

## The Exploration of Manchuria

Captain Arthur de C. Sowerby, F.Z.S.

Read at the Meeting of the Society, 26 May 1919.

[Note : The names in this paper are spelled as in the Manchuria sheet of the 1/5 M Asia compiled by the Society for the G.S.G.S.—Ed. G.J.]

Published in *The Geographical Journal*, Vol. LIV No. 2, August 1919, pages 74-92 with several photographs.

MANCHURIA, perhaps on account of its being the ancestral home of the last ruling dynasty of the great Chinese Empire, has long been a country of considerable interest to explorers from the West, though, owing to peculiar difficulties, not usually presented in the cases of other unknown parts of the world, its exploration has not been so thorough or so rapid as might have been expected.

The difficulties which barred alike the scientific and commercial explorer, and effectually kept out the greatest pioneer of all, the prospector, lay in the fact that the Manchu emperors in their rule over China tried to keep closed the doors of this the sacred home of their forbears against the inquisitive and grasping Europeans. And, all things considered, and from their own point of view, they had considerable reason on their side.

As regards Manchuria itself, their first experience with the white "barbarians" of the West occurred when the Russians in their march of conquest across Siberia came into contact with the outposts of the Manchu Empire on the Amur in the seventeenth century, and at once a struggle commenced between the emissaries of the two mighty Empires for the possession of this valuable stretch of territory, which ended in the nineteenth century in the whole of the Amur and Ussuri regions coming under the sway of the Tsar of all the Russias.

Next the Manchu emperors found the white man knocking with no uncertain hand at the doors of their domain in the far south, so that it is not to be wondered at that they tried to keep Manchuria closed to these aliens. Nevertheless, the whites have persisted in their purpose, and, after forcing the doors, have during the past century succeeded in finding out much about the wonderful country of Manchuria.

Very early in what may be called the modern history of the country the great explorer and naturalist, Pallas, reached the Amur region. He was followed in turn by Radde and Schrenck, and all three have left invaluable records of their discoveries.

In 1886 three noted travellers, James, Younghusband and Fulford, made their historic journey through Shenking (now known as Fengtien) and Kirin, to the sacred peak, Lao Pei Shan (Peiktusan), of the Chang Pei Shan range, and northward to the Sungari River and into Heilungkiang province. The record of their journey was perpetuated by James in his standard work 'The Long White Mountain'. 7

Later still Sir Alexander Hosie made his journeys through the country and along the Amur, and he too has ably contributed to our knowledge of the country in his book 'Manchuria, its People, Resources, and Recent History.' In addition to the records of these travellers and explorers there is a considerable amount of literature in Russian and Japanese, which, alas ! is sealed to most Britishers and sadly curtails our general knowledge of the country. It is to be hoped that these records of good work done will some day appear in the English language, for it is hardly likely that either Russian or Japanese will ever become part of the curricula of our British schools and colleges.

While travellers and men of science have thus been busy, the representatives of the commercial world have not been idle, for the barriers set up have been broken down, and trade relations established, so that the southern and western parts of the country have become fairly well known to the outside world.

In the last few years, with increased facilities for travel, and with the passing of the

old suspicions against outsiders, scientific men as well as traders and missionaries have penetrated the country to a considerably greater extent than was formerly possible. Even so there still remain large tracts of unexplored country, while there is still much to be learnt regarding its topography, fauna, flora, geology and mineral and economic resources; and it is with my own small share in the work of exploring these last stretches of unknown territory that I propose to deal to-night. In preparing this paper it has been difficult to determine just what line to take; for, though in the course of the past twelve years I have done a certain amount of geographical exploration, notably in Shansi, Shensi, North Chihli and Inner Mongolia, as a naturalist I have been concerned primarily with the fauna and to a lesser extent the flora and geology rather than with the geography of these districts.

Nevertheless, it is not easy for even the most casual traveller to pass through a country without gleaning some idea of its geography, topography, people, and products, and, as I hope I may claim to be something more than a casual traveller, I feel that, as one of the most recent scientific travellers in Manchuria, there may be something of interest regarding that country for me to lay before the members of this distinguished Society. As a field naturalist I have been working under the auspices of the United States National Museum, better known, perhaps, under the name 75 of the Smithsonian Institution. It has been my good fortune to make several excursions from my headquarters in Tientsin into Manchuria, a land of mighty rivers and great primeval forests, of volcanic hills and mountains and wide alluvial plains.

My first visit was made in the spring and early summer of 1913, when I entered Kirin province, vid Kaiyuan on the Moukden-Harbin railway line, and, after a period spent in the forest to the south-east of Chaoyangchen, took boat and explored certain parts of the upper Sungari River and its tributaries, finally reaching the town of Kirin, or Chuanchang, and thence by river steamer and railway arriving back in Tientsin in August.

In the spring of the following year I made a journey by boat up the lower portion of the Yalu River and its tributary the Hunkiang, taking the opportunity to visit Port Arthur and Dalny en route. The following autumn and early winter were spent in the forested regions in Northern Kirin province, between Harbin and Ninguta. In the summer of 1915 I travelled with a friend to Harbin, and thence down the Sungari River as far as its junction with the Amur. It was found impossible, however, to continue in this direction owing to the suspicion and inimicability of the Russian authorities, so we turned back and spent the autumn once more in the forests of Northern Kirin.

Had I been on a purely geographical quest my wanderings would undoubtedly have been of a far wider scope, but it will be readily understood that the search for small mammals, birds, reptiles and even larger quarry depends for its success rather upon getting to know one more or less limited area well than in making lengthy and rapid traverses of wide stretches of country. The several excursions just mentioned were undertaken with a view to tapping typical areas in Manchuria, and certainly the results they yielded were highly satisfactory; though it must be stated at once that little in the way of absolutely new species was discovered. Before going into details of my own travels, it might be as well to take a rapid survey of the geography, configuration, communications and resources of Manchuria as they exist to-day, for since James and his party and Hosie made their extended journeys in that country considerable changes have taken place. The settling up of the wilderness by Chinese has continued on an ever-increasing scale, railways, undreamed of then, have come into existence, the great rivers of the north have been supplied with steam-boat services, and vast areas of forest have been transformed into smiling farm lands. The few aborigines have become further reduced, while foreign influence, Russian, Japanese and Chinese, has greatly increased.

