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Journeys up the Fly River and in Other Parts of New Guinea

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another on the Dutch Arctic Expedition of last summer by Mr. Markham, will be read at our Meeting of December 9th, when your President, it is fully expected, will take the Chair.

I take this opportunity of announcing that the Council have for some time had under their consideration, and have this day adopted, a scheme for improving the 'Proceedings' published by the Society, by the insertion of Geographical Notices, Maps, and other matter of general interest derived from various sources independent of the Society, and, by increasing the frequency of the issue, making it, in short, a monthly publication. This change will add to the expense of the publication considerably, but not more, it is hoped, than will be compensated by the increased value and attractiveness of the publication to the Fellows of the Society (who will receive the numbers free by post as heretofore), and to the public generally, thus contributing materially to the diffusion of Geographical knowledge over a wider area.

The programme of Lectures on the Scientific branches of Geography agreed upon for the present Session is as follows:—At an early Meeting after Christmas, Professor A. Geikie of Edinburgh will deliver a lecture on "Geographical Evolution." At a Meeting not yet definitely fixed, before or after Easter, Mr. J. Ball, F.R.S., will address us on the subject of "The Flora of the European Alps, and its connection with that of other regions of the Earth." The concluding lecture will be delivered in May by Professor Rolleston, on "The Modifications of the external aspects of Organic Nature produced by Man's interference."

Journeys up the Fly River and in other parts of New Guinea.

By L. M. D'ALBERTIS.

Map, p. 80.

(Read at the Evening Meeting, November 11th, 1878.)

DURING the past six years it has been my good fortune to explore a considerable portion of the interior of New Guinea, a land of which nothing until quite recently was known, except a few districts in the immediate neighbourhood of the coasts. The object I had in view was not Geography, but Natural History. I had opportunities, however, of noting the more salient points in the topography of the regions visited, and whilst on the Fly River, up which I made three separate voyages, I compiled a chart of the river. I also made observations on the ethnology of the island. To a Society which has been accustomed to listen to the exploits of great travellers in the interior of Africa, I am afraid my narrative of work in this much humbler field will prove of little interest.

The island of New Guinea extends from a few minutes south of the Equator to 10° south lat., thus lying nearly in the centre of the tropical zone. Its most southerly part strongly resembles, in its physical

features, the north of Australia, from which it is only separated by a narrow and shallow channel of about 80 miles in width. To my mind there appears no doubt that, at no distant date in geological time, New Guinea formed part of Australia, which it resembles so curiously in its types of plants and animals, both regions in this respect being sharply distinguished from all other lands on the globe. A very small elevation of the sea-bed in Torres Straits, not more than about 60 feet, would bridge over the interval between these two great land areas.

It is my opinion, indeed, that at some future date New Guinea will again form an integral part, geographically, of Australia, to which in all probability it will also be united politically.

To attain its object Nature need not here employ great agencies like subterraneous upheaval, but only the modest but laborious and industrious operatives which are now at work. It will be the polypus and corals which will gradually unite in one those two largest islands in the world. That they were once united is apparent to me from the peaks and islands of the Torres Straits, which extend like the links of a chain from the north of Australia, i. e. Cape York to New Guinea. It is also evident from the shallowness of the narrow channel; and the study of the fauna and flora, both living and fossil, abundantly proves it. In the centre of the island, at the foot of the high volcanic chain which forms the backbone of this large island, there are fossil remains of marine-animals and corals of recent date which clearly show us that this part of the country, after having undergone a period of subsidence, the one most probably which caused its separation from Australia, has recommenced to rise by a slow process which is likely to be continuous.

It is only a few years ago that a mysterious veil hung over this remote land, but the hour of its lifting has now struck, and from various sides the unknown land is being penetrated by Europeans. The pioneers in this work, I am proud to say, have been the naturalists who, excited by the desire of studying the marvellous and extraordinary fauna, first ventured into the unhealthy forests and risked their lives among the indigenous tribes supposed to be savages and cannibals. These were followed by gold explorers from New South Wales, and thus the work will soon be completed, and New Guinea will no longer be a sealed book. As I have already said, I do not present myself to you as a geographer, or even as a scientific naturalist, but wish rather to be regarded as one of those pioneers who have opened the way to more able successors.

