not touch bottom, and this depth is maintained through a great length of the gorges. Many causes contribute to make this passing up the gorges one of the most thrilling experiences that this world can offer, an experience of its kind to be surpassed only, perhaps, if we could compass the passage of the Grand Cañon of the Colorado, in Arizona, a feat attempted often by intrepid adventurers, but never yet, I believe, accomplished.

After leaving Ichang, Mr. Little assumed Chinese dress, which he appeared to enjoy. It seemed to be a relief to him to discard his European clothes, and he often declared that Chinese costume was more rational and more comfortable. We overtook the kwadzas in the gorge before they reached the small Chi Pa rapid. We generally had our meals on Mr. Little's kwadza, and I retired to mine for the night. Mr. Little's account of his former experiences of the gorges and his knowledge of the legends and traditions of every interesting feature of this mysterious river were most entertaining and instructive. Above Kwei-Chow-Fu, in the Bellows gorge, General Meng Liang's ladder is the sight of a lifetime. The kingdom of Hu-peh was at war with the kingdom of Shu (Szechuan) during the wars of the three kingdoms in the second century, and while the King of Shu's army was camped on the hills

above the Yangtse, in what was considered to be an impregnable position, Meng Liang, with his army, crept up the river, which was barred at the western end of the gorge by immense chains stretched across the river, and constructed this marvellous stairway, unknown to the Shu army. When it was completed he took his army up in safety, completely conquered the Shus, and annexed their kingdom. Mr. Little told me he had not been able to measure the holes previously; but, at the time we arrived, there was a bank of detritus, reaching one hundred and fifty feet above the river, and evidently covering the lower holes of the stairway; so, being the younger man, I climbed up and found the holes were ten inches square by twelve inches deep, into which balks of timber had been tightly wedged, zigzagging up the perpendicular face of the cliff to the wooded slopes seven hundred feet above, in the form of a stairway with steps four feet apart, the balks now long since decayed, and every vestige gone. To climb from the gorge up such a ladder would appear to be an almost impossible feat for an acrobat, let alone an army; and the soldiers could not have had much breath left when they had reached the top. The holes are just as clean cut after one thousand nine hundred years as if they had been cut yesterday. There is no frost in Szechuan below an altitude of two thousand feet, so that this great disintegrator does not aid in the weathering of the rock. After passing Meng Liang's ladder, and arriving at the western end of the Bellows gorge, we saw the immense iron pillar to which the chain barrier was fastened on one side, and the huge holes in the rock on the opposite side, through which it was drawn tight.

Whenever it was practicable we used to get the red boat to take us ashore so that we might walk along the marvellous roads. The Great Szechuan road, through the Bellows gorge, is one of the greatest engineering feats in China. It is cut out of the face of the perpendicular cliff, ascending and descending by broad steps cut in the stone. In very dangerous places a parapet has been erected. A red boat, or life boat, accompanies every European

travelling in a kwadza. It is very useful, for you can jump into it at any moment and go ashore. In fine weather, also, it is much pleasanter to sit in than is the clumsy kwadza. Your kwadza is in charge of a lao ta (captain) who takes care of the rudder in the stern, while his chief officer is the lao pan (bow pilot) on whom most of the responsibility for the safety of the kwadza depends in negotiating the rapids, as he is in charge of the bow sweep and trackers, to whom he gives his orders by incessant beating on a drum. Of the trackers who do not leave the kwadza there are not more than from thirty to forty, but at each rapid a large number of extra trackers are engaged, varying according to the strength of the rapid, sometimes a hundred extra and sometimes three hundred, but many more for cargo junks. Then there are two or three expert swimmers, who run on shore with the trackers and continually risk drowning by plunging into the river and scrambling over rocks to release the tow line when it gets jammed in one of the many deep grooves, often cut two feet deep in the tough limestone or granite rocks, by the tow line, during centuries of wear. Many large rocks are cut almost in two in this way. The kwadza has a pulley block at the masthead, with a rope attached to the tow line, which can generally disengage the line from boulders, but cannot extract it from the deep grooves. Each tracker carries a short line about five feet in length, with a copper cash attached to one end, and with this he makes a hitch on the bamboo tow line in such a way that he can throw it off again at a moment's notice when it becomes necessary. The tow line, which is fastened to the bottom of the mast, is from four hundred to five hundred yards in length, but is being continually lengthened or shortened during the journey, as the exigencies of the river require. When very hard pulling is required, it is not so much to pull the kwadza through a rapid by brute force as to hold it against the current. Brute force would probably snap the tow line. There are times now and then when a momentary lull occurs in the strongest currents, and then, if the trackers pull steadily a few feet

or a few inches are gained ; but should the trackers relax their steady pull and the current gets the better of them, even though it is but for a moment, then the voyagers witness a very curious scene. A man trained for the purpose is armed with two strips of bamboo, bound together at the handle, a wand resembling that which a harlequin carries in a pantomime, and with which he whacks the clown or the pantaloon. This man now works himself into a frenzy, shouting and screaming, turning somersaults and cart wheels, whacking the trackers on the back, whacking the ground or rocks, and all the time running up and down the line, sometimes taking double handfuls of mud and smearing his face and head with it, dancing and making fearful contortions. Then, suddenly, the drum sounds " cease pulling," and he is absolutely calm in a moment, walks down to the river and has a swim, coming out clean and in his right mind. The trackers appear to take no notice of him ; but undoubtedly his frenzy urges them to almost superhuman efforts. They shout all the time, what sounds like He Chor, He Chor, which means pull hard, pull hard.

The kwadzas are built of cypress wood, the growing of which appears to be a monopoly of the priests, for I have only seen groves of cypress, straight, tall, well pruned trees, in the temple grounds. The bottoms of the kwadzas are shaped like a duck, swimming ; this shape makes less friction in the water, and the extreme pliability of the cypress planks enables the kwadzas to bear many hard bumps upon the rocks without springing a leak. In many of the gorges it is impossible for the trackers to find a foothold on shore, for the cliffs rise perpendicularly from the water's edge. At such a time they come on board, and if there is no wind they pull at huge oars, *ya lus*, chanting in a pleasing monotone all the time, in solo sometimes, then answered by chorus. Where the current was too strong and no headway could be made, they went close to the cliffs and pulled the kwadza up with long bamboo poles, with hooks attached, by catching the hooks into deep holes that occur at even distances along the face of the cliffs, and are

well worn by centuries of use. Occasionally you are aided by a back current, which will take you from half a mile to a mile without need of other impetus, as far as the rock, jutting into the river, which is the cause of the back eddy. Then there is great danger in getting from the eddy back into the current, and the big bow sweep has to be used to keep the kwadza from swinging round and to keep its bow up stream.

In the Ping Shu gorge I was with Mr. Little on his kwadza when it got into a whirlpool. It was not one of the most violent whirlpools, but row as the men would they could not extricate the kwadza, which went round and round in a big sweep, and bumped hard on a rock every time it reached a certain point. The lao pan was terribly excited, and our red boat went off to get a rope. It speaks well for the cypress wood of the kwadza that it did not spring a leak with all the bumping it got on the submerged rock. When the red boat returned after dark it threw a rope to the kwadza, to which the crew attached the tow line and this the boat took ashore and attached to a rock. Then all hands on the kwadza pulled with almost superhuman effort, and, with shrieks of joy, we got ashore. All our baggage was taken out next day to lighten the kwadza as much as possible, while the lao ta superintended the recaulking of the hull, which was badly shaken with the continual bumping of the previous night.

On arriving at Yun Yang Hsien, Mr. Little asked me to accompany him across the river to measure the height to which the river rises in flood time. High up on the cliff there was a beautiful temple which was washed away by the flood in 1870, and as Mr. Little had stated in his book *Through the Yangtse Gorges* that the flood rises two hundred feet above low water mark, a statement that was ridiculed in England, he wished to vindicate his assertion. We measured the distance carefully, for the priests at the new temple on the old site keep an accurate record of high water mark, and we found it to be two hundred and five feet above the existing level of the river, which was then at about its lowest.

On February 27 we passed the new Shin Tan rapid. We were told that shortly before we arrived a large junk had been dashed on the rocks, and had gone to the bottom with eighteen hands, in three minutes, through breaking her tow line when she was negotiating the rapid. We were told by a custom-house official that an average of ten lives per day were lost at this one rapid. It is the place where the homily was read to the dragons, telling them seriously to go to the sea whence they came or they would be destroyed by Western method. This rapid, the most dangerous on the river, was caused in 1896 by a huge landslide, a quarter of a mile wide and half a mile long. The formation is sandstone, lying on beds of shale, in which are numerous bands of greasy slickensides, very favourable to landslides after heavy rains. The vertical displacement is about a hundred feet. The gorges may be very interesting from a purely geological point of view, but they have very little attraction for a mineralogist, because the only minerals that may be obtained are a poor class of coal, salt and saltpetre.

At Wan-hsien, Mr. Little's ma fu (groom) met him with a Szechuan pony. These ponies are perfect little Arabs, and their introduction here dates from the twelfth century, when Jenghiz Khan conquered Arabia and Persia, and established the breed in Szechuan. They are seldom over twelve hands high, but what they lack in height they gain in pluck. Mr. Little found the pony much too high spirited for him to ride, so I undertook to take some of the go out of it. I mounted it on the bank of the river, where an enormous crowd of Chinese had collected, who started to shout and to wave their arms. This sent the pony off at top speed, and led to a bolt right across the plain till we were confronted by high cliffs, when the pony pulled up. I then took it up a staircase to the top of the cliffs, round through the high part of the town, and down another long flight of stairs to the foreshore. These ponies are used to climbing long flights of stairs and think nothing of the feat.

CHAPTER XV

COAL AND OIL

AFTER this, Mr. Little left the river, and continued his journey to Cheng-tu-fu overland, while I went on to Chung King, to await his return from Cheng-tu-fu, where he had gone to endeavour to obtain mining and oil concessions. The day after we had left Wan-hsien, we came to the Shi-pao-chi temple, built up the side of a lofty rock, with its marvellous fountain of rice, now no longer productive. The legend has it that there was a hole at the foot of the rock (probably a pot hole), through which rice used to flow from heaven to feed the priests, but that a greedy priest, wishing for more, made the hole larger, whereupon the rice flow stopped. Potholes are very numerous in places in the limestone rocks, and you can see them now in process of formation on ledges of rock which are covered at high water. There an angular stone harder than the limestone gets washed into a nook or crevice on the ledge, and is kept moving by the motion of the water, so that it gradually wears a round hole right through the cliff. In the course of centuries, when the gradual erosion of the cliffs has exposed these holes to view, they are so numerous, in places, as to give the cliffs a fluted appearance. Many are from twenty to thirty feet in depth.

On March 5 we saw a kwadza coming down stream flying the Union Jack, so I immediately got out my Union Jack, and sent it up to the masthead, and both kwadzas pulled in shore. I was agreeably surprised to find it was Captains Watson and Hillman, of H.M.S.S. *Woodcock* and *Woodlark*, shallow draught gunboats, who had been studying the rapids with a view to bringing up

their boats to Chung King. This they did a few months later. At the Yeh-lotse (Wild Mule rapid) we met with a rather nasty accident. While we were tracking up the rapid, we had a guy rope out, tied to a rock, to keep the kwadza in comparatively still water between the shore and the central current. The guy rope broke, and we swung round into mid stream. The trackers letting go instantly, the bow sweep was brought into use immediately, but getting between some submerged rocks it snapped like matchwood, so that we were all but capsized, and went careering down stream for about a mile before we pulled into calm water at the side of the river bank. At Ta-fo-tze all danger from rapids is over, and a colossal-gilded Buddha has been erected there, at whose shrine all good Buddhists offer thanks and offerings for a safe journey while he sits and watches the traffic pass.

We arrived at Chung King on March 13, and waited until the end of the month before Mr. Little returned from Cheng-tu-fu. Meanwhile, I stayed at Mr. Little's charming house on the river front, where I found Mr. Nicholson presiding. He was Mr. Little's agent and business manager, in charge of his hong, where he had a bristles manufactory. Here bristles were cleaned, sized, and tied in neat cylindrical bundles for the European markets. Mr. Little had here also a hide and feather factory. He told me he sold all his bristles by private contract in London, to the leading brushmakers. There was no need to auction them for they were in such great demand. I met also Mr. J. H. Bush, agent for Mr. Pritchard Morgan, and also the Eastern Pioneer Company's mining party, consisting of Dr. Logan Jack, his son, Mr. R. Lockhart Jack, and Mr. J. F. Morris, who had started recently for Cheng-tu-fu.

On March 16 I went a three days' journey up the Kia-ling-kiang, or Little River, to inspect a coal mine at Ling-wang-dong. The coal was certainly the best I had seen, and the output was all sent down to the Chung King market. We had some hard climbing up and down hill, ascending to two thousand feet before we

reached the mine. There we lodged in a temple ; but we could not get to sleep until after midnight because a theatrical performance was in progress in the temple. The performers were all men, dressed in most grotesque fashion, and wearing hideous masks. Next morning I put on blue overalls, and started off to inspect the mine. There were four tunnels and I was told that the shortest way into the coal face was two miles in length, and the longest nearly four. I was advised that the best tunnel by which to enter the mine was nearly three miles into the coal seam. It was about three feet wide and three feet high, but one foot was taken up by a ventilating shaft. The coolies go in pushing a three-wheeled truck in front of them. I tried pushing one but found with my six feet two inches of height I could not manage it, so I attempted to crawl, but in half an hour I was nearly suffocated with the stench and heat of the tunnel, and so was obliged to turn back. It was nearly an hour before I reached the entrance again, and then I was told I had not been more than a quarter of the distance. Some day, after the advent of railroads, the mine may be a valuable one. In the afternoon I was entertained at a big dinner by the owners of the mine, and this was the first dinner I had ever eaten with chopsticks. We started with birds' nest soup, which is really excellent, a clear, thin, lemon-coloured jelly. After this we had shark's fins, also very good. Pigeons' eggs, and ducks' eggs, cooked in wine, came next, and then fat pork in one-inch squares, and boiled duck. Our only drink was green chartreuse, of which they wished to give me a tumbler full, and nearly succeeded before I saw what it was, so I prevailed on them to empty it back into the bottle and called for tea. My host told us that the bottle of chartreuse was given to him by a French priest. Before I left I was presented with four white rabbits, and four hens which looked like dark Brahmas with black legs, combs and faces. All these I placed in an aviary in Mr. Little's compound, to keep company with a pair of golden pheasants.

Mr. H. W. L. Way.

Mr. Archibald Little.



CHINESE DINNER AT CHUNG KING.

I started again on April 6 for Wan-tan, where Mr. Little had obtained a coal and oil concession, sixteen miles from Chung King. Arriving there in the evening we engaged rooms at an inn nearly opposite to a veritable pool of Bethesda. It was a hot spring, in a picturesque setting of sandstone rocks, and in this water scores of Chinese with filthy diseases and sores were continually bathing, all day and night. My interpreter, Ah Fu, bathed, and he tried to persuade me to do the same ; but wild horses could not have dragged me in among that filthy horde, for surely the rocks and ground must be impregnated with microbes of every disease that flesh is heir to. I was not at all disappointed when I found that this chalybeate spring was the oil I had come out to see, for I had expected some such hoax ; but the rascally owner did seem a bit put out when I informed him that the nearest oil was in the Standard Oil Company's godowns at Chung King, and that of coal there was none.

While I was staying at this inn I was disturbed by a woman, apparently mad, who was wailing and shrieking in the street. I sent Ah Fu to find out what was the matter, and discovered that the good woman had lost her husband, had no money with which to buy a coffin, and so was endeavouring to obtain sympathy, and cash to enable her to purchase one. I asked the price of a coffin, and was told \$4, so I sent the amount out to her, not so much from philanthropy as from my desire to stop the noise, an end which I gained at once.

On returning to Chung King, I found that Mr. Little's trip to Cheng-tu-fu had been quite successful and that he had obtained the promise of concessions from the Szechuan Oil Company, and from the Government and Merchants' Mining Bureau. I received an invitation to dine with Mr. Little and with Nicholson at the house of Wong, Mr. Little's compredore in the city, across the river, here about four hundred and fifty yards wide with a very strong current. A photograph was taken of the dinner-party, which appeared in the *Sphere* of July 14, 1900.

I started in a blue sedan chair for the Tzu-liu-ching oil fields on April 13, *en route* for Cheng-tu-fu. The whole country was like a beautifully coloured picture, with fields of poppies, pure white, white with a pink fringe, through all shades of red, to deep purple, and I slept during the first night at San Chow at the foot of the first range of hills, upon the next at Yuen-chuen, and upon the following night at Jung-chang-hsien, where I left the main road to Cheng-tu-fu, and went about six miles by river to Su-zuen-chow, where the official told me he did not think any foreigners had passed before. Upon the next day I arrived at Fo-chan, and I was lodged by the Szechuan Oil Company, at a club-house on a peninsula running into the middle of a very beautiful lake, full of lotus lilies, and connected with the mainland by a narrow strip of land. During the following morning I called on the hsien with the head of the Oil Company. He was very civil, and after the usual formalities we repaired to his dining-room, where we sat and ate tinned lychees, pineapple, sugar cane preserved in syrup, and drank champagne. He said he had heard accounts of the great quantity of wine that a foreigner could drink, and wished to test my capabilities, to see if I could outdo him. He said he could drink two quarts of champagne without getting drunk. I told him I should be under the table long before that, and would willingly award him the palm, at which he seemed very pleased. However, we finished a bottle each before we left the table. When I had returned to the club house he sent over an official, with a string of coolies, bearing the usual presents. The official was very pressing, and I could not get off with less than two fowls, a leg of goat and two bottles of champagne. Later I sent him two bottles of cherry brandy, a sparklet bottle with half a dozen boxes of sparklets, and a hundred cigarettes. There is a marked difference in the way that foreigners are treated in Szechuan. They seem really pleased to see you, and you rarely hear the nauseous sound of Yang kwai tse, which you hear eternally in other provinces. Next morning, when I was preparing to start, a

deputation of officials called and asked me to go in a procession through the main street, as they wished all the citizens to see what a nice foreign gentleman I was. When this ceremony was over I proceeded to Tzu-liu-ching, at which place I arrived on April 20, and called on the hsien, who immediately sent for ten soldiers to wait on me. I assured him that two were sufficient, and absolutely refused more, so two remained and the others retired ; but I had not gone one hundred yards from the yamen before they joined in the train, so that I had to put up with them. When we started out to visit the oil fields and brine wells I found they had increased threefold. Soldiers and chai-jens (yamen runners) are a great nuisance. They are very officious and overbearing, and at the first sign of trouble they melt away and disappear like magic.

Here, I am very pleased to say, oil really existed over a very large area. The name Tzu-liu-ching means spouting oil well. About three hundred years ago it seems there was only one well, which spouted continually ; but when in later years they were bored by the hundred the spouting ceased. At the present time there are over three thousand wells, all of which produce oil and brine. The Chinese do not work them for oil, and for them the most valuable are those which produce the lowest percentage of oil and the highest percentage of brine, excepting those which produce only natural gas, which are a regular gold mine, for they are practically self-supporting and only require the minimum of labour. The depth of the wells varies from one thousand to three thousand feet. All are sunk with a jumping beam, to which is attached a bar of iron from five to six feet long with a broad chisel bit at one end. The beam is kept jumping by hand, and the bar is turned so that the bit cuts evenly all round the hole. Every little while the mud and the water are brought up in a bamboo bucket with a valve at the lower end. Some of these wells take two or three generations to sink, but a Chinaman does not mind that if he has a son to carry on the work. The shortest time in

which a well has been sunk before striking brine is thirty years. The oil is looked on as a necessary evil, and the brine only is saved, though crude greenish-brown viscous oil, of the consistency of treacle, is burnt in the houses and works, in lamps like teapots, with a wick in the spout. The machinery for working these wells is of a most ingenious though primitive kind. A huge tripod, thirty feet high, is erected over the mouth of the well (really bore hole), which is five to six inches in diameter. There are various means of hoisting the bucket. At some wells, round the tripod, a circular platform, twenty feet high, is erected, along which a mule walks blindfolded, winding the rope about a drum. At others two, four, or more coolies, sit winding up the bucket rope with exactly the same action as may be seen in a man working a bicycle.

The first well I visited, Han Hi Jing, was 1,780 feet deep, and was finished twenty years ago. This has one of the most up-to-date plants with the most modern machinery. The bamboo bucket is forty feet high and four and a half inches in diameter. It contains ten catties of oil and brine, and is hoisted up once every fifteen minutes or ninety-six times in twenty-four hours, and so produces nine hundred and sixty catties of oil and brine, or two hundred and eighty-eight catties of oil and six hundred and seventy-two catties of brine. When the brine gets weak they drill another foot or two deeper into new ground, and the brine at once strengthens. At this well the hoisting drum is on the ground level, and is about twenty feet in diameter, standing vertically. Round it are attached eight buffaloes with trace ropes. As soon as the bucket is hoisted the end is dragged over to a small cistern, the valve is opened, and the contents are run out. The pipe lines leading to the evaporating sheds are connected to the base of the cistern, and the contents are run off to settling tanks, where the oil is separated from the brine and conducted away. Then the brine is pumped by chain pumps of wood, driven by a coolie riding bicycle fashion, into an elevated

tank, from which it is drawn off into cast iron evaporating pans four feet in diameter and one foot deep, into which the brine is continually dripping. Under the pan burns a jet of natural gas which also is conducted through bamboo pipes. These jets have a round lump of clay with a hole through for a burner. The result of the evaporation is beautifully white salt. About fifty tons of the best salt are produced daily and twenty tons of inferior salt. Outside, the ground for miles is covered with a network of bamboo pipe lines, leading from the three thousand odd wells to the evaporating establishments. These are huge barns, each with twenty-four evaporating pans.

I next visited Tong Sun Ching oil well, twelve li from the town, which has been opened only eight years. It is one thousand seven hundred feet deep, producing fifteen per cent. oil and eighty-five per cent brine. The hoisting drum here is worked by mules instead of by buffaloes. Then I went to Hui Chou Ching, one thousand eight hundred feet deep, which produces eight per cent. oil; and Ti Fung, two thousand feet deep, which produced fifty per cent. oil. This has been closed on account of the small quantity of brine it yielded. I was not allowed by the officials to examine more wells, nor to poke about anywhere by myself; but I was always surrounded by the ubiquitous soldiers. I was implored by the officials to pretend to take no interest in the oil, but only to walk round as a sightseer, for if it were known I was after an oil concession there would be trouble. Ah Fu, however, brought to the inn a large can of oil with which I filled twelve beer bottles. These I packed and sent to London. I visited two gas wells. The first had been bored thirty-eight years, and the second sixteen years. Both have had abundant gas all the time, and they supply ninety evaporating establishments. The old original gas well, which has been supplying gas for two hundred and eighty years, I was not allowed to visit. Tzu Liu Ching is like an ants' nest for industry, and the oil wells extend over an area of twenty-five miles by ten, and undoubtedly connects with the Kia Ting oil

fields, if not over the whole Red Basin, from Chung King to Kwan Hsien, and Sui Fu to Ya Chow Fu. I judge there were from eight thousand to ten thousand wells on the plain between Tzu Liu Ching and Nei Kiang Hsien.

On April 23 I was invited to a big dinner by the oil well owners. This invitation I politely declined, for I did not wish to waste the day, because I was very busy writing reports; but they would not take no for an answer, and sent a messenger to say they had given orders to send the dinner and the guests over to my hotel. This they did at about four o'clock in the afternoon. During the dinner, which lasted until eleven o'clock, my neighbour, a jovial fat man, discarded sixteen silk gowns of various colours as he warmed to the meal. Between the courses we smoked Chinese water pipes, while dainty little singing girls with bound feet not over two and a half inches long, sang songs. A fiddler played on a squeaky two-stringed instrument, a cross between a fiddle and a banjo. During the courses the singing girls helped us to wine and to dainty morsels.

On April 25 I travelled to Tzu Chow and forward to Nan Ching Yi, where there was an inn far above the average for cleanliness, and on the 27th I arrived at Yang Chi Hai. Afterwards I went to Cha-tien-tzu, overlooking the marvellous plain of Cheng Tu, where a most impressive panorama opens to view more than three thousand square miles of the most fertile land in the world. Evidently it was at one time an inland sea, but it is now filled with most productive alluvial soil. The whole plain has a perfect system of irrigation from the Min river. At Kwan Hsien, north-east of Cheng-Tu-Fu, the bifurcation of the Min commences. This stream is again bifurcated, and so on, *ad infinitum*, until the whole plain is covered with minute streams, and until every acre of the plain has a constant water supply. These bifurcations are accomplished by stretching huge nets of bamboo across the river. These nets collect the large boulders that are washed down by the torrent. Again other nets are

stretched, until the dam has assumed the desired dimensions. The same system is applied each time the river is split. In order to get the water higher than its natural gravity will take it, endless wooden chain pumps are worked by coolies, bicycle fashion, until the highest terraces are reached. Five and six crops are raised annually in succession. As soon as one crop is ripe it disappears as if by magic, and another appears, half grown.

The opium harvest, which takes five days to complete, was in full swing at the time of my visit. At sundown the Chinese turn out and commence to cut each poppyhead from the top to the bottom with a knife which has from three to five small blades, one thirty-secondth of an inch apart. The workers give one cut to each head, and then come in the early morning, before sunrise, and with a knife shaped like a spatula they scrape into a cup the drop of white juice which has exuded from each head. On exposure to light the white juice turns brown. This cutting goes on for five nights, and by the end of that time the cuts have gone round the head, and all the juice has been drawn. The rapidity with which the whole country changes then from opium to tobacco is almost magical.

A great part of the plain was covered with poppies, and then, as soon as the juice had been collected, the plants disappeared and the plain was covered with tobacco plants two feet high. The tobacco plants had been there before, but they had been hidden completely by the much taller poppies.

The chief crops of the plain are opium, tobacco, rice, wheat, maize, barley, oats, buckwheat, every sort of vegetable, most of the fruits which will grow in temperate climates, to which may be added persimmons, loquats, oranges, and other fruits. Every inch of the plain is like a part of a perfectly kept garden, and every plant is a perfect plant, tended with the care of a parent for his child. Indeed, you may say confidently that there is not a weed on the whole plain. Wheel traffic is unknown in China outside of the treaty ports, so that not much space is wasted on roadways.

The main tracks are about four feet six inches wide, and the by-paths from six inches to one foot. Every field is so perfectly level that the whole can be covered by half an inch of water without any ground appearing. This flatness is attained by ploughing the field while it is under a foot of water, run in a few days before the ploughing begins, so that the earth may be thoroughly saturated. Here ploughing is done with buffaloes. As you travel down the main watercourses it is curious to see the innumerable large undershot water wheels, like huge spiders' webs, from twenty to thirty feet in diameter, with a race constructed under each to turn the wheel. On the circumference of each wheel are bamboo pipes two feet in length, placed diagonally, and every pipe takes up about a quart of water, which it empties on the top of the bank into a wooden trough, from which it runs into an irrigation ditch.

The chief industries of the plain are silkworm cultivation upon a large scale, and white wax cultivation, a very curious occupation. The insect, *asiraca cereifera*, which makes the wax, is bred in the Chien Chang Valley, south of Fulin, to the west of the Lolo country, one hundred and fifty miles distant, where it thrives on a shrub, *ligustrum lucidum*, the large leaved privet. The eggs are laid in nests, which form excrescences on the boughs, and when the larvæ hatch they are collected and tied in leaves of the tung-oil tree in small packets, and are conveyed by coolies in trays on each end of a bamboo pole carried across their shoulders. The coolies have to run as far as they can each night, so as not to expose the larvæ to the sun, for the warmth would tend to enliven them and cause them to escape. When the larvæ arrive at the southern end of the plain round Kia Ting, they are tied in the boughs of a species of ash, *fraxinus chinensis*, pollarded, with a four years' growth of boughs, and holes are pricked in the leaves to allow the insect to escape. This they do in a few hours, and living in an unnatural state, they excrete the wax upon the young boughs. After the wax has been deposited a quarter of an inch thick all

round, and from end to end of the ash shoots, the insect dies, and the branches, cut off near the trunk, are thrown into tubs of hot water so that the wax may be collected. On the privet bushes, where the insect lives in a natural state, it deposits no wax. Much of this wax is used in China for casing tallow candles, and a large amount is sold in the principal Roman Catholic centres in Europe, principally in Rome and in Vienna, for wax candles, because it is whiter than any other wax. Later, when we were travelling on the western side of the Lolo country between Kwa Pit and Yung Peh, we passed through the region in which the insect thrives and breeds, and where there were many bushes of the large leaved privet.

The intense cultivation of the plain is wonderful. As you travel hour after hour and day after day it is just the same, every inch of ground is cultivated, and on the hills crossing the plain, every ledge of rock that is wide enough to grow a single row of peas, or of wheat, has soil piled upon it, and is planted. Every twig is watched with care, and every leaf that falls is carefully saved for kindling. Nothing that grows on the plain is wasted ; every foot of ground used for pathways (there are no roads) is grudged and encroached upon, until it is difficult to gain a foothold on the few inches that are left. The only fuel used at the tea houses, which are so numerous that we came to one at every half mile, is dried grass tied up in hard knots, and this is brought in from the hills. Even the chrysalides of the silkworms are not thrown away, but are fried and eaten after the silk is spun. In the temple gardens and villages are some very fine *salisburia adiantifolia* (the maidenhair tree), which grow as large as our finest elms, and in much the same shape. These are very beautiful in the autumn, when the leaves turn to pure gold, like the leaves of the maple trees in England.