The three provinces of Manchuria—Fengtien, Kirin and Heilungkiang – occupy a broad horseshoe-shaped belt of country, of which the outer (eastern) edge is bounded by four great rivers, the Yalu and Tumen on the south, forming the boundary between Fengtien and Kirin and Korea, 76 the Ussuri on the east, dividing Kirin from the East Siberian

province of Primorskaya, and the Amur, or Heilungkiang, on the north, separating Heilungkiang province from the Amur province or Amurland. Formerly, during the Ch'ing dynasty and right into the nineteenth century, both Amurland and Primorskaya belonged to Manchuria, and to this day the aborigines of these great stretches of country should be considered as Manchurians rather than Siberians.

The western boundaries of Manchuria are less clearly defined, though here the provinces come into contact with Eastern Mongolia. The more or less arid steppes of which the latter country is formed do not end with the political boundary-line, but extend beyond the border into the more fertile terrain of Manchuria. Thus portions of northern Fengtien, western Kirin, and south-western Heilungkiang are more typical of Mongolia, and we find the aborigines pertaining to the more truly Mongol race, such as the Daurians.

Of the three provinces, Fengtien has been longest under cultivation, 77 and has figured the most in the history of China, Mongolia, Manchuria, and Korea. It consists of rather bare, rocky hills and mountains in the west and south-east, with a wide flat plain between, which runs in a north-east south-west direction, joining up with the east Mongolian steppes in the north, and bordering the Liao-tung Gulf in the south. Down this plain flows the Liao River, and on it are situated many important towns, such as Chinchowfu, Moukden, Tiehling, and Kaijiiian. The Peking-Moukden Railway traverses it from Shanhaikwan to Moukden. A branch line from Kowpantze runs to Yingkow at the mouth of the Liao River. From Moukden run three branches of the South Manchuria Railway. One strikes south-west and runs as far as Port Arthur and Dalny (Dairen), on the Liaotung Peninsula, with a short branch to Yingkow. Another running south-east reaches Antung at the mouth of the Yalu River, which it crosses by means of a magnificent steel bridge, and is continued in Korea as the Chosen Railway. A third, which is really a continuation of the first, runs north to Changchun, where it makes connection with the Changchun-Kirin Railway, and a branch of the Chinese Eastern Railway which runs south from Harbin. The main line of the Chinese Eastern Railway runs from Vladivostok to Manchouli through Ninguta, Harbin and Hailaf. The Liao River is not navigable except for lightdraft native boats, but of this type of craft it carries a considerable number.

Fengtien is given almost entirely to cultivation, maize, wheat, sorghum, millet, beans, and, of late years, rice being the main cereals grown. A considerable amount of tobacco is grown, while silk is extensively cultivated in the hills of the south and south-east, the silkworms being fed on scrub-oak specially grown for the purpose. The raw silk is extensively exported to Shantung, where it is manufactured into the famous pongee. All attempts to induce the silk-weavers of Shantung to settle in Manchuria have failed.

The Japanese Government has had schemes for inducing her own nationals to settle on land along the railway lines controlled by her; but this also has proved a failure, probably owing to the inability of the Japanese peasants to compete favourably with the local Chinese farmers. To the east of Fengtien lies the beautiful and fertile province of Kirin, or Chi Lin, meaning "clear forest." At least a third as large again as Fengtien, this province supports at present a far smaller population, though it is being settled up rapidly.

The great Kirin forest, which stretches from a little north of the Yalu up the middle and west of the province, in places to the very banks of the Sungari River, east of Harbin, and well into the angle formed by the junction of the Ussuri with the Amur, has been estimated as covering an area equal to that of Scotland. The whole of the Chang Pei Shan range is heavily forested, though this area is being exploited for its timber by the Japanese on the southern and the Chinese on the northern slopes of 78 the range, the former getting the timber out by the Yalu, and the latter by the Sungari and its tributaries. Further north in the province, between Harbin and Ninguta, the forest is being tapped by Russian and Chinese companies, the timber extracted consisting chiefly of pine. It is transported from the forest by the Chinese Eastern Railway, and most of it goes to Vladivostok, whence in pre-war times it found its way to Europe. An enormous quantity of oak, walnut, and maple is also cut to supply fuel for the population, the locomotives, and the steamers that ply on the

Sungari. The forest in the north-east of the province consists mainly of deciduous trees, chiefly oak.

Beside the Chang Pei Shan range in the south, the centre and eastern portions of the province are occupied by high hills and even mountains of plutonic and volcanic origin.

The province is drained by the Sungari River, the Mutan Ho (Peone River), and the left tributaries of the Ussuri River. The Sungari is navigable for native boats for about 100 miles above (i.e. south-east of) Kirin City, and by steamers from its mouth to that city. The Mutan Ho carries boat traffic at least as far as Ninguta. The western section of the province and the valleys of the large rivers and their tributaries are now under cultivation, while settlers are steadily pushing farther and farther up the valleys, thus opening up the country. With the exception of rice and silk, which are not grown, the products of cultivation are the same as those of Fengtien.

The province of Heilungkiang, which means the "black dragon river," is by far the largest of the three. It contains two extensive mountain systems, the Little Khingan Mountains in the south-east and the Great Khingan Mountains in the west. These mountains are for the most part heavily forested, and have been barely touched by the explorer. The Nonni Ho, an important tributary of the Sungari, drains the eastern portion of the province, the western portion being drained by the Argun and Shilka, tributaries of the Amur.

