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Summary of Explorations in British North Borneo

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that a really exhaustive examination of the country would be made. It was not necessary for him to say much about the scheme for a railway from Maulmein to China. If anybody desired to carry out such a line, by all means let him do it; but from the position in which he (the President) was placed, he knew a great deal about the manner in which such schemes were put forward, and he was bound to say that the criticisms that had been made on the project in some newspapers appeared to be very reasonable and fair. Comparing the distance through which the railway would pass in British territory with the entire length of the line, it was hardly fair to say that the British Government were not doing their duty if they did not undertake the risk and responsibility of carrying out the project. For the results obtained by Mr. McCarthy that gentleman deserved the highest thanks of the Society.

Summary of Explorations in British North Borneo.

By Admiral R. C. MAYNE, C.B., M.P.*

(Read at the Evening Meeting, January 30th, 1888.)

ON the 12th of last month I attended here to listen to a very interesting paper by Mr. Daly, describing two journeys he had made in the southern part of the territory held by the British North Borneo Company. At the close of that meeting, the President said it was a pity the Company had not done more in the way of exploration in that little-known country. As I walked home that evening, I thought that a short summary of what has really been done geographically would interest the Society, and also show that our very limited staff had really achieved a good deal in that way, and the Chairman of the Company (Sir R. Alcock) agreeing with me, I have attempted the task, trusting in the kind criticism of the audience. I only hope our territory will be taken into consideration by the Council as meriting their attention, and I will endeavour to show we have done enough ourselves to deserve encouragement and help.

The first exploration after the Cessions, but before the Company was formed, was one undertaken by Mr. T. S. Dobree in 1878, at the instance of "several planters and merchants connected with Ceylon, for the purpose of ascertaining if the land was suitable for coffee." Our agents were then only established at Sandakan, Papar, and Tampassuk. He went up the Papar river to its junction with the Gallamuttai, then up a path by the side of that river for three days, reaching an altitude of 4200 feet, on what he describes as "the main ridge and watershed of the country, which runs from Kinabalu in the north-east to the south-west of the island; this main ridge running at right angles to the one up which I had been walking." He remarks, that by climbing a tree he had a magnificent view of Kinabalu, Gaya Bay, Papar, Kimanis, and Labuan, with several clearings in the distance. This place he calls "Nygapass," and he mentions that the streams on the south of the ridge flow from it to the south and east of the island, most probably

* For map, consult 'Proceedings' for January, *ante*, p. 60.

to the Kinabatangan river. He describes the banks of the Papar river—which was 50 to 80 yards wide, and 2 fathoms deep below the Gallamuttai—as lined with coco-nuts and roughly cultivated patches of sugar-cane, hill paddy, cassava, jak, mango, &c.; also large extents of low paddy-fields, and swamps in which sago, one of the principal articles of food, is grown. Good grazing; and the cattle, of which he saw several herds, were very good; they have no hump. The plain which runs along the seaside is from 10 to 20 miles in width. Mr. Dobree seems to have had no trouble with the natives, except from their laziness. He speaks of “the resemblance to Ceylon in the lie of the land, appearance of jungle, soil, rainfall, &c., which is so striking, that in looking round in the jungle it is difficult to fancy yourself out of the central or southern parts of the southern province of that island.” He felt “certain” that land could be found there “which would grow coffee and would pay,” and mentions a forest of 8000 acres between Papar and Benoni, that, being swamp, is all available for sago.

