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A New Route and New Mode of Travelling into Central Africa

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the further progress of the *Ilala* toward Cape Maclear, our life there, the arrival of another large party under Dr. Stewart, the present head of the Mission, would only be to aggravate the offence I have committed in taking up so much time. I have related how the first steamer was placed on an African lake, and, with a thankful heart to Him who watched over us so mercifully, I pray that He may be pleased to turn her presence on Lake Nyassa to His wise purposes in the efforts of His servants for the regeneration of our poor oppressed fellow-creatures.

MR. YOUNG said he wished to make one fact public which was not in the Paper, referring to the great Ma Viti tribe, which had been the curse of the interior of Africa, and had almost depopulated the district between the sea and the Lake. Dr. Livingstone was desirous of getting hold of these people, but failed to do so. Before returning to England, however, he (Mr. Young), single-handed, met 300 of the warriors of that tribe, and made a treaty between them and the Makololo. The Mission was also the means of stopping a war between the Makololo and the Ajawas, and now they are great friends. Everything out there now looks very encouraging; and now I say "The land is before you; go in and possess it."

2.—*A New Route and New Mode of Travelling into Central Africa, adopted by the Rev. ROGER PRICE in 1876, described by Rev. JOSEPH MULLENS, D.D.*

THE travellers who have journeyed into Central Africa from the East coast and the neighbourhood of Zanzibar have been called to encounter difficulties as formidable as may be met with in any part of the world. These difficulties have caused not only peril to health and severe trials of patience, but have occasioned them unusual expense. One object which most of them have kept in view was to reach the line of the three great lakes, and pay a visit to Ujiji.

The distance between Ujiji and the coast is measured pretty exactly by nine degrees of longitude (30° E. long. to 39° E. long.); and the journey from Zanzibar to the Tanganyika Lake may be divided very neatly into three stages of about three degrees each. The first stage carries the traveller to Mpwapa and Ugogo; the second to Taboro or Unyanyembe; the third brings him to the Tanganyika shore. The distance (as the crow flies) is about 620 English miles; the travelling distance is just over 700. Very few have accomplished the journey under 1000*l.*; some have paid for it a great deal more. The experiences of the distinguished men who have hitherto performed it have proved of unusual interest. Burton, Speke and Grant, Livingstone and Stanley, and

Captain Cameron and his companions, have made the route and its incidents familiar to all students of geography; nor has the youngest and latest writer of the series fallen behind his predecessors in the clearness, simplicity and judgment with which he has told his story.

So far as the *country* is concerned, the principal difficulties lie within the first section of the journey, the district between the sea-coast and Ugogo. About 200 miles in breadth, this district is divided into two portions of a hundred miles, each having its own character. From the coast at Bagamoyo, for the first hundred miles the land is in general level, until it reaches the roots and spurs of the hills; it then exhibits small enclosed valleys, with streams feeding the Wámi River, and causing numerous swamps and pools. The vegetation consists largely of brushwood, and of small forest with tropical plants and trees. A hundred miles in the interior the ground has begun to rise, and to exhibit lines of hills with parallel valleys, more or less regular, having a general trend to the N.N.E. These the traveller crosses, now mounting a high granite ridge, then descending; mounting higher, and descending a little again. In this way he crosses the broad swampy valley of the Mukandokwa or Makata River, passes the little Lake Ugombo, in which it rises, and winding among the noble hills of the Usagára Range, arrives at length at Mpwapwa, on the upper plateau, 3300 feet above the sea. Thence westward the journey is more easy. Passing through a gap in the Rubeho range, the caravan traverses vast rolling plains, with granite knolls covered with wood, with here and there forest, here and there thinly-scattered villages, and but few streams. At the end of the second two hundred miles it reaches Unyanyembe. Still journeying somewhat north-west over the rolling hills and the heads of valleys which trend to the west, the traveller comes to the inner edge of the high rocky level, and descends 800 feet to Lake Tanganyika, and the town of Ujiji on its eastern shore.

The difficulty and danger connected with disease arise from several causes, and are unusually great, especially between the sea-shore and the hills; while the effects of that first stage on the traveller's health frequently follow him and his people far into the interior. The natives suffer greatly; even Englishmen get fever—can get it often; and in several cases it has sooner or later ended in death. The steaming districts near the coast, with their swampy pools, doubtless abound in malaria. The water in many stopping-places is more or less poisoned from the same cause. The usual camping-grounds, occupied again and again by large

bodies of bearers and slaves, are rendered unfit for tent-life. And rank vegetation, lines of rock and hill, may shut out those healthy breezes by which alone these poisonous exhalations can be driven away. But, in my judgment, the most frequent cause of fever on these long journeys is the great change in temperature between the heat of the day and the cool evening which rapidly follows. During the first hour after sunset the fall in temperature is very decided. Englishmen and natives arrive hot and exhausted, their clothes wet with perspiration, and the change in temperature, often increased by the strong south-east winds, soon becomes dangerous. A severe cold or attack of fever may speedily follow. The Englishman may guard himself by warm dress and hot coffee; but the native has few resources of the kind at his command, and is careless of using what he has.

