PLANT HUNTER
IN
MANIPUR

by

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B.A., F.R.G.S., F.L.S

(Gold medallist, Royal Geographical Society, Royal Scottish Geographical Society, Massachusetts Horticultural Society, Royal Horticultural Society)

JONATHAN CAPE
THIRTY BEDFORD SQUARE
LONDON

[*frontis.*: TANGKHUL GIRLS BESIDE 'SPIRIT TREE' AT THE ENTRANCE TO A HOUSE

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ILLUSTRATIONS

PREFACE

THIS is a plain tale of plant hunting in the hills. I believe there are enough plant lovers in Britain and in America to make it worth while to write it; those, too, who enjoy reading books of travel may find something of interest in it, for plant hunting necessarily involves travel.

I have deliberately avoided mention of the less conspicuous plants we saw, or collected. Many of them would be just names to the non-botanist, even if he happened to be a gardener. (Someone would be quite certain to call them 'unpronounceable', and to ask why 'the common English name' had not been preferred.) So I have confined myself to describing only those plants of which we collected seed for the New York Botanic Garden, or which were definitely an important part of the landscape.

F. K-W.

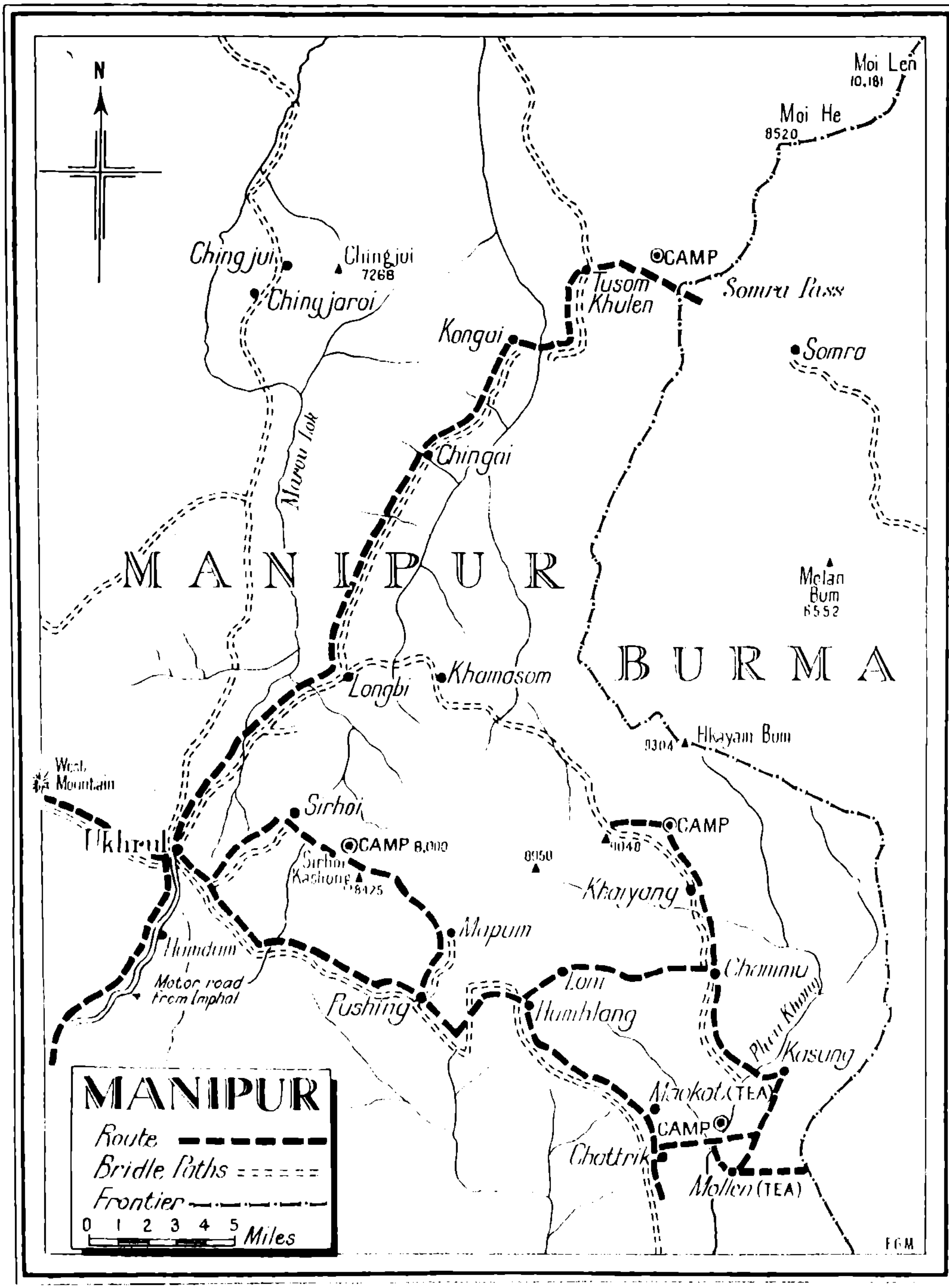
Tocklai, Assam

For

JEAN

who enjoyed every day of it

PLANT HUNTER IN MANIPUR



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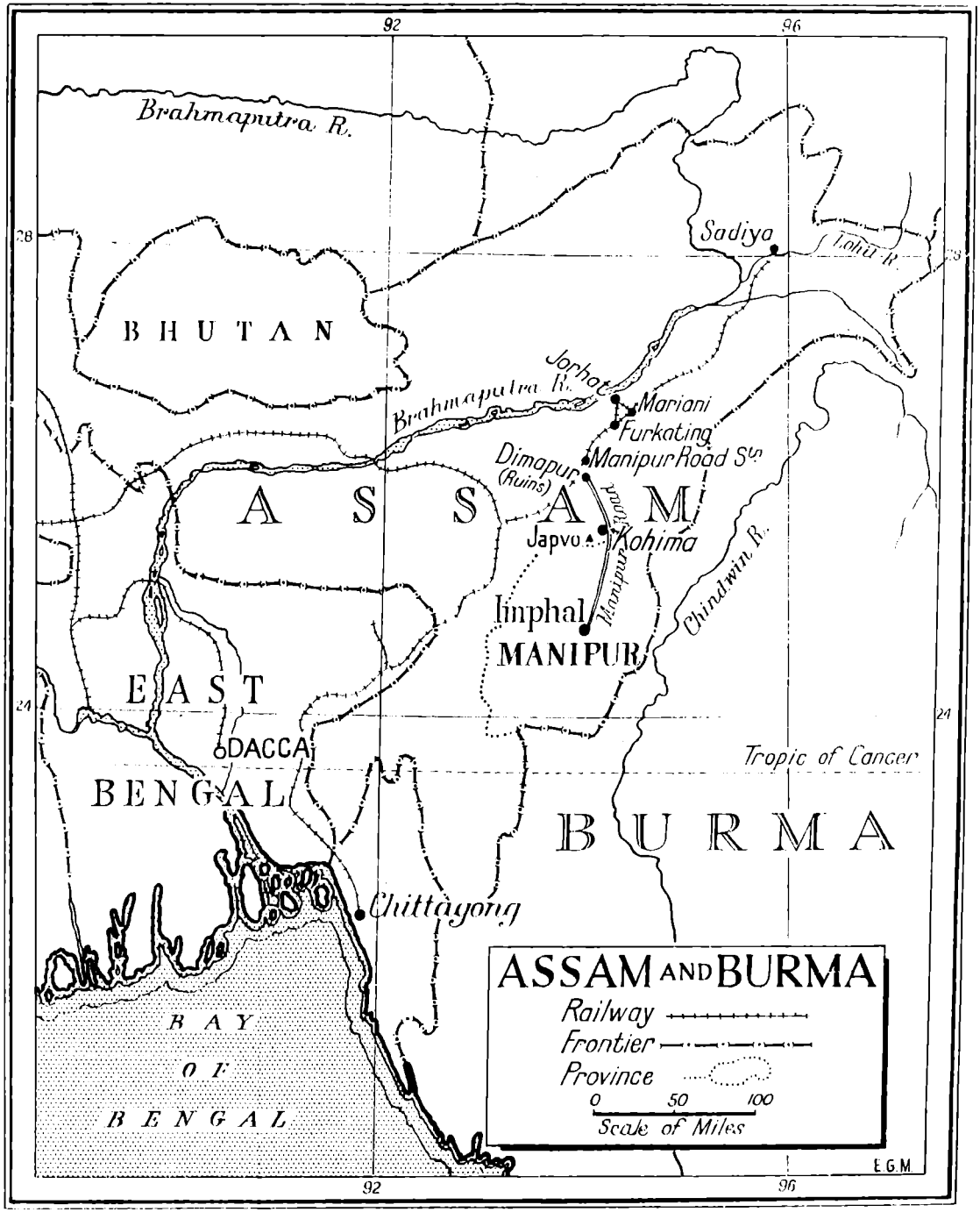
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CHAPTER I

ASSIGNMENT IN MANIPUR

'So you know something about this country?'

The General looked at me shrewdly, as though trying to gauge from my appearance just how much.

'I've spent twenty-five years wandering up and down and across the mountains, General,' I replied. 'I know the Hump better than you know New York. I've walked across it, from Assam to China, in more months than your boys take hours to fly it; from right here, over Burma to the snows of China, then turning to the left, away up through the river gorges into Tibet and to the right down across the Shan Plateau to Indo-China and Siam.'

He ignored the suggestion that he had any acquaintance at all with New York (he happened to come from Texas).

'I gather you're offering to help us pick up some of the aircraft lost in the jungle between here and China. You could find them, you think?'

'Yes, I think I could.'

(An American friend had warned me to 'talk big' when being interviewed by American service chiefs. Diffidence is regarded as a confession of incompetence. America is a big country; the Americans are a big people, think big, act big, and understand those who talk big.)

As we left 'the presence', 'All right, you're hired,' said the Lieutenant with nice brevity. 'At Rs. 400 a month,' he added. 'We're not allowed by regulations to pay more to local residents without reference to Washington.'

'Done!' said I. (After all, Washington might turn down my offer altogether! The appeal to Caesar is rarely profitable.)

So it came about that a few days later I was flying from Upper Assam to Imphal, capital of Manipur State, with

instructions to find three lost aircraft, crashed amongst the steep Manipur hills somewhere between Assam and Burma in the last year of the air lift to China, and bring out the dead. The places where they were supposed to be were marked on my map.

In Imphal my two G.I.s, driving a jeep and a trailer loaded with stores and jerrycans of petrol, met me. We decided to tackle an aircraft near Ukhrul first, before going on into Burma. The air was freezing when, after a tough uphill drive, we reached Ukhrul on a raw January evening. From here, looking across the valley, we could see an aircraft spreadeagled like a dead goose against the steep face of a ridge it had just failed to clear. At the end of the ridge rose the rounded hump of Sirhoi Kashong, 8427 feet above sea level.

'There are white rhododendrons on the mountain, and a path goes straight over the summit,' the Sub-Divisional Officer told me as I looked across the blue valley at the sprawled plane. 'From the top you can see the Chindwin river.' The words did not fall on deaf ears.

When we set out down the bridle path, we carried supplies for four days. It was not the visible plane we were making for — that was an earlier and less tragic accident which had taken no toll of life — but one said to have crashed on the far side of the same ridge. We reached the Tangkhul village of Longen that afternoon, and crossing the ridge found the second plane next day.

On the way back to Ukhrul I decided to climb Sirhoi Kashong, from where I could look over into Burma. My G.I.s, who liked walking about as much as a cat likes swimming — they might have been born on wheels, so easily did they identify progress with progression — were averse from accompanying me. I did not trouble even to invite them to come, but packed them off to Ukhrul with the grisly relics we had recovered, saying that I would spend a day climbing Sirhoi Kashong, in the hope of seeing more aircraft from the summit.

And so on a cold January morning, with two local Tangkhuls

and my interpreter, I set off from Sirhoi village at its foot, to climb the 2500 feet to the top.

I need not enumerate the many plants I noticed (mostly as fleshless skeletons) on the grass slopes above 7000 feet, now glazed with rime. It is enough to say that I found the dry capsules of a lily or Nomocharis, and of a dwarf Iris; collected seed of both, and sent them to England. More, I dug up bulbs of the one and rhizomes of the other, and brought them down to Imphal. Both flowered a few months later in the Residency garden, and if the Political Agent in Manipur, himself a keen gardener, formed a low opinion of them, that was more because the climate of Imphal was unsuitable than because the plants were inferior. At least I had proved that Sirhoi was worth exploring for plants, both decorative and otherwise. There were also the white flowered Rhododendron (of which I failed to get seed), and other shrubs. Is it surprising that when I had finished searching for the graves of airmen, and finding by the way the corpses of many plants, I should wish to be present at the next resurrection, to see what they looked like?

That ascent of Sirhoi, an insignificant event in itself, was destined to have unforeseen consequences.

It was in 1939, while I was on a visit to the U.S.A., that I had been asked whether I would be willing to undertake a plant-hunting expedition in South-East Asia on behalf of the New York Botanic Garden. Dr. W. J. Robbins, the Director, explained that the Garden wished to sponsor an expedition to the East to collect ornamental plants for cultivation in the southern states and California, which so far had not shared much in the good things which had come out of Eastern Asia. To this plan I readily agreed. But when war broke out within a week of my return to England, the proposed expedition was indefinitely postponed.

In 1946, while I was still in India, I received a letter from Dr. Robbins reminding me of our conversation, and asking me if I were now free and willing to undertake an expedition on

behalf of the New York Botanic Garden. I had recently completed my mission in Manipur, and would shortly be quit of all commitments. I was therefore delighted, after seven years' interruption, to return to my profession of plant hunting, at which I had already spent the best years of my life.

But the world had changed. Some of the places contemplated as hunting grounds — Indo-China, for example — were now inaccessible to explorers. I therefore put forward proposals, based on my recent experience, for an expedition to Manipur; and to this Dr. Robbins willingly agreed, giving me, in fact, a free hand. But first, having spent the last six years in the East, I decided to take a few months' leave in England.

Thus it came about that in November 1947 my wife and I were bound for Manipur. We sailed from Liverpool in that memorable 'Belsen' ship, the S.S. *Franconia*. She was still a trooper, unconverted, still carried troops (though not very many; in fact, this was said to be her last voyage before reconversion into a dollar-earning luxury liner back on the Atlantic run); but she was much less aggressively 'Belsen'. Civilian passengers were in the majority — not that *that* necessarily makes any difference in their treatment! — and though most of the accommodation was still austere, conditions for the civilians were already far better than during the months immediately after the war, when four times the usual number of passengers were trying to get home on leave, in half the usual number of ships. Anyway, *we* had nothing to complain of, as we were amongst the lucky few and had a 2-berth cabin to ourselves, even if we *did* have to have our meals in the slums. Here, too, we found ourselves in good company.

It must be admitted that the evening we got on board — after two hours of queueing in the biting cold of Liverpool docks — we had every reason to fear the worst. The cabin baggage of some hundreds of passengers had been slung aboard and dumped down like so much pig iron. It lay in mountainous piles reaching to the roof, jammed into alcoves and along alleyways, surrounded by hordes of distraught women who had no

nightdresses, and frantic men who had no bedroom slippers. We ourselves, surprisingly enough, found one of our cabin trunks in our cabin, but had to join in the scrimmage to find other necessary pieces. All round us the ship echoed with despairing cries, punctuated at intervals with relieved shouts of: 'Oh, *that's* my hat box — the one with the yellow label,' or '*Here's* my typewriter at last! Oh dear, it's upside down,' and so forth, while strong men climbed at great peril on to quaking piles of luggage, and sweating women pulled pieces out from below, threatening the imminent collapse of the pyramid. Finally, in self defence, about ten o'clock at night the ship's officers got down to work, drove the passengers off, and by midnight the more pressing needs of everybody were satisfied. But it was several days before the last piece of luggage had been restored to its relieved owner.

There is no need to describe in detail what turned out to be a pleasant voyage, at least after the first three days, when we were almost too seasick to listen even to the broadcast of Princess Elizabeth's wedding. From Finisterre to Bombay, however, the sun shone on a sea of glass, and the three weeks were made doubly pleasant for us by the fact that we spent the time writing a 35,000 word popular book on rhododendrons and their cultivation, which had been commissioned just before we left London. I wrote the chapters, then Jean typed them, gave good advice, and corrected my spelling mistakes. As it was impossible to type in our little cabin while I was writing, the O.C. Troops put his comfortable stateroom at Jean's disposal from 9 to 6 every day, a kindly act for which we shall ever be grateful. The work was completed before we left the ship, and was posted to London from Bombay.

The ship's company, notably our beautiful auburn-haired soft-voiced stewardess, who was far more attractive than any mere glamour girl, were kind and helpful. Our table companions in the slums, including a Darjeeling tea planter and a young business man from Calcutta, excellent companions; the food beyond reproach. To crown all, the Captain one evening

invited us up on to the bridge and explained in words of one syllable the mysteries of radar, while we peered at the screen and watched the revolving dial; we even saw the shadow of an invisible ship. Hence, though the voyage was 'without incident' (which means without drama), we enjoyed every day of it, as well we might with plenty of work to do, in pleasant surroundings and in congenial company.

We reached Bombay on December 7th, and were met on board, first by an old friend of Jean's, a vividly striking dark-haired Yugoslav girl with whom we were to stay for a couple of days, secondly by a deputation from the Ministry of Agriculture, who requested us to call on the Minister the following day.

After no more delay and despondency than is usual on such occasions, we got our luggage through the Customs, paying duty only on some tinned food for the expedition (if you bring food with you into India, a country which never has enough for its own inhabitants, you must pay duty)! The Customs also tried to charge us duty on two ancient ice-axes made in Kashmir. These had been earmarked, not for step cutting on romantic glaciers, but for the less glorious task of hoeing up alpine plants. As such they were eventually allowed in duty free, when we had persuaded the official that they were tools directly connected with our work, and not mere frivolities.

It is always a relief to get away from the noise and confusion of docks, where so little is done by so many that one gets a rather false idea of international trade! However, it happened that a P. & O. liner had come in that morning, beating us by a short head, so that the Customs hall was more than usually full, and everybody more than usually fretful. We had a good many pieces of small luggage, which is a mistake, since dock dues are levied not by weight or bulk, but on each separate piece. We noticed a passenger in the next bay hastily cramming small suitcases, a typewriter, and numerous other bits and pieces into a cavernous hold-all; it was not until our own luggage was counted, and we had paid our Rs. 45, that we

realized what the idea behind this curious behaviour really was.

But we got away at last in the blazing heat of early afternoon, and drove out along Marine Drive and Hughes Road, along the foot of Cumballa Hill and past Breach Candy to the house of Jean's lovely friend.

Two days of going and coming followed. We called at the Ministry of Agriculture in the Secretariat, and learned that the Indian Government, having taken note of our proposed journey to Manipur through their High Commissioner in London (to whom I had first written, asking permission), were anxious to have a finger in the pie. Would we object if a representative of the Botanical Survey of India accompanied us? Of course we would not, and a wire to that effect was dispatched to New Delhi. Meanwhile, how were we placed for transport? Well, we had no car of our own . . . Instantly a Daimler was placed at our entire disposal for the duration of our stay in Bombay.

We had some shopping to do, and Jean had old friends to look up, and it all took time. Nevertheless we boarded the train the third evening after our arrival in Bombay, to avoid further wear and tear, and in the afternoon of December 11th found ourselves in Calcutta, where it was markedly cooler. It always surprises me how much more real is Calcutta's 'cold weather' than Bombay's, though the difference in latitude is less than 4°. Bombay, however, is almost surrounded by sea, whereas Calcutta is about seventy miles inland.

At Calcutta we had been invited to stay with Sir Charles Miles (as he was about to become), head of a great firm. His car was waiting for us at the station, and we were soon driving out to his beautiful home in Alipore Road, where we were given a friendly welcome. Another five days shopping, not unmixed with social engagements, followed. It was my turn to look up old friends. But delightful as it was in the great house in Alipore Road, as the guests of so kind a host, and pleasant as is the climate of Calcutta at this season, we boarded

the Assam Mail on December 16th with no lasting regrets at leaving.

So far we had met with no serious mishap or delay; there remained only the last lap of our journey to our main base, which was the Research Station at Tocklai, in the heart of the Tea district of Assam. Rumour said that this would prove to be the most difficult bit.

My Calcutta agents had sent an Anglo-Indian youth to Sealdah station to help us with the baggage, and I was rather amused at the somewhat highfalutin pose of this young man when he came to the carriage to say goodbye. He had been very helpful, so naturally I offered him a few rupees.

'Sir,' said he, drawing himself up smartly and clicking his heels, 'I am a servant of the Government of India!' (Was the implication, surprisingly, that those who served the Government of India did not accept presents?) There was an Indian police officer in the compartment; perhaps this grand air was put on for his benefit!

'Don't be a damn fool,' I said. 'You are *not* a servant of the Government; you are a servant of Grindlay's. And don't you know the difference between a bribe and a present?'

Absolved of moral side-slipping, he looked relieved and accepted the present philosophically.

We had over forty pieces of baggage with us, and as we should have to change trains at 10 o'clock at night (and that in Pakistan — into a distant corner of which the railway wandered) we were a little anxious. We need not have worried. Either our informants had been unnecessarily alarmist, or we were lucky; for we had no trouble at all when we changed at Parbattipore, though the platform was piled high with delayed freight. The only package we lost (temporarily) lay for a week at our own railway station, Mariani Junction, because I hotly disclaimed ownership (it being clearly addressed to a firm in Glasgow)!

Mariani, the station for Tocklai, was reached at 10 p.m. (not more than four hours late) the day after we left Calcutta. My

old friend Pop Tunstall, then mycologist at Tocklai Experimental Station, met us and drove us the ten miles to his bungalow, where we were to stay.

It had been our intention to remain at Tocklai over Christmas, and to start for Manipur early in the New Year. But at the outset things did not work according to plan. India was now independent; we had no desire to antagonize the new Government by ourselves acting independently, and as we were going into a Native State, we found it advisable to go up to Shillong, the seat of the Assam Government, and call on the Adviser on Tribal Affairs to H.E. the Governor. This proved a useful contact, and the Adviser, Mr. G. E. D. Walker, did everything he could to help us; but it was not till the middle of February that, with our permits in order and now back again in Tocklai, we were finally ready to start on our journey into the hills.

CHAPTER II

MANIPUR ROAD

THE main line railway station for Tocklai — Mariani Junction — is distant ten miles by a good motor road. However, let no one suppose that Jorhat, which is quite a town, has no rail connection. On the contrary, it has two, one branch line taking off from Mariani, another from Furkating, which is twenty-four miles nearer to Calcutta. But Jorhat, like so many small towns in Assam, is not on the main line. It is, however, on the Trunk Road.

Tocklai is two miles from Jorhat station, and though the Mariani-Jorhat branch line passes the gate, the train will not stop, whereas the bus will. Hence most people prefer to travel between Jorhat and Mariani by road. But that also has its disadvantages, if one happens to be catching a train, since both up and down main line trains generally reach Mariani in the dead of night. We were lucky in that a train for Manipur Road left Mariani at the reasonably godly hour of 7 a.m.

It was raining hard when we got up in the dark on February 15th, had breakfast, and shortly after daylight piled into the Tocklai truck. There was a great hole in the windscreen, but a broken-ribbed umbrella, deftly inserted half open, kept out some of the rain. Several friends braved the weather to say goodbye, and I hope the sight of us with our ragged umbrella frantically trying to block up the hole in the windscreen, afforded comic relief for early rising on a Sunday morning.

We reached Mariani wet through, and the coolies piled our forty-two pieces of kit — boxes, baggage, bedding, tents and all — into the compartment after us, without troubling to weigh it. Luckily we had the compartment to ourselves, but even so we were jammed like sardines and it was impossible to open the door.

MANIPUR ROAD

We had passed through Manipur Road station in the dark on our way up to Tocklai two months previously, but had paid no heed to the distance between. I thought the train journey might take four or five hours. The sun came out and it grew hot, and we both felt drowsy; so when we halted at a station about 10 o'clock, I sleepily waved away the butler in white who put his head through a window and asked if we would like breakfast. The train was still standing in the station, and I prepared to go to sleep again. Suddenly a horrible thought struck me, and I came fully awake with a start. There was something familiar about all those sidings and sheds. I sprang up, looked out of the window. My worst fears were realized.

'Good God!' I shouted. 'It's Manipur Road. Quick!'

Jean gasped, but she needed no second bidding. I yelled for coolies and we began hurling bags and boxes pell-mell out on to the line through the windows. Several coolies appeared, and with their help we at last got the door open, and the heavy stuff out. Only just in time, for the engine had started to whistle impatiently.

Having recovered somewhat from the shock, we looked despairingly at the pile of miscellaneous baggage dumped beside the track. Already the coolies had begun to carry it in relays across to the P.W.D. bungalow a couple of hundred yards away.

The Assistant Stationmaster now sauntered up, and seeing the outsize pile of baggage, which was obviously far in excess of the free allowance, asked me for the railway receipt. I had to confess that I had no receipt, as the Stationmaster at Mariani had ordered the coolies to put everything in our compartment instead of in the brake van, assuring me that I could pay at the other end. The official wanted to know how much it all weighed, and I gave him an estimate, which may have erred by a maund or two (in our favour, I hoped). As by this time nearly half the baggage had gone off to the bungalow, where we intended to stay overnight, the Stationmaster remarked confidentially that he would call on me later, and we could arrange

everything. In the evening he called, and after a pleasant chat I gave him a few rupees on behalf of some obscure charity for which he protested he was collecting — though he omitted to give me a receipt. This was rather irregular, but after all, what can one person do against the dead weight of a well-organized conspiracy! I wondered whether the Manipur Road officials in turn refused to weigh passengers' baggage, and left the Mariani officials to tote round *their* subscription lists! It is only fair to say that a year later we found things considerably tightened up, on the railway at least; so tight, in fact, that the guard would not unlock an empty compartment for us unless we first paid the reservation fee for our unreserved seats!

We had now to find transport to Kohima, and for this we tackled the local police, who were kind and helpful. They had a truck going up to Kohima next day, and promised to take us and our baggage in it. The afternoon was very hot, the sky a deep lapis lazuli blue, the forest fresh after the rain; all round us arose the machine-shop noise of cicadas. Storm clouds smothered the high hills, and towards sunset a brilliant double rainbow appeared against a black curtain.

Next morning we walked down the road to look at the splendid jungle and I pointed out to Jean some of the commoner plains trees. A mile away are the six-centuries-old ruins of a Cachari temple, long since overwhelmed by the green jungle tide. These lost ruins at Dimapur were discovered by a British official many years ago, and the surrounding forest was cleared sufficiently to reveal them. Since then thousands of tourists must have visited Dimapur, though the ruins comprise little more than a massive brick arch, presumably the entrance to the temple or fort, and, a short distance away, two rows of squat pillars carved in the likeness of giant fluted mushrooms, which the pundits recognize for stylized phalluses (fallacies is perhaps the right word).

In 1949 we visited the ruins and found them almost completely engulfed by the resurgent jungle, while the archway bore several sapling fig trees which within a few years would

split it in twain. The cynical may like to compare the boasting of most Hindu politicians, when referring to their ancient culture, with their complete indifference to India's ancient monuments which were the products of that culture. But who nowadays takes the ranting of politicians, Indian or other, seriously!

After lunch the police truck picked us up. The N.C.O. in charge of the Post handed me the usual official permit to cross the 'Inner Line' and enter tribal territory, on which it was plainly stated that I had paid the usual fee. However, no fee had been demanded. I then observed that the permit was not written on an official form, and rightly concluded that we were unofficial passengers in the police truck, which meant that the reasonable fare charged was unofficial too.

And so, on February 16th, we started on the forty-six mile drive to Kohima.

During the late war, so many thousands of allied soldiers, both Indian and British, travelled along the Manipur Road to battle, that one hesitates to describe it here, since everything has been said before. On the other hand, comparatively few of them are likely to read this book, and for the benefit of those who have not travelled this road, and now probably never will do so, I will add a few notes.

In 1893, during a time of acute tension, the leading Manipuris in Imphal intrigued against their British overlords. The result was the brief Manipur rising in which several British officers were massacred. As a reprisal, the Indian Government of the day forced the Maharaja of Manipur to build and maintain a cart road, to replace the existing bridle path from Imphal to Dimapur — a distance (in an air line) of eighty miles. Thus fifty years ago the Manipur Road, 134 miles in length, was born. When the motoring age dawned, the surface and the alignment were gradually improved, and when the last war broke out, several hundred motor vehicles a year passed up and down between Manipur State and the Assam Valley. Traffic was one way only, and was rigidly controlled by time keepers at

five gates; at the middle gate the two lines of traffic passed at stated times.

After the Japanese had overrun Burma, it was decided to widen the road to take two lines of traffic. This final step was a gigantic task and could never have been done in time but for the tea planters of Assam, who organized and led an immense labour force drawn from the tea garden coolies. With thousands of army vehicles passing each other along this winding mountain road, it is hardly surprising that scores went over the cliff and were never seen or heard of again.

Only one more phase in the evolution of the Manipur Road remains, and that is for the whole thing to be washed away by the monsoon rains.

The first ten miles from Dimapur lies across the plain, with the smoke blue hills just showing above the tree tops. Then the scene changes. Crossing a river we enter a gloomy gorge, and now the winding road, cut out of the cliff face, overhangs the furious torrent. So we climb steadily higher, the road at first clinging to the west face of the ridge, then crossing over at a saddle to the east face. Japvo, nearly 10,000 feet high, snow capped after the recent storm, shows up fitfully through the winter mist. Finally we reach the cross spur astride which the famous town of Kohima stands. Conspicuous, staring down on us as we weave in and out of the gullies during the last three miles to the top, is the new hospital, which was built for the Naga tribes in recognition of their valour during the war, and where all medical and surgical treatment for the hill people is free.

It was dark when we reached Kohima, and bitterly cold. Major Cummins, Commandant of the Naga Hills Battalion, Assam Rifles, had kindly offered to put us up for the night, and we went straight to his bungalow, where he and his wife and young son made us comfortable.

Just above the road where it crosses the saddle is the cemetery containing the graves of nearly fourteen hundred British and Indian soldiers who fell in the defence of Kohima in 1944, a victory which stopped for ever the Japanese invasion of India.

At the foot of the terraced slope where the rows of white crosses stand tier on tier, rises a great Naga stone on which are carved the following fine, simple lines:

WHEN YOU GO HOME, TELL THEM OF US AND SAY:
FOR THEIR TOMORROW WE GAVE OUR TODAY

This recalls Lonnington's translation of the inscription to the 300 Spartans who, under Leonidas, died at Thermopylæ:

GO TELL THE SPARTANS, THOU WHO PASSETH BY,
THAT HERE, OBEDIENT TO THEIR LAWS, WE LIE

Next day we completed our journey to Imphal, eighty-seven miles distant, in an army lorry. The road ascends gradually from Kohima at 4600 feet to Mao at 6000 feet, the highest point on the road. Immediately above us rise the precipices of the Japvo ridge. Here and there, looking back, or up a deep gulley, we catch a glimpse of snow; but that will soon melt. From Mao the road descends. We cross the infant source of the Barak river, which at one point on a causeway can be seen flowing in opposite directions on either side of the road. So we wind down nearly 4000 feet to the vale of Manipur. Arrived at Imphal we stayed at the Dak Bungalow. It was February 17th, and we were within a day's journey of our goal. We felt uplifted.

In 1948 Manipur was still a semi-independent Princely State, just as it had been under British rule. The Maharaja, who was a Brahmin, lived in a white and gold palace, roofed with domes, not far from the great tank; but his absolute power had been further clipped since the war by a Council of Ministers, more or less elected by popular vote. Two of these Ministers —

the Chief Minister himself, Rajkumar Sahib P. B. Singh (who is the Maharaja's brother), and the Hill Minister, Major R. C. Kathing, M.C., M.B.E. — were directly concerned in our application for permission to visit Manipur and stay in the Tangkhul village of Ukhrul. Our first duty, therefore, was to call on them, which we did the morning after our arrival.

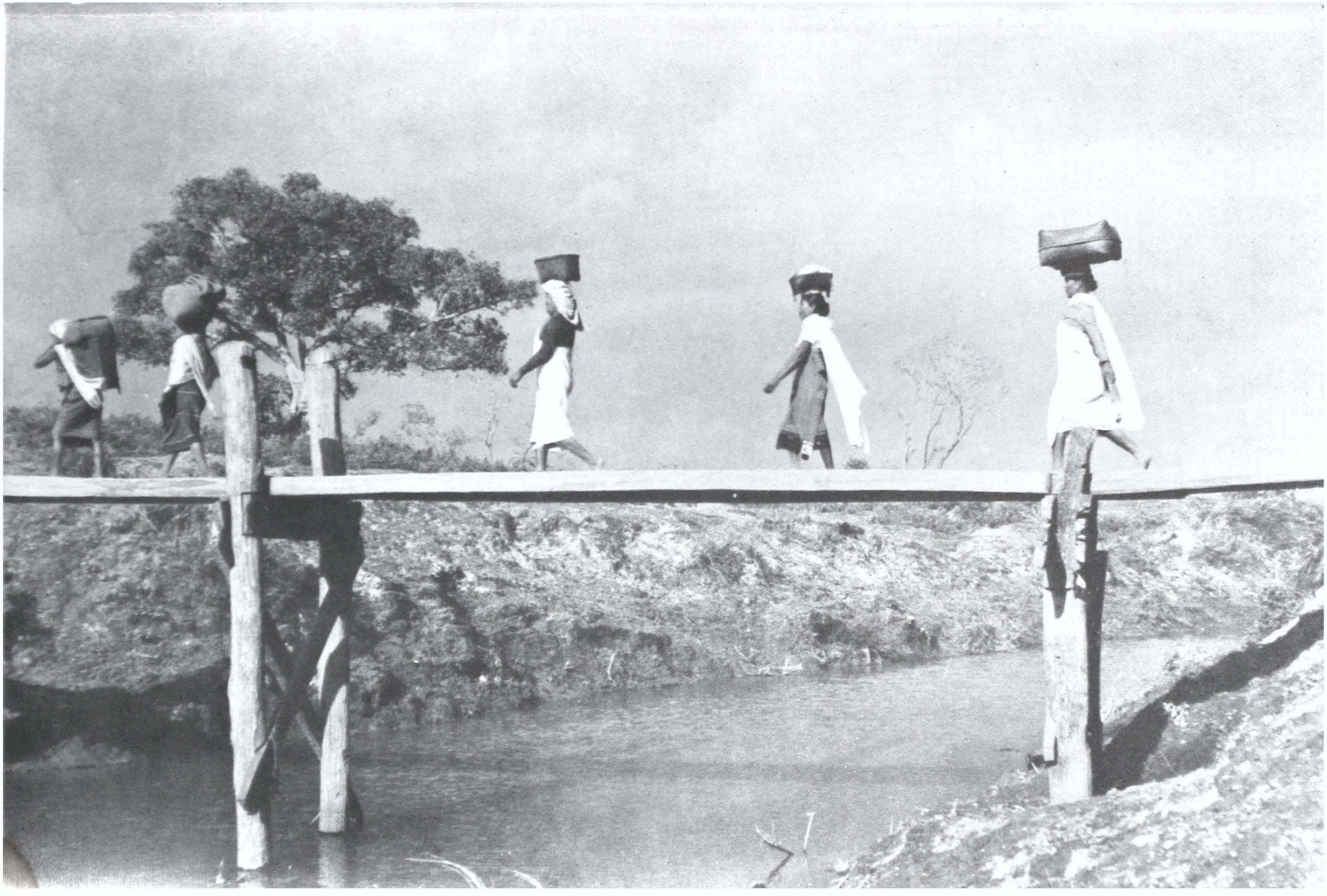
Proceeding to the Chief Minister's house, we were kept waiting only a few minutes. Rajkumar P. B. Singh is, of course, a high caste Manipuri aristocrat; but he speaks English so idiomatically, and talks of his British army officer friends (with whom he was extremely popular) so fondly — he served with the Assam Regiment during the war — that one is apt to forget that he is a Brahmin by birth and upbringing. Perhaps he does himself sometimes! He greeted us warmly, put us at our ease, and we were soon talking of mutual friends.

Presently Major Kathing joined us. He is a Christian Tangkhul Naga from Ukhrul who distinguished himself in the war; but in spite of his totally different background, he too spoke excellent English with easy assurance.

The two Ministers told us that we would shortly be able to move up to Ukhrul, and that a house would be put at our disposal. We must wait a few days for the road to dry up after the recent rain, but need anticipate no difficulty. We took our leave walking on air, charmed with our reception and hopeful of our prospects.

The vale of Manipur, a roughly oblong shaped plain entirely surrounded by mountains, is the upper course of the Manipur river. Imphal, the capital, is sited towards the northern end at an altitude of 2500 feet. With mountains visible on three sides rising abruptly from the edge of the plain, nowhere more than ten or twelve miles distant, it is hard to realize that one is not at or below sea level. The southern half of the plain consists almost entirely of lakes and swamps, and it is clear that the whole shallow basin was once a large mountain lake which has become gradually silted up by streams from the surrounding mountains. Below the surface gravel and soil is a thick bed of

[*facing:* MANIPURI WOMEN ON THEIR WAY TO THE NIGHT BAZAAR, IMPHAL



clay. Even today many of the hill streams from the southern ranges bounding the plain flow *northwards* into the Manipur river which, after mingling with the swamps, nevertheless makes its exit to the south and thence joins the Chindwin river in Burma.

It is probably easier to reach the vale of Manipur from Burma than from Assam, and politically the State has always oscillated like an uneasy satellite between the two larger bodies, the gravitational pull acting sometimes in one direction, sometimes in the other.

Here, however, we are concerned with matters far more ancient than politics, more ancient even than man — with the vale of Manipur when it was a deep lake covering almost a thousand square miles; when the surrounding mountains were plastered with ice; when the rainfall was far heavier and the climate generally colder and moister than it is today; and when temperate rather than tropical forest covered the land. Today the flora of eastern Manipur is as much Chinese as Himalayan, though China is a long way off; and it is a matter of interest not only why this should be so, but also why, on the other hand, so many Himalayan plants should be found in the mountains south of the Assam Valley. These matters are discussed in the Appendix.

We had one other courtesy call to make in Imphal. India had recently appointed a Dominion Agent to keep in touch with the Maharaja's government, just as under the late government there had been a British Political Agent. The Dominion Agent now occupied the Residency, living in rather reduced circumstances, we thought, compared with the style formerly considered proper to a Political Agent. I had several times stayed as a guest at the Residency in the old days, the last time

with my friend Mr. C. Gimson, C.I.E., and knew the beautifully kept Residency garden well.

The first (and last) Dominion Agent happened to be both a citizen of Jorhat and a friend of Tunstall's. We paid a ceremonious call one morning, but the Agent was out, so we left cards. Later an invitation to us to call again the following day arrived, and presently we found ourselves face to face with Debeswar Sarma, who welcomed us with a friendly smile.

Debeswar Sarma, Indian patriot and a staunch Congress supporter, is a most distinguished-looking man. Tall and well built, with snow-white hair, penetrating eyes, finely chiselled features, and a gentle voice — which doubtless he could raise and sharpen in debate when necessary, for he is an accomplished politician — his appearance and personality are both immediately striking. His expression was benign, almost patriarchal, and I put him down as being about sixty years old. He spoke warmly of Tunstall, and was interested to learn that we came from Tocklai, so near his home town.

He could not do too much for us. We wanted to visit the British military cemetery — he drove us there and back in his car, himself placing flowers on a friend's grave. We had no transport to get about the little town — he lent us his peon's bicycle for the duration of our stay. He invited us to dinner, and gave us an English meal at the English dinner hour; but there he scarcely did us justice, since we would have preferred an Indian one, or at least a curry with all those curious little bits and spices obtainable in the country. He himself ate almost nothing. We sensed, first, that he did not get on well with the Maharaja's government; and secondly that he hated his ambassadorial job and longed to get back to the cut and thrust of active political life. Altogether Debeswar Sarma was an unforgettable man.

A year later we met a fine-looking Indian at a party in Jorhat, and I spent an agonized ten minutes racking my brains trying to recall where I had seen him before, without success. I noticed him looking hard at me while he told an amusing story.

Finally I asked Jean what his name was. She told me, and armed with this information I went up to him as we rose to go into tea.

'Good afternoon, Debeswar Sarma,' I said. 'You won't remember me, but we met last year when you were Dominion Agent in Imphal. My name's Kingdon-Ward.'

Instantly he was full of apologies because he had not recognized me. Urbane and courteous as ever, he recalled our meeting and regretted that he had not been able to visit us in Ukhrul. He had, to his joy, been recalled from Manipur soon after we left Imphal.

When I told Jean about it, she was shocked.

'You are the limit,' she said indignantly. 'You'd forgotten him completely, and then you had the nerve to pretend you remembered him! Besides, you made the poor man feel most uncomfortable and apologetic for not having remembered you himself!'

'Rather him than me,' I said, unrepentant. 'Besides, I'd only forgotten his name.'

Awaiting our arrival in Imphal, we found Dr. S. K. Mukerjee, Curator of the Indian Botanic Garden in Calcutta, who had been deputed by the Director to join us and collect plants on behalf of the Botanical Survey of India. I had met Dr. Mukerjee several times, and knew him to be an energetic field botanist and a likeable man. I felt confident that we should get on well together. Dr. Mukerjee had brought not only his wife, but his family of two as well — a small boy and a pretty little girl.

We were not to get away from Imphal scot free. Urged by the Chief Minister, who took a great interest in education, the Principal of the College descended upon us and asked me to give a lecture to his students. I had no liking for the job, which

besides being something of an ordeal meant a certain amount of preparatory work; but it seemed churlish to refuse, particularly as Dr. Mukerjee had already consented to give a talk. So I got down to preparing a lecture at twenty-four hours' notice. At least I had the advantage of hearing Dr. Mukerjee talk first.

The great night came round, and two of the students from the College called at the Dak Bungalow and escorted us across the *maidan* to the place where the lecture was to be held. I carried a small flask of rum in my hip pocket, and dropping behind I pulled it out and had a nip to revive my drooping spirits.

Arrived at the College, we were kept waiting for the Principal, who was late. I hoped we would start soon; but when the Principal turned up he said we would have to wait for the Chief Minister, who was even later. Annoying. I took another swig at the rum.

The minutes passed. The Principal asked me if I was going to talk about the flowers of Manipur. I told him, no, I could not do that. I had only just arrived in Manipur, with the very object of studying its flora. I would talk about the flora of the Himalayas and Tibet.

'We want to hear about Manipur,' the Principal repeated petulantly. How very tiresome, I thought, and took another nip of rum to drown my annoyance — though I had no intention of altering my prepared lecture. I hoped the Chief Minister would come soon.

At last he arrived, and we all trooped across to the big lecture room. The horrid moment had arrived. Just before I went in I took a last pull at the flask, and was surprised to find it almost empty. Then I went in to face a battery of eyes, thirty or forty quiet students, all dressed in white; they had been waiting patiently for nearly half an hour.

The low dais was rather small, and in the course of my lecture, while tramping to and fro to give a visual rendering of crossing the Great Himalayan Range at a high altitude, I stepped over the edge, to the intense joy of the audience.

THE MILITARY CEMETERY AT IMPHAL

Luckily I kept my balance; but it was a near thing — almost a technical k.o.

Jean said afterwards that I seemed to be half tight — a typical British understatement.

During our ten days in Imphal we went out botanizing several times, once to the bank of the Manipur river to see bushes covered with delicious white dog roses (*Rosa involucrata*), and once to the great grazing plain close to the town, which in the rainy season is a marsh, but in the dry season is for the most part fairly solid ground.

At the damper northern end of this plain — another remnant of the great Manipur swamp — an Iris with purple flowers, full and billowy (at least compared with the aquiline flowers of the Spanish Iris), grows in thousands. I found this plant many years ago, and was struck by its likeness to the Japanese *Iris Kaempferii*. Unfortunately the seeds I sent home did not germinate, or else the seedlings died. There was no sign of flower now, nor could I find a single fruit. I have often wondered what the name of this marsh Iris is.

By the last week in February the hedges were star spangled with the chalk-white ten-rayed flowers of a jasmine, and a mauve Buddleia scented the air. But already it was getting hot on the plain, and this was not the best season for botanizing. I cycled miles looking for the dainty little blue-flowered *Clematis Cadmia* which grows here, but without success.

We found the war cemetery kept neat and clean. Seventeen hundred white crosses mark the graves of British and Indian dead, but many of them bear no name. General Wingate of the Chindits is buried here with the men who died with him in March 1944, when the plane in which he was flying to Assam crashed in the jungle.[1]

Meanwhile we had acquired a Tangkhul cook named Manga-

[1] In 1950 the American Government had the coffin containing the remains of these soldiers — four of them British — removed to the U.S.A.

lay, whose home was in Ukhrul. He had been trained by Mrs. Duncan, the wife of a distinguished frontier officer, and was not only an exceptionally good cook, both on tour and in the bungalow, but a good all-round man. During the whole of our residence in the Manipur Hills he served us faithfully as cook, interpreter (he spoke fluent Hindustani) and sirdar.

We were now ready to start on the last lap of our journey. The weather had been fine. For more than a week no rain had fallen, and the long ascent to Ukhrul in a 15-cwt. truck could be done in a day.

On February 27th two trucks arrived at the bungalow, and we finally started shortly before noon, Dr. Mukerjee and his family in one truck, ourselves in the other, and a vast miscellany of luggage in both.

CHAPTER III

COBWEB COTTAGE

UKHRUL is a large village in the hills north-east of Imphal, distant thirty-six miles in an air line and forty-five by road. The day was fine, and the two trucks threw up such dense clouds of dust on the dry plains road that peasants going to market had to cover nose and mouth with a cloth to avoid being choked as we passed them.

It is about twenty miles to Litan, the bus terminus where the road enters the hills. There is little to see on the plain except endless paddy fields and small villages half hidden amongst mango and jackfruit trees and groves of bamboo. As though impatient of the featureless foreground, the eye skims rapidly over the middle distance, to rest contentedly on the mountains, misty blue in the north. Eastwards the plain ripples up gradually in bare, dun-coloured foothills which hide the frontier range.

Beyond Litan the winding road climbs steeply and dust gives way to mud, deep and sticky in the shadow of dripping cliffs. Several times the truck came to a halt, the wheels spinning. With some trouble we reached the top of the pass, 5000 feet above sea level, only to plunge down 2000 feet and cross a valley before starting on the final climb to the Ukhrul ridge.

All the afternoon we kept going. Dusk came early, and hard on its heels night fell. It was dark when we reached Ukhrul. Cloud hid the moon. We were cold, shaken and hungry, nor could we find the two cottages assigned to us by the Hill Minister. By good luck our driver brought us to the right place, near the Military Police Post. Here stood an empty cottage; it would serve for the night at any rate. With the help of willing neighbours, and by the flare of pine torches, we carried our luggage inside. Then Dr. Mukerjee and his family arrived in

the other truck; we put them in one room while Jean and I took the other.

When Mangalay brought us hot soup at 10 p.m. we felt on top of the world, a new world 6000 feet above the sea. We had reached our goal, our base-camp-to-be for the next ten months, and were happy. It was February 27th, 1948.

After breakfast next morning we all went off to inspect the other empty cottage, which was five minutes' walk away. It was smaller than the one we had occupied, and darker. The floors were of hard smoothed earth. Certain advantages were a cleaner water supply and more privacy — there was no other cottage within a couple of hundred yards, only the bombed and derelict hospital across the road. The view, too, was magnificent, and I was undecided whether to move or not. But Jean said wisely: 'Stay where we are,' and Mangalay advised the same. So we stayed and the Mukerjee family moved. We never regretted our choice.

Here I must say a few words about our temporary home, because I have used the word 'cottage' to describe it, and that may easily give a wrong idea. Cobweb Cottage (so named by us) was built partly of timber, partly of bamboo covered with crude plaster, and had a thatched roof. It stood on posts raised a foot off the ground, so that both fowls and small pigs could skulk underneath. In the wet weather, however, the cottage stood over a villainous sump which even the pigs disdained.