Having been attracted by the marvellous accounts of the Papuan territory, and the beauty of the animals of that mysterious island, particularly those given by the distinguished naturalist Wallace, I accepted as a piece of good fortune the offer to accompany Dr. O. Beccari in one of his voyages of exploration to New Guinea in 1872. We attempted first to land at a spot on the south-western coast, about $136^{\circ} 15'$ E. long. and $4^{\circ} 40'$ S. lat., hoping to penetrate into the interior by a river (the

Wamuka), which there disembogues itself, and reach the high mountains which figure on the map under the name of the Charles Louis Range; but the winds, owing to the advanced season of the year, prevented us carrying it out, and we were compelled to search in another direction for a landing-place more suitable to our purpose. We touched at several points on the coast, travelling in a north-westerly direction, but we did not finally land until the 1st of May, on Sorong, a small island situated between Salwatti and the mainland of New Guinea, in about $0^{\circ} 52' S$. There we commenced to make a collection of plants and animals, but, finding the locality extremely unhealthy, we were soon compelled to migrate to a better place, and we decided finally on going to Dorei, a small trading settlement in the north-western peninsula. It is in reference to this extreme point of New Guinea that Wallace wrote his account of New Guinea in the second volume of his 'Malay Archipelago,' and his eloquent description of the birds of paradise in that work inspired me with the desire of visiting it. After quitting Sorong we arrived in the early part of August at Andai, a village a few miles distant from Dorei, where a Dutch Evangelical Mission had its headquarters. During our stay in this part I explored the country to the foot of the high chain of mountains named Arfak, but here I only found birds of a common and uninteresting kind. The species which fill the naturalist with admiration, although known only from mutilated specimens, were to be found high up the mountains; whence it was impossible to obtain them, owing to the fear the coast natives have of the mountain tribes, who are reputed to be cannibals. No one, in fact, had been able to penetrate to the Arfak highlands, and it is doubtful if the attempt had ever been made.

The Arfak Range is most probably of volcanic origin. The height of the highest summit, called Mount Arfak on the charts, is estimated at 9000 feet, which I believe is not an exaggeration, as I could judge pretty well from the altitude attained by myself on Mount Hatam, viz. 5000 feet. From this spot the range runs uninterruptedly in a southerly direction, and joins the range of mountains which constitute the chief part of the backbone of New Guinea. As far as I could judge, separate streams issue from those ranges, giving origin to many small rivers, some of which disembogue in the small bay of Port Geelvink, and others in the larger Geelvink Bay. These mountains, even at the highest point attained by me, are clothed with magnificent arboreal vegetation, lofty and dense; but I was much astonished to find amongst the trees a species of oak and a conifer, which latter was afterwards recognised by Dr. Beccari as an *Araucaria*. Within a few minutes of the Equator, in $134^{\circ} E$. longitude, all the climates of the world, except the Arctic, are represented:—that is to say, the tropical at the base, and the temperate on the upper slopes and summits, offering a rich variety of trees and plants; and the same description applies also to the neighbouring

mountains, where exist the most beautiful species of birds of paradise known to the world.

The climate here is rather humid; but it must, at the same time, be very healthy, because the people who inhabit those mountains are very strong and well built. In my opinion they may be considered the purest type of the race called the Papuan, which, I may here say, *en passant*, has no claims to be considered, ethnologically, as a distinct race. These mountaineers appear until within recent years to have kept entirely aloof from the world, living quietly in their mountains, and having no intercourse with strangers. They were considered cannibals until, in 1872, I was first enabled to ascertain for myself that a European could live among them without running any danger of being cooked and eaten. They live in tribes under a chief called Korano, and cultivate tobacco, yams, bananas, and sweet potatoes. Their houses are constructed of piles of wood, and several families live in one house, but each family has a portion allotted to itself. I observed, however, that the men lived on one side and the women on another. On the whole I found them a very good sort of people, and tolerably industrious. As far as I could judge, they appeared to have no religion, but were imbued with many superstitions, amongst which I think I detected a belief in the transmigration of souls. On the graves of their dead they generally place some tobacco and provisions, which they think the defunct will rise up and eat at night.