The province is bounded on the north by the Amur, and on the south by the Sungari. It has practically no railways, the western section of the Chinese Eastern Railway only passing through the south-western corner. However, the Russians have recently built a railway down the left bank of the Amur from Karimskaya, near Chita, to connect up with the recently opened Ussuri Railway at Khabarovsk, while steamers ply on the Amur at least from Blagovyeshchensk (noted for a brutal massacre of Chinese by the Russians, who some fifteen years ago drove the Chinese inhabitants, consisting of some two thousand souls, at the point of the bayonet into the river) to its mouth, and up the Sungari as far as Harbin and even to Kirin.

Of the state of cultivation and the products of this province I cannot speak at first hand, except to say that along the banks of the Sungari the rich soil is rapidly being brought under the plough for the production of 79 the soya bean and other cereals. The fur-hunting and fishing industries are also of great importance.

As already stated, I made four expeditions from Tientsin into Manchuria. The first of these had for its object the exploration of the forested area of Western Kirin. After reaching Kaiyian by train, my companion, Major Bowker, and I engaged carts and proceeded eastward to a place called Chaoyangchen, which is situated within 10 or 15 miles of the outskirts of the forest, close to the Fengtien-Kirin border. We passed a number of villages on the way, and two rather large towns, Shanchengtze and Hailungfu. These were new, and, from all accounts, of mushroom growth. Indeed, the road we traversed led through country that showed abundant evidence of having come under the plough but recently.

From Chaoyangchen, where we stayed a couple of days with Dr. and Mrs. W. Young of the United Free Church of Scotland Mission, we set out in a south-easterly direction, and, after passing the new township of Huinanting, where the local official did his best to stop our further progress, owing to the fear that we might fall foul of a notorious band of Hung-hu-tzu (bandits) that infested the neighbouring forest, we entered and travelled up the valley of the Hama Ho (Frog River). We were very soon in the forest, which here consisted mainly of oak, walnut, elm, and maple, the first three mostly of gigantic size. There had been conifers—pines and spruce—but these had been cut away by recent settlers, who were everywhere making large clearings, building log cabins, and cultivating the rich soil.

The roads, if one may use the term, were excessively bad, and we had considerable difficulty in making headway. We had not gone far when one cart was overturned into a deep pool beside the road, and its whole contents soaked. At one place we had to cross a treacherous "nigger-head" swamp. A "nigger-head" swamp is one in which the soft black ooze is closely dotted with peculiar tussocks of grass. In summer the long grass hides

everything, with the result that in trying to cross the swamp one encounters a series of pitfalls, as one's feet miss the tussocks and plunge one into the ooze, often up to the waist. In the autumn or spring, when fire has consumed the long grass, as it often does, the tussocks look like so many black heads covered with fuzzy black hair, whence the name "nigger-head." The difficulty of getting a heavy cart across such a swamp can be imagined. Add to this a soaking, steady rain, and it will be understood that our plight was far from pleasant. However, by the end of the second day we had managed to penetrate the forest sufficiently far for my purpose of making a typical collection of small mammals, so camp was pitched in a suitable spot, and I lost no time in getting my traps out. It was a wonderful place we had chosen. A beautiful stream flowed near by, whence the natives daily brought us fresh trout and grayling. Big, fat pintail snipe were abundant on the open swamps and recent 80 clearings, while hazel grouse and pheasants could be heard, though seldom seen, in the forest itself. Many bright-plumaged birds were seen, most noteworthy of which was the beautiful oriental roller (*Eurystomus calonyx*, Sharpe) with its brilliant blue and green plumage, crimson bill and legs. There were a great many of these birds about, but they kept to the tops of the highest trees and defied all our efforts to secure specimens, while they disported themselves in the air and uttered incessantly their shrill chattering calls. Jays, cuckoos, woodpeckers (pied and black), warblers, flycatchers, finches, hawks, owls, herons, kingfishers, and grebes were all seen and noted.

Small mammals were scarce, however, so we decided to push on further up the valley. We finally reached its head after another day's travel, where a friendly settler, practically the last in this direction, gave us shelter in his log-built huts. Here an interesting discovery was made. We had heard rumours of a wonderful lake, called by the natives Laolungwan, and had determined to visit it. Having, therefore, made ourselves comfortable at the farm, we lost no time in making for the lake, which lay but a mile or so away. A steep ascent up the head of the valley brought us to the object of our search, and there like an emerald set in gold lay the most beautiful lake it has been my fortune to see. It did not take long to determine the fact that this wonderful sheet of crystal clear water occupied the crater of an extinct volcano. In the course of my stay in this vicinity I visited another similar lake, while the native hunters told me that, scattered through the forest to the east and south, was a series of seventy-two such Lung Wan (Dragon Pits), of which half were dry and half contained lakes, and that they all had their origin in one big motherlake far away to the east. Apparently, then, we have here a series of extinct volcanoes, doubtless belonging to the same system as that of the Chang Pei Shan, the culminating peak of which, the Lao Pei Shan (Paiktusan), visited for the first time by James and his party in 1886, is itself an extinct volcano, with a lake in its crater similar to the one we visited.

While ascending the valley of the Hama Ho I had frequently noticed outcrops of volcanic slag and lava, and subsequently, while travelling from this locality, found that the rock formation of the whole country to the north was of volcanic origin, a thick layer of columnar basalt lying upon a granitic massif.

After wandering about in the forest for a couple of days in search of wild pig or bear, without success, my companion decided to return to civilization but, as I was still far from satisfied with the results of my trapping and hunting, I stayed on. There was a band of Hung-hu-tzu in the vicinity that was continually on the prowl, and to this day it is a puzzle to me how I did not fall foul of them in my frequent long tramps through the forest. I had a guard of fourteen foot and two mounted soldiers with me, but these brave warriors kept to the farm, and refused point blank to accompany me on any of my excursions. At last word was brought in from a neighbouring homestead that the bandits had increased their number to thirty, all armed with modern rifles, and that their leader had been making tender inquiries about the European staying at Liu's farm. On the arrival of this news I received a deputation from my guard, accompanied by my host, Mr. Liu, and a little Shantung hunter I had engaged, who begged me to leave the place and return to Chaoyangchen, since, were I to come to any harm, they would be held responsible by the official at Huinanting. There

seemed nothing left to do but to evacuate, but to show my independence I stayed on a couple of days, while I gathered in my long line of traps, finally packing up my gear and returning to Chaoyangchen.