The front door opened from a narrow veranda directly into the living-room, which in turn opened straight into the 'bathroom'. A door with glass windows separated the two — though why a bathroom should be honoured with glass doors is a mystery — and the bathroom in turn opened to the outside world through the back door. Thus when both front and back doors and the bathroom door stood open, a pleasant breeze blew straight through the house. It was necessary to open the front door anyhow, to admit light to the living-room, which had no windows.

Right and left were two bedrooms, that on the weather side divided into two and communicating inevitably by a doorway without a door. All three rooms had casement windows, the glass (where there was any) almost opaque. The walls were of lath and discoloured plaster. Ceilings there were none, the central living-room being about fifteen feet high, so that much of the illumination vanished aloft. Of course, nothing at all was laid on, nor was there any kind of indoor sanitation. There was no fireplace either, though it sometimes froze at night.

But Cobweb Cottage, for all its limitations, was partly furnished. In the larger bedroom a broad wooden bench about two feet high and three feet wide stretched from wall to wall. It was really a bed, and as it made an ideal work bench (if we sat low enough) we turned this place into a work room.

There was also a real wooden bedstead, a *charpoy*, which we moved into the other bedroom together with one of our camp beds, the two just filling the available space. In the living-room were two solid Ukhrul-made chairs and a large kitchen table — the art of using strong but light construction material is, of course, modern even in the West.

Besides our camp beds we had brought a small collapsible card table, two wicker deck chairs suited to the low laboratory bench, and a Roorkee chair whose knock-kneed legs had to be tied firmly together to prevent them splaying suddenly apart. We also had a couple of camp baths and wash stands with basins and bucket to match — all canvas. When I mention Cobweb Cottage, therefore, it means that we had a roof over our heads and privacy behind four walls, and even plain comfort; but no luxury.

The truth is: Cobweb Cottage was old. There were wide gaps between the floorboards — even large holes — through which came up a rich stench compounded of decaying vegetation and pigs. Many small panes of glass were broken, or had been replaced by rusty tin. The roof leaked in several places. The doors had dropped, and so could not be shut. Slabs of plaster had come away from the walls. The thatch harboured

a remarkable assortment of small wild life, and under the eaves innumerable spiders of all shapes and colours spun fantastic webs, which caught a fair cross section of Ukhrul's insect fauna.

The day after our arrival we started to unpack, while Jean set to work to make the cottage as habitable as possible. We had none of those small personal effects which help to give a room that lived-in look so dear to the housewife — no carpets, curtains, pictures, or vases. We had to be severely practical. Nevertheless, Jean made Cobweb Cottage liveable-in.

The next step was to contract for daily wood and water. Mangalay persuaded us to engage a local man named Thangsha at Rs. 30 a month for carrying water, with an additional Rs. 25 a month for supplying firewood. As enough firewood had to be cut and stacked in dry weather not only for current needs, but also for the long rainy season, our unskilled labourer should have had enough work to do to earn his Rs. 55 a month. (Even Mangalay, the skilled cook-interpreter, was only getting Rs. 45 at this time.) However, Thangsha was so clever at dodging work that even before the rains started we found ourselves short of firewood, and in the end had to buy it anywhere we could get it, and pay an uneconomic price for enough to keep the home fires burning. (In the rains all our botanical paper had to be dried in the kitchen, so it was necessary then to keep a fire in day and night.)

We now took stock of our immediate surroundings, which suggested a farm — cows, pigs and poultry being kept on the premises. Cobweb Cottage stood on a narrow platform which was separated from the main road by a low rocky ridge. It was one of a row of five. On the west side the platform fell away steeply towards the valley, and was overgrown with tall weeds. Our neighbours on either side were the Public Works foreman or *mahora* (a stocky little man who invariably wore a bright red scarf and shoes several sizes too big for him), and the headmaster of the high school, both of whom were friendly folk.

Ukhrul, half 'pagan' and half Christian, straddles the northern end of a sandstone ridge three miles long, culminating in the closely packed citadel of old Ukhrul and Tangkhul pagan life, beyond which the ridge breaks off short. The southern end of the ridge is crowned by the deadly rival village of Humdum. Here too the ridge is suddenly broken across, the only difference being that at the Humdum end the fracture reveals not sandstone, but an unexpected outcrop of limestone. Thus the rival villages, each perched cockily on its hilltop, each in a good defensive position for bow-and-arrow warfare, gaze coldly at each other from opposite ends of the hogsback.

From the ridge the views to north, south, east and west are of hills and clouded skies, memorable for their changefulness. There is not an acre of naturally flat land to be seen in any direction. The flanks of the valleys are stepped here and there with flights of paddy terraces. Every day, and several times a day, the skies changed; but the hills changed more slowly, and not, like the clouds, in shape, but in their colours — though the atmosphere brought changes of distance and of outline.

Due east across a wide but shallow valley is Sirhoi Kashong, 8427 feet high. The distance in an air line is six miles, but sometimes it looked twelve or perhaps twenty miles away, and sometimes it looked no more than two or three miles. To find anything higher than Sirhoi one must go on to the frontier, where there are several peaks over 9000 feet. The nearest point in Burma is fifteen miles distant, the frontier range here striking north-east to south-west. Immediately east of Ukhrul, however, it suddenly bends round and strikes north-westwards for a dozen miles before resuming its north-easterly course, so as to leave the Somra Hills in Burma. It would be no less true to say that opposite Ukhrul the frontier turns abruptly at right angles and trends *south-eastwards* for a dozen miles before resuming its *south-westerly direction*, in order to include the Kuki Hills in Manipur. Thus the Kabaw Valley, which is inhabited by Shans, stays in Burma, while rivers which flow down to the Kabaw Valley from the vicinity of Ukhrul are in Manipur.

Several of these valleys afford an easy approach across the frontier into Manipur, and thence into Assam.

If Imphal is the Clapham Junction of the Manipur Valley, Ukhrul is the Piccadilly Circus of the frontier hills. No fewer than six roads radiate from here. Two diverging bridle paths go northwards, one on either side of the ridge; a third goes eastwards, making directly for the highest ranges along the Burma frontier; a fourth runs westwards in the direction of the Manipur road. The Imphal road itself runs south-westwards, but a new and better graded motor road was under construction, keeping to the sunny side of the ridge. In fact, we contributed Rs. 5, ostensibly towards its cost, which is what we had to pay to get our cook released from a week's hard labour. Nor did anyone give us a receipt! 'Forced' labour has been abolished in the hills, and all road construction is voluntary — or so they say. However, the villagers pay a forfeit if they *don't* volunteer, or if they want to carry on business as usual. The new rich thus escape communal work.

The Ukhrul ridge is connected with Sirhoi by a saddle, so that a descent of some 500 feet takes one round the head of the eastern valley on to the slopes of the opposite range, whence Sirhoi is soon reached. A similar saddle connects the Ukhrul ridge with the western range, which culminates in a peak nearly 7000 feet above sea level. The far side of this range is covered with climax forest, containing many fine trees.

It was in this setting, then, against a background of rolling wooded hills, that in March 1948 we began our plant hunting; and we soon realized that we had brought spring up with us from the plains.

[*facing:* A FOREST OF 'SPIRIT TREES' IN THE TANGKHUL VILLAGE OF UKHRUL

CHAPTER IV

TREES THAT FLOWER IN THE SPRING

MOST people take an interest in those unfamiliar flowers they meet with during a holiday abroad, though they may only pick them to put in water. Many, however, dig up such as appeal to them for their beauty of colour or grace of line, to take home and plant in their gardens. Not a few amateur gardeners whose daily work is unconnected with plants, visit the Alps, the Pyrenees, or the Scottish Highlands, partly with the object of collecting alpine plants for garden and greenhouse.

I have long held the opinion that the difference between the professional plant hunter and the amateur is that the latter sees only the plants which are in flower; those which are to come, and — even more important — those which have been, are more difficult to see. The most unobservant will surely notice so conspicuous a plant as a Lily if it happens to be in flower, or a Primula, or a Rhododendron. The trained observer will spy a lily capsule hidden in the rank grass in winter when there is snow on the ground — and collect seed of it too; or he will recognize a lily plant just showing its head above ground, weeks before it reaches flowering size. He will do so the more readily if he knows the sort of country where lilies are likely to grow. It must have been amateur plant hunting that a certain lady had in mind when she said enviously to me after hearing a lecture I had given before the Royal Geographical Society: 'Your life is just one long holiday!'

In order to recognize plants which are barely visible to most people, or long since dead, the professional of course needs a good all-round knowledge of the flora of that particular part of the world. Years of plant hunting in the Himalayas and other mountain ranges of India, China, Tibet, Burma and Assam have taught me something about the flora of South-East Asia,

especially the alpine flora. I know what plants to expect, and so what to look for. I know their appearance at all seasons; I can even recognize many of them from their seeds alone, certainly from their fruits. But I doubt whether I should fare so well or speak with equal confidence were I suddenly to find myself amongst the unfamiliar flowers of the Andes or of the New Zealand Alps.

March came in like a lamb with cloudless skies, brilliant sunshine, and no wind. Spring had come to the hills, with minimum temperatures about 40° and maxima under 70°. In the forest a faint crepitating sound told of bursting buds, accompanied by a gentle rain of tiny bud scales.

Two of the spring-flowering trees were already a never-to-be-forgotten sight — a crab apple (*Pyrus Pashia*) and a cherry (*Prunus cerasoides rubea*). The latter is the 'Carmine Cherry', known also as *Prunus Puddum*, the most beautiful cherry in India. The flowers, borne thickly at the ends of the twigs in dangling clusters, come out before the leaves, and are a rich glowing carmine. Seen against the turquoise sky, lanced by the sun shafts, the carmine cherry is a cloud of fire. Though somewhat rare in the forest, it is more abundant where the forest has been cut down and thicket allowed to spring up on the way to re-afforestation. Thus it was fairly common along the bridle paths, and we marked two big trees for fruit, well knowing that when the flowers passed and the leaves came out, it would be difficult to recognize the tree. One of these was pollarded before the fruit ripened; beneath the second, in June we picked up several hundred ovoid fruits, hard, bitter, quite inedible.

Pyrus Pashia is a smaller, rather thorny tree. It too comes up where the forest has been felled, and is rare in virgin forest, being perhaps smothered by its larger rivals. Flowering before the leaves unfurl, it becomes a dome of frothing white apple blossom, without a trace of pink. In autumn the leaves gradually turn blood red and fall, displaying hundreds of

little spherical honey golden apples, speckled white, which stay on the tree for months. They are hard and astringent.

In the temperate evergreen forest which prevails at 6000 feet in these latitudes, the plant hunter finds himself surrounded by a variety of trees, some more or less familiar — at least by name (as oaks, chestnuts, birch, magnolias, cherries, maples) — others which, though they may have familiar names (like laurel, fig and holly), are not at first sight easily recognizable as such by the non-travelled, since these names cover a multitude of unlike species. In Manipur there are five or six species of cherry, at least as many different maples, and ten species of oak, including both evergreen and deciduous species, almost all of them common trees; and this dissimilarity helps to strengthen the collector's first impression that the variety of trees, if not infinite, is at least very considerable. However, in the course of a long walk he cannot fail to notice, amongst much that is new, a certain repetition; and if he examines the forest from outside, as by looking across a valley at the roof mosaic, endless variety is no longer borne out. At any season of the year certain trees will be in flower, others in young foliage (even evergreen trees open new leaf buds each year, nor are the young leaves always green), or in fruit; in autumn a few deciduous species turn brilliant colours before the leaves fall. Count them in the forest, all those which are alike and clearly the *same* species — the snow-white crab apples in the spring, the laurels tipped with fire when the sun strikes their young leaves, the warm brown of the deciduous oaks in October. It is astonishing how many chestnuts are flowering in late summer; the billowy roof of the forest seems to be spattered everywhere with cream foam, like a restless sea. In late summer a crab (*Pryus vestita*) flowered as the old leaves began to fall, and a few weeks later the young leaves unfurled, fledging every tree with pale green silk, outstanding in the dusky forest. Looking across the valley one could count hundreds of them, scattered up the slope of the mountain for 2000 feet.

A square mile of forest will contain something like half a million trees, of which several thousands will be oaks of various species, and as many more chestnuts (of fewer species), while cherries, crabs, Ilex, magnolias (including Michelia and Manglietia, both of which have flowers like a magnolia) will all run into big numbers. Thus the seemingly endless variety inside the forest is flatly contradicted when one looks at a large area from the outside.

On the other hand, there are sure to be a few trees which are not scattered so generously throughout the forest, and these sporadic species, in fact, deserve to be called rare, at least in that particular area. However, oaks and chestnuts (the latter Castanopsis, not Castanea) are so common, they form so much of the forest, that we would be justified in speaking of this as oak-chestnut forest after the two predominant genera.

In a mountainous country like Manipur the forest is arranged in definite belts, changing gradually as the climate changes with increasing altitude. In Ukhrul ground frosts at night are usual in winter, and Sirhoi has two or three really cold months. Any peak over 9000 feet, even in this low latitude, is liable to have snow on it at some time. Imphal, on the other hand, is no colder than Cairo, though it is very much wetter. The layman might observe that the forest round the edge of the Manipur plain at 3000 feet differed a good deal from that on the slopes above Ukhrul — that is, supposing he was attentive; but he could not say exactly wherein the difference lay, and that for a good reason. It is a difference of degree rather than of kind. The fact that the forest is of the same type throughout — that is to say, consists of evergreen broadleafed trees — might mislead him. Certain species of trees grow at 3000 feet in certain proportions. By the time one reaches 6000 feet many of these will have dropped out, others will have taken their place, and those which remain unchanged will occur in different proportions, some being rare, others more common; but it is still evergreen broad leafed forest. True, a very small proportion of the trees are deciduous, shedding their leaves in winter.

But some of the trees on the plain are deciduous too; only we hardly notice it because on the plain they shed their leaves not in the *cold* weather of December-January, but in the *hot* weather of March-April. Not until one reaches an altitude of about 10,000 feet will there be any change in the *type* of forest, from broad leafed with a few scattered conifers, to coniferous forest with scattered broad leafed trees; and this change is so complete, the most amateur observer could not fail to detect it.

We followed no cast iron routine at Ukhrul. We had, of course, a certain amount of indoor work to do — writing up field notes, preparing and classifying specimens, and correspondence; but our main object was to get outside and collect, recording what we found. Only by means of collections and observations such as the field naturalist makes, is it possible to arrange in orderly sequence the contents of this earth, to compare one region with another, and to write its history, tracing it back step by step into the remote past.

We began with short walks along the many bridle paths in order to gain a general idea of the flora, collecting everything which was in flower, and noting what would be in flower at some future date. It was, of course, an advantage to have some previous knowledge of the flora, as I often knew what seeds would be worth collecting without waiting to see the plants in flower. Not that flowers are the only criterion by which to judge a plant's worth, and particularly a tree's worth. Indeed, almost all trees are worth cultivating, if only because they are trees.

We were left in no doubt about the season, for spring paints the far hills in delicious colours as flowers and leaves respond to the increasing warmth. The winter rest is short; the forest is eager to resume growth, and before the sun has crossed the equator on its journey north, the sap is again running strongly.

One of the most amazing sights was a huge scrambling rose, which sprawled determinedly over the trees in every lane and copse. The largest specimen we saw had what I can only describe as a trunk, as thick as a man's forearm, from which sprang several stems, each more than a hundred feet long and

all heavily armed with strong flat prickles. One might hazard that it was upwards of a century old. Another veteran specimen had spread its long limbs through the surrounding thicket, growing up and pushing out from the centre until it dominated the whole. Now that it had come through the roof into the open, it greeted the sunshine by hanging out banners of flowers on every side. The chubby leaves, still soft and limp, were a deep red; the slim, pointed flower buds a pale daffodil yellow; but when the enormous flowers opened, they were ivory white, borne singly all along the arching sprays, each petal faintly engraved with a network of veins like a watermark. The shock of orange-capped stamens made a perfect centre piece, and the flower distilled a delicate fragrance. What a sight was this great dog rose throughout March, lording it over the thickets, festooning the tallest trees, and hanging from every limb in cascades of scented flowers the size of tea cups. It well deserves the name given to it by General Collett, who discovered it in Upper Burma more than fifty years ago — *Rosa gigantea.*

The globose hips look like crab apples. They are yellow with rosy cheeks when ripe, thick and iron hard, needing a heavy blow with a hammer to crack them open. Inside, what looks like a single nut turns out to be a hard core of neatly, closely packed seeds, tougher even than the hip. We collected a pound of seed for New York. Few roses are in bloom over so long a period as *Rosa gigantea.*

Not many plants are so accommodating as to bear flowers and ripe fruits at the same time. But though flowers may have priority, as I have remarked before, they are not the only measure of a plant's excellence. Many a tree and shrub earns its keep by virtue of its foliage alone; some for the pleasing shape of the leaves, some for their steadfast evergreen nature, but most, perhaps, for their colour, and especially for their alternation of colour in spring, summer and autumn.

Fragrance too is a valuable quality, and be the flowers never so paltry, if they scent the air they have a claim to notice; leaves also are sometimes aromatic. As for fruit (which in this

connection usually means berries), how much poorer off for colour should we be in England during our long winter, were it not for berrying trees and shrubs! In this, holly and mistletoe, whose reign is all too short, have set a happy fashion.

It will be realized, therefore, that the plant hunter who would pick winners from the confusing variety of vegetation which confronts him in the hills, has a difficult job; since a plant which he barely notices at one season may rivet all his attention at another.

The maples, which have small though not insignificant flowers, illustrate some of the points raised. The first species we found at Ukhrul was *Acer oblongum*, a fine figure of a tree; even if it had no further claim to our notice, its size and shape would commend it. Though deciduous it is never quite leafless, the new leaves appearing before the last of the old ones, still green or shot with scarlet, orange and champagne yellow, have fallen. The flowers, borne in short tassels hanging from the ends of the polished twigs, come out with the leaves. They are pale green and rich in honey, which attracts clouds of insects.

On flowering shoots the young leaves, not yet formed, are a pale green faintly flushed red; but on sterile shoots they are a deep red-brown, almost mahogany. So in early spring *Acer oblongum*, dangling its stiff tassels of greenish flowers from newly fledged limbs, is a happy mixture of pale greens and yellows and darker red-browns, streaked with flashing silver where bunches of winged fruits flutter from the twigs.

Acer oblongum, unlike most maples, has entire leaves instead of the more usual five-lobed palmate leaves familiar to us in the Japanese maples, and in our own field maple. Curiously enough, three or four species found in the forests round Ukhrul likewise have entire leaves.

CHAPTER V

JUBILEE; AND SOME BIRDS

ABOUT the time of our arrival in Ukhrul the country for miles around was preparing for the Golden Jubilee of the American Baptist Mission to the Tangkhul Naga tribes. The fifty years were actually completed in 1944, but at that time Ukhrul, only lately freed from the Japanese yoke, was in no condition to celebrate anything, not even its relief, being on the verge of famine. By 1948, however, the sturdy hard-working hill people had so far recovered that they were able to announce the immediate holding of the jubilee celebrations.

An immense *pandal* of brushwood and bamboo had been erected on a grassy hill top a mile south of the village; and from every direction Tangkhuls came flocking into the metropolis. Scores of little grass huts like rabbit hutches had been built in the surrounding thickets, and here the visitors camped in cosy squalor, well protected from the March winds which, however, had not yet arrived.

The convention, which began on March 4th, lasted four days. The mornings were given over to speeches, addresses of welcome, and discussions, with an abundance of that windy rhetoric so dearly loved by the hill people. But it was the first meeting, when three thousand simple village peasants, seated on the ground in closely packed rows, sang hymns and part songs with all the feeling and religious fervour of a Welsh revival, that was the high spot of the jubilee. Though we arrived in good time, we had some difficulty in reaching the school benches, reserved for guests and placed near the platform. The missionaries were late after the long drive up from Imphal, and as the service could not begin till the principal guests arrived, many of the huge crowd passed the time by breaking into song. Meanwhile the V.I.P.s sat round a table

on the dais, talking quietly. There was none of that officiousness so dear to the heart of insect authority at a similar Western gathering; schoolboys marshalled the crowd and performed their job competently. One of them was bright enough to sell to me for twelve annas a missionary pamphlet which I discovered afterwards was being given away free. As for the crowd, one can only describe their behaviour as exemplary. The all but dead silence which reigned inside the *pandal* before the singing began, was astonishing. Compare it with the chattering, fidgeting, coughing, sniffing, bawling, rustling of paper and dresses, crunching of sweets, sucking of oranges, and of course smoking, which an English crowd would indulge in, and one would have to admit that the hill people have the better manners. Even the children slept without snoring.

The *pandal* was ill lit by half a dozen pressure lamps hung from the supporting poles, with a few hurricane lanterns here and there; but that was only to be expected, nor was bright illumination needed. Most of the singers were women. A compact group, probably all from one village, began it. They had clear sweet voices and sang their parts beautifully. Presently others took it up, chiming in from more distant parts of the *pandal*, the deep voices of the men heard now.

At last the Chairman rose and opened the meeting, first welcoming the guests. Then the entire congregation rose to its feet — an impressive moment — and broke into song. It was a hymn. How those hundreds of voices lifted and rang out through the night, while the hills, occasionally lit up by pale flashes of lightning, seemed to send back an answering echo.

The people sat down again on the hard ground, and the Tangkhul pastor rose to speak. I should mention that the whole idea of this jubilee originated with the Tangkhuls. They made all the arrangements, organized the camps, built the *pandal*, called the meetings, invited the guests. The pastor spoke first in Manipuri, which is, of course, the 'official' language, understood by many Ukhrul people, but not by the smaller and more distant villages. Afterwards he repeated his speech

in Tangkhul. I gathered it was concerned mainly with the election of officers.

It was getting late and we had been sitting on the hard form for two hours. It was easy to slip out unobserved, as we were right up against the open side of the *pandal*. We walked back to Cobweb Cottage under the starlit sky, made ourselves some hot cocoa — the temperature of the air was below 50° — and went to bed.

For the next three days there was much movement around the Christian camp and the *pandal*, which with its steeple was a landmark for miles around. The price of local produce soared, although most of the campers brought their own food. Meanwhile Ukhrul High Street was almost as crowded with gaily dressed women as is Bond Street on a summer's afternoon. The hill people love colour, which is a very admirable quality.

We did not get to know any of the missionaries during the convention. Possibly the fact that during the day Jean was wearing shorts and a sporty kind of green shirt had something to do with it. We saw them in the distance occasionally, and they saw us. But whenever one of them saw us approaching, he suddenly ducked his head and swerved so violently that he passed beyond hailing distance. Once indeed we were in imminent danger of coming face to face with an old campaigner, who was so wrapt in thought that he did not notice us. I greeted him affably. He was startled and looked up in alarm, caught sight of Jean's more or less bare legs and almost stopped dead in his tracks. There was a look of horror on his face for a moment; then flinging up his arm as though to ward off a blow, he hurried past without a word. But his swift action spoke louder than any words, and it said: 'Get thee behind me. . . .'

After the captains and the kings had departed, Ukhrul again became a quiet country village, and we settled down to our regular walks along the many lanes and bridle paths, in search of plants. We found that *Engelhardtia spicata*, now in fruit, was common in copse and thicket, and *Schima Wallichii*, its flowers

just over, equally so. The former is a tree closely allied to the walnut (which also grows wild here), and when neither is in flower it is difficult to tell them apart. At first sight the two trees in fruit look so utterly different that one wonders where the relationship comes in. That at least makes it easy to distinguish them. Nevertheless, the difference is trivial, as closer examination proves. The walnut fruits are borne several together at the ends of the shoots, and the bracts do not increase in size. Engelhardtia bears its fruits in many-flowered pendulous spikes or catkins, and the trident bracts become enormously enlarged, each looking rather like the weapon with which a symbolic Britannia rules the hypothetical waves. When ripe, the long green tassels of papery bracts rustle pleasantly from every branch, suggesting a submarine Wistaria. The American hickory is also closely related.

Walnut is valuable in England just as hickory wood is in America. Engelhardtia wood is probably no whit inferior, but it does not appear to be used for any special purpose in India, unless it be for firewood.

Schima is related to Camellia, and so to Tea. Unlike the trees just mentioned, it is evergreen, and is covered in June with large Camellia-like fragrant creamy white flowers with a large central brush of orange stamens.

I have said that all these trees — cherries, crab apples, Schima and the rest — were common in the copse, and by copse I mean woods which, though not completely cut down and burnt to make way for cultivation, were much hacked about for firewood by the villagers, so that the trees never attained full stature. Copse and forest differed more in the proportions of the trees, shrubs and climbers composing them than in species; but they certainly differed. For example, since the copse never grew up, it provided much less shade than did the forest, hence light-shy trees could not grow there at all, while sun-worshippers which avoid the forest (except where, as in clearings, they can outstrip all rivals) had every chance. Nevertheless, we found a rich variety of woody plants in the

copse — and as even the most stunted and heavily pollarded trees bore flowers and fruits, we could see them and secure specimens here much more easily than in the high forest, which also was more distant. It was only when trees (like the carmine cherry referred to) had every limb amputated at the hip, that we suffered a severe loss.

From the professional plant hunter's point of view March was a good month, but the weather was by no means always delightful; in fact, spring in east Manipur is about as fickle as spring in England. The temperature rose steadily till by March 8th the maximum (usually reached about 2 o'clock in the afternoon) had soared to the dizzy height of 72°. This was almost a heat wave; no wonder the buds were bursting like small bombs all round us, and though there had been no rain for a week, the rush of sap to the leading shoots was terrific. Only the long, cool nights kept the vegetation from growing out of sight. But the night temperature rose too, though more slowly, from a minimum of 42° on the 1st to 48° on the 8th.

Then came reaction. Minimum temperatures continued to rise, but maxima fell, and the high March winds began to blow. On the 18th the air temperature dropped to 35° and there was just enough frost on the ground to glisten. Then on the 25th the minimum was 51°. The daylight increased slowly, gradually, as the sun came north; but temperature and humidity were erratic.

Plants were not the only living things to feel the spring frost. There were also birds, and no doubt insects, to the observant. What birds are resident at 6000 feet throughout the winter I do not know; but we either saw or heard strangers almost daily in March, many of them unknown to me by name. Amongst the most fascinating to watch, if not the most graceful, is the fantailed flycatcher. Though not gaily coloured — it has a sooty black head and chocolate brown body, while the tail feathers, so readily displayed in a curving fan, are bordered with white — it is an agile performer of aerobatics, darting off

its perch to hawk a fly, and after completing a half roll and a dive, returning to it, as flycatchers do, with unerring aim. I noticed an occasional drongo, a bird of midnight-violet hue, glossy as a starling, with a long forked tail; and heard the mechanical clock-strike call of the coppersmith, or green barbet.

One of the many maddening cuckoos, which calls on three notes repeated at short intervals, the middle note at each repetition rising a semitone so that it goes up and up till you think the bird must burst with the strain — and secretly hope that it will — was early on the scene. These irritating birds are common throughout the Indian hills, though not often seen, as they keep well in the background and move around like Christmas waits after singing each little song. Perhaps they have a shrewd idea how unpopular they are, with man as well as with their fellow birds. After hearing them calling all day one longs to hear the more familiar 'English' cuckoo; and in the hills, not infrequently, one does.

It would have been surprising if the red glow of the carmine cherry had not attracted attention everywhere. March is rather early for butterflies at 6000 feet, though there were a few, notably a beautiful little ultramarine and black Junonia, its forewings buff-tipped. But already a bird, smaller (though heavier) than many a swallowtail butterfly, was visiting the cherry trees — one of the jewel-like honeysuckers which can hover for several seconds without change of position while sipping up honey through its long curved beak.

One day I saw a bird which from the length of its tail and the shape of its beak, no less than from its build, I thought I recognized, though I could not make out its colour. Jean had gone ahead and called back to ask what I had stopped to look at.

'I think it's a trogon,' I said.

'Shall I come and help you get it, or can you manage?' was the unexpected reply. So a trogon was a plant!

Across the valley, in the midst of the dark forest which clothed the West Mountain, a single pyramidal tree stood out, a triangle

of pure white. After looking at it for some time through the telescope, at all hours of the day, I came to the conclusion that it was an exceptionally fine specimen of *Pyrus Pashia.* But I was not absolutely certain — better go and collect it.

It took us about three hours to reach it, for in spite of careful observation as to its exact position, once inside the forest we could see nothing until we stood under it. However, we worked our way through the forest to it at last; and crab apple it proved to be.

It was on this walk that Jean, whose mind nowadays ran chiefly on plants, made an even more unexpected reply than the one quoted above. A bird flipped across our path, went into the forest. I stopped to look at it through a field glass. Jean strolled on, and presently called out as usual to ask what I was looking at.

'I think it's a tree creeper,' I replied.

'Oh,' she said in a dispassionate voice. 'I thought you were watching a *bird*!'

CHAPTER VI

WEST MOUNTAIN

Rosa gigantea was not the only rose in Ukhrul. A neat rounded bush with china white flowers an inch across, followed by flask-shaped shiny golden-orange fruits with scarlet cheeks, provided a complete contrast to the sprawling habit of the big climber. Not unlike sweet briar in appearance (though the tiny leaves are not scented), it had a peculiar charm of its own, and a bush well sprinkled with the flat button flowers, in spite of their pallor, was extremely attractive. This briar (*Rosa sericea*), which is widely distributed in South East Asia from the Himalayas to China, is easily recognized by its four-petalled corolla, unique in the great tribe of roses. In Tibet the flowers are not white but straw yellow; and there is said to be a pink flowered variety, which I have never seen. The ripe hips are crisp and deliciously sweet; the small boys of Ukhrul ate so many of them that we had difficulty in collecting enough ripe seed.

The dry air of early March seems to encourage fragrance, and in the course of our first walks we came across a number of sweet-scented shrubs, amongst them *Buddleia macrostachya.* This rather rank little tree, its coarse-leafed shoots tipped with long bent pokers of closely packed flowers, each flower a smouldering amber pupil in a staring lilac eye, is redeemed by its really delicious scent. It is worth growing for that alone, and might even respond to kind treatment if removed from the rough and tumble of the thicket. *B. macrostachya* flowers any time between November and March, and the flowers vary from lilac to mauve and even cream.

A fortnight later, about the middle of March, a curious echo of it (*B. paniculata*) began to flower in a rather ghostly manner, and at once overpowered its relative with an even sweeter

fragrance. It was difficult to be sure that the sturdy little *B. paniculata* was in flower at all, until a whiff of its delicious scent was wafted across your path; for the flowers, of a soft, ashy whiteness (though with the same smouldering amber pupil, like a cat's eye), are camouflaged by the leaves — so woolly white underneath that they looked as though they had been cut out of flannel. But there the unlikeness between the two species ends.

The third and last Buddleia found at Ukhrul (*B. asiatica*), is a neater, sweeter, and altogether daintier bush than the other two, bearing tall, thin, flexible pyramids of snow-white flowers. Though the inflorescence begins by growing upright, the weight of flowers presently makes it loll its head, and a well-grown plant in full bloom is a charming sight. The leaves are as snow-white beneath as are the flowers, and when the breeze turns them over the beauty of *B. asiatica* is enhanced.

One might pass by the common Asiatic buckthorn (*Elaeagnus latifolia*) when out of flower, and not miss much. It is an untidy sprawling shrub, and the dull pewter leaves — despite the reddish gold flecks in them — hardly deserve notice. Even the stiff little flowers are inconspicuous, though they clothe the shoots with a yellow incrustation. But it is impossible to pass by this buckthorn when it is in flower, pouring waves of fragrance into the air. Curiously enough, it too has an echo — a very similar, but neater looking shrub (*E. umbellata*). This latter also flowers a fortnight later, but it is not very different from *E. latifolia* to look at; smaller perhaps, more compact, less thorny, and possibly sweeter. Both grew in the thicket, but *E. umbellata* kept itself to itself, even preferring to be completely aloof on the windswept ridge. Yet it was not always easy to tell them apart, although the orange fruits of *E. latifolia* (being edible) were greedily gathered by the village boys, whereas *E. umbellata* distinguished itself by setting hardly any fruit at all.

Still another sweet-scented shrub is *Holboellia latifolia*, an evergreen climber with five- or seven-lobed palmately divided leaves. The flowers are borne in crowded clusters, and their

parts are in whorls of three, thus: perianth 3+3, stamens 3+3, ovaries 3, like a typical monocotyledon. They are more curious than beautiful, the colour being dull, uncertain purple, green, or cream. But their scent is delicious. Male and female flowers are often on different plants, but if on the same plant, usually some distance apart; and the female flowers are followed by great fat purple sausages containing many hard, shiny black seeds embedded in a sweet edible pulp. The dark green of the leathery old leaves, mingled with the salmon red of the frail young ones in spring, the fragrant flowers, and the dangling trio of sausages (though usually one only survives), in autumn, make this curious climber a plant well worth growing on a pergola.

In passing I may remark that Holboellia belongs to a small family of plants with an odd distribution, namely, from the Eastern Himalayas across China to Japan, and thence by a stupendous leap across the Pacific to Chile. One would expect so travelled a family to have numerous descendants — that is, genera and species. On the contrary, it has very few — only about seven genera with fifty or so species. It is certainly a very old family, as flowering plants go, and one suspects that it has been pushed around and is tired, and on the down grade. Another genus of this family — Decaisnea, also found in the Eastern Himalayas, in far northern Burma, and in western China — seems to by-pass Manipur. We saw no sign of it.

There are other fragrant spring flowers, but the above mentioned are the most noticeable.

Two or three times a week we would go out for the whole day, a Tangkhul youth carrying our lunch and a light plant press in a cane basket. A favourite picnic spot was the West Mountain. A good bridle path descended the west side of the Ukhrul ridge for nearly a thousand feet to a saddle, whence a steady ascent brought us to a pass over the opposite ridge. Immediately on crossing the col we plunged straight down into virgin forest,

following a small torrent. This was one of the finest pieces of natural forest in the immediate neighbourhood of Ukhrul, and the nearest. Here grew a grand variety of big trees such as cherry, oaks of several species, chestnuts, many kinds of laurel, and so on. But the very finest tree we found in the West Forest was a maple. We turned a corner on the narrow path and, being some height above the base of the tree, found ourselves looking down the wooded gorge and upwards into the heart of a huge tree, every branch of which was fringed with short crimson tassels made up of flat, bow-legged fruits. The tree grew on the steep bank on our left, thirty or forty feet above the path, and one could not get far enough back to see it properly; but what one did see was good. It had simple leaves with the apex drawn out into a thin tail, and was, I think, deciduous. We could get neither fruits nor leaves from this giant tree direct. We might, indeed, have shot them down, but we had no gun. However, after prolonged search in the thick undergrowth, we picked up newly fallen twigs bearing both young fruits and leaves; evidently the flowers had come early, in February. We collected ripe fruit in November from a tree — only the second specimen found — near the Somra Pass. The species is allied to *Acer sikkimense*, a much smaller, often epiphytic tree.

Two other bridle paths diverged from our West Mountain path, near to the top. What was evidently the main path went straight over the range due west between the two summits, and down the glen, as described. The height of this pass was about 6000 feet. The right hand path turned north, and keeping within the forest, crossed the range near the north peak. We followed this path on several occasions, but though it was an enjoyable walk, we never found very much.

The left hand path wound round the more exposed face of the range, crossing it just south of the southern peak. Most of the way it went through second growth, though there was one good belt of jungle filling a gulley. However, we followed it on only one occasion, finding very little which was of interest. For us the West Mountain meant the middle way, up over the pass

and down the forested glen with its magnificent trees of maple, oak, cherry, Illicium, Manglietia, Ternstroemia, chestnut and laurel.

Unfortunately, the ever-increasing demand for building timber in Ukhrul had led to tree felling here, and in every other place where there was high forest; nor did there appear to be any selection of the most suitable types. Any trees of any species which could be cut down on these precipitous slopes and sawn up where they lay, were cut down and sawn into planks. It was the same in every bit of forest round Ukhrul. Every clearance so made became a centre of infection for useless second growth. Thus the natural resources of east Manipur are being frittered away, which is a pity.

In the monsoon lands, above 6000 feet altitude a more or less temperate climate prevails, in spite of the heavy summer rainfall and comparatively dry winter. The monsoon, in fact, does introduce a note of confusion into the familiar picture of four seasons; but the dry season is often interrupted by rain, as the rainy season is (though less often) by fine weather.

More likely to obscure the seasonal quarter days is the fact that the mountains are covered with evergreen forest, whereas to most of us a temperate climate implies deciduous forest — where there *is* any forest left. But detailed observation reveals the underlying seasonal progression. Thus each of the four seasons so familiar to us in western Europe (and over a large part of North America also) has in Ukhrul its appointed flowering trees, shrubs, and herbs.

But there is more to it than that. Whole families of plants tend to flower at the same season, over two or three months, rather than consecutively throughout twelve, nine, or even six months. Nor is this surprising, though it is a fact too often ignored. Of course, rigid adherence to family life and the family tradition must not be expected, and all families have their truants. There is a good deal of overlapping, and some families flower far more diffusely throughout the year than do

others. Perhaps this is specially true of the less aristocratic, and older, families. But at Ukhrul one could hardly help noticing, for example, how indomitable to flower in spring were *Magnoliaceae* and *Rosaceae*; in summer herbaceous families like *Zingiberaceae* and *Orchidaceae* (ground orchids especially), as well as the more woody *Papilionaceae*; and in autumn *Ranunculaceae* and *Labiatae*, and a good many *Compositae*.

At still higher altitudes, passing from a temperate to an alpine climate, sheer necessity forces almost all plants to flower within a few months, when the ground is not covered with snow or the air frozen. Even under such compression as this, whole groups of plants flower more or less simultaneously, the most notable example being the rhododendrons.

To help us in our work by carrying the basket containing our lunch and the plant press, and by climbing trees to get specimens, we hired a third hand. He proved most difficult to find, but we secured a likely man in the end, and thought we had found someone really useful, for he had a gun. Many people had guns, and from the way they used them it was remarkable that any creature on or above the earth (including man) survived. Luckily ammunition was less plentiful, and very expensive. I kept our man supplied (discreetly) with cartridges, and while in our employ he in turn supplied us (even more discreetly) with a little meat. Unfortunately he walked out on us the day we were due to start on a month's tour.

Pleasant as were our daily walks round Ukhrul, and necessary as it was to get a nodding acquaintance with the local flora as from early spring to late autumn trees and shrubs opened their flowers, we were impatient to reach Sirhoi as soon as possible. That was our main objective; and though I was well aware that the prize we were most anxious to find could not be in flower before May or even June, we were none the less impatient to see it. Moreover, looking across the valley at the higher forested slopes, we spied domes of glazed ivory rising here and there in the jade roof. What were they? Rhododen-

dron? Magnolia? We could not tell, but certainly it was worth investigating.

Down in the valley 2000 feet below Ukhrul, spring was far advanced; up on Sirhoi's bald head 2000 feet above Ukhrul, there was hardly a whisper of spring. The grassy south-west slope was still black as a result of the fires which had swept through the dead meadow in January. Here and there a patch of forest, sheltered by a fold in the ground, or filling a gulley, broke the smooth line of the exposed slope; but mainly it was bare of trees from the crest of the long ridge for 2000 feet or more. Not so the north face, which was covered with a thick shroud of forest, invisible from Ukhrul except as a wall of trees following the ridge.

The March wind whistled over Ukhrul and cut through us like a sword; and we could imagine how keen was its edge on Sirhoi's naked slope. Yet we were well content to shiver a little in the hills, rather than stew on the parched plains when the steam was turned on.

But when April came we decided it was time to go and look for the lily. Already the faintest film of green was beginning to mantle the western slopes of Sirhoi, and the ivory inlay, which still chequered the green forest roof, challenged us. We fixed our start for the 5th, and it was in joyful mood that we set out after breakfast, our loads — beds and bedding, cooking pots, food for a fortnight, and plant presses — carried by Tangkhul men and girls.

CHAPTER VII

THE FIRST RHODODENDRON

THE seven mile walk to Sirhoi camp was enjoyable as only a walk on the threshold of discovery can be. Our heads were full of all the wonderful and impossible flowers we were going to find, and in the meantime there was much to see which was real, by the roadside. No wonder we walked on air!

We soon came back to earth. Before we had gone a mile, Thangsha came running with the information that he had lost the key of the padlock we had put on Cobweb Cottage — a bad start which did nothing to increase our confidence in him. We sent him on to catch up Mangalay, and the two of them waited for us. The position was: Thangsha could not get into the cottage unless we gave him our duplicate key — and he was quite capable of losing *that* on the way back. Worse still, some unauthorized person might find the lost key and make improper use of it (though this was unlikely; the Nagas are exceptionally honest).

Then Jean had a bright idea. We had two suitable padlocks, and three keys. She got out the second padlock, gave it and a key to Mangalay, and sent him back with our remaining key, telling him to change over the padlocks. Meanwhile Thangsha could come on with us and do Mangalay's work. Thangsha, who was a lazy fellow, did not like the arrangement, but we felt it served him right.

After winding down the side of the hill for a couple of miles, we reached the saddle which joins the Ukhrul ridge to the Sirhoi range, and presently entered the forest, where I noticed a handsome birch tree and a Persian lilac (*Melia*) in full bloom — the only one we saw in ten months, though it is common enough in the Naga Hills near Kohima. We were now round the head of the valley across which we had so often gazed on

[*facing:* LEAVING OUR COTTAGE AT UKHRUL FOR A TOUR

Sirhoi. The bottom of the valley is well cultivated, and on the Ukhrul side flights of paddy terraces run up almost to the crest of the ridge.

Coming out of the forest we passed through a grove of rhododendrons (*R. arboreum*), hoary with age and of great girth; a month ago they were in full bloom, a furnace of blood red blossom, but few trusses now remained. We had a picnic lunch under the pine trees, where the air was warm and resin-scented and the soft breeze made little caressing noises. In the sunshine two verditer flycatchers chased each other, and from the forest across the bridle path an invisible tree pie gave a hoarse chuckling cry.

There are two villages, about a mile apart, at the foot of Sirhoi Kashong. Skirting the lower village, we climbed the steep wooded hill to the camp in the pine woods where I had slept in 1946. The hut appeared to be in good repair, except for the roof, through which after dark we could see too many stars.

Later the leader of the Christian community and several elders called on us, bringing a present of rice and a chicken. They asked us to take the Sunday service! Evidently they thought we were missionaries, and were puzzled when we said we had come to collect plants, not to address meetings. They believed that all Europeans who were not Government officials must be either missionaries or soldiers, these being the only Europeans they had met.

The weather now seemed set fair, and we were all agog to explore the upper slopes of Sirhoi, our imaginations stimulated by the white flowered trees we could so plainly see through a field glass. All through the night the brain fever bird called at intervals, and when dawn came the haunting call of the common cuckoo brought a whiff of England. It was a gorgeous morning, but Jean had been ill all night and was not feeling well, so we postponed the climb for a day and pottered instead.

By midday it was uncomfortably hot, and then the sky clouded over gradually. After tea it grew black, and then

there was a distant rumble of thunder. Suddenly a wind rushed at us like an explosion, out of nowhere, and the air round our camp was immediately filled with flying pine needles and water, which poured through the roof in a dozen places. In little more than an hour it was all over, the clouds disappeared like magic, the sun shone forth, and a bright rainbow straddled the mountain ridge, beckoning to us. But our beds were very wet.

Now it looked about half an hour's walk to the summit, every rock and tree and scupper clear cut in the rain-washed air. After dark the sky was lit by brilliant stars; everything pointed to a fine day on the morrow.

April 7th, minimum temperature 48°. We were not up too early, and after a leisurely breakfast set out for the mountain, accompanied by a local man named Yarter, and Bill (the man with the gun, whose Tangkhul name we could neither remember nor pronounce). The track passed through the Christian end of the village close to the church, then skirted the more crowded pagan half. This dichotomy of faith was apparent in every village we visited, dividing Tangkhul against Tangkhul, brother against sister, and sometimes children against parents. The feuds between Christian Nagas and pagan could only be matched by the feuds between those of the true faith and heretics. I began to understand what Christ meant when He said: 'I came not to bring peace, but a sword.'

Like most Naga villages, Sirhoi is built along the exposed edges of steeply pitched strata which overlap like the sections of an unbound book. Small wonder that in every Naga village the greatest difficulty is to find water in the dry season; for though rain falls more often in the hills than on the plain, the wells are always at a little distance, and are really no more than shallow, muddy water holes. In the rainy season, on the other hand, the main street, following the crumbling edge of the outcrop — which is generally a soft, friable sandstone — becomes a black sea of mud in which the pigs wallow.

We followed the ridge round the head of the valley for a

couple of miles before leaving cultivation behind. There were no rice fields here because there was no water laid on; but there were clearings where maize is grown. Presently we came across a small tree covered with orange-brown flowers. Though freely borne and of graceful shape, they were small and of rather dull, even dingy, colour and we might easily have passed them by as of small account, had we not caught a whiff of fragrance. That stopped us; next minute we were burying our noses amongst one of the sweetest-scented flowers in Manipur. This *Schoepfia jasminodora* is by no means a common tree. We came across one specimen in the forest, higher up, and I have met with it in the Eastern Himalayas, the Lohit Valley, and in the Naga Hills, but never abundantly. In July it bears small one-seeded cherry-like drupes, red when ripe; most of them are devoured by grubs already domiciled within.

After ascending steeply some hundreds of feet, following an easily visible path, we came out again into grassland with scattered trees — mostly oaks — on the threshold of the forest. Someone had cut a ledge out of the hillside where the traveller might rest, and we sat down for a minute to enjoy the view; Arthur's Seat, we called it. We could see the village, now some way below us, beyond which was the Ukhrul ridge and higher ranges to the west. Southwards a corner of the Imphal plain was visible through a gap, but the foreground was filled with the bulky spurs which flare out from Sirhoi. A few minutes later we were in the temperate forest.

The path now became rough, narrow and steep. We had to clamber over fallen tree trunks and sidestep rocks, our eyes fixed on the trail, so that we had little opportunity to see what trees grew here. I noticed that they were big trees, and that their massive trunks were swathed in climbers with rope-like stems, such as vines and jasmines, and plastered with epiphytic ferns, orchids and mosses, just like the forests lower down. The path traversed round the mountain flank, ascending all the time; but presently we came out into the open again, where the ridge above had broken away and shot thousands of tons of

rock down the slope, leaving a ragged scar. And there, right in front of us, a shining white rhododendron was in full bloom. The bold funnel-shaped flowers, borne in trusses of three and four, were white like satin, with the faintest flush of old rose on the outside, and a pale yellow plume, like a candle burning at a shrine, within. In January 1946 I had noticed this rhododendron (*R. Johnstoneanum*), its leaves twisted and crinkled by the cold, near the top of Sirhoi. I had not expected to find it so low down as this, a mere 7000 feet. It is not uncommon on Japvo in the Naga Hills. We could not have made a better guess at its opening date, though higher up every flower bud was still tightly closed. The last time we saw it in flower was in June.

I glanced over the scree, whose base was not more than seventy-five yards in width, though the cliffs and boulders towered several hundred feet above our heads. The path, after skirting the base of the scree, continued to climb steeply till it met the more gently sloping ridge further along. On another occasion we climbed the jumble of rocks and reached the ridge direct; but as the scree steepened towards the top, this proved a more difficult proposition than it had looked from below. On only one other occasion did I venture on the scree, when I made a direct descent to the path.

Growing amongst the rocks were stunted bushes of the rhododendron not more than two or three feet high, which were nevertheless of mature age, for they were covered with flowers, sometimes of a very pronounced pink. There were small birch trees, too, like our silver birch, and a leafless cherry, also in bloom.

Beyond the scree we plunged once more into forest, composed largely of oaks, with a few laurels, and fine specimens of Schima. We noticed a gigantic liana like a gouty boa-constrictor, but probably one or two hundred feet long and as thick as a man's thigh. From it dangled, without benefit of leaves, a bunch of pale apple-green fleshy flowers. We had seen a very similar liana near Ukhrul, which had carpeted the path with flowers of like shape and size, only they were a

[*facing:* TEMPERATE FOREST ON SIRHOI AT 7500 FEET: LATE AUTUMN

gloomy purple — a stained glass window purple — instead of apple-green. Nevertheless both were probably the same species of *Mucuna*, and both smelled horribly of garlic.