Mr. Dobree then went to Sandakan, always the chief port, and now also the seat of government. As Mr. Treacher has only lately returned from there, I will say nothing of the town of Sandakan, except that it must bear a very different aspect from what it did when Mr. Dobree visited it in July 1878, and “arranged to go up country a short distance with Mr. Pryer.” They went 20 miles up the Segaliud river in a canoe. Mr. Dobree afterwards struck into the jungle one mile up the river, and describes it as “very fine, the timber enormous, the biggest I have ever seen, and the soil a rich chocolate colour to any depth, the lie of the land very easy and undulating.” . . . The natives say this forest extends from the Kinabatangan on the south to Kinabalu on the north. He saw wild cattle and pigs, a bear, and rhinoceros tracks. On the 4th August Mr. Dobree went up the Kinabatangan to Malapi, 60 miles from the mouth, where the river was 200 yards or more wide, and with 8 fathoms of water. This river has an 11-foot bar across the entrance. “I believe (he says) that the whole of the Kinabatangan country is a magnificent field for tropical agriculture,” and he recommends an experimental garden, such as we afterwards established at Silam. The climate of Sandakan he speaks of as being much cooler than Ceylon. “In a cadjan hut, the thermometer on one occasion only went up to 89° Fahr.; this in July and August. The nights were very cool, and the heat much drier. I must conclude (he adds) by repeating, that though not suited to *Coffea arabica*, the land around Sandakan and Kinabatangan is the finest field imaginable for all low-country products.”

Mr. Dobree then went back to the west coast, and visited the Tampassuk, Pandassan, and the valley of the Ginambur; and he speaks of the valley of the Tampassuk as containing 20,000 acres of land available for sugar-cane and paddy. “I went (he says) to see one of the finest sugar estates in the Straits, and, from what I saw there, I believe the

soil at Tampassuk on this plain to be finer than on the estates I saw, and the Tampassuk climate is certainly more suitable for the canes than that of the Straits."

On the 20th September he started with Mr. Pretyman—the Resident—seven buffaloes, and twelve men, for the valley of the Ginambur, which leads up to the south-west spur of Kinabalu. He objects to travelling on buffaloes, though he considers it better than on foot; it seems the buffalo track frequently crosses the river, and "until you have learnt to stand on the buffalo's back (as my guide did) while they are swimming, I can't say it is pleasant, but it is better than swimming yourself, and marching constantly for a mile at a time through a stinking swamp up to your middle." This alternative, with the off-chance, which existed in those days, of meeting a strong detachment of that amiable class of natives called "head-hunters," who seemed to be indifferent to whose head they hunted, though possibly preferring a stranger's, shows the hardship of the explorer in such a country. I regret that time prevents my going more into details of the various journeys and dilating more upon these hardships, and the courage and perseverance of the brave fellows who carried them out, or lost their lives in attempting to do so. The next day (22nd) they met Mr. Burbidge and party on their way from Kinabalu, who told them he had seen no virgin forest, though he had been up nearly 10,000 feet, the Dusans having already cut down and cultivated all the land he had seen, except some steep slopes of the Kinabalu and Saduk Saduk to a height of 3000 feet or more. Mr. Pretyman and he then went on, but finding no virgin forest available in the Ginambur Valley, he determined to retrace his steps and go out in the Pandassan direction. Finding no more land for his purpose, he returned; and so ended his explorations.

The next journey was undertaken by the ill-fated Mr. F. Wittl, formerly an officer in the Austrian Navy, who started from the north-west end of Marudu Bay on the 10th November, 1880, and reached Papar on the 5th December. This was a long and arduous journey, occupying twenty-five days and covering some 150 miles. Passing well to the east of Mount Kinabalu, striking the head-waters of the Sugut river, which flows into the north of Labuk Bay on the east coast, and then turning west to the Padas and Papar rivers, he passed through several villages, varying in size, at all of which the party were hospitably treated. The village of Koligan, 2200 feet above the sea, seems to have been their highest point. The special geographical feature of this trip was the wiping out of the large lake (Kinabalu), which had always appeared on the charts since the days of Alexander Dalrymple, more than a century ago; of this Mr. Wittl says, "the problem of the great Kinabalu Lake, I venture to assert, can be safely considered as solved." And he describes very amusingly the terror of the natives at the very notion of going there, and how they expected to be devoured by all sorts of

monsters. He had to bribe the guide with a petticoat for his wife, and payment in advance was stipulated for, owing to the certainty that a big fish would devour them. Poor Wittl, it is curious that he should end this diary with the following: "A gracious Providence let me carry the drug against Sumpitan-dart and snake poison in my vest pocket from Bongon to Papar, without making me resort to it."