The principal difficulty of African travel has, however, not been either the road or the fevers: it has been connected with the system of carriage. From the day when the ivory-trade of Zanzibar grew strong, and transport from thence to India, to the Persian Gulf and Aden, became easy and frequent, the slave-trade received a powerful stimulus, and gangs of slaves were made almost the only means of carriage. Hitherto all the English travellers in East Africa have been dependent upon these human bearers. From Burton down to the Church Missionary Expedition, which left the coast a few months ago, every one has been compelled to employ them. And the trouble they have caused by their fickleness, their dishonesty, their bodily weaknesses, their indolence, their diseases, and numerous deaths, has been indescribable. No one can read the experiences recorded in travellers' books without feeling the deepest indignation against these fickle men, and the profoundest pity for the traveller whose patience was so tried. No one who has read Captain Cameron's book will forget "Bombay." Where, at times, as many as three hundred such men have been taken in a single party, who can wonder at the worry, the detention, the waste of time and trouble involved in gathering them, keeping them together, fetching back runaways, starting them, bringing in stragglers, replacing the incompetent, and humanely caring for the whole? The outlay in wages has always been great, but property stolen, flung away by bearers, or left behind by the travellers for lack of men to carry the packages, has been far greater. The losses incurred in this way by every expedition have been exceedingly great.

Reflecting on these things, the Directors of the London Missionary Society, when planning their expedition to Lake Tan-

ganyika, thought it worth while specially to inquire into two points: (1) Could a route be found to the north of the Wámi River, on higher ground, and free from the swampy levels found here and there on the road from Bagamoyo? and (2) Was it possible to employ on the entire line the waggon drawn by bullocks, so common in the colonies of South Africa, and that without risk from the tsetse-fly? And as the Rev. Roger Price, who has had long experience of roads and waggons in South Africa, was then in England, they requested Mr. Price to proceed to Zanzibar to make these inquiries on the spot. The following is a brief outline of Mr. Price's proceedings, and of their result.

Mr. Price arrived at Zanzibar on May 2nd, 1876, and, having gained much information bearing upon his purpose, he resolved to pay a preliminary visit to Sadáni, on the African coast, and confer with Bwána Héri, the chief of the [district, respecting a journey into the interior. His reception was everything he could desire. The chief entered heartily into the project, accompanied him to Ndumi, an excellent starting station, six miles from the coast, and promised a guide who knew the road. He assured Mr. Price that no fly was known on that road which killed bullocks, and that cattle were frequently brought down to the coast from the interior. The arrival of an ivory caravan from near Unyanyembe proved that the route proposed was actually in use, and the information derived from its people implied that it contained no special difficulties.

Mr. Price at once, therefore, proceeded to make preparations in Zanzibar for travelling into the interior as far as Mpwapwa, and examining the route for himself. He procured a select band of thirty bearers; purchased a supply of cloth and beads, to use as money; and endeavoured to obtain some kind of carriage with which to try his experiment. The Banyans at the Custom-house kindly gave him a cart, which, however, required extensive repair; and then he set to work to train bullocks. His experiences were somewhat amusing. He says:—

“Then came the oxen: the renowned French Charlie seems to be the only dealer in ox-flesh at Zanzibar. Accordingly, Mr. Donaldson and I proceeded to his place to see if we could get a pair. I had been told to expect difficulties here. It was evidently a puzzle to Charlie what anybody in Zanzibar should want with live oxen; and he had a strong suspicion that I was going to set up an opposition butcher's shop. He strongly recommended *mouton* and *mbuzi* (Swahili for goat); but for some time he could not be persuaded to part with any of his beeves. At last he seemed quite

convinced that I had no intention of interfering with his trade, and he would let me have two oxen, or four, or as many as I liked.

"The first ox was caught and led out, and made fast to a pole. The second proved to be a Tartar. He seemed quiet enough to look at or even to pat; but once the rope was round his horns, he began to show his mettle. We got him outside the kraal, but he did not remain there long: he made a jump over a railing that was ever so much higher than himself, breaking the top rail right off, and went back into the kraal in triumph. This was too much for Charlie altogether. 'That ox no do, gentlemen' (I was alone). I selected another: he was more reasonable; but I had to be satisfied to let them run loose through the street, till we got on the flat. There we caught them and put on the yoke. The one (Wales) took kindly to the yoke; but the other (England) was very stubborn, almost to the extent of lying down and refusing. After a good deal of the usual manœuvring in such cases, and a kindly and judicious use of the cane, we got England to carry the yoke with Wales. As usual at that time of the evening (five o'clock) there was a large concourse of people on the flats, who looked on with much curiosity. After some rough handling, England and Wales submitted to carry the yoke through the street into their kraal. Next morning I went to give them their second lesson, and then went out as far as Bishop Steere's place to get the bough of a tree for the oxen to pull. When England and Wales had in the course of four days got to pull pretty well, I ventured to catch a third ox. Scotland was wild and rebellious, clearing the street as I passed along; but once outside, and the yoke fairly on his neck, and the bush behind him, and with Wales as a mate, he set to work at once, and has not given much trouble since."