A fat black squirrel with a long bushy tail peeped at us, then ran along a branch and disappeared. Once more we emerged from the forest, and now we were out on Sirhoi's famous grass slope which sweeps steadily upwards (in spite of dips and folds and an occasional rocky outcrop) for a thousand feet to the summit, still a mile distant. The narrow path made straight for the crest of the ridge, to which it stuck with only slight deviations for the rest of the way. Here it was bordered with needle-leafed gentians two or three inches tall, which bore remarkably large bright blue flowers. Though probably no more than a giant form of the common little *Gentiana quadrifaria*, it was a bonny plant, and we felt already as though we were in an alpine meadow.

An alpine meadow! Why should this wide windswept green hill far away suggest the Alps, when there is no hint of glacier or snow anywhere? True, some of the plants we found coming up — particularly the astronomical numbers of certain species — had a touch of careless rapture, remindful of the soaring Alps, about them. But after all, Sirhoi Kashong is only 8427 feet high — and we were still a thousand feet from the top. The true alpine region is defined by the tree line (which in this latitude, in north-east India, stands at 11,000 feet more or less), though it is not uncommon for many typical alpine plants to venture far below that, appearing on cliffs and screes where forest cannot maintain itself. If the above definition holds, however, it will be observed that alpine vegetation has nothing to do with altitude; it begins where another type of vegetation — forest — leaves off. In the climate of Manipur, forest flourishes up to 11,000 feet, above that is the alpine zone. In Switzerland forest extends only up to 6000 or 7000 feet, and the alpine zone begins correspondingly lower. In Britain there is no forest above 3000 feet in the north, and the Scottish Highlands are capped by alpine vegetation.

So we come to the Polar lands, with no forest at all, even at sea level; which would equate the Arctic vegetation with the alpine Himalayan vegetation. Nor is the comparison inapt, so long as we remember that the plants growing on the tundra are not the same plants which grow on the frozen Himalayan tops. But at least they *look* much the same, especially when out of flower.

But something must cover the nakedness of Sirhoi, and it matters not a jot, if forest is lacking, whether that lack is due to climate or to man's efforts. So, man having decreed that forest shall not grow on Sirhoi's southern slope, an alien vegetation, nicely adjusted to the climate of alternating warm moist summers and cold dry winters, with the scythe of the wind ever sweeping across it, has settled down here, drawn, it would appear, from far and wide. More than a hundred species of flowering plants (the vast majority of them herbaceous perennials) grow on these slopes; and whether we call them alpines or not, the fact remains that the slope later in the year has all the appearance of an alpine meadow. Of that, more anon. At the moment the loom of spring had woven but a few green strands across the charred warp left by winter.

A short, sharp ascent and we were astride the crest of the ridge, with the forest on one side and the grass slope on the other. From this point the ridge rose in an alternating series of gentle and less gentle slopes to the summit, about a mile and a half away, but hidden from view by a hump in the middle distance. The path followed the ridge, but often slipped over to the windward side to traverse a little below the crest. Two more shallow gullies which scoured the bare south face (both lined with forest) had to be crossed; otherwise we were out in the open all the way.

We turned our attention to the forest which clothed the entire north face of the mountain, stopping short in a wall of foliage just below the crest of the ridge. The outermost fringe had protected itself from the wind by hanging out a network of banner plants, and posting a screen of shrubs, like vedettes,

mostly well armed. Here and there were clumps of a fine Mahonia with large outspread leaves, making a shallow jade basin for the fountain of chrome yellow flowers which shot up out of the centre in a dozen jets. The large rhomboidal leaflets, their edges puckered up and drawn out into needle-sharp prickles, are few, rarely more than five pairs, with a smaller ear-like pair at the extreme base. In the interior of the forest this Mahonia grew six or eight feet high, having the appearance of a small palm tree, but here it was dwarfed by the wind.

There was also a true barberry, its stems armed with pungent thorns concealed by drooping bunches of yellow flowers. But I need do no more than mention it; neither in foliage, flower, or fruit was it outstanding.

We walked slowly now, for it took time to sort out even the principal trees and shrubs, few of which were in flower. Garlands of *Clematis montana* festooned a thicket; a tree Viburnum had opened its tiny flowers, later to be followed by gunmetal blue berries. As for the forest in general, it was clear that we had stepped over the threshold of the warm temperate into the cool temperate forest; and this at about 7000 feet altitude. Gone were the pines, the chestnuts, the figs and the laurels of the valley. Their place was taken by rhododendrons and magnolias, by Zanthoxylums with gland-dotted leaves, and hollies of several kinds. Nor does *Rosa gigantea* ascend so high; only the less aristocratic *R. longicuspis* can be found at 8000 feet. And though there are oaks a-plenty — the forest was largely composed of oaks — and maples, too, they are of quite different species from those met with round Ukhrul. The only Conifers are a yew, and a Cephalotaxus; both are rare.

Immediately below the crest of the ridge the north slope became precipitous, so that we could only get into the forest at a few selected points. Towards the top, however, it eased off again, becoming steeper on the south side instead. Crossing the head of the last forested gulley, we went fifty yards aside from the path and suddenly came out into a sunny glade with

a pond at the far end, entirely shut in by big trees. The green sward was soft; it looked an ideal place for a bog Primula, but we found none; and later in the year it became a marsh where only sedges and rushes grew. We called it the magic glade.

We were now in the topmost forest, which was composed of magnificent trees of many species, several of them in flower. These included *Michelia manipurensis*, *Prunus nepalensis* (which is like the familiar English bird cherry, only bigger, with long spikes of flowers like slender Christmas candles), and — most gorgeous of all — *Magnolia Campbellii*, bearing enormous cold moons at the ends of its leafless twigs, but with an inner glow as if they might after all be white hot. We saw these high up amongst a lattice of branches — the great majority of trees were evergreens — and Bill climbed an adjacent tree and secured a flower, carrying it down in his mouth. Other prominent trees of the topmost forest were maple, oak and a huge Ilex.

But the finest tree of all was, unexpectedly, a rowan (*Sorbus*). Most of us know rowan in England as a little tree no larger than a hawthorn, popular (and rightly so) in suburban gardens. But here was a giant. It could hold its own with the largest trees in the forest, even with the beautiful *Quercus lamellosa*, whose wide-flung branches hardly overtopped it, so tall was its massive trunk. This was indeed a tree! Three centuries could not have been too long to produce one magnificent specimen. And we were lucky, for we found a small tree on the outer edge of the forest, clipped and shorn by the wind, its lower branches reaching the ground. The leaves, though composed of only seven or eight pairs of leaflets, are large and handsome, especially in winter when they slowly turn crimson. As for the flowers, the clenched inflorescence was muffled in a halo of soft tawny camel wool, some of which clung also to the chubby young leaves. But it was the fruits which excited us to frenzy — old sealing-wax red, in vast bunches. They lay strewn around under the largest tree like the beads of a vanished race of Amazons; and herein was our second bit of luck,

for we never could have reached that huge umbrella arched over us. It may be generations before this giant mountain ash attains its full stature, but it should flower and fruit within twenty years, and will be showing off its foliage within a decade.

In the last 500 feet the path left the horseshoe-shaped ridge and made directly for the top. Clumps of big-leafed iris filled a furrow. Here and there we noticed lilies coming up. Though only a few inches high, each one nevertheless ended in a flower bud, or sometimes in two, closely invested by a green collar of leaves. As in January 1946, we found several ripe capsules still containing a few seeds, which we preserved with infinite care. All this was, of course, satisfactory, but it did not appear to be a very exciting lily — until, on the edge of the forest, sheltered by the unburnt vegetation, I suddenly came on a brown and brittle stem four feet tall, bearing no less than five capsules! This gave an inkling of what the Sirhoi lily could do under favourable conditions, and at once it began to take on a new significance. When, several days later, we found plants with six, then with seven, and finally one with no less than eight pointed flower buds, all tucked tightly together in the centre with only their tips showing, I realized that we had got something here.

At 1.30 we stood on the summit of Sirhoi, and presently found a sheltered spot for lunch. The shade temperature was 64°, warm enough for several strong-flying butterflies and big locust-like grasshoppers to be abroad. There was much haze — partly from the smoke of fires — and this, together with the usual midday cloud, blurred the distant ranges. A low crouching Cotoneaster, brilliantly decorated with strings of scarlet berries, grew on the rocks; and a nearby hollow was filled with

iris, from the capsules of which I extracted a few purple-black seeds.

We had now finished collecting for the day, so we went down the ridge much faster than we had come up. Even so, it was 5.30 before we got back to camp, after a successful reconnaissance.

CHAPTER VIII

THE MAGIC GLADE

We climbed Sirhoi many times during the next six months, and four times during the next seven days, but with one exception, no later ascent ever had quite the same thrill for us as that first one on April 7th. Not that we saw — or even guessed — a half of the plants which the mountain was keeping in cold storage for us. Yet somehow the mere fact that we had once been to the top rubbed the bloom off. The pristine freshness was gone, and we settled down to the duller, more profitable routine of intensive search. There's no love like an old love, we said, as we climbed Sirhoi for the last time in late October.

We stayed at home the next day, and the next after that, having a good deal of material to work on. The temperature rose to 70°, and on the 9th a heat wave lifted it from a minimum of 46° to nearly 80°.

We entertained a succession of callers bringing gifts. First some of the elders from the pagan community, the real died-in-the-wool Naga head hunters, paid us a visit. They brought a bamboo stoop of zu (rice beer) and eight duck's eggs, which we gratefully accepted. We discussed — through Mangalay, since the non-Christians do not attend the mission schools, and so have no English — routes to the Burma frontier, which was to be our next objective. I tried to elicit information about Tea, which was rumoured to grow in the further mountains, but learned nothing of value.

Next the headmaster of the village school arrived, accompanied by a youth who had lost the sight of one eye. Could we do anything about it? It is pathetic how these mountain peasants still believe that the white man is a magician and can perform miracles while you wait. There is an excellent and

fully qualified doctor in charge of the little hospital at Ukhrul; yet even there we found that people often preferred to come to us for medicine — possibly because he was a Kuki and not a Tangkhul.

I asked the schoolmaster if he knew anything about wild Tea, or even cultivated Tea, on the Burma frontier; and he told me that the people of Mapum, a village on the other side of the mountain, made 'tea' from the flowers of a large tree which grew there — but not, of course, on this side; and coming down to circumstantial details, he added that the flowers were pink and the tree was now in bloom. It seemed, then, that we were not far from the Tea district of Manipur, though I had no clue to what the substitute-tea yielding tree was. The only pink flowered tree I could think of was *Cassia nodosa*, which was not likely to occur in these hills, and still less likely to make even ersatz tea.

'At home' to the local population, we received two boys who brought us a giant black squirrel (*Ratufa malayana*) like the one we had seen in the forest, only dead. The previous day I had given them a couple of 12-bore cartridges, and they now came to show us how profitable a loan it had been, and to repay it with the sacrifice. Unfortunately it was a female with two tiny embryos inside her. I made a specimen of the skin and we ate the meat curried, finding it excellent. The squirrel was 2 ft. 9½ in. long from nose tip to the end of the tail, of which length the tail accounted for well over half.

The fine weather continued. More callers came on the 9th. Dr. Mukerjee arrived from Ukhrul to see how we were getting on. He had taken the short but steep path straight across the rice fields, and intended to go back by the bridle path. He was a most energetic man and covered a lot of ground on these long tramps.

It was just getting light when we got up on April 10th, prepared for another long day on Sirhoi. Walking fast, we soon reached the first belt of forest, where we momentarily diverged

from the trail to follow a small path contoured round the side of the hill. It was then that I noticed growing on the bank a small, frail primula with anaemic white flowers; but had it been as select as the black tulip (though personally I never saw any reason to maudle over a black tulip), I could not have been more elated. After all, did it not belong to the most regal race of rock plants in the world? The plant hunter who discovers and introduces into the West a new primula which is a 'good doer' (as gardeners say), is certain of immortality. I wonder how much money *Primula Florindae* has earned since I introduced it to an astonished gardening world in 1924!

There were few enough plants of this white flowered species, all undersized, famished, and dull looking; but there was no denying its blue blood. Not many primulas grow so low down in this latitude; but even so I was hardly prepared to find *P. filipes* a species which until 1935 (when I re-discovered it in the Assam Himalayas) had been 'lost' for nearly a hundred years. It is curious that it should turn up on the opposite side of Assam, with the whole width of the Brahmaputra valley intervening. It is not known from east of the Chindwin river.

Eight months later we found colonies of *P. filipes* at the Somra Pass. Here the plants were much sturdier and more firmly established than the Sirhoi plants, which looked like the last survivors of a doomed colony, or the first settlers of a new one.

Jean noticed a plant of *Cardiocrinum giganteum* (better known as *Lilium giganteum*) in a deep gulley, its big heart-shaped basal leaves glossy as satin.

When we reached the cliffs where we had found the first rhododendrons in flower, we climbed straight up to the ridge, as already recorded. There were dwarfed rhododendron bushes of the same species half hidden amongst the rocks, so overwhelmed with flower that hardly a leaf was visible; the pink flush was more pronounced here. In the driest cracks grew clumps of Syngramme, a charming little fern with shield-shaped, slightly overlapping pinnae; and while last year's fronds seemed to be clad in bronze sealskin, this year's tiny

croziers were burnished silver. We found later that the spore clusters are buried deep down in the hairy coat of the under surface, completely hidden from sight.

In spite of our early start, the morning was well advanced while we were still making our way up the ridge, examining the forest tree by tree. We found a splendid Pyrus with a spreading crown, already clothed with bright green foliage though the flowers were only in bud; and a Symplocos with fluffy, creamy white flowers, to be followed in winter by blue fruits as big as sloes. Symplocos belongs to a genus of trees and shrubs unfamiliar in England, which the layman may take at first sight (as I once did) for Prunus (Plum).

By 12.30 we had reached the last belt of forest, and here sat down in the sunshine beside a clump of *Rhododendron arboreum* to eat our lunch. Brilliantly coloured sunbirds were ravishing the crimson flowers for honey, their long, slightly curved beaks probing deep into the pouch-like glands, so that they could hardly avoid entangling some of the long pollen threads in the centre amongst their feathers. This honeysucker, with gamboge breast, prussian blue head, and deep maroon back tapering into the long, thin violet tail, is one of the most gaudy little birds in the hills, where it spends the whole of the summer, indifferent to the rain. In winter it descends to the plains. It is known as D'Abri's sunbird.

There was another little bird, the size of a sparrow but of a dull greenish colour, fluttering round the red lamp and trying in vain to emulate the honey-sucker's feat of hanging motionless in front of the flower of its choice, poised on rapidly vibrating wings, before diving in. But it was not built for aerobatics, and after fluttering clumsily for a moment, would overbalance and sideslip like a person falling off a log; nor was its beak long enough to reach the honey. It was an amusing performance, and reminded me of the funny man in the pantomime who tries to imitate the accurate juggler, with marked lack of skill.

Now that the spring trees were bursting into blossom, many

birds whose seasonal migration is vertical rather than horizontal, were arriving. I noticed a sibia, all slate blue and blue-grey, paying court to the rhododendrons, as is the custom of sibias in Burma.

After lunch we visited the magic glade, just off the path but well hidden. Sunshine flooded it, and the velvet grass was dazzling. A giant oak flung a curved protecting arm, draped in moss, across the entrance to the glade, and one could imagine will-o'-the-wisp dancing amidst the rushes at the far end by the silver pool. An immense rose bush scrambled up a tree trunk to vanish out of sight in the green canopy above. Our feet made no sound on the soft carpet; no birds came; the silence was profound, as though the place were sacred.

From here we went slowly down the ridge and through the village again, back to camp.

The 11th was a Sunday and the Christian community made the most of their holiday by coming to gape at us. After lunch we went to call on the schoolmaster in the lower village, whom I had met in the course of my brief visit here in 1946. The schoolmaster sent for a bottle of zu, which was presently set before us by the village wag, with comment; a word or two, no more. The crowd yelled. Presently he made another witticism, and again the crowd yelled delightedly. When they yelled a third time, merely as a result of a raised eyebrow, there was no concealing the fact that we were in the presence of the local Tommy Handley. So we finished the zu, and Jean went to see the schoolmaster's wife, who had fever. The schoolmaster conducted us back to our camp, and Jean gave him some medicine and tea for his wife.

We learned that there is much discontent in the hills because the Tangkhul Nagas received no war compensation, although their villages were occupied for months by the Japanese and they lost everything, whereas the Manipuris, whose villages remained intact, lost nothing. Yet the Manipuris got war compensation, in addition to which they rented their houses to

the military at black market rates, and made fortunes. A real American missionary had recently arrived in Ukhrul on a visit, and was expected in Sirhoi any day now — I have already described how we were mistaken for missionaries the first day after our arrival.

That night it rained heavily. I awoke suddenly at 2 a.m. because a large drop of water had hit me full on the eyeball. I leapt up to find water pouring in through the thatch, which was still no better than a sieve. It was blowing a gale outside, and the lightning flashes followed one another in quick succession. Jean joined me and we flung waterproof sheets over our beds, specimens, and clothes. But there was no stopping the deluge, and presently we gave it up in disgust, crawled into bed, and buried ourselves under the damp blankets, while puddles became ponds, and ponds lakes.

With the coming of daylight the storm disappeared, and the weather turned sunny again, so that we were able to dry our clothes.

Our only interest now was Sirhoi, and we counted the day lost unless we went up to 7000 feet or higher. We did not aim to reach the top on the 13th; nevertheless we made an early start. A blustering wind blew from the south and heavy clouds covered the sky. Early as we were, the village boys were still earlier. We had barely reached Arthur's Seat when we met five of them, each carrying a bamboo basket on his back, every basket piled high with white rhododendron blossom. Following such a raid I expected to see every bush on the scree mutilated by an Eton crop, if not by a convict crop, branches mauled and broken, a scene of devastation all round; and this fear became a certainty as we approached closer and found trusses of the delicious flowers cast carelessly aside, and fallen corollas trampled in the mud. We reached the edge of the scree and stepped into the open, and there were our rhododendrons in all their wedding white, blushing as ever. I could see little if any difference; there appeared to be dozens of them on the scree higher up, all in bloom and uninjured; so it must have been

more abundant than I had supposed. As this species is common towards the top of the mountain, and is fairly widespread in these hills, there is little danger of its disappearing at present.

On the open ridge we caught the full force of the wind, and got a taste of how hard it can blow here. No ordinary forest could stand against such a blast, and it seems unlikely that the windward face of Sirhoi ever was thickly wooded all over. Dwarf bamboo (*Arundinaria*) may have covered much of it; or, on the other hand, this too, like the meadow, may be invasive. There is a good deal of bamboo along the edge of the forest and in sheltered hollows, but it is kept well in check by fire.

For many years the slope has been fired every winter when the meadow dies down, not for cattle grazing as one might suppose, but to entice game out of the forest into the open, where it can be seen. Thus barking deer, sambhur, and pheasants of several kinds are shot by the local people. Just before we left Sirhoi one of our part-time *shikaris* brought us a pheasant. In colour it was a shimmering metallic blue-black, the feathers over the rump being edged with white. Round the eye with its orange-brown iris was a bare patch of scarlet skin; the tail was short, dull green. Had it not been shot to bits I would have taken it for its skin. Later we were to have a dramatic lesson in the usefulness of this meadow.

The Tangkhuls also set pheasant traps — a noose attached to a bamboo spring lightly held down by a notched peg. The efficacy of a trap depends entirely on choosing the right place to set it, and in this the hillmen are expert. Inside the forest we found pits dug in dry water courses, and cavities cut in the buttress roots of trees to hold water; thereby they attract animals in times of drought.

So unpleasant was it on the windy ridge that presently we retreated to the shelter of the magic glade, and thence went deeper into the heart of the forest. Here the mist was so thick we could not see the tree tops. Beyond the magic glade, with its reed-fringed pond at one end, we found ourselves beside a stream which flowed sluggishly from a still larger swamp, over-

grown with Arundinaria. Great trees ringed it round. The stream, when it plucked up courage to flow, was not a bit like a mountain burn, but ran, still sluggishly, over a rocky bottom between steep banks, parallel to the ridge above, which took on more and more the appearance of a moraine. Lower down, the little valley again became quite flat, with swampy glades and marshes — at least, they would be marshes when the rains came. Here, too, was what appeared to be an unmistakable moraine. I began to see Manipur in a new guise, caked with ice.

Well inside the dark, damp forest we came upon an Ilex, revealed by the great number of tiny scarlet berries scattered over the ground beneath. Close by, on a fallen branch, I noticed a small plant of that most lovely of white flowered rhododendrons — *R. Lindleyi* — bearing one perfect truss of three marble white trumpet flowers. It was not previously known from the south side of the Assam valley.

Returning to the grass slope, we quickly made our way to the summit, then followed the track a short distance down the other side of the mountain, bearing away to the north-east towards Mapum. The wind was still tearing over the ridge, and the grey clouds piled on top of the frontier range threatened more rain; but when the sun came out it was pleasantly warm. Hoolocks, those white-faced black gibbons, were whooping and shrieking amongst the starry Michelia trees in the valley below.

To the east of the grassy main Sirhoi peak, and connected with it by a narrow saddle, is a second peak, almost as high and covered with forest. Several shallow valleys flanked by what look like ancient moraines, have been scooped out of the summit. In fact, the whole appearance of east Manipur, with its long level-topped ridges separated by comparatively smooth-sided valleys, widening out at the head, is that of an ice-worn plateau comparable with the Irrawaddy Plateau of North Burma, and probably a western extension of it, just as the Irrawaddy Plateau is a western extension of the Yunnan Plateau. Sirhoi, then, is a glaciated peak. Dr. Norman Bor,

Assistant Director of Kew Gardens, who knows this country well, writes:

> . . . it is scarcely open to doubt that in remote times the Naga Hills reached heights comparable to those of the Himalaya, and far greater than those ever attained by the Khasi Hills. (See Appendix.)

We shall certainly need to call in the aid of glaciers to help us understand the curious distribution of plants in this corner, between Western China and the Eastern Himalayas.

When we got back to the village we found, as we had expected, that the people had decorated the little church with rhododendron flowers, ferns and club moss, in honour of the missionary, and (what we had *not* expected) that they had tied sprays of rhododendron to the posts outside our hut to welcome us back! The missionary, Mr. Brock, walked over from Ukhrul next day, but we were out and did not meet him till six months later, when he paid another quick visit to Ukhrul and had supper with us.

During the last few days of our visit to Sirhoi we dug up bulbs of the lily to carry back to Ukhrul. On the 14th, for the first time since our arrival, we did not see the sun all day, and the top of the mountain was hidden behind mist. However, the following day was bright and warm, and we went up the mountain for the last time. Selecting lilies which had several flower buds (one had six), we dug them up with an ice axe, the ideal tool for the job, each bulb enclosed in a solid chunk of earth capped by an inch or so of vegetable matter whose interwoven rootlets made a compact cushion. We also took some rhizomes of the larger iris. All these were packed in moss and carried carefully back to Ukhrul in bamboo baskets.

While searching for suitable lily bulbs to dig up, we saw a snake slide under a big rock. I poked it out with a stick, and it proved to be a small, but very poisonous viper; we were to become better acquainted with this reptile later.

As on the grass slope, so in the forest; few herbaceous plants were in flower. Unlike anemones and primroses in an English wood, which flower early in the year before all the leaves come out on the trees and subdue the light, the flowering undergrowth here waits only for the coming of the rain. Nor was there anything to be compared with the glad show made by a carpet of primroses. The nearest approach — and how far it was from being a colony of snowdrops! — were the colonies of Ophiopogon, which still displayed a few violet berries. The forest was fairly open, by no means hard to penetrate. Here and there grew clumps of a tall lobelia, bright with magenta fruits, though the squinny pinched flowers were mean. The stems, weighed down and leaning over the steep slope, touched the earth with their tips and instantly took root, thereby starting a new plant. In this way the lobelia marched up (or down) the mountain side.

When we stayed in camp Bill usually went out hunting, for which purpose I supplied him with cartridges. One day we heard two shots close to the camp, and shortly afterwards he returned with the news that he had shot *two* barking deer. One had got away (he said), the other was dead; and presently he and his friends carried it in. I regret to say it proved to be a female; not only so, but it had a male fawn, almost mature, in its womb. I felt like a murderer as I took it out and skinned it. It was the prettiest little creature imaginable, with a spotted hide something like a *chital*, quite unlike an adult barking deer. The mother on that luckless day must have been within a few hours of giving birth.

Though it would never be uncomfortably hot at 6000 feet, already there were signs of warmer weather. On the plains the dreaded hot weather had long since arrived; but not here. With the cuckoo softly wooing and the trees bursting into flower or new leaf, it was more like England — until the Indian cuckoo, or brain fever bird, broke rudely in, calling all day and all night too with the malevolent persistence which has earned it its name. Frogs were croaking in the marsh at dusk,

cicadas and crickets chirped, heralding the approach of the long rainy season. In short, life was stirring all round, and amongst the less pleasant manifestations of the great awakening were the ticks I picked off my person when we returned from a walk in the forest. Truly the burden was growing heavier as the days grew longer.

CHAPTER IX

UNDER FIVE FEET

SOMETHING was whistling far off with the frantic impatience and horrid shrillness of a railway engine. At last it penetrated beneath the surface into my consciousness, and I awoke to hear an unknown bird calling. I forgave it, because the sky was cloudless. Presently the sun rose. Almost immediately the clouds began to gather thickly and the sky grew black as night. We had hardly started on the return march to Ukhrul, when the storm burst with a clatter of hail which rent the leaves of the trees, followed by a curtain of rain.

Fast as we walked, we were numbed with cold. Along the sodden path fat earthworms, fifteen inches long and of a wonderful slimy, iridescent violet-blue colour, had come out to mud lark. They looked like small snakes — and indeed, some of Assam's earth snakes are smaller than these worms. One felt that such powerful workers must do an immense amount of sapping and mining in the floor of the jungle.

We reached Ukhrul before 1 o'clock to find Thangsha waiting for us. He had kept the cottage reasonably clean, and had slept there — so he said — each night; anyway, no burglars had come. But that was all he had done, and our stock of firewood for the approaching rains was woefully low, since he had added nothing to it for a fortnight.

Under the combined influence of hot soup and a makeshift fire in our laboratory, we thawed gradually while we read our mail. The first thing we had to do was to send down to Imphal for supplies, which were running short. The road was now almost impassable for trucks, so Mangalay found two coolies, and the three of them walked twenty-three miles down to Litan, near the entrance to the hills, where they picked up a country bus which took them the last twenty-two miles.

[*facing:* TANGKHULS RETURNING TO UKHRUL AFTER THE DAY'S WORK

Mangalay returned unexpectedly on the evening of the third day, having found a truck coming up. He brought with him a large basket of vegetables, and a mail. The coolies arrived on the fourth day, bringing about 40 lbs. of *ata* (rough flour) and 10 lbs. of potatoes. We had to pay them Rs. 12 each for the jaunt — more than the cost of the goods! — so it was hardly economic. Had they carried 40 or 50 lbs. each, as they had contracted to do, it would have been more reasonable; but here rationing and shortages stepped in. At this season we had to get food up from the plains whatever the cost.

We now began to get a daily supply of fresh milk from the headmaster of the local high school, who lived in the next cottage and kept a small herd of beautiful cows. They were a nuisance about the place, fouling the courtyard, but their milk was a godsend and more than compensated for their shortcomings.

The next thing we wanted was a garden for our Sirhoi lilies and irises. We prepared a narrow strip along the front of Cobweb Cottage and had it carefully fenced to keep out roaming pigs, fowls, dogs and cattle. Into this allotment went the clods which encased the lily bulbs, and the iris rhizomes.

The vegetation had come on a lot in the last fortnight. Recently the dry earth had had a good soaking, and it needed only a little hot sunshine to paint the hillsides with many colours. However, the garden had scarcely been dug over when one evening a sudden thunder storm with torrential rain swept over the ridge, and in a few minutes it was inches deep under water, which must have troubled the Sirhoi meadow plants. Though the storm lasted less than an hour, hail lay thick on the ground for much longer, giving quite a wintry effect that astonished and delighted Dr. Mukerjee's children, who came from Calcutta.

We had still nearly six weeks before the rains broke (officially) and decided to travel eastwards in the direction of a group of peaks over 9000 feet high on the Burma frontier. The start was fixed for April 28th, and we expected to be away a month.

Before we left Tocklai we had carefully studied the quarter-inch map of the country round Ukhrul. Sirhoi had always been our first objective, because I wanted to collect the lily I had found there in winter phase in January 1946. But Sirhoi was not the only likely-looking peak. Both to north and east there were peaks of 9000 feet and more. The highest in east Manipur was one called Hkayam Bum, 9300 feet, eighteen miles distant in a direct line, though it would take us at least five days marching to reach the foot of the range. However, a track was marked crossing another hill at a height of 9048 feet, and only fifteen miles away. It did not look difficult to reach the summit, and from there it might be possible, given clear weather, to reach Hkayam Bum.

Alternatively there were peaks and passes on the northern frontier which might be worth a visit, several of them over 8000 feet; and a solitary mountain, Moi Len, of 10,135 feet. This last was not actually in Manipur State at all, but in the adjacent Naga Hills. Moi Len is nearly forty miles from Ukhrul in an air line, and certainly not easy to get at from the south. We had cast longing eyes at it, on the map, and had considered the possibility of making its closer acquaintance. But it is more easily reached from Kohima than from Ukhrul, so we put the idea in cold storage and decided to concentrate our attention on Sirhoi and the eastern ranges for the time being.

Meanwhile on our daily walks we found many new trees and shrubs in flower. One of the most memorable was a yellow flowered jasmine (*J. heterophyllum*), which when well grown and favourably placed is worth growing in the best company. It is a small evergreen tree, and doubtless reaches a fair age. The golden yellow flowers hang in large, loose bunches which are often half hidden under the foliage, but are sometimes numerous enough to spangle the tree with golden lights. Seen from slightly below, the flowers are easily visible. It has not the hard, brilliant colour of the winter flowering *J. nudiflorum*, but it has all the fragrance of *J. officinale*. The berries are black, like well polished boot buttons.

Cornus macrophylla, which was common in gullies, is a larger tree. The branches spring horizontally from the trunk and spread out in the same plane, so that they give a layered or tabular effect. When in bloom the flat leafy limbs look as though lace had been laid over them. The leaves, dark green above, are almost white beneath, and the whole tree looks like foaming water. Delightful also is a species of Symplocos, quite a small shrub, every shoot and twig of which is furred with snow-white blossom, like candy sugar.

It will be realized that to describe the many plants we found may give some idea of the plants themselves, but it gives none whatever of the vegetation, or even of the flora, still less of the country. Even reference to 8000-foot peaks and to sub-tropical valleys gives but an indifferent picture of a mountainous region; for east Manipur, though comparatively well opened up, and not sparsely populated as monsoon mountains go, is thickly forested up to at least 10,000 feet. And the forest is almost entirely evergreen, though it has a sprinkling of deciduous trees — especially above 6000 feet. Nor is it difficult to find a hundred square miles of highland without a single human inhabitant. The trees change rapidly as one ascends the mountain, but the forest itself shows little change in appearance. With their heads buried in the clouds, their feet washed by the streams far below, the mountains seem to be covered with a uniform green mantle, though frost never enters the hot moist valleys, and in January snow lies on the tops.

We could reckon on making no more than three miles a day direct progress towards an objective, travelling across the grain of the country — that is, from east to west — but twice that when travelling with the ranges, from south to north. Though Manipur must once have formed the western buttress of a high plateau, perhaps sloping gently from China towards the valley of the Brahmaputra, the heavy, concentrated monsoon rainfall, acting through thousands of years on soft sandstones, has lowered and sculptured it almost beyond recognition. Hundreds of small rivers gush through the hills, but there are no

big ones to tear the guts out of it; rather is it being worn down at the edges now, although wherever the forest has been cleared the surface is etched more deeply.

A visit to the southern end of the West Mountain produced almost nothing new, though we walked through some fine forest where species of Elaeocarpus (a tree related to the lime) were noticed. The excursion was chiefly memorable for some exceptionally fine views across the ranges, and a succession of gaudy coloured birds which we could not identify.

Many of our spring favourites were now over, or almost so, though one could still pick a belated rose from *R. gigantea* here and there. Its place had been taken by the little button flowered dog rose, *R. sericea*, not a climber at all, but a tight little bush. A tree privet (*Ligustrum*) was in full bloom, reminding me of white lilac; the flowers were rather disfigured by a faintly bluish fluff which bearded the inflorescence, making it look like a mouldy cheese. However, I believe it was caused by an insect, not a fungus.

All these shrubs and little trees grew in dense thickets along the roadside, which maintained a precarious existence in the face of the woodman's axe. *Euonymus thaeifolius* was another, a small bush generally epiphytic, more noticeable in fruit in the winter than now.

Then there were climbing plants in great variety, the most remarkable being the vines. My attention was drawn to one which bore pyramidal panicles of small flowers enveloped in a halo of auburn hair; the leaves, too, were covered with the same auburn or chestnut hair. Conspicuous though it was to us, it seemed to be far less so to the insect world; so far as we could see none ever visited the flowers, or if they did, they were singularly ineffective as pollenators. Every single flower dropped off dead, and not one fruit did this vine set. A plague of small beetles settled on the leaves, however, and by mid-summer had reduced them to a mere skeletal network of veins. So much, then, for *Vitis lanata*, the ornamental auburn-haired vine.

In a marsh near Ukhrul we noticed a colony of tawny day lilies (*Hemerocallis fulva*) which had all the appearance of a garden plant on the loose. There is considerable doubt whether this plant is indigenous in India, but at least it is widely cultivated there. We found several clumps, always near villages or rice fields, and always close to a well beaten path. It never set any seed, the flowers being completely self-sterile. How, then, does it spread, unless man carries it about with him?

Raspberries of all kinds, mostly scrambling or creeping shrubs, grow in the hills. They have black, yellow, or red fruits, all edible, though few of them are really worth eating. *Rubus ellipticus*, an untidy bush with deep yellow raspberries in April and May, is exceptional, its fruits, which were now ripe, having a delicious flavour and being extremely juicy.

On April 24th the temperature rose above 60° for the first time since we got back. After changing the paper in the plant presses and doing other chores, we went out for our usual walk, noting well grown specimens of the yellow jasmine, *Cornus*, *Viburnum*, and so forth. The resinous air of the pine woods smelt delicious, and we listened enchanted to a bird singing like an English blackbird. The beautiful flute-like notes rang through the valley. Towards evening there came a mutter of thunder, and suddenly the sky was black as ink. Then a violent wind hit the ridge such a buffet we thought the cottage would be whirled aloft. Came the hail, and the rain — such rain! In a few minutes our garden was under water for the second time in a week. Hail stones as big as sparrows' eggs lay inches deep. I wondered whether the iris would survive. The storm ceased as suddenly as it had begun, though the lightning continued to dance across the southern sky for a long time, illuminating the massive clouds.

On the Sunday morning, when we should have been out, the Circle Officer or local magistrate called, and we discussed our proposed journey to the frontier. He promised to give us all the help he could. His head clerk, who was suspended while

an inquiry was being held into certain alleged irregularities not unconnected with fiscal matters, was also a friend of ours, and often dropped in for a chat. We never fathomed the intricacies and cross currents of local government in Ukhrul, and had neither the time nor the wish to distinguish between the black sheep and the white — if any distinction existed. We liked our friends, who included besides these two, the present head clerk in the C.O.'s office. When, later, a branch post office was opened, the head clerk, after some manœuvring, proclaimed that he, and he alone, was the local postmaster. We got our letters promptly after that.

Our chief friends, however, were the headmaster of the Middle English school and the doctor. The first was a Tangkhul, the second a Kuki. Jean had acquired a reputation as a healer, and people often came to the cottage for medicine. This was slightly embarrassing, but there was nothing we could do about it. However, Dr. Tongul did not seem to mind, and of course Jean often consulted him about the symptoms and the treatment she should give.

The day before we were due to start for the Burma frontier, the schoolmaster invited us to a little ceremony to be held at the school. His boys had won the under-five-foot soccer tournament, beating an Imphal team, and he was so pleased he had presented a cup to the winners. I suspect he had also invented the under-five-foot football competition, well knowing that the hill boy is more than a match for the plains boy.

About 4 o'clock we walked round to Gimson Hall, rather grudging the time spent in such frivolities. The sky, which had been bright all morning, was now overcast. When the guests were assembled, biscuits and tepid tea, whose extreme debility was fortified with sugar, were served in glass tumblers by small, neatly dressed girls, who at the same time garlanded us with roses (while the doctor loudly lamented that his rose bushes had been butchered, without his consent, to make a Naga holiday)!

After tea the schoolmaster blew a whistle, and at the familiar sound his under-five-foot football team, led by their captain,

skipped lightly on to the ground. They were in full war paint, shirts (half khaki and half scarlet) and shorts; anything below that was optional, and only the captain wore boots. (Perhaps it was necessary to go bare-footed in order to keep within the schedule.) After giving a little exhibition of running about, the team lined up for inspection, and the schoolmaster walked down the rank like an air marshal. He asked each boy in turn where he played, and all replied in English: 'Centre forward', 'right half-back', 'inside left', and so on. The proud schoolmaster then made a speech, rather too long for the occasion, we thought, but that was excusable in the circumstances. He praised the team, said nice things about the distinguished guests, finished up with a little pep talk. Then, amidst cheers, he presented the cup to the victors — unfortunately the defeated plains team was not there to be jeered at. (If all this sounds rather like the junior reporter on the local evening paper, all I can say is that the whole scene vividly recalled similar episodes at my own prep. school.)

Finally the captain stood up and called for three cheers for the school, which were given with a will; and the same number for the visitors — who got four! The sky had been growing blacker and blacker while all this was going on, and the ceremony was barely finished when, driven by gusts of wind, the storm broke in ungovernable fury. The air was filled with hissing rain, and the thunder echoing amongst the hills seemed one continuous roll. We all went inside the wooden building and huddled round the stove. Within a few minutes every path was the bed of a rushing stream. Half an hour later the sky merely dripped, and we paddled home, to find our garden converted into a pond for the third time. April was certainly the month of sudden storms hurrying through the hills.

April 28th was fine, and our thirteen porters came in good time — but no Bill. When he turned up an hour late, it was only to tell us that he could not accompany us because his wife was having a baby. This was a nuisance, and a state of affairs

that surely he could have foreseen. However, no sooner had Bill taken himself off than a weedy, ill-kempt youth with a spotty face and drooping lip — obviously a *very* casual labourer — appeared on the scene and offered to take Bill's place. We needed an unskilled assistant, and had a very limited choice. Our volunteer said he had been a soldier, and we were to infer that he had left the army; we soon came to the conclusion that this was a misunderstanding, and that the army had left *him*. However, though unimpressed by his appearance, we took him on the strength; we were quickly to learn that even the word 'unskilled' has degrees.

We started behind the porters, and as the general direction was south-east, followed the bridle path down into the valley. It was stiflingly hot. When we reached the rice fields, which were now under water, I was rather surprised not to see the porters resting, as we had walked at a fair pace. The path divided here, one branch going round the spur and up a valley towards the north-east, while the other crossed the rice fields and climbed the opposite ridge. Our ex-rifleman stopped and spoke with a peasant, so I presumed that either he knew the way, or was asking it.

After a tiresome climb in the hottest hour of the day, we reached a village which I fondly imagined must be our destination; but still there was no sign of Mangalay or the porters, or anyone at all. Presently several people collected and gladly pointed out to us, on the far side of the deep valley we had just crossed, the village of Kangkoi for which we were looking. It was about two miles away as the cuckoo flies — but *these* cuckoos would have to walk.

There was an ominous silence. We rested for five minutes, then plodded down a steep, stony track, through another village where a leafless Bauhinia tree was in full bloom, and so to the stuffy rice fields once more. Before starting to climb again, we sat down in the shade and ate some lunch. From now on our follower was referred to as 'The Oaf', a name he did more to deserve with every day that passed.

There were a number of large circular holes, like wells, in the rice fields, though it seemed unnecessary to dig wells in rice fields which were under water anyway. Actually they were fish ponds; small mud fish congregate here from all over the fields, and are easily caught in nets.

Arrived in Kangkoi village — the right one this time — we found a small *basha* prepared for us, and the camp set up. After tea Jean was besieged for medicines, an endless succession of damaged humanity visiting the camp; considering the time and trouble she took over their ailments, not to mention the cost of the medicines, the village as a whole showed a singular lack of gratitude. However, we bought a few eggs. We were launched on our journey, and next day would see us actually within the drainage area of streams flowing down to the Chindwin.

CHAPTER X

WHO WOULD BE A PLANT HUNTER!

THE range in front of us, of which Sirhoi is the culminating peak, is the same one which blocks the view eastwards, and even more completely *south*-eastwards, from Ukhrul. Only north of Sirhoi does it grow lower and allow peeps of far hills beyond. The highest point on the bridle path, however, is little more than 7000 feet, and at this point it enters the forest. Unfortunately April 29th was a wet day. Coming back the same way on May 19th it was wetter, with dense mist thrown in for good measure; and when we crossed the range for the third time on October 15th, wettest of all. So we never saw the forest here as we would like to have seen it.

The trees on this violent slope reached the largest size of any trees for this zone, their massive trunks plastered with moss and tiny filmy fern not much bigger than moss. On their stout limbs grew other larger ferns, some like jade vases, orchids like twisted masses of entrails, and small epiphytic shrubs. The commonest were *Quercus lamellosa*, one of the handsomest of the oaks: a fig (*Ficus nemoralis*) with lovely young red leaves; cherry; Illicium; *Bucklandia populnea*, whose enormous stipules stick out like bats' ears; and Schima — big trees all. I also found a specimen of *Cornus capitata*, which is not common in Manipur. Along the bank grew clumps of the pale violet flowered, orange crested *Iris Wattii*, a favourite amongst iris enthusiasts, but not of cast iron hardiness in Britain.

After squelching unhappily through the mud for three miles, the path contoured round the mountain face, which rose grimly above us and fell away even more grimly below us, we emerged on to a steep grass slope like that of Sirhoi. Here the path descended for 1200 feet in long zigzags where the erosion was terrific, as though a steam shovel had been at work on the hill side.

Down below, burnt out trees and blackened grass showed clearly the path of the dry weather fires through the savannah. The dwarf date palms (*Phoenix humilis*) in particular were charred almost beyond recognition; perhaps this was the reason why they were stunted — none were more than six feet high. Nevertheless, they retained their shape and were being rapidly renewed from within; it seemed they were immortal. Stumps which you would have sworn were burnt to a cinder preserved somehow within themselves the spark of life everlasting, which nothing could quench; and from their dead hearts sent up a frothing fountain of creamy white inflorescence, contrasting curiously with the scorched leaves and ravaged trunk. Mingled with them were pine trees; the mixing of pines and palms — even dwarf date palms — always seems to me rather incongruous. Perhaps Kipling had something of the sort in mind when he wrote: '. . . dominion over palm and pine.' The altitude where palm and pine met and mingled was a little under 5000 feet. There should be a use for this fire-proof little tree (though admittedly it is no graceful palm) for quick regeneration of burnt forest in dry regions.

We slept the night at Pushing, a miserable village with a fine view to the south. In fact, as we approached the Burma frontier the country became ever steeper, the valleys narrower, and poorer in natural resources, especially in good cultivable land. There is no doubt that the Sirhoi range which we had just crossed divides the country into two well marked halves — a fertile western half, and a bleaker eastern half — just as to a large extent it separates the Tangkhul from the Kuki tribe, who perhaps were the later comers, and so had to put up with what land they could get.[1]

On the last day of April we marched many miles, first a descent to the rice fields and sub-tropical vegetation at the bottom of a deep valley, followed by a long, tiring ascent of

[1] This is not the main Manipur divide, however, for the Manipur river itself eventually flows into the Chindwin. The main watershed is still further west, separating the Chindwin drainage from the Brahmaputra.

nearly 3000 feet to the top of the next range — 2000 feet in two miles up a dry, rocky spur where several fine Dendrobiums added vivid splashes of colour to the leafless trees which clung precariously to the cliffs, then right round the head of another deep valley to the saddle at 5000 feet, where stood a leaky *basha*.

Yellow raspberries (*Rubus ellipticus*) grew here in great profusion, and the porters gathered a plateful for us. Before dark a number of Kukis from the village of Humhlang came to Jean's clinic, and few of them went away without medicine. A thorny white flowered Capparis (*C. tenera*) grew here abundantly. The flowers with their long protruding stamens look like clusters of insects at rest all up the shoots. I had noticed this plant once or twice before, but always within village limits and in second growth, so I suspect it had been planted to make hedges.

May Day hardly lived up to its traditional reputation in England. When we got up a storm was raging, and so much cloud came sweeping across the ridge that we could not see fifty yards. This was *not* plant hunting *de luxe*, and I gave vent to my usual sigh and appeal to a deaf, uncaring world when conditions were not to my liking:

'*Who* would be a plant hunter!' I exclaimed bitterly.

But now Jean took me up. '*I* would,' she retorted stoutly, adding as an afterthought, 'if I could.'

I blew my nose but said nothing. Jean looked at me sideways. 'If I could,' she repeated, a little louder. Evidently more was expected of me.

'But you *are* a plant hunter,' I said mendaciously. Jean looked pleased, but a little doubtful.

By the time we were ready to start it was clearing fast, and presently the sun came out and, of course, it was too hot! There was a surprising amount of second growth on this side of the range, considering how few, small, and widely scattered were the Kuki and Naga villages. Perhaps the country had once been more thickly populated, though the amount of arable land was limited.

A rather dull march of eleven miles brought us to the village of Chammu, scattered along a ridge at 5000 feet altitude. I lost my long crooked cane, used for hooking down branches. It rained furiously when we halted for lunch, but cleared up again later, and in the evening we got our first sight of Hkayam Bum across a deep valley and eight miles distant. Now the country to north and east was rugged and untamed, scored with precipitous ravines, and mantled with climax forest. Further round to the west, and considerably nearer, was the 9000 foot peak over which the trail between Khaiyang and a village called Khamasom passes — the one we hoped to ascend. There was another peak of just under 9000 feet north-west of the village and barely six miles distant — we had actually passed within two miles of it in the course of the day's march.

Three miles away, across another valley, we could see the huts of Khaiyang, our next objective. We dismissed the march as hardly worth thinking about — indeed, at one time we had seriously considered halting for lunch at Chammu, while walking from Humhlang to Khaiyang in a day. We were quickly disillusioned. We reached Khaiyang next day, but it was tough going every minute of the four hours it took us, the path being narrow, steep and slippery, with a descent of 2000 feet and an ascent of 1500.

We were shown to a roomy *basha* which was probably the church or the school, since there was a Burmese gong outside it. The only drawback was that it stood in the dead centre of a very dirty village, and was full of low beams which my head never managed to avoid. Right above us rose the 9000-foot mountain; the summit was hidden behind a turn of the ridge, but two sugar loaf shaped humps on the ridge were conspicuous.

Meanwhile, with every march eastwards towards Burma, I had been making inquiries about Tea — wild Tea, cultivated Tea, substitute Tea, any kind of Tea — and now I was beginning to get some response. The matter is of such interest, however, that it deserves a chapter to itself.

Khaiyang is a little under 5000 feet, so we had a long climb to the top of the mountain. The next day was Sunday; the day after, which was May 4th, we set out to reconnoitre the path and to look for a camping ground. A steep, narrow trail led up the ridge, partly through forest. The strata here were tilted at a sharp angle, and at one place we climbed hand-and-foot up a rock wall to a razor-edge, along which we had to go carefully, there being a precipice on our left hand. Bunches of white Coelogyne, its yawning mouth marked with yellow blotches and chocolate lines, decorated the rocks. At 7000 feet the forest contained a great variety of trees, amongst which I found a big leafed Saurauja, Eriobotrya, *Bucklandia populnea*, Illicium, *Gamblea ciliata*, and several Magnolias, besides the usual chestnuts and oaks. Higher still *Berberis sublevis* grew in the darkest part of the forest (where, however, it bore few of its pleasant yellow flowers); and we picked up many corollas of *Rhododendron Lindleyi*. An exposed cliff was carpeted with the little *Gaultheria nummularioides*, and at the highest point reached I found a currant (*Ribes*), though it had neither flowers nor fruit.