The missionaries of Andai endeavoured to dissuade me from attempting to venture alone among the savages of Arfak, but seeing me determined, they procured me the friendship of a Korano or chief, and an interpreter, and on the 4th of September I started for the mountains, escorted by the latter and eight or ten Papuans of Andai.

I shall not refer to the incidents of the journey beyond stating that I lived about a month in a Papuan house at a height of 3600 feet above the level of the sea, and in the course of my daily shooting expeditions I reached an altitude of 5000 feet. The undertaking was perilous and perhaps foolhardy on my part, the inhabitants being ferocious hunters after human heads, and of so jealous and capricious a temper that if I showed my friendship to some among them I ran the risk of incurring the hatred of others. I felt myself, however, fully repaid by the large number of rare and beautiful species which I obtained, and was able to offer for the admiration of naturalists. I had at my own risk found my way into the mountain ranges, and had discovered the true localities and birthplace of the handsomest species of birds of paradise. I had taught the natives the benefits they might obtain from intercourse with white people; and those who followed afterwards on the same track would thus derive great advantage from the example set by me. I can say with a feeling of pride that I have been the pioneer of the Arfak Mountains. Circumstances and the state of my health unfortunately compelled me to

leave unfinished the work which had been so successfully commenced, and I left this part of New Guinea on board a man-of-war, which the Italian Government generously sent to our assistance. On board this ship (*Vittor Pisani*) I visited the islands of Ki and Arru, after which we proceeded to Australia, stopping once only at Orangerie Bay, in the south-eastern peninsula of New Guinea, in 149° 50' E. long., and 10° 30' S. lat., after a futile attempt to reach Outenata. The discovery of a new species of bird of paradise, the beautiful *Paradisea Raggiana*, and the sight of the mountain heights close to the sea, inspired me with the desire of exploring those southern parts about which little was known, as soon as the state of my health would allow me to do so.

In the month of March, 1875, I returned to New Guinea, and settled for a time in Yule Island on the southern coast near Port Moresby. Nothing was previously known of the interior of this island, and the natives had never had any intercourse with white people; the only European they had ever seen being the crew of H.M.S. *Basilisk*, with whom, however, they had had no dealings. I landed on the 16th of March, and commenced my residence by explaining to some natives whom I saw on the beach the objects I had in view in coming amongst them. I tried to convey my meaning by signs, not knowing a single word of their language. Three days afterwards I settled down, and the small ship which had brought me thither sailed away, leaving me alone to my fate. I was induced to choose Yule Island on account of the apparent salubrity of the place, its vicinity to *terra firma*, for so I will call New Guinea, and the high chain of mountains which extends from Mount Yule south-eastwards to the lofty Mount Owen Stanley. My object was to study the inhabitants, who belong to a different race from those who inhabit the north; to make collections of objects of Natural History, study the products of the country, and ascertain what advantages it offered to colonisation and European commerce. It will of course not be thought strange that, in a country wholly new and unknown, I had to encounter serious difficulties; but in eight months of residence there, I succeeded in vanquishing many of them, and was able to obtain a rich zoological collection, and make interesting notes on the character of the country and its inhabitants.

My relations with the natives were, I may say, of the most satisfactory description, notwithstanding that a dark cloud enveloped us for a time. But I was never obliged to resort to extreme measures, and everything was settled pacifically. The climate of the island, though certainly better than in other parts of New Guinea, had its effect upon me, and for this and other reasons I decided to abandon the island in November—at least for a time. On arriving at Somerset, North Australia, I found the Rev. Mr. Macfarlane, of the London Missionary Society, preparing an expedition to the Fly River, and having been invited by him to join it,

although suffering at the time from an attack of dropsy in the legs, I readily accepted his invitation.