Here I bought a small native boat, and with my two servants and the late owner of the boat as crew, and a small black bear cub as supercargo, I sailed down the Huifa Ho to its junction with the Sungari River. Various adventures in the way of shooting rapids and getting stuck on sandbanks kept the journey from becoming dull. Indeed, the second rapid we descended so frightened the boatman that he ran away that night, and I had to engage another old river-man to assist in handling the boat. Once, through mistaking the opening in a fish-boom that stretched across the river, we sailed bang into it. The boat heeled over and would have capsized but for the fact that the whole boom gave way, and we righted ship and raced on before the wind to the accompaniment of loud curses from the fishermen on the shore. It was their fault, however, for they had failed to mark the opening in the boom with the customary- red flags.

At the mouth of the Huifa Ho we turned southward, and with considerable toil towed the boat a few miles up the Sungari, till we came to likely-looking collecting grounds. Then, crossing the river and choosing a good site on high ground, we pitched camp once more. I was very successful at this place, and spent a month there. Besides small mammals, of which a large and interesting collection was made, numerous specimens of beetles and reptiles were taken at this point, while I was able to note and study the bird-life that abounded in the vicinity. Botanically, too, the spot was ideal, for, not only were there wooded areas, but there were also rocky cliffs, open uplands, wide clear valleys and marshes, all within easy walk of my camping site.

It was while camped here that I was able to form some idea of the amount of timber that is being cut on the slopes at the sources of the Sungari and its tributaries. Every hour of the day dozens of huge rafts of logs came floating past. Some of these contained twenty or thirty thousand feet of timber, averaging 3 to 4 feet in diameter, sometimes much more. This timber, I was informed, was cut and hauled to the water's edge during the winter by native woodcutters, who were engaged by timber merchants and their foremen. It was a very profitable business, 82 the timber realizing a good price at Kirin city. They told me that there were still unlimited supplies of timber on the slopes of the Chang Pei Shan.

At last, having come to the end of my supplies, I decided to return to civilization, and one morning put off in my little boat and commenced the journey down the Sungari in a fog. It was well for us that it was foggy that morning, for in it we were able to slip past a band of Hunghu-tzu that were lying in wait for me at the mouth of the Huifa Ho. I should have known nothing about this but for the fact that a few nights before I woke up to find a man in my tent. By covering him with my revolver and calling my cook up from the next tent, I made him prisoner. We then found he was armed with a long knife, and on his own confession he informed us that he was after my rifles, so that he could join a band of Hung-hu-tzu across the river. Further inquiries of farmers across the river elicited the fact that this band of robbers were hanging around to hold me up whenever I should start down the river. As a matter of fact, a few days later a missionary and his wife, who were travelling by river from Chaoyangchen to Kirin, were held up by this same band and robbed of all they had.

Without any further untoward event, and, except for the shooting of a dangerous rapid called Shiaogno Ho, without excitement, the journey was accomplished in three days. At Kirin I gave the boat to the old boatman, thereby earning his eternal gratitude, boarded a paddle-wheel steamer, and reaching the railway line between Harbin and Changchun at the point where it crosses the Sungari, caught the south-bound train, and was back in Tientsin once more within forty-eight hours. The journey up the Yalu River the following spring was one of intense interest. Moreover, it yielded very pleasing results in the way of collections of mammals, birds, fishes, reptiles, batrachians and insects; was, in fact, one of my most successful expeditions into these regions. Having taken steamer from Tientsin to Antung, vid Port Arthur and Dalny (Dairen), I solved the problem of transport up the Yalu by engaging a

roomy Chinese sanpan, in which my always bulky baggage was comfortably stowed, allowing me room to sleep and live as well. It was a most delightful journey, and, but for rapids, up which the sanpan had to be pulled, was accomplished without any great labour.

It was disappointing, however, that, owing to the low state of the water and the dangerous nature of the rapids, we could not ascend the river further than the town of Waichakow, about a hundred miles from its mouth. This decided me to turn up a tributary named Hun Kiang, and ascending its course till we came to suitable collecting-grounds, I pitched camp and explored the neighbouring country. The spot that I had chosen was simply alive with all kinds of birds, reptiles, and insects, though, strangely enough, mammals were very scarce.

Later, in descending the main river, I stopped twice en route and made good collections of such mammals as occurred in the country from both banks. I found the Korean bank more wooded than the Manchurian, which I put down to the influence of the Japanese, who look after the timber more than the Chinese, besides enforcing useful game laws. Particular attention was paid to the fish of the Yalu, with the result that a good and typical collection was made.

The Korean population, so different from the Chinese, formed a never-ending source of interest. Particularly did their river craft attract one's attention. Excellent watermen when it comes to the use of canoes and paddles, the Koreans cannot approach the Chinese as sailors. Their primitive devices for catching the wind to assist the progress of their dugout canoes and boats were ludicrous when compared with the well-made, well-handled and expansive sails used by the Chinese. The strange thing is that, though living side by side with the Chinese, and with such splendid examples of river craft before them, the Koreans stick to their primitive dug-outs, paddles, and pocket-handkerchief sails.

Taking them altogether, the Koreans appear to be a poor, listless, lazy people, content to live under the heavy hand of their Japanese rulers, so long as their long-stemmed pipes do not lack tobacco and their flasks the crude, raw spirits which they secure from the Chinese, and of which they are inordinately fond.

The women, so far as one could judge, do all or most of the hard work, the men at the best indulging only in fishing, at which, by the way, they are past masters. It may be stated here that as fishermen, hunters, and even as agriculturalists the Koreans have spread into parts of Fengtien, right through Kirin, and may even be met with on the lower reaches of the Sungari, and it is remarkable how, wherever they go, they stick to their own dress, dug-out canoes, methods of fishing, and manner of living.