After climbing for five hours, less half an hour for lunch, we reached a sort of saddle at nearly 9000 feet. It was said to be another mile to the top, and the trail descended before climbing again. At 2.30 we started down, not knowing how long it would take us to get back to the village, which we eventually reached at 5 p.m. Though I had seen little that was new to me, we were not displeased with the day's work. However, there was only one possible place to make a camp where we could obtain water easily, and that was in the forest at the foot of the second hump, hardly more than a thousand feet above the village. Better than nothing, but further from the top than we would have liked. It still left us a climb of 3000 feet.

We spent the 5th making preparations, and started up the mountain again on the 6th, after a night's rain. It was raw and cold at first, though the temperature had fallen only to 57° by the time the sun rose. Nine porters carried our loads, and

we had our two servants and two local men as well. We reached the chosen camping ground in less than three hours, and after clearing a space, set up the two tents and a cooking place; it was by no means a simple business, as the ridge was extremely narrow and far from level. The men built a raised platform for themselves, and draped their tent picturesquely over it; but we slept on the uneven ground, with a waterproof sheet under our bedding rolls. It is pleasant, of course, to sleep like a log, but this should not imply sleeping *on* one. Eventually we managed to pitch the tent, one half sagging limply over the side of the ridge like a mainsail in irons; there simply was not space for the camp beds, so it was fortunate that we had not brought them. We made a built-out platform of stakes to hold up the bedding on the outside and prevent me from rolling down the hill — the tent had no sewn-in groundsheet.

We determined to go to the top next day, wet or fine, since the only settled thing about the weather that we could recognize was, that it was badly *un*settled.

The first 500 feet were the worst, a steep ascent through a dense growth of thin, short bamboo which completely hid the track, to the top of the second sugar loaf. The bamboo leaves held vast quantities of water, which penetrated everywhere, but chiefly down our necks; and we arrived at the top of the cliff soaked to the skin and chilled in spite of the exercise. We were glad to get into the forest, where presently I spied a magnificent white blossomed epiphytic rhododendron, possibly *R. Lindleyi*, though it seemed rather too vulgar with flower for that aristocratic species. It was high up and out of reach.

Abortive attempts had been made to burn the vegetation on the southern face, but as that consists largely of sheer cliffs mixed with rock chutes, on which only scrub and a few scattered trees have secured a footing, the only permanent result has been to standardize bamboo brake as the universal crop.

From the col, reached in a hundred minutes, whence we had turned back on the 4th, the track descends before rising steeply to the summit ridge, reached four hours after leaving camp.

Near the summit we passed through a grove of *Rhododendron Macabeanum*, not so large or venerable as those on Japvo, but fine trees all the same. The flowers were over, a few pale yellow corollas in the midst of many shrivelled ones carpeting the sodden earth, to tell us what had been. The specimens of this grand tree flowering in England all came from Japvo in the Naga Hills. They are now of age.

From the top we should have had an excellent view of Hkayam Bum, barely four miles away to the north-east, and of the high peak (8958 feet) above Chammu, within three miles to the south-west — all three peaks being practically in line. On a really clear day we should also have had a good view of Moi Len, not to mention anything we might have seen westwards. As it was, we saw nothing. Cloud had been rising like smoke ever since we started, and a steady drizzle had set in. Thick scrub, buttressed with stout little gnarled trees, made it impossible to move off the track without heavy cutting; nevertheless, we found *Rhododendron triflorum* — no beauty — in flower on the very summit, and a species of Symplocos also. A little lower down grew *Piptanthus nepalensis*, with masses of pea flowers the colour of Laburnum, though not gathered into such spectacular festoons. There was even a laurel with snow white under-leaf, but it was not flowering. There seemed to be far too much bamboo everywhere, and too much burning.

The forest above 7000 or 8000 feet is, of course, cool temperate, and contained most of the trees commonly met with on Sirhoi, such as Pyrus, Sorbus, Acer and *Magnolia Campbellii*. The only conifer I saw was a Taxus or Cephalotaxus — we were too high for the Khasi pine, not high enough for hemlock spruce (Tsuga).

It rained heavily during the two and a half hours slippery descent, and we were glad to get back to camp, a change of clothing, and a mug of hot tea.

Had we experienced even moderately fine weather at this time, we might in the course of one or two climbs to the summit have found better hunting ground, and more worth-while

plants. Hkayam Bum, for example, was connected with the Chammu peak by a comparatively broad and level ridge, along which it might have been possible to cut a track; but good visibility was necessary, not for our personal comfort — though it would certainly have raised our morale — but in order that we might see where we were going, and see the trees for the wood. As it was, we could not see even the saddle between the two peaks.

After four days of mist and rain, during which I confined my explorations mainly to the middle forest between 6000 and 8000 feet, our last scheduled day arrived, May 10th. At first it looked as though it might be fine, and we prepared to go to the top again. But before we had finished breakfast the mist was rolling up as thickly as ever; so we went back to the village instead. And of course it turned out a lovely afternoon.

I now decided to look into the matter of wild Tea. There were persistent stories that wild Tea did occur in these forests, and the Kuki I sent to collect specimens had returned with foliage of what was unquestionably Tea, though whether wild or not was another matter. In primitive agricultural practice, the distinction between the wild and the cultivated plant is apt to be blurred — not because the cultivated plant necessarily resembles the wild, but because the conditions under which it is grown do; and we are apt to judge a plant by its environment. This is particularly true of the Tea bush.

Anyway, the matter was worth further research, and as our journey through the Tea district would take us into new country and half way back to Ukhrul by a different route, I welcomed the opportunity to combine plant hunting in general with hunting for a particular species of economic plant.

We spent one more day at Khaiyang, then set out for

Chammu, finding the return journey not a wit more pleasant than the outward journey had been. Nevertheless, we were not sorry to turn our backs on Khaiyang. Nothing that we had found on the Khaiyang mountain justified an autumn journey to collect seeds, though we had serious thoughts of climbing the Chammu peak later in the year.

Shortly after we got back to Ukhrul, about the end of May, Dr. Mukerjee followed in our footsteps as far as Chammu, and though, of course, he found in flower a number of plants we had not seen, they were all low-level sub-tropical, and he showed us nothing to make us want to change our decision to write off the frontier range as a dead loss.

By that time the increasingly hot weather had brought out hordes of biting flies, while the muddy, overgrown path was alive with leeches; indeed, it required considerable courage to undertake such a journey at that season of the year — but Dr. Mukerjee never lacked courage.

CHAPTER XI

IN SEARCH OF TEA

WILD Tea was reported from Manipur so long ago as 1885, but its occurrence there has never been confirmed. Indeed, nobody knows what really wild Tea looks like, or even if it exists. What has, in the past been called wild Tea has, on closer investigation, always turned out to be abandoned Tea, or cultivated Tea run wild and self-sown — a very different thing. There is plenty of Tea in the foothills round Imphal. It grows in the jungle, and nobody bothers to manufacture tea from it; but even so it has the hallmark of the cultivated Tea bush, though the trees grow thirty feet high, and one would need a ladder before one could pluck them.

Across the Manipur frontier, in the Chindwin valley, Tea has long been cultivated by the Shans. At Tamanthi, where tea is still manufactured (as in Yunnan), it looks no more — and no less — wild than does the so-called wild Tea of Assam. Our informant spoke of 'forests of Tea', and presumably this was it. We had been told by a Kuki that Tea grew wild all along the Burma frontier, and perhaps it did. We were further told that it occurred in several villages, including Mollen, Kasung, Chatrik, Maokot and Chahong (the last named, if Chinese, might well mean 'tea factory' or 'tea company'). We worked out a homeward route via the frontier range and the valley of the Phow Khong, in which most of the above villages are situated.

As mentioned in chapter x, a Kuki whom we employed to collect specimens of the local Tea, returned while we were still at Khaiyang, bringing certain information. He also told us that a species of laurel — of which he brought specimens — was used as a Tea substitute. The leaves were those of a Cinnamomum, the young leaves a rich crimson. But why

should anyone want to make tea out of Cinnamomum leaves when genuine Tea trees grew in the neighbourhood? Perhaps the aromatic Cinnamon-like leaves are used, not as a substitute for Tea, but as an adulterant, to add flavour, just as the Chinese use jasmine buds.

We stayed at Chammu on the 12th while we repacked the loads. It was a fine, hot day and all the peaks were clear of cloud — just the sort of day we should have been standing on the summit enjoying the view and seeing a number of interesting trees. In the evening we walked to the edge of the Phow Khong valley. Looking across the 3000-foot-deep chasm we could see a black wall of rock a thousand feet high crowning the eastern range. Though none of the peaks south of Hkacha Bum, where the frontier turns south, is so much as 7000 feet high, this line of straight black cliffs running on for miles — the 'Great Wall of Burma' — is very impressive; it recalls the Rift Valley of Africa.

The Phow Khong rises in Hkayam Bum and flows south through the valley of Tea to join the Nam Panga. It is, in fact, one of the two source streams of the Nam Panga, the other (and larger) source stream rising, appropriately enough, on Sirhoi. The wide valley of the Nam Panga gives easy access from the Chindwin valley into Manipur, and has no doubt been used for very many centuries. Buddhism does not appear to have been brought into Assam by this or any other route; at least it never flourished there although the twelfth-century Shan conquerors were, theoretically at least, Buddhists. But I was not a little surprised by the number of Burmese gongs, especially the spinning axe-blade gongs used in Burmese monasteries, seen in the Phow Khong villages from Khaiyang southwards.

On May 13th we started. We had been promised two fairly tough marches to Mollen, in the heart of the Tea district, and this proved to be no exaggerated description.

Chammu, like other villages along the border, comprises two separate parts, Kuki and Tangkhul, besides out-villages of a

few huts. It was a long, steep descent through pine woods to the river, a rushing torrent about two and a half feet deep. In the rains it would be unfordable, but now it was comparatively easy to cross, as an island divided it into two streams, each ten or twelve yards wide. Sub-tropical jungle fringed the bank and filled the gullies with an assortment of trees alien to the ridges, for the river bed was not much more than 1500 feet above sea level. A tall tree with a crown of white blossom was perhaps *Derris robusta*; I noticed also Indian horse chestnut (*Aesculus assamica*) and *Duabanga sonneratioides*, which is quite the gawkiest and most unlovely tree in the jungle; even the large white flowers are gauche.

Unfortunately we had no sooner reached the river than it began to rain, gently at first, then harder, finally in torrents. We halted on the far bank for a snack lunch, and found the path up to Kasung slippery. Just below the village we passed a huge champak tree (*Michelia champaca*) in full bloom. Its trunk towered up, pale, smooth, unbranched like a cathedral pillar, for perhaps a hundred feet, so there was no possibility of getting a flower. It scented the air all around. We had collected a single plant of the 'red Vanda' (*Renanthra coccinea*), which is a lovely colour like red morocco leather, but the flowers are somewhat spidery, as though waiting motionless to trap the unwary.

The Kukis put a hut at our disposal, so we did not have to bother with tents.

It was unfortunate that we nearly always started the day's march, when we were fresh, by descending one or two thousand feet, and ended it with a long climb up to the next village when we were not so fresh. It had been so in marked degree this day, hence it was not surprising I felt tired out. But we were not to get off too easily. After supper we were just settling down to write our diaries before turning in, when there came a knock on the door of the hut, and in walked the headman, holding aloft a pine torch which spluttered and smoked like a firework. He was followed by a woman carrying a black

earthenware pot, and a man grasping a long bamboo water vessel or *chung*. It was obvious we were in for an alcoholic session, and Jean would be expected to hold a midnight clinic with all the mystery and ceremony of a midnight Mass. I braced myself for the ordeal.

Our visitors squatted down, poured some water from the *chung* into the pot, which contained fermenting rice, brought out a long bamboo siphon, and proceeded to draw off some of the hissing liquor into glasses. It tasted like a milk shake made with flat soda. We now perceived through the open door a sea of dimly outlined faces; evidently most of the village were gathered round — the night air was warm and fragrant with the cloying scent of champak — watching their opportunity. It was the children's hour, and as soon as we had quaffed 'wine' the mothers began to arrange their children as though setting up a baby show. Most of them were still suckling, and several resented this departure from routine. One tiny tot was brought in and, with no outside help, stood up boldly for inspection. Somehow Jean managed to elicit the nature of the symptoms, or a colourful imitation thereof, prescribed the right (or, just as likely, the wrong) medicine, and — what really mattered — gave the proud mothers confidence. In due course the infantry inspection ended, the headman and his young wife departed (taking the still with them), and we were left in peace. It had been a trying day.

The only cultivation this side of the river comprised temporary clearings; there were no terraced rice fields, though sometimes the steeper slopes would be revetted. Various crops included maize, and a bean with immense seeds twice the size of an ordinary broad bean, smooth skinned, of a dead white colour, and hard as ironwood. No references to this country would be complete without some account of these astonishing Kuki beans. Unfortunately I did not see them growing. They had certain characteristics which, if it did not make them magic, at least added a dash of mystery to them. We were told they

must be soaked in water for a week to soften them before cooking. However, there was a difference of opinion here, some saying a week, others a month; but all were agreed they must be well soaked, in order to extract the poison. If you omitted to do this, the bean curd would make your head go round and round like the sieve in the song of the Jumblies. For my part I could not see how it would be possible to cook them at all without first soaking them.

Later we obtained beans which, it was alleged, had been soaked for a month, and Mangalay cooked them. They smelt terrible, and even more terrible after cooking. In this they resembled the durian, without the durian's delicious flavour. On the contrary, they tasted of nothing at all — a sad disappointment. Meanwhile the foul odour was all too prominent.

Here, then, was an outsize bean, certainly nutritious, with an excellent floury texture, easily cooked, yet taboo by reason of its vile smell. That is a heavy liability (though admittedly it does not prevent thousands of people from eating durians — or even gorgonzola). Moreover, a bean which, whatever its food value, has to be soaked in water for a week (or a month) before it is fit for human consumption, and that even after it is cooked just stinks, is still further handicapped. The public has a sensitive nose, nor does it expect a simple boiled vegetable — as it might be, a bean — to smell far worse than boiled cabbage. Nevertheless, one felt that the Kuki bean in its unknown pod had been hiding its light under a bushel too long. Something should be heard of it in the great world beyond the valley of the Phow Khong. True, it had serious blemishes; yet it might prove as valuable as the soya bean. However, of the beans I examined, ninety per cent were eaten out from within, a small circular hole marking where the thief had gone in — or, perhaps, where it had come out.

A not too difficult traverse under the shadow of the great wall of Burma brought us next day to Mollen. As usual, we began with a long descent through pine-oak savannah with

scattered date palms. Children were eating green 'dates',[1] unripe and astringent as they were. Then came rough going over spurs and across *nallas*, most of them dry, though they would fill up before long. Early in the afternoon we climbed steeply up to the Kuki village of Mollen, above which the sandstone cliffs culminated in fantastic formations. Here half a dozen shaggy huts stand in a little clearing barely 4000 feet above sea level, beside a torrent whose deep bed is jammed with red sandstone boulders.

In the evening we walked up the wooded rock-strewn slope to the foot of the round-faced cliffs; here and there narrow strips of cultivation ran along the ledges or between two buttresses. To the south, fifteen or twenty miles away, the eye caught a loop of the Chindwin, which shone like a silver horseshoe. Mithan were nosing about ponderously in the thicket. They are large, gentle creatures, coal black with white stockings, and generally a white blaze on the forehead; but they looked so determined when we came suddenly face to face with them, and proclaimed their right to the path with such stolid non-violence, that we crept away abashed. They are confined to, and perhaps originated in, the jungle-covered hills of the North East Frontier from Assam to Burma. Only half domesticated, keeping to the neighbourhood of the tribal villages in the foothills, they are a natural hybrid between the Indian humped cattle of the plains, and the gaur (*Bibos gaurus*), the magnificent wild cattle of Burma, Malaya and Assam. That, at any rate, is what one learns from the natural history books, though a zoological layman like myself, who is on better terms with mithan than with gaur, is puzzled to know whence the former derived its short, straight, conical horns, which stick out at 45° from the side of the head. Unlike the Indian buffalo, which is one of the most dangerous animals in the jungle, the gaur is said to be shy and timid. I have never known mithan, either in the Burmese or Assamese hills, to be other than gentle.

[1] Not *Phoenix dactylifera*, the true date palm, but *P. humilis*.

It was a fine evening. The cliffs above us inflamed by the setting sun, looked easy to climb, and as there was a distinct dip in the range here, I decided to follow up the stream next day. I hoped to get an uninterrupted view into Burma from the top, besides a close-up of the palm trees which were almost the only trees growing on the naked sandstone. They grew isolated or in small clumps and rows, stiffly, often leaning far over the edge, and had a curiously unfinished appearance, as though they had been left over and forgotten from an earlier geological age.

Below Mollen was a wide valley with the Phow Khong flowing due south, and on the opposite ridge, three and a half miles away, the village of Chatrik on the bridle path. Between Mollen and the river there stuck up from a broad platform a conspicuous rock pyramid several hundred feet high, so that its summit was almost on a level with Mollen, but separated from it by a deep gulf. The near side was exceedingly steep, and bathed in mist it had the appearance of a *nunatak* — indeed, it seemed likely that it owed its origin to ice action.

Under this peak, they told me, but on the far side between it and the river, wild Tea grew — it would take at least two hours to walk there. However, in confirmation of their statement, they showed me tea drying in the sun, whole leaves, young but of ample size, spread out on a mat. It was tea all right. In the sun it goes black and has a slight twist imparted to it.

As we had to re-cross the Phow Khong in order to reach Chatrik, I decided to send the porters ahead with the kit next morning, telling Mangalay to make a camp beside the river; we would join him there after visiting the Tea. But first I wanted to climb to the top of the frontier range.

We started at 8.30 under a cloudless sky, with a promise of great heat later, the porters down the hill towards the river, myself with the Oaf and a local guide up the hill towards the foot of the cliffs. Jean wisely decided to wait for my return to the village. It was further than it looked, and we soon lost any semblance of a track and had to cut our way through groves

of bananas which spring up wholesale wherever the vegetation is burnt over. Before long we were climbing, and the gulley selected as the best line of attack proved deceptive, as the rocks were loose. However, we reached the first palms in seventy minutes, and I stopped to take a photograph barely 200 feet from the top. Just below us a startled gooral whistled like a runaway railway engine, and crashed out of sight into the jungle.

From the broad saddle we looked straight down into Burma, the hills flaring out suddenly to the plain of the Chindwin — a meagre stream to have carved out so flat a valley. One suspects that a larger, more powerful river, long since vanished — a river strong enough to make or mar its own destiny — did the spade work. Homalin lay scarcely a dozen miles away to the south, and but for a dazzling sun in front of us and mist over the plain, through which broken arcs of river shone like loose bits of ectoplasm at a seance, we would have seen it.

Besides the palm (*Chamaerops Fortunei*), a screw-pine (Pandanus) grew on the hot naked cliff of grey sandstone, but it did not reach the top. There was very little else. Not far from the saddle is the highest point hereabouts, 6059 feet. The Pandanus, an untidy, primitive looking tree with a branching trunk some fifteen feet tall, and long unarmed leaves split for half their length, is bizarre rather than beautiful.

We returned to the village by a longer, but rather easier route through the forest, presently joining a rough but evidently much-used track which went south from Mollen. The first part of the day's programme had occupied three hours.

After a short rest and a snack we set out, still with our guide, for the Tea. The descent into the valley, under a brazen sky, was rather tiresome, and as we had to circle the isolated pyramid from the south, I began to realize that we had a long day before us. In fact, it took us over two hours to reach the dry bamboo jungle where the Tea grew, mixed with a variety of small trees and large shrubs. The Tea trees were not more than thirty or forty years old, and fifteen or twenty feet tall.

There had probably been cultivation hereabouts at some earlier period, though there was no sign of human habitation now.

As for the Tea, it was not unlike the variety known to planters as Assam Indigenous, or Dark Burma. It might well have passed as wild Tea, to the uncritical; but I came to the conclusion that it had formerly been cultivated here, in the casual way in which Tea *is* cultivated on a cottage scale — that is to say, permitted, even encouraged, to grow at the expense of other trees, but not receiving any favoured treatment. I saw neither flowers nor fruits. It may be remarked that we were now in the valley of the Nam Panga (or at any rate in the valley of the Phow Khong close to its confluence with the Nam Panga), and so within easy reach of the Chindwin. What more natural than that one should find a chain of Tea plantations, in all stages of disuse, dotted along this ancient trade route! The Shans, who seem to have been largely responsible for the spread of the Tea bush in early history, passed this way; and it appeared to me a fact of no little significance that, not merely Tea, but the tea drinking habit, should be found here.

It was now long past midday and unbearably hot. Our one desire was to reach camp as early as possible, and I had pictured to myself an easy walk of perhaps three miles beside the river. The path, so far as I could judge, set out in the right direction. We crossed several dry rocky *nallas*, and presently came to a stream, which made me more than ever convinced that there had formerly been cultivation nearby. The river was now less than a mile away, but this was the nearest we got to it. For the next hour we had to struggle up and down — but chiefly up — through thick jungle, till we had almost completed the circuit of the sugar loaf hill. There was no path.

Finally we found ourselves close to Mollen again, and it was in a chastened mood that we started for the river a second time, now following a steep ridge. At 4.30 we reached it, and found our tent pitched on a sandbank on the far side. I had been

slogging up and down these steep hills under a grilling sun for eight hours, and was dead beat. The inside of the tent was like Arabia in July, but it was pleasant outside. We had tea, then walked downstream to find a quiet bathing pool. After a swim I felt better, and we lay on the rocks carefree, drying in the sun.

We had supper while there was still a glimmer of light in the sky, then lit the hurricane lamp. The temperature inside the tent was 82°, and we left the flaps wide open to catch any breeze.

Suddenly the sky clouded over, grew black as ink. Without the least warning a thunder storm broke right overhead, and the rain poured down. We dived for cover, letting down the flaps of the tent as we did so. It was already too late. In a matter of minutes the tent was filled with flying ants. Hurriedly we put out the light, tied down the flaps, lit mosquito coils, rubbed citronella oil on our faces, got out fly swatters. Too late, the damage had already been done! The rain had softened the ground, and the winged white ants were emerging in millions.

Hour after hour we lay awake, tortured by the tickling of termites which shed their wings everywhere in hundreds — in our eyes, our ears, our hair, our noses, in our food, in our beds, and — worst of all — inside our pyjamas. There was nothing we could do about it; the fluttering, crawling termites were all over us, everywhere. We dared not light the lamp again, because we could not seal up the tent; so we lay and endured the most appalling torture I can imagine — being tickled to death! And towards morning we dozed fitfully. . . .

Day broke at last. It was warm and moist, the clouds right down in the valley. An ascent of nearly 3000 feet brought us to Chatrik, a small Tangkhul-and-Kuki village on the bridle path. The schoolmaster took us to an empty house consisting of one large room, which showed signs of having recently been lived in. We spread out our wet clothes, wet tents, wet everything, and were soon on good terms with the world.

Tea is not the only sub-tropical crop which grows in this warm corner. We obtained some quite passable bananas. A few miles to the south the flat Kabaw valley offers almost as easy a route into Burma as the Chindwin itself.

Having had practically no sleep the previous night, we went to bed very early. About midnight Jean woke up, and shortly afterwards woke me.

'What's up?' I asked, crossly but sleepily.

'Sssh! There's a man in the room!'

'You're dreaming,' I said unsympathetically, 'it's only me,' and turned over. I rarely feel sprightly at that hour.

'He's probably stealing the waterproof sheets,' she added with malicious zest, well knowing that they were the one thing I believed nobody could resist, the one thing we could not do without. At the word 'waterproof sheets' I sat up and listened. The room was in total darkness; I could hear nothing.

'He was holding a pine torch above his head,' she persisted; 'immediately he saw me watching him he blew it out. I'm sure he's still here.'

I was now certain Jean was having one of her nightmares, and the more she whispered that he must still be in the room, that she had seen his face in the light of the torch and would recognize him again, the less inclined I felt to get out of bed and investigate. It was, I repeated, a vivid nightmare. And at that moment somebody coughed.

'Why didn't you wake me while he was snooping round with the torch?' I grumbled under my breath, getting quietly out of bed. Then I struck a match and held it aloft. As I have said, it was a large room, and the match light did not penetrate far; but it was far enough. Sure enough, there *was* a strange man in the house; he was stretched out on a shelf in the corner. At first I thought it was a corpse laid out; and then after a minute or two that it was, as Jean had suggested, a thief disguised as a corpse. At any rate it had been alive half an hour previously. I tiptoed back to Jean and told her of my discovery in a stage whisper. She was not at all surprised.

'He must be the fellow who owns the house,' I said. (And so it proved.) 'I wonder what he thought when he came back and found *two* strangers in his room!'

We were now back on the bridle path, four stages from Ukhrul. Leaving Chatrik on May 17th we reached Humhlang the same afternoon. Several species of Strobilanthes are common hereabouts, growing in colonies as densely populated as any industrial slum. We also saw clumps of fine tree ferns (Alosphila), which seemed particularly at home on this ridge 5000 feet above sea level. But the most exciting plant we found was a solitary 'wild' Tea tree, near the village of Maokot. In autumn the leaves turn red; and Dr. W. Wight, botanist at the Indian Tea Association's Research Station, Tocklai, tells me that it is the Indo-China (Cambodia) type of Tea. This very distinct geographical race from the extreme south is characterized by intensely red, sometimes almost blood red, autumn foliage, due to the presence of an anthocyanin different from the anthocyanins present in other types of Tea leaf.

It had long been known that a distinct race of Tea grew in Indo-China, but it is only within recent years, due to the work of Dr. William Wight, that some of the most distinctive characters of Indo-China Tea have been recognized as occurring also in cultivated Assam Tea. This is, of course, easily explained on the assumption that long ago there was traffic in Tea plants or Tea seed between Indo-China and Burma, and thence between Burma and Assam. The earliest known migrations in South-East Asia were from north to south, from the teeming womb of Central Asia outwards, following the river valleys; and it is, of course, just as likely that Cambodian Tea originated in the Burma-Assam region, as the reverse. On the other hand, both

Cambodian and Assam Tea may have originated from a common source, not yet discovered.

The Shan dispersal took place in all directions from a focus somewhere in south-west China; and it is quite remarkable how, wherever we find Tea in South-East Asia, whether semi-wild or cultivated, we find Shan settlements nearby. Whether we regard Assam Tea as derived originally from Cambodian Tea, or *vice versa*, depends largely on what age we assign to these well marked types. They may have diverged a few thousand years ago, or a few hundred thousand. It would be more convenient, in the light of our present meagre knowledge concerning the distribution of Tea, to regard both types as derived from a common ancestor. At least we cannot doubt that Assam Tea came into east India via Burma and Manipur, and that it was brought thither by the Shans.

During the past 5000 years there has never lacked the means for the dispersal of Tea by human agency over South-East Asia; nor the geographical barriers necessary to isolate types on the fringes of the vast territory involved.

The only other place where we found Tea was in the foothills north-east of Imphal. Here, in the wooded gullies above the paddy land, some 3000 feet above sea level, I found groves of Tea trees about thirty feet high, now semi-wild, but clearly once upon a time semi-cultivated.

This digression on Tea is not, as some might think, purely academic. It has a very practical object — the discovery of the original wild Tea plant (if, indeed, it exists). There is no proof that it does, of course; neither is there any proof that it does not. What is certain is, that the discovery of wild Tea would be of the greatest value to the Tea industry. It is as important to the breeder to start with a 'pure' race of Tea as it is for the chemist to start with pure chemicals.

CHAPTER XII

THE MANIPUR LILY

It rained heavily in the middle of the day, and we picked up several leeches. When it stopped raining and the sun came out, yellow-banded blister flies made their appearance and settled under our wrists and behind our knees. At Humhlang sandflies were a public nuisance. One way and another, still-life was waking up and becoming mobile.

There are fewer pine trees on this side of the Sirhoi range — we saw scarcely any from the time we left Pushing till our return there — and this can only be ascribed to heavier rainfall. The Khasi pine does not thrive with a high rainfall, and for that reason is difficult to grow on the plains. An ideal situation for it would be the sandstone cliffs above Mollen, but there it was entirely absent, its place taken by palm and screw-pine. The rainfall at Mollen is probably not far short of 200 inches.

Our *basha* at Humhlang leaked. We turned in early because of the sandflies. Awakened at midnight by drips, I got out of bed and stepped ankle deep into a lake which was pouring in a stream under the door. It had made a small archipelago of our camp beds and chairs, and we were glad we had not elected to sleep on the ground.

From Humhlang we followed our outward route back to Ukhrul. Life was stirring everywhere. Gorgeously coloured swallowtail butterflies defied the rain; many unfamiliar plants had burst into flower; new birds appeared. Along the bank, especially in cool deep gullies where the slope was rocky, species of Begonia were prominent. The curious thing about this genus — of which there are probably forty or fifty species in Assam alone — is that while the leaves show great diversity, the flowers are remarkably uniform (at least at a casual glance),

and are almost always white. Only the ovary and, of course, the ripe fruit show much variation.

Every day as we wound through the hills, descending to cross a stream or ascending to cross a ridge, we noticed new forms of life on the path — snakes, lizards, frogs, porcupine quills. Down in the rice fields naked men were at work building up the bunds, puddling the mud in preparation for transplanting the young rice from the nurseries. Tournefortia, with dirty little white flowers in compact, curly croziers like sea-pens, was in bloom; it was difficult to believe that this dingy shrub belonged to a high caste family, the great majority of which are not only herbaceous plants, but exceedingly handsome. I need only mention forget-me-not, Anchusa, viper's bugloss and Lithospermum to make the contrast clear. Even our little Onosma from Sirhoi was a far better looking plant.

In the pine forest below Pushing, *Anneslea fragrans* was abundant. Its red seeds were now ripe, and we spent some time picking them out of the mud while rain fell steadily.

Next morning we awoke in the clouds, and it never ceased to rain all day. Visibility was nil, and for the second time we were cheated of a view while crossing the Sirhoi range. In the hope of finding the Manipur Lily, we climbed a grassy hill above the road, but found instead trenches and foxholes, and an unexploded aerial bomb! This complete absence of the lily was rather surprising, because the altitude was over 7000 feet, and Sirhoi itself was only three miles distant, with nothing but forest between us. That conditions were not very dissimilar is indicated by the fact that the dwarf iris, Onosma, and other plants of the open meadow grew here. But the Sirhoi lily, though it descends so low as 7000 feet on Sirhoi, clearly belongs to a higher stratum.

Along the edge of the forest, where the grass stopped abruptly, grew several trees with the foliage and flowers of a Magnolia. Most of them were in bud only, but I noticed one tree with its cup-shaped flowers wide open. It grew on a very steep slope, and some of the branches swept down to within reach of the

ground, so that I could easily get at the flowers — if I could get at the tree. With some difficulty I made my way through high grass and scrub, and secured the prize. The flowers, of an enchanting purple-rose tint, were almost as large as those of *Magnolia Campbellii*; some of them were eight inches across. The perianth lobes, nine in number, are arranged in threes — the outer three sepaloid, green or purplish brown; the middle three deep rose-pink; and the inner three cream tinged pink, the last six being petaloid. The overall colour at a little distance was purple-rose. One tree especially I singled out — it was perhaps a hundred feet tall, bearing a number of open flowers besides many buds. Though not yet at its best, it was nevertheless a lovely sight.

This *Manglietia insignis* is one of the finest of the magnolia family, and when established should be a source of pleasure to thousands who have as little chance of seeing one growing wild, as they have of seeing a giraffe running wild. I contemplated a return to the mountain top next morning, in the hope of getting a photograph of the tree, until I remembered that so few flowers had opened. Anyway, it poured with rain.

We walked back to Ukhrul instead, along the Sirhoi bridle path. A mile from our cottage we stopped to see how our best carmine cherry was faring for fruit, and were appalled to discover that it had been hacked down to within ten or twelve feet of the ground, every trunk and limb amputated and converted into a stack of firewood! This lack of social security for our best trees was extremely disturbing. The plant hunter has a bad enough time competing with birds, squirrels, and above all with insects, for the offspring of his chosen plants. To have his specially selected trees ravished by man before they can ripen their seed is worse. If our second marked tree went, we should be in a nice pickle, in spite of the frequent occurrence of the species.

As we reached the Imphal road by the derelict hospital, Dr. Mukerjee came out of his cottage to greet us, and we stood talking and exchanging news. He told us that while we had been away it had rained almost continuously in Ukhrul, the

worst spring rains within living memory. He himself was starting for Chammu in a few days, in spite of our not very encouraging report. Then I asked him the question that had been burning my tongue all day: had the lilies we brought down from Sirhoi and planted by the cottage flowered yet?

Yes, they had flowered some days ago and were now almost over; he had not seen them for a day or two, but doubted whether there was anything of them left. The rain. . . .

We did not wait to hear more, but in mad excitement went racing round to Cobweb Cottage. Surely we could not be too late! Why, we had been away only just over three weeks! Besides, it was still May; the lilies would hardly open on Sirhoi before June. Alas! I had forgotten that Ukhrul was 2000 feet lower than Sirhoi, and much less exposed. Mukerjee was right. We were only just in time to see the flowers at all. The few still remaining were almost done, and so knocked about by wind and rain as to give no idea of their real worth.

I have written throughout as though there was never any doubt from the first that this plant is a true lily — Lilium. But there was considerable doubt, even now. As the Manipur lily is likely to become within the next ten years, if not so popular as *L. regale* or *L. auratum*, at least as well known, this is a good opportunity to summarize briefly the history of its discovery and introduction.

As recorded in chapter 1, I found the plant in fruit in January 1946, only at that time I considered it to be a Nomocharis, not a lily. This opinion was, of course, founded mainly on the appearance of the dry capsule and shrivelled stem leaves, as well as on the small size of the plant — not above twelve or fifteen inches tall, with one or two flowers on the stem (I found only small plants that day). Even when I dug up half a dozen bulbs, they were at least as much like Nomocharis as lily bulbs, the plants being immature; and though I did not rule out the possibility of the plant being a lily, I stuck to my opinion that it was a Nomocharis.

I suppose most people have some idea of what a lily looks like. But what is a Nomocharis? The sagacious will by this time have reached the conclusion that a Nomocharis is 'a sort of lily'. And they will be right; so right that the pundits of Section K[1] (that is to say, botanists) are by no means always agreed as to whether a particular species is to be regarded as a rather nomocharoid lily, or a rather lilioid Nomocharis. And that is as it should be, on any theory of evolution. Nature abhors a species, as my father used to tell me.

It is tempting to suggest that Nomocharis is never found below, nor Lilium above, 10,000 feet altitude, in Sino-Himalaya — the only region in the world where Nomocharis occurs. In view of their similarity, this might seem to imply that Nomocharis is an alpine Lilium. But that simple theory raises new issues into which I cannot enter here.

Nor is this the place to discuss, analyse, and evaluate the fine distinctions between the two genera. Most gardeners — and, I might add, most plant hunters — who have seen Nomocharis growing, would ever after know a Nomocharis when they saw one. But they might be puzzled if you asked them *how* they recognized it!

In January 1946, then, I brought back from east Manipur seed of the 'Sirhoi Nomocharis', half a dozen bulbs, and several capsules, together with the relevant field notes. I sent the seeds and capsules to the Royal Horticultural Society in London, where they aroused cautious interest amongst lily growers. The bulbs I sent, half to my friend Mr. C. Gimson, British Political Agent in Imphal, and half to Mrs. L. G. Holder, an enthusiastic and skilful amateur gardener in Shillong, who had made out of sheer jungle the finest show garden in Assam.

In due course things began to happen. In April or May 1946 the bulbs, both in Imphal and in Shillong, produced a flower or two. I did not see these, either dead or alive. However, in reply to my anxious inquiries, both Mrs. Holder and Gimson

[1] The reference is to the British Association for the Advancement of Science, known to the irreverent as the British Ass.

wrote describing the flowers as nearly as they could remember them, and the descriptions were not flattering. Not that the flowers were damned with faint praise — they were damned with no praise at all. Gimson in particular did not, as I had hoped he would, 'write up' the Manipur Nomocharis; he wrote it off. Both my correspondents described the flowers in scathing terms as 'dirty white' — what there was of them; and although the descriptions were not given in botanical language, they did nothing to shake my faith that the plant we were dealing with was a third rate Nomocharis. I consoled myself with the knowledge that it had been a difficult spring and that the plants had been roughly treated when being dug out of the hard ground.

The next clue came from England. The seeds I sent home germinated, under glass, and flowered in June 1947 within sixteen months of being sown! I was a little disheartened to see the colour of the flowers described once more as 'a sort of dirty white'! It seemed to be subversive propaganda.

Botanists who saw the leaves and flowers of this plant in England now had something tangible to work on. The consensus of opinion at Kew and the Royal Horticultural Society seemed to be that it might be *either* a Lilium *or* a Nomocharis — but not both. It was a border line case, and there was a certain freedom of choice. But if it was regarded as Nomocharis, then, as Mr. W. T. Stearn, Librarian to the Royal Horticultural Society pointed out, there was no reason why half a dozen species hitherto regarded as lilies, should not be transferred to Nomocharis; an unpalatable dilemma. This was too much to swallow — it meant recasting both Lilium *and* Nomocharis — nor would it make the distinction between them any sharper. The only alternative was to scrap the genus Nomocharis entirely, call them *all* lilies; and this the pundits — quite rightly, in my opinion — were loath to do. Nevertheless, as a field worker, I still think this plant looks more like a Nomocharis than a lily.

Rather than create such an upheaval, the botanists who were keeping an eye on the Manipur plant, came over to the side of

the angels and called it a lily; and when, early in 1949, I was able to send full size bulbs to England, in addition to pressed flowering specimens, this decision was vindicated. The p ant was named *Lilium Mackliniae* by Mr. J. R. Sealy, in honour of my wife,[1] who had done so much to help me bring it into cultivation on a big scale.

The acceptance of a plant into the Temple of Flora, backed by authority for the new name, by valid description (in Latin), and inclusion in the Kew Index, is one thing; its coming out like a *jeune fille* into the great horticultural world is quite another. It is the difference between being born into Debrett, and getting there.

In October, when we visited Sirhoi for the last time, Jean suggested that we introduce the lily into England in a big way, by sending mature bulbs home; popularize it, so to speak. So, after giving a demonstration of how to hack up bulbs with an ice axe without damaging them, I commissioned Yarter to dig up a few, and by the end of the month we had nearly three hundred bulbs laid out. Of these we selected the largest and best, about two hundred in all, packed them in two bamboo baskets with a handful of moss round every individual bulb, and had them carried down to Ukhrul, whence they reached Tocklai safely in December.

Early in January 1949 we flew to Calcutta, taking with us the bulbs, now packed (still in moss) in three wooden boxes. With little delay these were dispatched to London by air, where they arrived inside a week, thanks largely to my friend Mr. A. Simmonds, Assistant Secretary of the Royal Horticultural Society, who telephoned to Paris to get them put on to the London plane immediately, instead of lying neglected on the air field for a week, and then persuaded the British Customs authorities to boost them over the last hurdle.

Thus it came about that nearly two hundred fine lily bulbs

[1] Formerly Miss Macklin. The fact that the Manipur lily has made its bow to the Western world as *Lilium Mackliniae* is no guarantee that it will not have changed its name to *Nomocharis Mackliniae* before 1960!

[*facing:* THE MANIPUR LILY, 'LILIUM MACKLINIAE'

reached my old friend Colonel F. C. Stern, greatest living expert on lilies and famous in the botanical, no less than in the horticultural world, about the middle of February, that is, some three months after they had been exhumed. Fred Stern grew them on for eighteen months, and when he exhibited a plant in full bloom at the Chelsea Flower Show in 1950, like a debutante at a coming-out ball, *Lilium Mackliniae* received the Royal Horticultural Society's blessing, in the shape of the coveted Award of Merit.

The final step was to get the surviving stock — which still amounted to well over a hundred finely grown plants — into the hands of a nurseryman, who would put them into circulation. The well-known firm Messrs. R. W. Wallace & Co. of Tunbridge Wells, lily specialists, bought the whole issue; and there we may safely leave our débutante, so lately 'presented', to come out and make history as *Lilium (née Nomocharis) Mackliniae*, known to its friends as the Manipur Lily.

But this is to anticipate events. Up to May 20th, 1948, I had never seen the plant in flower, while the botanists at home had seen only pampered, sickly specimens. So we come back to Ukhrul on that wet afternoon in late May, when we stood peering down disconsolately at the tattered and jaded remnants of our transplants, which again had done themselves no justice.

Our immediate headache now was the carmine cherry, and we visited the second marked tree without undue delay. The shock of seeing the first one cut up into billets — torn limb from limb as it were — had been so great that I was prepared for almost any horror; but the tree was intact, though few fruits remained on it. However, there were plenty scattered over the ground beneath, and we picked up over a hundred, less than half of which were good.

Next morning we took the Oaf on a personally conducted tour, showed him one or two cherry trees, and left him to get on with it. He returned twenty-four hours later to Cobweb Cottage with no cherry stones, and half a dozen drooping weeds

of cultivation. As he had long since reached the nadir of our contempt, he could sink no lower. On the last day of May we picked up 211 cherry stones, of which fifty-two proved to be good — not a very high proportion.

A heavy toll of seed life is taken by insects, both while the fruits or seeds are lying on the ground before germination, and also while the unripe fruits are still on the tree, eggs being thrust inside the soft ovules long before they ripen and become seeds. The emergence of the grub from the egg is nicely timed to coincide with the ripening of the seed, and whereas the feeble grub could never eat its way into the fruit from the outside, by the time it has consumed the nutritious contents, it is quite strong enough to eat its way out and continue its depredations elsewhere. In the biological control of weeds, both their insect enemies and their insect friends must be considered; the former with a view to encouraging their attentions. Thus it becomes of the utmost importance to know what insects are associated with what plants, at *all* stages of growth.

Everything was putting on weight now, growing fast, and we found many trees and shrubs which we had hardly noticed as yet, including species of Viburnum, of which there were four or five, besides others on Sirhoi. The most remarkable of these was a small deciduous tree whose unusually large mulberry like leaves had already attracted my notice. But these were saplings which would not flower for another year or two. Now we found more mature specimens, their leaves smaller, though still large by Viburnum standards. We watched them jealously, and before May was out every branch ended in a festoon of creamy yellow fragrant flowers, which turned deeper yellow as they grew older. The plant had much the appearance, as well as the loose, swinging panicles, of *V. erubescens*; but yellow — even pale yellow — flowers are alien to Viburnum. By August the flowers had been replaced by hard crimson fruits, which remained for a fortnight or longer before suddenly turning black and soft overnight; they were ripe.

Much rarer than most was an attractive-looking little tree

which bore hawthorn-like corymbs of almond scented flowers. It was not quite a hawthorn, however, though it might have been a Stranvaesia, which is of the same family. Unfortunately I could find only two specimens, neither of which bore more than half a dozen flower sprays. The small yellow berries, which were ripe in December, recalled Pyracantha. I took a deep interest in this unidentified tree, not (as Jean unkindly suggested) simply because it happened to be rare, but because I thought that a specimen in full bloom would be handsome. In the end I secured a few seeds of it.

In damp shady *nallas* a curious shrub, *Dichroa febrifuga*, was coming into flower. Both flowers and fruits are the same colour — a deep, hedge-sparrow egg blue, which is charming. It belongs to the Hydrangea family (*Saxifragaceae*), though there is nothing rock-breaking about it.

Rosa longicuspis was in flower at last. The paper-white flowers are borne in large clusters; they have corn yellow stamens, and the styles are fused into a column; no scent. A careless bramble, its long untidy branches with their bunched heads of flowers sometimes hang in graceful festoons. Thus we enjoyed a succession of dog roses throughout the early months of the year: first, the incomparable *Rosa gigantea* in March; then in April *R. sericea*; and finally, in May, *R. longicuspis*. The specimen of this last which we had come across in flower two months previously, was obviously a premature birth.

A species of Macaranga, very handsome in young flower, attracted attention by reason of its tall cylinders. The flowers have no colour, but the spikes stand rigidly erect like cathedral candles, setting off the bold, glossy leaves. Macaranga is one of those soft-wooded trees which grows very fast, and requiring no shade, comes up freely in clearings. It is less common in climax forest, where, however, it grows to a large size in its struggle to reach the light.

A honeysuckle (*Lonicera macrantha*) was also in flower. Though not so handsome as the English honeysuckle, the tight clusters of black berries in autumn deserve notice.

For a week after our return there was little improvement in the weather. It continued to rain, especially at night, with thick mist sailing over the ridge by day; but as the end of the month approached, it began to grow warmer, with maximum day temperatures of 70° or more.

We dared not delay our proposed journey to Sirhoi much longer; unless we went in the first week of June, at latest, we would be too late. Our Ukhrul plants were in flower before the middle of May; on Sirhoi's green top they would be at their best in early June — or so we reckoned. But when we tried to get porters to carry our loads, we found everybody so busy they hardly had time to say no, as they hurried off to the rice fields.

On June 1st we walked to the West Mountain again, repeating our walk of April 1st. Our main object was to discover whether the magnolia which grew on the col was the same as the one I had found in flower above Kangkoi on May 19th, or not (*Manglietia insignis*). A comparison of the herbarium material suggested that it was, but it needed confirmation.

As usual, there was thick cloud over the ridge in the early morning; we decided to wait and see before starting. But the day turned out fine, and starting at eleven, we walked so fast that we were over the col and into the precious shade of the forest before one o'clock. As I had expected, the West Mountain magnolia proved to be *Manglietia insignis*, but the flowers were almost all over. Few magnolia flowers last long, at any rate in this climate. They grow so rapidly that the outer petals are sometimes falling by the time the innermost are fully expanded. The American *Magnolia grandiflora* grows quite well in Upper Assam, but the pink stamens are dropping, and the milk-white petals beginning to turn brown, on the third day; and it is only the fact that the magnificent blooms open in long succession — coupled, of course, with the very beautiful glossy evergreen foliage, foxy red beneath — that makes it worth cultivating there.

Our giant maple, draped with thousands of little crimson tassels, looked more beautiful than ever.

It was pleasant in the cool, damp forest with the greenish light drifting through the lace-like canopy, exquisite ferns carpeting the banks, and a stream tumbling over the rocks where forktails, barred with black and white, flitted suddenly through the gloom, screeching. We heard the English cuckoo again, too.

So the first rapturous days of summer slipped by, and we began to grow seriously alarmed. We talked to Mangalay, told him how important it was for us to camp at Sirhoi *now*, told him he *must* get us porters. When would the urgent work in the rice fields be over? He did not know. In a week? Certainly in a fortnight. It did not matter . . . it would be too late.

One sunny afternoon we walked along the ridge to Humdum, where so many good trees and shrubs grew; we felt despondent. Sirhoi was clearly visible, its open slope flashing green.

It was like early summer in the country in England. The day was warm, but not too hot, and daylight lingered on into fragrant twilight. The sky was blue, but not cloudless; the air soft and caressing, sweet with the scent of flowers and the clean smell of fertile earth. Morning and evening birds sang, whistled, and called, mate to mate. Never had the mountains to north and south, to east and west, looked so close, so colourful, or so desirable. Already ten days had passed since we first beheld our poor lilies, battered and splashed with mud. Unless we returned to Sirhoi immediately, what hope had we of seeing those green slopes as we had pictured them, gay with lilies — even of seeing lilies in flower at all? The chance was slipping from us; we should have to wait a full year before it came again. And we *knew* the lilies were there in their hundreds — had we not seen them in April?

Nevertheless, the heavy and continuous rains of May might have been disastrous to them, unless (possibly) they had delayed till the fine weather returned. Otherwise the fate which had overtaken our garden might be theirs too. We *must* go and camp on Sirhoi and see for ourselves — and we must go at once.