On April 29 I arrived at Cheng-tu-fu, an important city with over 1,000,000 inhabitants, and I sent my card to the Viceroy, Kwei Chun, and called on Chu Ling Kwan, Taotai of Cheng-tu-fu,

a most courteous gentleman, who, with his son-in-law, Tong Sing Kow, represented the Chinese merchants of Szechuan. These merchants were partners with the Imperial Government in the mining rights of the two prefectures of Ning Yuen and Ya-chow, from whom Mr. Little had obtained a concession of the mining rights of these two prefectures for the Upper Yangtse Syndicate. Tong Sing Kow had lived in America for twenty-four years, and had passed through the San Francisco school of mines. I learnt from Chu Ling Kwan that he was now at Sung-pan, with Dr. Jack of the Eastern Pioneer Co., with whom a difficulty had arisen respecting the two prefectures, because Mr. Pritchard Morgan also, who was chairman of the Eastern Pioneer Co., had obtained a concession of the mining rights of these prefectures from the Imperial Chinese Government, and I must await their return, to see what arrangements could be made to satisfy both parties. During the next day I called on Mr. and Mrs. Cady, of the American Mission, to whom Mr. Little had given me a letter of introduction, and there I met Captain Watts Jones, who was staying with them, and Mr. Grant Birch, who was staying with Mr. and Mrs. Alstone, of the China Inland Mission, and who were making final arrangements for starting upon the following day for Siberia *via* Sung-pan. I had luncheon with them during the next day, at Mr. Cady's house, and I saw them start with 120 carriers. They mentioned that the Viceroy was very much opposed to their taking that route, and had said he could not guarantee their safety beyond Sung-pan, where his jurisdiction ended, and he had advised them of the danger of the journey, as the Boxer rising was far more serious in the northern provinces. What a pity they did not take his advice, as after events showed, for Mr. Birch was drowned through the upsetting of a raft on the Yellow River, and Captain Watts Jones was cruelly murdered by the Boxers at Kwei-hua-cheng in Northern Shansi.

On May 1 I received a letter from Tong Sing Kow, commenting on the difficulties that had arisen, and saying that Dr. Jack and

he would not return until the end of May. On May 3 I again saw Chu Ling Kwan, who told me he had made arrangements for me to inspect the oil wells at Kia-ting; so I set about hiring a house-boat immediately for a journey down the Min River, and started on May 9, through scenery of rare beauty, and saw a great deal of the process of irrigating the plain. I arrived on May 12 at Kia-ting. This is a very picturesque town, overshadowed by the famous Mount Omi, a hill full of mystery, the most sacred mountain of the Buddhists, rising to 10,000 feet, with a sheer precipice of 6,000 feet, from the summit of which is seen the glory of Buddha. Each pilgrim stands on a certain spot with the sun at his back and sees an enormous shadow of himself cast on the white clouds below, while the sunshine makes a halo round the shadow, and this is believed by the tens of thousands of Chinese pilgrims who see it annually, to be a vision of Buddha. The spectre of Brocken as seen in the Harz Mountains in Germany is a similar phenomenon. Another of the wonders to be seen from the summit of Mount Omi is that of "the lamps of Kia-ting." These are seen only on bright, frosty nights, and they appear like large electric arc lights on the top of every peak and jutting rock, as you stand and look down the precipice. These lights are called St. Elmo's stars by sailors when they appear on the masts of ships at such times as the atmosphere is charged with electricity.

Last night I saw St. Elmo's stars
With their glimmering lanterns all at play.
LONGFELLOW ("The Golden Legend").

And sudden breaking on their raptured sight
Appeared the splendour of St. Elmo's light.
HOOLE ("Orlando Furioso," bk. ix.).

In the Alps the lights are called the fires of St. Peter and St. Nicholas.

I took with me a letter of introduction to Dr. Hart and his wife, of the Canadian Mission, two of the oldest missionaries in China. Dr. Hart has a printing press at Kia-ting and prints the

Bible and religious tracts in Chinese. I stayed with Dr. and Mrs. Hare, who have a house in the same compound with Dr. Hart. Mrs. Hare is the doctor's daughter, and they were all very kind and hospitable. Across the street lived Mr. and Mrs. Rirey, and five English missionary ladies; and next door to them lived Mr. and Mrs. Openshaw, American missionaries, who dressed in Chinese costume. When I was walking down the street with Mr. Openshaw, a Chinaman remarked, "There goes one sham Chinaman, and one real foreigner." Just as we were entering Mr. Openshaw's house a Chinaman rushed at him from behind, with a heavy club, and would undoubtedly have brained him if his servant, who was standing in the doorway, had not thrown himself on the man, who fell down, but was up and off in an instant, running down the street with Mr. Openshaw in full chase. Mr. Openshaw presently returned, leading the would-be assassin by his pig-tail, and he took him to the magistrate's yamen. On my return to Kia-ting I heard that he was tried and pronounced mad, and so was detained in custody.

On a cliff, three hundred feet high, at the side of the river facing the town, is carved the largest Buddha in China. It is two hundred feet high. Its head alone is twenty-five feet long, and it has large bushy eyebrows and moustaches formed by recesses cut in the rock, above the eyes, and on the upper lip, in which grass grows, but whether by accident or design I do not know. The effect, however, is striking.

On the 14th I went down the river to Lui-hua-chi, where there are eight hundred oil and brine wells, all more than one thousand feet deep. These were a repetition of the wells at Tzu-liu-ching. Twenty soldiers met me on landing, and I was conducted to the armoury of the chief magistrate's yamen, surrounded by soldiers, and was not allowed to go out during the next day until the hsien had caught and locked up eight dangerous anti-foreigners. He was very nervous, because a year ago some serious anti-foreign riots took place here. Upon the next day I was escorted to the wells

by thirty armed soldiers, and I was implored not to appear to take any notice of oil ; but to show interest in the brine, because if it were suspected I was inspecting the oil, there would be uproar. The people, however, were quite civil. I then went on to Wu-tong-liow, twenty li down the river, and forward to Chou-tan, where I inspected a well called Yu-ching and Sing-lung-chung. The first name, I was told, is its salt name and the second its oil name. They raise three hundred and fifty carties of brine and two hundred and fifty carties of oil. Natural gas has been produced for twenty-five years. Many wells are shut down on account of the large percentage of oil produced, and the district is not as prosperous as it was fifty years ago, for the oil is continually increasing, and the brine is decreasing. There are now more than two thousand wells in the district from one thousand to two thousand feet deep, extending one hundred li down the river.

I slept at an inn with a lattice front, which I had pasted up six times during the evening with brown paper made from bamboo pulp ; but the crowd outside was so curious that directly it was covered, first one finger went through the paper followed by an eye glued to the hole, then another, then scores, until all the paper was torn down. In fact, my boy was kept at work with the paste-pot most of the evening, till the lights were put out ; and the same dull and heavy faces were there in the morning to see me dress.

On the 16th, I started back to Kia-ting, and on the banks of the river shot several egrets, which were in splendid plumage, so that I obtained some very fine egret plumes. A large trade is carried on in these beautiful feathers. Mr. Little told me he used to give six taels an ounce for them in Chung King, but had now ceased to buy them to discourage the killing of these handsome birds.

On my arrival at Kia-ting, I found Mr. Kerr, an engineer in the employ of the Yunnan Syndicate, staying in the town. I stopped for one night with Dr. and Mrs. Hare before starting for

Cheng-tu-fu, and arrived at Swang-liu-hsien on the 20th, where I met Dr. Smith, with whom I travelled back to Cheng-tu-fu next day. I then wrote my reports on the oil bearing shales of the Red basin and packed off samples of oil in two dozen beer bottles to London.

I celebrated Queen Victoria's birthday at the Canadian Mission, on the invitation of Dr. Smith, whom I astonished by saying it was the first time in my life I had ever paid any attention to the day, but through no lack of loyalty. He told me that in Canada they made more of it than any other day in the year. I was surprised to find so many English and Canadian missionaries assembled at one spot in far Western China. There were twenty-one in all, five English and sixteen Canadian, of whom fourteen were ladies, including two lady doctors, Dr. Henry and Dr. Killam. The name of the latter sounded to me rather unfortunate, and was not calculated to inspire confidence. Among the men there were three doctors, Drs. Smith, Ewen and Killbourne, and there were also several children. After poking the pig's eye, singing patriotic songs and listening to recitations we all sat down to a high tea. Then we played lawn-tennis.

At the American Mission I met Mr. and Mrs. Cady, Mr. and Mrs. Peat, Miss Collier, and fifteen others of their staff, and at the China Inland Mission Mr. and Mrs. Alstone and Mr. and Mrs. Vaile. While we were waiting in Cheng-Tu for Tong Sing Kow to return I laid in a large stock of curios, over twenty snuff bottles in various pretty stones, such as agate, smoky quartz, clear quartz, quartz with rutile needles included, moss agate, lapis lazuli, jade, amethystine quartz, pink coral and amber, also in glass and china. I purchased, too, some bronzes, jades, rhinoceros horn cups, and other articles. I found this a very good time to buy, for at this part of the year all debts have to be paid in China, so there was a rush to the pawnshops to realise cash. I have searched the pawnshops for old Chinese porcelain, but there is none on the market, as the Chinese merchants and mandarins

are great collectors themselves, and have bought up every piece that has escaped the European dealer. You can buy more old Chinese porcelain in London in an hour, and at a lower price, than can be bought here in a year. It was a disappointment, for I expected to pick up some bargains in the western cities of China.

On May 31 I received a message from Chu Ling Kwan saying that Dr. Jack and Mr. Lockhart Jack and Mr. J. F. Morris had just returned with Tong Sing Kow and that they were staying at his yamen. He asked me to call, and I was delighted, for life at an inn in Cheng-Tu is a bit monotonous. After several conferences at which Chu Ling Kwan, Tong Sing Kow, Dr. Jack and I attended, an agreement was arrived at by which Dr. Jack and I were to use our best endeavours with our directors to bring about a consolidation of interests; and Chu Ling Kwan and Tong Sing Kow agreed to use their best endeavours to persuade the Chinese Imperial Government, who are half owners in the mineral rights, to keep the two prefectures of Ning Yuen and Ya Chow exclusively for the benefit of our two companies, and to obtain the copper monopoly and smelting monopoly of the whole of Szechuan for our joint interests. This the Commissioner of Mines, Li Cheng Yung, would agree to only on the consolidation of the interests of the two companies, a course our directors finally agreed upon, and on the consummation of this important development, Commissioner Li, the Viceroy, and all the officials concerned were jubilant. The Viceroy sent for Commissioner Li and congratulated him on the success of his negotiations, and Commissioner Li invited us all to a dinner on the morrow to celebrate the event. I fancy the officials thought that this concession was sufficient for the Upper Yangtse Syndicate, and I could see the oil concessions were likely to slip out of our hands, unless a vigorous protest were made at once by Mr. Little; so I wrote and advised him to come up immediately and clinch the bargain, as Senor Domato, an Italian, representing a French Syndicate, was spoken of freely as having

obtained the concession and as having signed a contract for the purchase of a large yamen in Cheng Tu for the company's headquarters. I met Senor Domato at a Chinese official's dinner a day or two later, when in the course of conversation I mentioned the death of M. Berger, the President of the Ottoman Bank in Paris, who had entertained Mr. Hubert E. M. Bourke and me when we were there on behalf of the Société des Mines de Kabin. Senor Domato said he very much regretted his death, as he was President of his company. Personally I do not think the Chinese will ever part with their oil wells, to however many companies they promise them, but will eventually work the wells themselves.

CHAPTER XVI

MINES AND MILLING

WE now set about preparations for our journey to examine the mineral wealth of the two prefectures. We were to be accompanied by Tong Sing Kow, who was the general manager of the Government and Merchants' Mining Bureau. I was strongly advised by Chu Ling Kwan and Tong Sing Kow to adopt the title of Dar Jen (His Excellency) and to purchase a green chair with four bearers. Hitherto I had travelled in a blue chair, with two bearers only. I was advised also to engage four soldiers as my personal guard, and to adopt a special uniform for them with the name of the company printed in Chinese characters on a round white target on the front and back of their tunics. The uniform I adopted was of blue, piped with red and white, round the edge, and red hats, like pudding basins, with a blue tassel. I adopted also an official card bearer, to carry my card case, which was a red leather portfolio about fifteen inches by nine inches. This your card bearer carries with both hands, marching in front of your chair when you pay a call upon an official.

In the meantime the Viceroy had ordered to be sent on ahead of our party several thousand placards on thin paper made from bamboo pulp, and stamped with his seal and the seals of the Commissioner of Mines and of the Tartar General. These were to be posted on the gateways and walls of the towns and villages we were to pass through on our journey. The first part of the proclamation states that the people of Szechuan are poor because they do not know how to open up the mineral wealth of the country. Then comes an apology for allowing foreign mining

engineers to prospect the country, but the proclamation stipulates that they shall not own an acre of ground, but that two Chinese Mining Boards have come into existence, the Hwa Yik and Pao-Fu, empowered to acquire the land and to engage the foreign mining engineers to work the mines for the benefit of the Chinese so long as no injury is done to the Fung Shui, or to tombs, when the owners do not wish them to be disturbed. It goes on to enjoin the local magistrates to protect the foreign engineers and to post up the proclamations where every one can see them, and to provide that the people treat the foreigners well. In conclusion it states that very few foreigners will be employed, but that the mines will provide work for a great many Chinese. Moreover, as the foreigners are visitors from a far country they must be treated with respect. Dated the 26th year of the reign of Kwang Sui. The proclamation was printed upon placards 5 ft. long and 2 ft. 10 ins. broad, and a reduced copy of it appears facing this page.

We were all ready to start on June 17, but I had no funds. I had telegraphed to Chung King for 1000 taels on the 13th, again on the 15th, and again on the 17th. On the morning of the 18th 3,000 taels arrived, 1000 taels for each telegram. I drew one thousand and returned the rest, and as soon as I had done this we left Cheng Tu Fu, where we had now spent nearly two months, and started out across the plain with an escort of chai-jen, or yamen runners, armed with every conceivable weapon from tridents to Winchester rifles. Their duty was to see us safely to the next town and to get there a receipt for our safe delivery. We were accompanied also by twelve soldiers under the charge of a corporal sent by the Viceroy to stay with us during the whole journey, and also a Wai Yuan, a mandarin of the lowest order, though a magistrate.

Our first day's journey was far from being enjoyable, for it was through eternal rice fields, as far as the eye could see, so that the country presented a dead level. We had to ride all day in

各省礦務章程

朝廷勵圖治力求自強而練兵宜籌餉流資開源況四川
 商日繁無業者眾亟應廣開地利以裨
 國計而裕民生案經

總理各國事務衙門暨
 統轄礦務鐵路總局議定章程奏明奉

旨開辦四川礦務惟川省向來開採各礦大都考驗未詳實礦之
 所在而一切開挖煅煉又均不得法以致虧折成本雖有佳礦亦
 同石井故不得不變通權利期於成功茲由華商籌蓋保官商
 司購地用洋礦師承辦工程委員俾送先到各處查勘礦質試驗
 成色俟查得何種礦質可開現無官紳商民開辦及無開辦之處
 如係民產者呈驗契據或買或租由委員會同地方官公平籌議
 如係官山應併稅項同繳歸官其開辦時或參用西法或仍用土
 法或官商合辦或官商合辦屆時分別辦理若將來成礦大著
 須修築運路倘遇有墳塋祠屋地主不願得錢遷徙者自當設法
 遷越以順輿尊除飭地方官照約保護外合行會銜示諭為此示
 仰軍民人等遵照須知開採礦廠實於地方有益無損至每開一
 處不過用外來礦師洋匠數人其餘概用土人藉歸華商自主並
 非將礦產賣與洋人而外來者以客禮相待不得輕聽洋官
 生疑阻致干重咎此係奉

旨通行之案其各遵照毋違特示

諭通知

光緒二十六年五月十一日

欽此 實貼 曉諭

PROCLAMATION ON POSTER.
 (MUCH REDUCED.)

our sedan chairs because the rain poured in torrents. Those who walked had a bad time, for the paths were ankle deep in mud, a circumstance which made travelling very slow and very unpleasant, especially as the paths were so narrow that our chairs could be carried by two coolies only. Our train stretched for two miles across the country, and included two hundred and three men all told. Our stopping-places on the plain were Swang Lui Hsien, Chen Ching Hsien, Yang Chang Chung Chow, and Pei Chung Hsien. We were able to ride our ponies most of the way from Yang Chang, but as we were an official party we were expected always to enter our chairs on reaching a town, for it is considered to be undignified to enter a town on horseback.

At Pei Chung Hsien we were much interested to find the name of Lieutenant Kreitner, October 16, 1879, inscribed on the wall of the inn. I have learnt since that he was a surveyor travelling with Father Szechenyi; the inscription was as fresh as if it had been written upon the day before we arrived.

Our next stop was at Ya Chow on June 24. We were two days longer on the way than schedule time, owing to the bad roads. Here we were greatly disturbed at finding the telegraph line broken down, and as Dr. Jack and I were each expecting important telegrams we decided to send a messenger with letters to Cheng Tu, and to await his return with telegrams. We had travelled along the line of the telegraph, and had not noticed any breaks, so that we came to the conclusion that the Cheng Tu officials had closed the line in order that we should not receive news of the Boxer troubles. Ya Chow is a small town situated in the foothills on the right bank of the Ya Ho. Here we had a beautiful view of a range of snow-capped mountains and high peaks which must have been thirteen thousand to fourteen thousand feet high. We called at Mr. Upcraft's residence, but found he was away from home, going a round of some villages in his district. However, we saw Mrs. Upcraft and Dr. Corlis, American missionaries, whom we found very hospitable, and

Mrs. Upcraft entertained us to tea and lawn-tennis upon the next day. On the return of our messenger, during the evening of June 26, I received a cable from the Upper Yangtse Syndicate saying they had joined forces with the Eastern Pioneer Company on equal terms for the mining rights of the two prefectures of Ning Yuan and Ya Chow, and Dr. Jack received a telegram stating that the Taku forts were taken. We heard later that Major Manifold and Captain Rider had arrived in the town on the evening of the 26th, but as we started again early on the morning of the 27th we knew nothing about their visit and did not see them.

We now entered a famine-stricken district, so bought two extra tons of rice with which to feed our carriers, for it was stated that we could not procure any on the road. As we were starting I received a letter by runner from Dr. Smith, of Cheng Tu, saying the news from Peking was very bad, for it was feared that the legations had fallen.

On June 28, at Kwang-ni-Pu, we visited some iron smelting works, and a foundry treating hæmatite and limonite ore of high grade; but the extraction was low. The blast furnace was very primitive, but effective, and from it cast iron was made in thin plates, which were broken and melted in cupolas, with hand bellows. The bellows of the blast furnace were worked by water power. The molten iron from the cupolas was then cast in moulds, made of kaolin, spread on a wicker foundation. They made pans for evaporating brine and cooking pans for boiling rice. The latter were works of art, being from twenty to thirty inches in diameter by nine to twelve inches deep, and the thickness of the iron was only one-sixteenth of an inch at the rim and one-quarter of an inch at the base.

At Kwang-ni-Pu Mr. Lockhart Jack came out in a rash which proved to be modified small-pox. Dr. Jack, his son, and Mr. Morris had all been vaccinated recently, but I had not, so that I had to take my chance of catching the infection, as there

was no opportunity now to get vaccinated. On leaving Kwang-ni-Pu we left behind us the more or less horizontal sedimentary rocks of red sandstones and red shales, forming the Szechuan red basin, and entered a country far more promising for mineral wealth. First large granite boulders were seen in the stream, and shortly we came into a country where at a former period dynamic action had possessed full sway. Eruptive and porphyritic rocks and dykes had played havoc with the sedimentary rocks, tilting them in all directions. During the day we crossed the first range at an altitude of nine thousand six hundred and fifty feet by Dr. Jack's aneroid, and we stayed at Ching-chai-hsien at an altitude of five thousand feet. Here we left the high road to Ta Chien Lu and Lhasa, on which the main traffic is tea. We continually passed coolies carrying tea to Lhasa. Each coolie carries about three hundred and fifty pounds in bricks of about twenty pounds weight each, and two feet six inches in length, and younger coolies carry less in proportion. These coolies are enormous men, regular Samsons, with huge muscles; but as a rule they have terrible varicose veins down the calves of their bare legs. Each is harnessed to his load, which never leaves his back all day. They are like poor Christian in Bunyan's *Pilgrim's Progress*, with his burden of sins. When they wish to rest or to take a cup of tea at a tea house they have a contrivance like a shooting seat attached to the harness, and this, when they bend their knees, reaches the ground and enables them to rest. Their load is built on a light bamboo framework which curls over at the top, forming a sort of canopy over their heads from two to two and a half feet high. The brick tea exported to Lhasa is of the coarsest kind, and appears to be made of old leaves, twigs and all the refuse of the tea plantations roughly pulped and moulded into blocks. Other coolies carry the same weight of salt in large round baskets, harnessed in much the same way.

At Chung Chai Hsien we received a message from the Commissioner of Foreign Affairs at Ching-tu, saying that Lord Salisbury,

Secretary of State for Foreign Affairs, had cabled to the Viceroy of Szechuan, at the request of the company, to give special attention to our safety, and that the Viceroy in turn had sent special messengers to the district magistrates along our route, ordering them to double our escorts, and holding them responsible for our safety. The cable stated further that the Taku forts had been taken by English men-of-war.

After leaving Chung Chai Hsien, we passed out of the land of Chinamen, and all the villages were filled with Lolos and Sefans and Tibetans. We passed the village of Tong-cha-ba and descended to the Ta-tu-ho river, where the northern bank was sedimentary and the southern eruptive. On July 1 we stopped at Ta-sa-po and the next day passed through Fu Lin, where I called at the French mission station to try to get vaccinated, but I found no one at home. Evidences of mineral wealth became more apparent every day on the road, for we continually passed long mule trains carrying smelted copper and lead bullion, travelling eastwards, and in addition to this sign we saw natives washing the shingle banks upon the sides of the rivers and streams for gold. They obtain considerable quantities and fairly large nuggets. We purchased fifteen ounces of gold nuggets, weighing a few penny-weights each, for the purpose of lightening our loads of silver sycee. All through Szechuan, more especially from Cheng-tu westwards, all culinary utensils, teapots, and the basins used by the ubiquitous barbers, are made of copper. The barber is the most necessary man in China, for every self-respecting Chinaman has his head shaved each day, and yet barbers are considered to belong to the lowest caste in China, and no one is ever punished for doing an injury to a barber.

At Fu-lin we crossed the Ta-tu-ho or Tung river, which is navigable up to Tzu Ti de. Our journey so far had not been all we could wish. We had been soaked to the skin every day, drenched with torrential rain. On July 2 we stayed for a day at a small village, because Mr. Lockhart Jack was not fit to travel,

although he was very loth to give in; and upon resuming our journey we arrived, after crossing a range of five thousand feet altitude, at Ping-ye-pu, on July 4. Dr. Jack received a telegram from Mr. Fraser, the Consul at Chungking, advising us to return there at once, and then to go to Shanghai on the S.S. *Pioneer*; but we disregarded this advice, because we felt quite secure where we were. Upon the following day we lodged at Hai-tang, and on the next day at Pao-an-Ying, where there were tilted carboniferous formations which extended to Yer-she, at which place we found the French mission station empty. At Yer-she I received a telegram from Mr. Little saying that his steamship the *Pioneer* had arrived safely at Chung King, and had been commandeered to take all foreigners out of Szechuan. Dr. Jack received a telegram from Mr. Bush giving similar news. We also received one from the Viceroy of Szechuan telling us to visit mines in the Mien Ning Hsien district only, as we should not be safe elsewhere; and, after visiting the Maha mines, to return to Cheng-tu. We learnt that the hsien (magistrate) of Mien Ning was a Cantonese, hostile to the Empress, and a great admirer of Kong-Yu-Wei.

The famine here was at its worst, but we saw very little sign of it. Young potatoes, all hot, about a dozen threaded on a stick, were being sold in large quantities in the market-place for five cash a stick. We purchased some, and found them most delicious. At night we placed a guard round our rice store as a precautionary measure. The market was full of Lolos, mostly women, dressed in skirts with heavy pleated flounces a foot deep round the bottom, the skirts reaching to just above their ankles. Their feet were bare and they wore full, floppy tam-o'-shanters on their heads, and were decorated with a great many heavy silver ornaments. They were not at all bad looking, and were fine, well-made women. Yer-she is not in the Lolo country proper, though the Lolos come there for marketing purposes. They inhabit a wild mountainous country on the eastern side of our road, called Ta Liang Shan, to which they have been driven from the plains by the ever

encroaching Chinese. This territory they hold as an independent country, the Chinese having never been able to penetrate its mountain fastnesses. The Lolos are not at all hostile to foreigners, looking on them as being like themselves, foreign to the Chinese.

On leaving Yer-she, we crossed the Hsiao-shao Ling range at an altitude of nine thousand five hundred feet. This is where Dr. Richthofen was turned back in the year 1872. We descended to the Hoong Sui Ho, or Red River, rightly named, for the waters are stained a bright red colour from flowing through red shales and from receiving the red mud which is washed into the river by the torrential rains. We followed the Hoong Sui Ho through Su Chou and Tung Sheung Ying to its junction with the An Ning at Lu-Ku. The An Ning continues its course past Ning Yuan down the Chien Chang valley, from which locality the white wax insect is carried to the plains of Kia Ting, and soon this stream becomes a mighty river eventually joining the Ya Lung, which, in its turn, goes to swell the waters of the Yangtse.

On July 10 we arrived at Lo Ku, where we found an iron smelter at work with a foundry in connection with it. The men were making pans for evaporating brine, and cooking utensils. They were also puddling and hammering wrought iron. The ore came from a mine thirty li distant at Hau Pien, and it was a high grade magnetic ore (magnetite), from which the extraction was said to be seventy per cent. iron. A limestone flux with charcoal was used. We visited the French missionary station, where we found two priests, who told us that French troops were advancing on Yunnan Fu.

After leaving Lo-ku we crossed the An Ning in ferry boats and were met on the opposite bank by a company of soldiers from the Mining Bureau at Shaa Ba, who saluted us with a "feu de joie" and a great waving of flags and blowing of trumpets. They then accompanied us to Shaa Ba, and on the road we passed several iron smelting works. We arrived at Shaa Ba on July 11 and stayed in the yamen of the Mining Bureau, a fine building

well furnished. Here we heard of the murder of the German minister at Peking, and received a letter from the Viceroy, who appeared to be greatly concerned about our safety. He implored us to examine the district hurriedly, and to return with all speed to Cheng-tu. We walked through the market, where the Lolos were dressed out in their best, with lots of silver ornaments.

Leaving Shaa Ba we were met by a company of spearmen, who gave us a salute of three shots from an emaciated cannon, very long and thin. Our journey lay up a fine grazing valley, in which were herds of cattle belonging to a Lolo chief, at whose house we rested and had afternoon tea, and we were objects of curiosity to his many wives and women folk, who were heavily laden with silver ornaments. The whole place had an air of prosperity. On leaving the chief's farm we commenced the ascent of the divide between the An Ning and Ya Lung rivers, which was very steep. The Chinese and Lolos have little or no idea of zigzagging up a steep mountain; but as a rule make their path straight up and never contour a yard of the way. After ascending to more than twelve thousand feet we descended nine hundred feet to the village of Ko-lo-lo, where are situated the native reduction works of the Maha mine, consisting of eighty head of primitive stamps for crushing gold quartz, each stamp weighing about forty pounds, and crushing quartz in stone mortars. The stamps are worked by overshot waterwheels. Each stamp has a drop of about two feet six inches and crushes an average of six hundredweights of ore per day, making about a fifty per cent. extraction. Only friable free milling gold ore is crushed, quartz from which the sulphides have not leached is thrown over the dump as being too refractory for this primitive treatment. However, what sulphides are crushed are saved and piled in heaps and are gradually leached by weathering, when they are recrushed, quicksilver is used in the mortars to collect the gold. The amalgam is then taken to the Mining Bureau at Shaa Ba, where the natives are paid half its value, as they work on a royalty of fifty per cent. After resting

at Ko-lo-lo for the night we ascended four hundred feet to the summit of the ridge overlooking the Maha gold mine, and then descended one thousand feet to the mill and manager's house, where we stayed.

We were now in the heart of a country which may be called the cream of China, as regards mineral wealth. Some day it will become a second Colorado with its Central Cities, Leadvilles and Cripple Creeks. The rocks are all eruptive and metamorphic, with intrusive dykes and fissure veins filled with quartz, carrying the precious metals, outcropping for miles through the mountains. The climate is perfect ; dry and mild, with snow line at fifteen thousand feet compared with thirteen thousand feet in Colorado. The mountains are covered with most beautiful flowers, edelweiss in patches only to be reckoned in acres, and various other velvety white flowers of the same order. Then there are columbines, larkspurs, lilies, gentians, polyanthuses, and scores of other flowers, with beautiful ferns of innumerable kinds, stagshorn grass and a great variety of mosses and lichens. Some of the lichens hang like great beards twenty feet long, from the pine trees. Many of the pines grow in their higher branches, what appears from below to be a species of mistletoe with red berries. From the Maha mine we had a glorious landscape of endless mountain ranges and snow-capped peaks towering in wild confusion peak above peak into the dim distance, while the foreground was a wooded slope extending to the Ya Lung river, a broad silver streak in the landscape three miles distant and four thousand feet below us.

The manager's house was a weather boarded structure with tiled roof, very roomy, comfortable, and clean. It was nearly new, and had eight good rooms besides kitchens and servants' quarters, and altogether it was by far the most comfortable abode we had stayed in since we left Mr. Little's house at Chung King. The mill adjoined the manager's house, and it was a substantial wooden building containing two five-foot sectional Huntingdon mills, two sets of Browne's hydrometrical sizers

(quite old friends which I certainly did not expect to find in the wilds of Western China), and eight Frue vanners. Two broad copper plates were arranged, one for each Huntingdon mill, but the lubricating oil tanks were placed in an unfortunate position, under the copper plates, and a pulley wheel for running the Frue vanners was fixed on a shafting directly over the centre of each plate, from which oil was dripping continually when the machinery was at work; in fact, oil seemed to have impregnated the whole mill. It would have tried the patience of Job to run this mill; however, we boldly tackled it. Our first mill run was on seven tons of ore that we found already in the ore bins. This was not run through as a test, but merely to get the machinery in working order, and the experiment gave us, on retorting, five ounces two pennyweights of gold; and fourteen per cent. of sulphide concentrates were saved on the Frue vanners. The second run was on eleven and three-quarters tons of ore, which we had seen mined from the face of one of the main drives. Our first disappointment came when we discovered that the bed plate of one of the mills had been cracked, and had been mended recently for our benefit with sheets of lead, disposed over the bottom, on which was spread a covering of cement. This evidently stood all right during our first mill run, but wore away towards the end of our second run, when, of course, the mercury fell in loving embrace on the lead, and it quite took our breath away to see the amalgam pile up on the plates. In spite of our care to keep all appearance of oil away from the plates, it appeared there with dogged persistency. The cause we soon discovered, for, on going through the mine, we found that the miners used oil lamps somewhat like a tea pot, with the wick in the spout, and from these lamps oil was being upset continually, so that some of the ore was saturated with oil before it ever reached the mill. We searched the assay office for caustic soda to rectify this, but, alas, there was none. The foreman of the mine now came and told us that he was afraid we should not get much gold, because the blasting in the level had

brought down a quantity of waste rock from the old stope above, and this, unfortunately, had been trammed to the ore bins with the good ore, so that he was afraid more than half of it was dead rock. At night we left some amalgam on the plates, and this I had rubbed carefully up to the top of the plate, and had taken the precaution to write my name through the whole length of it with my finger, to see that it was not interfered with ; but though the mill was locked, and a watchman left to guard the door, the amalgam had all disappeared by the morning. After this we did not try any more mill runs, but contented ourselves with pan assays, sending half of each sample to London for fire assay.