We started in the *Ellangowan*, the steamer belonging to the Missionary party, at the end of November.* Notwithstanding the hostility displayed by the natives, who for two days made constant attacks upon us in numerous canoes at the mouth of the river, whom, however, we managed to get rid of by the aid of our guns, but without any bloodshed, we succeeded in ascending the river about 150 miles; but just at the most interesting part we were obliged to turn back. I then resolved to abandon the idea of going to Java, and to proceed instead to Sydney, where I knew great interest was felt in discoveries in New Guinea, of which I thought I might take advantage, in order to prepare another expedition.

I found the very liberal Government of that colony fully disposed to grant me the use of a small steamer, and a few private citizens ready to contribute towards the necessary expenses of the expedition which I proposed to make to the sources of the Fly River.

With these means now at my disposal, I managed in 1876 to ascend the river to a distance of 500 miles, or rather more, and I may say that I reached its sources. My vessel could not be navigated any further, although she only drew $3\frac{1}{2}$ to 4 feet of water: I had reached, however, the mountainous country, the counterscarp of the high central chain called Charles Louis, from which the Fly takes its rise. It was my original intention to abandon the *Neva* at the end of the navigation on the river, and to attempt to cross by land to Hall Sound; that is to say, to return to Yule Island, where I could have met with assistance from the missionaries, who had established a station there on my departure; but the course of the river had carried me further west than I supposed, and as my men, nine in number, had suffered considerably from fever and privations which had exhausted their strength, and as we should have incurred the risk of perishing of hunger, it would have been folly to attempt it. We were compelled, therefore, to retrace our course down the river, and after passing about three months, making collections in the Katau, I returned to Sydney with the intention of organising a new expedition and trying my luck once more. During our voyage down the river, we were twice attacked by natives, but we succeeded in avoiding bloodshed. The sight of the *Neva* and the noise of our guns sufficed to disperse them, but, in preparing for a new voyage, I could not possibly foretell what might happen. I obtained the loan of the *Neva* once more from the Government at Sydney, but this time the fitting out of the expedition was entirely at my own expense, and on the 3rd of May, 1877, I started for the third time towards the River Fly.

On this occasion the crew again consisted of ten persons, including

* For an account of this journey, see 'Proceedings R. G. S.,' vol. xx. p. 253.

myself: namely, three South Sea Islanders, five Chinamen, and one white, who was the engineer. It was impossible to take a larger number, as the *Neva* was a steam-launch of small tonnage and an open boat. I loaded her with as much provisions as I possibly could, in order to be independent of the natives. At the mouth of the Fly the natives either abstained from putting in an appearance or came as friends, thus showing that the lesson received from the *Ellangowan* had borne its fruits. But on reaching higher up the river, where we had never before seen any natives, and even believed the country to be totally uninhabited, we were attacked at night by a number of the savages, some in canoes and others from the shore, at a very short distance from where we had anchored. It was a fortunate circumstance that I awoke just at the moment when one of them was on the point of boarding our vessel, otherwise we should have been all killed. As the night was intensely dark, and we were firm at anchor with all our crew asleep, the only course open to me was to seize a gun and fire on the bold intruder. In the meantime my men awoke; but, for fear of their being wounded, I ordered them to keep themselves concealed, I alone defending the lives of my party. Although we could not see the arrows, we could hear them showering down upon the little vessel like hail. In self-defence I could do no otherwise than reply to the arrows by a fusillade, and I did so. Where is the man who would have acted differently, unless he wished to die a martyr? The natives continued the fight for twenty minutes, and I responded with my gun, discharging altogether 120 shots. This incident occurred on the 1st of June.