Now for the first time we had come up against the hard facts

of peasant life; that is, against the urgent need of the primary producer. It was the rice planting season, and every man, woman and child in the village was at work in the fields from dawn to dusk. No one could spare so much as a day off — their very lives depended on the work they put in now. Money meant less than nothing to them, for it would not buy food — only the earth produced that. And after days of vain inquiry, we had learnt emphatically that we should not get transport till the paddy had been planted out from the nurseries to the *khets* — the terraces of running water — which meant for two more weeks, no matter what we offered.

CHAPTER XIII

THE GLORIOUS FIFTH OF JUNE

OCCASIONALLY into the life of the plant hunter there comes without warning a day of utter depression, a blank, empty, grey day when one does not know what to do, and does not want to do it anyway. One feels physically slack and mentally despondent. Suddenly, for no apparent reason, life has become a vacuum, and one is in the midst of it. One does not want to go out, however inviting the weather (these depressions have nothing to do with meteorology); nor, on the other hand, does one want to stay in. One picks up a book, only to throw it aside after a few minutes, having taken in nothing. Clearly one has no inclination to read, still less to write; and very little inclination to eat anything (except worms).

This mood does not come from frustration, nor even from conscious exhaustion. It leaps upon one suddenly out of the dark, striking one down like infantile paralysis or the black death, the only difference being that one is quite certain to recover in time, however severe the attack. While it lasts it is not restful.

I do not suppose this malady — for which there is no known cure but time — is peculiar to plant hunters. Perhaps most people, or at least most people of a not too sanguine temperament, are occasionally deflated in the same way. But the life of the plant hunter, with its weeks of restless boredom illuminated by flashes of ecstasy, is peculiarly exposed to such attacks of indolence, the result, perhaps, of alternating tensions.

Happily the low pressure fits, though not exactly rare, are not of weekly occurrence. They are more than compensated by the high pressure days, the memorable glad days in which every detail stands out sharply as though carved in stone; days

of successful endeavour in which some long-term project has been brought to a triumphant climax. Such happy days, too, must occur in every man's life, rare days, never made stale by repetition, days apart which stand out from the ruck of weeks which make up the steadfast routine of life, as contrasted with living.

Public anniversaries, of course, are celebrations in which we take part because we too have received benefit from a triumph so great that it has affected the lives of millions; but the sweetest anniversaries for most of us are those intimate ones which we celebrate privately.

June 5th, 1948, was for us the most memorable day of a memorable year. It came about unexpectedly, but quite naturally, as a result of the near despair described in the last chapter.

It was while we were returning to the cottage on the afternoon of June 4th, sad at heart, our last hope of camping amidst the lilies gone, that the great idea came to us.

'Of course,' I said, 'we could walk there and back, just to *see* the lilies. It *could* be done in a day, I suppose.' If there was a note of doubt in my voice Jean ignored it, seized on the idea.

She said instantly: 'Let's go tomorrow! I'll get everything ready at once.'

That was it: act quickly and give ourselves no time for second thoughts. All that mattered was to get there in daylight; surely if we did that, Providence would do the rest.

We were a little doubtful about times, but we worked it out to the nearest hour or so. There was no doubt it would be a long, tiring walk; and if we stopped to consider every aspect of it, we might have — *I* might have — abandoned the idea. But Jean was firm.

The walk to our camp at Sirhoi village in April had taken us about four and a half hours. That included loitering to look at and to collect plants, and a sit-down lunch. It was not more than seven miles. From our camp to the top of the mountain and back had always seemed a fair day's outing, and had never

taken us less than six hours, but that also included two or three hours on the actual mountain. In the thrill of plant hunting on one's chosen ground, time ceases to exist. Yet to do *both* in one day, *and* the seven miles back to Ukhrul, seemed at first sight almost like midsummer madness. Should we have any time at all on the mountain? On the other hand, subtract the hours spent poking about for plants, making short excursions to explore gullies, examine cliffs, and having sit-down snacks, and the actual time spent walking the twenty-five miles straight there and back was not a large proportion of the day. If all we wanted was to see the lily in bloom — and that, we kept assuring ourselves, was all we intended to do — well, there need be no difficulty.

'We mustn't waste time over any lesser plants,' I warned Jean. 'It's strictly business, the lily first and last.'

'Of course,' she agreed, tongue in cheek. 'Still, we'll take a press, just in case. Besides, we shall have to collect specimens of the lily anyway — *if* we find it still in flower.'

We decided that we must walk fast and not stop to collect plants on the way. After all, it might not be necessary to go to the very summit of Sirhoi in order to see the lily.

Meanwhile Jean was turning Cobweb Cottage upside down preparing picnic meals — thermos flasks of hot soup and tea, packets of dates, cheese and biscuits. A light press, cameras, field glass, and other tools of our trade were also got ready. Mangalay, whose home was at the other end of the village about a mile away, was to sleep the night in the cookhouse and prepare an early breakfast. The Oaf would accompany us, carrying one basket, and we found another boy to carry the rucksack with my quarter-plate stand camera. They, too, slept on the premises.

Over an early supper we discussed the plan of campaign, arranged final details. If the weather kept fine we could reckon on fourteen hours of daylight, light enough to follow the bridle path at any rate. The total distance to the top of Sirhoi and back was about twenty-five miles — nothing exceptional on the

flat, but of course there was very little flat, and the total ascent would be about 3000 feet, and the same down. We would start as soon as it was light enough to see, and go high enough to be amongst the lilies. After that it scarcely mattered — after all we *could* fall by the wayside, or sleep in Sirhoi village — though by this time it had become rather a point of honour to complete the job in a day.

That evening the sun set placidly in a lake of pure gold behind the violet hill; there was no moon, and the stars rose majestically into the cold, cloudless sky. We felt certain that the fine weather would continue. Jean had taken all precautions to ensure an early start. She set the alarm for 4.30 and put it by her bed. (We were keeping double summer time, and it was barely light, even in June, by 6.30.) Then, having once more gone over our preparations, we ate our supper and shortly afterwards went to bed.

The blare of the alarm clock woke us un-gently at the appointed hour. We got up promptly, if not eagerly, lit the lamp — it was still pitch dark outside — and dressed hurriedly. A rooster crowed far away, and his challenge was taken up aggressively nearer home. Mangalay brought us tea — and how welcome it was in the cold and darkness before dawn! We ate a simple but adequate breakfast in silence, and shortly after six were on our way. The sun had not yet lighted up the Sirhoi skyline, and dew lay on the grass. A haze of blue smoke hung over the village as we turned down the flank of the ridge.

That early morning walk in the slowly growing light, with birds greeting the dawn all round us and a nip in the air, was a joy. We felt exhilarated. We talked little, and having got rid of our stiffness, travelled fast; or so it seemed, for when we reached Sirhoi village and looked at the time, we found it was barely 8.30. Only one thing had caused us to falter for a moment in the first seven miles, and that was an unknown orchid (*Dendrobium*) which hung out a banner of white and purple flowers from the fork of a tree. We glanced at it,

marked the spot, and left it to be picked up on the way back.

The villagers of Sirhoi were just opening their doors as we passed, and greeted us with smiles, knowing us to be mad anyway, though harmless. A file of girls going out to work in the fields followed us along the ridge to the foot of the long climb, chattering and laughing amongst themselves.

At last we were clear of the pines, and of cultivation, though still with some second growth ahead of us; and the view began to open out below. We had been going steadily for three hours, and felt we had earned our first rest. So after another sharp ascent we sat down at Arthur's Seat, in the oak wood, with the panorama of hills, range on range to south and west, spreading away to the distant horizon, and the dark trees of Ukhrul strung like sombre beads along the hogsback two valleys away. The sun was hidden from us by a narrow bank of cloud, but it lit up the western hills.

On we went again up the steep slope, and now we were on the threshold of the first belt of natural forest which crosses the track. From this point onwards we expected to find plants. Before entering the forest, however, we turned aside along a narrow track to the left to look at the little colony of *Primula filipes* I had found growing on the bank. There were a number of scattered plants coming up which would flower next year; but it appeared to me that the colony was scarcely holding its own, and might die out altogether within a few years. We went on to look at a single plant of *Cardiocrinum giganteum* (*Lilium giganteum*) which Jean had discovered on our previous visit, and which she was anxious to see in flower. The stem, straight as a flagstaff ten feet high, bore eleven fat rotund buds, but they would not be open for some time yet.

We returned to the main path and plunged into the forest, climbing steeply and clambering over fallen tree trunks. The serious work of the day was about to begin.

Now we emerged on to the grassy slope where in April we had found the first blue gentians at an altitude of 7000 feet, and excitement rose high. Many new plants had sprung up, spread-

ing a film of green over the charred stumps of last year's vegetation and lapping round the rocks. We came upon the first anemones, their stems clothed in cotton wool, their flowers like moonstones, just beginning to open. Then came scattered dwarf irises (*I. kumaonensis*) of a lovely China blue, nestling in the grass and sparkling like gems; and presently the first lily, though its petals had fallen. However, it was not long before we came upon lily plants in bud, one or two flowers on a stem, and in sheltered hollows sometimes three flowers, of which one or two would be open.

The meadow was, from our point of view this day, the most important part of the mountain, and the lily was the most important plant, in fact the *only* plant, in it. We had walked ten miles already just to see it, and our joy when we found we were not too late can be imagined. From this point on we began to see lilies by the dozen, by the score, and, as we approached the top, in hundreds.

But though the lily was the important plant, it was, after all, *not* the only one, even in the meadow. And there was also the forest. So while Jean followed the path, I ascended the ridge and explored the edge of the forest just over the brow to leeward. Pushing through the young bracken (already knee high) and bamboo brake, I found several trees and shrubs in flower, and a new honeysuckle. But much of the spring colour had already gone from the forest, and my attention kept wandering to the grass slope where Jean was collecting specimens of the lily.

Presently the path reached the crest of the ridge again, and a short distance further along Jean found the first fully grown lily, on the edge of the forest where it was sheltered from the wind. It was a beauty. Standing five feet high, it bore five fully open flowers of a delicate pink outside, satin white and unspotted within. The six anthers, trembling on their filaments, were a rich golden brown, and the pale green style made a perfect combination. Half nodding, the delicately curved peal of bells swung clear of the leafy stem on inch-long pedicels.

It was only when I came to take a photograph of this fine plant I made the appalling discovery that, in spite of all our careful preparations, we had left the camera stand behind! However, I rigged up a jury stand, though its lack of flexibility left much to be desired. Jean now opened the press and put our plants between sheets of drying paper, including her magnificent lily, all five feet of it.

After crossing the last tongue of forest, we decided to halt for lunch. It was noon, we had been going for nearly six hours, and were now only a few hundred feet from the top; nor was there really any need to go further. Pleased with our success, we sat down under a rock to eat the excellent fare Jean had provided — a thermos full of hot soup, hard-boiled eggs, grapenuts with milk and sugar, cheese, dates, biscuits and chocolate from which to choose. It was a pleasant spot. The sun was veiled and a cool breeze flickered over the meadow, tossing the pink lilies like buoys in a cross sea. Far to the south, through a gap in the interlocking hills, we could see the edge of the central plain of Manipur. We felt in good heart; but had we been cold and tired we should not have cared.

After lunch and a short rest we decided to go on to the top. All along the path little blue irises twinkled like stars, and lilies grew ever more abundant. Crouched against a rock grew a wonderfully hoary plant, enveloped in white bristling hair; it was uncurling stout croziers of sapphire blue tubular flowers, red-rimmed, looking as though they had been blown out of Venetian glass. It was the very species of Onosma which I had seen hibernating on my first ascent of Sirhoi two and a half years before, a most striking rock plant, now fully alive.

Shortly afterwards came the greatest discovery of the day. We had been peering at some plant growing by the side of the path, when I glanced up to see Jean staring in a startled way at something growing on a rock a short distance up the slope. From the ecstatic look on her face I guessed it was something out of the ordinary, and following the direction of her gaze my eyes were immediately riveted by a star cluster of pale flowers

which seemed to radiate a phosphorescent blue light. The plant was growing on a rock, and there was only one thing it could possibly be; nevertheless, for half a minute I stared, unbelieving. It seemed impossible.

'*What* is it?' Jean whispered in an awe-struck voice.

'By God, it's a *primula*,' I whispered back (as though it might overhear us and run away). 'It can't be — *here*! But it *is*!'

We rushed up the slope and knelt down in front of the little rock as though before a shrine. Growing out of a crack was a rosette of soft crinkled green leaves glistening with silky hairs, and from the centre rose a short mealy white scape bearing three flowers. It was a primula all right — one I had never seen before in my life, wild or in cultivation — and of almost unearthly beauty. For a minute we knelt there enchanted, dumb with adoration in the face of so exquisite a flower, savouring too the delicate scent which came from it. The whole plant was only about four inches high, and each corolla about an inch across, of a pale lilac mauve shade with a white star of powdery meal in the centre. But what most astonished us was the extraordinary length of the slender tube, which was fully two inches long! One would have thought that a primula of any shape and colour, whose slender tube reached a length of two inches, would have an almost giraffe-like ungainliness; to stick one's neck out like that, even though wearing a frilly pale green collar, is asking for laughter. But there was nothing ridiculous about this sweet flower — it was as near perfection as a rock primula could be.

I have said that I had never seen its like either in the mountains or in cultivation, and I have seen several hundred species of primula growing. But suddenly I remembered I had seen a photograph of it. That immensely long tube, as though no insect other than a butterfly or perhaps a hawk moth could possibly pollinate it, was unique. Only one known primula possessed it — a species discovered by that fine plant hunter Major George Sherriff, in Bhutan some years previously, and named after his wife. That was the picture I remembered, and

I had little doubt that our plant was *P. Sherriffiae,* turned up again on the south side of the Assam valley.

Feeling almost as though we were in church, we tip-toed the few hundred yards to the summit of Sirhoi and sat down to take in the view, while Jean once more opened the press to preserve our new treasures. In a shallow gulley a close colony of taller irises were coming into flower, a very different plant from the dwarf species which was richly scattered over the slope amidst a sea of pink lilies. Below us the southern slopes of Sirhoi fell steeply to the forest lining the mountain scuppers; and far away to the south the sun gleamed on the Chindwin river of Burma, which shone dully like pewter. Eastwards the frontier mountains were higher and bolder, almost menacing. Westwards we could still see Ukhrul, smaller now, a row of dark conifers like a file of blackshirts marking the site of the old red-roofed hospital and the Military Police Post. It looked an immense distance away.

It was important to find more plants of *Primula Sherriffiae* for seed in due course, and I cast around from the rocky summit of the peak. There were several shallow furrows here between what may have been ancient moraines. Searching every likely place, I presently found whole colonies of our plant plastered on the hard rocky outcrops and against the steepest, stoniest slopes, in the teeth of the wind and in the direct path of the monsoon rain. It was curious choice of ground for so delicate a plant, but it grew nowhere else.

I was wondering furiously why *any* primula should grow here — this was no alpine peak, even though a certain number of temperate plants have managed to establish themselves. But then, *P. Sherriffiae* is not an alpine primula. Yet *why* had this particular species, hitherto known only from the Eastern Himalayas, chosen Manipur for a second home, sundered from kith and kin by the whole width of the low, hot Assam valley? It is indeed a very curious fact that the only two species of primula we found in Manipur should both have been known from the Eastern Himalayas, *and from nowhere else*!

While searching the summit I noticed a strange plant coming up under a rock. Only the basal leaves had appeared, and these, borne on short stalks, were arrow shaped, the apex drawn out to a fine point, base deeply cordate, and margin crenate. Altogether it looked a handsome plant, the curiously shaped leaves alone, I thought, giving to it a certain air of distinction. If the flowers were a match for the leaves, here was another rock plant for the connoisseur; but though I racked my brains, I had no idea what it could be. Imagine my disgusted surprise when a month later I found it in flower a thousand feet lower down, a rock plant still, but with a gawky stem three feet high bearing umbels of the tiniest, muddiest looking flowers imaginable — an unromantic meadow weed, though still with the same sagittate leaves which had aroused my curiosity on the summit! Not in a hundred years would I have guessed that these handsome leaves were the advance guard of an Umbellifer, a plant closely allied to our beautiful common hedge parsley, but far less angelic.

We had spent a full hour on the summit and it was time to start back on the long march home. We went slowly, poking into odd gullies, examining cliffs, lest something should have escaped us. We visited a sheltered backwater of the meadow on the leeward slope of the ridge, where in April I had observed a leafless Deutzia, and behold! it was now in full bloom, and another first-class plant was added to the day's bag. The small, brittle leaves were harsh and dully metallic, as though clipped out of pewter, but the tight little heads of white flowers with chocolate anthers burst from the ends of the twigs like blobs of foam. Deutzia belongs to the mock-orange family; but they are rare in the Himalayas. This plant resembled the Chinese *D. densiflora.*

In this meadow backwater where the bracken already stood waist high amidst rank colonies of the dingy-flowered larger iris (*I. Milesii*), Jean found the finest of all the lilies yet seen. In the last foot of its five leafy feet, it had borne no less than seven flowers, four of them still perfect, two just past their best,

and one faded. I had to take another photograph, while Jean for the last time on the mountain opened the press and put the Deutzia and several more lilies between sheets of drying paper. Then we started down in earnest.

Presently the clouds which had gathered during the middle of the day, began to roll back, and a blaze of heat from the slowly sinking sun struck the grass slope. We reached Arthur's Seat soon after 3 o'clock, and sat down for a short rest and a snack. But we were neither hungry nor tired, though it was nice to bask in the hot sunshine for a while. We had been six hours on the mountain, and had another nine miles to walk.

In the late afternoon we passed through Sirhoi village and came out on to the pastures below, where buffaloes were grazing. How we blessed the long summer day, and our forethought in keeping summer time. Clear over the warm air came to us from the leafy woods the familiar call of the English cuckoo. The Indian cuckoos have harsh voices and their calls are just as monotonous, but not nearly so welcome, as our own dear parasite. Looking back we had a magnificent view of Sirhoi's long ridge with the shadows creeping up the grass slope.

At last our feet were on the contour path which joins Sirhoi to the Ukhrul ridge, keeping more or less level for two or three miles before beginning the ascent to Ukhrul. There was an orchid to be collected further along, but our feet must have begun to drag, for it was much further than we expected. At one time we feared we must have passed it, but we came to it at last. Another two miles, with a glimpse across the valley of waterlogged rice fields mounting the opposite slope step by step, and reflecting the low sun like strips of polished steel.

In the forest we halted by a welcome stream for a rest and a drink, before starting to climb. Then on again with less than four miles to go, though the pace had slackened.

But even at the twelfth hour the day's surprises were not quite over. We had reached the saddle which connects the two ridges, and were about to call up all our reserves for the two-mile ascent, when a voice hailed us from a small clearing in the

forest. We looked up, surprised. There stood Mangalay beckoning to us and waving a tea pot. We turned aside and sat down beside the outspread tea cloth, our backs against a convenient log. Hard by the kettle sang on a fire. Did ever a mug of fresh tea taste better? Mangalay's inspiration had been to collect all the apparatus, carry it two miles down the hill, light a fire and wait for us to appear. He had timed it nicely. Jean was still going strongly, but I had begun to tire a little and lag. We ate sparingly, but gulped quantities of scalding tea and felt better immediately.

The sun had set behind the purple hills, and the short dusk filled the valley with lilac coloured twilight. It was a really beautiful evening to wind up so perfect a day; and as we began the gentle ascent we felt enormously refreshed. So the last lap worried us not at all, and presently we came out on to the Imphal road on the crest of the ridge, less than half a mile from home. Night had fallen, but it was a warm summer's night and by the light of the stars we could see the white path. We pushed open the door of Cobweb Cottage soon after 8.30, just fourteen hours after we had set out.

That cup of tea at the precise moment and the precise spot where it would be most effective, had helped us a lot. So too had the English summer weather and the homely sound of the cuckoo. The walk home would have been harder had the fine morning given way to mist and rain later. But it was our joy at sight of the lily in hundreds at the height of its beauty, reigning over the meadow like a queen, and the astonishing revelation of that wonderful rock plant, *Primula Sherriffiae*, coupled with the knowledge that we had done thoroughly what we set out to do, which brought us through without distress.

This may sound rather smug to superficial people. It is not. Most of us are quite aware that spiritual happiness and inward content, the feeling of a job well done, help our bodies to triumph over ordinary tiredness and even illness; and though I know that a twenty-five mile walk on a fine day, even at my

age, is nothing out of the ordinary, that rare glimpse of beauty certainly buoyed us up and kept us going all the way back.

When next morning we opened the press, we found we had collected twenty-eight species of plants on Sirhoi, including six perfect specimens of the lily. It was a satisfactory result.

CHAPTER XIV

GREAT SNAKES!

REACTION now set in. We felt pleased with ourselves, and less stiff than I had expected; but apart from routine chores, we took things rather easily for the next day or two. However, the weather was so fine we could not bear to stop indoors; moreover, in answer to our last frantic appeal for porters, they were now promised for the 12th.

At this time we made the ominous discovery that our dried plants were becoming covered with mildew in the warm, damp air, and we had to go through every bundle, brushing the specimens one by one with a shaving brush; a tedious job. We stacked them on a bamboo rack suspended over the kitchen fire, having scattered plenty of D.D.T. everywhere to keep away insects.

The nights were short and pleasantly warm, the temperature not falling below 60°, while day after day it reached 75° or 80°. Gorgeous butterflies were abroad, enjoying the sunshine. A yellow and black Junonia looked as though someone had attempted to do poker work on its tawny wings. A flashing metallic blue-green Heliophorus, when approached, snapped its glittering wings together so suddenly that one expected to hear them clack like castanets; and mingled with these gay creatures were humbler fry like cabbage whites. But the finest butterfly was one I had never seen before. The upper surface of the forewing was a rich golden brown with black spots, giving it a leopardish look, in startling contrast with the hindwing, which was midnight blue. The under wing was a sort of marbled grey, with mutton-fat markings. It was a big insect with a strong, rapid flight, and while settled it fanned gently with its wings, so as to expose both surfaces alternately to the sun.

One evening a magnificent moth flew into Cobweb Cottage. It had a wing span of three and a half inches, and beautiful fern-like antennae. But its most prominent marking was a kind of peacock's 'eye' painted near the centre of each wing, though it had none of the peacock's colour. The background was a warm chestnut, and the 'eye' consisted of a not quite circular ring, one half maroon, the other lamp-black, surrounding a yellow pupil. Further, the maroon half of the wing had a white paring, like a new moon, on the inner side. Along the trailing edge of each wing was a thin double zig zag of black, and still closer to the edge, but on the under wing only, a zig-zag white line. I renounce all copyright in the above description.

The most striking plant we found during these few days was *Actinidia callosa*, a big climbing plant allied to Tea, though it has less showy flowers than any Camellia; they are, however, borne freely, and a plant in full bloom can be a pleasant sight.

As promised, the porters came on the 12th. It was a fine day, but clouds were piling up ominously in the south. We had decided, on the strength of our long march on the 5th, to camp half way up Sirhoi itself, to save the daily walk through the village. It took us only three hours to reach the old *basha*; another three to reach the chosen camping ground, not far from the magic glade. The long pull up over the shoulder of Sirhoi in the hot afternoon sunshine, proved very exhausting. Having had a light breakfast, a lighter lunch, and no tea (owing to the distance of the water supply), we were ravenous when about 8 o'clock Mangalay brought us some dinner.

Our tents were pitched on the ridge, but derived a little shelter from the bulk of the mountain just ahead of us. A listening post, occupied by Kukis, had been established here

during the war, and the low walls of a *sangar*, much overgrown, marked the site. It was a pleasant spot up against the edge of the forest some 8000 feet above sea level, and half an hour's walk from the top of the mountain. Five minutes' scramble along the ridge brought us to the top of a bump whence, on clear days, we had a wonderful view through an arc of 200°, from south-by-west to beyond north.

On the way up the mountain we had reason to congratulate ourselves on having gone after the lily on the 5th, for even one week had wrought considerable change to the grassland. The dwarf iris, it seemed, was over, and the lily far gone, though I found one plant with three fine flowers, and several, not above a foot high, with a single bud. The anemone was beginning to make great white patches, like melting snow drifts.

On the fringe of the forest a bushy Vaccinium (*V. retusum*) with little box leaves, whose half drooping clusters of pink flowers (like sea shells) had fascinated us in April, was ripening its red berries, soon to turn black. There were many large middle-aged bushes of this plant growing on rocks and trees protected from the wind; yet they had flowered indifferently or not at all. Perhaps they were already past flowering; perhaps it was a resting year for them.

Early next morning, after heavy rain throughout the night, we saw the packed ranks of cloud crouching below the horizon, ready to charge irresistibly forward like battalions of eager infantry held in leash. A thin mist came flying over the ridge all day, showers alternating with bursts of sunshine.

The forested face fell away steeply here and was, in places, precipitous. At one spot a mossy tree trunk grew out horizontally, and strolling along the edge of the forest, I noticed a rather handsome snake with brown and green markings down its back, stretched out at full length, the head furthest away. From my point of vantage above, I threw a stick at it, but it seemed sluggish and indifferent, as though it had just had a meal. I threw a heavier stick, which hit it, but it only moved slowly, the fore end sliding off the trunk, so that its head was

hidden beneath. Then I picked up a long bamboo and stepped forward to break its back. Instantly its head reappeared from under the trunk, the snake raised itself in an S-bend, and whipped right round to look at me, jaws open. Two feet of it still lay along the trunk, perhaps a foot of it was supported rigidly in the air; the fury of its cold scrutiny alone was venomous. I threw another stick, but it did not move, and I had no mind to tackle it now.

We were destined to meet quite a number of these snakes in the course of our wanderings in the hills, most of them on Sirhoi. One day in July, by which time the meadow had grown much taller and it was difficult to see the ground, I stepped off a low rock straight on to a snake coiled up on a patch of bare ground. I was wearing canvas shoes and shorts. Had the ground been red hot I could not have leapt more nimbly, though I suppose the correct procedure would have been to stay where I was and stamp hard on the brute's back. However, I am a coward about snakes, and my instinct is always to get out of the way quick. Jean, who invariably treats them like dirt, said I was as white as a sheet!

This reptile seems to be a forest dweller, and when we did find it on the grass slope, it was always close to the edge of the forest; no doubt it emerged from the shadow into the open, with the object of preying on small birds and other creatures which frequented the long grass. It had a very unpleasant habit of lying up in a bush by the side of the path, two or three feet above the ground, and was then difficult to detect. Once when we were following a narrow track through the forest, our boy who was in the lead killed one two feet from the ground; it might easily have bitten him in the hand as he passed. In the winter I was just going to push through a thicket into the forest, when I noticed a snake looped amongst the branches, almost on a level with my face. I promptly killed it with a stick.

After first nearly treading on one hidden in the grass, and then actually stepping down on to one, we walked circumspectly on Sirhoi ever after, and always wore boots. It was not much

ado about nothing. Though probably no more aggressive than most, this viper is very poisonous, and if not often fatal, can give a dangerous bite. The Nagas use the thick juice expressed from the leaves of *Kalanchoe rosea* as an antidote, but with what success I do not know. We did not see this pink Kalanchoe in Manipur, though it is common round Kohima; later we found a few plants of a yellow flowered species near Tusom Khulen.

This was not the only snake we came across, but it was the commonest. Jean made several good skins, and we pickled one or two specimens.

That night (June 13th) the monsoon broke, and at sunrise next morning, from our eyrie we commanded a wonderful view of cloudland. Westwards all the valleys were filled with thick banks of greasy grey mist curling at the edges, while to the south, wisps detached themselves and rocketed sky high, as though drawn upwards by some irresistible power. Only the tops of the long level ridges, interrupted here and there by a higher peak, stood out like an archipelago above the heaving sea. Far in the south the sky was black — ominously black — not with clouds, but with cloud, compressed, amorphous. Everywhere the air was still; the dark forest lay silent under the threatening shadow. It may seem odd to speak of June 13th as the day the monsoon broke. Had it not, in a sense, been breaking for the last six weeks? Neither are we likely to forget the spring rains in east Manipur, nor the ten days of magnificent weather, which reached its climax on June 5th before the summer deluge. But there was a marked difference between the storms of April and May, and the steady driven rain which beat on us after the break of the monsoon.

In the afternoon three youths came up from Sirhoi on their way over the mountain to Mapum; one of them carried a rifle. They stopped to talk with our lads, and arranged to hold a rifle match, with an empty tin stuck on a bamboo at 100 yards range for target. For the first and last time while he was with us, the Oaf distinguished himself (creditably) by hitting the

target and carrying off the prize. Evidently he *had* been in the army! In the evening Mangalay went out and shot a bamboo partridge which we ate for dinner.

I have said that on the way up the mountain we noticed several lilies still in flower, a few in bud. In the course of the next five days we found quite a number close to our camp, undaunted by the rain, their cheeks pink with the glow of health. It certainly seemed late for them, but we found plants in perfect bloom much later than that — at the end of the third week in July, in fact. The best season is undoubtedly mid-May to mid-June — that is, unless the plant completely disappears in the course of the next ten years.

Brilliantly coloured honeysuckers were flitting amongst the trees along the edge of the forest, probably attracted by the great trumpet flowers of *Rhododendron Maddeni*, which at 8000 feet was just beginning to open. It was the last rhododendron to flower. We were about to enter the tent that evening when a bird the size of a partridge shot past us and dived with a clatter of wings into the forest close beside us. I had no more than the briefest glimpse of it, and was able to make out only that it had a dark body and some yellow on the wings. It seemed to be a large, restless creature, for we heard it once or twice, flapping about in the trees afterwards, but as we never set eyes on it again, I have no idea what it was.

One evening the wind rose suddenly, reaching almost gale force. The tent fly flapped like a frightened bird, and Jean dashed outside to look at the ropes. Two of the boys came across from the cookhouse to help.

I heard Jean's voice above the noise of the wind in the trees: 'I say, these guys are tight.'

I started up, and yelled back: 'Oh *no*! they *can't* be! They haven't been down to the village for three days. Besides I've just seen Mangalay — he certainly looked all right.'

Jean came round the corner of the tent, looked at me suspiciously.

'I was referring to the tent ropes,' she said coldly.

The rain did not prevent our carrying on botanical exploration; it merely made it more uncomfortable. Sometimes the mist was so thick we could hardly see where we were going. Nor was it cold outside, not even when, as invariably happened, we were soaked to the skin. The forest insured us against the wind, but was otherwise depressing. It was colder on the open slope, exposed to the wind, but altogether lighter and more cheerful. The path, however, composed of red clay derived from igneous rocks, was very slippery.

We explored the magic glade, but it was now a bog. An intense gloom had settled over the forest. No longer did spouting buds pour forth a wealth of colour from flower and scrolled leaf. The bent trees, heavily festooned with moss, looked like giant green candles guttering in the wind, suggesting immemorial age and neglect, a vast antiquity. The bowed bamboos leaning in every direction, the dripping ferns, the furrowed trickling slopes, all these helped to intensify a feeling of ruin and decay. The undergrowth, such as there was, surged waist high, heavy with water.

The cave-like dimness deepens as the mist spreads like a dark stain, and the grotesquely swollen branches of trees, their frilled outlines uncertain against the canopy, are half seen, while the wind in the tree tops sounds like far breakers. Even the steady drip, drip from the moss-bearded branches might be the seawrack bubbling as the ebb tide runs, leaving it bare. Spectres of wrecked ships with broken spars and battered hulls peer through the greenish half-light. A bird calls suddenly, a monotonous one-note call, shrill-edged. Inside the forest one might indeed be drowned five fathoms deep. And as though to emphasize the washed-out colour of everything, I found the big lop-sided leaves of a Chirita whose long, narrow tubular flowers, with pouting mouth, were the pale violet of a reflected rainbow.

A single tree Symplocos, crowned with a veil of blossom, rode the tossing green seas above our heads like a snow-white ship.

We could only reach the flowers by cutting down the tree — a thing I hate doing. However, one must not be too sentimental in the pursuit of knowledge!

But if no colour would paint the forest until the late autumn sunshine once more gilded the tree tops, there were not lacking shrubs in flower along the fringe where forest and meadow met. I have already mentioned *Rhododendron Maddeni*, which at 8000 feet was opening its first flowers; and there was the handsome Deutzia, already collected. Another gay little shrub was a Spiraea with corymbose heads of rose-crimson flowers; and the yellow jasmine was still in bloom.

I spent a lot of time searching for and collecting seed of the handsome Mahonia; but my efforts came to nought because the seeds were sent to the U.S.A. in an air letter. While the envelope was lying neglected in the post office at Imphal, an inquiring rat found it, and being hungry as well as enterprising, ate all the seeds but two. Even the two had to be surrendered, however, as I was presently informed that no Berberis or Mahonia seed might be introduced into the U.S.A. for fear of 'rust' infection.[1]

Apart from late comers amongst the lilies, the finest piece of colour I saw after the rain started on Sirhoi was something very different. Just over the summit the rolling slopes are broken by several rocky escarpments which crop out here and there for no apparent reason. On a misty day I was crossing the top of the mountain when suddenly, not far below me, a sheet of bluish flame seemed to flash out from the intense green of the meadow. I slid carefully a couple of hundred feet down the funnel to where it narrowed into the gulley, and found myself in front of a short vertical rock face, so closely plastered with the near phosphorescent flowers of *Primula Sherriffiae* that neither leaves nor the rock beneath were visible. There were hundreds of plants, thousands of flowers, growing cheek by jowl, the corollas touching, even overlapping; they were at their best.

[1] That is to say, the 'rust disease' (*Puccinia graminis*) of wheat, of which the alternative host is barberry.

The short stems bore from one to five flowers in a head, and the length of the corolla tube allowed them to expand fully. It had a complete monopoly of the rock; not another plant grew with it. No need to worry now about seed of *P. Sherriffiae*! I have enduring memories of other massed primulas, but no rock primula I have ever seen surpassed this amazing panel of bloom.

Another flower which had a surprise in store was the dwarf *Iris kumaonensis*. I have written as though this species were over, because we had not seen it the day we came up, except dead and slimy blooms. A little later I found scores of plants in bud close to our camp, and these opened next day. There were hundreds also all over the summit of the mountain. Though very different in habit, there is not much difference between the flowers of this dwarf, and those of the larger, clumped species (*I. Milesii*) — few of which were yet open. Both have yellow crests, but the falls of the dwarf are mottled violet and white, while those of the larger plant are pin-striped and darker in colour. The dwarf has not only larger flowers than the other, they are better proportioned, owing to their broader falls. The seeds also are different, those of *I. Milesii* being dark coffee coloured.

My ambition now was to get a photograph of the massed primula, and we waited day after day with the camera ready for a break. Unfortunately we had arranged to return to Ukhrul on the 19th. On the night of the 18th the wind died down and little rain fell after dark. When the sun rose next morning the amorphous mist began to break up, form shapes. For the first time in a week we saw the top of the mountain.

The porters arrived in good time, but the day now looked so promising that we decided to go up to the top and photograph the primula before returning to Ukhrul. Leaving Mangalay to pack and start down, we took the Oaf to carry my camera, and once more climbed to the summit. Six days had passed since we had found the primula colony, and the flowers were already looking a little dashed; yet they were still a fine sight.

By the time we had set up the camera — no easy job on the steep slope — the mist was rising stealthily up the gulley, and before I could take a photograph it began to drizzle. Nevertheless, I got a move on and took four pictures, every one of which proved a dead loss.

We now set out for Ukhrul, and soon reached our camp, which we found empty. On we went, down the path and through the forest to Sirhoi village. The sun came out, and at 2 o'clock we halted for a quick lunch.

On the lowest meadow face we noticed a curious plant — one of the ginger family — with delightful pink flowers like a Roscoea borne well above the ground. Of this I shall have more to say later, and will only record here the date (June 19th) on which we first collected it in flower, and the fact that I had no clue to its identity. It was not, however, a Roscoea, nor did we find any species of Roscoea on Sirhoi or anywhere else in Manipur; and that too is curious.

The wet spring had encouraged that ugly scourge 'blister blight', an unsightly fungus disease (*Exobasidium*) which attacks the leaves of Ericaceae and other shrubs, notably *Pieris ovalifolia*, causing large hollow cheesy looking blisters. Other victims noted were *Rhododendron arboreum*, *R. Johnstoneanum*, and *Vaccinium serratum*; but the Pieris was the hardest hit. Blister blight causes great damage to Tea in Assam, and seems to be on the increase after a succession of sunless springs; but the Exobasidium of Tea is not the same species as the Exobasidium of Pieris.

As usual, the Oaf was missing when we most needed him, thereby securing another black mark. Arrived on the bridle path we got along fairly well at first, but then came long stretches ankle deep in mud, which slowed us down. We found and brought along with us three huge caterpillars, armed to the teeth with bristles of a most formidable kind. The Oaf shrank back visibly when we displayed them, swearing they would bite!

Pyrola rotundifolia was in flower in the pine woods, and the yellow flowered, crimson fruited *Dicentra scandens* on open sunny

second growth slopes. Jean caught a tiny shrew (apparently not long since born), which had lost its mother; and I saw a pair of greenish birds, probably Chloropsis.

It was a beautiful clear evening, only the summit of Sirhoi capped with cloud. We got in after six, rather tired but dry for once, cursing ourselves for having come away from the mountain. However, I could not help feeling that *Primula Sherriffiae* was already done. Had Sirhoi been a thousand feet higher, it might have lasted till the end of the month.

Mangalay shot us a green pigeon for dinner.

CHAPTER XV

RED LILIES

AFTER giving us a welcoming broadside the monsoon seemed to have spent itself and we enjoyed a week's fine weather, cheered by the entrancing colours of the hills and the sky, an endless pageant changing with the hours. It was sickening to realize that we had abandoned our camp on Sirhoi just one day too early, though we had missed nothing botanical except, perhaps, a few photographs.

The local potatoes were now being exhumed, and we innocently bought some at Rs. 2 per kerosene oil tin full, which is twice what the local inhabitants pay! We were urged to buy quickly, as the bulk is exported to Imphal and the price rises as a local shortage sets in (though it probably never rises to what we paid). Our stock pile was increased by several small gifts, some from grateful patients of Jean's.

Amongst not infrequent callers at Cobweb Cottage we numbered Sri Haori, the clerk who had been suspended for alleged fiscal irregularities while his case was being looked into. This procedure took rather longer than similar proceedings in England, and demanded Haori's intermittent presence in Imphal. Naturally, when the Circle Officer's own case came up for probing — these matters usually consist of charge and countercharge — we were treated to somewhat lurid accounts of a grave financial scandal. 'How can the Circle Officer keep two sons at Calcutta University,' Haori asked plaintively, 'on his pay as a Circle Officer?' We didn't know — or care.

Though he neither drank nor smoked, Haori would sometimes drop in for a cup of tea, and we always made him welcome. It was on such occasions that he informed us when he would be going to Imphal, and could he do anything for us? Of course, we made use of his kind offer to buy supplies for us

and bring them back with him on his return. The first time he went I gave him a one-hundred-rupee note. Several days later two coolies arrived bringing a few of the things we had asked for; and in the following week Haori himself returned. I had great difficulty in extracting any account, or even a verbal statement from our local purchasing officer; moreover, he was strangely reluctant to mention so small a matter as the Rs. 75 change owing to me — even on his own rather happy-go-lucky calculation. My thoughts strayed idly to that other small matter of the missing millions. However, we invited Haori to Cobweb Cottage in the hope of breaking down his reticence. We gave him tea, fried potato chips, and small home-made cakes; and he stayed two hours. I skilfully guided the conversation round to education, Calcutta University, Oxford, Oxford Street, Selfridge's, shopping in general, and so to the matter of change; but Haori, agile as an eel, pointed out sweetly that he was going down to Imphal again at the end of the week, and would be able to fulfil the rest of the order. That would make a hole in the change, of course. Nevertheless, before he left he invited us to visit him at his own house next day and take tea with him, when we would be able to discuss the matter further.

So Jean made out her shopping list, and next day we took tea, *chez* Haori, near the pagan village, and he asked me in an aggrieved tone whether I still wanted my Rs. 75 change. I said brazenly, yes, I did. He gave it me, all in silver, and I felt so ashamed of my suspicions that I then and there gave him another hundred-rupee note and the uncompleted order, and mentally renounced all change. Nor did I ever get any! However, this time we got more supplies.

Haori informed us he had sold one of his pigs for Rs. 90. He had asked Rs.100 for it, he said. If he hoped that we would buy one from him for a round sum like that, he was disappointed.

June 21st was one of the most delicious days of the whole year, the air warm, dry and laden with tickling, spicy smells from the forest. We steeped ourselves in the sunshine and lounged in the long lilac dusk, while the ridges changed colour from crimson to purple, from purple to indigo. Yarter, the good-natured lame man from Sirhoi, turned up, and we contracted with him to build us two huts on the site of our high camp where the Kuki lookout had been. He promised to let us know as soon as they were finished.

One day we noticed in an Ukhrul garden a fine upstanding turk's cap lily, the flowers tawny red speckled with black. I took it to be a cultivated form of the Chinese *Lilium Davidii*, introduced into Manipur, perhaps, by Mr. C. Gimson, C.I.E., I.C.S., late Political Agent. The schoolmaster said no, it was a local wild plant, and Mangalay confirmed this; it grew in the rice fields, he told us. So down to the rice fields, several hundred feet below the ridge top, we went. Our first search was barren of result, and the Oaf, who was with us, said that the lily only grew at the bottom of the valley, a good deal lower down. From where we stood we raked likely ground with field glasses, but again drew blank, though in bloom the plant was conspicuous enough — a crimson-orange flame against the green. Finally I told the Oaf to explore the paddy fields below, and to rejoin us on the path after collecting specimens of the lily. Meanwhile we would search the rice terraces around us intensively, field by field. Need I say that before very long we had found and reached half a dozen lilies, and that the Oaf returned an hour later without having found one? Of course, his inability to find any was no guarantee that there *were* none, or even that he had searched for them. For all we knew, he might have gone round the next corner, sat down, and fallen asleep for an hour.

We had not found the lilies without systematic search. Not only were they far from common, coming up only in the coarse tangle of meadow which grew round the edges of the terraced slope; they were also widely scattered. We dug up several and

planted them in our strip of garden at Ukhrul; but our best and tallest plant, about four feet high, somehow lost its bulb. We planted it nevertheless, and it flourished, bearing in course of time many perfect flowers. It put out a few adventitious roots at the base of the stem, and these managed to keep it going. By June 30th it had five flowers open and ten flower buds. Between them our six plants produced seventeen flowers open at one time, making a wonderful display so that passers-by used to stop and ask us where they came from.

By the second week in July only six red lily flowers survived in our garden, besides two pink lily capsules out of a round dozen flowers. Long before the end of the month the lily season was over in Manipur. The red lily season lasted a month, from the end of June till the third week in July, by which time the last flower had dropped to bits. On July 1st we carefully hand-pollenated a number of blooms, thereby persuading two capsules to ripen and yield a few apparently good seeds. From the wild plants we got nine capsules — every one shrivelled and barren. Both good capsules, which ripened in October, were borne by the bulbless plant!

It was otherwise with *L. Mackliniae*. There again our garden plants bore more than a dozen flowers, but only two capsules ripened — it had not occurred to us then to cross-pollinate them, if indeed that was the secret of success. But whereas the red lily ripened no capsules in the rice fields (at least, we found none), the Sirhoi lily ripened thousands; practically every flower a capsule, every capsule more than a hundred fertile seeds. Imagine our disgust when, on July 22nd, after weeks of care and attention, our two *L. Mackliniae* capsules disappeared during the night; what had befallen them it was impossible to determine with certainty — we suspected cows, pigs, or small boys. It made no difference to the ultimate introduction of the plant into America and Europe; but we had nurtured these two capsules with care, and were distressed at their destruction just before they were ripe.

Now let us turn for a minute to the distribution of lilies in

South-East Asia and adjacent regions, starting from Ukhrul. Here we find two species — *L. Mackliniae* and *L. Davidii* — these being east Manipur's contribution. In the Assam Himalayas, north of the Brahmaputra and about two hundred miles to the north-north-west of Ukhrul, occur two other species — *L. Wallichii* and *L. nepalense concolor* — while in the Lohit Valley, three hundred miles to the north-east of Ukhrul, is found *L. Wardii* on the outermost fringe of its area. Working round towards the south again, on the Burma-Yunnan frontier, at the same distance from Ukhrul but more to the east, are still another two species — *L. primulinum var. burmanicum* and *L. Bakerianum.*

Thus, if we describe a circle with Ukhrul as centre and a radius of about three hundred miles, we shall include, in the northern semi-circle only, no less than seven species of lily belonging to three different sections. Nor is that all. Our northern semi-circle, with radius three hundred miles and a base of six hundred miles passing through Ukhrul, would include at least six species of Nomocharis — *N. pardanthina, N. saluenense, N. Souliei, N. nana, N. Roylei* and *N. maleagrina* — and two out of the three known species of Notholirion, besides *Cardiocrinum giganteum.* All these genera are very lily like, and all have been included in the genus Lilium in the past, before finer distinctions were drawn.

As a matter of fact, *L. Mackliniae* is as much like a Nomocharis as a lily, but serves to connect the two genera. However, it is simpler to stress its lily characteristics than to class it with Nomocharis, which would entail transferring other lilies also to Nomocharis, for the sake of consistency. Fritillaria (another genus closely allied to Lilium but more clear-cut) also occurs within this magic semicircle, which includes almost the whole of the Assam Himalayas, the Patkoi range of north-eastern Assam, and most of far northern Burma at the sources of the Irrawaddy. This is the most recently and most intensively glaciated region in South-East Asia, and by far the least explored. I venture to prophecy that more lilies and lily-like

plants will turn up on such isolated and at present inaccessible peaks as Saramati (12,500 feet), Dapha Bum (15,000 feet), and in the mountains all round Fort Hertz in far northern Burma; but not, perhaps, just yet.

I am not convinced that the red lily is native to Manipur, but certainly it may be. True, we found it only in the rice fields to east and west of the Ukhrul ridge; but then we did not move about much at the time of its flowering in July, and it is difficult to spot this plant out of flower. In fact, we had some difficulty in finding our marked plants in the autumn, the more so since all the capsules had withered.

It seems at first sight curious that so strikingly handsome a plant as *L. Davidii* should here be associated only with rice fields; nor must it be forgotten that in China lily bulbs are sometimes an article of diet. What more likely than that immigrants from the east should bring with them the bulbs or seeds of lilies to plant with their other crops, or even that plants should have sprung up from bulb scales dropped casually — a chance human introduction? However, *L. Davidii* is not the only Chinese weed of cultivation which is thought highly of in the West. *Primula malacoides*, known throughout the horticultural world today, is a typical riceland weed of south-western Yunnan.

Shortly after our return to Ukhrul, Mukerjee set out for Chammu. Marching double stages — which at this time of year needed some energy — he got back again on July 23rd after an unpleasant journey in which ticks, leeches and swarms of stinging and biting flies played a major part. This, however, was not surprising, as apart from the deep valleys which have to be crossed, the Kuki villages are on the average a thousand feet lower than the Tangkhul villages. Nevertheless, he had made a good collection of plants, so it was worth the effort.

Near Humhlang he found *Lonicera Hildebrandiana*, a Burmese plant with the longest flowers of any known honeysuckle — real freaks — and kindly gave us some of his specimens for our collection. In colour, shape and arrangement, they are, however,

far less attractive than those of our common English honeysuckle, and are not even scented.

By the beginning of July the monsoon was well under way, and we so to speak battened down hatches at Cobweb Cottage. Yet we went out almost every day looking for likely plants, or to see how plants marked for seed were doing — though sometimes only for an hour or two between spasms of blinding rain. A curious plant is a twining Ceropegia, whose annual flowering stems appear about now. The dark chocolate brown corolla recalls the Dutchman's-pipe-shaped flowers of Aristolochia; but it belongs to a very different family (Asclepiadaceae). A second herbaceous plant worthy of notice is the semi-prostrate *Lysimachia deltoides*, a softly hairy species generally found cowering down in high grass. The centre of the corolla is mahogany red, the outer part orange — a striking combination. Though an annual, it might prove an exception to the general rule that the rock garden is no place for annuals. Conspicuous enough in flower, the difficulty was to find it in sufficient concentration to recognize it when out of flower; other plants grew up and smothered it.