If it were pain and grief to run the mill, it were a thousand times more painful and grievous to clamber round to sample the mine. No more tortuous passages could possibly be imagined. The mine is worked by Lolo tributors, without method, each following his own sweet will ; and following also the most friable ore, full of cavities where the sulphides have leached. This is at the same time the easiest ore to work and contains also more free gold. The passages are seldom more than three feet high and two feet wide, but on reaching an ore chute they will widen out suddenly to twenty, and in one case a passage became fifty feet wide and twenty-five feet high. The narrowest passage was two feet six inches high, and one foot three inches wide, an opening which only a contortionist could enter ; and it demanded that you should wriggle through, lying on your side. These tortuous passages will suddenly start upwards, nearly vertically, for thirty or forty feet in height, then as suddenly dive down for the same or a greater number of feet, first on the foot wall, then crossing the vein to the hanging wall, wherever the decomposed ore is most easily worked. All sulphide ore, or hard quartz, is counted as deads, and is thrown over the dump. The vein is seldom less than ten or twelve feet wide, and in parallel ore chutes, widens out to as much as fifty feet. We were told that one chamber had been opened out over a hundred feet in width ; but as the timbering

was of a very primitive nature the chamber had caved in. Where the vein was widest the deposition of ore had been greatest, and in most of the big chambers there were masses of galena and chalcoppyrite, which were left untouched by the miners, who only mine for free gold. The vein, whose bold outcrop of white quartz can be seen for a great distance, has been shedding its gold for centuries, and the alluvial, below the outcrop, to the sands on the banks of the Ya Lung river, has been worked for gold from time immemorial. The records of the Mining Bureau at Shaa Ba show that as many as fifteen thousand miners were washing gold here at one time. Vein mining was only commenced twenty years ago. Tradition says that a party of hunters camped for the night on the outcrop of the vein, when the heat of their fire split some of the quartz, exposing free gold. This story is very hard to believe, because the outcrop is so plainly visible.

The geological formation at the summit of the mountain, 9,600 feet above sea level, is a metamorphosed sedimentary rock of a schisty nature. On the western side of the ridge, about two hundred feet below the summit, this forms a contact with granulyte, nearly white, consisting of quartz and felspar, through which the fissure strikes at N. seventy-five degrees E., and dips at thirty-five degrees to the N.W. The whole of the mine workings are in granulyte, and it would be interesting to see how it behaves when it strikes the contact with the sedimentary rock. Possibly it may follow the contact, as the outcrop is not visible, until it reaches the eruptive rock. The present workings of the mine extend for about five hundred and fifty feet along the strike, and to a depth of four hundred feet on its dip. These workings are connected with the surface by three adits. Tong Sing Kow, the present manager, has opened a main adit, striking the vein in two hundred and forty-five feet, along which a level has been run for one hundred feet. He has also done a good deal of prospecting in the form of winzes. The work was commenced in a minerlike manner, but during Tong Sing Kow's absence in Cheng-tu the

work degenerated into ordinary Lolo mining. A new cross-cut tunnel has since been started fourteen hundred feet below the top of the ridge. It is now driven eighty feet, and should cut the vein in another one hundred and eighty feet. Although it may open up a large body of ore, for future stoping, it is nevertheless started in a most unhappy position, being in a gully down which water comes in torrents at every heavy rain, bringing down tons of detritus which chokes up the mouth of the tunnel continually. As the dip of the vein and the slope of the hill are very nearly parallel, it is probable that the ore will be decomposed more or less to a great depth. About a mile to the south-west, in a deep ravine, the vein is seen outcropping again, and is worked to a considerable extent, while hundreds of placer miners are working the alluvial below.

On July 29 we visited the Ko-lo-lo copper mine, about eight miles from Maha by road, but nearer four as the crow flies. The mine had a very difficult approach, as the whole face of the mountain had slipped far down the steep ravine, taking part of the upper adit with it. The adit appeared now in the middle of a steep rock slide, one thousand feet above us. The mine must have produced a quantity of copper in its time, judging by the extent of the workings. Our guide told us that the main tunnel was lower down the ravine, and no one within living memory had ever been to the end of it. He told us he had been in with some officials of the Mining Bureau, who went to examine the mine, and burnt two lamps full of oil going in, without reaching the face, and had to return or they would have run short of oil. The Mining Bureau had no records of operations at the mine, and the oldest inhabitant who was sixty years of age could not recollect any work having been done there. It was a difficult and dangerous task to climb down the ravine, which was nearly perpendicular, to the tunnel, which, when we arrived there, looked like a fox's earth, for the entrance, in the course of years, had become filled with detritus, on which vegetation grew, completely obscuring

the entrance to the mine. We had to slide in on our backs, but when once we were in we found a good, high and wide tunnel, along which we went for one hundred feet or so, where we were pulled up short by a yawning abyss, the full width of the tunnel and six feet wide, and which on examination appeared to be a well cut shaft, or rather a series of shafts, each vertical for about six feet, then with an offset of three feet, really forming an inclined shaft in steps, evidently arranged for the passing up of the ore by hand. The timbers were all touch-wood, and notched poles were still in existence from one step to the next, but crumbled to the touch. The shaft appeared to be deep, for rocks thrown down rattled away into the dim distance without appearing to strike bottom or water. The roof of the tunnel was a network of quartz stringers, carrying copper oxides and carbonates. As we had no means of crossing the shaft, we could not contradict our guide as to the length of the tunnel, which did continue beyond the shaft.

On our return to Maha we found awaiting us several alarming telegrams. One was from the Fu Tai of Ning Yuen, saying we must not go out of his district, because Yunnan Fu was in the hands of the Boxers, who had burnt the missionaries' houses. He said also that we were safe at Maha, as it was believed by all the countryside that we had three hundred foreign soldiers with us. There was also a telegram from Mr. Bush, "British Consul strongly advises you to go to Bhamo," adding, "it is probable that all Europeans in the Pekin Legations are killed." In these circumstances, after a long discussion, we decided that it would be as well to make preparations to depart, for it was evident we could do nothing more here. We thought it advisable to get rid of our Chinese following immediately, so paid off all our carriers, ma fus (grooms), and soldiers, keeping with us only the escort, under the trusty corporal, which was sent as a permanent escort by the Viceroy. Having cumshawed our departing friends well, we set about engaging a fresh lot of Lolo and Tibetan

carriers. Tong Sing Kow, who was ever ready to help us, went off to Shaa Ba to engage a Tibetan guide and mule train, and on his return he brought with him an official report on the mineral wealth of the two prefectures of Ning Yuen and Ya Chow, which he translated to us, for they were written in Chinese characters. This report was made by himself and Hung Yik Shing, a Government official.

Sichang District.—North of the Maha mine at Yung-Lung-ko in the Si Chang district there are veins carrying ores of gold and copper. To the north of this at Laku-ti-tze, are various veins carrying gold, silver and lead ores, worked very extensively by the natives and said to produce twenty ounces of silver per picul (one hundred and thirty-three pounds) of ore.

Hau Pien District.—North and east of the Ya Lung river is the Hau Pien iron mine, containing a large body of excellent ore, which supplies the Lo-ku smelter and foundries. West of this, across the Ya Lung river at Lo-ku-ti are veins carrying copper ores. This is said to be the place where the Yunnan Company's survey for the railroad crosses the Ya Lung river.

Tzu-ko-pit District.—North-east of Lo-ku-ti is the Tzu-ko-pit district, where there is a rich gold quartz reef and where an historical nugget of ninety-seven pounds was found on the outcrop some years ago. This vein has been worked to some extent by the Government Merchant Co-operative Mining Bureau, who abandoned it from lack of capital and because the oxydized ores were exhausted, no means being at hand for reducing sulphides. At Ma-tu-san in this district is a vein carrying silver and lead ores said to produce eight ounces of silver per picul, also a rich vein carrying silver ore in the form of argentite.

Yung-chang District.—In the Yung-chang district, south-west of Ta-chien-lu, are numerous quartz veins and rich alluvial gravel bars. From Ma-Za-han to La-kwan there are many outcropping quartz veins never yet prospected, while in the immediate neighbourhood of

Mr. H. W. L. Way. Dr. R. L. Jack. Boy. Mr. R. L. Jack.



Ah Fu.

Cook.

Mr. J. F. Morris.

Ta-chien-lu District are Government silver mines producing five to six ounces per picul of ore. This vein is four feet wide, and is worked along its course for over ten miles. The vein consists of a complex ore carrying copper, silver and lead, but is worked only for its silver values, and is said to produce five ounces of silver per picul of ore. To the north of Ta-chien-lu, bordering on Mong-kong, the French concession, the property of Fuk-shing Société is a large auriferous gravel area, situated at the junction of streams with the Ya Lung river and north of Ho-kea, said to produce thirteen pennyweights of gold per cubic yard.

Yer-she District.—In the Yer-she district at Tzu-ti-di on the Ta-tu river in the neighbourhood of three lakes and hydrothermal springs are veins containing gold, silver and copper ores. At Hui-lung-chang in this district there is a vein six feet wide, containing copper oxides. Here, ninety native smelters worked very prosperously until ten years ago, when the Lolo chiefs summoned their men and drove out the Chinese, and have never allowed them to return. The south-east section of the Yer-she district contains silver ores, and also measures of bituminous coal of good quality.

Ya-chow District.—At Lu-shan there are the best coal measures in the two prefectures, and also a bed of calcareous conglomerate impregnated with native and horn silver. Tong Sing Kow laid great stress on the value of this property, but feared it would be absorbed into the property of the French company. However, he and Chu Ling Kwan will use their utmost endeavours to keep control of the mine for the benefit of our combined interests. Proceeding south to the south side of the Yangtse river at Fu-kean (the limit of navigation) at the range facing Lui-po, there are numerous veins containing native copper and silver ores. These mines supplied the greater part of the silver used in the Tang dynasty. This property is outside the two prefectures, but was to be included if our companies took over the copper monopoly.

Whei-li-chow District.—In the Whei-li-chow district are numerous veins of gold, copper, and silver ores, which are being worked extensively, especially Ta-tung-chang (prosperous silver mine) and Ta-whan-shan (10,000 jewel mine).

Yen-yuan District.—In the Yen-yuan district are veins containing ores of gold, silver, lead, copper, zinc, and also quicksilver. There is a quicksilver mine also at Hang-cho, south of Kwa pit. This is worked by native miners, who supply the Maha mine with quicksilver in lieu of royalty. This mine also supplies the Chung-king vermilion works with cinnabar.

Kwa-pit District.—At Kwa-pit there are extensive alluvial deposits very rich in gold, and well situated for hydraulic sluicing, especially in the Wei-li-to-tze, nine miles distant, which are now being extensively worked.

We had spent several days already drawing up two agreements, one between the Upper Yangtse Syndicate and Eastern Pioneer Company, and the Government Merchant Co-operative Mining Bureau, and one between our two companies and the merchants of the above Mining Bureau, for the concession of the mining rights of the two prefectures, which were signed by Tong Sing Kow for the Chinese company, and Dr. Jack and myself for the two English companies. Eight copies of these were made and taken by Tong Sing Kow to Cheng-tu-fu for Commissioner Li's signature, before being finally ratified at Peking.

CHAPTER XVII

MAHA TO YEN-TANG

BEFORE we left Maha, it was decided finally, as we thought, that we should make for Bhamo, in Burma, though some days after we had started, on the vote of the majority, the proposed route was changed to that of Prince Henri of Orleans, to Assam, *via* Chamutong and Kampti; but I was always in favour of Bhamo, *via* Tali-fu, because Mr. Little had told me of the tremendous difficulties of the Prince Henri route, and all the Chinese officials also advised the Bhamo route and endeavoured to place every obstacle in our way to prevent our attempting the route to Assam.

Servants were rather a difficult problem. Ah Fu, my interpreter, I knew would stick to me like glue, and my cook and boy would freeze on to him; however, I promised Ah Fu a £50 bonus, and my cook and boy £25 each, and a free passage back to Shanghai by steamer, if they saw us through to Rangoon, and at this they were jubilant. Dr. Jack's party were not so fortunate, for their interpreter, Chun Chui Ling, refused to go farther, and his other servants followed suit. In the meantime, Tong Sing Kow had returned with Ta Er Doh, a Tibetan guide, a fine upstanding man, who looked a born leader, but we were soon undeceived, for he proved himself to be a shockingly bad organizer, and too slow to catch worms. He kept us waiting several days while he was collecting carriers and mules. I borrowed from Tong Sing Kow a fine riding mule, which was to return with Ta Er Doh, and we borrowed twelve Snider rifles and ammunition from the mine armoury, with which to arm our servants and

carriers in case of necessity. We ourselves were well armed with Mauser pistols, revolvers and rifles, and Mr. Morris and I had each a shot gun besides. We were very sorry to part from Tong Sing Kow, who had been educated in California, U.S.A., and spoke English perfectly. He had helped us in every way he could, and had our interests thoroughly at heart.

We started on August 10, in pelting rain. Dr. Jack received a telegram from Mr. Bush just as we were ready to start, saying, "The Foreign Office, London, telegraphed yesterday immediate steps to be taken to remove all British subjects from China." Our train consisted of fifteen mules, five riding ponies, twenty-five carrying coolies, and our twelve trusty soldiers, with ourselves, servants and guides. The pathway down the hill to the Ya Lung river was exceptionally difficult, for on account of the rain the surface of the clay was soft and greasy, and the way was so steep that it was almost impossible to get a foothold. We stopped for the night at Moo-li-chang. We reckoned that our pathway had taken us seven miles, although the distance is but three in a direct line, with a drop of 4,000 feet. The rain continued in torrents all night, and it was still pouring when we started next day to cross the river, an operation which occupied the whole day, for there was but one small ferry boat, which would hold only two men, with their packs, and a pony or mule lashed on each side. These animals nearly swamped the boat each journey. The river was in high flood, with a very swift current, which carried the boat half a mile down the river at each crossing, and so caused a long delay. We pitched our tent at a farm house, a short distance up the hill, on the west side of the river, at Kwang-ja-Ping, the rain never ceasing all night; and next day we climbed the range we had been looking at daily from Maha, reaching an elevation of nearly 8,000 feet. Our path was very different from the one down which we had come from Maha, for, contrary to the usual custom that had contoured considerably, whereas this went straight up the face of the

mountain. It is not correct to call it a pathway, for to the uninitiated there was no sort of a track visible to the eye until we approached what appeared to be the summit. On reaching this we began to contour round a bend of the mountain, until we were stopped by a huge land slide, which cut our track off clean. Then, sorrowfully, we had to retrace our steps for about a mile, and to dive into the unknown country to look for another track, which was said to exist higher up the mountain. We became divided, but at length all arrived at a pretty little settlement that nestled in the midst of a grove of Scotch firs. We then began to climb down the mountain side to a gulch which we had seen daily all the way from Maha. It appeared to me that we had been doing that which I have often watched a string of ants doing when they are out hunting for food. If a tree comes in their line of march, instead of circling round the base, they will often climb up ten or twenty feet, laboriously carrying flies, caterpillars or other burdens up the trunk, and then, for apparently no reason, except that of follow my leader, they will circle half round and climb down the other side. I think it would have been far less troublesome, and certainly it would have been more expeditious, if we had walked a mile down the bank of the Ya Lung, and had there entered the gulch.

Our road now lay straight up the gulch, which was a roaring mountain torrent, with, in many places, perpendicular limestone cliffs on each side; and for fully two miles we were more often in ice cold water, knee deep, fighting our way up against the torrent, than we were out of it. In places we had great difficulty in making any headway against the current. We noticed several quartz veins crossing the gulch; but in our difficult position we had no time, nor inclination, to examine them.

Afterwards our path left the gulch, and zigzagged up a very steep, though well-wooded limestone hill, on the left-hand side, and we walked in pouring rain which made it very difficult to gain a foothold on the greasy surface. Thence we went on to

the village of Lo-ko-ti, which has an altitude of 9,000 feet. The inhabitants of this place were Lolos and Sefans. The only grain grown in the vicinity was buckwheat. We pitched our tent on a sort of village green, and lit a huge bonfire to dry our beds and clothes. My bed consisted of a wooden cot, which folded up and went into a canvas bag for transit; my mattress was of American cloth, corrugated on the inside, the corrugations being filled with corks of wine bottle size, which just filled the corrugations one after the other. This rolled up, and fitted into another canvas bag. My bedding consisted of a Jaeger camel's hair sleeping-bag, four ply, and blankets; these, when we were travelling, were rolled up in a large felt cloth, made of pulped bullock's or cow's hair, nearly an inch thick, and in anything but this abnormal weather it was quite waterproof.

We were told of a rich silver mine in the mountains above the village, and perhaps this mine accounted for the many silver ornaments that were worn by the dusky ladies, from whom I purchased a strip of black cloth studded with hemispheres of silver, each three quarters of an inch in diameter, an ornament which is worn round the forehead. I purchased also one with hemispheres half the size.

On August 17 we started on an easy ascent of 600 feet; then we went along a narrow ridge, from which we descended into the same icy torrent that we had left upon the previous day. I wondered what sins we were expurgating. We struggled on in this torrent, or on the rocks edging it, for hours, and climbed to a height of 13,000 feet before we got away from it. We were twice delayed by waterfalls. The first was ten feet high, and perpendicular, with icy water dashing over it, and here we were stayed for two hours, while all hands collected logs and rocks for the purpose of constructing a rough stair-way up which the mules and ponies could mount. The first mule to try the ascent was standing in the water with its fore legs on the steep steps, when its load overbalanced it and it fell backwards into

the stream. After this accident we removed the loads, which were carried up by hand. The mules and ponies then struggled up, each being pulled and pushed. We were all soaked to the skin, but this did not affect us adversely although it was a matter of daily occurrence, and I do not think one of our party caught cold during the whole journey, for in spite of the almost continual rain the air was very dry, and as long as we took plenty of exercise and kept warm, we dried in an incredibly short time when it ceased raining.

The second waterfall was easier to manage after our experience of the first, and so did not delay us for long. As we neared the head of the gulch we passed through a delightful wooded glade with level sandy ground, and the stream, now small, running through the centre. There I espied the only beast of prey we saw during the whole of our journey, a Tibetan sun bear, about the height of a St. Bernard dog. It was standing in the fork of a tree, about eight feet from the ground, with ears pricked up looking at us. I turned round to look for a rifle, and seized one from one of the faithful soldiers, who never left us, and took aim carefully at its shoulder. The rifle kicked violently, and the bullet knocked a spot out of a tree about six feet away from the animal. As the bear seemed to enjoy the fun, and did not move, I had a second shot with no better result. On my third shot it looked as though it had fallen, but on my running to the spot the bear was nowhere to be seen, and had evidently jumped down into the bush and had run off. I then examined the rifle, and found it caked with rust and dirt, and my only wonder was that it had not exploded. My own rifle was a mile or two behind, for as we had never seen anything to shoot I had not troubled to have it with me.

Soon after this we reached the saddle of the range at an altitude of 13,600 feet, and here we had our first view of a herd of yaks, browsing on a high grassy slope. The evening was now beginning to draw in, and we found it was

not possible to reach the next village before nightfall, so we hunted for a spot sufficiently level upon which we could pitch our tent. We had to be satisfied with a slope covered with low bush. We got no supper until after ten o'clock, for we were waterless, and had to wait till the moon rose in order to send coolies back over the saddle to the creek for water. This had been our hardest day's journey, and yet, owing to the difficulties we had experienced, we had covered only eight miles. In the mountain districts it is impossible to reckon in the Chinese li, for they reckon difficulties into the mileage. For instance they will tell you it is 40 li up a mountain, but only 10 li down to where you started.

Upon the following day, after descending a steep decline, and again ascending and circling round the head of a well-wooded valley, we emerged upon a series of beautiful parks on which herds of cattle were grazing, and which were surrounded by a dense forest of pines. Edelweiss was very abundant here in two or three different species, one a foot high with long, narrow petals. We then descended to Shu-pa-pu-dze, which has an altitude of 10,100 feet, and is situated in the midst of the most glorious landscape it is possible to imagine. The village is on a rounded grassy knoll that slopes away below the houses into the far distance, like a picturesque old country park of rich, well-grazed turf, studded by nature in perfect symmetry, with clumps of magnificent old Spanish chestnuts. Facing the village was a gentle grassy slope stretching down to the torrent, a few hundred yards distant, on the far side of which there arose, sheer from the water's edge, to about 4,000 feet in height, an immense perpendicular cliff of pure white crystalline limestone, as fine as Carrara marble, glistening in the sun as if studded with diamonds. This quite dazzled our eyes, and our ears were delighted with the gentle tinkle, tinkle, tinkle (like Japanese wind bells), caused by small fragments of rock for ever falling from the face of the cliff. Ta-er-doh, our guide, had no more idea of the road than a child, and had hired Sha^h Ba Shan

to show him the way, but it was a case of the blind leading the blind; the one knew no more about it than the other, and this ignorance could not be wondered at, because for miles on end there was no track; the ground on which we walked looked as if no foot had trodden it before. On this occasion Shaa Ba Shan went astray, and took us and our train through the park of Spanish chestnuts to a farmhouse 1,100 feet below Shu-pa-pu-dze, where an old woman with a huge goitre told him that the path led no further than the farm, and that we had taken the wrong road from Sha-pa-pu-dze. So back we had to trudge, a mile and a half, re-climbing the 1,100 feet that we had descended. Then the trouble began with the carriers, who crowded round Shaa Ba Shan, hurling invectives at the wretched man, who was reduced to tears, and could only appease them by the promise of a goat for supper. We pitched our camp on the grass outside the village (as it was too late to proceed further), the inhabitants of which appeared scared at the sight of foreigners in their midst, until they were reassured by our guides, who told us, however, that half of the people had cleared out of the village on our approach, and were even now afraid to return.

Upon the next day we followed the torrent down to the foot of the limestone cliff, crossed it, and circled round to the back of the mountain, of which the marble cliff formed a face, travelling over a very rough, wild country. Then commenced a very steep ascent, through a forest of immense pine trees, many of which had fallen across our path, so that our progress was slow. As we approached the summit of the range, the stately pines gave place to stunted windswept deformities, which disappeared in their turn to be replaced by evergreen oaks and by cotoneasters with masses of scarlet, orange and yellow berries. On gaining the summit of the saddle, which was half a mile wide, one of the most glorious and wildest prospects it is possible to imagine opened to our view. We were at the head of a very deep ravine, whose sides fell almost perpendicularly below us. In the distance the

ravine appeared to be very narrow, but at its head it widened into a large circular basin, a mile in width, around which rose sheer precipices of white crystalline limestone, 4,000 to 5,000 feet high. I feel sure now that if when we had reached the bottom we had gone back to explore the basin we should have found a cave or a subterranean watercourse, because when we reached the bottom of the ravine, and for its full length, six to eight miles, there was no sign of a watercourse, in spite of the heavy and constant rains. Our road lay along the lowest ground, which was narrow, with steep precipitous sides. The descent from the summit was the steepest we had yet experienced. These steep descents are very trying to the feet. We had discarded boots a few days after leaving Maha, because constant climbing down steep inclines drove our feet into the toes of the boots and so skinned them; and as we were not able to rest our feet the sores soon turned to ulcers, and then boots became unbearable. We found, by hard experience, that Chinese rice straw sandals were the easiest footwear for mountain climbing. One pair generally lasted a day, but often we used two and sometimes three pairs, according to the state of the track. The cost is only a few cash a dozen pairs, and they can be purchased in a variety of shapes in any village.

On gaining the bottom of the ravine by a series of zigzags we found, by Dr. Jack's aneroid, that we had descended 4,000 feet. We suffered considerably from thirst, for there was no sign of water; but we were partly compensated by delicious wild raspberries, of which there were very many. We found also in the valley blackberries, strawberries, and, sparingly, black currants, for in their case the bushes were poor bearers. We passed very many cave dwellings, uninhabited, with square portals, placed high up in the cliffs at the side of the ravine. I first noticed these in great profusion when I was travelling up the Little river from Chung King, and again at Kia-Ting, where I explored one, which consisted of three chambers, in Dr. Hart's

garden. In fact, they are met with all through Szechuan wherever there are sandstone or limestone cliffs of sufficient importance. They are said to have been made and inhabited by the ancient Miaotse, or, as they are now called, Mantzu. There was evidently a very large population of them, because in favourable parts of the country the cliffs are riddled with thousands of these square holes. I have no doubt they would be worth exploring for ancient relics. I cannot help thinking that these people must be related to the Aztecs, who originally inhabited the cliff dwellings of the Rocky Mountains. When I was mining in the San Juan Mountains of south-west Colorado, it was the custom for a number of miners, during the winter months, to go to dig up the floors of the cave dwellings in the Montezuma Valley, where they obtained Aztec pottery and other relics which repaid them well.

When we neared the end of the valley we were very much surprised to find that it ended in much the same way that it began, that is as high bluffs. These barred our way, and we expected now to have a stiff climb; but, to our great surprise, our path entered a wide, high cave, which had every appearance of having been at one time a watercourse. It gave access, in about eight yards, to a broad valley, with green, grassy slopes on each side of a swiftly flowing stream. At the mouth of the cave we were able to quench our thirst from a bamboo pipe which brought water from a spring above to a Chinese house, half temple, and half store and dwelling-house, built partly in the cave, the rest abutting against a limestone cliff. We then crossed the stream on a wooden bridge, and as it now began to pour with rain, and as we saw a village about a quarter of a mile ahead of us, we hurried there and put up at the house of a wealthy Chinese farmer. The rest of the inhabitants of the village were Sefans. The structure of the houses was quite different from any we had seen before in China, looking like real western American log Cabins, built of pine logs. The name of the village was Ta-pu-dza.

On the following day, August 16, we ascended to 9,700 feet,

hugging a towering white limestone bluff, to the summit of a pass, where we found a party of eight warlike looking Sefans armed with matchlocks and long spears. The matchlocks had barrels six feet long with an iron tripod fixed to the end of the barrel, the stock being shaped like a pistol handle. On a spring six inches in length near the lock, was a coil of tinder, smouldering at the end, which showed that the men were ready for action. They looked at us in a very sullen manner, and we could not interview them because our interpreters and guides were far behind. We did our best to look unconcerned and pleasant, examining their weapons, and itching to examine our revolvers to see if they were in order in case of necessity. At length we walked on down the mountain; followed by our surly-looking companions, who were joined by others, two or three at a time, who had been in hiding. At length we arrived at the village of Swang-nang Pudza, which has an altitude of 8,370 feet in the Mai-tzu-ping district, and by this time our followers had mustered to quite a small army. The village was more like a fort, with watch towers at each end, on which there were guards. As we entered the village, all the doors were shut in our faces, and the men began to shout and gesticulate wildly to the Sefans following us. We took as little notice of this as possible, but our Chinese soldiers became very excited, and shouted at the inhabitants, who, however, could not understand them. At length, finding a door of the largest house in the village open, we marched in, the owner protesting vigorously, and we sat down. Presently Ah Fu arrived, all smiles and politeness, and in his usual urbane manner he talked to the Sefans through Shaa Ba Shan. They altered their attitude at once, and became over-friendly, and explained that they had been at feud with the people of Ta-pu-dza for more than twenty years, and had sniped one another as opportunity offered. Only two days before our arrival two of the inhabitants of Ta-pu-dza had been caught sheep stealing, and were in chains in the village. The pass was kept guarded because

they expected a raid from the warriors of Ta-pu-dza to attempt a rescue. Some of their spies had given them notice that a hundred warriors had been ordered to attack them that day, and they naturally thought we were foreign soldiers helping them; but after we had been in the village a short time more spies came and said that their enemies were not coming, because the foreigners were on the road, and they did not wish to imperil them. After this the Sefans were most friendly, and brought us of their best to eat and to drink, giving us good quarters in a house built on a hill side, as all the houses in the village were, so that the entrance from the hill side of the house is on the first storey, which is the dwelling part of the house, while the entrance from the other side of the house is on the ground floor, which is cut out of the hill, and is used for stabling horses and cattle against marauders at night.

These people are great beekeepers, and it interested me very much to see a novel kind of hive that they used, which consists of a cylindrical log of wood, two feet long by one foot in diameter. The log is hollowed out from one end to within a couple of inches of the other, and has a circular disc fitted into the hollowed end. These hives are built into the walls of the house, about five feet above the floor. The solid end of the log protrudes slightly from the outside wall, and has two or three holes drilled to allow for the ingress and egress of the bees, while the bees are manipulated and the honey is extracted by removing the disc on the inside of the house. There were eight of these round the walls of the house we occupied.