We continued our journey up the river, stopping here and there a few days for the purpose of collecting, and exploring the surrounding country. The few natives met with ran away without molesting us. The banks of the river seemed to be uninhabited, and rarely were there to be found in the forest any old pathways indicating a permanent population. We thus passed two months quietly. When I say quietly, I mean as far as the natives are concerned, but it was not a quiet time to me. My crew, owing to the somewhat monotonous life, became insubordinate, and one day refused to work at all, adopting all the devices they could think of to induce me to abandon my enterprise. The drought had caused a great subsidence in the waters of the river, and in August we found our way up-stream barred by a bank of pebbles. I waited for the rains, in order to be able to continue my journey, and at last succeeded in crossing the bar and pushing my way into the mountainous country again. Soon after I found it impossible to proceed any further. The last point reached on this third voyage was 475 miles from the mouth, being 45 to 50 miles less than we accomplished in the voyage of the preceding year. We arrived at that point on the 24th of September, and I hoped that after the rains the river would rise and enable me to reach the spot which I had touched on the voyage of the previous year, but my hopes were

frustrated by an untoward incident. Our Chinamen left to sleep on board deserted in the night, taking with them our small boat. All other objects had now to be set aside to recover the runaways. We turned our prow down river in chase, but, losing a day at a bank of shingle which barred our progress, we failed to overtake them.

Although reduced to five in number, I could not think of abandoning my enterprise. The South Sea Islanders, who had up to this time covertly tried to place every obstacle in my way to compel me to commence my return journey, but had never shown themselves openly rebellious, now, however, suddenly attempted it, and I may say that for three days they were the complete masters of the *Neva*. They assumed full command, and gave orders to the engineer, who, however, had the good sense not to obey them. After three days passed in this manner, firm at anchor and with worse perils before them, not knowing themselves what to do, they at last came to ask my pardon; and, to test their sincerity, I gave orders that the vessel should proceed up the river again, to the spot whence the Chinese deserted, there to remain until such time as I had pre-arranged for the commencement of my return journey.

Having arrived in the low plains through which the river flows for a long distance, where there is but little forest, and the banks and surrounding country are clothed with herbage, I was much astonished to find a great tract of land charred by recent fires. We soon met with many natives and recently constructed villages. They were all new people to us, probably mountaineers who had come down from the high ranges in pursuit of game, which, owing to the drought, had resorted to the banks of the river. Thus we found once more our progress barred. Of the two modes of clearing the way—force and diplomacy—I tried at first the latter, but without success. The natives would not heed our signs of peace, and assumed a most threatening appearance. We were only five on board besides myself, including the engineer and steersman; leaving but three men to resist the attacks of hundreds. We tried to escape them, but they gave chase in about twenty canoes of eight or ten men each.

I refused permission to my men, notwithstanding their urgent request, to use their guns; but the peril of our situation soon became intensified by the report of the engineer that he had no more fuel, and must stop the engines. Further parties of hostile natives appeared on the bank at a turning of the river, and, on our passing, jumped into their canoes and joined in the chase. With great reluctance I was now compelled again to use force, but three shots from my rifle sufficed, and we were saved. This was the last of our battles, but, unfortunately, not the last of our dangers, others were in store for us. On the 8th of November, when anchored off the island of Attack, two hundred natives passed us in numerous canoes, apparently unarmed, within 500 yards. We had decided to stay the night there, but, on perceiving these folks, we deter-

mined to anchor off the island of Kiwai. We started after dinner, I being at the helm, and our native boy attending to the soundings, the other two men being laid up with fever.

During our passage a heavy storm burst over us, accompanied with thunder and lightning and a violent gale. The evening was drawing nigh, it rained in torrents, and the tide was running down. Owing to the heavy rain we lost sight of the land, and could not distinguish the compass. Although our engine was only at half-speed, the current carried us with great rapidity. We believed ourselves safe, as we were in 4 fathoms of water, when suddenly the boy called out, "3 fathoms, 2 fathoms!" and before he could say more the *Neva* was driven on a sand-bank. To employ our strength in trying to liberate her would have been useless.