By the end of June our new hut on Sirhoi was finished, and we decided to go and stay there about the middle of July, if the weather was not too bad. There was no point in going earlier. One day the schoolmaster from Sirhoi village dropped in to see us. He told us that before the Japanese came there were many tigers in the hills, but the Japanese rid the country of them as effectively as St. Patrick had banished snakes from Ireland. How they did it was by no means clear, but he earnestly assured us that one large tiger, the last of the Mohicans so to speak, still haunted Sirhoi — he knew that because people had reported seeing its pugs (though there was no record of anyone ever having seen the tiger). We thanked the schoolmaster and promised to look out for this remarkable and elusive carnivore. We did not see it; not even its abominable pug marks.

On our previous Sirhoi expeditions we had taken with us a water-carrier who was pleased to have the job because he was courting a Sirhoi girl. His first wife had died during the Japanese occupation; he was due to marry his second about Christmas. He was a gay Lothario, fond of the bottle, but a good worker nevertheless, thewed and sinewed like a pocket Hercules. When he went down into the jungle below our camp to draw water from the stream, he sang — or rather, shouted — at the top of his voice. At first we thought this was from sheer joy of life, but we found out later that on the contrary, fear had him by the throat. It was to scare off evil spirits, which are apparently as universal and insistent to the Tangkhul as are microbes to the westerner, and like them, best known by their effects. They can be kept at bay only by constant shouting. We offered him the post of *paniwalla* again, and he accepted. He wanted a little financial accommodation — in fact, an advance of pay in order that he might give a feast to his friends in Ukhrul, to celebrate his approaching nuptials. I pointed out that to celebrate anything six months before the event, was a bit of a gamble; after all, the girl might die, or change her mind, in six months — for that matter, so might he. However, it was the custom, and few of us are independent and brave enough to flout that tyrant. I gave him the required advance — five rupees — an inadequate sum on which to wine and dine his cronies, I thought. But at least he could wine and dine himself. And he did.

July 10th was quite a memorable day. A week ago Jean had decided that she could stand the sight of the Oaf no longer; it was too much to ask of anyone. So I gave him a week's notice, and a few days later, like Thangsha (but even more completely) he passed out of our lives for ever. On the 10th a smiling, baby-faced youth named Yipung arrived from nowhere and asked for the job. We took him on at face value, and fixed our departure provisionally for the 14th.

The porters made a mistake and came a day early; and as

[*facing:* TANGKHUL GIRLS CARRYING WATER POTS; A PAD OF LEAVES PROTECTS THEIR HEADS

it was typical monsoon weather — the mist driving perpetually across the ridge, everything drenched, soaked through and through, and dripping moisture — we were pleased to tell them so, adding that we would send for them when the weather showed signs of improvement.

Meanwhile we had run out of supplies, which were expected from Imphal any day. These turned up on the evening of the 15th, and as it was fine, we sent word to the porters that we would start the next morning, taking the newly arrived groceries with us.

CHAPTER XVI

MONSOON ON SIRHOI

LEST anyone should think it were a vain thing to pay so many visits to so small a mountain as Sirhoi Kashong, let me say that as yet we had explored only a fraction of one buttress of it; further, it was only by visiting it in each of the four seasons that I could hope to understand the succession of plants which had established themselves on the grass slope, following the destruction of the original cover and the annual burning. The forest was stable by comparison, but the meadow changed swiftly, leaving little trace of the previous season's flowers, some of which could be matched only on distant ranges in China, or the Himalayas, or Tibet. Altogether we collected about 250 species of flowering plants on Sirhoi Kashong between 6000 and 8000 feet, of which not less than half had some horticultural merit. We never had cause to regret our five visits to the mountain, each of which yielded plants of good repute. Moreover, this probably represents a fair cross section of the east Manipur hilltop flora, although I do not suppose we can have collected more than about seventy-five per cent of Sirhoi's flowering herbaceous plants.

July 16th was like any wet day in the hills, and the mud was so deep on the bridle path that it delayed us a lot. There is an outcrop of limestone a mile down the path, and here a spring issues from the rock, forming almost a bog. Near Sirhoi village we met Mukerjee on his way back to Ukhrul; he had stayed in the *basha* where we had first stayed in April, finding our new hut on the mountain too cold. Rain fell steadily and mist filled our lungs, so that we felt tired and depressed, and my thoughts grew sombre as we trudged up the steep shoulder. But when we came out of the forest on to the open ridge and the fresh wind whipped our wet faces, blowing across a sea of flowers, weariness vanished as darkness with the dawn.

We stepped aside to look at the specimen of *Cardiocrinum giganteum* Jean had found, but the flowers were long since over and the mast-like stem carried eleven rigid capsules, like crockets on a church steeple. It is a curious fact that although every one of its many hundred wafery seeds may be without benefit of embryo and infertile (as, indeed, were all of this particular plant's seeds), yet it still continues to waste food and energy on fattening its capsules, as though it were a matter of life and death.

On the grassy slope two plants, not hitherto seen in quantity, were conspicuous by reason of their prodigious numbers. One would think that there was no room for any other plant to grow with them, hardly room for so many plants in one square foot of ground anyway. The first was the rose flowered gingerwort, collected on June 19th on our way down the mountain last time, when we had noted a single specimen. Since then immense growth had set in. Now there were thousands in bloom. Between 7000 and 7500 feet they painted the hillside pink, especially where the ground was rocky and broken. The flowers are frail and have little substance, but their curious asymmetric shape suggests, perhaps, an orchid, or even a Roscoea. It might possibly be a species of Kaempferia. Above about 7500 feet it did not encroach, and I wondered what strange chance had brought this waif here, and whence. The compact colony seemed firmly established and prosperous, the plants often touching one another, so closely matted were they; but indeed there was no certainty that the species would not one day overreach itself and swiftly disappear into the void (even as it had perhaps come), having exhausted the soil in its struggle with its kin, and at the same time exhausted itself. We never saw it anywhere else.

The second dominant plant was the beautiful moonstone anemone, abundant above 7500 feet, especially on the extreme summit of the mountain where it grew in white, waving drifts, embroidered with the blue and orange of Cyanotis. Single plants had sent up six or eight stems which branched repeatedly,

ultimately bearing fifty or more flowers all open at the same time. Viewed from a short distance this anemone is an outstanding meadow plant which would adorn any large rock garden. It is not, however, quite an aristocrat as, say, *A. blanda* or *A. rupicola* is an aristocrat. Too loose limbed for the border, it is definitely a plant for informal surroundings.

The meadow had grown and developed to an astonishing degree during the past month, and none of the plants conspicuous in mid-June were conspicuous now; their course had been run, another generation had arisen. There were no less than three species of Pedicularis, two of Habenaria (besides other ground orchids), two of meadow rue (Thalictrum), and a delightful little annual Hypericum with brisk yellow flowers whose alternative beauty was revealed in the autumn, when the whole plant turned sheer crimson.

We reached the old Kuki lookout soon after 4 o'clock, and found a large, roomy hut built for us. The earthen floor was damp, and the eaves came down so low over the two small windows we poked through the grass walls, that it was almost pitch dark inside. Apart from these trivial defects, it was a fine house, with plenty of head room and elbow space; and it cost us thirty rupees, or £2 5s. 0d. We put up our camp beds, changed our wet clothes, and sat down to tea. In spite of the dense mist, it was still fairly light outside when Mangalay brought dinner at 7.30. An owl was hooting in the forest close at hand.

Next day Yarter joined us, bringing his D/B 12-bore gun with him. I gave him a few cartridges and he went off to try and shoot some food; there was always the chance of a deer or a pheasant, or a bamboo partridge on Sirhoi. So, whenever we heard a shot we wondered whether it would be venison or roast pheasant for dinner.

There were certainly some queer birds in the forest, but the first we met with at close quarters was the one which is perhaps most familiar to a boy brought up in the English countryside — a young thrush. It was captured and presented to us by one of the men; for though fully fledged, it could not yet fly. Head,

breast, and wings were a sort of tawny yellow, barred with black — an abrupt pattern like the dress of a convict that could not fail to attract attention. Yet the breast was weirdly reminiscent of an English thrush. Creamy white down covered the belly, keeping it warm. The little bird chirped monotonously and rather lugubriously, as though aware of the fact that it had strayed into an unfamiliar world where its mother was not, and the discomfort of hunger acute and everlasting. However, it was uninjured. We set it down on the dank floor, and it hopped across to the wall of sticks, struggled through a gap, and took refuge in the ditch beyond, where it continued to emit sounds of distress. It was an undoubted thrush; but hardly a song thrush.

In the early mornings, before the cloud rose, the sky was often unlimited, though it may have been raining half the night; it was then that one heard a number of birds singing joyously to greet the new day. The morning of the 22nd was wonderfully clear, and we could see the Chindwin in the far distance. At sunset the heavenly sky was all blue and silver laced with gold, and the mountains looked like fairyland in the tawny light of the rising moon. Then the owl cried again; but it was seldom that we could match a song, or a cry of alarm, or of greeting to a particular bird.

One evening we watched a pair of yellow-breasted flycatchers hawking flies. The bird is not uncommon — at least, we saw it several times on Sirhoi. Presently Yarter came into camp, bringing with him a magnificent short-tailed pheasant he had shot — or rather, almost blown to pieces at point blank range. It was a male tragopan, whose glossy chestnut neck and throat contrasted superbly with the smoke grey breast. The bare skin round the eye was blood red, and just above the ears were brilliant turquoise blue crests, like little horns. The following evening, when we were at the top of the mountain, we heard Yarter's gun go off not far away; a moment later we caught sight of him in the tall meadow near the edge of the forest. He was carrying a second male tragopan, a young one. We

had only just missed seeing the bird alive ourselves, as it came warily out of the forest to feed in the meadow. What, then, comprised its food?

I skinned both specimens, attracting a horde of bluebottles to the camp, for their flesh smelt strongly and the operation took me a long time, though I could make only flat skins of them. Loathsome as were the flies, still more loathsome were the fat, oily looking bird lice which encrusted the almost bare poll of the larger tragopan; they were not small, but easily seen with the naked eye, slate grey in colour, larger than human lice — and dozens of them.

The crop of the first bird I skinned was bulging with food, which I found to consist almost entirely of leaves, and curiously, ninety per cent of it was aconite leaf (there are two species of aconite on Sirhoi), together with a few fragments of Galium, both flowers and leaves, and several blades of grass. The second crop also contained a bolus of green leaves, but they were of quite another kind — an annual twiner with violet flowers allied to sweet pea. There were also a few bits of fungus. Whatever they picked up in the forest, then — and no doubt they picked up plenty of insects, snails, worms and the like under the loose cover of dead leaves — there was no doubt about why they came out into the meadow; for the plants mentioned grew only in the meadow, or like the climbing aconite to be described later, where meadow and forest met.

The bird in question is Blyth's tragopan, known from the Assam Himalayas eastwards to the China frontier, where it was collected a few years ago by the ornithologist E. B. Smythies, thus extending its known range eastwards well over a hundred miles. It occurs on both sides of the Assam Valley, in Manipur, Burma, parts of southern Tibet, and probably also in Yunnan; and though it is not a rare bird, specimens are still wanted in the museums of the world.

One thing surprised me, and that was the number of lilies still in bloom, from 8000 feet upwards. There were half a dozen scattered on the slope just below our camp, as I noticed on

July 19th, some of them with buds about to open. One may say that *Lilium Mackliniae* continues to flower far into July. But *Primula Sheriffiae*, of which we found several more colonies on a series of rock outcrops, was quite over, and so too was the dwarf iris. The only rhododendron (almost the only shrub) in flower now was *R. Maddeni*, which is a beautiful sight when in full bloom, each truss bearing four long, heavenly trumpets such as the archangel Gabriel might have blown without shame. The tube glistened with scattered silver scales, like tiny sequins.

The monsoon is the season for ground orchids, but not for epiphytic orchids, the majority of which flower in the fine weather, before or after the heavy rain. Nevertheless, one of the showiest of the many epiphytic orchids we saw on Sirhoi was now in bloom at 7000 feet. It formed large shapeless tangles of constricted rhizomes like heaps of yellow guts in the forks of the trees; but now the terminal rhizome bore besides its twin leaves, a raceme of white flowers with brown markings. I would have passed it by as 'just another Coelogyne' but for one thing: we secured a specimen, and to our amazement, it was deliciously fragrant. This was remarkable enough in an orchid, and especially in a Coelogyne; but an orchid, or any other flower, which is bold enough to bloom in July *and* scent the air, is a wonder flower indeed.

It was on the 26th that, not for the first time, it looked as though it might be fine all day. We reached the summit in good time, then decided to follow the Mapum path which plunged steeply down the north-east ridge. But the cloud came up more quickly than we could go down, and soon began to mass itself between us and the top. We went down several hundred feet, then plunged once more into forest. Trees and undergrowth were the same as we had seen on the other side of the mountain.

While we were eating a snack lunch it began to rain, gently at first, then more heavily; finally in sheets. The noise was amazing. Soaked to the skin and shivering, we made our way

back up the ridge. At the top we suddenly found ourselves right inside a thunderhead, everything blacked out. We had just left the summit when there came a blinding flash, accompanied by a terrific explosion. Instinctively we ducked, covered our faces. The path, here traversing the steep southern face, had become a rushing torrent in which we had difficulty in keeping our balance, as the stones were being torn out from under our feet and rolled along; but we went as fast as we could, for it seemed that the top of the mountain had been struck by lightning. Frightened and half deafened by the explosion, we threw caution to the winds and fairly ran down the path into the shelter of the next bit of forest.

The commonest butterfly on Sirhoi was one familiar to many English boys, since it is found in our own Fen district — *Papilio machaon*, the 'English' swallowtail. Its food plant, a species of Daucus or wild carrot, grew in the meadow, and I found several of its striking black and green striped larvae. This larva has the peculiarity of possessing a pair of soft retractile 'horns' like the horns of a snail, immediately behind the head. When frightened it pushes them out quickly, then slowly retracts them. However, it soons tires of the gesture, and cannot be made to do it more than two or three times without a long rest.

On sunny days the black glutinous mud outside the door of our hut proved irresistible to a brilliant little Heliophorus. The under side of the wings (which is often all one sees) is dull yellow, and it is only when the insect believes itself to be safe that it ventures to display its true colours. Then the wings open slowly, revealing the lovely metallic blue-green of the upper surface, but ready to snap shut at the first hint of danger. The hind wing, however, often looks black, relieved by a few red-orange spots round the border, and the tiny comma-like 'tail'; but as the butterfly pivots round, allowing the light to strike it at a different angle, it too gleams metallic blue-green like the front wing. When wallowing in the muck, this insect is not difficult to catch.

I have already had occasion to mention Sirhoi's generation of vipers and our various encounters with them. They lurked especially in the meadow, where birds built their nests on or close to the ground, where too we found speckled toads and brown legless lizards, which might have been slow worms. Since man first started burning this slope a profound change has come over not only the plant life, but also over the insect and bird life, and finally over the mammalian life of the mountain, all animal life being in the long run dependent on vegetation for its continued existence. But the greatest change, no doubt, is that wrought on the insect world, if only because there are far more insects than all the higher forms of life, from birds and mammals down to reptiles and worms, put together.

It was not likely there would be another fine spell for the present, so after a fortnight we decided to return to Ukhrul and see the worst of the monsoon through from behind the frail walls of Cobweb Cottage. We fixed on the 29th for our departure, and Yarter went down to arrange for porters.

I must not forget to mention one more delightful plant, almost an alpine in appearance, which I found growing on a rock in the forest, and later on a cliff in the open right at the summit of the mountain. It was a species of Sedum with vellum coloured flowers suffused with pink, and small fleshy leaves. Strange that many plants should still possess fleshy leaves, leathery leaves, water-storing tissue, and other anti-drought devices in such a moist climate! I have found this Sedum much further east, in north Burma, as well as in the Naga Hills, but this was the first occasion on which I had found it in sufficient quantity to be sure of getting seed — at least, if we came back at the right season. The stems do not exceed an inch or two in height, and

the plant forms thick, crowded colonies of crisp flower-bearing shoots.

Since our return to Sirhoi we had collected another eighty-five numbered species, of which about half were new to us. We were beginning to have a fairly representative collection of Sirhoi's flora. So on July 29th we packed up and started down the mountain soon after 9 o'clock, bound for Ukhrul which we reached without incident that afternoon.

CHAPTER XVII

BIRTH OF A POST OFFICE

OUR first assignation was with the cherry whose distinctive characteristic was its fruits, which are no bigger than a small pea. They had all gone from the branches, but we picked up over fifty on the ground, tiny spherical seeds the size of No. 16 shot — cherry stones you could swallow without a qualm. Some days later we found the tree cut down, neatly dismembered, and the billets stacked over its stump. It would almost seem as though the local people had a special hate against cherry trees; or perhaps they made the best firewood. A cherry tree beside the path was simply not safe; the pogrom had been issued. The road to — well, not heaven — was paved with cherry trees. Talking of that, what a wonderful sight it would be in spring if, say, the last mile along the ridge into Ukhrul were planted with rows of carmine cherries! The Indian government wishes to attract tourists to India. No better or cheaper way for a start could be found than by introducing a few deft touches of colour. The cemetery at Kohima, an inspiration to the living, attracts many sightseers from the plains. Travellers made of sterner stuff might brave the perils of the Ukhrul road in cherry blossom time. Why not interplant spring and autumn flowering cherries round the cemetery at Kohima?

Shortly after our return to Ukhrul some much needed stores from Calcutta arrived by post, and though it was an expensive way of getting stuff up, we were nevertheless thankful for the extension of the postal service to Ukhrul, erratic though it was. The schedule allowed for two mails a week, but once we got three on consecutive days — due, perhaps, to slow sorting at Ukhrul rather than to zeal at Imphal — and often only one in a week. If the road was too bad for trucks, the mail would arrive a day later by runner.

Local supplies were varied, but uncertain. Corn on the cob (generally tough), a few beans and onions, sometimes a bunch of bananas from Chatrik, rarely a little pork or venison or a high-priced scraggy chicken, all added variety. And with an assured supply of fresh milk, eggs and rice, there was no shortage of fresh food or of vitamins, only a certain standardization.

Now we were kept busy collecting and drying seed of several plants, notably the big-leafed Macaranga, a handsome little tree — it grows much larger in the forest — when the tall female spikes are ripe; and at the opposite end of the scale, the shy orange-and-mahogany flowered *Lysimachia deltoides*, a plant hardly the equal of our own Creeping Jenny (*L. nummularia*), but worth growing all the same. We had at last managed to find several large colonies of it, whence we obtained ample seed.

The middle of the monsoon is not the best season either for seeds or flowers, but some plants do flower and others ripen seeds at this time of year. For example, the whole tribe of gingerworts (Hedychium) flower in the late summer. They have crimson, yellow, or white flowers; sometimes the long style is crimson, the rest of the flower yellow. Other summer flowers are Polygonums, ground orchids (of which there are several fine Habenarias — including the huge, heavy scented *H. Susannae* — Spathoglottis) and others. Everything now reaches the peak of growth, but presently, after August, a little pale autumn colour begins to creep in, slowly at first — hardly more than a rumour. On the whole, year in and year out, August is probably the hottest, dampest, rainiest, and emptiest month of the year. Climbing plants particularly make the most of these ideal conditions. Having to devote a minimum of material to their own mechanical support (for most of which they depend on their neighbours), they are able to wax fat, and by the end of the summer are much in evidence. The vines, such as *Vitis lanata* and a beautiful glaucous species whose leaves assume gorgeous tints in the late autumn, are notable.

There is also *Dioscorea daemona*, charming in spite of its name, the creamy white flowers arranged in catkins.

At this season also the earlier flowering Viburnums are in ripe fruit. They are rather deceptive, being one day red and hard, apparently unripe, then suddenly turning soft and black within thirty-six hours. I sent Yipung out one day to collect ripe seed of *V. nervosum*. An hour later he was back without it, but being a conscientious youth he did not return empty-handed; he had collected instead a whole branch of the magnificent *V. erubescens* with the large dark green leaves and long tresses of corn yellow flowers. I had yet to learn that it was a comparatively common plant round Ukhrul, and at sight of the stricken branch, amply festooned with little red berries, I could have wept. 'All wasted!' I said in despair. 'They're not nearly ripe.' But Yipung stoutly maintained that they were, as I would see in time. And he proved to be right. We stuck the whole branch in a bucket of water, and every day for the next week I was picking up ripe fruits which had turned black and dropped in the night!

The last of the Viburnums to flower was *V. coriaceum*, a rather hard-featured shrub. Except that it is evergreen (which is no great praise when we remember the brilliant autumn colours some of the deciduous species take on), it is undistinguished. It has, however, the advantage of flowering late in the season.

Though I never actually saw birds eating Viburnum berries of any colour, they certainly do eat them, as I have found the seeds on the boughs of trees where birds have wiped them off their beaks. The fruit is often firmly attached to the pedicel, and when one grasps it between two fingers, one is liable to squeeze off the soft pulp, leaving the seed still attached. A fair number, however, do fall off of their own accord. In fact, the method we adopted with *V. erubescens* which ripens so suddenly, is the only sure way of getting good seed — namely, to gather it early. Otherwise, as soon as the fruits are ripe they mysteriously disappear. It is unfortunate that Viburnum seeds quickly lose their vitality; this seems to be the reason why the

matchless *V. cordifolium* had never yet been introduced into cultivation.

In due course the rain reached its peak, while at the same time we sank into the lowest depths of gloom. Rain, rain, rain . . . would it *never* be fine again? And then, almost without warning, the rainy season too approached its allotted span. Yet even August had its fine days, and one slipped in on the 12th; for the first time since June the sun shone all day. We took our lunch and walked to the West Mountain, enjoying the delicious air, revelling in the warm aromatic scent of the pine trees, and listening to the songs of birds in a verdant forest washed clean. We did not find many new plants, but it was a thoroughly enjoyable day, with maximum temperature well over 70°. Barbets were calling monotonously, and cicadas whirring like clockwork toys; and we saw several brilliantly coloured butterflies.

On the grassy Ukhrul ridge one day we watched a flock of small finch-like birds — cinnamon sparrows, I think — flying in close formation before settling all together, smartly, as though at the word of command. Head and as much as one could see of back and wings were dark, but the under parts were rufous or chestnut, so that when viewed from the front they took on a coppery sheen. It was their well drilled flying — over two dozen of them in the squadron — which particularly drew my attention to them and earned my admiration.

Then came more rain and grey skies and flying mist; but about a fortnight later, on the 27th to be exact, so clear a dawn came up that no sooner was I dressed than I said to Jean: 'Let's go to the West Mountain!' — our most constant picnic place in bright weather.

When we had finished breakfast Jean prepared our picnic lunch, and with Yipung in attendance we set out. A mile down the path we came upon two cherry trees in full bloom, different from any other cherry we had seen yet. There is, I think, some peculiar quality about a cherry tree which makes it inevitably an object of beauty. There are five or six species of cherry

(Prunus) in the Ukhrul neighbourhood, all of them handsome, although the carmine cherry is by far the best. Again it was as pleasant a day as we could want for a picnic, and we lunched in the forest under the giant maple. Every now and then there was wafted to us the scent of lemon grass, but whence it came we could not discover. Perhaps it was from some tree laurel; perhaps from *Hedychium coronarium*, one of the very few fragrant as well as one of the handsomest, of the gingerworts. The flowers of this species, which look something like garden Cannas, may be snow white, sulphur yellow, or darker yellow.

The most interesting plant we found on the mountain this day was a rather coarse gregarious herb growing by the torrent in deep shade. Its leaves suggested that it was a Polygonum, but it bore long, thin axillary spikes of coral red flowers, trailing like whip lashes, which were not the flowers of Polygonum. It was, however, of the same family.

In the village, life went on much as usual. The peasants (who, of course, form the overwhelming majority of the population) worked daily in the fields — at least, the women and girls did, indifferent to both sunshine and rain. Children — boys, at least — went to school. (If there is a feminine movement working up in Ukhrul, it can only be conservative in outlook.) A team went down to Imphal to show the youth of the plains how to play football. The leaders, smartly dressed, called on us for a subscription. I believe they won their match. One of the junior schoolmasters (not our staid friend from next door, who was the headmaster, but a bandy-legged Caliban) was brought to trial for trying to rape a girl down in the paddy fields, a girl who was, moreover, a ward of Mangalay's. At one period he had been an incessant, and finally rather a tiresome, visitor at Cobweb Cottage. His visits suddenly ceased, and we wondered why. Moreover, he would sneak by the cottage with averted gaze, even when we were visible on the veranda. Had we offended him in some way? No, he had offended against himself and against society. He was tried by the Circle Officer and fined Rs. 100 with Rs. 5 costs. If the money was not paid

within two months, he would be sent down to Imphal for further correction. So he passed out of our ken.

We had visitors almost every day; people we knew, or did not know, the latter often asking for medicine. Amongst the former were Haori, the Circle Officer, the head clerk (now also the postmaster), Dr. Tongul, the headmaster, and of course Dr. Mukerjee. Haori had a way of calling when he was least wanted, and of outstaying his welcome. We were grateful to him for getting us up supplies from Imphal, but his commission (undisclosed) seemed rather high, and had been fixed unilaterally. As already recorded, we got no change at all out of the second hundred-rupee note I gave him, and whereas he charged us for 12 lb. of cooking fat, what we actually received was 8 lb. But that's the way it goes.

It was instructive to observe how deeply local politics were involved, directly and indirectly, in the various little scandals which came to light with monotonous regularity. I have already referred to the charges against Haori, and the counter charges against the Circle Officer. Local politics interested us not at all, but there was no getting away from them, since practically all appointments depended on patronage. From our prejudiced, non-political point of view, all Manipur politics seemed wonderfully dirty, but they were probably no dirtier than any other; it was just a different kind of dirt. So long as everyone knew that when you got power you would as a matter of course appoint your relations (and your wife's relations as well, down to third cousins) to every job in your gift — and to refuse to share your good fortune with your clan would be selfish and contemptible beyond compute — I do not see that it mattered greatly. Under the British regime it was different, but no better — except that less was said, more done. Village politics are always parochial in outlook. However, it *was* just a little surprising to learn that one of the six Ministers of State in Imphal was illiterate.[1]

[1] About six months after we left Ukhrul, the Central Government took over the administration of Manipur. So the last of the princely states vanished.

More than once Haori referred to the misdemeanours of the present Circle Officer who, it appeared, was responsible for his (Haori's) temporary eclipse. Once he even confided in us what a God-fearing man he was, and how far sunk in depravity was the Circle Officer. However, we continued to resort with the criminal classes, and once had the two men amicably drinking tea together in our parlour at the same time. This was definitely a feat. The Circle Officer was shortly going down to Imphal to answer a charge of embezzlement; the Education Fund, it seemed, had mysteriously vanished into thin air.

Now that the rain confined us more to the cottage, we had plenty of visitors besides our 'regulars'. People came to ask Jean for medicine, and rarely went away empty-handed. We had to thank Dr. O. W. Hasselblad of the American Baptist Mission, Jorhat (a good friend of ours) for many of these. A few of the village girls came in now and then on their way home from the fields to make Jean's acquaintance; and people whom we had met in outlying villages would drop in. Occasionally we met resplendent people who had left Ukhrul to seek their fortune in the great world beyond, even as far afield as Imphal or Shillong, and were come back to visit the old folks at home and tell them something of city life. The dazzling Apyu, the Circle Officer's eldest daughter, was one of them. She was a beauty, dressed with real chic, and had a charming way with her. A school teacher, she paid a visit to her father during the holidays and called at Cobweb Cottage, to our great delight. She was the most radiant creature we had seen amongst the Tangkhul Nagas.

As already observed, it might puzzle us to know how her father kept two sons at Calcutta University on a Circle Officer's meagre pay; but it was none of our business to inquire. He might have private means; on the other hand, if he lived far beyond them, at least it was not riotously. Still, one could not help wondering, half enviously, how these things are done.

The larger Politics were also agitating the hills. The greed

for power amongst small men as well as big seems well nigh irresistible; and now that the State had its own Legislative Assembly, there was a chance for the talkative man to make himself heard, or even listened to. The remarkable statement, attributed to H.H. the Maharaja, that it was not 'educated' Ministers or M.L.A.s he needed, but 'just ordinary folk', had apparently borne fruit, since many of the M.L.A.s could not sign their own names.

Ukhrul is a big place as hill villages in Manipur go. The pagan up-town part contains about three hundred houses, and there are probably another hundred and fifty in Christian Ukhrul down-town. With an average of, say, five children per Tangkhul family, the total population should be in the neighbourhood of 3000. It is said to be nearer 5000; but perhaps it is assessed at the higher figure for someone's convenience — though hardly for its own. Ukhrul sends four members out of a total of eighteen for the entire Hills region of Manipur, to the Assembly of fifty members, from amongst whom the six Ministers of State are chosen. I write 'chosen' rather than 'elected' because it is impossible to know how 'elections' are conducted behind the caste iron curtain of a Brahmin State.[1]

The Legislative Assembly was supposed to meet soon, but it was whispered that the attendance would be negligible, since one half of the legislators were still running round challenging the *bona fides* of the other half. The air was blue with charges of corruption and counter charges. As for the highlanders, they were so busy quarrelling with the plainsmen (and when that palled, amongst themselves) that everything became stagnant. Even the Tangkhul Long, which was supposed to represent all good Tangkhuls, was deeply divided, while Tangkhul and Kuki each believed they had separate and irreconcilable interests. So the bickering went on, too long. It is possible that had the people shown a united front, the Central Government would have had no good reason to destroy the ancient State, as it did a year later.

[1] This was written before the Central Government took over Manipur in 1949.

BIRTH OF A POST OFFICE

About the middle of the month the long threatened Ukhrul Experimental Post Office was born. There had been rumours of premature birth, but they turned out to be mainly wind. It was fine to have our own post office, of course, even if it did not function boldly, as an experimental post office should; that is to say, it accepted ordinary letters (if rightly stamped) and delivered ordinary letters addressed to Ukhrul; but the postal clerk, who was of course untrained in this particular branch of office work, never knew the rates for overseas letters — let alone parcels — and invariably had to write to Imphal for instructions. Nor did it help us much to know the correct postage, as there were never any stamps. Complications really set in, however, when we wanted to send a registered letter. Both letter and the money for stamps had to be sent to Imphal, and a week later (if we were lucky) the receipt arrived. Even for ordinary postage there were never enough stamps in the till. When it came to receiving registered articles, we were in a worse position. As always in India, you signed the receipt before the post office delivered the article, and unless you yourself handed in the receipt, you delivered yourself into the hands of the unscrupulous. Actually the risk of fraud is almost negligible, but there it is. Ukhrul post office, however, did not handle registered mail, so that the receipt for a registered letter was issued in Imphal, sent up to us with the mail, signed, and returned to Imphal forty miles away, before the letter left the Imphal post office. That never took less than a week. One registered foreign letter — a rather important letter for us — which we entrusted to the post, was swallowed up and never emerged again. Its loss involved us later in considerable explanation and clarification. Perhaps the surprising thing is, not that some letters were lost, but that far more were not. However, though we still had to carry on as though our nearest post office were at Imphal, we were really better served than before, because the mail came and went with fair regularity, except when the weather was particularly bad.

CHAPTER XVIII

ECCLESIASTICS—NEW STYLE

It had been an immense relief to get rid of the dull Oaf; it was perhaps an even greater relief to get rid of the parasitic Thangsha. The day he finally left us we felt cleansed. From the start he had shown himself to be lazy and unwilling; it was sheer charity to take on such a ne'er-do-well, though Mangalay for some reason approved of him. Had we known that he was a sot, he would have had to seek a job elsewhere. During our first visit to Sirhoi he had taken the opportunity to draw his pay for the very minimum of work, and drink jorums of zu; hence our chronic lack of firewood, which now that the rains had come was a serious matter. On our return from Sirhoi at the end of July, therefore, I stopped paying Thangsha for firewood which we never got, and shortly afterwards dismissed him. He persuaded Mangalay to plead his cause, which that advocate did so eloquently that I foolishly relented and took him back at the end of a week, slightly chastened. However, it did not last. One afternoon I was in the kitchen (Mangalay was out), when I heard a strange growling noise proceeding from under some old gunny sacks which covered a board bedstead. I walked gingerly over to the dark corner to investigate, supposing some irrelevant jungle beast had sneaked in, when to my amazement I observed Thangsha's head peeping out of the sacks. He was dead drunk, but only half asleep, snoring like a bull. So I left him to it.

When he came round I fired him without further parley, and this time I meant it. His successor, who came only to carry water, which he drew from a muddy well down the hillside, was a quiet, willing boy called Mopa, who stayed with us till we finally left Ukhrul in December. We bought our firewood uneconomically from outside.

In the rainy season many large and uncouth larvae are abroad. The champion heavyweight was a brown hairy monster, destined to become a moth. Almost as big was a brilliant grass green caterpillar with a leather-brown head. It was four and a quarter inches in length, its body armed with a series of paired conical turrets, from each of which projected a fascis of stiff bristles. The first pairs of turrets just behind the head were larger than the others, and more heavily armed, for from their base sprang ten diverging spikes with a single long central spike, all jet black — a truly frightful weapon. The turrets, six to each segment, in three pairs, were distinguished by their pale yellow colour and orange base. The creature was gaudy, but not beautiful, and more frightening than lovable. It looked like one of those liassic reptiles which stalked the earth millions of years ago.

Even this creature was eclipsed in fantasy, however, by another with armament which could be instantly concealed at will. You saw a large, but ordinary looking caterpillar coming towards you. Suddenly it took fright; and as though it had pressed a button, two rows of ports aligned along its back opened, exposing as many tufts of bristles, each tuft countersunk in its little weapon pit. Thus the innocent looking larva crawled along looking as smooth and inviting as a ripe peach; the alarm being given, it suddenly unmasked its ports and displayed to the astonished gaze a dozen tufts of lethal bristles, which a minute later would vanish again with all the unexpectedness of a disappearing gun. All these armed caterpillars set up considerable irritation if you handled them, and it was hardly surprising that the Tangkhuls avoided them; nor could they understand our interest in such creatures, which experience had taught them were dangerous. However, the only caterpillar I induced to pupate became a large and rather dull white moth.

A caterpillar which seemed to be identical with the peacock larva at home is common round Ukhrul, feeding on a plant of the same family as the stinging nettle (*Urticaceae*). Yet I cannot

recall ever seeing a peacock butterfly in these hills. Colonies of small larvae, well drilled to act in concert, were not rare. Sometimes I came across several dozen together on a twig, or perhaps more scattered, but still forming a protective colony; and all of them would simultaneously jerk up their heads as though on the word of command. The effect was startling and might well cause consternation. One day I found a concentration of six or eight small larvae on a twig. Their bodies were closely applied to the twig lengthwise, but head and thorax were free, and as I shook them they laid these back through 180° till they were almost parallel with the rest of the body, all six legs stuck up in the air, making an efficient *cheveau-de-frise*. Some of the more aggressive larvae will even sit up on their hind quarters and spit at you when vexed. This was sharp-shooting. Should a large band of them do this, it could be an effective deterrent, especially if the juice they expel is an irritant and hits you in the eye.

The largest band of larvae we saw was on the path close to Cobweb Cottage, and every one was dead — putrid. There they lay on the path, a dark putrescent, viscous mass, my footfall suddenly muted as I accidentally stepped into the middle of them. Why were they crossing the path? Or had they come there just to die and rot? What had killed them, and how? Nothing but swift epidemic disease could have done so complete a job, one would think.

There came a pronounced lull in the botanical work. We continued to find plants new to our collection, of course, but few of them had the unmistakable stamp of quality, or looked like good garden plants. Jean found a solitary specimen of *Gentiana* (*Crawfurdia*) *japonica*, a pale wisp of a twining plant from whose thread-like stems dangle green and white tubular bells; but though we searched high and low we did not find another till November, when the deep, red, shining sausage-shaped fruits, like small polonies, betrayed it. Now that it was so clearly revealed, we were surprised to find how abundant it was; we must have passed many a plant in flower without seeing it.

Seeds were now beginning to ripen, and we started collecting them in earnest. On August 28th the first heavenly blue Vanda (*V. coerulea*) was brought to us; but September-October is the normal blue Vanda season in the hills. We planned to visit Sirhoi again towards the end of September, but that was almost a month hence. It therefore occurred to me that we might employ part of the time usefully in making a reconnaissance to the north, a direction we had not yet taken. There is a village called Tusom Khulen, just under the Somra Pass which crosses the frontier into Burma at this point. We should see new country and get some idea of how things were on Sirhoi, too, the Somra Pass itself being over 8000 feet. I reckoned it would take at least eight days to get there and back. We would start on September 7th, thus giving ourselves plenty of time.

One morning Dr. Mukerjee brought round an interesting visitor to see us. He was a young Bengali officer of the Inland Customs Service, who had been sent up from Imphal to find out how much unauthorized trade was passing between Burma and India across this frontier. As his superiors had omitted to supply him with a map, he was rather vague as to the whereabouts of the frontier, and more so about the nature of the country. I lent him a map, and he laboriously made a tracing of it.

He asked whether he could reach the frontier by jeep. We told him, no, not by jeep, but perhaps on foot. He would have to walk (or ride a pony, if he could bring one up from Imphal). Did much stuff come through this way? It was hard to say. You couldn't cross the frontier just anywhere; it was mountainous, covered with forests, and furrowed by deep, swift rivers. Smugglers would not necessarily pass through Ukhrul — there were many jungle paths known only to the elect. There was probably no organized smuggling — yet. The young Bengali took himself dreadfully seriously. He was a pleasant fellow to meet, but quite hazy about the Burma-Manipur frontier, the high mountains of which made him gasp, and I would dearly

like to have read his report. He got no nearer to the frontier than Ukhrul.

The prospect of being on the move again filled us with joy, especially as the weather now began to improve. The morning of the 7th was fine, and with an eleven-mile march to Longbi before us we tried, without much success, to make an early start. The first six miles was all downhill through open pine-oak country. It was like an immense park. Between 4000 and 5000 feet altitude we passed through glades of *Quercus serrata*, *Q. fenestrata* (whose leaves were terribly blistered by some corrupting fungus), and the handsome *Q. Griffithii*. At the bottom of the valley one saw an occasional birch. After crossing the river, beyond which were a few paddy fields, we began the long climb up to Longbi, perched on the opposite spur. It was hot and sticky in the low valley at only 4000 feet altitude, and presently it began to rain.

The last mile to the village was by a steep rugged path, and we arrived wet through, thankful to find that Mangalay had installed us in a large, airy barn of a house which, being filled with hard benches, we supposed must be the village school or possibly church. None of the local inhabitants had come to greet us, which suggested a certain lack of warmth in our reception; but perhaps they were all out looking for eggs to give us (wishful thinking). Anyway, it was raining hard. There was not much free space in the building because of the fixed benches, and not much privacy either; but we got out of our wet clothes, hung waterproof sheets over the open window frames, and sat down to hot tea which Mangalay had prepared. So far so good; we were well launched on our way to Tusom Khulen; everything seemed peaceful.

The peace did not last very long. While we were still at tea a great clamour arose outside, as of two men in violent altercation. A village quarrel; it sounded as familiar as a slanging match between two fish wives. I had half a mind to call Mangalay and tell him to persuade them to carry on in the

[*facing:* A TANGKHUL SMOKING AT THE ENTRANCE TO HIS HOUSE

next street — it was unseemly to brawl in the precincts of the school (or church). But looking outside, I saw that Mangalay was already on the scene, trying to coax one of the opponents into a more reasonable frame of mind. This was a small, rather seedy looking person dressed in khaki shorts and a singlet, not too clean. A few friends stood behind him, like the chorus in a Greek tragedy. Meanwhile the noise rose higher, till it reached a very *fortissimo*, the torrent of abuse (as I judged it to be) punctuated by gusts of mocking laughter on the part of the seedy one. Mangalay was hovering round with a seraphic smile on his face, pouring sweet oil on the very ruffled waters as best he could.

The seedy and more irate person of the two was pointing the finger of scorn at a Tangkhul of the old school, who, wrapped in a scarlet blanket, was grinning, but retreating. Finally he went off, still grinning defiance, leaving the other in command of the field.

I asked Mangalay what all the trouble was about, more out of curiosity than because I was interested, and his explanation was as follows: When he and the porters arrived in pouring rain and found no travellers' hut, he was nonplussed. At that moment along came the Tangkhul in the red blanket, and Mangalay applied to him. 'Quarters for the sahibs? Why certainly! Look, they can sleep the night in this fine building, which is the new church.' (How he must have chuckled to himself! A grand opportunity to pull a fast one on his enemy the Christian padre.) Mangalay thanked him and gladly took possession without further inquiry, dumped the loads, unpacked, set up our beds, and had everything ready for our arrival. There was a small hut close by in which to do the cooking. I find it hard to believe that Mangalay did not know a village church when he saw one.

Before long the padre arrived, and his choler rose when he saw his church being turned into a hostelry without so much as a by-your-leave. The sight of his arch enemy the Tangkhul headman, returned to the scene to gloat over the success of his

ruse, inflamed him beyond endurance, and he opened the battle with a volley of irreverent abuse. In vain did Mangalay explain that it was all owing to a misunderstanding. By-passing us (who after all were comparatively innocent), the padre equally ignored Mangalay, and turning, tore comic strips off the Tangkhul headman in no uncertain fashion; supported by the several elders of the true Church, he finally drove him from the field with jeering laughter. We thought the incident was closed. Far from it; rather was it just beginning. Mangalay now came in with the announcement that the padre had called a prayer meeting for the evening, and would require the church. Would we please vacate it immediately!

This was pretty high-handed, but the padre was, I suppose, within his rights. He had never given us formal permission to stay in the church — or had the chance to do so, since nobody had consulted him. On the other hand, we had sent our apologies for the mistake, put the blame on Mangalay, and hoped for the best; only bad manners or bad temper could have persuaded him to act as he did. But the position — for us — was intolerable. Beds, bedding, food, cooking pots, practically all our possessions, were now unpacked, and we were well and truly settled into the draughty thatched church with its close rows of hard backless benches fixed into the mud floor, and its seven square window frames, through which, on one side, the wind blew gustily. Dusk had already fallen; it was pouring with rain; we were not familiar with the surrounding almost perpendicular country; and our porters had left an hour ago. To put up tents under these conditions was not to be thought of. Jean at least dug her heels in. 'I'm not going to move from here tonight,' she said, 'not even if they throw me out.'

It was now almost dinner time. I sent a soft, non-committal answer back to the padre, playing for time. Would he kindly come and discuss the matter with us in about half an hour, after we had taken our evening meal? We could have a pleasant talk and would doubtless find some solution agreeable to both

parties. The padre promised to come; and we had our supper in uneasy peace.

Behold us, then, seated on our camp beds, the padre and his friends opposite us on the benches, and Mangalay standing in the middle like a referee explaining the rules before the fight begins. Having won the toss, I decided to bat first, and repeated our apology for occupying the church without reference to the padre; but as I pointed out, this was all due to a misunderstanding which was easily explained, and it would be absurd to take offence, so far as we were concerned at any rate. I said that it was pitch dark outside and pouring with rain. We were tired after our walk and wanted to go to bed. It was not possible for us to move out tonight, and as we intended to go on tomorrow, he would soon be rid of us. Of course, we would give a donation to the church funds, for the privilege of a night's lodging.

Mangalay translated my un-idiomatic Hindustani into Tangkhul, and I watched the face of the padre carefully, but learned nothing; he had the changeless expression of an African juju. At last it was his turn to go on the air, and he made a long and (as it seemed to me) rambling speech, turning now and then to his cronies for assent. They looked sage, and nodded their heads like good yesmen. 'Carry on,' I thought; 'the longer the better. I think we shall be able to talk this motion out.' I did not interrupt, but let him ramble on, adding afterthoughts at short intervals. At length he fell silent, and I asked Mangalay the score; how was the game going? What had the padre said? It could hardly have been of great importance, for I do not recollect a single word of Mangalay's brief synopsis, except the last paragraph. 'He has been shamed. Why was he not consulted first? He says you must turn out tonight, now; you cannot sleep here.' The mixture as before!

It was then that my gorge rose, and I trained all my heavy guns (which had been held in reserve) on to him. After a discussion with Jean, 'Tell him,' I said to Mangalay, 'he is not a good Christian, because a Christian does not act like that.

He wants to turn us out into the darkness and rain — an old man and a weak, helpless woman' (I glanced at Jean to see if she had understood, and caught her eye; if looks could kill, the one I intercepted would have been lethal.) 'If he went to our country,' I continued, 'to London, which is no mean city, and if he had nowhere to go for the night, the Christian people would give him shelter inside a church, and gladly.' (I said this with such assurance that I almost believed it myself, though I am afraid it would be literally true only of St. Martin's-in-the-Fields.) It was not against the tradition of his Church or ours to house the homeless wayfarer for the night. On the contrary. Nor did it cause anybody the least inconvenience. (Some of this carefully prepared speech I had to say in English, so it was probably wasted!)

Then, to gain time, I went over the old ground again. We were sorry the padre had not been consulted first, it was a regrettable affair and he was fully entitled to our apologies and sympathy, which we offered freely; but he was *not* entitled to exact retribution to the extent of turning us out summarily in the middle of the night.

I stopped there, sensing that I had made an impression. The Church Committee consulted together, and were noticeably quiet. Then Mangalay and the padre talked amicably for a time, and finally the former told us that the padre agreed to our staying the night. It was no more than a truce, perhaps; but it avoided all unpleasantness. The fathers of the church, their rage subdued, their prestige restored, now departed and we were left to ourselves.

We did not continue our journey the next day, because there were no porters. After packing up and waiting, we were told that they would be ready the following day, which meant sleeping a second night in the church. However, we sought out the padre, found him much more affable, and obtained his willing consent. By this time he was paying us visits, and asking if we were comfortable. When the third day came there were still no porters, and it appeared they were demanding three rupees

a day, and would not budge for less. We refused to pay so much, and that was that. We also heard that the bridge across the river had been swept away by a flood, so that it was now impossible to reach Tusom Khulen anyway; whereupon we lost all further interest in the excursion. We would return to Ukhrul and await a more favourable opportunity, we said.

As we did not want to create a precedent by paying Rs. 3 a day per porter, we decided to send Yipung back to Ukhrul to collect our old reliable porters there. If they came promptly we would pay them Rs. 2.8 each for the journey. Yipung left on the 9th, and we hoped to start back on the 11th. The porters answered the call so promptly, however, that they arrived while we were finishing a leisurely breakfast on the 10th, and an hour later we were packed and ready to start. We took ceremonious farewell of the padre, and he was vastly polite. We gave him Rs. 5 for the church collection, which he accepted with an air of bewildered reluctance, possibly because several of his cronies were looking on. I was glad they saw me redeem my promise. Thus we parted from the Christian clique, almost as though they were long lost brothers, or even prodigal sons. Nor was that all; for the pagan villagers also gave us a rousing send-off, and as we started down the hill a number of women and girls attached themselves to us, laughing and singing. They accompanied us for a mile, then peeled off to go to the *khets*. Thus our departure was more triumphant than our arrival had been. We intended to return, and were anxious to make a good impression — which seemingly we had done.

The river was more or less in flood. Approaching the valley, Mangalay became talkative, and reported that the previous day a man had tried to wade across rather than go round by the bridge; he had been swept away and drowned. I was thinking of something else just then, and my attention had wandered . . . flooded river . . . difficult crossing . . . man in the water . . . bridge. 'That's all right,' I said. (Evidently someone from the village had gone ahead to repair the bridge and help us over.) 'I'll give him a couple of rupees.' There was a slight pause.

Mangalay looked non-committal, Jean laughed, and I realized that I had made a nonsense. 'He's drowned,' she said, 'he was swept away by the river while wading across. I don't think two chips would be much use to him. Don't you understand?'

'Oh, yes, of course,' I replied. (But my mirthless suggestion that I only meant a piece of silver to put in the dead man's mouth to pay Charon's ferry fell flat. Mangalay's classical education had been neglected.)