Mr. Wittl's second journey was between the 13th May and 17th June, 1881, and consequently of more than a month's duration. In this rapid sketch I must leave you to imagine the many dangers and trials of all kinds—usually made light of in the explorer's own account—which must be encountered during a month's exploration in an entirely new country, through dense jungle, across marshes and streams, as well as over high ridges, under a tropical sun, and with the chances of being knocked over by fever on the one hand, or by a native on the other, as did actually happen to Wittl on his next journey. These conditions, you must remember, attach to all the explorations I am running over, and the way they have been met and overcome by the Company's officers deserves the highest praise.

The spirit in which our exploring has been carried out should also not pass unmentioned in this record, for it is the high sense of duty; no quest of El Dorado, for the gold is not theirs if they find it—little of personal ambition, for their deeds are almost unknown. I do not know that it can be better stated than in Wittl's own words at the end of his first journey. The natives were very proud of the journey they had made; and he writes, "They questioned one another, 'What will our old men at Tampassuk say?' 'What will my employers say?' is the query with me. We did not achieve great things, but the little we did outside the round of everyday business will serve the purpose for which it was done; whenever we came to a place for the first time, there we dare show our faces again. To make sure of this, required a good deal of attention, for the natives are rather mixed in their temper—genial in some villages, churlish in others. However, not even the accident of 'misunderstood' occurred in our intercourse with them; and no sort of accident in our own ranks. It is this spirit among our people, and the mild, but firm government, which has enabled us to rule peaceably in this country—nearly as large as Ireland, with no army, and a police of two hundred men."

On this occasion the point of departure was the same as before, i.e. Bongon, at the head of Marudu Bay, of which he remarks that "Bongon has become for us a sort of Zanzibar." Leaving this, he struck more to the east than on the former journey, as far as Tesapong, about 30 miles, and then southward nearly parallel with his former journey to its southernmost point, whence east to Sandakan, instead of west to Papar. His greatest elevation was 2446 feet (by boiling-point thermometer) above sea-level near Waigan, but the general height seems to have been greater

than before, as he crossed 2300 feet on the road to Toyon, and speaks of being at an elevation of 2000 feet near Kaidangan. No description is given of his party, but as he mentions occupying part of the day at Bongon in "dividing the travelling stock into twenty-five equal parts," it is presumed that he had twenty-five men with him at starting. The difficulties of the journey from various causes were great. Firstly, want of water, obliging them to carry it in bamboo pipes. Then he had fever badly; and on the 1st June his diary says, "Fancy yourself lying awake with fever, waiting until lassitude will allow you to sleep somehow, and all the night through a score of girls singing at the top of their voices, 'We are going to have pork to-morrow, and pork is what we like.' Such was the situation of my sick companions and my own last night." The following day he says, "Lieut. Hino's place turned into a sick-room. The head of the party came down in a delirium of fever. It is to be hoped the attack on me will not develop into the malignant ague of last year." And then he jokingly adds, "If we are thus comparatively free from the effects of unwonted diet (we live as Dusans) and of climatic exposure, we attribute it mainly to the circumstance that Surgeon Cockle is a spiritual member of our expedition!"

The Labuk river was struck on the 4th June, at Punguh, and ten invalids had to be sent down the river in three canoes which were bought there, Mr. Wittl and the remainder reascending the river. For the next few days many vicissitudes were encountered in the shape of rapids, swamped and broken canoes, &c.; and finally, as they were trying to reach Sebongan to recruit the party's health, they met the Company's steam-launch which had been sent to intercept them, and gave up the original intention of trying to reach the Sibuco. Punguh had been visited by Mr. Pryer in the month of August previous (1880), so that from that point the journey finished through known country.

The geographical information on this journey, though of value and importance to the Company, is not of general interest, except perhaps that Mr. Wittl was convinced "that the position of Mount Kinabalu as given on the Admiralty chart (sheet 2660) is evidently wrong." As this is the most conspicuous mark in the whole country from the sea, it does not seem very creditable to the nation which undertakes to survey any other country's shores, that this point should be unsettled, and emphasises the necessity—so obvious on many other grounds—of sending a surveying vessel to complete the half-finished work of our coast.