After the storm had passed, we perceived that we had been driven towards the village of Para, in the island of Kiwai. The natives did not fail to see us soon afterwards, and to fully comprehend our position, because ere long they commenced to sound their horns, beat their drums, and dance their war-dance amidst a great display of torches. We passed the night in momentary expectation of being attacked. In the distance could be seen the reflection of more fires and burning torches, and we could hear the response of distant drums. On the following morning the *Neva* was 30 yards distant from the water, high and dry on a sand-bank, which extended about 400 or 500 yards towards the village of Para. Although there were about a thousand natives on the shore, we were fortunately not attacked. The waters soon began to rise, and with the high tide we escaped from our perilous position. At last we found ourselves again at the mouth of the Fly, and I hoped that all my troubles were at an end. Owing to stress of weather, which prevented us from setting out to sea, we were obliged to pass a few days in a canal of the island of Mibu. Further desertions reduced our number to three—namely, the engineer, the youngest of the South Sea Islanders, and myself, all in a weak state of health, especially the engineer. I was obliged to act as captain, engineer, steersman, doctor, and cook; and, being the best in health of the three, I was able to nurse the sick in turns. At last, however, I was also obliged to lay up, and then we could only trust to Providence. We succeeded in crossing Torres Straits, and reached in safety Thursday Island, near Cape York, to which the Somerset settlement had been removed.

The results of my voyage to Yule Island were of the utmost importance in a Natural History point of view, and they would have proved still more important if I had not lost the major portion of my collection by shipwreck.

The knowledge I acquired of the country during my sojourn gives me good ground for believing that, whenever New Guinea becomes a

field for colonisation, a great future will be in store for Yule Island. The island itself may become the seat of a large population, to which all the products of New Guinea would flow. The bay offers facilities for a very safe port. The huge plains of the neighbouring mainland, well irrigated and rich, in pasture-land, could certainly be utilised by the agriculturist. The vicinity of the mountains, which are clothed with rich forests, would also be a source of wealth; and if valuable minerals be added to the products of the soil, there can be no doubt as to the brilliant future in store for that part of New Guinea. The intelligence and good qualities of the natives also ought to form one of the elements in the development of that country, and I think ought to be made use of.

As regards the River Fly, perhaps the largest in New Guinea, I cannot hold out hopes of its future utility. As a means of entrance to the interior it is of great importance, owing to its enormous width, length, and depth; and I may say it is the only available one in the present state of our knowledge; but the nature of the land through which it flows does not inspire me with much confidence in its future. I am not speaking in reference to the hostile populations which inhabit it, but as to the character of the country itself—the interminable forests which for the best part of the year are under water, and the vast grassy plains which are most likely converted into lakes during the rainy season. There is no doubt that this vast plain must be intersected by many side channels; but I did not discover any large affluent except the River Alice far in the interior. Strictly speaking, however, I do not know if the Alice can be called an affluent, because it does not appear to mingle its waters, at all seasons, with the Fly; but rather to cross it, leaving it again on the opposite bank. But it forms a river of much importance, which must possess a number of small tributaries. I cannot, however, exclude the probability that the Alice after flowing eastwards may eventually re-enter the Fly, because during my third voyage I discovered a large confluent, about 40 miles from Ellangowan Island, which may be the Alice. Above this confluent the bed of the river narrows very considerably.

That there are other large streams yet to be discovered flowing into the delta of the Fly I do not doubt, because the large mass of fresh water which extends from Waighi to Dibiri—the two tracts of the New Guinea mainland which enclose the delta, the latter forming a true archipelago, comprising the islands of Mibu, Kiwai, Attack, and many other smaller ones north-west of Kiwai—cannot possibly be derived from the Fly alone.

Having spent the whole of one dry season at a short distance from the sources of the Fly, and having during that season seen the Alice reduced to the proportions of a shallow creek, and having noted the small amount of water in the Fly, I have come to the conclusion that its

supply is not sufficient to account for the large volume of fresh water at its mouth, in every season, which fills deep channels of the united width, according to my estimate, of 15 to 20 miles. This raises the belief in my mind that other large tributaries are to be found which disembogue at the north of the group of islands formed by Long Island, Attack, and others of smaller dimensions. But it is also not improbable that there may be some large river, yet to be discovered higher up, flowing into the channel formed by the islands of the Fairfax group.

