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On opening the proceedings,

The PRESIDENT announced that the Council had decided on equipping an expedition to Eastern Africa, under Mr. Joseph Thomson, for the exploration of the snow-capped mountains of Kilimanjaro and Kenia, and the country between those mountains and the eastern shores of the Victoria Nyanza.

He then stated that the subjects of the evening were, first, a description of a sketch survey of the Ancobra and Prince's Rivers, on the Gold Coast, by Commander Cameron; and, secondly, a paper on "The Kong Mountains," by Captain Burton. It was unnecessary for him to introduce those gentlemen to the Meeting, as their names and deeds were quite familiar to them. All who had read the account of Commander Cameron's journey through Central Africa from one sea to the other must have admired the heroism and endurance which he displayed; recently he had been interesting himself in the region which he was about to describe. The name of Captain Burton was a household word with all who honoured British enterprise, courage, and ability. His career had been one of the most marvellous among those of British travellers. It began in his early youth, when he was an officer in the Army in Western India. Afterwards he became celebrated for his travels in Arabia; then in the Somali Land, and in Syria; he had also visited the Salt Lake of North America, and Central Brazil. But perhaps the journey in which the people of England took the greatest interest was the expedition between the years 1857 and 1859, in which he made new and important discoveries in Central Africa, and, in fact, first made Lake Tanganyika known to Europe. The region he was about to describe was well known to him twenty years ago, when he was Consul at Fernando Po, and visited the capital of Dahomey, and wrote a description of his journey. Though any introduction of such a traveller was unnecessary, he (the President) felt it impossible to deny himself the gratification of recalling the many and wonderful feats that had been performed by Captain Burton's enterprise and courage.

*A Sketch Survey of the Ancobra and Prince's Rivers, and of the Takwa Range, Gold Coast.*

Commander CAMERON said that the district about which he had to address them was very small in extent; but it was one which would always be affectionately remembered by him, because it was there that he first travelled in company with the most cordial companion and the best traveller of this age—Richard Burton. The map on the screen, he would explain to the Meeting, was an enlargement made by the Society's draughtsman of his own Sketch Survey. After the usual tedious voyage from Liverpool in an ordinary steamer, fitted more for the transport of palm-oil than passengers, and after touching at Cape Palmas and other places further west, Captain Burton and himself sighted the whitewashed port of St. Antony at Axim. They had to lie a long way outside, where they could scarcely see the beach, owing to the dread of the Hoeven rock, which, though known for many years, was incorrectly laid down in the Admiralty Charts. 150 steamers passed it yearly; but they all had to anchor off in six fathoms at low tide for fear of that rock. He fixed the position of the rock much nearer in than was laid down on the chart. Axim was well known by the descriptions of Bosjmann and others. The Dutch took it from the Portuguese early in the seventeenth century; De Ruyter placed his battery so as to command the Fort of St. Antony and