After training a fourth bullock, and exchanging an indolent ox for one more spirited, on June 2nd he says in his journal:

"To-day, both morning and evening, I have had my complete team of four in the little cart. This morning I drove out to Bishop Steere's place, my Kilangózi and myself in the cart. The Bishop and several of his party came out to see my little turn-out. Everything about it was closely observed, as the Bishop has quite an idea of waggons and oxen for Eastern Africa. The Bishop again congratulated me on the success which had so far attended my efforts. Asmáni was evidently not a little proud of his position beside the Mzungu (the Englishman) in the cart, and received with much satisfaction the acclamations of his numerous friends and

acquaintances along the roads, who shouted, 'That's the way you are going to take the Mzungu to Unyamwezi!'

At the last moment the bearers began, as usual, to give trouble. But decision and good sense, and the confinement of their leader for three days in the Fort prison, reduced them to submission; and they proved in the end an orderly and willing band of men. A four hours' sail, with a fine breeze, carried the whole party across the water, from Zanzibar to Sadáni. The last preparations were made on the 9th of June, and the next morning the little expedition started for the interior. It included thirty men, all told, four oxen, a riding-donkey, and the cart; and as the caravan belonged to an Englishman, and contained some novel elements, the entire community of Sadáni assembled to see it start. The chief, Bwána Heri, expressed unbounded admiration of the cart arrangement, and was attentive and hospitable to the last. Mr. Price started on the 10th of June. In nineteen stages, long and short, occupying twenty-six days, he reached Mpwapwa, two hundred miles away, within the upper edge of the great plateau. He occupied only a fortnight in the return trip; and completed the entire journey of 400 miles, bullocks and all, in forty-two days. It is not necessary to tell the whole story; a few notes on special topics connected with the journey will suffice; and, naturally, the geography of the district occupies the first place.

Six miles from the coast, and lying due west from Sadáni, is the village of Ndumi. It stands on the summit of a knoll, which forms part of an elevated terrace or belt of country, which, from the seashore, has the appearance of a range of hills, and stretches north-east and south-west as far as the eye can see. Opposite Pemba this terrace juts into the sea. The route to Mpwapwa lies right across it; and the consequence is, that on that route the ground begins to slope upward at once, and the traveller loses swampy ground six miles from the coast; whereas, on the Bagamoyo road, he keeps on the low land for several days, is detained on that unhealthy district by troubles with his bearers, and suffers more harm there than almost anywhere in his onward journey. The ground between the coast and Ndumi is tolerably level; the only difficulty in the way of a road lies in the forest, grass, and jungle, which need to be cut away. A noble baobab-tree, on the summit of the little hill, renders Ndumi a conspicuous object.

Mkangé is one of many villages situated in a fertile valley, through which runs a fine stream of water. Mkuru is buried in the depths of a dense forest. So far the cart got on well. Beyond this place it caught on a stump; the body and wheels came to a

stand, and the oxen tore the front part and the pole completely away. Mr. Price therefore resolved to leave the cart behind, and to take the oxen on alone. Crossing over a succession of rolling ridges and little valleys, crossing the Rukigura, which flows from the north, passing three conical hills in the valley to the south, and Kanga Peak to the north and west, the little party came into the valley of the Wámi, some 40 miles north of Simbamwemi, on the Bagamoyo road.

At Kidúdwé Mr. Price entered the Nguru district, and soon reached the main granite range, which, in East Africa, forms the outer edging of the vast interior plateau. The Nguru Range is in reality the northern continuation of the Usagara Mountains, so wonderful in their grandeur, and so precipitous to climb, to which all the African travellers refer. Inside the Nguru Mountains, to the westward, is a range of detached hills—the Kaguru hills, amongst and beyond which live the Wakaguru and Masái. Here there is a remarkable gap in the granite masses, several miles wide, on each side of which the ranges appear as vast mountain-walls; and the new route passes between them to the west, the Nguru hills being about 6 miles distant on the north side. The broad valley between is wonderfully fertile. Villages and stopping-stations are numerous. Several streams from the northern hills flow through it down to the Wámi. The people are gentle and peaceable, and the country possesses abundance. The corn grows to a height of 16 feet, and the sugar-cane runs wild into jungle and forest. On the mountain-sides feed flocks of sheep and goats; to the north are large herds of cattle. It will be remembered that in South India there is a similar gap between the south face of the Nilgiri Hills and the north side of the Anamulli Range, and that the Madras Railway goes through it to the west coast on level ground, with a principal station at Palgaut, from which the gap is named.