Upon the following morning, August 17, we rode to Kai-ja-pu-dza, near the head of the same valley, on a gentle even grade. There was more cultivation in this valley than we had seen for a long time, maize, barley, oats and buckwheat being the chief crops. Our day's journey was limited to about three miles, our guide explaining that we had a very long stage to traverse on the morrow to Kwa Pit, and there was no village in between. During

the afternoon an escort arrived with the two prisoners in chains, and these kept with our party on the march next day to Kwa Pit, where they were to be tried. We had heard a great deal about the sub-kingdom of Kwa Pit and its Tootza from Tong Sing Kow, and we were very curious to see the Tootza, who is a local king, under the suzerainty of China. Tong Sing Kow was very high in his praise, as an excellent man, and he had written to him asking him to do all he could for us ; so we were off earlier than usual next morning, passing through a very grand country with high bluffs of white crystalline limestone, skirting a very beautiful lake of deep pellucid water surrounded by high cliffs of the same kind of limestone, standing back one hundred feet from the water's edge, and rising precipitously to a height of sixty feet. The level ground between the water and the cliffs was covered with flowering shrubs and evergreens, while the cliffs were festooned with creepers in great variety. The whole effect was that of a beautiful and well-kept garden. There was no bank to the lake, for the edge being of limestone went down as precipitously as the cliffs above, giving the appearance of great depth. Shortly after passing this we came to a placer mine, called Ma-jong-tzu, and we were told of two others in the neighbourhood, the Sung-ping-tzu and the Wa-li, thirty li from Kwa Pit. Passing round the head of the Maitzu-ping valley, at an altitude of 12,000 feet, a grand white peak comes into view, which must be a conspicuous peak seen from the Maha mine.

As we neared Kwa Pit we saw once more the Ya Lung river, below us, in a wide, fertile valley, and we were met by a large company of spearmen, with very long spears, and also of trumpeters and gong beaters. As we entered the gates a salute of cannon was started, but was quickly stopped in deference to our ponies, which got quite out of hand. The Tootza's castle, as we approached, looked like a mediæval castellated fortress, high up in the mountain fastness, at an altitude of 9,900 feet, but we were astonished, on closer inspection from inside, to find



TIBETAN BELL.



BRONZE DAGGERS FROM KWA PIT.

the castellated battlements surrounding the yamen were a pure deception, consisting of merely latticed framework made from split bamboo plastered with mud and painted on the outside to resemble stone. On the inside was a wooden platform, on trestles, only wide enough for one man to stand at the battlements, and this was breached in many places from decay. We formed in procession before entering the castle, and were received by the Tootza, in royal robes, with much ceremony, as the first foreigners to set foot in Kwa Pit. The ceremony over we found him a jolly good fellow. He implored us to stay several days, and he would arrange a big hunt of bears and leopards for us ; but to use an Americanism " we had not lost any," and did not feel inclined to lose time, otherwise I should have liked to have stayed there for a month. He appeared very disappointed on our declining the invitation, so we agreed to stay over one day and rest. He told us that his name was Chi King Liong, of the family of Poo Ta, which had reigned in undisturbed possession for thirteen generations during six hundred and thirty years, when his grand-sires emigrated from the Moso country to the north of Li-Kiang, and conquered the country with the help of the gods who fought with them. He presented me with two of the weapons hurled by the gods at their enemies, weapons which tradition says were dug from one of the gold mines six hundred years before, and had been lying in the temple as sacred relics ever since. These arms were two large daggers, very old and worn. One had the blade broken in half in the centre, and had been repaired by having two copper plates riveted to it. The other had lost the original blade, which was broken off near the hilt, and a copper blade had been riveted on, but even that had the appearance of being very old. He also presented me with a Tibetan hand-bell used by the Llamas, and a book of Tibetan war songs. This consisted of two boards, top and bottom, fourteen inches by three and three quarters, carved with dragons, and painted with red and gold. Between the boards were one hundred and forty-five pages of

thick, hand-made paper, written upon by hand in some ancient form of Tibetan. In addition to these presents he gave me a suit of Tibetan armour, which had a tunic of small gilded raw-hide plates, laced together with raw hide thongs, with a heavy fringe of yaks' tails round the bottom; also a helmet of wrought iron bands riveted to an iron framework and covered with gilded raw hide, in the shape of a pudding basin, with a tassel of yaks' tails falling over it from the top. This I presented afterwards to Mr. George Cawston, the chairman of the Upper Yangtse Syndicate, on my return to England. In return for these handsome curiosities, I presented the Tootza with a very inadequate present, the Wilkinson forty-five nickel-plated revolver, that I had bought from the Chinese doctor Chin at Kabin in Siam, and three boxes of cartridges; but with these he was very pleased. He would have very much liked my shot gun, with which he practised in an enclosed courtyard in the castle, firing at tame white pigeons sitting on the roof. He was delighted at killing two at one shot. We remonstrated with him for recklessly breaking the tiles and decorations on his roof, but he laughed and said that did not matter; it would give his men something to do. He was a great collector of arms, and possessed an armoury which was quite a museum of ancient and modern arms, from the most primitive cannon and matchlock to modern Winchester repeating rifles. There were six primitive long cannon with a one and a half inch bore mounted on wheels, also several three men cannon as they may be described; that is to say two men hold the cannon on their shoulders while the third takes aim and fires. The two men are knocked down by the recoil, but immediately they pick themselves up and prepare for the next shot. He told us that three shots generally disabled them, when others took their places.

The Tootza invited us to witness a murder trial on the second evening of our stay. The court-room was a veritable torture-chamber, various fiendish instruments being used for extracting evidence. The most diabolical of these instruments was one



TIBETAN BOOK FROM KWA PIT.



in which the legs were locked in two pairs of stocks, one above the knee, and one at the ankle. Above the place where the shins would come was a heavy sharp-edged piece of timber, fitted into a framework on each side. This, when the instrument was in use, was driven down with wedges, tighter and tighter, until eventually the legs were broken unless the required evidence were given before this point had been reached. However, nothing worse was used upon this occasion than the bamboo, upon a young witness who was presumed to be prevaricating because his evidence did not agree with that of a preceding witness. He was sentenced to two hundred strokes with the bamboo, and this sentence was carried out by six men in the centre of the court. The youth was stretched out, face downwards, on the floor, and a man sat on each arm and leg, the other two men kneeling, one on each side of him, holding in each hand a strip of bamboo, resembling a foot rule, but a little longer. This was held lightly, between the finger and thumb, and was brought down, whack, whack, whack, with no force, but always in the same place. The application of the bamboo brought up four nasty blood-red weals in a very short time; but it was stopped the moment the witness expressed a desire to give the correct evidence. Except for this incident the trial was conducted in a very just and fair manner, and the Tootza certainly did his best to get at the facts of the case. Eventually he committed the prisoners for trial in the Chinese court at Yen-yuan. He appeared very glad to have washed his hands of them.

We were introduced to his aged father, who had abdicated in favour of his son. The old man was paralysed in his legs and was carried about pick-a-back by a servant. The women folk also were brought down to inspect the foreigners. Uncles and cousins too appeared to live in the house, and taken all together they seemed to be a happy, quiet and orderly family.

The temple within the castle was a most interesting museum of ancient relics, and the old priest in charge appeared to be older

than any of the specimens. There were gold and silver trees, ancient manuscripts, bronzes, several suits of Tibetan armour and arms interspersed with stuffed leopards—(the leopard was evidently a sacred animal)—in very stiff attitudes, with large protruding eyes, and a facial expression never seen in nature. They were all covered with years of dust.

We said farewell to the Tootza on August 21. He strongly advised us to go south *via* Yung Peh, and said it was impossible to go *via* Yung Ning, because the bridges were washed away. We left in torrents of rain, and got a closer view of the Ya Lung river, which, at that time, puzzled us considerably, for here it flowed due north, whereas the river at Maha flowed due south. This remained a puzzle as this was the last view we had of it, although we were daily expecting to cross it. Dr. Jack (as stated in his book, *The Back Blocks of China*) afterwards made certain that this mysterious river was the Ya Lung, by comparing notes with Major H. R. Davies, whom he met on his return to Shanghai; for Major Davies crossed the river, not once, as we did, but three times. His passage is explained best by a drawing,

thus  We crossed it in this manner  We

lodged for the night at the Tootza's shintai yamen, or guest house, at Hai lu Tzu, at an altitude of seven thousand feet, and lit bonfires at which to dry our bedding and clothes.

Upon the following day we passed a great many charcoal ovens, which were very well and substantially built. The burners were not novices, but turned out an excellent product, hard and clean, with a ring like metal. We ascended a pass by an easy gradient, and descended a wide wooded valley in which we saw the unusual sight of a roadway with wheel ruts, the first road for wheel traffic I had seen since I had left the treaty ports. We found the valley had no outlet, and was deepest towards the centre, with a stream running from each end to disappear

underground in a limestone sink. Here we passed a company of Chinese soldiers, and an officer who had a very exciting palaver with Ah Fu. In the end he gave us an extra escort.

While we were climbing the pass at the far end of the valley we passed some seams of lignite which were worked in a desultory way, and on reaching the summit a welcome sight for foot-sore travellers met our gaze. We found ourselves at an altitude of 9,000 feet on a plateau that resembled a rolling prairie, stretching as far as the eyes could see. Here we were able to rest our legs and to ride to our hearts' content. A few miles across the prairie brought us to Ka-la-ba, where we stayed at the house of a Sefan chieftain, who was the owner of a big cattle and sheep ranch. In and around his home filth reigned supreme. The house consisted of a large barn-like building of wood, on the roof of which split wood palings served for tiles, through which water dripped all night. The outside walls of the house were plastered all over with cow pats, which, when dried, served also for fuel. There was no chimney to the house, and the inside walls were very beautiful to behold, for they were encrusted with crystals of graphite or plumbago, standing out in points, some of which were half an inch long, and resembling a jet black hoar frost, which must have taken many years to accumulate. There were two open fires in the room, and these were regarded as sacred, for when Mr. Morris casually knocked out the ashes of his pipe upon the fire, the good lady of the house went nearly crazy, rushing at him, shaking her open hands in a violent manner, scolding hard all the time. At this he began to whistle, which enraged the good lady still more. Whether the gentle notes were offensive to some deity, or only to her, we never found out. The smoke from the fires, the fuel of which was entirely of dried cow pats, made our eyes smart considerably. The house stood in the centre of a square yard, which had high walls, with lean-to sheds all round for cattle, and in one corner stood a loopholed watch tower, in

which an armed watch was kept every night in case the farm was raided by cattle thieves.

The yard was filled with cattle at night, and was inches deep in semi-liquid manure, for no straw was put down to absorb it. In this mess the cows lay at night, and were milked night and morning. No water was used for the washing either of the cows' udders or of the dairy utensils. The consequence was that the milk came in slate colour from dirt, and, being milked into sour pans, went sour at once. The butter made from this milk is of the same colour, and is rancid from the beginning. The good lady presiding over the cookery department took a lot of trouble to make us some buttered tea, and she was bitterly disappointed because we would not even taste it. The very smell was sufficient to knock one down ; but she quite gained our affection by making us some very good buckwheat cakes. There was no furniture in the room nor in the hall, with the exception of wooden sleeping bunks, which were arranged all round the walls, above which were hung an assortment of arms, crossbows, bows and arrows, long spears and matchlocks, while from the ceiling there hung strips of smoke-dried beef. The herdsmen appeared to share the house in common with the chief ; whether or no they were polyandrists we did not discover ; but there appeared to be an average of about a dozen men to one woman in the establishment.

We arranged our cots up the centre of the room, and had no sooner jumped into bed than it commenced to rain in torrents, and water came through the roof in streams. We got up, one after the other, to endeavour to find a dry spot, but all to no purpose. Each position chosen was worse than the last, so we spread mackintoshes on our beds and fixed umbrellas over our heads, and tried to think we were comfortable ; but sleep was denied us, for we were attacked by whole armies of fleas. After being an hour in bed, I got up in an agony of irritation ; and found my blankets were swarming with them ; so I swept them

together with my hands to the centre of the bed, and literally threw them by hundreds into the fire. They evidently found the white man more succulent than the coloured. I had often congratulated Chinese innkeepers on the number and size of their bed-bugs, and they appeared highly complimented, but I had never seen the irritating flea in such profusion. We always preferred to sleep in corn cribs, barns or open sheds rather than face the live stock we knew from experience we should find in the houses; but if by chance we were forced by circumstances to sleep in a house, we invariably had to search our underclothing for *Pediculi* before dressing in the morning, which we did, as a rule, to the tune of "We'll all go a-hunting to-day."

Dr. Jack had purchased during the previous evening an ancient Tibetan book from the chief for the sum of 16 taels.

Upon the following day we continued our journey across the plain, which we learnt was about thirty-five miles in length by fifteen wide, passing herds of cattle and flocks of sheep. The sheep are not brought to the homestead at night, but are folded in bamboo lattice hurdles, the shepherds sleeping with them in a temporary hut. Here we passed, for the first time, wheeled carts, drawn by oxen. The carts were very primitive, with solid wooden disks for wheels, such as one might imagine that the ancient Britons used. In a few miles our road joined a really good road, coming from the north. This on enquiry, we were told was the main road to Cheng-tu, which passed through Shaa-ba, and we wished (now that it was impossible to go *via* Yung-ning), that we had travelled by it, as we should have saved much time. At this spot were some earthworks and trenches constructed by the Tootza of Kwa-pit during a rebellion five years previously. A few miles further we passed the village of Sze-tang-dza, and a little later crossed the Pei-sui-ho, and arrived at the village of the same name. The Pei-sui-ho is said to be the boundary of the Sefan country, and certainly the country to the south of this river bore quite a different aspect, and was well cultivated with oats,

barley and buckwheat all the way to Yen-ching, about five miles distant.

The altitude of Yen-ching is 8,450 feet. It is a Chinese town of considerable size, with the dirtiest and most disreputable of inns. The inhabitants, too, were very aggressive, or rather inquisitive. We tried one inn after another; but each one we examined was worse than the last. However, we chose the best of a very bad lot. In this town we purchased some nuggets of gold nineteen taels weight at thirty-one taels per tael of gold and seven taels weight at thirty and a half taels per tael. A tael weight equals 1.208 ounces.

Evaporating brine is one of the chief industries of Yen-ching. The brine wells are quite shallow, not over fifteen feet deep. The output is said to be nine hundred thousand piculs of salt a year, and the industry gives employment to about five thousand people. Another great industry is working jade into snuff bottles, bracelets and other ornaments. The stone is quite a distinct variety of jadeite called water jade. It is of a grass green colour, mottled, not spotted, with black, and it is highly prized. It certainly has a more translucent and liquid appearance than ordinary jadeite. I purchased two circular bracelets for specimens. Whole streets in the town are given up to jade cutting; inside every door a lapidary's wheel is at work all day.

This is a famous country for mules. Next morning, before starting, I purchased a fine riding mule; and we hired several more pack mules and got rid of carriers, making our pack train up to nineteen mules. In the first four miles we passed thousands of beasts of burden, ponies, mules and donkeys, also men, women and children, all carrying lignite for evaporating brine. This brought us to the place, Ho-chu-pu, where it is quarried. After the removal of thirty feet of overburden, the lignite seam is more than fifteen feet thick. We could not see the footwall of the seam, for it was under water. Ah Fu talked to the headman about it, and explained that it was "just now lit-e-bit soft coal,

lit-e young, by and bye when more old makee all ye same hard coal."

The flowers about here were very gorgeous, and must have been at their best. Magenta coloured polyanthuses, an auricula, a great variety of lilies, larkspurs, columbines and clematis climbing over the rocks and tree trunks ; also a profusion of edelweiss and numerous ferns. After travelling for some distance through a well cultivated country, growing barley, oats, and buckwheat, we descended a broad valley, where we once more saw rice and maize growing. We were now at an altitude as low as 7,800 feet, and at a point near which is the residence of the Tootza of Tong-su. We then ascended a gulch to 8,400 feet, and commenced a long descent down a wooded valley, at the mouth of which an escort from the Tootza of Tong-su awaited our party. I happened to be some distance in the rear of the advance party, for I was riding in a chair ; but still I was some distance in advance of the mule train. Our stage was extra long, and I got benighted. The road was very rough, my chair continually bumped on the rocks, and at length collapsed and the bottom fell out. This ended my ride. I had not walked far when I passed a Chinaman riding a pony, from which I made him dismount, and, giving him a lump of silver, I mounted, and beckoning him to follow, galloped along in the dark, with a couple of soldiers and the owner scrambling along behind. On nearing Whang-shaa-baa, the track circled round a hill side of greasy clay, on which my pony slipped and went head over heels, throwing me, and we both went rolling down the hill. However, I picked myself up, not much the worse, and in a short distance saw the lights of the Shintai yamen, lent us by the Tootza of Tong-su. Some liveried chai-jens, belonging to the Tootza, came out and escorted me into the yamen. While our dinner was being prepared we received an official visit from the Tootza of Tong-su. The Tootza of Kwa-pit had informed us that the Tootza of Tong-su was his cousin, and that he had sent a runner ahead of our

party, with a message, asking his cousin to see that we were properly looked after. The Tootza of Tong-su told us his family history, and gave us an account of the industries of his province, which were principally connected with the salt wells and with the evaporating factories. His name was La Soh Kong, he was twenty-one years of age, and he had taken up the reins of government only recently, his mother having acted as regent during his minority. He was a charming young fellow, and appeared most thoughtful for our welfare, offering to do anything he could to further our comfort.

During that evening, before I retired to rest, I treated a swollen leg with the contents of a bottle from our medicine chest, which was labelled tincture of iodine. I noticed that it burnt like fire, but I gave the limb three good dressings, and after a short time the liquid burnt right into the flesh, and caused an ulcer as large as a five shilling piece. The swelling, however, disappeared like magic, but the wound took a long time to heal, and its condition necessitated that I should ride in a sedan chair as much as possible. After this curious behaviour of what was supposed to be iodine, I examined the bottle more closely, and found that it was carbolic acid which had turned brown with age and exposure, and so having been taken to be iodine, had been so labelled in the hurry of our departure from Maha.

Upon the next day, August 25, we ascended to a pass which had an altitude of 9,200 feet, and we then commenced the descent of a long valley, on an easy grade, to the Pei-sui-ho river, crossing a tributary half way, and continuing some four miles further, passing several seams of fair coal lying on a bed of limestone, with sandstone capped with conglomerate above it. On reaching the Pei-sui-ho we found it had increased to a mighty river since we first made its acquaintance on the Sefan boundary. Here it commenced to pour with rain, so we made ourselves comfortable under some shelving limestone cliffs, and had our luncheon. On the banks of the river grew some delicious wild plums, round and

red, which looked and tasted like plums that grew on the river banks in Kansas, U.S.A. We found also wild pears and apricots, but both were hard and sour.

We crossed a tributary by a good stone bridge, and following the south bank of the river, past a small village, and under some high limestone cliffs, we arrived at the village of Yen-tang, 7,500 feet above the level of the sea. We had been now fifteen days travelling from Maha, and had accomplished about one hundred and forty-two miles, or an average of nine and a half miles a day.

CHAPTER XVIII

TO YUNG-PI

WHEN we reached Yen-tang a party of chai jens (yamen runners) and soldiers were waiting for their excellencies the foreign travellers at the gates, but we looked so disreputable and travel-stained that they let us pass, thinking we were only their excellencies' servants, and that the great Dar jens proper would certainly enter such an important city in fine robes and in green chairs. However, they flattered the vanity of Ah Fu by escorting him into the town half an hour later.

Yen-tang has a considerable salt industry, belonging to the Tootza of Tong-su, who informed us that Yen-tang produced about one hundred thousand picul a year.

During the following day, August 26, our road led us along the south bank of the Pei-sui-ho for a few miles and then turned south up a gulch to a pass, nine thousand four hundred feet high, and contoured the summit of the divide for some distance, before it descended a wooded hill which brought us in about four miles to Lan-tzu-ko. The pass is probably the dividing line between Szechuan and Yunnan, for we were told that Lan-tzu-ko was in Yunnan. This village is situated on the Yang-sui, a tributary of the Pei-sui-ho. The sand banks of the Yang-sui were being washed extensively for gold.

We continued our journey to Tai-yi-fang, a dirty, poverty-stricken village, where we were lodged in a school-house, built in the form of a quadrangle, with a yard in the centre in which was a very savage dog which appeared to have a great antipathy to foreigners, but took no notice of Chinese or Sefans. We had

secured possession of a roomy loft on the first floor, enclosed on three sides, but open to the yard, and we had to clear out a lot of agricultural implements and lumber before we could make room for our beds. We had just settled down to a quiet game of poker, a game we played almost every evening, for horse beans, in which we gambled recklessly to kill time, until sleep overtook us. We did not keep late hours, but on this occasion we began to play while dinner was being prepared. Then, buzz, buzz, and wasps appeared in large numbers. On our looking up a wasps' nest was seen, hanging from the ceiling, over our heads. This caused consternation for a few minutes, and, after some talk of destroying it, wiser counsel prevailed, and it was decided to leave it severely alone, with the result that no one was bothered by the wasps. On retiring to rest we got very little sleep, for our mules and ponies were huddled together in the shed underneath us, and they amused themselves by kicking each other and the sides of the building during most of the night. In the school the children, many of whom were as naked as they were upon the day on which they were born, were learning to write Chinese characters.

We climbed, next day, hill after hill, all limestone, until we reached an altitude of about 11,000 feet, and emerged through a thick wood upon a large, park-like plateau, shaped like a lake, with banks all round, but no outlet. Evidently it had been a lake at one time, but now was drained by a subterranean stream, a geological phenomenon existing in all limestone areas. There were no cattle on the plateau, but there was plenty of evidence that they frequently grazed there. The wild flowers here were very pretty and varied, edelweiss predominating. In about a mile and a half, we reached the other side of the plateau, and proceeded through a rough, grassy country, on which were Sefan shepherds tending flocks of sheep, and came to the Sefan village of Pei-yang-sung, where we drank tea at the house of a relative of our guide, after crossing a fair-sized torrent, on the bank of which we had a good meal of wild strawberries. The country

for the last few miles was well supplied with wild raspberries, plums, apricots and pears, interspersed with junipers and box trees. These box trees were the first I had seen in this country. The only bird life noticeable consisted of thousands of crows and a few turtle doves. The cultivated crops were maize, oats and buckwheat.

After a rather hard day's travelling, we arrived at Ya-chow-ping, 9,200 feet above sea-level, and we lodged at the house of a prosperous farmer. Here Dr. Jack was bitten in the calf of the leg by a large dog that crept up silently behind him. Mr. Morris and I seized our guns and peppered the animal as it ran off, scared at the anathemas we hurled at it; and then I attempted to cauterize the wound by rubbing into it crystals of permanganate of potash. After a few days the wound healed but left a dark brown mark under the skin. It poured with rain all night, and we could not find a dry spot in the house, so that we had to sleep under mackintoshes and umbrellas. No wonder the roof leaked, for it was tiled with long strips of split wood, which had warped and curled by exposure to the sun, leaving spaces sufficiently wide to pass a hand through between each board.

We had a long yarn with Ta-er-doh, who insisted that his instructions were to take us through Yung-peh and Tali-fu. I do not think he had ever heard of such places as Yung-ning and Chung-tien, or at least he professed ignorance of their location. I think he was correct about his instructions, because every official along the route pooh-poohed the idea of our going *via* Yung-ning.

On August 28 we started with a steady climb up to 9,800 feet, and first learnt the horrors of a paved road. After crossing the pass we descended for about eight miles, down a gulch, and climbed to nearly the same height again, and down to the Sefan village of Po-lo, which has an altitude of 9,000 feet. Here we put up in a very dirty village of cattle owners and herdsmen, but we found in this place the first sign of approaching civilization

in the shape of rupees stamped with the head of Queen Victoria. The Sefans, however, would insist that it was a Chinese coin with the head of the Empress of China. These rupees are used as sycee or bullion, that is when a purchase is being made the silver is weighed out by a small steelyard, and if there is not sufficient in whole rupees, one is halved or quartered to make the correct weight.

In the evening the Sefans gave us an exhibition of dancing, in which half a dozen men and the same number of girls joined. They first lit a fire in the centre of the room, and performed round it. The dancing was very like village step-dancing in England, and was danced to music played on a reed organ, which was not very lively.

Before this we had witnessed the trial of a horse thief. The trial was conducted in a rough and ready way in the centre of the village street by the headman of the village, who appeared to have the power of life and death. The man was proved to be an habitual horse thief, and was sentenced to be decapitated next day unless he could find two sureties for his good behaviour, their own heads to be the security. Under those conditions it is not likely that he would find anyone to stand surety for him.

It rained all night and we found the roof of our house no better than the roof under which we had slept during the previous night, so mackintoshes and umbrellas had to be called into requisition again. On August 29 we ascended for about five miles to an altitude of 9,200 feet, through a wooded country, where the principal trees were oaks, cork oaks, pine trees, evergreen oaks, alders, with a profusion of flowers, among which were the ubiquitous edelweiss, columbines, yellow polyanthus, purple cowslips, lilies, red-hot pokers, and various pretty climbers, among which was a white clematis. Then we had a long descent of eight miles, down a sparsely cultivated valley, the chief crops of which were buckwheat and oats. The geological formations here were red sandstones and conglomerates. We stayed at the small village

of Show-ping, 8,600 feet above sea level, having accomplished two hundred and sixteen miles in nineteen days.

During the following day, August 30, we ascended, by an easy road, to a pass which had an altitude of 9,300 feet, and then came a terrible climb down a very steep incline of soft sandstone and greasy clay shale. The track, in many places, is, without exaggeration, twenty feet deep and three inches wide at the bottom, the side sloping at an angle of forty-five degrees on each side, and is so worn by many centuries of mule traffic ; for it is only sufficiently wide to accommodate the hoof of a mule. The natural tracks in the wilds of the mountains are infinitely preferable to the paved tracks in the neighbourhood of towns, or in highly cultivated areas, for in China that part of the country which is least adapted to cultivation and is of no possible use for any other purpose, is given up to the great trade routes, and across these neglected parts the muleteers, mules, ponies, carriers, officials and all travellers find a foothold as best they can. On the plains the tortuous winding paths twist in and out through the flooded rice fields elevated two or three feet above the sodden ground, and usually these paths are paved with round water-worn stones, never more than a foot wide, and more often only six inches, on which it is practically impossible for anyone but those who have spent their lives on them to get a foothold. Then every hundred yards or so an irrigation ditch has been cut across the path, into which the unsuspecting traveller will assuredly fall head first sooner or later. When you leave the rice fields and get into the hills you find the road has never been repaired from the day the first mule set foot on it, and so it is hollowed out by constant wear and serves as an irrigation ditch to carry water to the rice fields, with subtly concealed stones of all shapes and sizes hidden at irregular distances within its muddy depths. Really one might have thought the road from Yang-pi to Yung-ping, over which we travelled later, had been specially constructed to stay the advance of the British Army now supposed by the Chinese to be marching from

Burma. A great volume of traffic is passing continually along this road, which, for several miles on end, consists of a trough three to four feet deep, filled with mud and water, in which stones, resembling kerb stones, are fixed firmly on end at uneven distances of from one to two feet. These stones are either pointed or rounded on the top, and as they are concealed below the muddy water, the poor travellers and beasts of burden and carriers with heavy loads, slip and slide upon them, bruising and scraping the skin of their shins. It is impossible to leave these tracks if once you are in them, because the sides not only slope at an acute angle but they consist invariably of greasy clay. Where the roads are paved with flat stones, crystalline limestone has been carefully selected as the most serviceable, because it takes a fine polish, and on the surface of these stones mules and pedestrians can amuse themselves trying to obtain a foothold. On one steep hill that we climbed these flat limestone slabs had been laid with interstices of one foot and more between them of liquid mud, two feet deep. Many of these slabs have holes worn right through the middle, by the constant tread of the hoofs of mules, and they have one to two feet of liquid mud below. These holes, with funnel-like sides, are invisible, because they are filled to the top with liquid mud, and thus they are calculated to break the leg of any animal except those which are inured to such tracks by continual use of them day after day. Naturally, one is led to suppose that the owners of mule trains would insist on repairs being carried out by the officials, or, if that were impossible that they would club together and make the repairs themselves to insure the preservation of their mules, but no action of this kind is taken, although the mules can only bear the severe strain for a few stages without resting, and our muleteers were constantly changing mules at the different towns on account of their legs having been so terribly skinned and bruised that they were no longer fit to travel.

After descending 2,000 feet in one steep incline on this terrible track, we landed on the level plain of Yung-peh, which has an

altitude of 7,300 feet, and we thanked heaven that we should be able now to rest our legs by riding for some miles, little thinking we were jumping out of the frying-pan into the fire. Alas, we were given no chance to rest our weary limbs ; we had reckoned without our host, for the road, which twisted in and out through rice fields, was paved with rounded, highly-polished stones, and the interstices were filled with slime. But enough of Chinese roads !

The plain, which was about five miles across, was highly cultivated, the prevailing crops being rice and maize, and it was freely interspersed with small farming villages. The town of Yung-peh was four-fifths of the way across this plain. We had sent a guide on ahead to procure fresh mules, as ours were very footsore, and he met us on his way back, returning with some chai-jens bearing a message from the Ting of Yung-peh, telling us he had prepared a yamen for our reception, where we should be under his protection, as his people had heard of the Chinese trouble with foreigners, and he would be afraid to put us up at an inn. We passed a dilapidated coal mine, and, near the centre of the plain we crossed a small river on a well-built stone bridge, and arrived at Yung-peh-ting, a walled city, the walls of which had been breached in former years or had crumbled in decay. They were very picturesque, however, for they were covered with flowering creepers, and the earthworks inside, which, as usual, rise to within a few feet of the top of the wall, were covered with trees and shrubs.

Soon after our arrival, we received a visit from the Ting, who was very civil, and sent a string of chai-jens with the usual presents. He took a great interest in our route, and advised us strongly to abandon the idea of going north to Atunze, which was now proposed because Yung Ning and Chung Tien were by this time out of the question, and equally strongly he advised us to go by Tali Fu and then a five days' journey to Sin-kai ; where we could get a steamer to take us to French territory. The

position of Sin-kai puzzled us greatly, and naturally we thought it must be on the Mekong river, for that is the only river which flows into French territory. However, I knew from travelling in Siam and Cambodia that the Mekong is not navigable much above the Bien Ho lake.

Later, I took a walk with Ah Fu through the town to the city wall, where I found a great variety of trees, many of which we had not seen previously—pine trees, cedars, birch, aspen, ash, wild orange, judas trees, mountain ash, alder, also wild fruit trees, pears, apricots and plums, mulberries, raspberries, pomegranates and black currants. Further, there were some very tall cacti, resembling huge antlers, and also many kinds of shrubs: dog-wood, sumach, juniper, seringa, mimosa and berberis, but the most interesting shrub was the privet (large leaved) *ligustrum lucidum*, on which the white wax insect lives and thrives, but makes no wax, and so is carried to Kiating, on the Min river, where it forms white wax on a species of ash, *fraxinus chinensis*, as I have described on page 220.