captured the place. According to Bosjmann it was always of value and importance for the export of gold. Although during the last century the whole coast usually exported 3,500,000*l.* annually, in the year 1700 nearly 3,000,000*l.* were exported from the little port of Axim alone. The place had since been somewhat forgotten; but the fact which he had just mentioned showed of what value that small tract might be hereafter. Landing at Axim, their first idea was to go towards the Kong Mountains; but, as they were too late in the season, they had to forego that intention. Their first journey was from Axim across the Ancobra river and along the beach to Atabu, the capital of King Blay, who during the Ashanti war was one of our staunchest allies. He fixed himself on a little peninsula and palisaded himself and held out for the British against all the neighbouring natives. At Atabu they were received by the king with all possible honours. The streets were draped with English flags, Union Jacks, or imitations of them, flags of various colours—orange, brown, green, red; and King Blay himself was dressed in his high fetish robes. The name Atabu was derived from that of a tree which was very common in that region. A short way from Atabu was Béin, which was the old English fort on that coast. Behind Béin lay an open savannah which in the rainy season became a swamp. Above that was a sort of lake, from which the Lagoon river made its way down to the sea. On the lake is a very curious village, for a description of which he was indebted to Mr. M'Carthy, of the School of Mines, who went up some distance to the smaller rivers beyond. According to his description the village was very similar to the lake village that he (Commander Cameron) saw in Lake Mohrya in Central Africa. There was a platform with canoes stowed under and the nets hanging up to dry. Very little ivory at the present time came down to the Gold Coast, the people being satisfied with the small gains they made from gold; but Mr. M'Carthy going up one of the streamlets which he had found navigable for canoes, saw the skull of a young elephant which had been recently killed; and he was told that at a short distance in the interior, elephants were by no means uncommon. At Béin they found traces of the bombardment sustained during the Ashanti war. Whilst brave old King Blay was defending himself there, the town was occupied by the tribes around, as was also Axim, with the exception of the fort. Those tribes were formerly under the Dutch régime, and therefore had always been friends with the Ashantis. Captain Burton and himself saw several marks in the walls of the old fort of the seven-inch shot fired by the gunboat; but the fort could by no means be called a ruin, and the agents of Messrs. Swanzy had a very comfortable house made out of part of the building, with stores underneath. From an account of an American voyage to the coast in 1840, it appeared that the king of Apollonia was able to entertain his people on gold plate, and to have champagne and every other luxury. That, however, was in the old slavery days. Since slavery had been abolished the king had become much poorer. If he had had the gold plate he would certainly have brought it out in honour of Captain Burton and himself; but instead of that, for his loyalty to the English Government, he now possessed a general's sword and an Ashanti medal. After this visit he and Captain Burton journeyed back along the coast to Kabeku, which was built by a man one of whose sons built Béin and the other Atabu. After many generations a division took place: Atabu became the capital of Eastern Apollonia and Béin the capital of Western Apollonia. From that district they went past Anochi, Beku, and Nalochi to Nanipoli; then northwards across a savannah, across the Ebumesu and by Benya and Arobu to the village of Arobukam, the name of which meant one stone on the top of another. Close to that there had been many native diggings, and it was one of the places at which there was an English mine. The country was undoubtedly rich; but its actual value had yet to be proved. They then

worked back by Matinga, crossing the double river Fia by the village of Ashan Kru. They saw many quartz reefs, and came again down to the mouth of the Panalyon. The beach there was very curious, consisting of an enormous amount of comminuted shells. That beach ran to a certain extent outside the small lagoon, and the great supply of lime for the country came from there. A big palm-oil cask of lime cost there four or five shillings. The river was marked on the map as the river Lagoon. At one time east of this place there was a lagoon; and there was still at the present moment a lagoon under the surface, for as they walked along the beach after the tide had ebbed, they could see the water oozing out; the water that had percolated in being again filtered out. They spent one night at Esrimentu and went about the lagoon there, noticing that branches of the lagoons extended in different directions, and that there were traces of its being connected probably in the rainy season with the other lagoon and the river Ancobra. From Esrimentu he went to Nyoku. They crossed some small hills which were all running in the same meridional direction, and returned across the Ancobra to Axim. The next expedition was intended to be down to Prince's River, and in preparing for it their troubles began again. One night they engaged a boat, but the next morning, about six o'clock, when Captain Burton asked if it was ready, he was told that it had gone up to Alabu. They then got another boat, and a boat's crew; but they had no paddles. They had to hunt up every hut in the town before they could get a paddle; and so, instead of starting at six o'clock in the morning, they did not start until two o'clock in the afternoon. They worked their way down to the mouth of Prince's River. In the dry season that river was merely a narrow gulf, and an ordinary hunter could jump across the mouth; but there were two parallel reefs outside, which might be made into piers, and so a capital landing place be formed. They ran their boat on to the beach, and dragged her over the sands. Then they walked to an old fort called Brandenburg. Some difference of opinion existed as to who founded the fort, but it was most probable that it was built by the old Brandenburgers. It was one of the best he had seen on the coast; and, except the roofs and the woodwork, was in perfect preservation. Being situated on a knoll projecting far out into the sea it formed a most charming place. They obtained a guide, and worked up the Prince's Lagoon river. Having done eight miles in four hours, they found themselves still two miles from Prince's, as the river in some cases swept round at an angle of  $170^{\circ}$ . Then lauded at Bekaye, passed Malochi, and then went up the river, still finding the parallel hills running on both sides to the village of Kumasi. Here again they found that nature had done everything, and that it was only left for man to complete the work necessary for mining. At Enima Kru, where they stayed two days, they were rather amused at the way in which the chief behaved: he was not too proud to carry their guns, or for them to live in his house; and anything they fancied he was only too delighted to sell to them. After they had returned again to Axim they undertook a short journey to a place called Apatim, a mining village close to the coast, from the top of the hill at which place they could see Axim. At night, when he (Commander Cameron) was taking his observations for latitude and longitude, the old chief sat near him, making fetish against him; but he was not able to prevent him making his observations. After that they started to go up the Ancobra, sleeping the first night at Kumgrasi, where there was an old fort called Elise Carthage. Up to the Devil's Dyke the river was navigable at the lowest time of the year for any vessel drawing six feet of water. They then worked up the river till they came to Namwa. There they landed, and went up some little distance to Ingobin. All along the hills were found to trend in the same direction as before, the bottoms being filled up by mangroves. After spending two days there, they continued up the Ancobra and