The trips into the forest of Northern Kirin were carried out in the late autumn with the object of securing specimens of the larger mammals of the country. I had heard that the town of Imienpo, on the Harbin- Ninguta section of the Chinese Eastern Railway, was a good place to make one's headquarters while hunting in this region. This turned out to be correct, and during the months of September, October, and part of November, 1914, I made several excursions into the forests along the line, returning whenever my supplies ran out and revictualling at this little township.

Owing to the lack of transport and the nature of the forest in this district, it was impossible to make journeys of long duration. Instead, with two or three local Russian hunters, my servant and I, carrying on.

When this was written news had not reached me of the recent movement for Independence on the part of the whole Korean population. From all accounts this is a remarkable movement, whereby the Korean people, without the use of violence, are attempting to regain their Independence, which shows that though seemingly content, they have really been far from it, 84 our backs only the barest necessities, would sally forth for three or four days at a time, shoot and trap what we could, and return with the skins to quarters reserved in Imienpo, where we would attend to their preservation.

This method, though arduous and hardly likely to produce the best results, served fairly well. Thus on the first trip two good specimens of the Manchurian wapiti were secured,

as well as a roe-deer, some birds and a good series of small rodents.

Subsequently I tried hard to secure a wapiti with a good pair of antlers, but, though I traversed long distances and put up with considerable hardship, fortune was against me, and finally I was driven back to headquarters with a severe attack of rheumatism.

We next tried the country to the north of Imienpo, and were rewarded by securing three bears and a couple of gorals, as well as a specimen of a black forest hare, some squirrels, minks, voles, rats and mice, and some interesting birds. One of the bears was a fine specimen of what may be considered the Manchurian representative of the American grizzly. The animal measured seven feet in the flesh from tip to tip, and was estimated at something over six hundred pounds in weight. It was not fat, and the natives told me that this species did not get fat till much later in the autumn. It was subsequently identified with Heude's *Ursus cavifrons*, and appears to form, with other related species, a connecting link between the prehistoric cave bears of Europe and the North American grizzlies. So far as I am aware, this specimen, which now lies in the Smithsonian Institution collection, is the only complete one existing in any museum, though a skull, on which Heude based his description, lies in the Zikawei Museum in Shanghai. The other two bears were specimens of the common black bear of Manchuria, usually referred to *Ursus tibetanus*, but really a distinct species described by Heude under the name of *U. ussuricus*.

The forest in this part was very fine, being composed of oak, pine, spruce and walnut, all of large size, with a considerable sprinkling of various forms of maple, which in their fiery autumn foliage formed a riot of colour hard to describe. Everywhere the undergrowth was formed of a tangle of wild vine, richly laden with clusters of dark, well-flavoured grapes, interspersed with ferns and various small shrubs.

There was a plethora of edible fungi, of which the Chinese recognized some four or five varieties, and which they were gathering and drying for their own winter use or export. Throughout the whole region were many dead-fall traps of ingenious design, from which one argued that in the winter the country was the resort of fur-trappers. Indeed, I learnt that sables, martins, ermines, minks, otters, and squirrels were annually caught in large numbers.

My last expedition into Manchuria had for its object the exploration of the territory along the Amur River, but, as already explained, this was found impossible owing to the attitude of the Russian authorities. Rifles, shotguns, and cameras were forbidden on the Amur, while every stranger was viewed with distrust and suspicion. The reason for this was that a considerable number of Austrian and German prisoners had escaped from the detention camps in the Amur province, and formed a menace to the local populace. Not only so, but it was known that passports were being forged by the Germans in Shanghai or Tientsin, by means of which their nationals were getting about as British or French subjects. Thus it will readily be understood that a naturalist with his rifle, ammunition, and camera, and other more mysterious implements would prove an object of deep suspicion. Under the circumstances, after having travelled down the Sungari almost to its junction with the Amur, and having made collections at one or two places on the Heilungkiang bank of the former, I decided to abandon the project of exploring the Amur till a more suitable occasion, meanwhile returning to Harbin, and thence proceeding to Imienpo once more to put in another autumn in the forest of that district.

To show the attitude of the Russians at this time it may be stated that hardly had my companion, an American, and I left Imienpo for a trip into the forest, than we were arrested as spies and narrowly escaped confinement in Vladivostok, if not a quick and sudden demise with our backs to a brick wall. It was only the good offices of a friendly engineer on the railway, who got into communication with our respective consuls in Harbin, that we were finally released.

While on the lower Sungari I had an opportunity of seeing and talking with some of those strange people, the Fishskin Tartars, descendants of the old aboriginal Tartar inhabitants of Manchuria. But a small remnant of this tribe now exists, living in small communities along the banks of the Sungari and Amur, and obtaining a precarious

subsistence by fishing, hunting, and a very little cultivation of the soil. Their chief town, La-ha-su-su, where about five hundred families exist, lies at the junction of the Sungari and Amur; but there are a number at Fuchinh sien, and, I was told, at the mouth of the Ussuri River and up some of the side streams. Those I saw had taken to Chinese dress, except for hunting-coats and caps of deerskin; but they could easily be distinguished from the Chinese.

Mention should be made of an attempt, which I believe is proving very successful, to clear and cultivate on a large scale the low-lying land on the north (Heilungkiang) bank of the Sungari, near Fuchinh sien. The scheme is under the management of Europeans, who have imported American machinery for the purpose. Up to the time of our visit floods and the ravages of insects and disease had seriously hindered successful operations; but by dyking in an enormous area of swampy land, and with the use of powerful pumps, splendid results have at last been achieved and bountiful harvests secured. This is in the nature of pioneer work, but its success will doubtless lead to further enterprise in the same direction, and we may shortly see wide tracts of rich and highly fertile land brought under the steam plough in this part of the country. Manchuria lies in the track of the great wheat belt of the world, and as the forests are cleared away we shall see a steady development of wheat-growing and a corresponding increase in prosperity of the whole country.