Wittl's third and last journey—that on which he lost his life—was undertaken in March 1882, nearly a year after the second. He started on the 9th March from Kimanis, on the west coast, following that river, which is navigable only some 18 miles from the coast, or about the same as the Papar, though the latter is much larger. After fording this river six times, they quitted it for good on the 11th, and continued to ascend

till the following day, when they were 3150 feet above the sea; and on the 14th they reached the watershed between direct (Bangawan) and indirect (Padas) drainage to the westward at a height of 3850 feet, 22 miles south of the pass he had crossed from Tambunan on the first journey, when his altitude was 4700 feet. After striking the Pagalan river he went down it some way, to within some 30 or 40 miles of where he subsequently met his death.

The journal ends abruptly on the 28th March, and was sent to us by the Dutch some time after his death, or rather a copy was, for we never had the original. It is written in excellent spirits, and in more detail than the former ones; but it is evident from almost the first, or at any rate when he reached a place called Limbawan, that he was in a troublous district, and among what the chief himself described as "very wild people." He was strongly advised by this chief (Jeludin) not to go, as there was a feud between his country (Nabai) and Peluan to the south-east.

The Peluan people were on the wrong side of a head-hunting account, having one and a half dead to make up. Jeludin himself was a cold-blooded murderer, and had shortly before refused a slave "on account," as she was too old! However, Wittti writes, "I am determined to see the chiefs of Peluan on my way to the south, or better south-west." Probably it was this determination that cost him his life. On the 25th he writes of the difficulties of "having to act as intermediary in these bloody feuds," one being that the account was not the same on the two sides. The discrepancy in this case to any one in the habit of dealing with accounts seems large, for while, as before said, Jeludin debited Peluan with one man and a half, the Peluans claimed the restitution of sixteen dead, or the equivalent. Let us hope that among other benefits of the Company's rule a better system of auditing has been, or will be, introduced. The geographical information relates almost entirely to the courses, junctions, &c., of the Padas, Pagalan, and other comparatively small rivers in the neighbourhood.

I said the journal which was sent to us ends abruptly on the 28th March, but it must have been kept for over two months more. Mr. Von Donop—as I shall presently show—met Wittti in the early part of June near Limbawan, and he mentions "Mr. Wittti's plan" showing their route, and speaks of the rain being very annoying, "especially to Mr. Wittti, who has to attend to the Survey department of our trip." With Wittti were lost, therefore, more than two months' journals, and sketch-maps. The last heard of him was by a letter written on June 11th, 1882, and dated from "Naloyan, Dalit." It was a reply to one from Governor Treacher, directing him to "defer his journey to Sibuco until a more favourable opportunity." In this letter he gives much interesting geographical information, especially as to his having really discovered the head-waters of the Sibuco when looking for the "sources

of the Kinabatangan's south-western branch." On that trip the central range of Borneo was crossed in lat. 5° N., and long. $116^{\circ} 26'$ E., by a pass, which he named "Dent Pass," and which he calls "an important landmark." And they established, he considers, "that the Dyaks of the Upper Sibuco, like those of the Upper Kinabatangan, depend for their supply of salt, iron, &c., on the overland route (from the west). A road fit for carriage traffic could be opened to those districts from Kimanis (Bangawan)."

Whether this really was the Sibuco or the Upper Kuamut (Pryer's Quarmote) does not seem clear, as there is no such river as the Sibuco known in the interior. "The main stream or principal feeder of it is called Talankei." He was then finishing the examination of the Padas and Pagalan basins, which would take his party back to the central range. He proposed afterwards to settle the doubt as to the Talankei, and concludes by saying "the moment I can no longer doubt it is the Sibuco, I will leave it and try to make the real Kuamut." This still remains unsettled, though some connection between the Sibuco and the place where he was killed seems established, by the fact that his body and such of his effects as have been recovered came down the Sibuco, or some river flowing to the east coast in the territory held by the Dutch.