The mountains and plains of New Guinea are clothed with luxuriant tropical forest, to clear which would be a task of great labour. From the sea-shore to the foot of the main range, known at its western extremity as the Charles Louis chain, extends a vast plain, broken here and there by ridges and chains of lower hills.

That the land is fertile I have no doubt, but whether white men can live and prosper there is a problem which might cost dear to solve. The low lands at the mouth of the river are certainly not suitable to the white man, and I do not believe that he could acclimatise himself there. The mountainous country, which is situated between latitude 5° and 6° , might perhaps offer better prospects, but successful colonisation there would be difficult. There may be natural resources to attract the enterprising trader, but the products are chiefly of the vegetable kingdom. There are many precious woods; the nutmeg grows plentifully, and might be utilised, and gums and resins would form articles of exportation; but I doubt if trade would be profitable. The development of the mineral resources alone can produce a change in the present state of the country, but I am certain that difficulties of every kind will for a long time frustrate any attempt in that direction. Land-travelling would be most difficult. Horses and other animals of burden would in many instances be worse than useless, owing to the nature of the soil and the want of forage. The islands at the mouth of the Fly River are very flat and covered with, if not formed of, a thick stratum of alluvial land, and are therefore very fertile. But I do not believe that a European could live there.

New Guinea does not possess any of those large animals which render Africa so interesting, and the products of which form so important an item in the commerce of that country. The accounts published by certain travellers of the existence of large animals in the interior of New Guinea are fables, and exist only in the imaginative brain of the narrators. Leaving on one side the importance which New Guinea may acquire from its mineral resources, which are, however, not yet ascertained, we must for the present be content to regard it as the country of the birds of paradise, and as such it will be sacred ground to the naturalist.

The fauna, which is partly already known, still contains great novelties in store for future explorers. As far as I am concerned, I shall

consider it a sufficient reward for all my toils if I am regarded as a pioneer who has shown the way to the summits of the Arfak, to Yule Island, and to the wilds of the interior by way of the Fly River; and in doing so has enriched the museums of Europe with the zoological treasures of the island.

On the conclusion of the Paper :

The CHAIRMAN remarked that there could be no doubt the island of New Guinea would at no distant date become a place of considerable interest, and probably of importance in a colonial and commercial sense. Gold had been found there, and a company of gold-diggers were already at work on the Goldie River, near Port Moresby; but gold was a very doubtful blessing, and he would rather hear of other metals being obtainable there. Admiral Moresby, three sessions ago, had given the Society an account of his discoveries in the south-eastern part of the island;* and in May, 1876, we had listened to an interesting paper by Mr. D'Albertis, on the Natives and Products of the Fly River.† In short, every year seemed to prepare the way for that more perfect knowledge which would certainly, sooner or later, lead to colonisation.

Dr. GEORGE BENNETT (of Sydney) said he had listened with great pleasure to the Paper which had just been read. He became acquainted with Signor D'Albertis first in 1873, at Sydney, and since then had taken much interest in all his explorations. On his return from the Fly River after his journey with Mr. Macfarlane, Signor D'Albertis desired to obtain a steam-launch, in which to explore the river himself. The inhabitants of Sydney were asked to subscribe towards the payment of the crew, and Signor D'Albertis offered himself to bear the expense of the outfit, provisions, &c. He (Dr. Bennett) took the matter up, and went himself to the Treasurer of the New South Wales Government (Mr. Stuart), and placed the case before him. Mr. Stuart replied, "There will be a meeting of Council to-day: write down what you require." That was done, and the meeting was held, and in two or three days an official letter was sent, stating that a steamer would be placed at the disposal of the gentlemen who had interested themselves in the proposed expedition. On inquiry, they found that the steamer would not be large and strong enough to stem the current of the Fly River, and he had therefore again to apply to the Colonial Secretary, with the result that the *Neva* was placed at their disposal. A meeting of the inhabitants of Sydney was then held, and a sum was subscribed sufficient for the expenses of the crew. Many persons advised Signor D'Albertis not to attempt so dangerous a voyage in so small a vessel, for the *Neva* was only an open boat of eight tons burden; but nothing was able to deter him from his adventurous undertaking. On his return to Sydney, he wished (as he had related) to try a third time, and an application being made to the Government to allow him the use of the steamer once more, the request was readily granted by Mr. Robertson, the then Premier. The perilous nature of the expedition could hardly be understood except by those who have had personal experience in those localities. To cross Torres Straits in an open and deeply-laden boat, liable at any moment, from the sudden changes of weather, to be swamped, was no small feat. He therefore thought Signor D'Albertis ought to be thanked for what he had done, in making us better acquainted with the geography and natural history of New Guinea.