Towards the west end of the gap the country becomes rocky, and still ascending, presents steep and rough hill-scarps, with narrow and deep valleys intervening. This is followed by a long stretch of comparatively smooth country; but for 20 miles it is uninhabited, and the district abounds in game. At Magubika steep descents and ascents again occur, and for a short distance the country looked hopeless for a waggon-road; but it proved the last of the difficulties. The party were near the edge of the plateau, and smooth easy country immediately followed. Mr. Price describes Kitángi as a beautiful spot. "Emerging from the pass, we gradually rose for about 4 miles, when there opened out to us the most cheering sight I had yet seen in East Africa. To the south-

ward lay the great Usagára Range, with a long gorge leading up into the very heart of the great mountains, which seemed piled up one behind another as far as the eye could reach. Through this gorge comes out the beautiful stream which gives its name (Kitangé) to the district, and which forms its principal water-supply, although there are several other smaller streams. To the northward, and round to the west and south-west, are high ridges and detached hills; the whole enclosing a basin about 10 miles wide. The whole of this was covered with a fine and comparatively short grass, such as I had often seen in the great pasture-lands of the south. There was but little bush except along the course of the ravines. The large spreading mimosa, growing in its usual fashion, here a solitary tree, there a clump of half-a-dozen, gave to the open parts of the basin quite a park-like appearance. As this lovely scene was viewed from the height which we had attained, I could not help saying to my South African servant, 'Oh, that I had a waggon and a span of oxen now, and a proper African whip!' As might be expected, when we descended into the Kitangé basin, considerable flocks and herds began to appear. But what was most interesting to me, was the sight of the villages with which the whole of this great basin was dotted over. Look wherever I would, I could not fail to discover several of these, often within rifle-shot of one another. Up the sides of the great mountains, on both sides of the Kitangé gorge as far as the eye could reach—east, west, north, and south—they were to be seen. The villages are mostly of the Tembé kind. This mode of building seems necessary in this part of the country, where they have none of the protection afforded by the thickets nearer the coast. One of the saddest features of the state of things in East Africa is the constant fear which the people have of being attacked. It is a rare thing to see a male above the age of twelve or fifteen, by day or by night, in the town or out of it, without arms of some kind."

From Meomboni, a pool near the top of the Kitangé ridge, the route lay across an immense flat, with very little water, and nights that were very cold. In the early morning the thermometer stood at 45°. Hence in two stages the party reached Mpwapwa. This station is well known to African travellers, and has been specially described by Mr. Stanley.

In enumerating the difficulties of this route for waggons and oxen, Mr. Price specifies the long thick grass, so abundant near the coast. Cornfields spread out around the village, and it is difficult to avoid them. The jungle and forest are usually thin, except in

certain limited spots, where a few men with good American axes would soon clear the way. Some of the ravines and gullies look ugly enough; but spades and pickaxes will render them passable. There are three rivers, or rather mountain-streams, on the route, which will give trouble when swollen by the rains; the Rukigura, the Mvue and the Mkindo. But waggons starting from the coast in July would probably find all these rivers fordable. The hill country is a difficulty; but to an old South African it is nothing formidable. "On the entire route there is not a place to compare for difficulty with roads which the colonists pass daily: and the ordinary road between Graham's Town and Algoa Bay is more difficult than the route which I travelled in going to Ugogo. Every bit of hilly road between Sádáni and Mpwapwa put together would not amount to more than 20 miles." As to the difficulty most feared of all, the tsetse-fly, which seems to be a trouble on the Bagamoyo road, he says: "I regard the absence of tsetse between Saadáni and Mpwapwa as settled. I took the four bullocks with me the whole way, and left them at Saadáni on my return, apparently in perfect health. Cattle, sheep and goats are to be met with here and there along the whole route." Dr. Moffat gives it as his experience that it is the increase of population which destroys tsetse. And it may be that the occurrence of the gap in the new route, with its fertile level, its numerous villages and broad cultivation, and the general population along the route, explain the difference in this matter between the jungly, mountainous and ill-peopled district to the south, and the more open, dry and cultivated route to the north of the Wámi River.

In regard to the results of this pioneering journey, Dr. Kirk, living on the spot, and discerning the full value of an improved method of communication, writes to Lord Derby in very warm terms. He says: "Mr. Price's journey has been in every way successful, and he returns prepared to give a most favourable report on the road, the country, and the temper of the people among whom he passed." After giving some account of the journey, he concludes his despatch by saying: "I have thought the above sketch of his proceedings may not be uninteresting to your Lordship, as indicating a practicable means of developing at once the resources of the interior, in a way that, so long as every article sold or bought had to be carried by porters, could never have been done."