Between the dates of Mr. Witt's second and third journeys, Mr. Pryer made an expedition up the Kinabatangan river, 150 miles further than any European had ever been. Mr. Pryer was the first resident of the east coast, and he had previously made several smaller explorations in various directions, including that before mentioned, up the Labuk to Punguh. On the 23rd February, 1881, he started up the Kinabatangan in a steam-launch with seven people—all told—and three Sulus towing astern in a gobang. Next day they reached Malapi, "which is the first inhabited place on the river, a depôt for up-country produce, and where some 25,000 dollars' worth of birds' nests are annually brought from the Gomanton caves." Even then it was rapidly expanding, as the "mild, but firm" government was being introduced, instead of the old Sulu style. On the 28th the launch was sent back, and the party—nine in number—took to a canoe, in which, on the 2nd March, they reached the junction of the Quarmote river (Witt's Kuamut) with the Kinabatangan; at which point Mr. Pryer estimated that he had gone 300 miles by the river. On the 10th day they reached Trubok, which was their destination, and where they were received with much rejoicing, and Mr. Pryer "held forth to two or three meetings on the beauties of civilisation." The effect must have been striking, seeing (the diary says) that "the Pangeran (chief) had on green silk trowsers and a yellow silk jacket. Among other costumes, I noticed a red jacket and yellow trowsers, a blue jacket and red trowsers, and other similar strikingly coloured

garments; the material being chintz. I felt rather overpowered by all this magnificence, and was quite relieved when I saw Banjar [one of his own men] come in, garbed in a sky-blue jacket and scarlet trowsers, a yellow sash with a very big kris in it, and a head-handkerchief of many colours, with a tag of it sticking up over his left ear in the most knowing style." The whole scene, coupled with the lecture on civilisation, in about the centre of Borneo (longitudinally), must have been grand! Since that time Mr. Pryer has been home, and has addressed more than one meeting in this country; but I doubt if he ever had an audience so gorgeously attired. He is now continuing his most useful *métier* of pioneer of civilisation, and has recommended Penungah, a little above Imbok, as the best site for his headquarters as Resident of the Interior, so that he will be able to illustrate and enforce the "beauties of civilisation."

Early in May 1882, Mr. Von Donop, now Colonial Secretary, and Mr. Davies, now Resident of the West Coast, made a short journey from Papar to Kimanis; and later the same month, Mr. Von Donop made another journey up the Padas river, over some of the ground visited by Mr. Dobree, but striking further inland; the fifth day he came upon Mr. Wittti, on the Tambunan plain, he (Wittti) being on his last trip. They joined, and travelled together some days, during which they reached an elevation of 7000 feet, and went through much good land. Here they separated, Mr. Von Donop reaching Kimanis two days later. Mr. Von Donop has since made several other trips of more or less importance. In August 1883, in company with Mr. Sanders, a Sumatra tobacco-planter, he went up the Abai river, and passing north of Kinalu, reached Bongon at the head of Marudu Bay, and thence to Kudat. He passed through large tracts of good tobacco land, the best being near Bongon. He also made an expedition from Silam, where we had established the experimental garden recommended by Mr. Dobree, and which was then under his (Von Donop's) charge. Another trip was made along the east coast with Mr. W. Reece, and Captain Beeston, the latter of whom has, by latest advices, just returned from an expedition to endeavour to trace the gold deposits to their source.

In March 1882, the ill-fated Mr. Frank Hatton proceeded up the Labuk river to look for "seven hills of antimony," said to exist there. This was a most interesting journey, lasting nine weeks—1st March to 19th April—and is described with that freshness and close observation which promised so much for the young geologist and explorer whose end was so sudden and tragic. Reaching Punguh, which has been mentioned in the journeys of Wittti and Pryer, Mr. Hatton kept on to the westward on a line somewhat south of that of Wittti's second journey, and visiting several villages previously unknown, as far as Byag, turned north by Wittti's first line at Danao, and followed that line