In regard to the clearing away of the timber, which is only a matter of time, it seems a great pity that so large a timber reserve as that of Heilungkiang Province, not to mention that of Kirin, should be exploited, as it is now, in so wasteful a manner. Then again one would like to put in a word for the fast diminishing game birds and animals of the country. On both these scores some very careful and stringent legislation is urgently needed if the future welfare of the people that occupy Manchuria is to be considered.

Though as yet the mineral resources of Manchuria have not been thoroughly explored, there are ample signs that in this line the country is as wealthy as in other ways. Gold has been washed in the rivers for a considerable period; while coal-mines and iron occur in the south. Other minerals known to occur in useful quantities are lead and copper. Slate also is quarried in some parts.

The early history of Manchuria is more or less shrouded in mystery, but from what has been handed down it would appear that this land of primeval forests was occupied by tribes of savages, who lived entirely by hunting and fishing. These early Manchurians (this term is not to be confused with Manchus) must have been closely allied to the North American Indians, or perhaps it would be better to say that they and the people who populated North America belonged to the same ethnic race. [Dr. A. Hrdlicka, "Remains in Eastern Asia of the Race that peopled America." *Smithsonian Miscellaneous Collections*, vol. 60, No. 16. 87] There is a striking resemblance noticeable even to-day between the North American Indians and the Gilyaks and Goldis of the Amur, Sungari and Ussuri regions. The last, to whom belong the Fishskin Tartars, up to comparatively recent times, clothed themselves in the skins of animals and fish, the latter fact being responsible for the name *Yu-pi-ta-tzu* given them by the Chinese.

The early savages of Manchuria were continually engaged in intertribal warfare, which resulted from time to time in one or other of the tribes gaining the ascendancy and welding the others into a common State, sufficiently powerful to carry on successful warfare with neighbouring highly civilized kingdoms. Thus China itself on more than one occasion was actually attacked and subdued, and Manchurian dynasties placed upon the throne. The last of these was the Manchu dynasty, or Ta Ch'ing (Great Clear), whose founder was the famous Narhurchu. Having established themselves in China the Manchus practically deserted their own country, and except for the rich and fertile plains of the west, that country must have slipped back into a more or less wild state, occupied by but a remnant of the old tribes. Then apparently began an immigration of Chinese, which has gone on steadily ever since, being accelerated in recent years by the wonderful opportunities the rich forest land and great river valleys have to offer the farmer and husbandman.

In more recent times we find Manchuria being invaded by other alien races, namely

the Russians in the north and the Japanese in the south. The former, spreading through Siberia, first came into contact with the Manchurians on the Amur in the seventeenth century, though it was not till the nineteenth century that they finally secured for themselves, by the Treaty of Aigun, 1858, the Amur Province and the Primorskaya, now often called the Ussuri Province, which occupies the space between the Ussuri River and the sea. Not only did they wrest these extensive territories from the Manchu Emperors, but they also succeeded in obtaining practically the whole of present-day Manchuria as their "sphere of influence," constructing railways, establishing steamer services on the great rivers and founding large towns.

Meanwhile Japan, whose limited territories and increasing population demanded a "sphere of influence" on the mainland, began to cast hungry eyes upon the fertile plains and "axe-ripe" forests of Manchuria. Her war with China in 1895 gave her the upper hand in Korea, but her occupation of the South Manchurian ports was frustrated by Germany and Russia. She bided her time till an opportunity was afforded her, and in 1904-5 she wrested from Russia the Liaotung Peninsula, and control of the railway from Port Arthur to Changchun. Thus Manchuria from the southern boundary up to roughly about the 44th parallel of latitude became Japan's "sphere of influence," while Russia retained her grip upon the northern and western areas.

Meanwhile the actual suzerainty over Manchuria remained with China. All jurisdiction was carried out by Chinese officials, and each of the three provinces was under a civil governor. Only in the leased area of the Liao-tung Peninsula, and actually on the railways, and in the Russian portion of Harbin did the Japanese and Russians, respectively, exercise any jurisdiction, and even there Chinese offenders had to be handed over to the Chinese authorities to be dealt with.

This state of affairs continued after the overthrow of the Manchu Government in 1911. It is difficult to ascertain exactly what is the political situation in Manchuria to-day, but it would appear that, with the complete collapse of the old Russian Government and the subsequent rise and fall of the Bolshevik power east of the Urals, the Japanese have greatly strengthened their position throughout the whole of the country. The landing of a strong Japanese military force in Vladivostok and the advance down the Ussuri Valley to Khabarovsk and up that of the Amur at least to Blagovyeshchensk is bound to have a strong influence upon the future of that general region, for it is inconceivable that the 88 Japanese, even if they withdraw their military forces, will give up the commercial grip that they will undoubtedly have secured upon the country. Thus it is safe to predict that Japanese interests will have increased enormously throughout this general region, and that Japan's "sphere of influence" in the future will embrace a much wider stretch of territory on the mainland than heretofore.

News reaches us of several loans contracted between the Chinese and Japanese Governments, with various valuable concessions as security. Not the least of these is the Manchurian Mines and Timber Loan, whereby Japan practically gains control of the vast Kirin and Heilungkiang forests as well as the mineral resources of the whole of Manchuria.

Alarming as this may seem to those who have the welfare of British interests in the Far East at heart, it would be as well to look the matter squarely in the face. British and American merchants in China and the Far East generally may look askance at the increasing activities of Japan in her endeavours to secure a firm hold upon the markets of these regions and a footing upon the mainland for the overflow of her population, but in this they appear to lose sight of the fact that Japan is a young, vigorous and rapidly growing nation. The Japanese people must go somewhere, their own country being far too small for them and allowing of only a very limited expansion. Just as the European nations, in the early days of modern world expansion, turned to America, Africa, India, the Indies, and Australasia to find room for the overflow of their populations, so Japan now turns to the north-eastern mainland of Asia. She has found America and Australia closed to her, while the islands of the Pacific, or such of them that were worth having, have been snapped up by European powers. What,

then, is there left for Japan ? Obviously China as a market for her manufactured goods, and the hitherto sparsely populated but rich areas of Eastern Siberia, including Manchuria, for colonization. Unfortunately there seems to be a certain amount of fear on the part of Japanese merchants of the rivalry of European and American competitors for the trade of Manchuria; while the Government in backing up its own nationals rather loses sight of the generally approved policy of the "open door."