* 'Proceedings,' vol. xix. p. 225.

† 'Proceedings,' vol. xx. p. 343. See also Mr. O. C. Stone's paper, same vol. p. 330, and Mr. Goldie's, on his Journey in the Interior from Port Moresby, vol. xxii. p. 219.

Sir RAWSON RAWSON had had the opportunity of learning much in conversation with Signor D'Albertis of the troubles and difficulties he had experienced. No doubt in his several voyages he had encountered many dangers, but it was only right that it should be known that though there were one or two hostile tribes, the natives were for the greater part mild, docile, and easily managed, and would probably make very good agriculturists. Signor D'Albertis was of opinion that there was an opening for any person or company that chose to send out two or three experienced agriculturists with the necessary instruments. They would find the inhabitants disposed to work, and capable of becoming civilised. As an instance of the cool courage which Signor D'Albertis had displayed in the midst of peril, he would mention that on one occasion some natives were disposed to attack him, but they had an idea that he was protected by his jacket, to which they were unaccustomed. They imagined there was some magic in it. To disabuse their minds, he took off the jacket, and said, "Take the jacket: now then attack me." Of course he held his revolver in his hand, behind his back, but the people shrank from him, abashed by his courage.

Dr. MULLENS said he had watched with interest Mr. D'Albertis' progress for several years, as he had been in correspondence with Mr. Macfarlane, Mr. Lawes, and others, who had constantly met him. It was therefore with peculiar interest that he now saw his face, and heard the account which had been given in the Paper. The London Missionary Society had no additional information of recent date concerning the part of New Guinea which included the great wide plain of the Fly River; but they knew that the natives in Torres Straits were increasing in knowledge and becoming better acquainted with Englishmen, so that it was much more safe to pass through than it was a few years ago. In his account of his second journey, Signor D'Albertis acknowledged, in a very handsome way, the kind help and comfort he received, after his perilous voyage down the Fly River, from some of the native teachers and schoolmasters in the islands of Tauan and Saibai. The information lately received referred rather to the eastern end of New Guinea, where two missionaries had been prosecuting very important journeys. He hoped during the present Session to have an opportunity of laying the facts so ascertained before the Fellows of the Society. The new map of the south face of the island, in the neighbourhood of Orangerie Bay, was at present in the possession of the Admiralty, and he hoped the Society would be able to see it before long.

The CHAIRMAN, in proposing a vote of thanks to Signor D'Albertis for his paper, complimented him on the courage and tenacity of purpose with which he had pursued his explorations.

The Arctic Expeditions of 1878. By C. R. MARKHAM, C.B.,
Secretary R.G.S.

Map, p. 80.

1. THE SWEDISH ARCTIC EXPEDITION.

(Read at the Evening Meeting, December 9th, 1878.)

THE Swedish Arctic Expedition, which sailed from Gottenburg on the 4th of last July, has achieved a great geographical success. It has done what has been attempted in vain during the last three centuries. It has successfully rounded the northern extremity of Asia, the *Promontorium Tabin* of Pliny* and the ancient geographers. Achieve-

* "Iterum deinde Seythæ. Iterumque deserta cum belluis, usque ad jugum incubans mari, quod vocant *Tabin*." (C. Plinii Nat. Hist., lib. vi.)