by Lasas and Bundo to Bongon and Kudat. After this Mr. Hatton spent some months exploring the head of Marudu Bay, and in February 1883, after a bold, but unsuccessful, attempt to reach the Segama river overland from the Kinabatangan, he proceeded up the Segama from the sea to prospect for the gold, as to the existence of which the natives were unanimously agreed. Mr. Beveridge, the companion of all his journeys in Borneo, accompanied him. It was just a year after the journey last recorded that he commenced this ascent of the Segama river; and he mentions the fact in his diary, "Just one year ago left Sandakan for the Labuk." Poor fellow, that very day was to be his last. In the afternoon he wounded an elephant with his Winchester repeating-rifle, pursued him, and at dusk gave up the chase. Walking in front of his men to the boats, he tried to remove a creeper which was across his path with the butt end of the rifle. It went off, and he fell, the bullet having gone through his breast. His sole utterance was to his boy, "Udin, sayia Mati!" (Udin, I die!), and in three or four minutes he expired. A most interesting memoir of this young man has been written by his father.

In April 1883 Governor Treacher, the late Mr. Dalrymple, and Mr. D. D. Daly, then Private Secretary, after searching in vain for edible birds'-nest caves, reported to exist in the Malawallie channel, crossed to Banguay Island, the Company's northern possession. Since that time this island has been settled to a large extent for tobacco-growing, and Mitford harbour has been discovered.

Governor Treacher and Mr. Daly subsequently explored the important birds'-nest caves of Madai and Segalong, south of Silam, on the east coast, and published an interesting description of them.

Mr. Daly's interesting and valuable explorations of the Kinabatangan river on the east, and the Padas river on the west coast, were read here lately, that I only mention them, as this paper would not be complete if they were omitted. From the east side he reached the caves of Obang Obang; and from the west the Pagalan river at Binahi, somewhere between which places Wittti was killed.

On the 26th March, 1885, Mr. Henry Walker, Commissioner of Lands, started up the Segama river to verify the native reports of gold there. He ascended the river about 200 miles, to within some 12 miles of the junction of the Danan river, carefully plotting his course as is seen on the map. He had great difficulties to encounter in heavy rains and rapids very troublesome to navigate, but he succeeded in proving the existence of alluvial gold. His work has since been taken up by Captain Beeston and Mr. R. Sefton—both experienced in Australian gold-fields—who are tracing the Segama river to its source in the hope, which their experience so far encourages us to think is well-founded, of discovering the matrix of the gold found by Mr. Walker in the alluvial deposits lower down the river. Working this alluvial gold is, in favourable localities,

fairly remunerative to Chinese and natives, but it is not rich enough to tempt Europeans.*

Some two or three miles above the confluence of the Danan river, the navigation of the Segama by even the smallest boats is blocked by the Barrier Falls, which Captain Beeston describes as being "three stories high, or perhaps it is nearer the mark to say there are three rapids, each overtopping the other." It is above these falls that Messrs. Beeston and Sefton have been exploring.

Mr. G. L. Davies, now Resident of the West Coast, has added to our geographical knowledge of North Borneo on several occasions, but principally perhaps by ascending and charting the Sugut—an important river running into the north of Labuk Bay on the east coast. Since Mr. Davies's visit 50,000 acres of land in the valley of Sugut have been taken up by a Dutch planter for the cultivation of tobacco. I may add that traces of gold have been discovered there by Assistant-Resident Little.

The problem of connecting Sandakan—the capital—with the Segama gold country, has naturally received much attention ever since the existence of the gold was known. In February 1886, Governor Treacher, accompanied by Messrs. Von Donop and Callaghan, walked across from the neighbourhood of Silam, first ascending for a short distance the Tabanse stream, and crossing the Segama at Sabanta Punguts, and the Kinabatangan at Malapi. Thence, after paddling a short distance up the Menangutt tributary, they visited the great edible birds'-nest and guano caves at Gomanton, and, descending the Sapagaya river, arrived in Sandakan Bay. The journey occupied about a week, and very hard travelling much of it was. The party had to cross a large swamp, and it was found the route could only be used in the dry season. A track to the Segama has since been opened by Mr. Walker via the Lamag tributary of the Kinabatangan, which it is proposed to continue on to Sandakan by the Segaliud river which falls into Sandakan Bay.