Nevertheless Japan has a greater competitor to fear than the European or American. The Chinese, from the wealthy merchants down to the humble peasants, have also east covetous eyes upon Manchuria, and it will be hard indeed for Japan to keep them out of that country or to best them in the struggle for the trade or the rich soil itself.

The success of European enterprise in China has largely been due to the fact that the merchants have combined or co-operated with the Chinese; but the Japanese seem to be following the plan of competing with them. The result will be that they will fail, as to a large extent they have already, in their big commercial undertakings. One has only to glance at Port Arthur and Dalny to see that they are a long way from being as prosperous as such a treaty port as Tientsin is, or even as they were themselves when held by the Russians. The Japanese areas of Moukden and Changchun are pitifully lifeless when compared with the neighbouring Chinese quarters of these towns, or with the Russian sections of Harbin. However much the Japanese may strive against it, it is almost certain that Manchuria is doomed to be settled and populated by Chinese, whoever gains the political control of that country; nor will this influx from the " Flowery Republic " be confined by the boundaries of Manchuria.

Though the civilization of the Chinese dates back to such antiquity, it is a great mistake to suppose that China is a decadent country, or its people a decadent race. In spite of periodical floods, famine, disease, and civil war the population of China is, and has always been, on the increase. To-day many of the provinces cannot support this increase, and we have now, even as it was throughout the duration of the Ch'ing dynasty, a steady emigration of Chinese of all classes into Chinese Turkestan, Southern Mongolia, and Manchuria. Now that the rigorous bureaucratic rule of Russia under the old regime has vanished, there is nothing to prevent Siberia being overrun, peacefully, by the Chinese settler and exploited by Chinese merchants, who can hold their own against any other people of these regions.

Before the paper the President said : The subject of to-night's address, Manchuria, is bound to be of great interest to us, for it is certain that it must occupy a very large space in the proceedings of the Peace Conference ere long. Captain Sowerby is peculiarly qualified to tell us about the country. Born in China, he has a complete knowledge of the Chinese language, and naturally he was relegated during the war to the command of a Chinese Labour Corps behind the American front. There he has done his duty nobly. But in addition to his success as a manager of labour he is a man of great scientific reputation as a naturalist. He has made two or three journeys into Manchuria through China in the interests of natural history. And while he has always been a close observer in the particular branch of science to which he is devoted, he has also been able to give some attention to the geographical features of the country through which he has worked, and he can, consequently, tell us much that is useful about the geography of Manchuria. I will ask him to commence his lecture.

(Captain Sowerby then read the paper printed above, and a discussion followed.)

The PRESIDENT : I deeply regret that my good fortune has never led me to Manchuria. Years ago I was fascinated with the story told in a book called 'The Long White Mountain,' dealing with the explorations of Sir Evan James and his party, one of whom was Sir Francis Younghusband. Since then I have never heard any account of Manchuria half so interesting as that to which we have listened to-night. I fear there are not too many of us here present who know much about Manchuria, but amongst them is an old friend, Sir Francis Younghusband. I will ask him to say a word.

SIR FRANCIS YOUNGHUSBAND : Captain Sowerby's most interesting lecture and

its very artistic and excellent photographs have aroused so many memories in my mind that I really scarcely know how to begin. I am sorry that Sir Evan James is not here this evening; for I know how intensely interested he would have been in this lecture, and especially in seeing these photographs of the scenes that we visited together. Sir Evan James's great idea in making the journey was to investigate a very mysterious lake which was reputed to exist on the summit of the Ever White Mountain in the depths of the Kirin Forest, which our lecturer said was the size of the whole of Scotland. It was through its being called the Ever White Mountain that we imagined it was snow-covered. We made our way through this great forest, and eventually, after going up the Yalu nearly to its source, and then up the headwaters of the Sungari, we found the mountain rising out of the forest. We ascended it and found the lake in the old crater of a volcano about 8000 feet high; and the whiteness of the mountain came from pumice-stone and not from snow. One of the interesting points which I heard for the first time this evening was that there is a whole series of these lakes, occupying old craters of volcanoes. But the ones which were shown this evening were evidently not at such a height as that of the Ever White Mountain. There are no forests along the borders of the lake we saw; it was surrounded entirely by rocky cliffs, and from one end of it flowed the head sources of the River Sungari. The pictures recalled to my mind the flowery beauty that we saw when travelling in Manchuria, especially the lilies of the valley of which we saw quantities, and the Manchurian maidenhair ferns, which are grown in this country, but which were exceedingly beautiful in their natural state. There were also quantities of lilies, and on the slopes of the White Mountain there were magnificent stretches of meadow covered with columbines, irises, and other flowers. Manchuria is an exceedingly valuable country, as you will have gathered from our lecturer this evening. Sir Evan James pointed that out with great force in his book 'The Long White Mountain'; and since our time other travellers have been there and the country has been gradually opened out by roads, railways, and steamers on the rivers. The soil is exceedingly rich; it will be one of the great wheat-growing areas of the world. The forest is very valuable, and there are these great rivers down which the timber can be extracted with comparative ease. When the forests have been cleared, as I see they are being to a very great extent, there will be great areas capable of growing wheat, the soya bean, and other valuable products. Then there is also mineral wealth, gold and iron; but I always think the greatest wealth of the country is its inhabitants. It was really very remarkable in those days to see the industry with which the Chinese immigrants of Northern China worked away in the forests and cleared them. I agree with all the lecturer has said as to the great capacity of the Chinese, and it will be interesting to see if his prophecy comes true: that although the Japanese probably beat the Chinese in fighting, and are better organized for military purposes, yet the Chinese will be able to hold their own in the matter of agriculture and trade. There is a great deal more I should like to say, but I am sure you will have gathered from the lecture what a very valuable and interesting country this is, and what a great future lies before it. I should just like to add one word of congratulation to the lecturer upon his very lucid paper, and on the great interest which he has aroused.

