Notes on the Route Taken by the Royal Geographical Society's East African Expedition
from Dar-es-Salaam to Uhehe; May 19th to August 29th, 1879

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sidered the political successor of the old Wahhabi Emirs. He was rather surprised to find that the horses at Hail were only 13 hands 2 inches. The Nejd horses, or what were considered such, bought at Bagdad and sent to Bombay were certainly higher, from 14 hands 2 inches to 15 hands. According to his experience a Nejd horse only 13 hands 2 inches was certainly a rare thing.

Mr. BLUNT said there was only one horse at Hail 14 hands 2 inches, and she was bred in Mesopotamia.

Sir H. RAWLINSON said the Anazeh horses that he had seen would not compare in strength with the Nejd horses. He appealed to Sir Arnold Kemball and others who were acquainted with the desert whether they did not always consider an Anazeh horse of much inferior blood to a real Nejd horse. Mr. Blunt had also said that horses were very rare in Nejd, camels being generally used, but from 1000 to 2000 horses from Central Arabia were annually exported from Bagdad, Bussorah, and Katif.

Mr. BLUNT: Ibn Rashid told me he sent eighty or ninety colts every year to India, but he is the only person in Jebel Shammar who has any horses at all.

Sir H. RAWLINSON said the dealers at Bagdad bought 200 or 300 horses at a time, and entered into contracts for them. He was sorry that Mr. Blunt did not fare better with the Persian pilgrims. They must have been suffering from bad weather, the heat, loss of camels, &c., which made them testy, but to suppose that Persians would not eat with Europeans was a mistake. They had not the slightest objection to living with Europeans like one of themselves. On their pilgrimage they might be a little sulky, but that was not their characteristic at all, and when off their pilgrimage they were the most agreeable, chatty, social companions to be met with. But notwithstanding these differences he had been very much interested in Mr. Blunt's paper. He congratulated him sincerely on his journey, and if Lady Anne would permit him he would congratulate her also. It was a most surprising thing for an English lady to mount horse at Palmyra and Damascus and ride through Arabia, passing through a district which the experienced doctor he had mentioned never could reach, and then turning back by the Caliph route. It was a most astonishing exploit, not merely satisfactory to herself but to the nation which possessed a lady of such a character. He hoped that Mr. Blunt and Lady Anne would allow him, as the spokesman of the Society, to thank them most sincerely for their very excellent paper, and he was commissioned by the President to beg that he might be permitted to propose a vote of thanks to them.

Lieut.-General Sir ARNOLD KEMBALL seconded the vote of thanks, after which a few remarks were made by Mr. CYRIL GRAHAM. The discussion then terminated.

Notes on the Route taken by the Royal Geographical Society's East African Expedition from Dar-es-Salaam to Uhehe; May 19th to August 29th, 1879. By JOSEPH THOMSON: in Command of the Expedition.

Map, p. 144.

IN the following paper I can hope to give but a very brief outline of the information collected and the route taken by the Society's Expedition.

It needs no words of mine to speak of the vast loss sustained by the Expedition by the death of Mr. Johnston, eminent as he was in the Geographical world; while I, thrown suddenly and unexpectedly into

work with which I was totally unacquainted, cannot be expected to turn out, at the age of twenty-one, and in the heart of Africa, a very competent geographer. Being directed, however, by my instructions to continue the work in case any accident deprived the Expedition of Mr. Johnston, I am doing so to the best of my ability. Although my work may be rough, and the different places, rivers, &c., be not placed quite accurately, yet I hope my description of the main features of the countries passed through, with notices of the people, will not be without value. I am sorry to say that I have been unable to master the difficulties of the sextant and artificial horizon, and consequently I have been compelled to depend upon the compass. But in protracting my route, I have taken every care, and hope to be found not very far wrong when some more competent person, at a future date, shall visit the same country.

With these apologetic remarks I will proceed with my narrative.

Commencing with our departure from Zanzibar. On the 14th of May, towards evening, all the bales and the porters, to the number of 125, together with one woman, were shipped on board the *Star*, a steamer kindly lent to us by the Sultan for our passage to the mainland. Five donkeys belonging to the Expedition were also shipped on board a dhow for Dar-es-Salaam.

At 6 A.M. on the following morning, we bade farewell to Mrs. Kirk, to whose generous hospitality and assistance the Expedition was greatly indebted, and accompanied by Dr. Kirk we cleared out of Zanzibar Harbour with not a man missing, and with a fair wind we reached Dar-es-Salaam by midday. On the same day the men were landed and on the following all our goods. For two days Mr. Johnston suffered a severe attack of fever, but on the 18th he recovered. The 17th was occupied partitioning out the loads and the guns, mustering no less than seventy of the latter, twenty-two men carrying their own, though few of them were very effective weapons. The day following, a number of additional men were engaged, some to go to Behobeho, the others to Ubena, or further, if required, they bringing up our numbers to 150 men when all told. The afternoon of the 19th of May saw us fairly on our way, with the indispensable African accompaniments of shooting, blowing of horns, drumming, and shouting. The presence and assistance of Dr. Kirk was of the greatest value and gave an importance to the Expedition in the eyes of the porters, which it would not otherwise have had.