The latest journey of which we have the record, was made last year by Mr. Little, the Assistant-Resident before mentioned, who ascended our highest mountain, the Kinabalu, the elevation of which, as marked on the map, he considers 2000 feet too much, though he claims to have reached a higher peak than either Low or St. John. Its position and altitude were fixed by the late Sir Edward Belcher when in H.M.S. *Samarang*, and I doubt the propriety of seriously suggesting a reduction of 2000 feet from his trigonometric determination, on the unchecked authority of a small pocket aneroid not in its first youth, however much one may desire to give credit to the work of the Company's

* Mr. Joseph Hatton has reminded me that the late Mr. Frank Hatton died near where the gold has been since found; that his was in fact the pioneer expedition up the Segama; and that his diary afforded much valuable information to Messrs. Walker, Beeston, and others who followed.

servants. The mountain had been ascended in 1851 by Sir Hugh Low, and in 1858 by Sir Spencer St. John. Neither of these gentlemen, so far as I know, disputed Sir Edward's conclusion. Mr. Little's ascent, whether of 2000 feet, more or less, is well worthy of note. He considers Kinabalu is an extinct volcano, and reports that he clearly made out the view of an enormous crater. His route was from Gaya inland, by the Tuaran river and the village of Kiaw, which he recommends in preference to the Tampassuk river which had previously been taken.

I have now finished the summary of all the journeys which can properly be called explorations, since the country came into the hands of the British North Borneo Company, or ever since the cession of the territory in 1878. Much valuable information and aid in filling-in the map has been given from other sources. In a country so utterly unknown, every step the pioneer takes is a small exploration, every mile from the beach, on land or by river; every shooting or fishing excursion is exploration. The late Mr. Dalrymple, Mr. Mosse, &c., &c., all contributed; while Captain the Hon. Foley Vereker, R.N., Captain Johnson, R.N.—who discovered Kudat harbour—Captain Connor, and Mr. Flint have helped in the nautical surveying part very materially. It is greatly to be regretted, as a very serious drawback to the development of the country, that it was considered necessary to send away the last Admiralty surveying-vessel before she had completed the coast; and that fear of wounding the susceptibilities of the Dutch prevented her from going to our southern extreme on the east side, and correctly fixing the coast there, though the Dutch do not hesitate to keep an establishment northward of the river—the Sibuco—which was named as being ceded to us by both sultans.

I hope I have shown the Society that we have by no means neglected the geography of the country. Many of the reports which I have had barely time to skim over to-night are full of interesting information of all sorts, not only geographical, but as to native habits, customs, traditions, and superstitions; the character and quality of the soil, the timber, and other natural products, &c., &c. I will only add in conclusion, that complete *terra incognita* as Borneo is to most English people now, it is not likely to remain so long, but will shortly prove itself one of the best tobacco countries in the world. Last year no less than 130,000 acres of tobacco land were sold to settlers.

My thanks are due to Mr. Treacher, Mr. Daly, and Mr. Forbes for their assistance in making these notes.

After the paper,

Mr. TREACHER (late Governor of British North Borneo) said Admiral Mayne had given an interesting account of North Borneo explorations, and he had made his summary much more generally interesting than he (Mr. Treacher) had conceived possible. He would like to briefly summarise some of the practical results of these