Agreeing heartily with these views of Dr. Kirk, and convinced that there is solid ground for believing the old plans of South African travel to be perfectly applicable to these new regions in

Central Africa, the Directors of the London Missionary Society are now fitting out their expedition to Lake Tanganyika on the basis suggested by Mr. Price. Containing five or six Englishmen, its equipment will consist of two waggons and eight carts, covered with waterproofs; teams of twelve oxen for the waggons, and six for each cart, with a small reserve, will make up a body of eighty oxen, of whom it is desired that a portion shall be obtained from among the well-trained oxen of Natal; yokes, waggon-gear, and some Kafir drivers and leaders will also be sought in Natal. Tents for camping, stores for a period of two years, a fair supply of barter goods, beads and wire (partly for payments on the road and partly as money at their final destination); a good supply of tools for workshops and industrial schools; also of medicine for a dispensary; as well as of seeds of fruits, vegetables, and grain, are now being prepared as outfit for the expedition. It is expected that they will only spend the month of June on the sea-coast, and that with July the waggon-train will commence its march into the interior. Time, thought and care have been devoted to these preparations, because the importance of the experiment is perceived, and all concerned are anxious that it shall prove a complete success.

If this expedition, and that of the Church Missionary Society which has preceded it, merely contemplated a visit to the Lake Region, they would excite but a passing interest. But times have changed with Central Africa. The experiences and revelations of each new traveller have deepened the interest felt in its truest welfare, until all classes of Englishmen are anxious to see its tribes protected, delivered from the wrongs from which they have suffered, stimulated to industry, enlightened, taught, and civilised. These expeditions are but precursors of a strong stream of civilising and beneficial agencies, which will continue to flow into this great region for many generations to come. Those agencies are of many kinds. These ignorant and injured races in the interior need the doctor, the surgeon, the skilled artisan, as well as the missionary and the teacher. The honourable trader is needed to help them in exchanging their native produce for English money and English goods, that their energies may be stimulated, and their resources increased. We have, therefore, to contemplate the permanent residence of Englishmen in the interior, and, with their residence, that continued elevation of the social condition of the natives, and that continued exposure of wrong-doing, by which our right-minded countrymen, travellers, traders, colonists, and missionaries, have conferred such great benefits upon many nations of the world.

To secure this safe and permanent residence, and with it the

enlargement and increase of honourable trade, it appears to me that two things are necessary; the formation of a direct road, and the establishment of a line of stopping-stations. These measures are essential to the success of everything else, and with them other measures will move forward rapidly. Presuming that the waggon-train will be found to answer, so far as we at present know, the northern line of route visited by Mr. Price is not unsuitable in itself, and is a route free from the tsetse. It is specially suited to Englishmen, because it soon runs over rocky ridges, and is open and free of swamps. At the very outset the town of Ndumi, 6 miles from the sea-coast, is on the edge of a high terrace. A good road to it, which could be made with ease, would carry a traveller, his goods and waggons, at once away from the low level near the sea; at Ndumi he could make his final preparations in comfort, under circumstances very different from the heat and swamp of Bagamoyo. The expenditure on such a road would depend upon the degree to which natural inequalities in the ground are levelled, and forest and jungle are removed. Quite as important as the road is the subject of stopping-stations. A waggon-train carrying valuable goods, with few men, needs protection at night; the oxen need to be preserved both from straying and being stolen. In South Africa the straying of oxen at night is the cause of endless anxiety, detention and worry. What so useful for this protection as the *serái* of Northern India? A small outlay of money would without difficulty provide a series of *seráis*, at intervals of 20 miles, which would bring a trader or traveller to Mpwapwa probably in fifteen to twenty days, into a region with dry healthy air, and moderate heat, where he could live in comfort. Mpwapwa itself, or some new place near, might be made an important head-station; and, having its base at Saadáni and a good road from that place, would be both a secure and profitable place of trade to English merchants. It stands at the point where two or three lines of roads from the coast meet together. A great portion of the trade of the interior passes through it, and Mr. Price points out that "many a caravan, especially the purely native ones, which now go to the coast to be taxed and fleeced right and left, would hail an establishment at Mpwapwa where they could get what they wanted, and would gladly avoid the difficulties between that place and the coast." The system of *seráis* would scarcely appear strange to the native tribes, for their own *tembes* are *seráis* on a larger scale, constructed in much the same fashion, and having the same security in view.