The PRESIDENT: We have amongst us to-night an old member of the Society, who is often resident in Siberia and whom we might call, like Sir George Macartney, one of our geographical landmarks in Asia. To him all geographical travellers turn by instinct for hospitality when they cross the northern wilds of Asia. He also has travelled in Manchuria and knows probably more about the relations between Siberia and Manchuria than any man in England. I will ask Mr. Oswald Cattley to speak; and I am sure you will all be very glad to extend to him the same welcome that he has always extended to the members of our Society who have met him in Siberia.

Mr. OSWALD CATTLEY: I have never spoken before at a public meeting, and I do

not really feel competent to say much. I have travelled a little but I fear I belong to the category of "Casual traveller" referred to by the lecturer. I have not, I am afraid, observed sufficiently and I really do not think I can do much in the way of imparting information about Manchuria. I have travelled mainly on the beaten paths, though when I visited Manchuria in 1903 for the first time, on my way to Peking, the Moukden-Peking Railway was not in existence, and one travelled down to Dairen, thence by sea to Port Arthur, where one transhipped for Chefoo, thence taking the railway on to Tientsin and Peking. The Amur Province is undoubtedly an area of very great interest, and of vast importance to the Russians: I do not think that even in the case of invasion they would lightly relinquish the north of the Amur to the Chinese.

Mr. J. F. BADDELEY: I am in the same case as Mr. Cattley in that I am not in the habit of making public speeches, but I began to-night at a dinner of the Kosmos Club, and so perhaps I had better go on. I understand that some of our most advanced geographers make claims which might almost put them in the ranks of the Bolsheviks. They claim broadly, I understand, that geography is the science of the Earth, of all that is on it, and all that is in it. That takes us very far indeed, for it brings into the scope of our geographical ideas the whole domain of history. In fact, history from this point of view is neither more nor less than a part of geography. Now I cannot add to such a splendid lecture, and one so beautifully illustrated, anything of sufficient geographical interest to merit attention; but there are one or two historic facts not generally recognized which may be worth recalling. For instance, the Russians first entered Siberia in 1582; in just over fifty years they had reached the Okhotsk Sea; that is to say they were already on the Pacific. Well, there is gold in the Urals, gold in the Altai, gold all the way through far Eastern Siberia. I had a nugget myself once from the shores of the Bering Strait, facing Alaska. But the existence of gold in Siberia was in those days totally unknown. There was something, however, quite as valuable as gold that took the Russians hotfoot across the continent, and that was the sable—furs generally, but the sable in particular. Every native the Russians came across, man and woman, had to pay from one to ten sables, whether they liked it or not. If they complied they were fairly well treated; if not they were imprisoned, tortured, or killed. And so it was that the sable took the Russians across the whole breadth of Asia, just as the fur trade took the English and French across America. That is one point. Another is that when the Russians got to Amur they did so at a moment of very great interest, in 1644, the very year in which the Manchus took Peking, and the latter had plenty to do in China without troubling about these new neighbours in the north. When a little later they put weight on them, the Russians were forced to withdraw, and only came back at the time of the Crimean War when Muravieff sent a flotilla down the river to relieve the Russian squadron blockaded by the Allies, and in 1858 when the English and French were at war with China. The map did not show us the whole of Manchuria, and the lecturer spoke of the navigation as beginning at Blagovyeshchensk; but, as a matter of fact, it begins hundreds of miles above that. I have more than once embarked at Stretensk in a tug steamer, gone all the way down the great river to its mouth, a journey of just 2000 miles. For quite half the distance the Amur forms the boundary of the Russian and Chinese Empires. But distance does not always depend upon the mere physical fact. In some respects I found that it was not such a very far cry from Amur to, say, an English village; that, owing to the conditions of the hinterland on both sides, the banks of the Amur constituted, in fact, one large village, where at any particular point one heard gossip going on much as in a village in England. If a marriage, a birth, a scandal of any sort took place, say at Nicolaievsk, the next steamer brought the news to Khabarovsk; five days later it was the talk of Blagovyeshchensk; and so on, the whole of the news floating up and down the river just as though it were the street of one little

village. I was at Blagovyeshchensk at the time of the massacre, and was told, truly enough, that to cross to the Chinese side was to have my throat cut. The same story was repeated on other occasions, but in 1910 I determined to take what risk there was and go. I got a Chinaman who had driven cattle from Mongolia and knew some Russian, to act as interpreter, and a Russian who owned a cart and three horses to drive me ; nobody attempted to cut my throat, and after a pleasant journey of eight days I reached the Manchurian railway at Tsitsihar. I was the first Western European to cover that route, but I found that the first person of note to travel over any part of it was one whose name will always be heard with respect at any meeting of this Society. I refer to Prince Kropotkin, who made an expedition there and published a paper on it as far back as in 1864. He was followed by one or two Russian scientists and military surveyors, but by no one from further west. I gather from the lecturer that even now there is no railway in these parts, although before the war one was projected, so that communication is still by road only. I do not think I need add anything more. As Sir Francis Younghusband has said, this lecture has filled my memory with all sorts of things, and it would be easy to go on, but I will end now by thanking the lecturer very much for one of the most admirable lectures, and one of the most beautifully illustrated, I have ever heard.

The PRESIDENT: It is just possible that in the audience there may be some lady or gentleman who has some knowledge of that part of the world. If so, we would be glad if they would kindly say a few words. If not, there is nothing further for me to do than to ask you to join in a very cordial vote of thanks to Captain Sowerby for a most interesting and admirable lecture, one of the best we have heard in this room this season.