passed the Ahema river, and found it open for boats. The banks on either side were dotted with temporary villages, some for palm-wine, others for palm-oil, and some for rice crops, while others were landing places. They had the advantage of finding the river at its lowest. As they proceeded they left the thick mangrove swamps, and came to others which were overgrown chiefly with the bamboo palm. This tree, of which the houses were mostly built, was used on the west and south coast of Africa for hammock piles; and, somehow or other, had come to be called the bamboo. Proceeding still further up, they came to a silver mine. It was not the only silver mine in the country, for there were three others, and there were traces of silver in most of the gold-mining districts.

Commander CAMERON then described his sketch of the quartz reef at Akankon. The highest point above what he took as his datum level on his former journey was about 140 feet; but this year he found the river four or five feet lower. Some of the reefs were more horizontal, and in some cases very nearly vertical, but they mostly ran in the direction he had indicated. There were several rich reefs there, and great quantities of gold in them. The water being low, they could see the banks on either side, and all the formations. On the top there was vegetable humus; below that ordinarily a red clay, or sometimes gravel; underneath that conglomerates and breccias lying in the anticlinal curves of slate, the slate in some cases being immature clay slate, in others a slate formed of volcanic débris. Underneath this was the true rock of the country, which was usually granite. In some places along the banks the water was so low that the women were taking out the stuff in pits, standing up to their waists in water, loading it in canoes, and sending it away to their huts to be washed for gold. Next day they came to a village called Enframaji, just below the Devil's Dyke, which for all ordinary purposes he considered to be the terminus of river navigation. Last year he found that a launch could not steam beyond it on account of the current, and this year on account of the draught of water. The Devil's Dyke was a great reef of slate across the river, and even with a surf boat or canoe in the dry season there was a great difficulty in passing it. They then proceeded to Tumentu, which was a great depôt for the various mining companies. Both Captain Burton and himself became unwell there, and were compelled to return to the coast. They had been advising everybody not to do too much, but, somehow or other, while giving advice was easy, following it was rather more difficult. After a week or ten days at Axim he went up the river again to the central depôt, and then by the Fura river, which was rather an important affluent of the Ancobra, leading through what should be a very rich mining country to Iniamankao. Returning to the junction of the Fura and the Ancobra, he went up as far as the Butabue rocks, which was the farthest point of navigation for boats or canoes. There were reaches farther up; but for all navigable purposes the river was there completely closed. He then came back to Tumentu, and went across by land to Ashan Kru, where there was another great depôt of the different mining companies. The next day, passing along the Aunabe river, he worked over to Belle Vue, which was on the top of Tebriti Hill, 285 feet above the sea. From there he had a fair view over the surrounding country, and saw hill after hill, all in the same parallel direction. He got up there in the middle of a tornado, and for half an hour was drenched through, but when the sun shone out afterwards the effects of light and shade, and the rising of the mists in the valley, were most beautiful. This hill seemed to be a commencement of the formation of the Tarkwa range, on which there were at present no less than four companies registered and working to a greater or less degree. He then went on to the residence of the Government Commissioner of Takwa, a house variously named Mount Pleasant, Prospect House, and Vinegar Hill. At the Effuenta mine just opposite he was most hospitably received. He stopped two or three days looking at