It seems to me that it is in this first section of the long journey to the lakes that the traveller, at the present time, specially needs

this kind of help. Make easy the route for his waggon-train so far; place him without an hour's delay at Ndumi on rocky land; beyond that point give him the stopping-stations, where his cattle and his goods shall rest in their journey, secure and well supplied; carry him by these means speedily across the lower or fevered country on to the healthy plateau; and already you have solved one of the greatest difficulties in the long journey that lies before him. In due time let the same be done for other chief stations and smaller resting-places, in the second and third stages of that journey. The trade will soon change hands, and a healthy reform in the present method of intercourse and traffic, tantamount to a revolution, will bring the heart of Africa near to Europe, and will bind it in closer bonds to the whole civilised world.

Captain WILSON, R.N., said it might not be generally known that Mr. Young began his African career with Dr. Livingstone in 1862, by commanding the *Pioneer*, the vessel which was placed by the Foreign Office at the disposal of Dr. Livingstone on the Zambesi. Mr. Young remained in command there for two years, and acquired a great deal of experience. After that, in 1866 or 1867, the report came home that Livingstone had been killed near the south end of Nyassa. The Government of the day did not believe the statement, and Sir Roderick Murchison induced them to send out an expedition under Mr. Young to ascertain the truth or falsity of the rumour. That expedition returned to England with the news that Livingstone had passed on beyond the place where he was supposed to have been killed. When Mr. Young came home he was very properly rewarded by the Admiralty with an excellent appointment in the Coast Guard, where he lived until Livingstone's remains were consigned to his last home in Westminster Abbey. Several African friends then met together, among them Dr. Stewart of Hope-dale, now at Lake Nyassa, to consider the practicability of carrying out Livingstone's wish and establishing a Mission on Nyassa. Dr. Stewart asked Mr. Young to become the leader. Mr. Young consented. They then went to Scotland, and called together two or three meetings. The Scotch were a practical people, and at the end of a little discussion the idea was approved of. In a very few weeks 10,000*l.* were subscribed. In six weeks from that date the steamer was built. She was a vessel of about 25 tons displacement, 47 feet long, 12 feet broad, drawing 5 feet 6 inches of water, a good sea-going boat, schooner-rigged, and a very fast steamer. She was put together with nuts and screws. Mr. Young left England in May, and by October he had got his steamer conveyed past the Murchison Falls, and was steaming up into Lake Nyassa. From the sea to the Lake looked a mere hop, skip, and a jump on the map, but in reality, owing to the meanderings of the river the distance was upwards of 400 miles, and having himself pulled up to the foot of the Falls, he knew what difficulties had to be encountered. Mr. Young had treated them as a mere bagatelle; but if the difficulties on the Lake were much greater than those on the river, they must be quite as much as any ordinary man could overcome. Mr. Young carried his 40 or 50 tons of goods past the Rapids, put his steamer together a second time, launched her on the Lake, and circumnavigated it. There were one or two matters which Mr. Young had not referred to, but which deserved prominence. At two or three different points on the lake large numbers of cattle were seen. Opposite one of the islands there were no less than 200 head. Another fact, showing

the enormous importance of Lake Nyassa, was that five large dhows were seen there. A dhow was a vessel of considerable tonnage, and he was not aware that in any other part of the large lakes of Africa anything larger than a canoe had ever been found. The five dhows were probably not less than 300 tons burden, and there must, therefore, be a very large trade in those parts. The Mission was no ordinary assemblage of Church people; it was a real, substantial, practical Mission. Every man who had gone out was a double-handed man, able to work as well as to preach. There were carpenters, blacksmiths, agriculturists, sailors, carefully selected for the work, so that they might teach some useful occupation to the natives. But Mr. Young did not only establish a Mission, he founded a Colony; and at Cape Maclear there was now a colony fairly started. Houses had been built, a fort erected, and a slip formed for hauling up the vessel and repairing her. A large water-way had also been cut to let the water out from the plains, so that the crops should not be destroyed by the inundations. For the eighteen months that Mr. Young had been there his sense of duty was such, that he never slept one night out of his little steamer. With reference to the second Paper, it was most desirable that an overland route should be formed; but if the Zambesi could be opened to free trade, no overland route would be able to compete with it. The writer of the Paper had stated that it cost 1000*l.* for each traveller who crossed from Zanzibar to the Tanganyika; but the expense of placing the steamer on Lake Nyassa, sending out eight persons, and maintaining the Mission for one year, was in round numbers only 4500*l.* From the north end of the Lake to the sea, there was water-carriage for at least 700 miles, while from Tanganyika to the north of Nyassa there would be only 180 or 200 miles of land-carriage. By the overland route, on the other hand, there were at least 700 miles of land-carriage to the north of Tanganyika; while by the Zambesi route there were 1200 miles of water-way, and only 250 miles of land-travelling to the same spot. It seemed to him that the natural outlet of Africa on the East was by the mouths of the Zambesi, and the efforts of this country should now be directed to opening up that river to free trade. If that was done, the slave-trade of course would cease. The slave-trade was necessary in a country where there was no animal carriage. The ivory must be carried to the coast, and for this purpose slaves were employed; but if water-carriage were obtained, the whole difficulty would be solved.