Yipung had acquired a pair of army boots and was trying them out; but already they were showing signs of wear, though they were not yet wrecked. Arrived at the river, however, he lost patience, and with a lordly gesture flung them into the stream. I wondered whether I ought to take the hint and do likewise, for my own boots were in worse case; but by a supreme effort I restrained myself. After all, he probably preferred nature's foot pads.

Except for this slight brush with the church, which opened our eyes to the explosive elements present in an apparently homogenous and inert Tangkhul village, our abortive attempt to reach the Somra Pass had little tangible result. But there was one thing we can never forget — the magnificent blue Vandas, in full bloom, which the village boys brought us when they learned that we were looking for flowers, and which we ourselves observed also, growing on the trees. It is not a rare orchid but it varies a good deal in colour, some forms being much paler than others. The finest sprays bear flowers almost ultramarine, tesselated darker and lighter, and fully four and a half inches across. One plant we saw bore three fifteen-inch spikes close together, carrying forty-five massed blooms, an incredibly gorgeous sight. Such a plant, with its long, brittle, woody stems, might be a quarter of a century old, and I would hazard that the plant is at its best any time after fifteen to twenty years, though that may be no more than an intelligent guess. I have never seen a really well grown plant in England, all being small, with small pale flowers in short few-flowered spikes; they would not bear comparison with the Manipur

plants. Yet *Vanda coerulea* has been grown in England under glass for over a century.

Another plant which seemed to do particularly well at Longbi was *Uraria lagopus*, whose tall, rigid spikes of crowded lupin-like flowers are attractive enough, but small. The plant is dwarfed as though to fit in with the rock garden, but only about a quarter of the twelve-inch spike is in bloom at any one time. On the walk back to Ukhrul was found a colony of the handsome *Burmannia disticha* growing on a steep bog slide. It is a saprophyte, living largely on decayed vegetable matter such as accumulates in bogs; but it also has green leaves and can manufacture its own food like any other green plant. The orange flowers are perched on violet winged pedestals — really three-angled ovaries — which in turn are arranged along one or more rigid arms which branch from the top of the stem; and it is these tiny orange glow lamps (and particularly the violet brackets) which attract attention.

There was now nothing to be done but wait for the fine weather with what patience we could command. We went out nearly every day, but did not find many new plants. Everyone told us, and kept on telling us, that 'the rains' were over. Maybe they were — but it continued to rain. After September 15th, however, the signs grew more propitious, and certainly more credible; the sun came out again. There was no point in our starting for Sirhoi much before the end of the month, and eventually we selected the 27th as our lucky day. This time we intended to be out for a month.

CHAPTER XIX

HARVEST FESTIVAL

LOOKING across the valley to Sirhoi on September 24th, we became aware of a pale bronze gleam stealing over the meadow. It glinted in the sunlight, sometimes took on a red-gold colour. Once again the mountain was changing its skin; it was high time to return there.

As arranged, we started on the 27th and reached the hut in six and a half hours, expecting nothing but fair weather from now on, to find the scene completely transformed once more. The meadow had reached its zenith and was about four feet high, dominated by the spires of violet monkshood which were just coming out, and the lesser, interrupted, spires of larkspur. Now the conspicuous flowers of July, notably the anemone and the crowded gingerwort were scarcely visible. Just as these two latter replaced the lily and the iris, so they in turn had given way to monkshood and Plectranthus, a fine mauve mist of which lay over the meadow. The whole summit was striped with the tall flowering rods of monkshood, like violet shadows at sunset. But there was an even better monkshood than this, also violet flowered, though the texture was different and glossy as watered silk; a twining monkshood. It was in full bloom and the flowering sprays hung in long festoons at the edge of the forest, draping the bamboo screen as with a curtain. The flowers, borne in short close spikes, are crammed one on top of the other and look like piles of shining blue steel helmets.

But though two or three species of plants were outstanding by reason of their showy flowers, we must not lose sight of the fact that the meadow had just reached the optimum, and that its foundation members, so to speak, were millions of grasses and sedges, which were present in considerable variety. I have mentioned a film of red-gold colouring the slope, which was

caused by the flowering of a grass; and there were many others, some of them five feet tall. Including these, there were probably more species of plants flowering in the meadow now than at any other season. A rough census revealed altogether 150 species of flowering plants contributing to the makeup of the meadow above the 7000-foot contour, the great majority being perennials with bulb, rhizome, tuber, or deep rootstock; and that at least half of these were in flower now. All this within a range of 1500 feet.

As already suggested, fire is both the scourge and the encouragement of Sirhoi's meadow. Without fire there would be no meadow at all, or very little. But fire not only favours meadow at the expense of forest, it decides what kind of meadow plants shall grow there. It winnows the fit from the unfit. It is not for nothing that *Lilium Mackliniae*, with its deep bulb, grows here in thousands. Small tuberous rooted orchids belonging to six or eight species are equally prolific, and the two rhizomatous irises, the monkshood, a blue larkspur, Onosma, and many other plants are equipped with long tap roots. All these can easily survive the quick singeing of grass fires. But undoubtedly the best equipped plants are the grasses themselves with their long matted rhizomes, able to creep beneath stones and to form a thick protective mat of living shoots; and the sedges too.

How many years has fire taken to stabilize the flora of Sirhoi at its present level? It must be remembered that after the fires the charred patches are never quite continuous. Large areas are completely blackened, but some are only scorched, and many a nook goes unscathed for several consecutive years. But though the fire does not destroy the underground parts of the plants, it certainly destroys millions of seeds; millions, also, escape. It is here that the grasses, with their vast numbers of small, well protected seeds, have a powerful advantage — and the climate exactly suits them. A few small annuals also come up each year, amongst them a brassy flowered Hypericum which turns completely crimson in autumn, sundew, *Lysi-*

machia japonica, forget-me-not with large pale flowers, and the delicate fluffy blue Cyanotis.

Then there are those plants which grow only on bare rock and thus escape the fire. They are so few in number that it would hardly be worth while to draw attention to them, did they not include one of the most beautiful rock plants known — *Primula Sherriffiae*. Also the pretty white Sedum. Fire, then, has prepared the ground for meadow by destroying the forest or scrub which would otherwise clothe the slope; but it did not provide the seeds from which the meadow sprang. Whence did they come? Presumably many of them do not grow elsewhere in the neighbourhood; at least, we have no reason to think so, since we did not find them in apparently suitable places. They came from more distant regions, from Burma, from China, from Tibet, from the Himalayas perhaps. And *how* did they come? Who, or what, brought them? The truth is, we do not know the distribution of these species with anything like sufficient accuracy even to say where is the nearest point they grow. Some of them certainly are not known to grow within 100 or 200 miles of Sirhoi. How did *Primula Sherriffiae* get here from eastern Bhutan? Or was it the other way round? Again, we do not know.

It was altogether a delusion that the rains were over. So far from the truth was it that we sometimes felt we were back in July. On October 1st the dense billows of mist were rolling up from an inexhaustible cauldron below, while a heavy blanket of cloud smothered the summit all day. Yet occasionally there was a hint of change, a clear dawn, when every ridge and peak for miles stood out boldly; or a serene and colourful sunset.

Mangalay received news that his father was ill and asked to be allowed to return to Ukhrul. He rejoined us a couple of days later, climbing the rough track from Sirhoi village after dark, in a storm of wind and rain which doused the pine torches he and Yarter carried.

On October 3rd we awoke to no song of birds, no joyous cry

of gibbons, but to the roar of the wind in the forest, where the branches of the trees were being madly tossed about. A gale had sprung up during the night, driving mist and rain almost horizontally across the ridge. It was damp and chilly and we could not see a hundred yards in any direction. The last fling of the dying monsoon, perhaps. By noon next day visibility had been reduced to forty yards; two hours later it was forty miles. We could make out the mountain ranges across the plain of Manipur like gigantic pale shadows thrown on a screen. The clouds were rolling up and tucking themselves away under the horizon; that night the stars shone brightly in a clear sky. We went to the top again and saw the Chindwin river and the high frontier ranges of Burma, so near that it seemed one could toss a pebble across the gulf.

This is a good season for butterflies, and I noticed at least eight species, including the 'English' swallowtail and tortoise-shell, a pair of magnificent black and metallic dark green swallowtails, and a large orange coloured butterfly sprinkled with black spots, the hind wings having in addition a narrow blue border. An entomologist would have a pleasant time on Sirhoi. I noticed several larvae of the English swallowtail feeding on what looked like wild carrot, or at least a closely related species with the fern-like leaves of carrot.

At the end of ten days we had thoroughly explored the Sirhoi ridge; there was nothing more to come into flower, at least in the meadow, but many seeds we wanted to collect would not be ripe till November. We therefore decided to make another journey eastwards, not so far as Chammu, but in that direction, visiting Chatrik. We would be away eight or ten days, and could call in again at the Sirhoi hut towards the end of the month on our way back to Ukhrul, when most of our seeds would be ripe and the weather more settled.

Our object now was to cross Sirhoi and reach the village of Mapum on the other side, whence we could rejoin the bridle path at the bottom of the valley which we had followed previously between Pushing and Humhlang. That march to

Mapum was memorable for its hilliness, though the total distance hardly exceeded six miles. First came the 450 feet to the summit, then a long descent down the north-east ridge to a stream 2250 feet below, followed by an ascent of 1250 feet and another descent of 1500 feet to the village; in all, about 1700 feet up and 3750 feet down, most of the way through forest. As we got down into warmer country we collected many plants in flower, but few (if any) were of great merit or novelty. We reached Chatrik on the third day, not having had a single dry march. We lost the way into Chatrik and found ourselves in a derelict village where ripe tomatoes, the size of small cherries, were abundant in the rank, overgrown gardens. The discovery of these, so juicy and full flavoured, was some compensation for our late arrival at our destination.

There is plenty of traffic between Chatrik and the Chindwin, and the Inland Customs officer whom we met in Ukhrul should have visited this valley at least. One saw buffaloes with Burmese wooden clappers round their necks, Burmese gongs outside the church, and similar signs of local trade.

After resting a day, during which it rained steadily throughout, we started back on the 13th, reaching Humhlang the same day. Unfortunately I was unable to secure any seed of the wild Tea below Mollen, as the man I sent across to collect it said it would not be ripe till March. He told me that once, many years ago, the Maharaja of Manipur had sent him to collect seed about April. He was certain of the date. (Cultivated Tea in Assam ripens its fruits in October.) The kernel of the 'wild' Tea seed is eaten locally as a cure for dysentery and fever.

We collected seed of a handsome vine at Chatrik. It is a small plant with variegated leaves, and bears clusters of polished black berries on crimson pedicels.

Two more marches over the southern end of the Sirhoi range, still in pouring rain, brought us once more to Kangkoi, almost within sight of Ukhrul. We never had any luck with the weather between Pushing and Kangkoi. *Anneslea fragrans*, a

middle-sized tree belonging to the Camellia family, was in full bloom. Next day, October 16th, we turned aside from the bridle path and marched to Sirhoi village, getting caught in a severe thunderstorm shortly before our arrival. We found Mukerjee occupying the hut and went on to the village, where the schoolmaster had kindly put the school at our disposal for the night. Mukerjee had just returned from a trip to the summit of Sirhoi, but was not enthusiastic about it; he said he had seen nothing new. This was hardly surprising, for winter was now close at hand. He returned to Ukhrul on the 17th while we went on to our mountain hut.

Before leaving for Mapum we had instructed Yarter to dig up lily bulbs, from which we might select the best. This he had done very competently, and when we finally left the mountain on the 26th, we had two baskets full of fine healthy bulbs. We expected to collect ripe seed of all our plants before the end of the month, but in this we were too optimistic; the erect aconite, for instance, was now at its best, and seeds would certainly not be ripe before the middle of November.

For the first time since spring, when the rhododendrons and magnolias were in flower, the forest was more colourful than the meadow. Almost every tree trunk was plastered with strips of fern, whose shapely fronds had turned a glowing orange, russet or champagne yellow. They lit up the forest as with neon lights. The long festoons of moss too had changed colour, and the scarlet leaves of a vine burned brightly against the dark canopy. Masses of shining berries, blue, red, or purple, decorated many a shrub and tree, and the green leaves were of every shade, though one missed the delicious tender hues of breaking leaf buds. The most handsome tree in the forest, however, was the giant Sorbus, whose leaves had begun to redden; a strange Zanthoxylum, its tree-of-heaven leaves still green, was hardly less so. The most remarkable feature of this beautiful tree was its dangling bunches of four-angled fruits, from each of which peeped the orange-capped seeds like a giant Euonymus.

Sirhoi Kashong really has two summits less than a mile apart, and I doubt whether there is a difference of fifty feet in height between them. The nearer and higher rocky summit is plain meadow, and covered throughout the summer with all the flowers of the mountain. The other, which lies to the east and is connected with the higher summit by a rocky ridge sloping down to a saddle, is covered with forest. We had not cared to push through the scrub during the rains; but now that fine weather could be expected, we decided to visit it. On a bright sunny morning we climbed to the top of the near peak, made our way down to the saddle, and so up through the forest again to the second peak, finding abundance of a large cut-leafed epiphytic Begonia in fruit.

The peak fell away precipitously towards the east and south-east, but not too steeply to hold forest. It was peaceful here out of the wind. Along the summit ridge splendid bushes of *Pieris formosa*, now in bud, grew amongst thickets of rhododendron. On the cliff I found colonies of *Primula Sherriffiae*, and several beautiful ferns; the primula seems to be as well established as any plant on Sirhoi. Michelias were dropping their woody fruits, from which protruded the vermillion seeds; and a small tree of *Magnolia Campbellii*, already naked, was covered with fat flower buds, which looked as though they might burst into bloom any day!

There were many butterflies in the meadow; indeed, as the weather improved they increased in number, in spite of cold nights. On October 25th I found two sluggish larvae of *Papilio machaon*; they would surely pupate during the winter months and emerge in the spring when the Daucus, on which the larvae feed, are already green. But we found no more snakes, which had doubtless gone into retirement on the withdrawal of their food supplies. Yarter told us he had been hunting a bear while we were at Chatrik, and had wounded it. However, it had got away, and he had seen nothing of it since. We hoped it *had* got away — right away — or was dead; the prospect of coming face to face with a recently wounded bear in the forest was

distinctly embarrassing. For the most part we kept to the ridge and the meadow slope now, collecting seeds. We visited the magic glade, still lush and green, and the Mapum ridge; but there was no incentive to go deeply into the forest.

We decided to return to Ukhrul on October 26th, though there would still be a score of wanted plants whose seeds were not ripe. We pointed them out to Yarter, who had done so well digging up lily bulbs, and instructed him to collect seed of them after the middle of November. This job also he carried out admirably and quite to our satisfaction, failing to collect only one species.

The last two days of our stay the weather was perfect, and we took many photographs, though it is difficult to do justice to Sirhoi Kashong. A few nights previously the boys and their friends had bought a young pig for Rs. 45, to which we contributed. It was suitably sacrificed to the god of the mountain. Nevertheless, it was with feelings of regret that we started down the ridge for the last time, having quite lost our hearts to Sirhoi. We dawdled along, collecting seeds as we went, and it was 2 o'clock before we halted for lunch on the bridle path below the village. On the ridge Jean picked up a beautiful swallow-tail butterfly, not dazzling, but as large as any we had seen; in colour it was all greys, light and dark, a study in shadows. She also spotted a magnificent cherry tree in full bloom, her attention being drawn to it by the delicious fragrance with which it filled the forest. But for that she must have passed it by, its crown being right up in the canopy and hard to see. By cutting away some of the undergrowth I managed to get a fair sight of it, and how beautiful it was, leafless and lathered with white blossom!

Corylopsis himalayana was also in bloom, a bush with leaves shaped like the English hazel (but more fern like) and fat dangling sheeps tails of pale yellow flowers. Winter-flowering trees and shrubs are thrice as valuable as those which flower in summer, when one can make a choice from hundreds. It seemed more like spring than the end of autumn or the begin-

ning of winter, though it was harvest time in Ukhrul. We made an eight hour day of it, reaching Cobweb Cottage after 5 o'clock.

The fine weather continued till the end of the month; then, on November 1st, another rainy spell began. We aimed to leave Ukhrul finally on December 1st, and if we meditated a second attempt to reach the Somra Pass, it was essential to start not later than November 15th. Meanwhile Mukerjee had paid a brief visit to Tusom Khulen, though he had not climbed to the pass. Anyway, the bridge had been repaired.

We could not start till the harvest was in. All day from dawn till sunset men, women and girls were at work in the rice fields or trudging up the steep footpaths to the village with heavy burdens on their backs. Dusk had fallen by the time the last tired parties came along the ridge, girls in the lead, bent from the hips and chanting as they walked, women next, men in the rear, echoing in deep voices the leaders' refrain. Sometimes by the light of the moon, when a thin pearl-white mist spread like a bridal veil over the tree tops, a ghostly procession would toil past, dimly outlined against the star-spangled sky, and we would hear the musical, monotonous 'hey . . . ho . . . hey . . . ho' growing louder for a time, then fading slowly away. Nothing is more characteristic of the Naga Hills than this rhythmical chant that accompanies all hard labour. They are masters of syncopation, too, but however complicated the pattern of the chant, the basic rhythm is never lost, and it is a great help to walk in step with one's porters' guttural music, especially when one is tired at the end of a stiff march.

On occasions we had some difficulty in extracting our mail from the somnolent post office. The mail truck — which rarely arrived on the advertised date, so unreliable was the road — came one day on a Sunday afternoon shortly before dark, and naturally we hoped to get our mail the following morning. However, Monday was decreed a holiday and we found the Circle Office shut. Usually the truck went down the

[*facing:* RICE HARVEST AT UKHRUL

day after its arrival, giving us no time to answer that week's mail, but we heard now that it was not going down till Wednesday, so we should have plenty of time to answer by return. On Tuesday, however, Mangalay reported the post office still shut, as the postal clerk had taken time off to visit his rice fields. After two more calls, with no result, I protested in writing, and at 5 o'clock our mail was delivered to us; but the post office was again out of stamps, so our letters did not go after all. A post office which does not sell stamps (or never has any when you want them), which cannot weigh a packet or register a letter, or deliver a registered package, seems rather an extravagance. Still, it was a start.

We had received notice from the Circle Office to vacate Cobweb Cottage on the last day of November, as it was required for the Civil Surgeon, our friend Dr. Tongul, who received a similar notice. He took one look at his future home, then flatly refused to vacate his present comfortable house until Cobweb Cottage had been made habitable; which implied being almost completely rebuilt. There was thus little chance of our being turned out in the near future, if we wished to stay; in fact, the doctor said we could stay on as long as we liked, so far as he was concerned.

On November 3rd Mr. Brock, the American Baptist missionary who had visited Sirhoi in the rhododendron season while we were on the mountain (though we did not see him then), arrived on another short visit to Ukhrul. He came in for a cup of tea and afterwards had supper with us, proving a very agreeable companion. Mangalay rose to the occasion and put up a good meal — we did not get many distinguished visitors, and liked to honour them properly. A few days later two Roman Catholic priests from Gauhati arrived for a look round, and called on us; but we could not persuade them to stay for a meal.

Our next-door neighbour, the Kuki *mahora*, held a meeting with the chiefs of the Tangkhuls outside his house to discuss work on the new road. Much heat was struck up. Men

wrapped in scarlet blankets leapt to their feet hurling abuse at one another, yelling retorts and generally raising Cain. A favourite gesture, when it was desired to be emphatic, was to spring to one's feet and raise an arm aloft, pointing to the sky like the Statue of Liberty, accompanying the action with a volley of words. The opponent, after hearing this out, then did likewise, calling on God to witness that he spoke the truth, the half truth, and anything but the truth. I expected every minute to see a free-for-all fight, but somehow that just failed to come off; and presently all was peacefully settled. The *mahora* then dismissed the village headmen, who trooped off amicably, hands laid on each other's shoulders like a band of brothers.

November moved on with shortening days and colder nights. We continued to collect seeds and a few plants in flower, while trying to find porters willing to take us to Tusom Khulen. We visited the paddy fields and found the men reaping with small sickles while the women beat out the grain with flat two-pronged sticks — an instrument much inferior to the simplest flail. Another method of threshing was to dance on the ears with bare feet. Each flight of rice terraces had its hard, smooth threshing floor, and here the sacks were filled with paddy and the straw tied up in bundles.

At last it seemed as though we were really going to start for Tusom Khulen. The harvest was garnered — a good one, report said — and porters were promised for the 15th. We were up at dawn, packed and finished breakfast; and not a sign of a porter! By 10 o'clock I had given up all hope of starting today, but we decided to wait till noon — which after all was really only 10 o'clock by Indian Standard Time. Eventually nine porters did turn up and we got off about 11.30.

At Longbi we went to the travellers' hut half a mile beyond the village — it seemed unwise to imperil our hard-won popularity by lodging in the church again, and anyway the hut had been repaired. Thus we were launched on our last journey before returning to Imphal and the plains.

CHAPTER XX

THE LAST TOUR

OUR road still lay northwards down the valley through endless oak and pine woods. The river increased rapidly in size, and as it gnawed its way deeper into the earth, while the path slanted upwards, it soon passed out of sight. We saw one or two small villages, but the country was sparsely inhabited and looked barren. It took us six hours to reach Chingai, our halting place for the night; in the last mile came a sharp descent and a long pull up to the ridge, though the path, following the grain of the country (for once) was not bad. As usual, the site of the village was skilfully chosen, commanding extensive views up and down the valley. Overshadowing Chingai to the east rose a bare shale cliff several hundred feet high; its clearly defined strata (horizontal, as seen from here) probably dipped steeply to the west.

The showiest plant we saw in the course of the day's march — abundant too — was *Reinwardtia trigyna*, its bright orange corollas, sleek as satin and delicately veined, carpeting the rocks. There is an erect form of it which makes a straggling shrub, with the same large bright orange flowers like a yellow flax (Reinwardtia belongs to the flax family); but the prostrate form is common in these crumbling shale hills. An inferior form, with washed out yellow flowers, is cultivated in several Shillong gardens, the superior form more rarely.

Throughout the next day's march the landscape varied hardly at all. In the afternoon we reached a small village called Kongai, from where we could see Tusom Khulen across the valley, stuck on to the side of a limpet-shaped peak some five miles away in an air line. We saw something else. The high hills of the frontier range were heavily cloaked with evergreen broad-leafed forest, but scattered over the dark billows, like

foam on swinging seas, were hundreds of green crests, notable for their light, fairy grace and pale colour. These trees seemed to glow with an internal luminescence, but whether they were in full bloom or in very young foliage it was impossible to say for certain — probably both. The whole slope suggested shoal water where the waves broke all up the coast, beginning at about 6000 feet and reaching almost to the summit of the range. It gave one a lively idea as to how many trees of each species go to make up these great forests, which at first sight present such a bewildering variety. I was sorely puzzled to know what this tree, which put out its new leaves in autumn and early winter, could be; and I recalled that I had come across it sparingly some years ago in the mountains of North Burma.

The following day was cloudy with a drizzle of rain. We scrambled straight down to the river 1500 or 2000 feet below the village, the path going practically over the edge of the cliff. The last quarter mile was especially difficult, even dangerous, following a steep crack in the rock, then round a sharp corner on to the narrow bridge. Twenty feet below us the river rushed through a defile crossed by a split pine trunk thirty feet long and not more than nine inches wide, supported by two cane ropes, one on either side; these, however, were just out of reach. I crossed in some trepidation, sliding one foot cautiously in front of the other, for the plank was wet; Jean, however, was quite unconcerned.

Growing on the sandstone rocks was a fleshy-leafed Kalanchoe like a big Sedum, with large heads of pleasant yellow starry flowers. Unfortunately the naked stem and few gross basal leaves give it a somewhat raffish look. In the Naga Hills the leaves of *K. rosea*, a pink-flowered species, are used to cure snake bite, the thick glutinous sap being rubbed into the wound, as already recorded.

After a tiring climb up from the river, we reached the outskirts of Tusom Khulen. The sky had cleared, the sun shone, the mountains gradually came into view as we ascended. The village is larger than one would suspect. From our hut we had

[*facing:* A TANGKHUL VILLAGE IN EAST MANIPUR

a good view over the sugarloaf peak against one side of which it is clapped, almost like a swallow's nest, and of the distant hills towards Ukhrul. Right above us was the frontier range, with the pyramid overlooking the Somra Pass taking up most of the foreground. People told us we could not camp on the mountain as there was no water this side of the pass, and very little on the other; but we thought it best to see for ourselves. Accordingly we made arrangements to go on the next morning.

The Christian end of Tusom Khulen was some distance away from the true unbelievers, isolated like a leper colony. As it was situated further round the saddle at the head of the valley, on the way to the mountain, we had to pass through it. From here the ridge rose steeply, almost without a check; the lower part is burnt annually and like Sirhoi, clothed with meadow, but above that is pure forest. All that we needed was a good camping ground, as near to the beginning of the forest as possible, and not too far from the village. The people had told the truth: the mountain was waterless, and we should have to have our water carried up from the village in bamboos every day.

From the Christian village we continued up the ridge, and in an hour reached a flat shoulder where pine trees, sad looking oaks, and hoary rhododendrons grew scattered in a sea of bracken. It was a perfect place for a camp, commanding a view of the top as well as distant views towards Ukhrul, and as soon as the porters arrived we pitched the tents.

The northern face of the mountain right up to the brow of the ridge is heavily forested, again like Sirhoi. Above 7000 feet the whole range, whatever its aspect, is forested. It was not more than fifteen minutes' climb from our camp to where the forest really began.

There were some exceptionally large specimens of *Camellia drupifera* here. One I noted was about twenty-five feet tall, with several stout trunks; it must have been well over a century old. More startling was a much branched tree Mahonia in riotous bloom, from every limb of which gushed a furious cas-

cade of yellow flowers in fountain formation. The long leaves, composed of eight or ten pairs of rather narrow, spiny leaflets, were much narrower than the rhomboid leaflets of the Sirhoi Mahonia at any rate. Besides, this was a small tree, not a shrub, and there was four or five months' difference in their time of flowering. It had the rather inconsequential branching of a screw-pine (*Pandanus furcatus*), which gave it an archaic look; but there was nothing archaic about its massed flowers. I measured the trunk of one of these monsters — it was thirty inches in girth a foot from the ground.

While Mangalay, under Jean's direction, prepared the camp, I went for a quick peep up the mountain. Just above us was a grassy alp, beyond which the path immediately plunged into the forest, climbing very steeply; and forty-five minutes later I was close to the top, where the path traversed round the southern face. Amongst trees not hitherto met with, *Michelia doltsopa* was in flower; and at last I was able to identify the pale green tree seen from Kongoi, for I found a specimen in flower, fruit and new foliage all together. It was *Pyrus vestita*, its leaves, inflorescence, and all this year's growth mantled in snow-white wool. At this season it is a remarkably handsome little tree, very like our own Service Tree (*Pyrus sorbus*), but autumn flowering.

Oaks as usual made up a high proportion of the forest, chiefly *Quercus lamellosa* and *Q. xylocarpa*; but there were also various Magnoliaceae and Lauraceae, besides species of Ilex (holly), birch, maple and cherry. *Cornus capitata*, *Rosa gigantea* and *Taxus baccata* also occurred sparingly.

Round our camp were several big rhododendron trees (*R. arboreum*); one was forty-five inches in girth three feet up its slanting trunk, which before winter was over would be mantled with blood-red flowers. Two kinds of deciduous oak (*Quercus serrata* and *Q. Griffithii*) were common. A little lower down on the lee side, where the slope was precipitous, *Dobinea vulgaris* was in fruit, its panicles of papery winged seeds crackling in the breeze. Lodged in one of the larger oaks a plant of *Pyrus*

vestita had grown up, as though, fig-like, that was the way it preferred to start life. In the same way one often finds Sorbus growing in the tree tops as an epiphyte.

The boys found the entrance to a bees' nest at the foot of a tall rhododendron, and proceeded to destroy it with fire and sword — or rather axe — in the hope of securing a delicacy. After hacking at the opening for an hour behind a smoke screen of burning grass, they abandoned it, unable to open it up sufficiently to extract more than a few fragments of charred comb full of incinerated grubs. It is the *grubs* which are considered to be a delicacy, not the honey.

The morning of November 20th was fine and sunny and Aquarius, the water carrier, arrived early; so after breakfast we all went up to the pass. After about an hour's hard climb the slope eased off, the path traversed round the hill-side, and within a hundred minutes of leaving camp we were going downhill into Burma. We could see nothing, however, because of the clouds which had formed. Under the rocks just above the pass grew many healthy looking plants of *Primula filipes*. I say healthy looking, for they had unusually large, well grown leaves; but as a matter of fact they ran entirely to foliage, with no sign of fruit or flower, past or to come. It would seem that the environment suited them, so far as their vegetative parts were concerned, but in no wise inspired them to produce flowers. The meagre little Sirhoi colony, composed of a few small ill-kempt plants, on the other hand, flowered well. As this was the second spot south of the Brahmaputra where I had found *P. filipes*, it seems in no immediate danger of extinction. Whether it be a relic species gradually dying out as conditions change to its disadvantage, or a newcomer unable to make the grade, I cannot say. Perhaps it is neither.

Robbed of a view from the pass, due as much to the surrounding forest as to the cloud below, we ascended the peak half way round which we had come, and soon reached the rocky summit. We sat down in the sunshine to enjoy the mountain scene and eat a picnic lunch. The Somra Hills towards the

east were more or less smothered in yeasty looking clouds, and we could distinguish nothing in that direction, not even the Chindwin river. But to the north-east Moi Len, fifteen miles distant, was easily picked out. As viewed from here it appeared to be forested to the top, but when we saw it again later, snow-capped, we decided that the summit must be rocky. Southwards we could recognize Sirhoi, and a pyramidal peak like a cocked hat, close to Longbi; this last is a prominent landmark looking north from Ukhrul. Turning to the nearer scene, *Rhododendron Lindleyi*, of which we had found a single small plant on Sirhoi, rampaged all along the sharp crest; it had flowered well, and must have been a superb sight in April. There was little else of note — *R. Maddeni*, of course, big bushes of *Pieris formosa*, and of box-leafed Vaccinium, as on Sirhoi. It was pleasantly warm so long as the sun was shining, but a cold wind scathed us in the open, and when the sun went behind a cloud the temperature dropped instantly.

On the way back to camp we found a big Ilex crammed with scarlet fruit. Then looking into the forest we suddenly saw a bright cloud of crimson berries in the top of a tree, brilliant against the China blue sky. It was like coming on a big fire. This was probably a Photinia which had twined itself in the canopy, where it caught a ray of sunshine. There were birch trees and maples, cherries and crab apples, *Manglietia insignis* and *Michelia lanuginosa*, besides many other trees, a varied company not unfamiliar. One of our best finds this day was an epiphytic Agapetes with clusters of red tubular flowers like frosted glass; the most surprising, a tall sago palm (*Caryota urens*) at an altitude of about 7000 feet. It could hardly have been less than fifty feet tall, one of the biggest I have ever seen, and that at an altitude unusually high for this palm, which rarely ascends much above 5000 feet.

That evening a long file of half naked Nagas from Burma came down the track past our camp. They were more jungly than the Tangkhul, and could not take their eyes off our tents — or off us either — scarcely able to believe what they saw. How-

ever, they were very friendly folk, and their stern faces melted under the solvent of human speech and a smile.

Next day was our last, so we went up to the pass again in order to collect seed of various trees. The forest was full of birds, perhaps moving leisurely southwards as snow came to the higher ranges. I watched a flock of babblers swallowing the dark berries of a vine. Back and outer wing coverts were yellowish green, contrasting oddly with the deep coral of head, throat and breast.

We were astir at dawn on the 22nd to see a cloudless sky and the sun coming up out of Burma like a roman candle. While we were having breakfast the porters arrived to take us down. Then it came to me that we must spend one more day here, and after Jean had reminded me how pressed we were for time, finding me reckless of consequences, she agreed, and I told the porters to come back on the morrow. Afterwards Jean confided that she was glad to stay, as she was feeling thoroughly spent; however, she did not allow that to influence my decision, and would cheerfully have undertaken the long march back to Chingai had I decided we must start immediately.

We did not attempt to go to the top again, but did some intensive exploration in the immediate neighbourhood of the camp. That delightful and ever-welcome winter flowering shrub, *Corylopsis himalayana*, was common along the ridge, but it was not in flower here, though we collected seed of it. *Rhododendron Johnstoneanum*, however, so abundant on Sirhoi, was decidedly rare. After dark some men arrived from Tusom Khulen carrying pine torches and driving two buffaloes. They camped just above us, intending to start for Somra at daylight; they preferred to travel this route at dusk and at dawn, resting in the middle of the day — at least, the buffaloes did, as there was no water for them on the way.

Next morning the porters came again, and this time we really did start. Before breakfast I watched a dull green spider-hunter probing the flowers of Loranthus with its long, pointed, scimitar beak. A tiny striped squirrel (Tamiops) which lived

in a tree beside our tent and could run vertically down the trunk, was making a lot of noise. Since we arrived in this camp it had been growing steadily warmer each night, and the inference was we should have rain before long.

Below our camp I found a green flowered orchid (*Calanthe*), almost invisible in the long grass. Unexpectedly it had a delicious scent of mustard and cress. We reached the bridge at 2.30. I had hoped to camp here and do some collecting in the rocky gorge where we had discovered the yellow Kalanchoe, but there was no possible camping ground. At this moment it began to rain, a thick mist coming down like a curtain. I gave up all ideas of camping, therefore, and we completed the tough climb up to Kongoi and its comfortable travellers' hut. In the pine forest I was lucky enough to find a second fragrant ground orchid, this time a shell pink Cymbidium.

We had now completed our last tour of the season, and if we hoped to leave Ukhrul on December 1st, we must get home as quickly as possible and pack. When we got up next morning it was still dark; a thick mist filled the valley to the tops of the mountains — I was thankful we had not camped by the bridge, now submerged beneath it. We marched to Chingai in five hours. How the pine woods rang with the high, harsh note of the long-tailed Chinese magpie! Also there were many bulbuls flitting about — black crest, greenish underparts and a red patch round the vent. It rained off and on, but not heavily, in spite of the valley of cloud; in the evening the sky cleared again. In a deep ravine we saw a handsome little tree in ripe fruit which brought us to a sudden halt. From the axils of large pinnate leaves dangled bunches of rosy capsules, each containing one black seed embedded in snow-white pulp; they looked like clusters of cherries, and as the fruit stalk was four inches long, they hung clear of the leaves in all their sharply contrasting colour. It came as rather a shock, some days later, to see this plant — now a fair sized tree — growing on rocks on the edge of the Manipur plain, as though it were not a hills tree at all!

Here and there down by the rice fields one came across patches of deep blue-violet Exacum with vivid yellow stamens (*E. tetragonum*), a curious plant rather like a gentian at first sight (to which it is closely related), but not so blue as that, and less compact. In the villages, orange coloured pumpkins were rotting as they lay on the ground for want of gathering and storing; they had a pleasant flavour.

Not far from Longbi we found the bridle path occupied for half a mile by fifty or sixty men squatting round fires, feasting on roast meat, boiled rice, and other delicacies, washed down with quantities of zu, which they drank out of bottle-shaped gourds. They were in high spirits, as people to whom meat is a luxury usually are when bidden to such a banquet. The smell of well-cooked food was enticing, and the sight of great fids of sizzling brown pork impaled on long spits, and plates heaped with steaming rice, quickened our own hunger after a ten-mile march. Five trees had been cut down to supply firewood for the party, six pigs and four buffaloes slain for roasting. A royal feast indeed, given by the local Rockefeller to his village. It was noticeable that women and children were not invited; women, over a large part of this earth, still belong to an inferior order of beings.

By the middle of the afternoon on November 26th we were back in Ukhrul, being welcomed home by Yipung, whom we had left in charge of Cobweb Cottage. The sky was heavily overcast, and the clouds which had been assembling for the past four days looked ominously business-like. At sunrise that same morning, when the sun came over the mountain we had noticed a perfect fogbow; here was the answer.

For the next three days a deluge of cold rain descended on Ukhrul, completely liquidating our plans. All thought of leaving on December 1st had to be abandoned, for the road was a bog and the village itself a marsh. November 27th was the worst day of all; it rained without a pause, steadily, suddenly. We got on with our personal packing, but we had many parcels of seeds to dry, and nothing could be done about them.

Yarter came over from Sirhoi; he had done a surprisingly good job of work, securing all the seeds we wanted except a species of Symplocos. An excellent man, Yarter.

It was astonishing to us that anyone could build a cottage like ours in a climate such as this, and make no provision whatever for a fire. The best one could do was to balance a shallow iron pan of embers from the kitchen on three stones; and as the temperature inside was below 50° and the air damp, we were glad of even this simple device.

Thinking in terms of motor transport, we could see no hope of leaving for several days, so we began to look for porters. Presently we found seven men who were willing to carry loads as far as Litan at the foot of the hills, where the bus stopped. Had we been ready to go down at the end of November, we could have got as many porters as we wanted, and all travelled together; people had been passing through Ukhrul ever since our visit to the Somra Pass. Now even Ukhrul was half empty, many men having gone down to Imphal to work for contractors during the winter months.

The storm ended at last and the sun shone; the day temperature went up and the night temperature down — so abruptly, in fact, that on December 3rd Ukhrul had its first hoar frost whitening the grass. We also caught sight of the snow-covered peak to the north-east, which we supposed must be Moi Len. A mail truck came up, and went straight into very cold storage; as usual, something had gone wrong with the works.

We had just finished supper one evening when we heard the unmistakable whirr of another truck as it changed gear on the last hill. We sent Mangalay immediately to waylay the driver before the mob arrived, and come to terms with him for a lift down. Mangalay was to let us know the result as early as possible next morning. However, he did not arrive till 10 o'clock, with the news that the truck was full up and would be leaving right away; but it would take down a few loads for us.

We were rapidly running out of stores, as we had made no provision for staying in the hills after December 1st. Biscuits,

tinned milk (there was no daily supply of fresh milk now), porridge and flour were all finished, and so was our kerosene oil. Neither tea nor sugar would last more than a day or two longer. However, there was still the local shop, where we could buy inferior tea in quarter pound packets at Rs. 5 a pound (this in Assam, which produces more than half the world's tea!), sugar which was half water at Rs. 2 a seer (1 6d. a pound), and kerosene (also produced in Assam) at As. 8 per pint bottle. Rice, eggs, potatoes, and sweet potatoes were also on the market, so we could hardly starve!

Next day the first mail truck came out of cold storage; the tinkers had got it moving again. But before we could contact the driver, we heard that a merchant had slipped in and commandeered the whole of it for his potatoes; and again we felt sold. We made another bid for porters, but the answer, in general terms, was always the same: all the able-bodied men who were going down to Imphal for the cold weather had already gone. Now, if we had wanted porters a fortnight ago. . . .

It must not be supposed that during this interim period we sat twiddling our thumbs. By the evening of December 1st the sky looked as though it never would rain again, and so it continued for a week. We went out every day, collecting as usual, enjoying the sunshine and the clean fresh air. Some trees were in flower, some in tender leaf — it seemed an odd time to be unfurling new leaves, and one wondered whence the impetus came. But most of the colour in the forest was due to autumn tints of Rhus, maple and one or two other deciduous trees. Countless gaping capsules of Celastrus and Euonymus helped to incarnadine the thickets, and so too did the painted hips of *Rosa gigantea*, whose red and orange looked as though it had been put delicately on with a brush, the violet berries of *Viburnum coriaceum*, and the shining deep mauve clusters of *Calicarpa rubella*. But there was so much colour on the grand scale, the sky and the hills and the far horizon made so rich a tapestry, that one hardly noticed these details. Before sunrise

the deep indigo of the northern hills towards the Somra Pass, with the sky behind slowly beginning to glow like a scene in a theatre as the lights go up, was unforgettable for its changing colours. Memorable also was the all-round view from the highest point on the ridge, where the great *pandal* had stood. Due west rose our mountain, named simply the West Mountain, continuing northwards in a long, not very conspicuous ridge, its eastern face rather steep and bare. Just east of north rises Chingjaroi, 7288 feet, and east of that again is the bare cliff above Chingai already mentioned. There is a large village of the same name in the shadow of Chingjaroi, and not far away is Tolloi, the home of our friend the headmaster, who often spoke to us of it and invited us to visit his home with him; but somehow we never found time to go. It was reputed famous for its orchids. Dr. Mukerjee went to Tolloi, and brought back some good plants.

Continuing round the circle of the horizon we reach the Somra Pass, the last mountain visible in that direction: then turning south-eastwards along the frontier range, the eye picks out Hkayam Bum, 9300 feet, with the snow-capped Moi Len behind it; and finally, right in the foreground, Sirhoi Kashong. On the last mile of the Imphal road coming up from the plain, you round a sharp bend and Ukhrul suddenly comes into view, with the purple ranges beyond, darkling as the sun goes down, and the tops of the swarthy Cryptomerias gilded by the slanting rays. Down below, shoring up the ridge on either flank, are flights of golden steps like the steps to heaven itself. Here and there a red-leafed Rhus still flames. Along the Sirhoi path the stump of the cherry tree which had been wantonly hacked down for firewood in July, was sprouting bravely; evidently it takes a lot to kill a cherry tree. A little further on the once magnificent carmine cherry, now beheaded, was so smothered with leafy branches that its deformity was no longer obvious; but not for many years to come would it flower again as we had seen it flower in March.

In an earlier chapter I mentioned social caterpillars which

act in unison to scare off marauders. On December 6th we found a large brood clustered inertly on a branch. When this was gently agitated they all with one accord jerked their heads up, and continued to do so for a minute or two till they grew tired, or satisfied that there was no immediate danger. Life does not altogether cease in winter in these latitudes, even at 6000 feet; but the tempo is slower. Only in January is there a distinct pause. Small butterflies were common enough, and presumably they were here from choice, since they could always go down to the valley if they found it too cold or too windy on the Ukhrul ridge. I noted a tortoiseshell, two gaily coloured species of Junonia, one or two hard-flying whites, and several Lycenidae — small nondescript blues and grey-blues which send the pundits into ecstasies because some have more (or it may be fewer) spots than others, and are rare.

By December 9th it was raining again. In the evening we went round to the doctor's house to drink zu, which he had obtained specially for us. It was pleasant to sit by a real fire again, and the zu was excellent, poured from an enormous glass bottle of perhaps half a gallon capacity, a relic of the Japanese occupation. The doctor told us that after much uncertainty a ministry had at last been formed in Imphal, though it was not expected to survive. The Chief Minister, elected by the ministers themselves, was our friend P. B. Singh, but it had been a close shave — three in favour, three against; the Maharaja himself had given the casting vote in his favour. Major Kathing was again elected Hill Minister — he was an Ukhrul man, and so might be expected to know something about the hills. But few of the others knew anything about their jobs. Of the other five ministers, one was a Muslim, one a Kuki and two more were Tangkhuls; we did not hear about the fifth. According to the doctor they were a sorry crowd (always excepting the Chief Minister, who was an exceptionally able and conscientious man, but too nice to handle such a crew; and Major Kathing). Three only were what we should call educated men, while three were not even up to matricula-

tion standard. As village headmen the inexperienced ministers could have done useful work for their people; but high executive office and the atmosphere of Imphal would hardly bring out the best that was in them.

December 10th was our last day in Ukhrul, though we did not know it at the time. On that date Mangalay arranged to go to Humdum early next morning and try again to get porters. So, with the help of the *paniwalla* to make the fire, Jean organized morning tea on the 11th. Five minutes later she rushed from the cookhouse into Cobweb Cottage with the news that Mangalay was here and had got the porters. 'We're starting today,' she shouted, 'this morning, *now*. Quickly, quickly!'

CHAPTER XXI

FAREWELL TO MANIPUR

It was true, or at least partly true, that we were about to leave Ukhrul, though Jean's optimism was scarcely justified by previous experience. But in the end the porters *did* come — one short of the required number, of course — and in the end we *did* start the same day, though not precisely that morning, let alone 'now'. In fact, between the time of Jean's breaking the news and our actual departure, something over five hours elapsed. The last packing was done and we were all ready to go by 9 o'clock; however, we sat on our boxes and it was nearly 1 o'clock when we started.

We had decided to collect no more seeds, but I made an exception of a particularly fine privet half a mile down the road. I had watched this shrub with a jealous eye ever since I first noticed it in full fragrant bloom several months earlier; and now that it hung out fat clusters of grape-blue fruits, I could not pass it by. Another mile on, a holly I had marked down was a blazing mass of fiery red berries, so we stopped to collect them also. At the village of Humdum a magnificent maple dangled its samaras tantalizingly within reach; and as we had not come across this particular species before, we were again beguiled. By this time my haversack and the pockets of my jacket were bulging. Beyond Humdum, the rival village which caps the south end of the Ukhrul ridge, the crumbling escarpment has produced a sort of undercliff where forest trees, including some large figs, grow on a steep sheltered slope amidst a jumble of moss-covered rocks; and here I was surprised to note *Pyrus vestita*, the pale, spectral tree of the Somra Pass. It did seem odd that this Pyrus, never seen on Sirhoi, should have been growing just here, within three miles of Ukhrul, all the time. Not that the presence of a limestone out-

crop at Humdum had anything to do with it; but we had passed by this undercliff in the dark on our way up from Imphal, and were seeing it for the first time. I regretted I had not explored it earlier.

Now came a long winding descent through dry brown grass into the valley, a wooden bridge across the little river, followed by an equally long pull up the other side to where the *basha* stood on the downs. Shortly before we reached the hut we saw a bridle path which jigged over the eastern hills towards Burma and the Chindwin river. A milestone had been set up at the junction, which informed us that this was the 'Major Finch Road' and that it went to the Kabaw valley, followed by a relevant text from St. John's Gospel, and the date 1942. My quarter-inch map marked the road as 'jeepable in the dry season', but nobody ever jeeped to Burma now — not by this track at any rate. You could walk there if you liked; but then you could do that before the war.

We reached the *parao* and the hut soon after 5 o'clock, so it had not been such a long day after all.

December 12th was memorable; we saw with our own eyes one of those rare incidents one reads about in the newspapers, but skips as being unrelated to life, and therefore scarcely credible.[1] We had been told that the nine or ten miles to Litan were all down hill. We were not surprised, however, to find that the first two or three were all *up* hill. From the top we looked back, and for the last time caught sight of our dear Sirhoi, now twenty miles distant, its long western buttress flung out negligently, having the appearance of a sea cliff fluted like the dome of St. Paul's Cathedral, so sharp were the shadows; and forwards, over the lower ridges slanting to the foothills, which presently melted away into the plain. Then we turned the corner, and Sirhoi had disappeared for ever from our ken. At least in that final setting it had looked like a real mountain.

[1] As a matter of fact, many hundreds of unfortunate people, especially children, have been killed or injured by similar accidents.

We began to descend steeply. The mud was terrible, sticky and deep. I recalled that it was just here, under the dripping cliff, that we had had to stop and unload everything before the jeep would haul the trailer through in 1946, on my first visit to Ukhrul. We met Kukis and Nagas toiling up with immense loads of bazaar goods on their backs; our puny loads seemed child-size by comparison. Near mile 26 we were astonished — and secretly not a little gratified — to find the last truck down, which the potato merchant had, we felt, filched from under our noses by unfair means, stuck fast axle deep in the mud. It must have been there for thirty-six hours already. The driver had gone to Imphal to get help, leaving the merchant to sit on his potatoes. We laughed, and said virtuously to ourselves — though without much assurance — that scurvy tricks never paid dividends. Probably the poor man had done nothing worse than engage the driver before we could; nevertheless we felt sore, and our loss of the truck had rankled. Now, of course, we were only too thankful it wasn't *our* kit which was stuck fast in the mud. We could not repress a covert smile of triumph as we stepped delicately through the slough; and Jean was unkind enough to take a photograph of the merchant in his bogged vehicle, standing sadly amidst his potatoes. He said nothing. Perhaps he was past caring.