the works. Then he walked up along the Takwa range and stopped for a certain time at the town of Takwa, which was a most amusing place. Every house was a shebeen: the gaudy handkerchief, the delight of every negress, was displayed in every window, or if not in the window, was hung on the line: for the dandy there was pomatum with the vilest of scents, for the poor man tallow; and the powder which was intended for the blasting of the mines was exchanged for what would blast more surely still—African rum. In close proximity to Takwa was the African Gold Coast Mining Company, the oldest company in the district. The mine was opened, but the machinery was not in good order. The proximity of Takwa must be a great drawback to it, for in that town last year there were a considerable number of blackguards, but this year he thought there were at least four times as many. The Houssa and Fanti policemen held high revelry there, and so did their prisoners. The poor unfortunate commissioner had only a bamboo hut for a prison, and nothing to tie the prisoners up with, so that when a man was shut in for the night he would cut through and escape before the morning. Perhaps if they borrowed the shaft of a mine and let the prisoner down there, and hauled him up when they wanted him, they might be able to confine him, otherwise he did not see how they could do so. He passed on until he came to the town of Aboſu. Last year, when he was there, he did not think there were more than three or four hundred people in it, but this year a rush had been made, and in the early part there were over ten thousand people working gold there. When he visited the place there must have been between seven and eight thousand. The rains were beginning, and they could no longer work in the low levels, so they were going away again. It was a combination of the civilisation of Sierra Leone and of Cape Coast. It was a most extraordinary sight to see such a number of usually apathetic people at work. Making allowance for being in Africa, it was quite equal to any rush that had taken place in Australia or California. Taking into consideration the difficulties of communication, transport, and everything of that sort, it was simply wonderful. Passing through Aboſu it was pleasant to come upon a trace of real civilisation. Messrs. Swanzy were almost the oldest, and certainly were the best known merchants on the west coast of Africa. At Crockerville, called after the working partner there, they had established mines, set up stamps, and had actually tested what they had done. Then coming back he had passed by Abo Yao, where the French Company of the Mines d'Or d'Abom had their headquarters. There was no machinery there, but the tunnels were opened in a proper and workmanlike manner. He then returned to Axim. His conclusions regarding the configuration of this coast country were that the whole of the coast was in a former geological period an archipelago; the parallel hills lay off the coast of an old country, and between the hills there ran rivers and rivulets. The sea worked up between them once, but gradually the silt filled up the spaces between; the mangroves grew there, and there had also been a gradual upheaval. The decaying silt brought down from the interior was intercepted by the roots of the mangroves, and thus the level of the country was raised. Precisely the same thing was going on at the present day close to the coast. Some day or other all those parts which were now lagoons and swamps would be filled up, just as the spaces between the hills were at present. The highest point he reached in his journey was 310 feet, on the top of Abo Yao, at the house of the manager of the mines there.

Captain BURTON: Allow me to add a few words upon the way in which the map exhibited has been made. Commander Cameron was always up the first thing in the morning making his collections of natural history and ethnology. During the day he disdained the hammock and walked on foot, holding his compass in his hand; in the evening he was out again collecting specimens, and sat up to nearly mid-

night making his observations, and if those observations did not please him he made them a second time. That is the way in which good travellers work. I think I remember Shakespeare saying something like "Perseverance, good my lord, makes honour bright," and perseverance is Commander Cameron's great quality. I will offer another remark about the map. You observe the extremely regular form of these hills. In all other maps of the country they are disposed in every possible direction, one to the north-west, one to the north-east, another to the north, and so on. The extreme regularity of the hills has a practical bearing upon the gold production. They are hummocks, each containing one or more auriferous quartz reefs; and only in two cases did Commander Cameron find an exception to the general rule of north with a little easting. That is a most important point, because you see at once a cross-cut will strike your vein, whereas if the hills were in all directions you would have absolutely no rule for mining. I will not repeat to you what I said before the Society of Arts, but I must warn you that the Gold Coast contains many other productions besides gold. I believe it is an acknowledged rule in mineralogy that there is no gold without silver, and the Gold Coast contains silver mines of which the old Hollanders worked four. Even in 1880 63,337 worth of silver was exported. Manganese was found in the mine at Akankon, and here also Commander Cameron came upon a large vein of cinnabar, from which, by means of a blow-pipe, he extracted mercury. I have seen copper and specimens of tin containing from 10 to 10½ per cent., whereas in England from 2 to 2½ per cent. is considered well worth working. East of Assinie there are natural wells of petroleum, bitumen, and liquid pitch. I expect the list of precious stones will be a long one. The aspect of the country is diamantiferous, for one crystal found was pronounced by a professional mineralogist to be a diamond.

Captain BURTON then read a paper, entitled "The Kong Mountains." (*Ante*, p. 484.)

Mr. GALTON asked what was the extent of country over which gold-dust was used as an article of barter. A knowledge of that fact would, perhaps, give a good idea of the extent of African soil from which gold was obtained. He was surprised to see the large number of names on the map. There appeared to be about one village to each mile. If the villages consisted of many houses, there would seem to be a very considerable population.