The Ting again tried his best to dissuade us from going to Assam, and strongly advised us to go to Sin-kai, which we afterwards learnt was Bhamo. He was, however, rather mixed in his geography, for he said that a French boat called at Sin-kai once a fortnight, and would take us to French territory. Personally I was always in favour of making for Bhamo. Here I purchased a new sedan chair, as the sore on my leg had become an open ulcer, and I dare not walk too much.

On August 31 we crossed to the west side of the plain and climbed some low hills, upon which grew patches of prickly pears and some more tall cacti, like huge stag's horns, ten feet high. We descended 1,500 feet by a steep gradient to a rich agricultural valley in which grew rice, maize and tobacco. I do not know much about the preparation of the leaf for smoking in civilized countries, but our treatment of it was not a success. The only tobacco we could buy was raw, sun-dried leaf, which

we piled up, one leaf on top of another, until, rolled round, they made a bunch as thick as your arm. Then we bound the roll round, as tightly as possible, until the nicotine oozed out, after which we cut it in thin slices; but it was pain and grief to smoke and it was next to impossible to keep it alight. The Chinese themselves place the leaves in a press, which they wedge up tight as a board, and then plane the tobacco with a jack plane, very fine, and smoke it in water pipes, the bowl of which will not hold more than a little roll the size of a pea. The tobacco is rolled to this size between the finger and thumb.

The river which waters the plain is bifurcated into innumerable small streams, and so is made to provide a perfect system of irrigation. On the grassy side hills were numerous herds of ponies, mules, cattle, and goats, and the air was sweet with the scent of pink cherry pie, which grows here in the streams. When we had travelled about two miles, we passed through the village of Toong-chu-kai-ja, where a theatrical performance was in full swing, and five miles more journeying brought us to Ching-kwan, which has an altitude of 5,500 feet, where we stayed for the night.

Our journey next day lay up a tributary of the Yung-peh river, to an altitude of 7,000 feet, where a copper mine was being worked on the opposite bank. We had passed a long mule train, upon the previous day, carrying disks of copper matte, presumably from this mine. We now entered a basalt country in which the basalt rock carried small veins of carbonate of copper, near the contact with the limestone, which it overlay. Here we commenced the descent to our old friend the Yangtse, through a forest of walnut trees, in which were enormous heaps of walnuts, in close proximity to grinding arrastras. These consisted of a large circular stone pit two feet deep, round which two stone rollers, fixed to a cross beam pivotted in the centre of the pit, follow one another, drawn by a pony. The stones crush the walnuts, which are afterwards caked and pressed solid in heavy

wooden presses, tightened by wedges. The oil extracted is used for burning in lamps. We then passed through the village of Ta-won, and arrived, just as it was getting dark, at a farmhouse called Tzu-li-chang, where we were received kindly enough by the farmer ; but his wife flew into a furious temper, and not only would do nothing for us but would not allow our cook to prepare dinner, and this, too, in spite of her husband's and our entreaties. We could get nothing to eat until ten o'clock, when her fury had somewhat abated through sheer exhaustion. Our eyes smarted terribly all the while from wood smoke which came from an open hearth in the centre of the room, to which there was no chimney. Upon the following day we soon reached the Yangtse, and walked up its banks for about a mile, passing a cave in the limestone from which issued a rather large stream. We arrived a little later at the Li-kiang bridge, a chain suspension bridge, three hundred and thirty feet in length, supported on eighteen chains with one on each side for a hand rail. The chains at each end are anchored deep in the solid rock, and upon them are laid loose wooden planks, several of which were missing, so that we had to take up those behind to make good our road in front. The links of the chains are ten inches long, made of one inch wrought iron. The bridge swayed considerably in the wind, a circumstance which made one feel rather glad at getting safely across.

On the west bank was the village of Chang-pien, where we purchased a bottle of samshu (rice spirit), as Dr. Jack had unfortunately broken his flask of whiskey by dropping it upon the paved road. It was the only whiskey we had, and was being kept expressly for an emergency. Samshu has a horrible taste, not unlike methylated spirits. When we left the village we had to cross a dangerous torrent, a few feet above a high waterfall, at the bottom of which was a boiling surging mass of water. Our mules and ponies had to ford the torrent, and one false step would have sent them to the bottom of the abyss. However, they all

got across safely, and we had to walk over a plank about eight inches wide, made of a fir tree hewn on two sides.

At the foot of the hills were a great many bushes with leaves like mimosa, and fruit like gooseberries; also some large cacti. As we advanced the ascent was very steep up a wooded hill, on which we saw some speckled partridges. At length we reached the village of Tin-na-ko, on the summit of a spur, at an altitude of 8,250 feet. On September 3 we continued the ascent by a fairly good road, intelligently graded to 9,700 feet and descended a gulch to an alluvial plain. Just before we reached the plain my chair, which had been getting very shaky, fell all to pieces like the one-horse shay, and was left on the hill side. However, I was able to ride a pony here, because it was possible to avoid the hills, each with a village upon it, which dotted what otherwise was a very level plain. Five miles across this plain brought us to the town of Li-kiang Fu, where I purchased a new chair. The hill sides that rise from the plain consist of thick beds of travertine, a secondary formation composed of deposits from springs carrying calcareous matter in solution; and the soil of the plain was formed from decomposed travertine, which was evidently very poor from an agricultural point of view, for the crops were miserable. The rocks were of limestone, capped with conglomerate. We saw several turtledoves, magpies, and flocks of green paraquets, and also some kites. The flowers and ferns were very beautiful, edelweiss, columbines, pæonies (red), various lilies, purple daisies, sunflowers, polyanthus, red, yellow and magenta auriculas, blue larkspur, monkshood, henbane, ragged robin, thistles, horehound, dead nettles and stinging nettles. Red colias were grown as a crop for dyeing purposes.

Li-kiang appeared to be a city of women, cripples and priests. Dr. Jack went to call on the hsien, who was a feeble old man, and he explained that the reason there were no able-bodied men in the town was that there had been serious riots in Yunnan Fu,

and the missionaries had been compelled to leave for Sin-kai, *via* Tali-fu, and had been attacked on the way. Therefore, twenty-five hundred soldiers had been ordered from Li-kiang, and twenty-five hundred from Chung-tien, to restore order and to protect the missionaries. However, there were sufficient men left in the village to annoy our cook by crowding on the stairs of our inn in such numbers as to prevent him and the boy from bringing up our dinner. At last they found these inquisitive loafers such a nuisance that they pushed two or three of them headlong down the stairs. This raised a riot and a free fight that might have ended in serious trouble if some chai-jens had not rushed in and stopped the row. The hsien apologised for not calling on us, but excused himself on the ground that his district was so poverty-stricken that he could not afford to keep up the state appropriate to a man in his position, and he was ashamed to turn out with his shabby retinue. He informed Dr. Jack that the telegraph line was cut between Chung King and Hankow, and between Yunnan-fu and Peking, but it was open to Sin-kai. The fu and hsien both stoutly refused to send an escort with us to Chung-tien, and said our only safe route was by Tali-fu. This I strongly urged upon the party all the time; for though I had not read Prince Henri of Orleans' book, yet Mr. Archibald Little had told me that it is almost impossible to cross Tibet to Assam. We stayed discussing the situation for another day, when the officials at last made a compromise by agreeing to send an escort to Atunze, *via* Wei-si. We could see from the verandah of our inn a snow-capped mountain, with a glacier, which must have been somewhere about 20,000 feet high.

We paid off our guides, Shaa Ba Shan and Ta Er doh, who had become useless now, because they were out of their beat and did not know the country. They were rather too attentive as we started off, letting off crackers, much to the annoyance of our ponies. We crossed now the remainder of the plain, and climbed to an altitude of 8,300 feet, on an easy grade, over hills of

limestone and andesyte, and then descended one hundred feet to a marshy plain, with a big shallow lake, along the shore of which we rode for about a mile. The crops of the plain were very poor. There we first saw some Japanese ribbed gingham umbrellas. Next we ascended a hill which was one of the most curious sights I have ever seen from an arborist's point of view. It was covered with a dense forest of Scotch firs, and resembled an enchanted wood in a fairy story, for every tree was twisted like a corkscrew. Both the bark and the fibre of each tree curled round and round with such force that the whole tree assumed a spiral form from top to bottom. It is easy to imagine a solitary freak of this sort, but for a whole forest to go through such contortions seemed uncanny. Many trees were broken by wind storms, so that we were able to see distinctly the spiral form of the grain, and evidently this twisting had made the trees far more brittle than is the ordinary Scotch fir with straight grain. The trees would be quite valueless for timber, because no straight wood could be cut from them. I noticed very much red berried or red flowered mistletoe in these trees. A short distance further up the hill brought us to the La-su-ba-llamaseraï, a handsome, clean building, newly gilded and painted, both inside and out. It had a fine quadrangular cloister with large gilded Buddhas sitting in rows all the way round. We noticed particularly a very fine incense burner on a pedestal of orange brown and white marble breccia. There were many very dirty llamas in grey robes and cowls, with rosaries of round black seeds and grey grass seeds, and from these llamas I purchased some, and also a new grey saddle pony. We slept in a large three-sided room, the fourth side being open to the air, and over this opening we fixed the fly of our tent, for it was raining hard.

On September 7 we continued our climb through the contorted forest to a pass, 8,650 feet, then across a plateau full of subsidies, sinks and subterranean streams, and descended 2,550 feet to the Yangtse, which is here 6,100 feet above sea level, getting a

view of another lofty snow-capped mountain said to be 16,000 feet high. Soon now we arrived at Shi-ku, which has an altitude of 6,200 feet, a village we had kept in sight since we first came to the river ; and in two miles more we reached Moo-chi-ti, having travelled two hundred and ninety-seven miles in twenty-nine days.

On September 8 we followed the right bank of the Yangtse all day on a paved road, and my new grey pony was not a success, for he came two bad croppers. I picked many new ferns, and these I carefully preserved in an old note-book. I had picked and pressed some specimens of every variety I had seen since we started from Maha. The rocks exposed at the side of the river were basalt, limestone, chloritic and mica schists. A very curious feature of this part of the country was the large percentage of people suffering from goitre. It was in some villages the rare exception to see any one without it. The natives must be a very short-lived people, for men and women in the prime of life had great difficulty in breathing, and went about all day with their mouths open, looking as if they would choke on the slightest exertion. Many younger people were in the same condition. Whether the disease had anything to do with the water from limestone I do not know ; but I noticed it was always most prevalent in a limestone country ; in some towns and villages fully 98 per cent. of the population had goitre. It is significant that in our own country the disease is known as " Derbyshire neck," and much of the area of Derbyshire is composed of limestone.

The Yangtse is not known by that name in this part of the country, but by the name Kin-sha-ho (river of golden sand) ; in fact, I never found it called by the name Yangtse by any Chinamen, not even from Shanghai to Chung-king. It was always spoken of as the Ta-ho (Great River). We stopped for the night at Ta-tang (large sugar) and were lodged in a roomy corn loft in company with two coffins, which we tried to get removed ; but the owner objected strongly, so we had to put up with them. Our

loft, which was open on one side, looked upon a yard in which all our ponies and mules were tied, and which was pandemonium during most of the night, with dogs barking and ponies and mules fighting. The new muleteers we got at Li-kiang carried wicker work muzzles for the mules to wear at night. The muleteers carried them on their heads as a sort of helmet during the day. Ah Fu explained to us that this day, September 8, was the thirteenth day of the eighth moon of the twenty-sixth year of Kwang Hsu, and was the moon's birthday, when we must kumshaw all coolies. So we told him to buy them a goat, at which they were greatly pleased. On September 9 we travelled along a good road on the river bank to within sight of Chi-tien. The river for the whole forty miles from Shi-ku was navigable for rice boats and small junks. At several places the natives were washing the sand for gold, but this was no indication of any great wealth, for washing gold to the value of two or three pence a day repays them well. Before reaching Chi-tien we turned up a wide gulch to the west, with a fair-sized torrent running into the Yangtse, and passed through a forest of Spanish chestnuts, fine old trees, with trunks four to five feet in diameter. The rocks were hornblendic schists, and shales. We stayed at Ku-tu-wa, a small village about a mile up the gulch, for the third consecutive night in a corn loft, this time with one coffin. The next day we ascended the gulch, the sides of which closed in and became very precipitous. The gulch opened out at the village of Ta-pien-ta, 8,300 feet above sea level. We then descended a rocky valley, where I collected many beautiful ferns of kinds that I had not seen previously, and emerged upon the swampy agricultural plain of Lu-tien and arrived at a handsome new llamaseraï of the same name. We found no one at home, but about a dozen formidable-looking black and tan dogs of much the same size and shape as a Newfoundland dog. These barked furiously at us, but they were cowards and disappeared when they found their barking was of no avail. After waiting



TIBETAN BOWL FOR MEASURING RICE.



TIBETAN BOWL FOR MEASURING RICE.

for a short time, and resting in an outhouse, the two llamas returned with a large retinue of choristers, bandsmen, and acolytes, with a great collection of gongs, bells and drums. One llama was a very old man, affable and kind, with highly-polished manners, which the younger man lacked, for he was offhand and brusque. Each was dressed in a scarlet robe, and a sort of black cloth biretta. However, they both did their best for us, and brought out a box of dried fruits, figs and plums, and an assortment of sunflower seeds, melon seeds and other fare, which reminded me of Spratt's parrots' food. In the meantime the granary was prepared for our reception. The old man told us he had been a three days' journey to bless a new house, built by a rich farmer, for a fee of ten taels, and he explained that the reason the people suffered so much from goitre was because the salt was so impure. The poor people use what is called black salt; we had seen it at the salt-evaporating establishments and in the market-places, and it certainly was of a very bad colour, but I doubt if that is the cause of the goitre. The old man was much taken with my watch, and held it to his ear for a long time, to hear it tick. As I had two watches with me, and one did not keep good time, but would tick just the same, which was the main thing, I gave it to him in exchange for a carved wooden rice bowl, shaped like a snail shell, with a demon, that formed the handle, coming out of the shell. This shell had been used for measuring out rice in the granary. We noticed that the people here used flint and steel for lighting a coil of tinder, on which they laid a screw of bamboo paper. When they had caused a smoulder they blew it into a flame, and then they lit their walnut-oil lamps. In the meantime the young llama had retired, and when he returned he was decidedly merry and hilarious, so that we had a shrewd suspicion that he had paid a visit to the samshu bottle. When we had retired for the night we heard the old man intoning his prayers, in which "Om mani padmi hum" came in frequently. In the temple was a fine gilded Buddha, and some

very good napkin pattern panelling on the walls. We slept in the granary, round which were large bins full of rice. The room was very clean.

On September 11 we left the llamasera and commenced a steep ascent, on which I noticed patches of stagshorn grass and two varieties of asparagus fern, one with curled leaves like miniature eucalyptus leaves. We reached the summit at 12,000 feet and found a beautiful park-like plateau, on the edge of which were ancient earthworks and trenches, telling of some former war. Towards the centre of the plateau were some peat bogs, with a large yellow fern, that I had never seen elsewhere, growing in profusion. Here we met two men carrying naked swords.

The descent to the Mekong river was very steep, on greasy clay formed from decomposed granulite, on which it was very difficult to get a foothold. It was covered with a dense forest of birch trees. Our guide told us there was a copper mine being worked close by.

When we arrived at Wei-si, which has an altitude of 7,500 feet, we stayed in a filthy inn, on the upper floor, out of which we bribed several pedlars to move. They were selling German needles and Birmingham buttons, made Chinese fashion, and various other trumpery articles. Wei-si is a large village situated high up on the left bank of a considerable torrent. The village has a good street of shops, descending in a series of steps. Most of the inhabitants were Sefans, though the shops were kept by Chinese. Here we learnt that the earthworks seen on the plateau above were made during the war between the Imperial troops and rebel Mahometans fifty years ago. Our coolies all struck at this village, and refused to come any farther unless the soldiers returned with them, because they had heard blood-curdling tales of robbers and murderers which had frightened them out of their wits. We were told that a few days previously a missionary had been captured and run off with by wild men, so we promised to take the coolies on to Calcutta, and send them home by

steamer. We had to stay for two nights to arrange for fresh mules and this too in the worst inn we had found during our journey. Moreover we could not get a muleteer to promise to go further than Charmutong, for they said the roads were impassable on account of snow. The hsien at Li-kiang had said we should find several missionaries here, but now we were told that they had all departed two years ago.

On September 13 we started again down stream, on a good road to Ka-ga, a place with an altitude of 6,900 feet. There the only accommodation we could obtain was a hen-house over a barn. The ladies in Ka-ga wore very large silver earrings, quite six inches in diameter, with side ears to them and a drop at the bottom. Innumerable anemone-japonica and French marigolds were growing round the village. It was here that Cooper had so much trouble when he was endeavouring to get to Assam. He was driven from pillar to post by the Mahometan and Imperial troops, and was at length captured and forced to marry a Sefan lady, who ran away from him on the first opportunity.

Upon the next day we followed a good road for ten miles and reached the Mekong river, along the right bank of which our road lay. In about a mile we passed the village of Pai Chi Sui. On the opposite bank is Chin-san, where our guide told us the natives wash much gold, and mine also for the same metal. At Lo-kwo, a few miles up the river, there was a bamboo bridge which I would not have crossed unless I had been compelled. The bridge is composed of a single bamboo rope, attached to a high platform, to which a trolley, consisting of a single wheel, is hung. From this wheel depends a short rope, with a cross bar at the end, on which sits the person who is to cross the river. He spins down about three parts of the way, when he has to seize the rope overhead and so haul himself up the remaining distance. All this requires considerable dexterity and muscle or the traveller will roll back to the centre. At other places there are double rope bridges. On these you start from a higher platform and the

run takes you across the river to the opposite bank. At Tung-king there was another single rope bridge, and still another at Lo-chi-pu.

On September 14 we arrived at Hsiao-wei-si, which has an altitude of 6,000 feet, and we had travelled now three hundred and ninety-four miles in thirty-six days. We lodged on the upper floor of the house of the chief, and then called on the Abbé Tintet, the only French missionary in Tibet. He was a very simple man, much beloved by those among whom he lived. His church he showed us with great pride, for he and his people had built it entirely themselves. He had just finished a most elaborately-carved sanctuary for his altar. About the Boxer rising or the South African war he had heard nothing; the only news he got was from the Bishop of Ta-chien-lu, and he had not had any communication from him for several months. We pointed out to him the danger he was in on account of the spread of the Boxer rising and implored him to accompany us out of the country; but he refused absolutely to leave his people or to move at all without the consent of his Bishop. He had been stationed at Hsiao-wei-si for twelve years, and was there when Prince Henri of Orleans had arrived. He pointed out the rope bridge on which Prince Henri crossed the Mekong in 1895, when he made a dash across to Kampti and got through safely himself, but had to abandon his mule train and coolies, a great many of whom died of cold, hunger, and fatigue on the high snow-clad plateau. The Abbé threw cold water on our proposed journey, and said it was much too late in the season, and we could not possibly get beyond Charmutong, where we should have to winter, besides which there was trouble there, and at the present time one of his staff was besieged by hostile Tibetans. He assured us that our only chance was to go south by Tali-fu to Bhamo. He told us that Major Manifold had passed through on his way to Atuntze, and advised us that the robbers on the Lu-tien pass were a real danger and were very desperate men. Thus we were advised to look to our

arms and not to straggle on the road. There were, he said, about forty of the robbers, armed with crossbows, and they used poisoned arrows. The members of our party were now of necessity forced to come round to my way of thinking, and we decided to retrace our steps to Shi-ku, and thence to go south to Bhamo. We thus lost about two weeks by this little digression before we again arrived at Shi-ku. We rested at Hsiao-wei-si until the 16th, when, after relieving our mule train of the weight of several blankets, which had been kept especially for the high altitudes of Tibet, and for which the Abbé was very thankful, we started to return to Ka-ga. The alluvial banks on which the road is made for a considerable distance consist of a series of level terraces with a sudden drop from one to the next.

On September 17 we arrived again at Wei-si, where we were bothered by a large number of savage dogs on the street, and where the hsien insisted on our having an extra bodyguard of soldiers, an accession which entirely filled our inn. The soldiers were remarkably dirty, and had about them a whole farmyard of live stock which transferred themselves to our more succulent bodies and gave us a lot of trouble. Next morning I was grieved to hear that my favourite riding mule had been stolen, and immediately I informed the hsien, who at once had the gates of the city closed, and the town searched. It was like locking the stable door when the horse has been stolen, and needless to say my mule was not discovered. He informed us that he had heard a rumour that our party was to be attacked, and he would send a detachment of fifty soldiers to guard us. Thirty actually started with us, but before we arrived at the danger zone we found they had dwindled down to eight miserable chai-jens. In the morning, while our pack mules were being loaded, we performed some fancy shooting at targets with mauser pistols and rifles, to inspire awe in case any of the robber band were reconnoitring; and I, by luck, knocked over a white heron (paddy bird) at fifty yards with my first shot from a mauser pistol. At this feat the crowd

cheered lustily. At the foot of the hill, leading to the Lu-tien pass, we collected all our following and formed up in line, with a vanguard and a rearguard, placing our mule train in the centre ; but, fortunately, we met with no opposition. On the top of the pass we caught up with the retiring hsien of Wei-si, who was on a journey to Peking with his wife and family, and as he had not more than two chai-jens with him for his protection we came to the conclusion that the robber band was some ancient myth. Here the air was exceptionally clear, and we got a very fine view of ranges of mountains, east and west, covered with snow far down their sides. Some of the peaks must have been more than 20,000 feet high. We arrived again at the Lu-tien llamaseraï, and found the aged llama had gone on a visit, so that the younger llama was in charge. In the absence of his senior he had been indulging not wisely but too well in rice spirit (samshu), and was not over-civil. One of our escort described to us a cinnabar mine, where they distilled quicksilver and obtained vermilion, which is made into a paste with oil and mixed with cotton wool and put into small china or glass pots and used for making chops, or red seals on documents.

On September 19 we again reached the Kin-shua-ho (Yangtse), truly a river of golden sand. The water had subsided several feet since we were there on September 9, and very much gold washing was going on in the river sands. The gold washers go on rafts from one sandbank to the next.

I was extremely glad that the sore on my leg had now sufficiently healed to enable me to walk again. Riding in a sedan chair during most of the day is as bad as solitary confinement, and the monotony of it makes one lethargical. Unfortunately the only book I had with me was a pocket edition of Bowdler's expurgated *Hamlet*, which I read and re-read until I almost knew it by heart, so that the melancholy Dane began to infect me with his melancholy, and I fear my mind became temporarily unhinged, because, as I find, the note-book I used at this time is full of doggerel poetry, of which the following is a sample :—

The mysteries of Geology, and the secrets of Petrology
 Are solved by the biology of rocks and their chronology.
 So try to concentrate your thoughts on geological reports
 Of primary rocks containing quartz, felspar, mica and other sorts
 Of igneous and eruptive rocks, formed with fearful earthquake shocks,
 Which you'd expect from Guido Fawks, and far exceeding Messrs.
 Brocks'

And James Payne's pyrotechnic shows, relieved by belching volcanoes,
 With steaming red hot lava flows. Remember Herculaneum's woes,
 And how it lies for ever hushed, deep beneath volcanic dust,
 Ashes, rocks and lava crust, after Mount Vesuvius bust,
 And commence an elementary research, with an inventory
 Of rocks termed Sedimentary, and study the commentary
 Remarks on that condition which is called decomposition,
 Resulting in detritation and displacement from position
 When after segregation often form conglomeration,
 That is consolidation by the process cementation.
 Now you may have a notion, that it might cause commotion
 If I said rocks formed a lotion and were carried to the ocean
 So to prevent confusion and coming to conclusion
 That I'm under a delusion, I will use the word solution
 But I must make confession that I'm making a digression
 And also a concession in explaining this expression.
 You may think it sublime making four words rhyme,
 But I think it is a crime, as it takes up too much time,
 So we'll see
 Whether we
 Shall like three.
 Won't do, try two ;
 No, one,
 None.

September 20 found us again at Ta-tang, and on the following day we were at Shi-ku, four hundred and ninety-six miles in forty-three days. The day was very hot and close, and at night we had a violent thunderstorm. We were met at the llamaseraï by a decrepit old priest carrying a crozier.

From Shi-ku we climbed to a pass with an altitude of 8,500 feet, overlooking the valley of the Mekong on the west, the Yangtse beyond Li-kiang on the east, and the Yangtse again on the north ; but the Yangtse river, by a turn to the north-east, travels about two hundred miles before it arrives at Shi-ku. This was a truly magnificent view, with snow-capped peaks, rising to 20,000 feet to the north-east and north-west.

We were now saying good-bye to the backbone of China, and

were descending one of her ribs. Our road, which lay along the summit of the divide, rose to 9,000 feet, and led us through what was simply a sea of edelweiss. Then commenced the descent of the Yung-pi river, which we followed until we reached the town of Yung-pi, ninety miles due south, where our road turns west, and the river continues its journey south until it falls into the Mekong. We followed now a road which conducted us between two lakes, a small shallow one on the east side and a beautiful large lake on the west. Neither appears to have an outlet. We slept during that night at a farmhouse on the east side of the stream, opposite the village of Kwan-shan. Upon the next day we came to a place where the valley opened out until it was about three miles wide. It was covered with rice fields, the roads are extremely bad in places, and we passed a large limestone rock, well stained with carbonate of copper. The valley was well-timbered, and full of turtle-doves, of which we shot nine for the pot in the course of the day. These were a welcome addition to the larder. After crossing a fine stone bridge we camped at Kien-chuan at an altitude of 7,400 feet, in the most comfortable inn we had stopped at since we left Maha. In the inn we found many specimens of copper ore, azurite and malachite from the Lung-chang-fu mines in the Li-kiang district. We stayed here on the advice of the hsien, who was most friendly, and told us he had received a telegram from the Viceroy of Yunnan, telling him that China was now on friendly terms with all foreigners, and requesting him to issue proclamations to that effect, in all the villages in his district. He wished to send chai-jens on in advance of us, to instruct the headmen of the villages to offer us every civility. He advised us also to avoid Tali-fu, and to take a hitherto untravelled native road to Yung-pi. We now hired some new mules to replace a number of ours which were leg-sore, and we sent our trusted corporal to Tali-fu with telegrams for London.

Upon the following day we travelled over swampy ground on

the borders of a lake, then, after crossing some rolling hills, we got back into more swampy ground, covered with rice fields, and lodged in one of a group of villages, called Sa-chi, where we slept in a temple among most fantastic gods, and were greatly bothered by a crowd of dull, stolid-looking sightseers, who refused to go until the time came for the temple doors to be shut. During the next day we arrived at Chow-ho, a large village, where at first we were refused accommodation at the inn; but when Ah Fu arrived his natural suavity of manner set all right. He gave us a lecture, saying that the Chinese are the most polite people on earth, and so cannot understand our foreign way of asking directly for what we want instead of beating about the bush for ten minutes using polite phrases. There is a large industry here in rock salt and brine. The rock salt, which was fairly pure, was sawn up in blocks for shipment. We heard news of Tali-fu, and were told why there had been an uprising against the missionaries. It appears that they had imported arms for their protection, and these the Chinese thought were to be used against them. Therefore they agitated for the missionaries to be sent out of the town, but the officials at first refused to do this, though later the populace became so unruly that the officials, fearing for their safety, sent them off to Sin-kai (Bhamo). We enquired how far it was to Bhamo, but received in reply such a variety of information that almost the whole of it was useless. All agreed however that we must go to Sin-kai, though we could not find any one who had been there, and all we could learn was that it was on a river where big ships came.

Upon the following day, we travelled on very bad roads, over rolling hills which were one mass of tombs, showing that at some time there had been a large population here. Living among the tombs were two Buddhas, who were clothed in filthy rags picked from Chinese dust heaps, and who wore half a calabash each for a hat. These men are religious fanatics; and are scavengers also, living on the refuse of the villages. They are

disgusting-looking objects, bound by a vow not to communicate with or take food or clothing from any one.

I saw, for the first time, an enormous species of maidenhair fern, which was very plentiful. The common maidenhair covered banks on all sides, an acre or more in one patch. We left the Yung-pi stream just before we reached Lien-ti, where we found some chai-jens from Lang-toong, whom the hsien had sent to look after us while we were in his district, and to see that the inhabitants of Lien-ti treated us well. From this place our road, which was fair to start with, became worse and worse until it was almost impossible to stand upright on it, so that progress was very painful and slow. Our poor mules were slipping and sliding in all directions and cutting their legs against the stones. We soon met the river again, but left it before we reached Ku-ah-tze, 6,500 feet above sea level. Here we shot several doves for the pot. Next day the road led through hills to start with, and we had a walk of over twenty miles to Yung-pi, through splendid-looking rice-fields on an extremely bad road, very narrow, and raised high above the rice-fields. I was riding on one of these knife-blade roads when my pony slipped and landed with its hind legs on one side of the track, and its fore legs on the other side, so that it had to be lifted bodily upon the road again by coolies. At length we reached Yung-pi, at an altitude of 5,500 feet, and now we had travelled six hundred and twelve miles in fifty-one days.