Passing round the end of the creek and marching along a sandy plain covered with tall grass and shrubs, we reached, after crossing a small stream, the neat Swahili village of Pongwe, where we formed our first camp under the spreading branches of a large tree.

The following day we crossed the narrow but deep Mzinga stream which flows into the creek, along which our route lay for three stages, having to cross it at least four times. So far, our route had been along

the raised beach upon which Dar-es-Salaam is built, the creek resulting from its upheaval, having evidently been one of those deep but closed channels so common among coral reefs. We now made a considerable ascent, reaching what I believe to be the second raised beach of the East African coast-land, which I have already described as occurring at Pangani,* and camped at the village of Charambe, in Uzaramo.

The route the following day led us through a somewhat broken country, the hollows being occupied by marshes, through which we had to tramp the greater part of the way, camping at Tambani.

The following two marches, to Mzugu and Mkuranga, were through country in great part a sandy plain, thinly wooded, and cultivated only where some stream had cut a small valley, allowing the water to drain out from the sandy plain on the west. On the 24th we once more descended to the lower raised beach, which here occurs as a broad, level plain, in some parts marshy, but forming rich rice-fields. Near its centre is placed the large village of Liwela, where we found three villanous-looking Arabs, who had evidently fled from Zanzibar for some misdemeanour or other. On the 25th we rested, and, mustering the men, we found none as yet missing.

Recruited by our stay at Liwela, we once more commenced our march on the 26th. The previous night had been wet, and it was raining during our walk, which put the roads, or rather paths, into the state of drains. Through these we tramped till we reached the ridge upon which the large circular village of Kikonga is situated, overlooking the Liwela Plain, which is here seen to extend away towards the sea. A short march on the 27th brought us to Kidokwe, and on the following day, after a march through broken country, rising considerably, and crossing about three miles of marsh, we camped at the important village and district of Mkamba.

This village, inhabited by Wamrima, is situated in the midst of a series of well-cultivated ridges, with hamlets and villages everywhere peeping forth from a surrounding of coco-nut trees, mango, and jack-fruit. The chief of the place estimates his subjects at 6000, but this, I think, is an exaggeration.

On our arrival the guide was sent forward to find the best road for getting food on our way to Behobeho. He did not return for two days, and then reported that even by the best road food for eight days would require to be collected, as almost the entire way was through a country in which no food could be got, except at the village of Msangapwani where food was abundant.

To collect food, and men to carry it, detained us two more days at Mkamba, during which much rain fell. While this was in progress Mr. Johnston heard of a lake a short distance off where there were many hippopotami, and, having some time on his hands, started off to have

* In "Notes on the Geology of Usambara," 'Proceedings,' vol. i. p. 559.—Ed.

some shooting; but on reaching the place, he found it to be a deep swamp, with floating vegetation, with a clear piece of water only in the centre. There was nothing to be seen but numerous tracks of the animals through the sedges; but hearing at last some grunting, he ventured in along one of the paths to the clear water, and waded till the water reached his armpits. Finding he could not reach far enough, he returned, and stood in his wet clothes by the side of the swamp while I was trying some other way of getting at the game. Nothing, however, was to be seen, and, amidst a drenching rain, we returned.

Next morning Mr. Johnston complained of what he thought was rheumatism in the back, and dosed himself under that idea till more unmistakable symptoms showed him that the attack was dysentery. There can be little doubt that the shooting excursion gave rise to it, and probably if he had recognised the disease at first, it might have been got under; but several days passing before using the proper medicines, it became so much more difficult to remove.

June 2nd saw us once more tramping through jungle, marsh, and forest—a most wretched country, where the rain-water, unable to drain away, lies stagnant, and, in conjunction with decomposing vegetation, raises fetid, disease-laden odours under a tropical sun. Three stages through country of this nature, camping at the villages of Kifuru and Madodo, brought us to the village of Msangapwani, which we entered amidst a drenching rain. We found ourselves deceived by our guide as to the abundance of food at this place, and it was only after three days' hunting round the whole district that sufficient was collected to allow of a start. Our stay here did not improve Mr. Johnston's condition, and I myself had a sharp attack of fever, which lasted about a week.

For some days previously we had reason to suspect that our guide's knowledge of the road was somewhat deficient, and Mr. Johnston intended dismissing him. On the 21st, while at Msangapwani, he set our doubts at rest, and anticipated Mr. Johnston's intention. Receiving two dollars to buy food from a man who wanted to sell for money, he started off, and was no more seen.