Quite suddenly we came to Litan and the river, spanned by a Bailey bridge. The valley flared out to the foothills, and the road expanded sideways a little. Three or four Kuki huts comprised all there was of Litan, where the buses stopped. We had been told there were always buses waiting here, and lorries, as though it were Grand Terminus; but we saw no sign of them. Someone said a lorry was expected, which might mean anything — or nothing. The midday sun was hot, a feeling of somnolent lassitude suitable to Sunday afternoon settled over the place; the hills behind us flickered in the heat haze and the shrunken river flowed chattily over the pebbles and slid in a film across the rock slabs. From the bridge you could see quite big fish in the foot or two of water which remained in the pools.

A few hill people waiting to go into Imphal lounged about or lay stretched out on the grass. Boredom settled on us once more.

We watched with interest a Kuki woman husking rice in a wooden mill, the like of which I had never seen before. It was barrel shaped, about two feet high, made in two pieces, the lower half a solid cone ribbed like a scrubbing board, the upper half fitting over and turning on it. A hollow shaft through the lid allowed the paddy to be poured into the mill, and as it was turned, the husked rice flowed out round the base. Simple, and yet very ingenious . . . I fell to wondering who had invented the simple machines one finds doing work in the hills — bird scares, spring traps to catch game, and the like. What forgotten genius had made the first automatic water hammer for husking grain; or the first 'Persian' wheel, kept turning by the same stream from which it scoops up water while it turns; or the first sugar press with its twin cylinders revolving in opposite directions, engaging by means of crude but accurately carved gears? The woman with the rice mill ceased work and turned to sweep up the rice, winnowing out the chaff. We gazed once more down the winding road, looking for the expected truck, but the dust lay undisturbed, nor could we hear any sound but the ripple of the river.

Suddenly the warm fragrant air was rent by a tremendous explosion. I ducked instinctively as though we were being bombed, and remarked facetiously: 'Hullo, the war's begun!' There was a moment's stunned silence while the noise went echoing up the gorge and the crows cawed foolishly. The next minute people seemed to spring up out of the ground, and a dozen men were running to the bridge just behind us. I followed more leisurely — Jean had already covered half the thirty or forty yards to where the crowd had stopped. In a minute I reached the bridge, but all I could see was a stream of blood pouring into the river from above; the pool below was already scarlet. Then I heard a man screaming. A terrible thought occurred to me. Mangalay . . . we had not seen him

for half an hour; he had been on the bridge. We pushed aside one or two people, and then for the first time I saw stretched out on his back a young Kuki, with blood spurting rhythmically from a terrible wound just below the knee. A friend knelt beside him feeling for the end of the severed artery, to stop the fatal spurts of blood which still dripped heavily between the bridge boards into the river. Jean was on her knees now; her medicine chest open, and I joined her as dresser. A tourniquet was quickly put on, a packetful of powdered sulphanylamide went into the wound, a shot of anti-tetanus into the arm, followed by two shots of morphia to lessen the pain and — though we did not know it at the time — to counteract shock. The wounded man, after his first scream of agony, had remained quiet but for an occasional groan; he was fully conscious and he looked appealingly at Jean, who worked fast and efficiently. Meanwhile the poor fellow lay on the bridge, but after about half an hour it seemed better to move him, and his friends carried him carefully to his hut close by. He rallied wonderfully, and his gratitude to us was unbounded; Jean's last act, before we left, was to bandage the wound, but it was obvious that the sooner he could be got to the hospital in Imphal, the better. For the present the morphia had saved his life, the prompt injection of two half-grain 'syrettes' having given him a real chance. (The morphia had been a parting present from Dr. O. W. Hasselblad, the American Baptist Mission doctor in Jorhat, an outstanding surgeon as well as a generous friend. He and his family returned to the U.S.A. in 1950, leaving behind a host of friends, who will ever remember his work in the Province.)

What had happened? We got a rough outline of the story from Mangalay, who had been a witness of the whole silly tragedy — it had happened less than forty yards from where we sat, but our backs had been turned to the bridge. The man had found a bomb — not a mere hand grenade, but a small aerial bomb about a foot long weighing several pounds. He thought it would be a good idea to drop it into the river from

the bridge and watch what happened. The bridge here was twelve or fifteen feet above the river, the bed of which was mostly solid rock. So he dropped it plumb into a foot of water and leaned over the rail to watch. . . .

He was lucky not to have had his head blown off, and indeed I hardly know why it was not. The last thing he said to Jean when she left him, after sitting by him in the hut for an hour, was to beg her to accept two small fish for our supper — it was all the poor chap had to give, and was real generosity, springing from heartfelt gratitude. The fish had been killed by the explosion. . . .

A heavy breakdown truck fitted with a crane came up the road; it was on its way to haul the potato merchant out of the mud. We still waited for a bus or lorry. An hour later the two trucks returned and the drivers halted for a meal. It was now 5 o'clock. The sun had left the valley and it was beginning to grow cold. There was room for us and a little of our luggage in the breakdown truck, and the driver agreed to take us; Jean insisted on going straight to Imphal to get help for the injured man, leaving Mangalay at Litan to look after him during the night. We told Mangalay to follow as early as possible next morning, with the kit; and taking nothing but our bedding, we got into the truck along with some other passengers.

The drive of twenty miles took three hours. Dusk came down as we ran out on to the plain of Manipur, and we arrived in Imphal stiff with the cold long after dark. The truck driver took us to the Dak Bungalow where we had stayed in February, and the old Muslim cook-butler and the wizened Chinese help welcomed us and gave us the only available room for the night, though he warned us that it had been booked for the following day. They lit a fire, brought tea and toast, and we were soon warm and comfortable. It was ten hours since we had had a meal. An hour later we had dinner; it was now 10 p.m. by our time, but we found we had to put our watches back two and a half hours to conform with Indian Standard Time — a silly arrangement in the most eastern province of India.

Meanwhile Jean had written a note to the Chief Medical Officer at the hospital, informing him of the accident and what had been done for the patient, and begging for an ambulance to be sent to Litan as soon as possible. The C.M.O. happened to be on leave, but his deputy sent a courteous reply, saying that he himself would go out with the ambulance first thing in the morning. So, being warmed and restored, we sought our beds after an eighteen-hour day.

In the early morning we reviewed our position as we drank tea. We had with us nothing but our bedding — not even a cake of soap until Mangalay came, and that might not be till the evening, as the bus service between Litan and Imphal was by no means so regular as we had been led to expect. At this point a pleasant young man who was staying in the bungalow (his name was Sultan and he was agent for the National Tobacco Company) came to our rescue by generously lending us soap, towels, even a razor — in fact, everything we required. Thanks to him we were able to make ourselves presentable.

Next came the acting C.M.O. from the hospital. True to his promise he was going with the ambulance to Litan, and he had come round to get a few more details of the case. The wounded Kuki, we felt, would be in good hands — if he was still alive, which seemed rather doubtful. The ambulance had been gone only a short time when, to our relief, a bus rolled up with Mangalay and the kit, so we were able to put on clean clothes. He brought glad news; the Kuki had survived the night in reasonably good shape, though he had not actually slept.

Our next visitor was a young officer of the Public Works Department, to whom we appealed for permission to occupy our room for a few days. He told us that it had been reserved for a government official, and that we should have to vacate it; but after a talk with the *khansama* he said we might stay. It would have been very inconvenient to have to move, and we were duly grateful. Our joy was short lived. In half an hour the P.W.D. fellow was back, asking us if we would mind moving after all. He had been perfectly civil on his first visit, and was

within his rights to turn us out, seeing that we were not officials. Now he was apologetic, almost begging us as a favour to move. Nor was that all. We were to be housed in that august building known as the Residency, recently vacated by Debeswar Sarma, the Dominion Agent, and before that occupied by a long line of distinguished Political Agents. A truck would be sent to carry us and our belongings thither. In this we discerned the hand of the Chief Minister, our friend P. B. Singh, who had evidently told the young P.W.D. officer to treat us very nearly as Royalty. We took our cue and were graciously pleased to leave (cursing un-royally).

At the Residency we found ourselves installed in a magnificent suite of rooms — wire spring beds, carpets on the floor, all the furniture in Tottenham Court Road, and electric light. After the rigours of Cobweb Cottage it seemed like Buckingham Palace. So luxurious was it, we soon forgot our annoyance at having to vacate the Dak Bungalow.

P. B. Singh looked in, smiling as ever, promised to dine with us that evening, and asked us to dinner at his house the following night.

We went shopping in the little town and bought some of the excellent Manipuri work, hand bags, table mats, and such like. Everybody stared at us — perhaps because, unlike authentic Royalty, we went on foot, not having wangled a car with our Buckingham Palace; or even a bicycle.

That night we were able to prepare a worthy dinner for the Chief Minister, and we spent a very pleasant evening indeed; our guest had the priceless gift of being able to lay aside his undoubtedly heavy cares in company, and enjoy himself.

The following day I hired a jeep to take me out to the foot of the hills to see 'wild' Manipur Tea, of which I had heard tell. We followed the Ukhrul road for a few miles, crossed the Iril river, then turned off across the paddy fields, following a track which after a couple of miles became too impressionist even for a jeep. A short walk brought us to a gulley from which we ascended into the wrinkled foothills, and presently, amidst a

forest of small trees, we came upon a whole grove of Camellia, which was certainly Tea (*C. sinensis*), and as certainly not wild.

The trees were about thirty feet tall, each having from one to three trunks, with a girth of 1½-2 feet five feet above the ground; some of the trees were unbranched for twelve or fifteen feet. The large, coarsely serrated leaves were not much like those of the tea bush commonly seen in Assam tea gardens, but were nevertheless similar to the leaves of 'wild' Assam Tea found in other parts of the province. The trees had recently been in flower, and the ground was littered with ripe seeds of the previous year; there were also many young tea plants. The grove covered the steep rocky slope over an area of several hundred square yards.

At this altitude (about 3000 feet) what survives of the original forest cover, after generations of burning, consists of such trees as oak, chestnut (Castanopsis), fig, laurel, Albizzia and many others. The tea trees formed a small compact island in the midst of this rather stunted growth; and the close colony suggested a seed garden, the plants being grown not for the leaf, but to supply tea seed to gardens on the plains.

Eighty years ago Sir George Watt recorded the tea tree as growing wild in Manipur, a statement which has never been either confirmed or denied. From observations made by Dr. W. Wight, Botanist at the Tocklai Tea Research Station, Assam, it is, however, clear that Assam wild Tea, though undoubtedly run wild, is derived from Tea cultivated either in Burma or in Assam long before the British started growing Tea in India on a big scale. This was likely to be true of Manipur wild tea also, the more so since Tea almost certainly came to India from Burma by way of Manipur. It was not until 1949, in the savage Mishmi Hills in the north-east corner of Assam, that I discovered what might be genuinely wild Tea.

Two days after our arrival in Imphal we went to see Jean's wounded Kuki in hospital. He had had a lot of metal removed from his leg and was in less pain; indeed, he seemed almost

cheerful. But the fact remained, he had blown away three inches of his shin bone, and might have to lose his leg below the knee. Jean gave him some cigarettes and oranges and cheered him up.

A year later we were botanizing in the Naga Hills between Imphal and Kohima. Happening to meet Dr. Curry of the American Baptist Mission, Jean told him the story of the Kuki and the bomb. 'I know him,' said Dr. Curry at once. 'He's been in my hospital for some time with osteomylitis. He's lame, of course, but can get about. However, unless the present treatment is successful, I may yet have to amputate his leg.' A year after that Dr. Curry told us that the Kuki still had his leg — as much as was left of it — and no amputation had been necessary. Evidently the civil hospital at Imphal had done a good job of work; and so too had the mission hospital at Kangpokpi.

That evening the Chief Minister fetched me in his jeep, gave me a deliciously cooked dinner — the best I had had for a year — and drove me back to the Residency. Poor Jean was ill and could not come; she missed something out of the ordinary, for I discovered what I had, in fact, already suspected — that 'P.B.' was at heart an artist, not a politician at all. He showed me several charming oil paintings which he had done, executed with considerable feeling. He wanted to go abroad to study painting, and told me that his sister, who was an excellent modeller in clay, was hoping to study art in Italy. She intended to become a sculptor. It was an evening I shall long remember.

Our departure from Imphal was fixed for December 16th. It was still dark when we got up; the usual heavy night mist lay over the plain. The truck came, an hour and a half late, and we started about 9.30, which allowed us eight and a half hours of daylight for the 135 miles to Manipur Road station. It seemed a tame enough proposition, nor did it matter if we arrived late, since we should have to spend the night there anyway — our train was not due to leave till 5 o'clock next morning.

It was a three-ton truck with double rear wheels, that is to say, it was running on six tyres — and there was not a single spare wheel; suggesting either unbounded optimism or a certain lack of elementary foresight, perhaps both. We had sent a wire to the *khansama* of the Dak Bungalow at Manipur Road, telling him to reserve a room for us, and we hoped to dine there in comfort and get a good night's sleep before rising early and dashing for the train.

But it did not turn out quite like that. The sun came out, the mist dissolved, and we rolled along easily for a few miles. But quite early we had a puncture in one of the rear tyres. However, the handy man took the wheel off, and at reduced speed we ran on five wheels instead of six. But not for long. Presently we stopped again — another blow-out. They took off that wheel also, and now we ran, at still further reduced speed, on four, as many trucks do. Apart from these mishaps the drive through the hills was pleasant enough, but we were already several hours behind schedule.

We reached Mao, the highest point on the road and the halfway point, at 4 o'clock, having taken over six hours to cover sixty-seven miles. A rather self-important youth in the Land Customs climbed into the truck to see what contraband we might be concealing, but was satisfied with an assurance that we were not smugglers.

Meanwhile the driver had gone off to telephone to Imphal for a couple of spare tyres — a new truck would have been better. We sat in the truck, then stumped up and down the road while the light slowly faded. The cold increased until we were half perished. Towards dusk we ran the driver to earth in the telegraph office, only to be told that we should have to spend the night at Mao and wait for the spare tyres. This was more than we could endure, especially as the driver had assured us before leaving Imphal that we would reach the railway in daylight — as, indeed, we ought to have done. And why spend the night at the highest and coldest point on the road! True, there was a bungalow in which we could stay; but we were not prepared to

have our programme entirely disrupted because of a couple of punctured tyres. We raised a howl of protest and indignantly demanded of the driver that he fulfil his promise; we *must* get down to Dimapur the same night. We could not possibly stay at Mao. At least we would go on to Kohima, only twenty miles distant, where we could get a meal and it was not quite so bitterly cold.

The driver hesitated, argued; he had no spare tyre, he might have another puncture (indeed he might), the gate at Kohima was closed at sunset and we would not be allowed to pass. A spectator pointed out, rather unkindly, that the gate was *below* Kohima, so there would be no difficulty in our spending the night there. That demolished one argument. Heartened by finding an ally, we redoubled our efforts at persuasion, whereupon the driver suddenly capitulated and agreed to go on to Kohima. The sun had long since set behind the high crags, but it was a beautiful night with a rising full moon when we moved off down the winding hill. We drove without lights — perhaps they did not function — and went so well that we would have been in Kohima within the hour but for the fact that we had to deliver some bags of rice to the P.W.D., and it took half an hour to find the place.

We stopped at the Police Post by the cemetery, ghostly in the bright moonlight. It was now about 8 o'clock; we were only forty-six miles from the railway, and we had plenty of time to catch our train if we went straight on. The Police, seeing who we were, and giving the kit no more than a casual glance, civilly opened the gate and we parked on the other side of it. The sergeant said he would telephone to the gate keeper at the foot of the hills to open to us as soon as we got down. I told the driver and his mate and Mangalay to go and get a meal while we did the same; we would return to the truck at 9 o'clock and start immediately for Manipur Road railway station. To my surprise the driver seemed resigned, and further argument was unnecessary. The travellers' Dak Bungalow was only a hundred yards away, and thither we went to seek a meal. The

khansama, a fat and jovial Gurkha with a ready smile, whom I had known many years ago, was about, and soon he had a pot of tea, hot buttered toast and scrambled eggs ready for us; it was a good many hours since we had had any food, and we were famished as well as cold — Jean especially, as she had not yet recovered properly from whatever had upset her in Imphal, and had been sipping nothing more substantial than cold cornflour gruel at intervals during the long drive. She was now ravenous and did not bother about the possible consequences of a solid meal.

At 9 o'clock we returned to the truck, where we found the driver and his mate before us, in complacent mood engendered by a cup of tea and a hot meal. Then we started on the last lap of this eventful journey. It was cold enough in the truck, but considerably warmer than at Mao. For an hour or more all went well; the full moon helped us a lot and we had the road to ourselves. However one cannot drive a three-tonner at speed, even in daylight, on this twisting mountain road without grave danger, and we rumbled along at about fifteen miles an hour, which was quite fast enough. We passed Zubza, all in darkness, crossed the ridge from the Kohima valley into the next valley, and had it been daylight would have seen the plains where the spurs flared out below us. In and out round the S-shaped gullies, from Stygian darkness out into the cold white moonlight and back into the ebony shadow we twisted; and every moment brought us a little nearer our goal.

Twenty miles from the railway came disaster — our third and last puncture — and the truck stopped. We all got down and looked at the damage. It was again a rear wheel. The driver and his mate, after tinkering half-heartedly for ten minutes, straightened themselves up, shrugged their shoulders, and — that was that. It was now 11 o'clock and we all prepared to snatch a few hours' sleep. We were down nearly to plains level, but it was very cold nevertheless. The driver pulled his great coat around him and settled down across the front seat. I joined Jean amongst the luggage at the back, where she had

spread her valise, and we snuggled under the blankets. Mangalay and the driver's mate, their heads wrapped in scarves, tucked themselves into odd corners and went noisily to sleep.

About 2 o'clock the cold woke me, and getting out of the truck I woke the driver and his mate. 'Come on,' I said, 'we must change over the wheels as quickly as possible and get on, or we shall miss our train.' They were too sleepy to protest. The job took two hours. The mate did all the work; the driver went to sleep again, while I paced round and round the truck encouraging the mate. At last it was done, and we moved off slowly. I suddenly fell fast asleep, and when I awoke it was almost daylight.

The truck was standing outside the Nichuguard gate, which was shut in spite of the telephone message to the gate keeper. Jean said we had been held up half an hour. The driver had gone off to find the gate keeper, who presently turned up and let us through. It was 5 o'clock. Ten miles to go, and the train just steaming into Manipur Road! We trundled slowly down the long, straight road on three doubtful tyres and one not doubtful at all, with great fins of rubber now smacking rhythmically against the tarmac, and the sickening smell of hot rubber pervading everything. Suddenly we ran straight into a wall of white mist, which grew thicker and thicker every yard and showed not the least sign of breaking up. I turned to Jean. 'If this mist covers the whole valley,' I said, 'the train will be late. We may do it yet.'

I urged the driver to step on it, but we were limping along as fast as he dared. At 6 o'clock we whirled alongside the station, tyre flapping and smoking furiously, radiator steaming and spitting. The mist was as thick as ever. I jumped down and dashed on to the crowded platform, seeking the Stationmaster.

'No, it's late this morning,' said that official, as though that were most unusual; 'it's just been signalled . . . yes, in ten minutes.' How we blessed the cold, damp winter mist, which usually is such a blight in the Assam valley! We had everything off the truck as quickly as possible, tipped the driver and his

mate handsomely — it was they, not we, who had to face an irate owner for that wrecked tyre — and dashed across to the Dak Bungalow for a cup of tea. To our astonishment we found the place crowded to capacity — no less a personage than H.E. the late Governor of Assam, Sir Akbar Hydari, and his staff being in possession. They were on their way to Imphal, where, sad to relate, Sir Akbar died very suddenly a week later. So after all it was as well that we had not arrived the night before to find every room at the rest house occupied.

The *khansama*, a venerable old gentleman with a flowing snow-white beard, had just brought us some scalding hot tea and toast when we heard the distant whistle of the mail train, one and a half hours late. We pitched the tea into a thermos and once more ran for it. Ten minutes later we were on our way. And so, in a haze of punctures, ended my seventeenth plant hunting assignment in Asia — and Jean's first. 'Where next?' I thought, as the train rumbled towards Mariani and Tocklai.

APPENDIX

A MONSOON climate such as that which prevails over most of South-East Asia from about 10° north of the Tropic of Cancer almost to the Equator, gives birth ideally to two alternating seasons: a wet (summer) season and a dry (winter) season. But this is, in fact, an over-simplification. Nature is wayward. She refuses to conform to our ideas, even when those ideas are founded on a great number of observations made over a long period of time, and over a large part of the earth. We may succeed in finding a formula which covers a wide range of observed facts, but in nature there is always something over, something which does not keep to the rules — our rules; there is always a surd.

This monsoon climate refers strictly to the prevalence of rhythmical alternating winds, whether rain-bearing or not, blowing at certain seasons, first in one direction, and then turning about and blowing from the opposite direction. It implies nothing about temperatures. True, the monsoon climate is characteristic of comparatively low latitudes, and hence there has grown up the popular belief that it is a tropical climate. This is dangerous half-truth.

The distribution of land and sea, the height, direction, and cover of mountain ranges, and many other factors of space and time, influence the typical monsoon climate, modify it in different ways — sometimes to such an extent that its relationship with the 'typical' monsoon climate is hardly discernible.

Now, the overall vegetation of a region is an indication of climate — if we read it correctly — and we can see for ourselves that, speaking generally, South-East Asia is covered with forest. Hence we infer that the monsoon climate favours the growth of trees. One might get a different impression if one's knowledge of South-East Asia was confined, say, to the coast of Assam. Here nature has trumped our ace with the joker. The

monsoon belt is, then, mostly covered with forest, except where man has cut it down. Wherever forest is lacking we may suspect either that man has destroyed it with axe and fire, or that in that particular area the local climate is not favourable to the growth of trees. (There are, however, other possible reasons for the local absence of trees.)

The province of Assam falls well within the monsoon belt, and is a land of forest. Manipur, a small part of Assam, is very much a land of forest, and the mountains of east Manipur are predominantly covered with forest. But forest itself is a name which includes several different types of vegetation. Evergreen forest, deciduous forest, conifer forest, for example, as units of vegetation, have little in common beyond the fact that in all of them trees predominate. Each, in fact, corresponds with a different climate. There is as great a difference between the climate of silver fir forest and that of broad leafed evergreen forest, as there is between forest and grassland climates.

The vegetation of Manipur, as of any mountainous region within the monsoon belt, varies subtly with the shape of the land, and with the altitude, so that even though the whole is forest clad (as contrasted with regions where trees are rare or entirely absent), a very different type of forest occupies the deep valleys and the peaks which tower 5000 feet over them. The forest is sharply stratified by altitude.

The Ukhrul ridge, about 6000 feet above sea level, is some few degrees north of the Tropic of Cancer, and its climate may not unreasonably be compared with the Atlantic climate of the western European seaboard, though it is warmer. There is, however, one important difference: in Manipur, winter — not summer — is the season of fine weather, and *vice versa*. Of less importance to the vegetation, probably, is the fact that the days are more nearly equal in length throughout the year than they are so far north as western Europe. Even in Ukhrul, however, we could recognize four distinct seasons: two major ones, wet and dry, and two minor ones, hot and cold; nor would it be unreasonable to speak of spring (February to May), summer

(May to September), autumn (September to November) and winter (November to February). These seasons are of unequal length (as in practice they almost invariably are in England; only we choose, in the interests of making a neat job of it, to harness them officially to the revolutions of the earth round the sun, whatever the clerk of the weather may say). On Sirhoi at 8000 feet altitude, on the other hand, one is hardly aware of more than two seasons, wet and dry — or perhaps three, wet, cold-dry, and hot-dry. The 'dryness' of the cold weather is often illusory — at least on the plains — because of the deep sea of mist which floods all low-lying land at night during the winter.

The seasons are marked by the successive flowering, fruiting, or leaf break of trees, which send waves of colour pulsing over the forest; and to a lesser extent by the flowering of the herbaceous flora. A summary of the more striking of these, season by season, may be useful.

Spring was just round the corner when we reached Ukhrul at the end of February, for the forest responds quickly when night frosts cease and the first warm breath from the plains comes stealing up the valleys in early March. At this season several deciduous trees with precocious flowers make an unrivalled display on the steep hillsides, notably the snow-white crab apple (*Pyrus Pashia*) and the carmine cherry (*Prunus cerasoides rubea*). Both are comparatively abundant, especially the former, and both ascend to 7000 feet or near. They are not quite hardy in Britain, except in the mildest districts. *Michelia manipurensis* too flowers early, before all last year's leaves have fallen; in fact, it is never quite bare. But this tree, which ascends to 8000 feet, is seldom found so low as 6000 feet. At the higher levels *Magnolia Campbellii* opens its peerless white flowers by the end of March. One of the most charming little trees of early spring is a deciduous Lindera, with buttons of sharp yellow flowers borne all up the bare stem. Another tree conspicuous by mid-spring is *Engelhardtia spicata*, whose cas-

cading tassels of winged fruits are by now a delicious green.

Even more characteristic of spring, and far more abundant, is *Rosa gigantea*, the first of the hill roses to flower, and found everywhere between 5000 and 7000 feet. It is closely followed by the no less common *R. sericea*.

All the rhododendrons except two (the lovely *R. Maddeni* and the paltry *R. vaccinioides*) are spring flowering, the earliest of all being the dynamic *R. arboreum*. At higher altitudes *R. Johnstoneanum*, *R. Lindleyi* and *R. Macabeanum* all open their buds in April. By May the forest is floodlit with flower and leaf.

At the Ukhrul level both *Buddleia machrostachya* and *B. paniculata* flower in March or April, together with other fragrant shrubs such as *Elaeagnus umbellata* and *E. latifolia*. The great majority of trees and shrubs (though not, perhaps, the most abundant) flower before the beginning of the rains, and pass the hot damp summer ripening their fruits. Amongst the more conspicuous are *Cornus macrophylla*, *Quercus Griffithii*, *Q. xylocarpa* and other oaks, species of Viburnum, Symplocos, Euonymus, several laurels, *Acer oblongum* and other maples, and *Ternstroemia japonica*. Spring, however, is as notable for its coloured foliage as for its flowers. The rapidly rising temperature, with warmer and shorter nights and increasing rainfall, causes leaf buds as well as flower buds to burst open and fledge many a half naked tree with gold, silver, scarlet, salmon pink, nile green and other charming colours. A few examples are some of the laurels (especially Cinnamomum), Ficus, *Acer oblongum*, *Quercus serrata*, Rhus.

Even on Sirhoi, about 7000 feet altitude, a certain number of trees and shrubs, besides those already mentioned, were flowering in April, notably *Mahonia manipurensis*, *Clematis montana*, Illicium, various laurels, and the magnificent Sorbus. The only conspicuous herbaceous plants to flower in the spring are the orchids, especially the epiphytic Dendrobiums with orange, purple, or white flowers.

It would be difficult to say what is spring weather in Ukhrul. Rarely were two consecutive days alike, and to describe the

weather as fickle throughout March and April would do it no injustice. Heat and cold alternated, sunshine and cloud. However, the air did not feel damp, nor did it rain for days in succession, though heavy rain storms of short duration were not infrequent. Day and night temperatures jumped every few days, a warm spell succeeding a cold spell; but drought never afflicts these hills, and a week without rain was, even in the dry season, rare. Ukhrul is, however, far above the low-lying winter mist.

May was so wet one might suppose the rainy season began in that month instead of — officially — in June. But to make up for this, the first half of June was remarkably fine and sunny. The monsoon does not, as is usual on the plains, burst almost without warning, but is ushered in gradually, preceded by thunderstorms.

Summer lasts from mid-May to early September, and is marked by long hours of daylight (some fourteen and a half hours at the end of June), warm weather, and humid atmosphere. Most of the trees had already flowered, amongst the last being the beautiful *Manglietia insignis*, characteristic of the forest at 6000-7000 feet, and *Rhododendron Maddeni* at 8000 feet. Species of Elaeocarpus and Symplocos[1] also flower in the summer, but are comparatively rare.

By the end of May nearly all the richly assorted colour of blossom and foliage had departed from the forest. It was Sirhoi's grass slope which more than anything else celebrated the summer months, when at least a hundred species of herbaceous plants flowered. The most lovely herald of summer on Sirhoi was the pink flowered *Lilium Mackliniae*, which opened its first blooms in mid-May, its last in mid-July. In June hundreds of its delicate bells trembled on the grassy slopes. The dwarf iris (*I. kumaonensis*) flowered about the same time, but over a shorter period. Here also, during the height of the rainy season, we all but overlooked a flowering Zanthoxylum, which three or four months later, when in fruit, became one of the

[1] *Symplocos crataegoides*, which flowers in April, is however fairly common.

most conspicuous trees in the forest. Curiously enough, an outstanding midsummer plant on Sirhoi was an epiphytic orchid, Coelogyne sp., though this apart, the rains orchids are practically all terrestrial species, including Phajus, Phalaenopsis, Spiranthes, and three large-flowered Habenarias, the giant *H. Susannae* among them.

Two other groups of plants are characteristic of the rainy season, namely the vines, which include many handsome foliage plants to be found in every thicket, and the pea-flower family (*Papilionaceae*) in general, shrubs and woody climbers. These last include many with striking flowers borne in massed abundance, such as Indigofera, Desmodium and the lupin-like Uraria.

Lastly, it is during the long summer that the most characteristic herbaceous plant of the Ukhrul pastures — Hedychium, with several species and in many bright colours — comes into bloom. Perhaps the most beautiful is the pale yellow variety of *H. coronarium*.

Autumn is ushered in by one unforgettable plant: the famous blue Vanda (*V. coerulea*), the first blooms opening early in September. The most definite sign of autumn in England is the turning of the leaves on elm and beech, on oak, birch, maple and other familiar trees. In the Manipur Hills, autumn colouring of the foliage — though bright enough — is a subordinate feature, an incident swamped in the heavy seas of evergreen forest. Moreover, with the approach of sunshine and blue skies, even so late as November more trees and shrubs are breaking into flower than are shedding their leaves, amongst them two species of cherry (*Prunus acuminata* and *P. Jenkinsii*), *Michelia lanuginosa*, Schima, and most prominent of all (because where it occurs most abundant) *Pyrus vestita*. An outstanding autumn tree on Sirhoi was the Zanthoxylum species already mentioned, whose fruits resemble those of a Euonymus. A beautiful autumn flowering shrub is *Corylopsis himalayana*, and at lower altitudes the tree *Anneslea fragrans*. Although leaf fall is inconspicuous, colour is not entirely lacking — especially in

the Sirhoi forest, which is high enough to contain a fair proportion of deciduous species, but not so high that broad leafed forest gives place to coniferous forest. Trees like *Magnolia Campbellii* drop their dead leaves sadly; but several maples colour well. *Vitis semicordata*, Rhus, and Sorbus turn scarlet, and certain commonly epiphytic ferns stripe the tree trunks with brilliant champagne yellow. Nor must we forget the crimson berries of Ilex and Photinia which shine so vividly in the sunlight. In fact, the higher forest recaptured in autumn some of the glamour it had had in early spring.

By October Sirhoi's grass slope had lost a little of the colour which flowed over it in June; but it was still a beautiful sight. At this time the most striking plant is monkshood, whose violet spires are everywhere. Gigantic thistles (*Cnicus*) too are prominent. Of smaller plants there are the Swertias, Pedicularis, Thalictrum, and several others. Many grasses and sedges now come to the fore. One grass is so abundant that seen from a distance the hillside is bronzed with it. Here and there small colonies of mottled green and purple pseudo-bulbs, like sea anemones glued to a rock, betray the presence of Pleione. In October each bulb produces one relatively enormous light purple flower; and against the edge of the forest sways a curtain of climbing aconite.

Winter in the Manipur hills is winter by reason of nothing happening, at least on the surface. Plant life, or the greater part of it, dozes for two months. The days are sunny, but not warm enough to induce visible growth: flower buds do not throw aside their protecting scales, nor do new leaves unfurl. At the onset of winter a few climbing plants come into bloom, the rampant *Crawfurdia* (*Gentiana*) *campanulacea*, for example, one or two species of Clematis, and several others; but these are finished before Christmas. Another common scrambler is *Toddalia aculeata*, whose greenish flowers in massive panicles come out when the tangerine-like fruits are ripe. *Pyrus vestita*, one of the last trees to flower, is already over, though still

conspicuous by reason of its ghostly pale leaves, and its snowy aura of wool.

But the cold is not severe, though even Ukhrul gets its ground frosts. It does not check growth for long. Before February is ended, the sap is running again, and colour ignites the forest, touching off tree after tree.

Rough as are these notes on the climate of Manipur, in the absence of anything better they may help the future botanist and plant hunter. Only by understanding the conditions under which plants grow naturally can one make an intelligent guess (it is not likely to be much more than that) in what other parts of the world they will thrive. Of those conditions, the most important is probably climate, with all its local variations and ramifications; but almost equally important is soil, with special emphasis on its bacteria content. Yet another important factor is the plant's own temperament. The successful plant hunter needs to be something of a geographer as well as a botanist, though perhaps the only botany he needs is also geographical.

Our assignment was to find good garden plants, especially trees and shrubs, which would be hardy and flourish in the southern states of the U.S.A. from Georgia to California, and from Texas to Florida — a broad enough definition, one would imagine. At least there must be a great variety of climates in the southern states. I myself have never been south of Washington, D.C., but I have some general knowledge of the climate over the southern half of the North American continent as a whole, none at all of the weather in any particular locality, except that in general the winters, even in Florida, are cold, the summers hot, and rainfall (whether mainly in summer or mainly in winter) erratic. However, I was quite certain that in the southern states would be found many districts where the plants of the Manipur hills would grow well.

Forest is forest, whether it grows in the equatorial regions of the new world or in the monsoon belt of the old; whether it is

composed of one or two species of trees (as in coniferous forest) or of one or two hundred species (as in broad-leafed evergreen rain forest). Much as they differ amongst themselves, however, all types of forest have this in common: that they consist of woody plants, with a large proportion of their woody parts visible above ground — in short, of trees, shrubs, and lianas; and the various types of forest depend upon variation of temperature, rainfall (and its seasonal distribution), humidity, and aspect, no less than do scrub and pasture.

Other elements of the forest, such as undergrowth and epiphytes, both predominantly herbaceous, are present in greater or lesser amount; but these are incidental, mere camp followers of the main vegetation armies.

Viewed from a little distance, one broad-leafed deciduous forest, in whatever part of the world, looks very much like another. This is true also of tropical evergreen rain forest, and, in lesser degree, of coniferous forest. But when we closely examine the same forest type in different parts of the world, we find that however similar the climate may be, the trees which make up the one are quite different from those which make up the other; that is to say, they belong to different species, different genera, and even different families. Thus, for example, the species which make up the broad-leafed deciduous forest of the Atlantic states of the U.S.A. are on the whole different from those which make up the same forest type on the Atlantic seaboard of western Europe; only a small minority of the species are alike. Thus climate, though it controls the vegetation type, does not control the flora.[1] In fact, one of the most difficult problems which confronts the geographical botanist is to discover what factors *do* mainly control the flora, and whence a particular flora was derived. It certainly did not grow up on the spot ready made, like it is today.

The number of different floras found in the world today is limited. Botanists recognize about thirty, but they are apt to

[1] But *past* climates have influenced the flora of almost every region.

increase as exploration reveals new species and analysis is carried further. It would be convenient if we could derive them all from one universal flora. The human mind has a strong prejudice in favour of deriving the many from the one. A universal flora which formerly covered the earth is a possibility, but not very probable, and anyhow diversity must have early appeared on the scene. We may, however, feel confident that there were originally fewer floras than there are today.

This is not the place to go fully into so complicated a question, but since my purpose is to give a brief general account of the flora of Manipur, it will be helpful to touch on some at least of the events which have helped to establish and mould it. First, however, let us note that the flora of so small and arbitrary a region as Manipur — a mere wild garden, as it were, in the midst of a large wild estate, and differing from it in form and climate hardly at all — will be, on the whole, the same as that of adjacent regions. It is not then necessary to inquire how or whence Manipur derived the bulk of its flora, because at least seventy-five per cent of it is identical with the flora of the Assam hills in general, and with the southern ranges (Naga and Lushai Hills) in particular, and with Burma and Malaya thrown in for good measure. Inquire rather whence North-East India or Indo-Malaya derived its flora! But it will be of some interest to discuss whence the remaining 25 per cent was derived.

Two interacting processes are for ever stirring up the earth's vegetation cover, defeating all attempts at stability or uniformity — for which we cannot be sufficiently thankful. These are: (i) changing climates everywhere; (ii) isolation of areas, large or small, from their previous contacts. To these may be added (iii) human activity.

Though the flora of a region is not, like the vegetation, dependent on the present climate, nowhere in the world — not even at the Poles nor on the Equator — has the climate always been the same as it is today. To understand the present it is necessary to know something of the past. The shape of the land is undergoing perpetual change due to constant wear and tear

and to slow upheaval and depression of the crust. The climate, too, is gradually affected by these and other means. Some ten thousand years ago the climate of Manipur, as of all eastern India, was far colder than it is today. The vegetation, therefore, must also have been different, and not less so the flora. Another result of the constant wear and tear on the earth's crust, of the heaving and squeezing, uplifting and sagging of the rocks, is not only the gradual isolation of areas — mountain tops, for example — but also the building of new lines of communication between areas long divorced. The flora, then, owes something to past climates and to past contacts, and it is necessary to visualize the geological history of a region in order to get its present flora into focus.

Ten thousand years ago, more or less, the flora of the whole northern hemisphere was still struggling in the grip of the ice age, which with long intermissions not less mild than the present time, had lasted nigh a million years. During periods of maximum cold, not only did the polar ice cap advance far south of the Arctic Circle, but the great mountain chains of Europe and Asia — the Alps and the Himalayas amongst them — were also heavily iced, and became seamed with enormous glaciers which stretched far beyond their present limits, even to the edge of the plains. The effects of this were felt all over South-East Asia at least as far south as the Tropic of Cancer. And what were the effects of this wintry ordeal?

Well, one result — and that not the least significant — was to drive the northern flora steadily southwards in search of sunshine. Hitherto, for millions of years at least, this flora had basked in a genial warmth which prevailed as far north as Greenland. It had become stabilized, stagnant perhaps. Now it began to feel the increasing cold. It had to move or perish. The northern hemisphere had suddenly become filled with a refugee flora marching steadily southwards, away from the cold terror, where eventually much of it was overwhelmed in the sterile heart of Central Asia. But further east, some of the now diverging flora slipped through by the coast route, squeezing

past the ends of the mountain ranges which flare out to the Pacific Coast, outflanking the deserts, till the warm valleys of China hove in sight, and the safe southern peninsulas.

Still other bands of refugees came south unchecked, following the flat east coast of the North American continent; but those which were dispersed through Europe soon came up against the barrier of the Alps, the Balkans, and other ranges, themselves ice-caked, and like those which lost their way in Central Asia, were overwhelmed.

That large sections of the Pliocene Arctic flora perished is certain — their remains have been found. That some parts of it won through to safety is equally certain. They survived because, scattering from the shores of the circum-polar sea along radial lines, they met with no physical barriers, their progress was unopposed except by the plants already in possession — and they too were on the march. So it comes about that closely related floras are now separated by wide oceans, while unrelated floras are mixed up together in the utmost confusion. One can easily see, then, how, even before the tropic was reached, this infiltration of refugees led to a great telescoping of floras. Though the displaced northern flora would have no special urge to return to its old home until it was more like old times, it did eventually make a move in that direction. The process is a reversible one. As the ice age passed away, the northern plants began the long trek home; and others perhaps joined in. It is here that the great valleys, cut by the rivers released from the melting glaciers, play their part as lines of communication.

The early Himalayan flora was also cruelly treated during the ice age. As the glaciers swelled and crept down the flanks of the range, pushing the alpine flora before it, that which descended the northern slope — caught between two ice sheets on the plateau of Tibet — met with disaster; whereas the luckier part which descended the southern slopes may have survived on the plains of India, or further south in the peninsula.

With the retreat of the glaciers everywhere, the displaced flora, now finding it too hot for comfort, would ascend the

mountains as well as the valleys leading north to its ancient home. Nor is there anything remarkable in all this movement. Plants are ever on the move like marching armies, though we do not always perceive so clearly the driving force behind their migrations. They possess not only the will to live, but the will to increase their numbers, to expand their territory even at the cost of war with its present inhabitants, that is, the will to conquer and to survive. They have the imperial outlook. Willis's theory implies this truth.[1] After the ice age had passed, however, and while it was passing, plants had only to fill a vacuum; the first comers had the best chance.

During periods of maximum warmth rivers larger than any to be found in Asia today, fed by the melting ice, rolled swiftly along. So sharpened were their waters with diamond-hard grit, they were able to grind out the great river gorges we see today in the upper waters of the Irrawaddy, Mekong, Salween and Yangtze. They also poured silt into many great lakes, filling them and making them dry land, such as the red basin of Szechuan in western China, and the plain of Hkamti Long in North Burma. The plain of Manipur was itself formerly a lake. Indeed, considerable areas of this basin are still under water; other parts of it are swamps or marshes half way to becoming dry land. The strata of clay and silt which form the floor of the cultivated plain, exposed by the Manipur river, tell part of the story. Whence came this large sheet of water, already half drained away? How was it derived, if not from the melting snows of the plateau and the moist winds which blew during the last phases of the ice age? The lakes which today survive in Yunnan, as the late Professor J. W. Gregory clearly showed, have shrunk much in size since then. During the pluvial period which prevailed during and after the retreat of the ice, South-East Asia was a region of great lakes and swift rivers.

Manipur itself, especially along the high eastern frontier, shows ample evidence of glaciation. The long, level ridges be-

[1] *Age and Area*, by J. C. Willis.

tween 6000 and 8000 feet indicate an ancient plateau, which may once have been considerably higher.[1] Several U-shaped valleys, such as that which runs north from Longbi, point to the same conclusion; the sharp angular peaks, such as the Longbi peak, associated with it may have stood like *nunataks* above the ice sheet. What is more important, Manipur is placed on the flank of a much loftier plateau which stretched far northwards towards Central Asia, and eastwards into China, a vast region of tundra and glacier. On its western flank lay, as now, the Assam valley, at that time either a gulf of the sea or a swamp, and beyond that the ice-covered Himalayas stretched away through Bhutan, Sikkim and Nepal to Kashmir and the Karakoram. Manipur was ringed by ice. Necessarily the climate was then far bleaker than it is today, with fiercer winds, a longer, colder winter, a shorter, wetter summer. There were few desirable sites for plants in the stony, famished soil; most of Manipur must have been sterile at times of maximum glaciation. There were few insects and not much sunshine, since an almost perpetual cloud canopy would have hung over the snow fields. When the sun shone, however, it must have been fierce; there was practically no shade other than that derived from aspect. Herds of hoofed animals, as gazelle, wild ass, sheep, even yak, may have grazed over the pastures during the short summer.

Let us leave this scene of desolation and come to much more recent times, when the Sino-Himalayan ice cap had almost vanished; in fact, to the present, or very recent past. That small part of the flora of Manipur which is of peculiar interest to the inquirer, is found to be isolated on the tops of the mountains, above 7000 feet altitude, and is known outside Manipur, if at all, only on other mountain tops, sometimes no further away than the Naga Hills, sometimes so far distant as the Eastern Himalayas or western China, Tibet, Bhutan, or North Burma. Such distribution is known as discontinuous, because

[1] See *Some Remarks upon the Geology and the Flora of the Naga and Khasi Hills*, by N. L. Bor, F.L.S.

the species are not found in, and have no means of crossing, the intervening territory. They are like brothers who have gone out into the world to seek their fortune, and lost touch with one another, though all started from the same home. Not every example of discontinuous distribution can be assigned to the same cause; each must be treated on its merits. But all explanations start with the simple assumption that the distribution was once continuous and has since become discontinuous owing to changes of climate and land form. Alternatively, that the species was forced to migrate in several directions from its original home, and diverged widely, so that it found sanctuary in a number of sundered areas. Thus explanations of discontinuous distribution are mainly concerned to show how the land surface became so diversified that no transference — not even the most fortuitous — could take place across the intervening barriers, or what caused the migration of whole floras.

To return to the present flora of Manipur, about 150 species of herbaceous flowering plants grow on the grass slope of Sirhoi Kashong between 7000 and 8500 feet. No doubt few of them would find a place here but for man's continual interference. Amongst plants whose presence in Manipur might occasion surprise or kindle interest, mention may be made of *Primula Sherriffiae*, *P. filipes* (this latter in the forest), *Lilium Mackliniae*, *Iris kumaonensis*, *I. Milesii* and *I. Wattii*, Delphinium, Aconitum spp., Onosma, Sedum, Swertia, Pedicularis, Kaempferia, Corydalis, Chirita, Cynoglossum.

Of course, most of Sirhoi's plants are so widely distributed that it is impossible to say where they originated. The mountain is thick with their seeds looking for landing grounds. They are for ever alighting, and if the place is suitable they germinate and grow; if not, they perish. One might also hazard that the air currents bring to Sirhoi seeds which never do germinate, or if they do, the plants perish long before flowering; and further, that fifty years hence a botanist on Sirhoi will find growing there plants which we never saw, and will search in

vain for plants which we recorded as common — perhaps for *Lilium Mackliniae* itself, which we found nowhere but on Sirhoi. There can be no doubt that species wax and wane in given localities; there is no stability for species, whatever there may be for the vegetation unit they help to compose.

The northern face of Sirhoi is covered with broad-leafed forest, evergreen and deciduous, and includes endemic or rare trees, although many of the not so rare ones are interesting. In a sense the entire forest, composed of oaks, maples, Magnolias, Ilex, Prunus, Pyrus, Ligustrum, birch, Ternstroemia, Taxus, etc., is an example of discontinuous distribution, since these species occur only above 7000 feet and are not found in the intervening valleys; nevertheless, most of them are found all over the Himalayan and east Indian regions at corresponding altitudes, and their presence here needs no laboured explanation. A few of them, however, are not so easily accounted for; it was particularly curious, for example, to find *Rhododendron Lindleyi* and *R. triflorum* here. So also some species of Zanthoxylum, Deutzia, Symplocos, *Piptanthus nepalensis*, *Manglietia insignis*, and Illicium. Endemics include *Michelia manipurensis* and a few others.

For long ages Manipur was almost completely sterilized. The problem was simple; it had no flora at all. It had been driven out by the cold. As the climate improved, plant refugees began to return to their old homes from the warm south, from the deep valleys and the plains. These established themselves, multiplied, until Manipur became a part of the Indo-Malaysian flora, whence the bulk of its new population — anything from three-quarters to four-fifths — was derived. From time to time strangers too appeared, and as the stream of returning refugees grew broader, maintained themselves by annexing hilltops as their own. These strangers came originally from more distant horizons, from the Eastern Himalayas, from Tibet, China and elsewhere; that is to say, from other floras than those of the surrounding Indo-Malaysian region. They too had mingled with the herd from the south, and a few at the time of the

return journey drifted into Manipur. Now they are separated from their kind by hundreds of miles of country in which they are no longer found. We must believe that, isolated as their colonies are, they once formed a more continuous stratum.

The journeys made by these plants before they reached their present homes are greatly in question; nor, until we know their present distribution, are we likely to solve that particular problem. *Primula Sherriffiae*, for example, was originally discovered twenty-five years ago in eastern Bhutan. Did it reach Bhutan from Manipur, or *vice versa*? Perhaps neither. It is much more likely to have reached both areas from a common ground to the north-east. Does it occur there now? We do not know; it has been found only in these two spots. Nor can we assert with any confidence that it came originally from western China — that paradise for primulas — since it has never been found there. Moreover, it is a unique species; there is nothing very like it, either in China or anywhere else. But there is still plenty of unexplored country in which it will probably be rediscovered.

Then there is *P. filipes*, likewise known from the Eastern Himalayas and Manipur, and from nowhere else. We can hardly doubt that the presence of these two species on either side of the broad Assam valley, on divergent mountain ranges which meet in the north-east corner of Assam, is connected with the total glaciation of this region. It seems probable also that both the species of Aconitum found on Sirhoi, are known from western China.

In fact, the position of Manipur, in the midst of glaciated mountains and astride one of the glacial escape routes, was peculiarly favourable for receiving contributions of flora from all directions.

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