CHAPTER XIX

BRITISH SOIL AGAIN

YUNG-PI is a quiet country town, said to have been an important city before it was destroyed during the Mahomedan rebellion. Here we enjoyed beef-steak. It was the first time we had tasted beef since we left Maha, and it was fully appreciated after the eternal chicken and goat upon which we had been faring. On September 30 we set off again in pouring rain, and crossed the river on a chain suspension bridge of seven chains. The bridge was one hundred and thirty-two feet in length. We then commenced a tedious climb over wet, slippery ground to over 8,000 feet, and we had a worse descent on the other side. In some low scrub I saw my first silver pheasant. Mr. Morris and I got our guns immediately, and tried to walk it up, but it ran like a hare and was soon lost to sight. Upon the same day we saw a covey of bamboo partridges, pretty speckled birds. Just before we reached the village of Tai-ping-pu upon the following day we came to the high road and also to the telegraph line from Tali-fu to Bhamo. The wire was fixed from tree to tree, six hundred to eight hundred feet apart, and occasionally one thousand feet, so that in places it sagged nearly to the ground. On this road, in one hour, we passed more people travelling than we had passed in a week before. Several prosperous-looking merchants went by in chairs, with mule trains loaded with merchandise. On the road we travelled from Si-ku to Yung-pi the only carriers we passed were loaded with cheap merchandise and salt. We looked on some of these people quite as friends, from frequently meeting them at the tea houses "en route." There we saw several

flocks of green parraquets. Very many people in the villages suffered from goître, which they told us was from eating impure salt. At mid-day we crossed a river at Swang-pi-chow, by a chain suspension bridge, one hundred feet long, and after passing Hoang-lien-pu, a small town, near which the road was quite blocked with traffic, we arrived at Bei-to-pu, and camped for the night. During the evening our corporal arrived from Tali-fu, having dispatched our cables, and related his experiences. Our cablegrams evidently had created quite a sensation among the officials, who made every enquiry as to the nature of our business. He informed us that Tali-fu was full of soldiers, and was obviously under martial law, and that all foreigners had been sent to Bhamo more than eight weeks before.

The road from Yung-pi to Yung-ping is the worst that is possible, as I have before stated. With the telegraph line still running along the side, having the wires fixed from tree to tree, we ascended a steep divide, to 8,000 ft., on the summit of which was the village of Tien-ching-pu, from which we descended by an easy grade to the alluvial flats of Yung-ping, a distance of five or six miles, passing through some small villages. We did not go to the town of Yung-ping, which lay a few miles to the north of our route, but we got a good view of it in the distance. At a small village, on the bank of the Yung Ping stream, our carriers caused considerable delay by refusing to go any further that day, as they said they had been told that on account of the heavy rains the stream was so swollen that it was impossible to ford it; but as we insisted on making the attempt they reluctantly gave in. As we expected, it was only an excuse, and the dreaded stream proved to be barely up to their knees in depth. After walking a mile or so across the plain, over a shockingly paved road, we arrived at Chu-tang, which has an altitude of 6,300 ft., and here we stayed for the night, in a very decent inn. The inhabitants of the plain go in for breeding geese on a large scale, and there were flocks round the village.

Upon the following day we entered a country of conglomerate hills, and passed several trains of mules in a long, extra fine, V-shaped track. It is extremely awkward to meet so much mule traffic at the bottom of these V-shaped roads, for the tracks will allow only one mule to pass along at a time, the bottom being no more than the width of a mule's hoof. The sides are perfectly smooth, and upon them it is barely possible to obtain a foothold, for they are so steep and greasy. After we had passed through the village of Wa-chai, the road had been turned into an irrigation ditch, up which we had to wade knee deep in some places. The next village in which we lodged also appeared to go by the name of Wa-chai. While we were sitting there at dinner, Ah Fu came in from the courtyard, saying excitedly, "All gentlemen come outside, can hear some tune alyesame English fashion." So out we went and heard a Chinaman singing the tune of Moody and Sankey's *River of Life*. We sent Ah Fu to solve the mystery, and when he returned he told us it was a Chinese tailor, and added that "missionary man have been here. Just now have run away too muchie fear, all people just now do little joss pigin. This man he no fear he do missionary pigin. Bye-in-bye missionary man come back, then all men do missionary pigin."

Upon the next day we climbed to 8,200 feet, where we met several mule trains of merchandise from Burma. Then we descended a very steep ravine. As it widened out near the bottom we met a general travelling with his wife and child in chairs, with a company of soldiers. The general stopped, asked who we were, said he was very friendly with Englishmen, and then enquired if we had a nipple for his baby's feeding-bottle, as the one his baby was using had perished? He was in such distress that we had to invent something, so I cut a piece of rubber tubing from a pocket filter and tied one end tightly, making some cross slits in it with a penknife. I fitted this upon the bottle, and it appeared to satisfy him completely. A short distance further

down the ravine we arrived at Sha-yung, a village we had seen from afar, as its white-washed houses literally glittered in the sun. Upon the following day we continued to descend, and arrived at an alluvial plain, covered with rice fields, where we met the first train of bullocks we had seen. We then ascended to 5,500 feet, and looked down on the Mekong river flowing directly below us. After that we had a very trying descent of 1,500 feet to Lan T'sang Ho (Mekong river), which we crossed on an iron suspension bridge of twelve chains, at a point where the river is reduced in width by huge limestone bluffs and by cut stone towers, at each end of the bridge, built upon and down the face of the bluff, so that the bridge measured one hundred and seventy-five feet across. The altitude of the river here is 4,150 feet. From the river we had a very steep climb up a paved road of polished flat and rounded boulders, on which it was practically impossible to get a foothold.

At Pyin-pu we met party after party of Chinese soldiers in charge of mule trains, carrying sycee for paying the troops. One of the officers came over and talked to us in Chinese, and appeared most courteous and friendly ; but as Ah Fu was miles behind we could not say what he was talking about. However, he was very pleased with himself, which was the great thing. At length we arrived at Shai-chi, 2,500 feet above the river, having accomplished six hundred and seventy-five miles in fifty-seven days. From Shai-chi we ascended the divide, between the Mekong and Salween, which attains an altitude of 7,850 feet, and a little later we arrived at a tea house, which overlooked the fertile valley of Yung-chang. Down to that valley the road was in a terrible state, for it was used as a series of reservoirs for irrigation purposes, clay dams having been constructed across the road, one below the other, through which our poor mules had to flounder with great difficulty and danger. The curious part of it is that the farmers evidently have a right to make these reservoirs, and the teamsters take particular care

that the mules do not do too much damage to the dams, for fear of getting into trouble.

We reached the plain at Po-lo-ti and in two miles passed through the town of Pan-chiao, a very industrious centre where cotton spinning and dyeing cotton cloth were carried on with much activity. We passed a regiment of soldiers and officers marching back from Teng-yueh, where an army which had been waiting in expectation of an advance of British soldiers from Burma was now being dispersed.

We had now what would have been a pleasing and interesting walk of six miles across a plain, had not the pleasure been spoiled by our [having to travel upon an atrocious paved road, which made our walk a weary tramp. Near the centre of the plain we crossed a river on a fine arcaded bridge, very wide, with fruit stalls on each side, an arrangement which reminded one vaguely of the central avenue in Covent Garden Market. At length, on October 6, we arrived at Yung-chang-fu, and shortly after our arrival we were visited by the hsien and a general, who were very civil, and after Ah Fu had held a long interview with them they became quite affable. Ah Fu, explaining the result of his interview, said, "Chinese people this side too muchee fear foreign gentlemen, think must be all ye same missionary man or England side Consul. Makee plenty trouble for Chinaman, I say no can be, all gentleman very good mining man, belong Chinee queen. I have talked little lie pigin never mind. Both official now say, all four gentleman very good gentleman, must belong Chinee queen, must find some gold mine, some silver mine for her. Just now all Chinamen makee plenty trouble. Maybe when all trouble over Chinee queen call four gentleman back, then must call and have tiffin with him, to-day he no can buy too muchee goose, too muchee fish, he no can buy nothing." The military official was a great palmist, and read the lines of our hands in a very serious manner, as if he thoroughly believed every word he said. He told me, "You have one very good father, give you plenty money. Very soon you

have two more sons, you be very rich man some day." He told Mr. Morris, "You belong one very clever man; if you belong Chinaman you must one day be official."

At Yung-chang we found the first telegraph office that had been in working order since we left Ya-chow, and we sent telegrams home. Dr. Jack sent a telegram also to the officer commanding at Bhamo, saying that our party expected to reach Sinkai on the 18th. We found the corporal had engaged mules for us, but when the muleteer heard we were foreigners he said he could not possibly come, as he was not allowed to serve foreigners by the orders of his society. So we sent Ah Fu to seek help from the hsien, and on his return he said, "Mule man too muchee no likee come, to-morrow all gentleman must start more early, must more early get up. Official have smacken mule man with bamboo, two hundred smacks each man. Must smacken till blood come out, that Chinee custom; to-morrow morning mule man must come." However, next morning, whether because the smacking had been too much for him or whether there was some other reason we knew not, but neither he nor his mules appeared, so we persuaded our muleteer, who had been with us from Li-kiang, to take us to Ting-yueh. After making many excuses he at length consented. This was very considerate of him, for his mules were very footsore, owing to the abominable roads; but more trouble now awaited us. Ah Fu informed us that every one of our soldiers and mafus, who had come with us all the way from Cheng-tu, had been sitting up during the whole of the night, discussing the situation, and had determined to desert us rather than cross the Lu-kiang-ba, or fever valley of the Salween, where it is said all Chinamen must die of fever. The ringleader we found was our trusted corporal, Lung-si-fang, who had been recommended to us as a sort of Goliath of Gath, the very essence of courage. He proved very argumentative and determined, so I offered to insure each man for five hundred taels to send the money to his wife if he died. This offer they indig-

nantly declined, saying that would not help them. If they were dead what would it matter to them if their wives were provided for? It would not provide coffins for them, and that was the main thing. So I said if that was the trouble I would pay for a good coffin for each man who died, and with that, and the promise of a quinine tabloid apiece from Dr. Jack, they agreed to face the deadly fever valley. I fear that life insurance companies would do a very poor business in China. Our gallant corporal then raised further difficulties by refusing to come further than Teng-yueh. He was certain that if they went to Sin-kai they would be impressed into the British Army. Evidently he had thought this out carefully, for he had agreed previously, quite willingly, that all the soldiers and mafus should be sent back to Shanghai by steamship; but now arguments to the contrary failed to convince them, and they insisted on returning overland. These long arguments wasted another day, and we did not leave Yung-chang until October 8.

Yung-chang-fu was a large city and an important trading centre before and during the Mahometan rebellion, which lasted from 1856 to 1874. Ah Fu informed us that "all country people very bad mouth. Hsien have sent one man to say all four gentleman very good man, no belong missionary. He must beat gong and tell all country people gentleman belong Chinee Queen mine engineer; then they must treat all four gentleman all ye same Chinee official."

On leaving Yung-chang we completed our crossing of the plain, and ascended to seven thousand feet, meeting several trains of mules carrying merchandise, mostly cotton goods. We passed a coal seam, two feet thick, and at Po-paio we visited what we were told was a tin mine, just discovered; but on examination it proved to be a seam of antimonial galena two inches wide, with stains of carbonate of copper.

We stayed at Po-piao, a small town on a plain, that has an altitude of 5,000 feet. There we found a likin custom-house.

Next day we passed through Fang-ma-chang, then climbed the divide overlooking the Salween river, and lodged at Taban-tzu. It was quite early in the day, but our plucky corporal and the soldiers refused absolutely to come any further until after midnight, for they said they knew they would die if they crossed the Lu Kiang Ba by daylight. To satisfy them we retired to bed early, and were up again by midnight, and had an early breakfast in the dark. Then, after each man had received his promised quinine tabloid, we started down the deadly valley on a very good, well-paved road, a fortunate arrangement, for had the road been like some we had found, the consequences would have been terrible in the half moonlight. It was very cold at that early hour, so we walked fast to keep warm, and some of the party came croppers on stone stairways in steep places, for these were difficult to see. As dawn broke we were close upon the valley of the Salween, a beautiful dry valley which had every appearance of being an ideal spot in which to start a sanatorium and health resort. Evidently the valley was not dreaded by the local inhabitants, for it was dotted with farmhouses, and covered with extensive rice fields, and all fear left our men when once they were there. The valley has had a bad reputation since the days of Marco Polo, but needless to say no coffins were necessary. The rocks of the valley we had descended were of limestone until we came near the valley of the Salween, when this rock was replaced by gneiss on the east side, though we had limestone still upon the west side. The vegetation in the valley is semi-tropical.

We crossed the river at an altitude of 2,700 feet on a fine suspension bridge, that had a pier in the centre, making two spans. The river was running under the eastern half only, the western side of the bridge being over shingle beds. The total length of the bridge is three hundred and ninety feet. There are fourteen chains to the bridge proper, and two for handrails.

After crossing the river we found a deserted and partially burnt village where the plague had killed off most of the inhabit-



CHIN TRIBE, CHINDWIN HILLS, SHAN STATES.

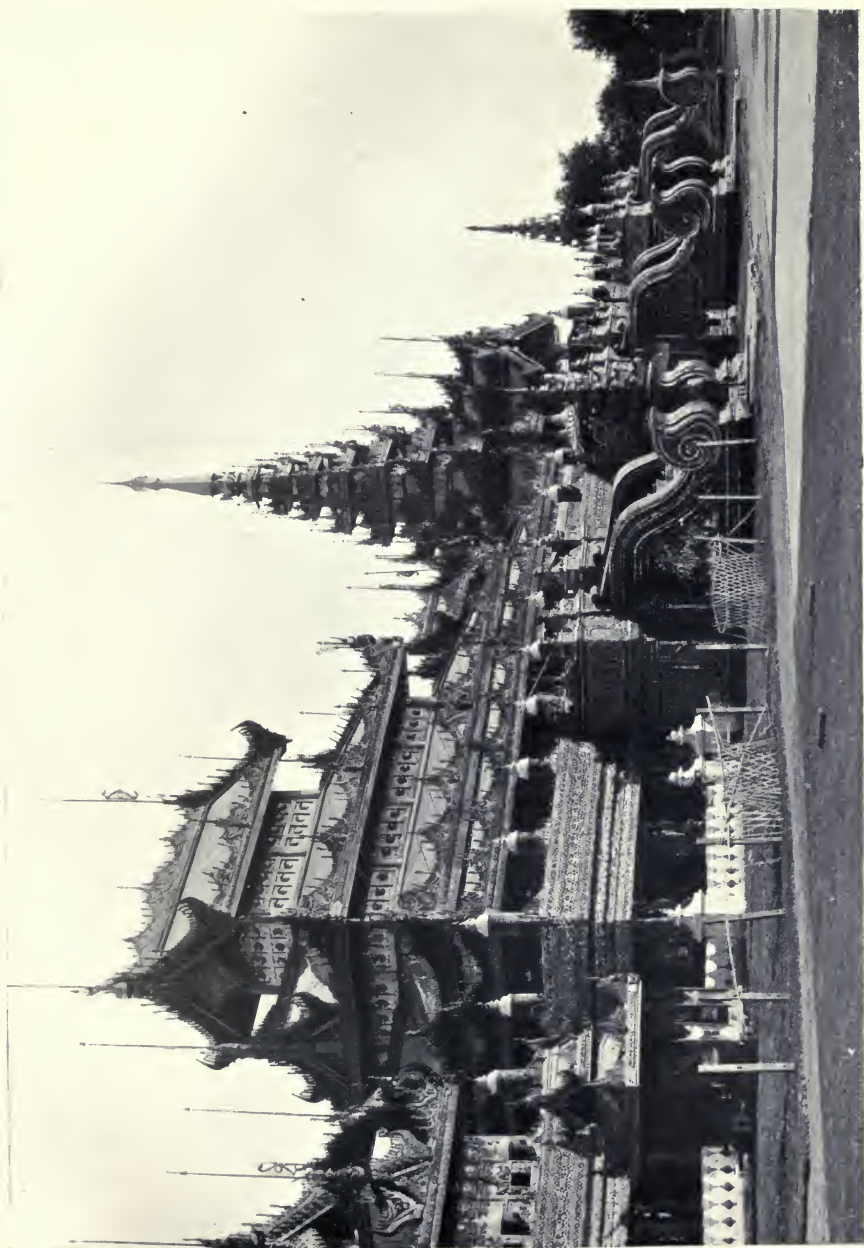
ants a year or two before. In a shed we found some long bamboo poles, with two pronged forks tied to the ends, and others with cups. With these poles food had been passed through the windows or doors to the plague patients.

A good paved road took us over the alluvial slopes, covered with scrub, where they were not cultivated, and then began a steep ascent, a great part of the way being up stone steps to an altitude of 5,700 feet, where we found quarters at Hung-mu-shu. On October 11 we mounted gradually over a granite country to 8,000 feet, the summit of the divide between the Salween and the Irrawadi, and then descended to a tributary of the latter river. Our feeling of joy at having the promised land of Burma practically in sight can be better imagined than described. The hills were covered with forest trees, and these in their turn were covered with mistletoe, in which we heard the chattering of monkeys but saw none.

The village of Tai-ping-pu, through which we passed now, is built after the style of the Shans, with bamboo walls and thatched roof, and with a bamboo fence partially surrounding it. The houses were entirely different from any we had seen before. Hence we descended gradually to the Shweh river, which flows here at an altitude of 4,500 feet, and is a tributary of the Irrawadi. We passed through the village of Loong-kiang-chow, and then crossed the river on a well-built suspension bridge, one hundred and forty-five feet long, and after mounting alluvial slopes covered with terraced rice fields, we arrived at Yang-tan-chai, where we stopped for the night, and, being very thirsty, we sought a tea house, where they gave us a new kind of beverage, of which we partook not wisely, but too well, and suffered in consequence. This novel drink consisted of a sort of coffee made from burnt rice mixed with honey and hot water. While we were sitting in the tea-house we heard a voice chanting the *Nunc Dimittis*, so we sent Ah Fu to enquire into this unexpected performance. He found it was an old man next door, who told

him he "makee help one very good missionary man, just now all people do joss pigin. He no can do; he all ye same missionary man. He say French missionary very bad man, he do plenty bad thing. English missionary welly good man, only just now little fear, have just now lun away by in bye he come back; he come Yang-tan-chai one time, two time, one week." We noticed here for the first time that the people chewed betel nut.

Next day we climbed to 7,000 feet, over rolling hills covered with a species of bracken. The inhabitants of this district are very anxious about Fung-shui, and many curious erections and arches are seen on the road. There now lay before us a beautiful view of the plain of Teng-yueh, to attain which we had to make a descent of 1,500 feet down a very steep hill to Yeh-peh, on the edge of the plain. Thence a walk of three miles across the plain brought us to the walled city of Teng-yueh, where the people were most inquisitive and annoying. However, a chai-jen came to meet us, and he conducted us to the hsien's yamen. We were told we might be molested at an inn, as the people would think we were missionaries, with whom there had been some trouble. The extensive city walls contain only a medium-sized village, the rest of the space being given up to farming. Many Chinese cities are arranged in the same way, from Nanking downwards, so that during a siege a sufficient supply of food for the people can be cultivated within the walls. We were able to purchase, for the first time, a sort of shag tobacco and cheap cigars. In the way of fruit we purchased bananas and persimmons—and tinned lychees, one of the most delicious tinned fruits. Egrets were unusually numerous on the rice fields, and on a lake in the hsien's garden, on which was a luxuriant growth of lotus lilies. The city may be described as a city of lapidaries, for stone cutting appeared to be the only industry. Much jade is brought here from Burma, and amber and jet are both found in the neighbourhood. Every house had its lapidary's wheel running all day, making snuff bottles, chops



PALACE, MANDALAY.

(seals), rings, bracelets, wine cups and various charms and ornaments. The jade is brought in large rounded boulders from Upper Burma, where it is found in old alluvial deposits, and in the beds of existing streams. The most highly prized is apple green jade, called jadite, and dull green nephrite. Some valuable red and brown jade is found in Yunnan. The purchase of jade boulders is a great speculation ; for they are sold before they are cut, and the value depends entirely on the colour. Dull green and white are highly valuable, but apple green is almost priceless. The amber comes from alluvial deposits in Yunnan, and is of a rich dark orange and red colour, and copalite is of a clouded brown colour. Both are cut into snuff bottles, bracelets, charms and beads used for necklaces and rosaries for the llamas and Buddhist priests. The hsien informed us through Ah Fu that the people in this town have got " very bad mouth," but we were not to fear. Mr. Ho (H. M. Hobson), who came to establish a custom-house station here had left two months ago and had gone to Sin-kai (Bhamo). Our mafus and soldiers sent a deputation to say they would not come any further unless they received one tael a day wages, as they " too muchee fear foreign man's country." At this Ah Fu got very wroth, drew his sword and rushed after the ringleader down the street. Now we feared bloodshed, for Ah Fu was a man who hardly ever lost his temper ; but presently he returned puffing and blowing. I had never seen him take such strong exercise before, and when he had recovered his breath sufficiently to speak he said, " I have killen him " ; but we noticed that his sword was bloodless, and in a short time the ringleader returned looking very flurried, but not much the worse. So I said, " Why, Ah Fu, I thought you said you had killed him," to which he answered, " I only kill him little bit this time." After this incident the men agreed to come, on our promising them they would not be impressed into the British army. We stayed another day to engage fresh mules, as ours were too footsore to proceed further. The hsien sent us a

present of cockscombs pickled, a pair of ducks and some fresh pork ; and later he made an official call, and said, in shocking pigin English : " All gentleman tell one consul, Mr. Ja (Mr. G. Jamieson), who have go Sin-kai, just now no can makee setter makee fightee, tell he no get angry, he know some people have makee steal something, makee killee some people, just now no can setter, no have got some chitee from Viceroy. Have send one man. He bring some chitee eight month more he makee lose some chitee. Just now have go back getee some more chitee. Soon he must come back just now no can setter." The poor man seemed very disturbed, and Ah Fu explained that a year or more ago some English soldiers had entered a Chinese village, and had bayoneted one hundred and twelve innocent Chinese. We could not make head or tail of the story, but on enquiry at Bhamo, after our arrival there, we found that these " innocent " Chinamen were continually sniping the Bhutan police force at Nampoung, on the frontier ; so that a detachment of soldiers was sent as a punitive force, and it killed one hundred and twelve Chinamen.

On October 14 we left Teng-yueh, travelling all day downhill on a well-graded road. While we were passing a farmhouse with the usual Fung-shui wall in front of the entrance I noticed a large sun painted with beams radiating in all directions, and as the farmer was standing to watch the foreigners go by, I got Ah Fu to enquire the meaning of such an unusual emblem, and so learnt that the farmer having lost a lot of chickens through foxes had a sun painted on his wall, and had lost none since. " Fox come along in night time ; he see sun, he say, ' Hollo ! sun out, daytime ; I must chop chop lun away.' " Ah Fu did not join us until the middle of the morning, when we were taking tea at a teahouse, for he stayed to see to the packing of the mules while we strolled on ; but when he arrived he brought a large escort of soldiers, which he said the Chun-tai (General) Chang Sung Ling had sent for our protection. He told us that the Chun-tai had



MINISTER OF STATE, TRAVELLING IN MANDALAY.

called in person, and was vexed to find we had gone, for he wished to escort us personally out of the city.

Our road from Teng-yueh had been on a basalt flow, overlying granite, and now the basalt ended, and granite reigned supreme. We lodged at Lang-sung-kwan, a village surrounded by banana plantations, having travelled seven hundred and eighty-seven miles in sixty-six days. On October 15 we passed through country which had lost entirely its Chinese character, and was partly Katchin, or, as Ah Fu called the inhabitants, wild men who cannot speak, but this was because he could not understand them. Some of the people were Shan. All the women wore large, black turbans, and both sexes wore black garters formed of numerous rings of cane. The Katchins are a hill tribe, and much resemble the Gourkas, for they are short, sturdy, warlike little fellows, who live by raiding their pastoral neighbours, the Sefans. Soon we came to Lan-tien, a thatch-roofed village of bamboo slats, plastered with mud and cow dung, and surrounded with a mud wall. In the market-place were bananas, persimmons, guavas and limes, and of these we ate as if we had never eaten before. The ground round the village was sandy and full of prickly pears, which grew to a great size and formed hedges round the compounds. All the low alluvial ground beyond was given up to rice cultivation, the roads being used as irrigation ditches. Rupees were in general use here, and I purchased a William IV. rupee. We were now in the district governed by the Tootza Tao Wha Lan, one of whose residences is at Chai-tai-kai, a short distance from Lan-tien. About three miles below Lan-tien the alluvial flats end and we entered a granite country, and arrived at a suspension bridge, but did not cross it, and shortly after passed the village of N'Yow-kan, which has an altitude of 3,800 feet, and travelled over a mile or so of abandoned rice fields. Then we descended to the river bed and walked along the wide stretches of shingle, passing a huge land slide which at one time must have choked the river. Next we arrived at Tang-fang, a Shan village,

round which grew a number of aloes ; in fact the village was surrounded by an aloe hedge, and as the road passed on the outside of the hedge we did not go among the houses at all. About four miles beyond this place, on the opposite bank of the river, was a village and yamen of the Tootza of Kau N'Gi, and a short distance below was the village of Ju-chien, where we stayed the night. At first we were refused hotel accommodation ; and on walking into the market to buy bananas we found that the people would not sell us any. They would neither take our money nor serve us, though no one was uncivil nor rude. These refusals put us in a quandary. So we sent Ah Fu with an escort bearing our credentials, back to the Tootza's yamen, and on his return the tune was changed immediately. The Tootza sent back a chai-jen, who conducted us to his shintai yamen, or guest-house, which is much the same as a dak bungalow in India, and the most luxurious quarters we had experienced since we left Kwa Pit. A little later some of his chai-jens brought us a capon, a pair of ducks, pine-apples, bananas, nuts and rice, and an offer from the Tootza to pay us an official call. Ah Fu learnt that the Tootza was a very old man with a white beard, and that he had been an Indian Prince at the time of the Mutiny. He had then fled the country with great wealth, an army and a large number of elephants, had settled here to form a petty kingdom under the suzerainty of China, and was now a very powerful man. On October 17 we passed two of his elephants; and these almost caused a stampede among our ponies and mules, and struck terror into the hearts of our following, who had never seen such a thing before, though they had seen grotesque elephants painted on the walls of temples. When we left Ju-chien we were escorted by soldiers carrying Hotchkiss rifles, and we walked on a fairly good level road all day, passing several Shan villages. Evidently the Shans are a shy people, and do not encourage trade, for they always arrange that the road shall pass upon the outside of their villages by making a ring fence round the group of houses with walls of bamboo and mud. They force travellers to take



KATCHINS, YUNNAN, CHINA.

this road, which lies outside the place, by barricading the entrance to the villages.

At Man-chang-kai, a Katchin village, the market was in full swing, and the Katchins were all in holiday attire, wearing a sort of home-made blue serge dress with red stripes and waistbands of thick silver wire and necklaces of the same metal and also silver bracelets and brooches. The women's ears were pierced with holes large enough to accommodate a silver tube half an inch in diameter. A few yellow-robed Burmese priests, with begging bowls, were standing about. On leaving Man-chang-kai we saw boats on this river for the first time, and a fort on a bluff on one of the banks. We then passed through the village of Hsiao-sin-kai and found lodging at Lung-chang-kai, which has an altitude of 3,000 feet. During the evening Ah Fu told us how he managed to ingratiate the hsiens and fus at the various towns we stopped at, saying, "I makee ask what country he belong. Then I tell little story thing; I say I belong all the same country. Course must savé all about the country; what man belong high official, what man belong small official, what man belong rich, what man belong poor, then he very much like me and heap helpee me. If he say he belong Suchow side, he belong Tientsin side must say little story thing. I savé; I have been all China side." Our lodging was one of the Tootza's shintai yamens, but was very poor compared with our luxurious quarters at Ju-chien. The Tootza's two elephants arrived during the evening. As the elephants travel about continually all over the country the roads are kept in much better order than are the Chinese roads. Since we had been in the Tootza's domains, the roads had been much wider. The road from Ju-chien was well kept, and although it was very wet for walking it was in good condition for riding, and it conducted us through luxurious rice fields on wide alluvial flats. The sole duty of the two elephants consisted in going round from one market town to another collecting market dues. On their backs was a large howdah of bamboo wickerwork for the

accommodation of the tax collector and the revenue of copper cash. Upon the next day we met with a large herd of water buffaloes with calves; about a mile below Lung-chang-kai. We gave these a wide berth, for some of them looked rather disagreeable, and we arrived soon afterwards at a ferry. The river had increased considerably in size, and was over one hundred yards wide. The crossing took several hours, for the only boats were two very old leaky dug-outs, on each side of which a bundle of bamboo poles had been lashed to act as floats, or the boats would have gone to the bottom. Our pack mules had to be unsaddled and made to swim at the side of the boats. While we were crossing, a train of over one hundred mules came from the opposite direction, and these, after being unsaddled, walked to the river and all swam across of their own accord as if it were a matter of every-day occurrence. After passing a Shan village we arrived in about three miles at Manwyn, 2,800 feet above sea level, and we put up for the night, having travelled now eight hundred and thirty-six miles in seventy days. Here I was pleased and surprised to find a cablegram waiting for me, saying my wife and daughter had arrived in England safely. The operator informed us that Sin-kai and Bhamo were the same place.

Manwyn is a large, prosperous-looking village, the inhabitants of which are Shans. It was market day, and we saw a great many Katchin traders, women, gaily-dressed in market day costume. The Katchin ladies do all the work and the trading, while the men hunt and raid cattle. The prosperity of Manwyn lies in the fact that it is situated at the head of navigation, and is the distributing centre for the whole of the Teng-yueh valley. Ah Fu came in from the market and said that "all people ver bad mouth. They say, 'Why did not the Fightee Official kill all four gentleman?' They say, have killen all foreign man China side, if makee kill all four gentleman then all finished. Foreign man can no too muchee trouble Chinaman any more. Fightee Official come Teng-yueh makee fighter all foreign man, then he send



SILK WEAVING, MANDALAY

plenty soldier look after all foreign man, no can understand." He was told also that one of the wild men from the hills recently came to see the hsien, and had "put on one story queue all ye same Chinaman," and that the hsien saw through his deception, and had his eyes put out, as he was very angry with the wild men for raiding his people's cattle, saying, "no have eye no can see; no can see no can walkee." We told him to enquire about Margary, who was killed here in 1875, and he was told that the spot where Margary was killed was some distance from the town. He could get no further particulars. Upon the next day, a mile or two out from the town, we saw an obelisk rising above the dense undergrowth, one hundred yards from the road, but had no idea to what it referred, until we stopped for lunch, when Ah Fu caught us up and said it was the monument the British Government had made the Chinese put up to Margary, on the spot where he was killed. Then we were very sorry we had not inspected it more closely. We soon left the valley, and climbed various hills which averaged about 5,000 feet in height. The last of these hills was a sacred mountain on which were cane armchairs and other seats for the gods to recline on upon feast days. There were also numerous tall totems, with hideous coloured faces, to frighten away evil spirits and the wild men or Yuren. Just beyond the mountain of the gods is a military station, called Sui-li, where we were received with great cordiality by the officer, Wong, who had a couple of hundred soldiers under his command. The fort was built of bamboo, thatched with palm leaves, and was surrounded by a high wall with rows of sharp-pointed bamboo laths sticking outwards and upwards. These were intended to make it impossible to scale the walls, but in reality they would have greatly aided an enemy, for they formed a ready-made ladder. Wong was the father of our guide, who had sent on a messenger to inform him of our approach. He was very pressing in his request that we should stay the night with him; but as our mules had gone on to Pongsi, two miles ahead, we were obliged to

refuse. In Wong's quarters I saw the first sign of English trade in the form of a bottle of Gilbey's wine and a tin of Lipton's tea, which Wong said had been given to him by the English soldiers at Nampoung. At the village of Pongsi, consisting of only two or three houses, 5,200 feet above sea level, there is some show of fortifying the hills. Trenches have been dug, and *chevaux de frise* have been erected in front. These are made of bamboo laths, pointed at each end, stuck through a round pole, so that their appearance suggests that they would form a very nice toy for a child.