explorations, undertaken so zealously and carried through with so much pluck and energy by the British North Borneo Company's officers. In the first place, the late Mr. Witt, who was their first and perhaps most devoted explorer, settled once for all the vexed question of the existence of the large mythical Kinabalu Lake, which had figured in all maps and charts of Borneo up to his time. The late Mr. Frank Hatton, to whose untimely fate the lecturer had referred, supplemented Mr. Witt's investigations in that quarter, but, visiting it at a different time of year, he found that its flooded condition from the waters of the Linogu or Labuk river gave some little foundation to the ancient tradition of the lake's existence. The most probable explanation, however, is that the district in question is by the natives known as Danao, a word which in their language has, it is said, no particular signification, but in Malay, the language of the coast population, from whom the first travellers would derive their information, Danao means a *lake*. He believed there were accounts of this lake so vivid and so detailed that one would think the writers must have actually seen it: nevertheless, it never existed. Another result had been to break down the Malay barrier which in old days prevented the inland people from coming down to the coast and disposing of their goods to strangers without the intervention of the Malay coast tribes, whose monopoly used to be a very valuable one. This was a result which was having important effects in spreading civilisation and encouraging trade amongst the rude inland tribes. Another result had been the gaining of more accurate information concerning the edible birds'-nest caves—Gomanton, Madai, Sigalong, &c.—the collection of the nests in which was now regulated by Government, and a valuable source of public revenue. Yet another result had been the discovery of the gold-fields of the Segama river, referred to by Admiral Mayne. A curious question, which he thought their explorers may be said to have settled, is that as to the existence of the tribe said to be distinguished by the presence of long caudal appendages. He knew several old Malays, including the late Sultan of Brunei, who firmly believed in the existence of such people, and they described how they made use of little chairs, each of which had a little hole cut in its seat, in which the lady or gentleman inserted his or her tail before settling down to a comfortable chat. Well, their explorers had never been able to come up with that tribe—they had always been told they were a few days' journey further on—and he was afraid they never would come up with them. The *orang-outan*, or wild man of the woods, was not altogether unlike some of the natives in appearance, and has no caudal appendage that he could see, and he did not believe that any of the aborigines had either. It had, too, been proved that none of their tribes had cannibalistic tendencies, as described in the case of some of those in the Dutch portion of Borneo by Mr. Carl Bock, and they did not fatten and eat up their aged parents, as is, or used to be, the constant custom of the Battas of Sumatra. Travelling in Borneo was no joke, as he could say from personal experience, though his travels had been comparatively slight and unimportant. Admiral Mayne had referred to some of the difficulties to be encountered, but he (Mr. Treacher) thought the greatest pests were the leeches and mosquitoes, which had not been mentioned. He really did not know which were the worse—perhaps the leeches, as they went at you by night and by day—the mosquitoes generally gave you a rest in the daytime. On every leaf almost, as you walked through the jungle, you might see a lean, hungry little leech, standing on tiptoe, as it were, looking out for you. You could not keep them out, and your white clothes were soon reddened with blood. It was getting late, and he would not detain them longer. He would only say, in conclusion, that there was a capital staff of Europeans in Borneo, only awaiting the order *and the funds* to explore in any direction required.

The CHAIRMAN (Sir Rutherford Alcock) said that Admiral Mayne had given an admirable summary of the work that had been done by the North Borneo

Company during the last six years. That Company could not be charged with being idle in the matter of exploration, so far as their means allowed. Professor Flower (whom he saw present) would no doubt join with him in the hope that the Geographical Society would think it worth while to help in the work. The country was rich and flourishing, and he trusted that with the aid of British subjects and the capital that was being employed there, peace and prosperity would be restored. Head-hunting had almost disappeared. He regarded the cultivation of the soil and the extension of the influence of the Company as far more important than finding two or three rivers with gold.

*Lectures on Geography, delivered before the University of Cambridge,
1888.*

By General R. STRACHEY, R.E., F.R.S., President, R.G.S.

LECTURE I.

February 18th.

WHEN the University of Cambridge resolved in June last to accept the proposal of the Royal Geographical Society to provide a lecturer on geography with the aid of funds to be supplied by that Society, a wish was expressed that the appointment should be postponed until the next year; and that the Council of the Society should endeavour to arrange in the interval for the delivery of introductory lectures illustrative of the general character and scope of the instruction in geography, suitable for a University course, which it would in future be the duty of the lecturer to impart.

It is by desire of the Council of the Royal Geographical Society that I have undertaken to give effect to this wish of the University authorities.

After careful consideration, I have come to the conclusion that I should direct attention to the subjects with which instruction in geography should deal, rather than to the form in which it should be imparted. I can profess no personal experience qualifying me as a teacher, nor do I think that much useful purpose would be gained by my offering suggestions as to the method of teaching geography most suitable for students at the University. I cannot doubt that it should be left to the lecturer to select the particular methods which best satisfy himself, and appear to him most appropriate in relation to the general course of instruction pursued at the University.

That the study of geography should have been recognised by our two great Universities, for the first time in the past year, as deserving a place among the subjects which they undertake to teach, no less than