Commander CAMERON replied that from the Gambia down to the Volta river, gold-dust was an important article of commerce, and a great deal of gold also went to Timbuktu, and found its way up to Morocco and the Mediterranean coast. He believed that the whole range of what was supposed to be the Kong Mountains was a matrix of gold. Of course that was only theory; but all along the coast gold was used in barter. With regard to the population, while the mining regions contained a considerable number of villages, most of them consisted only of three or four huts. Since the abolition of the slave trade, so much mining had been given up that the population of the country had marvellously decreased. In the dry season the people lived in some of the villages in order to raise their rice and other crops, and to collect palm wine and palm oil, but in the rainy season they went up higher. There could be no doubt that slavery was to some extent ingrained in the African mind. The African as a rule was thrifless, his great idea being not to be a day labourer, but a merchant or a lawyer. He considered it more or less a dishonour to work with his hands. In the days when there was slavery they were forced to work, and the country was largely cultivated. The question of labour would be one of the difficulties on the Gold Coast, but the solution was easy. China was supplying labour to the whole world. They were at work on the railway which it was intended should ultimately reach Timbuktu; they were employed in British Columbia on the Pacific Railway, and in the greatest mine in South America, the San João del Rey,

which was worked under almost the same climatic conditions as on the Gold Coast. Captain Burton and himself had been regarded as visionaries, looking too far ahead ; but it was better to provide in advance against an evil than to have to deal with one ; and he believed that the Chinese labourer would prove a great blessing to Africa, and that the Gambia would become one of the finest rice-growing countries in the world ; so that, instead of Chinese rice being imported, it would be exported from there. The Fanti would work fairly well for a time, but after two or three weeks he wanted to go home to his wife, and have a bottle of trade gin. At present there was no difficulty about labour, but with the multiplication of the mines there would be a great difficulty. The tension had already begun to tell on the oil rivers. The French experiment with Chinese labour in Senegal had succeeded perfectly as far as he had heard.

Captain BURTON added that gold-dust was the only currency known to that part of Africa. The natives had the most complicated divisions of it, and could pay a man the value of a farthing in gold-dust.

Sir SAMUEL ROWE (Governor of the Gold Coast Colony) said that he could endorse all that Captain Burton and Commander Cameron had said with regard to the presence of gold in the country. He had the pleasure of being acquainted with both those gentlemen. Many years ago he met Captain Burton in West Africa when he was about to travel to Dahomey. There could be no doubt that there was plenty of gold to be had, but the question was, would the difficulties of the country allow us to obtain it in such quantities and at such a price as to make it remunerative? Any person who would take the trouble to wash the sands would be able to get gold, at Cape Coast, at Axim, or at Elmina. On a rainy day at the headquarters of the police at Elmina the men were anxious to be relieved from parade in order that they might walk up and down to pick up gold. The Gold Coast was a rich country in many ways. Palm oil was the export of greatest importance which found its way to Europe. It was an unhealthy country, but the scheme for bringing Chinese labour there might perhaps make a difference. Everything that the Government could do to develop the industry of the country and encourage mining operations would be most willingly done, and to a certain extent had been done.

Mr. JOHNS informed the Meeting that a competent engineer had been sent out to make a survey for a light railway through the district. He was glad to hear from Sir Samuel Rowe that the Government would be prepared to consider such matters favourably. It was thought that a light railway which could take machinery to the mines would be one of the greatest civilisers ever known there, not excluding even missionaries.

The PRESIDENT, in proposing a vote of thanks to Commander Cameron and Captain Burton for the interesting accounts they had given of a region which was at present attracting public attention, said it seemed that the district had not got its name in vain ; and that the wealth for which it was once famous would probably be again developed. The interest of the Society, however, was not so much in the commerce and produce as in the geography. It had been often said of late that they could not now look for the discovery of fresh regions, but must be content with obtaining a more complete knowledge of those which were already partially known. It seemed, however, that between the sea and the banks of the Niger there was a considerable mountain district which was but very little known. Captain Burton had indicated the sources from which he had drawn his information as to the Kong region, but he would be the first to admit that a great deal yet remained to be learned with regard to it. In a very short time the Mountains of Kong, like other mountains, would be no longer a mystery, and he should not be surprised if the travellers to make them known were Captain Burton and Commander Cameron.