Upon the next day we passed through a Katchin village, where we saw a great array of totems on each side of the road at both ends of the village. These are posts eight to nine feet high, and about one foot in diameter, carved with grotesque faces and painted in bright colours, to keep off evil spirits. A Katchin village consists of only two houses, one on each side of the road. We could arrive at a close resemblance to one of these houses by taking the thatched roof off an English barn and setting this roof down on the road side. As the families increase, grow up, and marry, or as fresh comers arrive, instead of building a new house they elongate the existing house to any length.

After descending nearly all day to a lower altitude, the road suddenly became very steep, and, climbing upon a jutting rock, the sight our eyes had been longing for met our gaze—English barracks with galvanised iron roofs! What a glorious sight it was! We almost went delirious with joy. If the Bhutans, who were stationed there, had fired at us as a raiding party of wild men I should not have been surprised, for we all discharged our revolvers or mauser pistols in the air, and shouted "God save the Queen" at the top of our voices, and then gave three cheers, which were answered from the barracks. Finally we made a mad rush down the hill, across the torrent, Hung-ma-ho, which is about knee deep, and wrung the hands of the Bhutans, who came down to see who on earth we were. The joy of feeling once more on



A SHAN BEAUTY.

British soil was intoxicating. We were already at an altitude of 1,400 feet, and we climbed another 300 feet to the telegraph office. We were entertained for the night by the manager, Mr. A. H. Bastien, and we had the first whiskey and soda and cigar that we had enjoyed for many months, an experience which was delightful. Mr. Bastien told us all the news, after which we cabled to our respective companies and relations.

On October 21 we left Nampoung, climbing for the first three miles, during which we met the elephant that takes the mails and stores from Myothen. Then we descended for fifteen miles to Myothen, 480 feet above sea level, a village with barracks, and with Bhutans, not one of whom could speak English. We rested for two hours in a Chinese tea-house while boats were being made ready to take us to Bhamo. We four, with Ah Fu, packed ourselves into a big dug-out, and arrived at eight o'clock in the evening at Bhamo, where we floundered about on mud banks for nearly three hours before we could effect a landing on an old hulk which had a plank bridge leading to the shore. We had now travelled eight hundred and ninety-six miles, from Maha, in seventy-three days. As soon as we were on shore we got into a gharry, and drove off to the dak bungalow, where we found Mr. Hobson, who had left Teng-yueh in August. He gave us an account of his experiences, and told us of his difficulties with the Chinese at Teng-yueh. I then called on the mess of the Essex regiment, and had tea with Major and Mrs. Mainwaring, who were most kind to us during our stay in Bhamo. We next called on the Rev. W. H. Roberts, of the American Baptist mission to the Katchins, who was carrying on a very good work and had large resident boys' and girls' schools full of Katchin children. We stayed and had dinner with him, and he presented both Dr. Jack and me with a kaiphur, an instrument made of buffalo horn, with which the Katchins obtain fire, by lighting a piece of tinder with the heat generated by compressed air. This instrument consists of a piece of buffalo horn, about one inch in diameter,

and three inches long, down the centre of which is a cylindrical hole two-thirds of the way down. Into this fits a plunger which is made to fit exactly by having waxed thread twisted round the last half inch. It is hollow at the end, and into this cavity a small piece of dry tinder is inserted. The handle of the plunger has a large knob at the end. The plunger is inserted gently in the top of the cylinder, held in the left hand, and then banged down hard with the right hand, which seizes the knob and pulls it out immediately. If these movements are persisted in, you will at length light the tinder. It may be at the twentieth plunge or not until the hundredth. If the plunger is not an exact fit, and is not well waxed, you will never succeed ; but, with everything favourable, when you are thoroughly exhausted, you will find you have a light. Major Mainwaring kindly let us have the use of the rifle range next day, and sent soldiers to mark for us, for we had to rid ourselves of several hundred rounds of ball cartridge. After this we all dined with him and with his wife. We must have been queer guests, for we had nothing to wear but our travel-stained clothes, and we could not get a fresh supply of garments until we reached Mandalay. At dinner we met Captain Brown. On the following day, October 25, Mr. Kohn held an auction of our ponies and outfit of beds, tent, and other things, which obtained very poor prices. Chinese roads would very soon knock the value off the best of ponies. We had a very pleasant trip down the Irrawadi on one of the flotilla boats to Mandalay, through very pretty scenery. I noticed several very fine otters on the river banks. On arriving at Mandalay, I immediately ordered a complete outfit of clothes at Messrs. Whiteaway and Laidlow's store, and we rested at the hotel, writing our reports and seeing the marvellous city of pagodas, where King Theebaw once ruled in Oriental magnificence in one of the most luxurious palaces of the East. The palace, now called Fort Dufferin, stands in the centre of a park of six hundred and forty acres, a square mile, with a high battlemented red-brick wall round it,



FIVE HUNDRED AND TWENTY-FIVE PAGODAS, MANDALAY.

with four entrance gates, one in the centre of each side. Tradition says that a number of children were buried alive under each gate, so that their spirits might guard the gates and keep devils from entering. It was said also that earthenware jars of oil stood on the towers, over each gate, one to represent each child, and that as long as there was oil in the jar the spirit of the child was flourishing; but as soon as the oil evaporated the spirit died, and another child was buried and another jar of oil was placed there. Round the outside of the wall is a road, then comes a moat sixty feet wide with a bridge at each gate, and a road sixty feet wide round the outside of the moat. The palace itself is built of wonderfully carved teak, the interior being mostly covered with burnished gold leaf, with small pieces of mirror let into the woodwork. The greater part of the palace is now occupied by Government offices, though the Mandalay Club occupies a portion. The temples are magnificent throughout the city, and the yellow-robed priests are met with everywhere. I laid in a good supply of Burmese curios at the principal curiosity shops, owned by Mr. Kindersley, who kindly proposed me for the Club during my stay; and I bought also some old silver in the market-place. I paid Ah Fu his cumshaw of £50, and the cook and boy £25 each, and Ah Fu was going to make them all rich by buying rubies and selling them in China. Just before we left for Rangoon he came with a ruby merchant into the hotel to show me the stones he had selected, and to ask my advice. The stones were all spinels of very poor quality and colour. The rascally merchant was very indignant when I told him they were very poor spinels of very small value. He insisted that they were real rubies, only a little soft. However, I persuaded Ah Fu to keep his money and not to go into a trade he did not understand.

We travelled down to Rangoon by the night mail, on one of the most comfortable railway lines along which I have ever travelled. The train ran so smoothly that you could hardly tell when it stopped or went on again. On arriving at Rangoon I found one of

the Bibby boats, the *Shropshire*, was sailing next day for England, so immediately I booked a passage. Before leaving Maha we had given instructions for all letters to be sent to Calcutta, but on arriving at Bhamo we had cabled to Calcutta for all mails to be forwarded to Rangoon, so that here we found a huge pile awaiting us. Among them was a letter to me from Tong Sing Kow. To show what splendid English an educated Chinaman can write I give an extract from his letter of seven pages.

“DEAR FRIEND.—It was with an aching heart that I was compelled at our parting at the mines, to break asunder the ties of friendship that were beginning to bind us so dearly, yet this life seems to be made up of meetings and partings; so soon as the social joys that congenial companionships afford becomes indispensable, then we are compelled to utter the ominous word ‘Adieu.’ Although I know that that happy acquaintance so auspiciously formed within the last few months will soon be renewed, yet I cannot help but feel the sudden deprivation of your valued company, and made to realise the truth that to know, to esteem, and then to part, makes up life’s tale to many a feeling heart. I hope you have made a safe and pleasant trip by Burma; no doubt if it were not for the hardships and privations of the interior it was not altogether devoid of interest. After your departure from the mines we soon started for Chengtu, arriving here on the 2nd inst. (September). . . . Hoping this will find you all in the enjoyment of your best health and in the safe and successful termination of your journey. Warmest regards to your good self and party, in which Mr. Chu heartily joins. I remain, yours very sincerely, TONG SING KOW.”

Dr. Jack and his party stayed a few days in Rangoon, and then started back for Shanghai, accompanied by Ah Fu, the cook, and boy. Ah Fu is deserving of great praise for the wonderful diplomacy and skill with which he tackled awkward situations and unfriendly officials, and, by his *savoir faire*, put every one in a good temper. I have very pleasant recollections of the



BOY.

COOK.

AH FU.



CHINESE CRIMINAL IN KANGUE

voyage home on the *Shropshire*. On my arrival in London I was very much surprised to find in the *Morning Post* an article a couple of columns long, headed, "Mr. Way's remarkable journey through Western China," by Mr. Portman, a correspondent of the paper, travelling on the same boat, who had picked up his information from smoking-room conversation. Mr. Portman had been watching the Chinese crisis from Burma. Letters to me from Mr. Little and from Mr. G. Jamieson to the company showed that all was not well with the concessions we had taken up of the two prefectures of Ning-Yuen and Ya-chow. It appears that Commissioner Li-cheng-yung, the Commissioner of Mines for Szechuan, and the Viceroy of Szechuan, Kwei-chun, and the whole official mind, had become very timid, owing to the recent executions in Peking of all who were in touch with foreigners, and they had openly repudiated having sanctioned our examination of the two prefectures. They put all the responsibility on Tong Sing Kow and Chu-ling-kwan, though secretly they were both desirous that the contract should be ratified. Their fear of the possible displeasure of the Government, however, prevented them from assuming any responsibility in the matter, and they did everything to make it appear that they had neither part nor sympathy in the transaction. They assumed the position of people willing to put our claim before the Tsung-li-Yamen for their decision, but they said they had not sanctioned the contracts nor taken any responsibility in the matter. If the Tsung-li-Yamen ratify them, well and good, then they will help us in any way possible; and if not we can come back and select other mines not now in the possession of the Government Merchants' Co-operative Mining Bureau.



NATIVE WORKINGS, RUBY MINES, MOGOK, BURMA.

WEST AFRICA

CHAPTER XX

AT SECONDI

DURING December, 1900, the West African excitement was at its height, and a few days after I arrived in London I was discussing the boom with Mr. Thomas Gilbert, the Secretary of the Pekin Syndicate, when Mr. George Cawston came into the office, and within ten minutes Mr. Cawston said he would start a syndicate for taking up properties in West Africa if I would go out for him, a proposition that needed to be thought over for a day or so. However, I soon decided that I would go. The syndicate was formed quickly, and was called the Prah Syndicate. It had such a multiplicity of properties laid before it that within a few days a second syndicate was formed, called the Opinto Syndicate. To both of these Mr. J. H. Glass was appointed Chairman, and Mr. E. E. Johnson, Secretary. To begin with, options were taken on three properties. The Nduadoon Concession from Mr. W. H. Boyle, the Egya Arka Concession from R. S. Mensah Ackwonn, and the Ahyiresu Concession. I engaged Mr. Robert Marshall, graduate of the Cambourne School of Mines, as a surveyor and assistant, and Davey and Webster, two Cornish miners. Davey was a first-class miner, and knew how to organize natives, for he was at the Kabin Mines during the whole of the time that I was in Siam. We took a six months' supply of tinned food, in chop boxes weighing seventy pounds each when filled. Every box was fitted with cardboard plates, with the cheapest of knives and forks, cups and glasses, and a tin opener and other necessaries, all of which were supposed to last the box out and no more. Seventy pounds was the weight a native could carry easily on his

or her head all day. We took also all surveying instruments and prospecting tools necessary, and booked passages on the steamer *Volta*, belonging to the Elder Dempster Company, which sailed from Liverpool on January 21, 1901, the day before that on which Queen Victoria died ; but we did not hear the sad news until we arrived at Teneriffe. At Liverpool, and down the Mersey, a gale of wind was blowing. Even as the ship was starting Davey and Webster were not on board, and were nowhere to be seen. Captain Button could not wait, so off we went, and we had gone a mile or two down the Mersey when a steam launch came shrieking down the river with them on board. As soon as we got into the open sea the wind completely subsided, and we had a perfectly calm voyage all the way to the Canary Isles. Among those on board were Mr. Charles McIver, who had many interests on the West Coast. Mr. W. S. Pearless, a mining engineer, with Mr. E. A. Lang, his assistant, were going to the Gold Coast in the interests of Messrs. Lake and Currey to examine properties at Dompin, Bamianko and other places. Mr. J. Mearns, a mining engineer, out for Messrs. Bewick and Moreing ; Mr. G. B. Smith, also a mining engineer ; Dr. R. J. Garland, the Government doctor at Axim ; and Dr. A. Clark, the Government doctor at Secondi.

On our arrival at Santa Cruz, on the Island of Teneriffe, we had a splendid view of the snow-capped peak, which is an extinct volcano, rising to a height of 12,280 feet above the sea. The rocks of the whole island, which has an area of seven hundred and eighty-two square miles, are eruptive. The soil is very rich, and is used principally for the growing of bananas. I walked round the fortifications, visited the bull-ring, and drank Canary wine at the hotel. Our next stop was at Freetown, Sierra Leone, where I was much disappointed at finding nothing but cheap Birmingham and German wares in the market. Leopards' teeth are used extensively among the ornaments worn by the Mendis, and as far as I could see 90 per cent. of them were imitations made of celluloid, or of some other similar substitute for ivory. Freetown is a



AXIM CASTLE, GOLD COAST.



MAIN STREET, AXIM.

poverty-stricken place. It is surrounded on the land side by the Sierra Leone range, the hills of which bear some resemblance to a lion couchant. This was the last place at which we stopped for any length of time, for we stopped only long enough to put off passengers at Monrovia, the capital of Liberia, Grand Bassam on the Ivory Coast, Axim on the Gold Coast, and Cape Coast Castle, where Marshall and I landed. After giving up our arms, to be registered and stamped with a number, we made our way to Acquah's Hotel, which we found so full that we had to be content with rooms in the annexe. I had hardly got into my room, when a messenger came round and asked if I had any quinine, because there was a man very ill with fever. I unpacked some quinine and a clinical thermometer, and went over and found a Mr. Cleary, just come in from a hard day's work, for he had endured a long palaver with the native king of Wassaw, about a concession near Tarkwa. I first took his temperature, which was 106, and then gave him the quinine so that he might help himself. Mr. Cleary was out for Messrs. Pauling Bros. and had secured a concession on the extension of the Tarkwa banket, which included the ancient burial ground of the kings of Wassaw. This inclusion caused some trouble with the chiefs. Dr. Pigg and W. H. Swift came in directly after, but Cleary was made of too good stuff to be bowled over for long. Mr. Pearless and Mr. Lang were in rooms adjoining ours. I engaged Mr. Charles Pobe as agent for the company, to get our goods passed through the Customs, and to obtain carriers for us. He was a native who acted as agent for several mining companies. Next I engaged Messrs. Osborne and Martin, solicitors, to look into the titles of the three concessions. They found that the chiefs would not confirm the Nduadoon concession. A big mistake had been made somewhere, for we could lay claim only to about one-fortieth part of the area specified, all the land north of the Offin river having been granted, in a prior concession, partly to the Offin River Syndicate and partly to a Belgian syndicate. On

explaining the matter to Mr. Boyle he found he had been greatly deceived by the chiefs, and it was agreed that we should drop the concession. I had a talk with Mr. Atherton, of the Ashanti Consols, who had just returned from the Offin river, where he had examined a property adjoining the Offin River Syndicate territory, and the Nduadon Concession, and he gave a very poor account of that part of the country. I was told also by several mining friends that the other two concessions had been hacked about *ad nauseam* and had been reported on many times.

In the meantime I had heard excellent accounts of the Brussa and Sefwi country, up the Tano river, on the western border of the colony adjoining the Ivory coast ; but I was told there was no rush there because Messrs. Alexander Miller, Brother and Co., had secured large tracts of all the most valuable gold-bearing country in those districts. However, I obtained from Mr. Geo. J. Bridges and Mr. L. Clements Henry an option for six months on a prospecting area of five hundred square miles of gold-bearing territory between the Tano and Bia rivers for the sum of £100, and Mr. Bridges put me in communication with the Hon. J. H. Batty, who was manager for Messrs. A. Miller, Brother and Co., and I put my directors in London in communication with the firm at Surrey House. Negotiations eventually ended in our getting options on all Messrs. Millers Brothers' property in Brussa and Sefwi. We were greatly delayed in our movements, because not more than half of our goods had come by the *Volta*, and eventually our baggage arrived in driblets, some on the S.S. *Niger*, and the remainder on the *Nyanga*.

The population of Cape Coast Castle was very migratory. Mining engineers were coming and going daily. Acquah's hotel was the best in the place, but Mr. Acquah fed us principally on ducks. After breakfast we saw ducks running about in the yard, and at noon they were on the table, having been dismembered previously with a chopper, for expedition in helping. This process made them almost inedible, on account of splinters

of bone, so I interviewed Mr. Acquah, and asked him to have them roasted and brought to table intact. He promised to do this if I would take the head of the table and carve them. In a weak moment I said I would do this willingly, but I found I had consented to an arrangement which gave me all the work I wanted to do in the stewing heat of Cape Coast Castle. Ducks were brought in four at a time, on one big dish after another, and these ducks had the toughest sinews of any ducks I had ever carved. Moreover our dinners consisted of ducks and chickens alternately, week in and week out ; so that this work developed muscle at an alarming rate. However, I believe my heroic deeds saved many men from appendicitis and from other horrors. Butchers' meat is not to be had in the colony, owing, I was told, to the shortsightedness of the Government in passing a law compelling the owners of cattle to fence in their stock from the plantations instead of fencing in the plantations from the cattle. At this the owners of cattle met in palaver, and decided to drive all their cattle to the beach, and to slaughter them wholesale, with the result that to-day there is not a single head of cattle in the colony.

The old castle on the sea front, with its antiquated fortifications and guns, is well worth a visit, especially for the sake of seeing the dank, dark dungeons, hewn out of the rock, with heavy iron doors, and with a passage out to the sea, used in the days of slave trading for packing away slaves prior to their being shipped to America and to the West Indies. Ships cannot come within a mile of the shore on account of the shallow, rocky ground, over which a dangerous surf is continually breaking, and passengers landing have to do so in surf boats, rowed by natives with paddles. The boats have to cross thirteen or fourteen breakers, which have to be met exactly at right angles or there is danger of being upset. These breakers increase in size as the shore is neared, and at the same time dangerous rocks have to be avoided. The last breaker, if skilfully managed, should land you high and

dry on the beach ; but as likely as not it will leave you sprawling in the surf with your luggage on the top of you.

On February 27 we took passages by the S.S. *Oran* for Axim, where I rented a house as headquarters for the Prah Syndicate. Mr. E. J. Russell was in occupation of the house at the time. He was taking up concessions in conjunction with Mr. W. Karri Davies. He also took contracts on the Government railway from Secondi to Tarkwa, clearing the bush and making the gradient. So also did the Mr. Cleary before mentioned. Mr. Russell stayed on in the house with me for some days, but I afterwards gave this up and took Mr. Arthur's house.

The Concession Court was situated at Axim, and was overloaded with work. A case of great importance was in progress, for it affected the fate of many mining concessions. The local kings and chiefs had been too prone to granting the same concessions to as many parties as they found willing to pay for them, and had thus created a hopeless muddle which led to many lawsuits. This case was between Mr. Geo. J. Bridges and Mr. W. E. Sam (a native in the employ of Messrs. F. and A. Swanzy).

Early in March, Robert Marshall left for Accra to obtain his certificate and licence as a surveyor, and I wrote a letter to Mr. J. B. Richard to meet him on his arrival at Grand Bassam, telling him I was going to select mining claims in the neighbourhood of Enchi, on the Tano river, and hoped to meet him on the frontier. Axim, I found, was a much more pleasant town to stay in than Cape Coast Castle. Dr. Garland lived in a fine Government bungalow, where he entertained his friends royally. Giles Hunt was the District Commissioner, and lived at Axim Castle. Mr. W. H. Swift had just built a useful bungalow, where he always had a household of mining men connected with the Tarbutt-Davis group of mines, and where he very kindly put me up until I was able to get into the Prah Syndicate house, which I had leased from Mr. Arthur. The Honourable Cyril Ponsonby, a director of the Secondi and Tarkwa Company and the Ashanti Consols, arrived

Dr. Garland.

Mr. Veerstead.

Mr. Graham.

Mr. H. W. L. Way.

Mr. Henry H. Wadsworth.



Mr. George I. Bridges.

Mr. Giles Hunt.

The Hon. Cyril Pousonby.

Mr. W. H. Swift.

MINING MEN AND GOVERNMENT OFFICIALS AT AXIM.

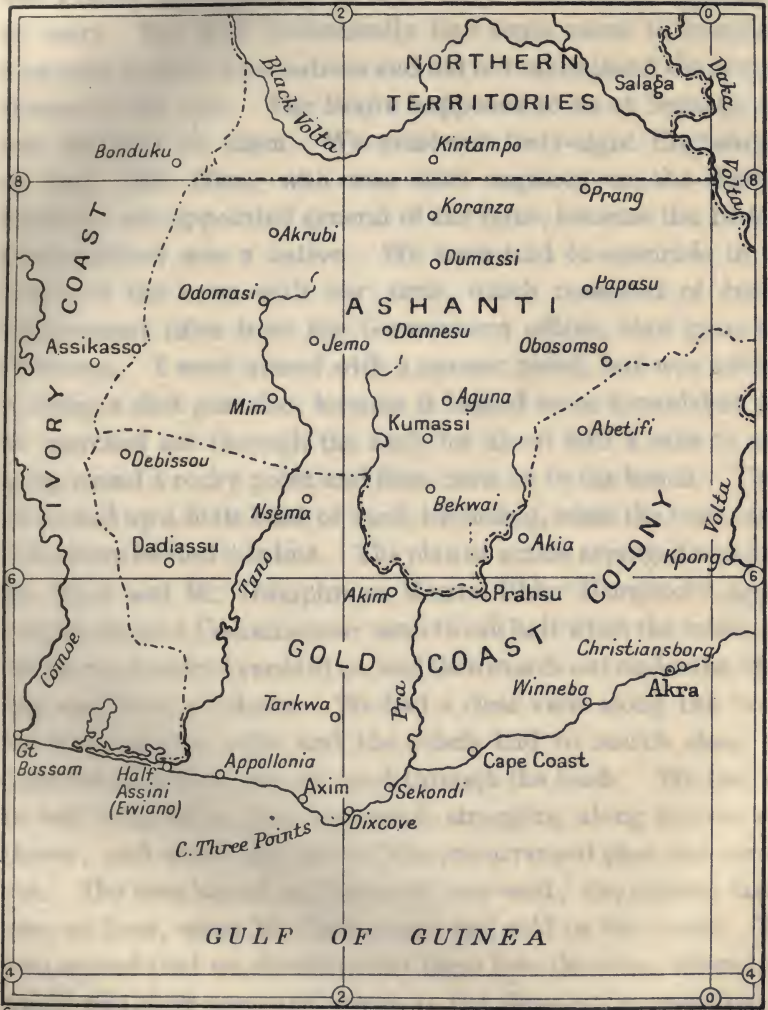
on March 8, and told me that Mr. R. de H. St. Stephens (who was with me at the Kabin mines in Siam) had come out for the Ashanti Consols, and had gone to Cape Coast Castle *en route* for their concessions. I now heard from London that the Prah Syndicate had paid £500 to Messrs. Alexander Miller, Brother and Company, for a six months' option on the whole of their properties up the Tano river, and an agreement was entered into whereby they were appointed agents to the Prah Syndicate on the Gold Coast, Mr. J. E. Cort being their agent in Axim. At once I arranged with Mr. Cort to collect carriers and hammock bearers to take Mr. Marshall and Davey and Webster to Half Assinee, and on to Ajemfu, a property now being opened up by Mr. J. Morrow Campbell for Messrs. Alexander Miller and Co., while I went to Secondi and on to Tarkwa, to get a general idea of the gold fields and of the banket reefs in particular; also to see if any good mines were to be acquired there. Delay was the order of the day in all the Government offices, for the officials were overloaded with work. Cables and telegrams were held for several days, and often for a week before they were despatched, and it was said that the Concessions Court was so congested that no new work could be taken in hand for a year at least. I now employed Mr. Henry H. Wadsworth as the Prah Syndicate's legal adviser for the time being, intending eventually to employ Mr. Giles Hunt, who now threw up his appointment as District Commissioner, and returned to England for a holiday. After this it was his intention to begin to practise as a solicitor in Axim, although native solicitors, barristers and doctors were fast driving the English professional men out of the Colony. It seemed astonishing that the sons of native chiefs, whose ancestors had practically no education, should go to Oxford and Cambridge, and eventually return to the colony as proficient barristers and doctors, or as members of other learned professions.

I left Axim for Secondi on March 31, and before leaving obtained the offer of a property on the second series of the banket reefs

at Tarkwa from Mr. Bridges, and from the Hon. Cyril Ponsonby, belonging to the Secondi and Tarkwa Company, containing an area of five square miles, called Mantraim, Pepe and Somahoo. This property had been well reported on by Mr. Gowans. The Mantraim banket was said to be twenty feet in width, and to contain fifteen dwts. of gold per ton. I started late for the steamer from Axim, in a surf boat, because I had waited for the mail to be delivered, and I had not got more than half-way to the steamer when she steamed out of the roads. However, a German steamer came in at the same time; so we paddled to her, and, going on board, I asked for a passage to Secondi, but was told by the captain that he did not call there. Thus I had to agree to pay him £10 before he would consent to stop at Secondi. On my arrival I stayed at Messrs. Miller, Brother and Co.'s house, in charge of Mr. J. M. Parker. There I found my friends Cleary and Russell.

During the same evening a telegram came to the District Commissioner, from Accra, saying that one hundred and sixty Mendi boy soldiers, after coming down from Ashanti, where they had been fighting the Ashantis, under General Willcocks, had mutinied on arriving at Cape Coast Castle, and had bolted with their arms and ammunition. They were now marching on Secondi, and the District Commissioner was instructed to collect all the Englishmen available, to go out to meet them, and to endeavour to bring them to reason. Also he was to detain any ship that happened to be in the roads, and to offer the men a free passage to Sierra Leone with a promise of full pay when they got there. It appeared that the men were drafted from Sierra Leone, when the Ashanti war broke out, on the understanding that they were to be away only six months, instead of which they had been kept there eleven months and had received no pay for the last five months. They had been promised pay when they arrived at Cape Coast Castle, but from some oversight it was not forthcoming, and the men thought they had been deceived. Therefore they mutinied,

Map of the
GOLD COAST DISTRICT



Bacon's Geographical Establishment.

THE WORLD WITH
AFTER THE
MAY 1914
THE GOLD COAST DISTRICT



The map shows the Gold Coast District, which was a British colony. It covers the area from the Gulf of Guinea to the Atlantic Ocean. The map is divided into several administrative regions, including Ashanti, Aboakrampa, and the Gold Coast District. Major rivers like the Volta and Benue are shown. The map is oriented with North at the top.

intending to march back overland to Sierra Leone, but forgetting that they would have to march through the Ivory coast, which was French territory, and so must have their march opposed at all costs. The men undoubtedly had some cause to complain, especially as they were natives and did not understand the circumstances of the case. The *Biafra* happened to be at Secondi, and was detained for them. We mustered forty-eight Englishmen, all told. Mr. Hirst, who was chief engineer on the Tarkwa Railway, was appointed general of the force, because the District Commissioner was a native. We were told to assemble in the centre of the town with our arms, which consisted of twelve Government rifles from the Government offices, shot guns and revolvers. I went armed with a mauser pistol, but was advised to bring a shot gun also, because it looked more formidable, and we marched out through the bush for about half a mile to save going round a rocky point and then came on to the beach. There we kicked up a little bank of sand, intending, when the time came, to lie down behind it in line. The plan of action arranged was, that Mr. Hirst and Mr. Humphreys, Messrs. Elder Dempster's agent, and the District Commissioner were to call halt when the rebels got within one hundred yards of us, and then march out under the white flag, and have a palaver. We had a clear view along the beach for three or four miles and the rebels had to march along the coast because there was no road through the bush. We had not to wait long before they appeared, straggling along in twos and threes; and when they arrived the pre-arranged plan was carried out. The men halted and behaved very well; the palaver lasted over an hour, when Mr. Hirst came and told us the result. The men agreed that we should escort them into the town, where they would pile their arms and march to the shore to be rowed out to the *Biafra*. They objected to disarm until they got into the town, for they were afraid of an ambush. Then up we jumped, and marched off to them. They were drawn up in double line, while we marched in on each side of them. They jeered at us continu-

ally on the march to town, laughing at our arms and saying, "You come to fight us with shot guns and pistols when we are armed with rifles and have one hundred and fifty rounds apiece." Some of our men answered this sally by opening the breech of their own shot guns, and showing they were not loaded. When we reached the town, half our men thought their duty was over, and ran off to their bungalows for drinks, and when Mr. Hirst called halt, and ordered the men to pile their arms, they laughed and waving their rifles above their heads all ran through the town, only stopping on the outskirts to ransack a few native stalls of gingerbeer and fruit and were off again, leaving us staring in bewilderment. Thus ended the bloodless battle of Secondi, and we had not won. Mr. E. G. Woodford had met the rebels, and had talked with them, giving them some good advice and some food from his chop boxes.