The PRESIDENT said it was interesting to see how, in this age of progress, things were accomplished in the course of a few years, which formerly used to require centuries even to mature the thought of action and a practical issue. The description of the foundation of the Mission on Lake Nyassa was more like the old stories of the Moravian missions, than of a mere missionary enterprise, because it involved the teaching of trades, and the carrying on of all the practical arts of life and civilisation. Mr. Cotterill, a son of the Bishop of Edinburgh, was already going over the same ground; his object being to see whether, by establishing a legitimate trade, a blow might not be struck at the root of the iniquities of the slave-trade. Every Englishman must feel the greatest interest in the enterprise, and wish it success.

The BISHOP OF EDINBURGH said, according to the last account, his son had only just reached Nyassa, and therefore nothing was yet known of any experience he had gained in regard to the object which had taken him out to Central Africa. He did not go out as a trader himself, but to discover which were the best channels for trade, and what were the best products of the country. He was intrusted with a certain amount of goods by merchants, both in Scotland and England, not with the idea of gaining any profit by the adventure, but only as an experiment. No one knew better than Mr. Young that it was utterly hopeless to expect to make a profit until the Zambesi was

opened for free trade. He did not think there was any objection to his mentioning that his son obtained, through the Foreign Office, from the Lisbon Government, a free pass through their territories in Africa, on the understanding that it was to be an experimental expedition; but, instead of having free passage there, he was charged 26 per cent. on the goods that he was taking out, and his diaries showed that every possible obstacle was thrown in the way of his progress by the Portuguese officials there. At Lisbon, he believed, the authorities disowned any complicity with the slave-trade, and no doubt they were not aware of what was going on, but it was certain that the Portuguese officials in Africa encouraged the slave-trade. Mr. Young had referred to a trade in slaves with Tete on the Zambesi, and he had heard from his son-in-law, who had explored the Matabele country, that slaves were sent down there from the Portuguese settlement at Tete, and that he had seen the slaves himself. There could be no doubt that the Zambesi and the Shire were the natural outlet for the trade of the Nyassa district, but there were still several difficulties to be overcome. He thought it was a great mistake to go to Quillimane at all. Some people seemed to imagine that the Quillimane was one of the mouths of the Zambesi, but for a considerable part of the year, as was shown by a map which his son had sent home, the Mutu, a branch of the Quillimane, did not communicate at all with the Zambesi. The members of the Expedition were detained at Quillimane for nearly three weeks by the Portuguese authorities. Another fortnight was occupied in struggling up the stream, to a place from which they had to carry their boats overland to Mazaro. At this latter place they were again detained by a Portuguese official, who charged six times as much for the canoes he supplied as the natives charged for theirs. It took another three weeks to reach the foot of the Murchison Cataracts. To carry the steel boat, which was given by the masters and scholars of Harrow School (where his son was formerly a master), up the Cataracts required another week. No doubt it would be much easier to get down the river from the Lake. He was afraid that the boat was scarcely suitable for such a stormy lake: one of the principal difficulties of transit on the lake being the severe storms which occurred there.

Sir BARTLE FRERE said, to African travellers like Dr. Moffat, Colonel Grant, General Rigby, and Colonel Gordon, the accounts which had been given in the Papers just read, must appear like a pleasing dream. Dr. Moffat would recollect that, when he went out to his mission, there was not a steamer on or near any river in Africa. For some time after that, there were none nearer than Malta, none in the harbour of Alexandria, none upon the Nile; but at the present time there was not only steam communication along the coast, but steamers had actually been placed upon the lakes. It was a by no means improbable dream that ere long Mr. Young might shake hands with Colonel Gordon on the deck of one of their steamers. There was another most important sign of progress. Mr. Price, coming as he did from a noble stock of discoverers, had found a way by which to substitute cattle-power for the human beings who, over so many roads in Africa, were still the only means of communication and of carriage. Some of those gentlemen whose inquiries had led them into the ancient doings of the people who lived upon the lakes of Switzerland before the Romans introduced their civilisation into Europe, must have thought that they were listening to an account of the ancient Helvetians, and of some of the long-headed people who preceded the Picts and Scots on the borders of the Scotch lakes, who used to adopt exactly the same devices to protect themselves, as Mr. Young had found prevailing in Africa. However, it was to be hoped that a ray of light had now been let in upon the savage tribes of Africa, which would very soon be followed by broad daylight.