While I was sitting talking with Mr. Cleary on the verandah of Messrs. Miller Brothers and Co.'s store, a young man walked up the steps from the beach to the verandah and asked me if I could direct him to Mr. Cleary? I answered, "This is the gentleman you are looking for." He then said he had been given a letter to Mr. Cleary and was told that Mr. Cleary could help him to find his father, Mr. Woodford, whom he had not seen for eighteen years. He had worked his passage out, and had just run away from his ship. Now it happened that his father had been in the store only a few minutes previously, and so he was sent for. After father and son had met both went over to the ship and the father bought his son off. Mr. Woodford, senior, had held some official post in the mining department under Kruger in the Transvaal. On the Gold Coast, his usual costume when he was walking through the jungle was a bath towel round his waist and nothing more.

As soon as I could get a sufficient number of carriers together I started by train for Tarkwa, forty miles north, the journey taking nearly the whole day. At that time the line was under construction, and therefore, as there were no

passenger carriages, we seated ourselves as best we could on a truck load of loose eighteen-inch drain pipes. We were not over comfortable, because we were unmercifully jolted and bumped. The usual speed was about five miles an hour, and if the intrepid engine-driver in an unguarded moment got up to eight miles an hour, we held our breath in terror. It was bad enough to be derailed at five miles an hour, because it started the pipes rolling, but if we had been derailed at eight there is no knowing what would have happened. Bump, bump, bump, we went over the sleepers as we sat on our loose pipes. If on this journey your train was derailed less than once in every ten miles you were lucky. The great difficulty in making the railway was that no ballast was available for a considerable distance up country. So, during the first part of the journey, the train runs over a good deal of soft ground, a defect that will be remedied later when ballast is brought from up country. We got to Insuasu, the rail head, about eight miles from Tarkwa, and walked the remaining distance. On nearing the town I met the District Commissioner, Mr. Covey, and strolled with him until we came to the path leading to Government House, when he asked me where I was going to lodge, kindly inviting me to stay with him at Government House, an invitation I gladly accepted. Upon the following day I went into Tarkwa, and met Mr. Flower and Mr. Bradshaw from the Abbontiakoon mine. I walked with them to the Insuta camp and back in torrential rain, and caught a chill which laid me up for three days. The Governor of the colony, Sir Matthew Nathan, came to stay at Government House, Tarkwa, and interviewed all the leading mining men as to the working of the Gold Coast Concessions Ordinance, 1900, and of the labour conditions now in force, and he asked for any suggestions on the subject. I then went on to the Wassaw mine at Adja Bippo, and stayed a couple of nights with the manager, Mr. W. E. Howard, going over the mine and studying the banket formation. I next went through the Abosso mine, and on to Cinnamon Bippo,

passing Mr. Louis Webb sinking a diamond drill hole, and on my return to Tarkwa met Mr. Stanley Clay, who offered to put me up at the Effuenta mine. Mr. Stanley Clay was consulting engineer to the Gold Coast Amalgamated Co., and he offered the Prah Syndicate several concessions, BOMPIASSU, part of Cinnamon Bippo, Awunaben and Awunaben Apasu lands, and a tramway concession from the Ancobra river to Adja Bippo; also the Tebribi mine, a continuation of Mantraim banket. At the manager's house, Effuenta, I met Mr. and Mrs. Delmar, Mr. Saltmarsh, Mr. Arthur R. Sawyer and his brother-in-law, Mr. Durell, who was wearing a home-made kilt, which he found gave him more freedom in walking.

Next morning when I woke up I saw the finest tarantula I had ever seen; it had long hair, and was nearly as big as an open hand. It was standing on the wall two feet above my head. I jumped out of bed in an instant, and ran for a tumbler to pop over it; but when I was just in the act of doing this it jumped from the wall into the centre of the room, and was out of the door like a rat. I ran after it, but could not find it.

I next went on to Mantraim, and lodged with Mr. Smith, the manager, with whom I stayed for a week, examining and sampling the mine. The banket reef at Mantraim is twenty-four feet in width, with a seam of pay ore, two to four feet on the foot-wall, which assayed from five to seven dwts. This seam breaks up occasionally into numerous stringers, which join again. A similar occurrence of reef matter existed on Pepe, but Somahoo was unprospected. Mr. Smith possessed a gramophone, and a large selection of popular songs, which he used to set going every evening, greatly to the delight of the whole native village. The people crowded upon the verandah of the house to hear it, and seemed never to get weary of it. From Mantraim I went on to the Tebribie mine, and stayed with Mr. J. Telfer, the manager. Much work has been done at Tebribi, which was on the continuation of the Mantraim banket, and it appeared to be a sound low



LADY, CAPE COAST CASTLE.



FANTEE LADY, AXIM.

grade proposition, with an enormous width of vein. The workings were a seething mass of large bats, which filled the tunnels with their wings, almost preventing you from seeing the vein. Mr. Mearns came while I was there, on his way to examine a mine belonging to Mr. Shirley, on the same line of banket. On returning to Tarkwa I stayed one night at the manager's house on the Tarkwa mine, which was unoccupied. There were some avacada pear trees in the garden full of fruit, in which I delighted. Again meeting Mr. Stanley Clay I went with him to the Tamsoo mine, and we stayed with Mr. Sam, the manager. Next day I returned to Secondi, where I found a letter awaiting me from Mr. Richard, from Kwahue or Koon, dated April 8, saying that as he was near the Ivory Coast frontier he had crossed over to the Gold Coast to search for me, but had been seized immediately and made a prisoner, with all his party, by a native sergeant of the Frontier Preventive Force. At this he was most indignant, and asked me to help him. He said the house in which he was imprisoned was closely guarded by native soldiers, and as there was no European there he could not make himself understood. He added that he had been travelling in the Ivory Coast jungle for over a month, having had the hardest time he had ever experienced, with bad water and often no paths. He had taken up many concessions covered with alluvial gold workings, which existed all over the country. As it was now the end of May I received his letter too late to render him any aid.

I left Secondi for Axim by the first boat on May 22. Here I heard how Axim fared in the hands of the rebels. After the Secondi fiasco a gunboat was despatched to Axim, and the sailors were landed, with orders to overawe the rebels and to endeavour to get them to surrender ; but on no account to use force. The sailors were quite unsuccessful, and the rebels performed just the same tactics as at Secondi. The Government now began to get alarmed, for the rebels were nearing French territory, and so ordered H.M.S. *Fort* to land sailors to stop them at all costs at Behin. Report

says that when the sailors landed they entrenched themselves, and as the rebels approached the commanding officer stood up and ordered the rebels to surrender. For answer they put up their rifles to their shoulders and fired, with no effect; then the entrenched sailors mowed them down, while the *Fort* shelled them. There were conflicting reports as to how many were killed and how many surrendered. It was said at first that all were killed, most of them being shot down, and that the remainder were killed by the Appolonians. A later rumour said that seventeen were killed, a few ran off into the bush, the rest surrendered, and those who ran off were killed by the Appolonians.

On acquiring options on Messrs. Miller Brother and Co.'s properties I requisitioned London for another assistant mining engineer, and two more miners. Robert Marshall had written to me saying that neither Davey nor Webster could be persuaded to stay a day beyond the six months stipulated in their agreement. I soon received a cable saying that Mr. C. W. Bartlett, a mining engineer from the Cambourne School of Mines, and two Cornish miners, John McAlister and Richard Goldsworthy, had left Liverpool on May 15, by the steamer *Olenda* for Axim. I learnt that the *Olenda* was due to arrive in Axim on June 2, so I determined to await their arrival. Matters with regard to the Prabun Concession were made rather complicated by the death of Mr. L. Clements Henry, who was reported to have shot himself at the Axim mines, Kayiankor. Mr. Henry had undertaken to file a claim in the Concessions Court to prove his title, and this he had not done. However, I left the matter in the hands of the Company's solicitor, Mr. H. H. Wadsworth, and requisitioned Messrs. Miller Brother and Co. for carriers to be ready to start for Half Assinee on June 3. Carriers were not very plentiful and several days were spent in collecting them. I engaged a new cook, because my late cook had developed beri-beri; but I kept his son Quamina as my boy, for he was fairly reliable. Boys on the Gold Coast, especially Fantee boys, are not to be trusted very far. Their

motto is "Softly, softly, catch a monkey," pronounced, "Sōftilŷ, sōftilŷ, catch a mōungkey," which means, "Work well for your master, attend to his every want, and gain his confidence; then, when you are up in the jungle, at an opportune moment, make off with all his valuables that you can lay your hands on." The Fantees use a variation of the English language. With them all animals are fish. With the Kru boys all animals are beef. For instance, I asked my boy Quamina the name of an animal we passed in the jungle, and all I could get out of him was, "That belong fish." The carriers killed the animal and took it along with them for supper. I afterwards discovered that it was a phatagin, a species of manis or scaly anteater. On another occasion I pointed out a large alligator to a Kru boy, when he said, "Ah, massa, that belong beef." If you send your boy to look for your pipe and he cannot find it, he will come and say, "Massa, I look him, I seek him, but he no live." It sounds paradoxical but a cemetery is a place where dead men live. Infants, as soon as they can toddle, though they are as fat as butter, run after you saying, "Massa, give me threepence to buy bread. I'm hūngērŷ." At this time smallpox was raging among the natives, who were anxious to be vaccinated; but it was a case of "Care killed the cat," or in this case, "Care killed the lymph," for it had been so treated with antiseptics before it was sent to the Colony that it had been killed and was useless. This handicapped Dr. Garland considerably in checking the spread of the disease. His difficulties were increased too by the natives' natural horror of a hospital. The patients in hospital would, if not closely watched, run out and escape into the bush, where their relatives would wait on them and thus spread the disease.

CHAPTER XXI

ENOUGH OF WEST AFRICA

As soon as Mr. Bartlett and the miners arrived we prepared to start for Half Assinee, but were delayed until June 5, because sufficient carriers could not be obtained before. We took four hammocks with us in case of sickness, or for when the sun was too hot to allow walking; but we used them only on very rare occasions. Carriers include men, women and children. The men and women have perfect figures from continually carrying loads on their heads. They are quite upright, and will carry seventy pounds' weight on their heads all day without ever touching the load with their hands. It is marvellous to see them crossing a ravine, with a roaring torrent twenty feet below, on a round tree trunk one foot in diameter, the usual rustic bridge. They will run over it as easily as a monkey. One thing in their favour is that they run across with their bare feet, which are fairly prehensile, whereas an Englishman wears boots and so loses the use of his toes. The natives always turned the laugh on the Englishman, who sits astride on the log and works his way over inch by inch. Some Englishmen are carried over in hammocks, but I preferred not to cross in this way. The natives' skin is like glossy satin, and in their way they take more care of it than a society beauty takes of her complexion. Every native woman carries her vanity bag, containing half a dozen pots of different pomatums, heavily scented with ambergris, civet and musk. This pomatum is applied night and morning and it protects the skin from the sun.

Half Assinee is about forty-five miles, or two days' journey,



MR. R. MARSHALL, MR. H. W. L. WAY AND
MR. E. A. LANG WITH THREE WEST
AFRICAN NATIVES.



FANTEES, AXIM, GOLD COAST.

from Axim. The road is along the shore for the whole distance, and it is astonishing to see here the enormous waste of mahogany logs. Hundreds of them lie along the shore. Half Assinee is the chief port for shipping mahogany, and the logs are taken through the surf to the steamer, lashed together in big rafts ; but in stormy weather a good many break loose and are washed ashore, where they are left to rot. It appears very unenterprising not to collect them again, after the enormous trouble and expense that have been incurred in bringing them to the coast. They are cut in the dry season along the Tano River and its tributaries, and then they have to wait for the rains in order that they may be floated down to the coast, a process that often takes two years. It is a very speculative business, for a log may be worth only £20, or, on the other hand, as much as £200 or £300, according to the markings of the grain. Each log is squared to about four feet each way and is made fourteen feet long.

At Behin, where we stopped for the night, a chief's wedding was to take place upon the following day, and thirty sharks and a few turtle were lying on the shore ready for the feast. Some were hammer-headed sharks, most curious-looking fish. I asked the price of a large turtle. Four men came and weighed it in their hands and said £6. I was surprised, for I thought they would have said as many shillings so far from a market as they were. The next day we stayed at Messrs. Miller Brother and Co.'s store, at Half Assinee. This was managed by Mr. J. Grosvenor Dawe, a splendid business man, who had every detail of a big business at his finger tips, and kept everything going with the regularity of clockwork. The company had a very ingenious contrivance for tapping the trade on the Tano River, which discharges its waters into the sea at Fort Assinee, in French territory. A canal four hundred and fifty feet long has been cut from the river to the Uani and Ehi Lagoons, which are within the Gold Coast frontier. On the banks of the Uani Lagoon they have a landing-stage, with a crane from which they have a short railway to Half Assinee.

Thus they divert the whole of the mahogany trade, which would otherwise go to the French at Fort Assinee. On the lagoons and river they have a small steamer which runs up to Edomebra, where they have a trading station under the charge of Mr. M. D. Reece. We spent a couple of days with Mr. Dawe, looking over their works with Mr. Glover, the engineer. The railway line has a two foot six-inch gauge, laid with twenty-four-pound rails on alternate hardwood and steel sleepers, and runs a distance of two and a half miles to the lagoon. It is used principally for hauling the mahogany logs to the sea front, where they are squared ready for shipping.

We left by train on June 9, with our retinue, to the lagoon, where we transhipped to the small river steamer. On the landing-stage, Mr. Ross, an officer in the Frontier Preventive Force, was fishing, not for the pot, but to see what weird fish the Lagoon contained. He had caught 10 or 12 most diabolical-looking fish, black, slimy and scaleless, with skins like eels. Their demon-like faces had long rat's tail whiskers and one fin that went right round their bodies, like a sole's fin; these fish measured from one foot six inches to two feet in length.

The first day on the steamer brought us to Allenda. The foreman of the native crew was Mr. Dawe's head native at Half Assinee, and he was a first-class man named "Black Man Trouble." Mr. Glover lent me his rifle to shoot alligators, which were very plentiful, lying on the river banks basking in the sun. Unless the bullet went right through an eye and killed them on the spot it was impossible to get them, for if only wounded, however severely, they slid into the water and disappeared. I managed to put a bullet in the eye of one, which just stretched out its legs and died. This we brought on deck and skinned and we dined that night off alligator steak, while the carriers had a feast of the remainder. The flesh is of the consistency of beef steak, but it is white and semi-transparent, and very tough and unpalatable, so that I had no inclination to repeat the experiment. One of the

great drawbacks to the colony is the total absence of fresh meat. What few fowls there are, are kept for sacrificial purposes, in Juju worship, and there is no game to shoot. Grey parrots are plentiful up the Tano river and are good eating, tasting very like a wood pigeon. Otherwise there was very little to eat but canned meats. Occasionally the natives brought in a phatagin (scaly anteater) which was very good and tender. Edible snails are cultivated everywhere by the natives. These have a long spiral cone shell, like a large whelk, up to five inches long and two and a half inches wide, and they sell for threepence each. I never could bring myself to taste one, but land crabs are very good, especially when nicely scalloped.

The second day on the river brought us to Ellubo, where we met Mr. Styles, a mining engineer in the employ of Messrs. Alex. Miller, Brother and Co., who accompanied us on the launch during the following day to Edomebra. Mr. Styles had been laid up for some time with a cut on his head which I think must have affected his brain. He had a difference with a native carpenter at Ajemfu, when the carpenter seized an axe, endeavoured to split Mr. Styles' skull open, and very nearly succeeded. We arrived at Edomebra at noon next day, and there found Mr. Marshall, looking a shadow of his former self. He had done very little in the way of examining the properties, for he had been laid up most of his time with fever, which had affected one of his eyes. My advice to him was to go to Axim, to consult Dr. Garland, and then to go back to England by the first boat. Otherwise I was sure that the country would claim him for its own. Mr. Reece treated us right well. He had a very comfortable trading station to look after. The house was two-storied, containing a trading store and offices on the ground floor and a dining-hall and four bedrooms above, besides which there were various store-rooms for storing rubber and merchandise, and quarters for native employees.

Continuing the journey to Ajemfu over low forest-clad hills, a stop was made at Jemma, five miles distant. The natives in

this part of the colony all greet you with kwabo (welcome) as you enter a village. Here we found rest at the station of the West Frontier Preventive Force, whose duty it is to stop smuggling across the frontier. This force has stations at about every twenty miles up the frontier. I carried a letter from Mr. Verestead, who was in charge of the force at Half Assinee, permitting me to use their stations *en route*.

Upon the following day we walked eighteen miles to Mappe. We used to buy a calabash full of wine from the toddy palm every morning. This was deliciously cool and sweet to drink before breakfast, or up to ten o'clock in the morning, when it began to ferment, and at midday it acted like alcohol. I never drank water on any consideration whatever. If I wanted a drink during the daytime I sent a native up a cocoanut palm, and drank the water from the green cocoanuts, which would contain a little over a pint of cool, sweet water apiece. Two other means of obtaining good wholesome water in the jungle are, first, from the bamboo. In every bamboo clump a certain number of new shoots spring up every year and grow to their full height within the year. These young shoots, before they have attained their full height, contain a pint or more of good water above each joint. Secondly, water may be found in the rattan cane, which is ubiquitous in the jungle, and climbs to the tops of the tallest trees. If it is lopped off near the ground it will yield several pints of water, quite good and wholesome to drink. Referring again to the bamboo, I may add that in rice growing countries the natives will often cut a section of bamboo a foot above a joint and again immediately below. This forms a vessel containing its own water, and into it they put their rice and boil it in the bamboo over a fire.

On the third day out from Edomebra we arrived at Sewum, a fair-sized village seven miles from Mappe. I had written to Mr. Campbell, asking him to meet me at Sewum; but as he did not appear we proceeded next day to Ajemfu, a journey of sixteen miles, stopping for lunch at the frontier force station at

Kromakrum. Ajemfu is a small village, situated on rising ground, a hundred yards from the banks of the Desue river, across which we were ferried. The mining camp is at the top end of the village, three hundred yards from the river, which is one of the boundaries of the concession. Here I found Mr. Styles, who informed me that Mr. Campbell had gone to Enchi, and would not be back for a day or two. In the course of conversation he began to spin me yarns about his life in Queensland; how he lived among the natives on the shores of the Gulf of Carpentaria for years without seeing a white man. I, in all innocence, asked if he ran across Louis de Rougemont out there? Then the fat was in the fire. He shouted that he had never been so grossly insulted in his life. I had as good as called him a liar, and he emphasised his words by throwing an inkpot and several soda-water bottles at a lamp and at pictures on the walls. He then seized his Winchester rifle and challenged me to a duel *à la mort*, maintaining that he was the crack shot of Australia. In proof of this he ventilated the house by firing at flies on the walls. I kept my eye on him and my hand on my mauser pistol, thinking I had run across a veritable madman. As soon as the violence of the storm had abated, I said I was a pretty fair shot with my mauser pistol, and I challenged him to shoot at beer bottles at fifty yards, he to use his Winchester and I my mauser pistol, for a sovereign a side. This, I said, would be better than fighting a duel. He agreed at once, but it was to be for champagne and not for money. After I had broken five bottles, and he none, he confessed himself beaten, and called for a washhand basin, into which he poured two quarts of Irroy and the same of stout. Over this we became great friends. Mr. Styles' favourite expression was, "You can't kill me with an axe," but though he had not been killed with the axe yet the severe gash he had received on his skull must have affected his brain. I found the whole village empty, for, sitting upon his verandah, he had fired his rifle into every house, so that the whole village had taken to the bush, and did not return for some

days. Upon the following day he went off on his way to Half Assinee, and I never saw him again; but some months later he started back to England on a steamer on which my brother-in-law, Mr. John Kitching, was also travelling. He jumped overboard upon the first day out, and was drowned.

Mr. Bartlett and I spent a couple of days examining the vein as far as we could, and we started some of the carriers pounding quartz in a couple of iron mortars for panning. The workings of the mine were about one hundred yards from the camp. The area of the concession is two square miles, that is two miles along the strike of the vein and half a mile on each side. The vein is a contact vein, filling a well-defined fissure, which outcrops right through the concession. The eastern, or hanging wall, is a hydro-mica schist, and the western wall a sandstone, much decomposed, and highly ferruginous, dipping ten degrees east from the vertical. Hills on the concession rise to a height of two hundred and three hundred feet above the river. The whole has been covered with a limonite conglomerate five to six feet in thickness, which has eroded away on the hill sides, leaving huge boulders of some tons weight here and there, but is intact on the alluvial flats from the foot of the hills to the river, where it has been perforated by many hundreds of circular native shafts about two feet in diameter and ten to twelve feet deep, about twenty feet apart. These are all connected at the bottom of the shafts, and have been sunk to get at a rich alluvial deposit below. At the present time, underground rivers run through the workings. The whole of the conglomerate, which consists of quartz pebbles below and breccia near the surface (through which water carrying iron in solution has percolated, depositing the iron round the pebbles and breccia, cementing the whole together) will assay two or three pennyweights of gold per ton. There are no records available as to when the work either in the conglomerate or in the vein was done. No natives alive in the neighbourhood can remember any mining being followed in their lifetime. The vein filling

is composed of white quartz, with some chlorite, and small quantities of titanite iron and free gold, and it has an average width of three feet. It has been very extensively worked by natives in former years, for about five hundred yards in length and from twenty-five feet to one hundred feet in depth by open cut from the surface, at the end of which are two or three shafts of over one hundred feet in depth. It was not possible to get at the vein to sample it satisfactorily. Occasionally it could be reached where the natives had left a few yards standing as being of a grade too low to extract, and from this it was possible to get a good string of colours by panning, estimated at from twelve to fifteen pennyweights per ton, over an average width of three feet. It would have been too dangerous to have cleared out the old workings, which had caved in, and no time was allowed to sink shafts or to run tunnels. If owners of mining concessions desire to sell them for a big price, it is essential that they should develop the mine, and keep the workings in good order, so that they can be examined systematically ; otherwise it is buying a pig in a poke, and this no self-respecting board of directors will do. The bed of the Desue river should make a first-class dredging proposition ; the beaches and gravel bars of this river are washed for gold by the natives every dry season.

At the end of the third day at Ajemfu Mr. Campbell arrived, and we made arrangements to set out for Sewum, and to take McAllister and Goldsworthy there, where they were to stay to open up the vein. The claim was on the outskirts of the village, and had a big quartz vein outcropping, the quartz being much shattered and crushed. The vein contains small pockets of free gold, which is not disseminated through the quartz, and it runs along the ridge of an isolated hill, about which the natives are very superstitious. They say there is plenty of gold there, in big nuggets ; but it is guarded by evil spirits, and whenever any one has been to work up there and has obtained gold they have died upon the same day. We could not get any one from the

village to come with us up what they regard as the sacred hill. I suggested that they should work from a tunnel below, and then the gods would know nothing about it. However, we made our way up with considerable difficulty, for the mile or so of country between the village and the hill, and the hill itself, is covered with dense bush and with wild pineapples. The summit was a rather weird looking place, with large jutting rocks along the ridge.

On returning to Sewum I hired a house in the village for Goldsworthy and McAllister and left them to open up a tunnel already started on the vein, and to get out some ore for panning, and also to cut some costeening pits to expose the vein for sampling. During the return journey to Ajemfu, Mr. Bartlett complained of the heat, and of feeling exhausted upon our arrival at Kromakrum, so we rested there an hour, and he took some quinine, borrowed from the frontier force station, and finished the journey to Ajemfu in a hammock. On our arrival, at 4 p.m. I took his temperature, which was 101, a temperature that is thought nothing of in the tropics, where many men keep at work with a temperature of 105 or 106; but as Mr. Bartlett had not been accustomed to the tropics we put him to bed, and dosed him well with quinine, but as his temperature advanced rapidly we administered large doses of phenacetin. Even this failed to produce any skin action, and when the temperature rose to 108 at eight at night, we wrapped him in blankets soaked with very hot water. As this produced no good result we tried, as a last resort, cold water blankets; but the poor fellow died at eleven at night on June 20, 1901, with a temperature over the top of three clinical thermometers, which registered up to 111.5 degrees Fahrenheit. We had a coffin of mahogany made at Kromakrum to a drawing we had sent, but when it arrived it was made with legs two feet high, which were now sawn off. Then we had a difficulty about a prayer-book, as there was not one in camp; so we despatched runners to all the villages round and finally got one from Enchi. After choosing a spot for the grave we started a couple of miners to dig

it, but when they had been at it for about two hours they came back and said the earth god must be propitiated. He would not let them dig, for as fast as they threw out a shovelful he filled the hole again. They must have one bottle of gin to throw on the ground, which would propitiate the earth god and let them dig the grave. I gave them some gin, but I suppose that a very few drops sufficed to propitiate the earth god. I read the burial service at Bartlett's grave, after which we erected a solid mahogany cross at the head.

At this time my boy and some of our carriers came out with smallpox. Evidently they had brought the infection from the coast. We immediately had an isolation hospital built in the style of a native house, a few poles with walls of palm leaves kept in place by strips of bamboo, and told off two carriers who had already had smallpox to wait on them. Then I ranged in line all who had not developed the disease, and made them strip all their clothes off and shut their eyes tight while I sprayed them with a strong solution of carbolic acid until they sang out and danced. I then filled a large tub with water, into which I mixed mercuric chloride and made them rinse all their garments in it. This, and continual spraying, effectually stopped the spread of the disease. My boy Quamina and one carrier died, and the rest pulled through.

Mr. Campbell and I made a journey to Akwesikrum and took samples for panning from several quartz veins, but at this time no labour was available to open up any ground. All labour for mining operations has to be imported from the Kru coast. Messrs. Miller, Brother and Co. engage the Kru boys by the year. They cannot stay longer, because they have to return to perform certain annual religious rites. If they fail to return they become outcasts and can never return, or, if they do, they are subject to terrible penalties. Just at this time one batch had left for home, and another, for some reason or other, had not come up.

At the end of July I began to think I had had enough of West Africa, and announced my intention of returning to England as

soon as the syndicate could get some one to take my place. I recommended Mr. John Kitching to them as an assistant, and in the meantime I started a tunnel at Ajemfu, to cut the vein fifty feet below the old workings; but this had to stop for lack of miners.

Mr. Campbell kept two tame chimpanzees, which lived in barrels at the top of two poles outside the house. They were generally loose while he was about, but were tied to a sliding ring on each pole when he was absent. At meal times they had their food given to them on plates, which they came to the table to fetch. They would easily take a plate in one hand, run off, climb the pole, and sit with the plate on their knees. When they had finished they brought the plate back to the table, and never broke one. Then they would climb upon the beams above us and sit there until we had finished. A favourite trick was to drop the rope that was always round the waist of each until it touched our heads, and to hold it there until we tried to catch hold of it, when, just as we were going to grab it, they would jerk it up out of reach. The female was a fine robust animal, but the male was a weakling, and a good deal younger than his mate. She used to mother him by the hour with both arms round him while he nestled into her.

The only wild animals round Ajemfu were, the Bosmans Potto (*Perodicticus potto*), which seldom came down from the tops of the highest trees, where they live on insects of all kinds, young birds, honey and fruit. They sleep during the whole day, and only wake up after dark. They call to one another all night long, a loud, shrill cry, beginning gently ee-eu, ee-eu. This cry gets louder and louder up to a shriek and ends in a groan. At Half Assinee the watchman on the railway on night duty found one clinging to his lantern. In the morning he tried to take it off, but it clung there so persistently that he could not do so. He took it round, lantern and all, to Mr. Dawe, who had a cage built for it, and when I went down there on my way home, he presented it to me. It is the laziest animal on earth, and sleeps away most

of its life, only getting lively when it is hungry. Then, as soon as it is satisfied, it goes to sleep again. Its movements are so slow that you can hold it easily in the hand. It will turn its head slowly round to bite you, but while it is slowly opening its mouth you can transfer it to the other hand. After a few attempts to bite it will go to sleep in your hand, then you can do what you like with it. Once, when I was not looking, it bit me through the thumb nail, and its teeth must have met at the bone. The bite was very painful. While I was waiting for the steamer at Axim it got out of its cage one night, and when I found the empty cage, which was on the verandah, I thought I should never see the animal again, but soon I found it on the first bough of the nearest tree, almost touching the house, sound asleep as a top, and holding on so tightly that I could not make it let go. I cut the bough through on each side of it, and reinstated it in its cage, bough and all. The animal is about the same size as a marten, or sable, of a rich bright bay colour, with thick, short, plush-like fur, and a semi-prehensile tail about as long as its body. It has a perfectly formed miniature forearm, and a hand with fingers and thumb, with which it can give a very firm grip. It slept during nearly the whole of the voyage, but kept quite fat and well. On my arrival in London I presented it, and a couple of African Civet Cats (*Viverra civetta*, *juv.*), to the Zoological Gardens. With reference to the Potto, Davey and Webster said they would not like to be out at night at Ajemfu, for they could hear the wild beasts making fearful howls all night. After the presentation to the Zoo the following paragraph appeared in the *Halstead and Colne Valley Gazette*, headed, "Gifts to the Zoological Gardens":—

"Two rare animals have been recently presented to the Zoological Gardens by Mr. Way, son of Mr. Lewis Way, J.P. Mr. Way has been recently to China and West Africa, and at the latter port obtained the two animals. One, Mosmans Potto, something between a sloth and a monkey, has been placed in the monkey house; it is said that this animal is so slow in eating, that when it

opens its mouth to bite, nearly five minutes elapses between the opening and shutting of its mouth. The other animal is a species of civet cat."

Certain trees in the jungle have long, straight trunks, one hundred feet or more to where the branches spread out. Here there is almost invariably a bees' nest, and the natives drive in hard wood pegs, eight inches long, four inches into the tree, and the same distance out. Up these they climb to get the honey. Nearly every tree of this species has a line of pegs from top to bottom.

I had an enjoyable trip home on the steamer *Jebba*, arriving in England on September 14, 1901. In the meantime the name of the syndicate was changed to the Aawin Syndicate, and a new expedition was formed under the leadership of Colonel Pulford, R.E., to follow up the work we had begun. This expedition left for the Gold Coast at the end of December, 1901.

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