Sir SAMUEL BAKER said, as he had spent nine years in Africa, he felt ex-

treme interest in the rapid progress that had now set in there. Only a few years ago the map of Africa, instead of being filled up as at present, was endeared to idle school-boys from the fact of its containing nothing for them to learn. The great mystery—the solution of which had been attempted by the greatest of the ancients, even by the Cæsars themselves, and given up as an impossibility—had at last been attacked by England. Headed by Livingstone, who gave the impulse, Englishmen had set themselves to explore the continent; and not one who had started in command of an expedition had failed to gain his object, and be rewarded by the approbation of his countrymen. The great difficulty had always been the want of means of transport, and the route from Zanzibar had been proved to afford facilities which no other part of Africa possessed, as carriers could be obtained there. The expense, however, was so enormous, that few people could afford to engage in explorations on their own resources; and even few societies, except the Royal Geographical, had means for such work. The greatest question now was, how to improve the means of transport. He had been exceedingly gratified to hear that Mr. Price had started the use of bullock-waggons: in fact, it was strange that they had not been used before. The steamer which Colonel Gordon now had on the Albert Nyanza, a vessel of 38 tons, besides two life-boats of 10 tons each, a steamer erected at Gondokoro, of 108 tons, and another of 250 tons, now travelling up from Khartum, were all carried 400 miles across the desert, by the expedition which he (Sir Samuel) had led. The transport was accomplished by a man who unfortunately was now dead, the lamented Edwin Higinbotham. One of the pieces weighed 8 cwt., which could not possibly have been conveyed except by wheels. This was taken on the gun-carriages of 32-pounder howitzers, lashed together and drawn by camels. Forty-two railway-truck loads of machinery were transported to Gondokoro, without the loss of a single screw. This showed the advantage of wheeled carriages, without which it would have been utterly impossible to have moved a great weight, such as a steam boiler, across the desert. It must be gratifying to the Royal Geographical Society to note the success with which African exploration had been carried on since Livingstone first started it, and Speke and Grant opened up the new route to the interior; and to remember that, without the assistance of the Society, the continent would still be the blank which it formerly was.

The Rev. ROGER PRICE said he should like to feel that the sympathy of the Royal Geographical Society had been secured in behalf of the great work which was now being carried on in Central Africa. An African bullock-waggon was a rough concern, a slow coach, but it had done a great work in the south. He had himself seen a huge boiler at a distance of 1400 miles from Cape Town, which had been taken there whole by the bullock-waggon. It was of course a great weight to get on a waggon, but the colonists there had their own ways of getting over difficulties. They made a hole and buried the waggon, and rolled the boiler on to it. Towns of 40,000 or 50,000 inhabitants were now to be found far inland, where six or seven years ago there was nothing but a wild, howling waste, and all the material for building these towns had been taken there through the agency of bullock-waggons. He hoped that similar wonders would be wrought by the same means in Central Africa. In connection with the new route which he had discovered, a steamer of light draught was needed at Zanzibar, as at present the only means of transport from that island to the mainland were Arab dhows. It was to be regretted that at the commencement of the route there was not a better port than Saadani, but no doubt the skill of engineers could get over that by making a jetty. He would also desire to lay stress upon the necessity for making a road across the coast regions, which was about one-third of the whole distance to Tanganyika, but equalled in difficulties the other two-thirds. The great plateau would offer no

special difficulty in the way of the establishment of a waggon-route, and he expected that a sufficient road would be made by the passage of one waggon after another. Something better than that would, however, be required for the coast region and the mountain ranges. It would always be more or less unsafe to traverse that region, in consequence of the amount of water and the risk of fever; and it was therefore desirable to adopt means for making the journey across it as speedy as possible. It was important to have at least two stations. One he would recommend to be established on the western border of the valley of Nguru, about the southern end of the Nguru mountain range; and another at Mpwapwa, which was a most important, though by no means an interesting place. It was there that the various routes from the coast met, and from thence a fresh start was made for the long journey across the plateau to the Lake. It could be made an important depôt during the dry season, for he took for granted that for some time to come it would be impracticable to traverse the coast region during the height of the rainy season. The dry season, however, was sufficiently long for the stuff required for commerce to be brought to Mpwapwa and deposited there, to be conveyed to the far interior whenever necessary. In these undertakings the Royal Geographical Society could give valuable assistance. If the Cape bullock-waggon was successfully introduced into the interior, the time would not be far distant when a steamer of very considerable pretensions would ply upon the broad and beautiful waters of Tanganyika.

The PRESIDENT, in concluding the meeting, said the papers and the discussion might be almost summed up in two words, bullock-waggon and steamer. These applied, the one to the land, the other to the lakes, would effectually open up Central Africa, and work all the marvels of an Aladdin's lamp. Nothing could be more encouraging than the progress the work of Exploration had made, under the auspices of the Royal Geographical Society, since Livingstone gave it the first impulse. The Society could desire no greater honour or brighter wreath than that which it had gained by contributing to the opening up of Africa to civilization and commerce.

Votes of thanks were accorded to the authors of the Papers, and the meeting then adjourned.