Having at last got sufficient food together for our desert marches, we left Msangapwani on the 8th of June, although both of us were far from being in good travelling condition. Our walk proved to be a miserable one, along deep, miry pathways, through marshy grounds, and across two streams each more than waist deep, finally camping in the forest, both of us thoroughly exhausted. The next day Mr. Johnston could not move forward, and three days were spent before he was sufficiently recovered to allow himself to be carried in the sort of half-stretcher, half-hammock, which we constructed for him.

On the 12th we once more set forth, and, crossing a tract of forest, entered a jungle, the path through which was six inches deep under water, camping at last on a slightly rising ground, near sunset. Mr. Johnston

became steadily worse from this day, the jerky, swinging motion of the porters, and the somewhat hard hammock, together with the intense heat, made him quite stiff and swollen, so that he could find rest in no position.

The following day brought us to the Khutu village of Keihimbwe, after crossing a stretch of forest and about three miles of swamp waist-deep, which drains into the Lufigi by a small stream, having entered the basin of that river.

Having reached the boundary of Uzaramo, along the line of our route, we may now take a retrospective view of the country we have passed through. With the exception of the villages of Pongwe, near Dar-es-Salaam, and the large district of Mkamba, which are both Waswahili, our route lay through Uzaramo, as far as Keihimbwe. The country itself may simply be described as a broad, level plain of sand, stretching from the Marui Hills to the sea, broken only by the undulating districts of Kikongwe and Mkamba, and by the small valleys cut here and there by insignificant rivulets.

During the dry season the country must be a burnt-up desert, owing to the good drainage which the red sand affords. But in the wet season the greater part must be submerged, as even in the lesser rains which we experienced, large tracts were still in that condition. A district of such character cannot contain an abundant population. The villages are small, and only found along the slopes of some small valley, or on a ridge like Kikonga, the country to the west being uninhabited.

The Wazaramo have already been described by other hands, and therefore little need be said by me. Along our route there was little to distinguish them from the Waswahili, except that they hardly looked so intelligent and were somewhat more sluggish in their movements. Their mud-built huts, square, with projecting eaves, forming a barasa in front, were after Swahili types, they dressed in the same manner, and they all seemed to understand and speak Swahili. The coco-nut, mango, and jackfruit are grown around the villages, as far as Keihimbwe, where as yet only young plants appear. Most, if not all, the vegetables of the coast are grown in abundance wherever the ground is fertile. The only articles of commerce are copal and rubber, the former being only found as far as Keihimbwe, and the latter not very abundantly, owing to the barren nature of the soil.

The vegetation is of the most monotonous nature, long tracts of small, stunted trees, unrelieved by flower or creeper, alternating with marsh or cultivated portions. Even such well-known African trees as baobabs, tree Euphorbias, mparmusi, and hyphene palms, were nowhere seen. From what has already been said about the nature of the country, it may well be understood that animal life cannot be very abundant,

and such proves to be the case. From the lowest divisions of the animal kingdom to the highest, each is alike poorly represented. The only mammal seen was a squirrel, and birds were rarely seen, their existence being chiefly noted from hearing the hoarse caw of the horn-bill, or the exasperating squeak of a small green paroquet.

Resuming our march we were struck at the absence of any change in the surface features of the ground in passing into the basin of the Lufigi. There appears to be no break between the raised beach along which we had been marching, and the ground into which we had now passed.

The village of Keihimbwe is large and well built in an oval form. The houses and people, from their proximity to the Wamrima and Wazaramo present few differences worth noting. A long, weary march from Keihimbwe brought us to the banks of the Lufigi, at which we arrived on the 15th of June, camping at the village of Kimkumbi. The river itself as seen from the village presents a most disappointing aspect, meandering through swamps and midst long sedges.

The following day the caravan being compelled to stop to collect additional food, I took the opportunity of crossing the river. I found the villagers had only two or three canoes, each able to carry not more than four persons with safety, being used in fishing and not at all in the way of commerce. Selecting one of the best looking, I crossed over to the other side, a work which took some time.

To judge by the eye, the river at Kimkumbi is half a mile broad, a considerable portion of which is taken up by a large sand island in the centre. Along the northern side the current is swift and the water deep, but far from uniformly so, as snags and mud-banks rise in the most unexpected places, even where the current is strongest and the water deepest. Along the southern side also the water flows swiftly, and is of considerable depth. The work of navigating the river at this point must be one of difficulty, as, owing to the muddy nature of the water, the mud-banks cannot be seen—indeed, our own canoe from this cause ran aground several times in crossing. It is said, however, that canoes capable of carrying twenty persons arrive with salt from Mpembeno during the wet season, and take down gum, copal, and rubber. I think, however, that the existence of canoes of that size is somewhat doubtful. Whatever may be said regarding its navigation by canoes, I think it is quite beyond doubt that no boat of dimensions large enough to do much trade on the Lufigi can ever reach so far as this village, and the people say that snags and mud islands occur as far as the confluence of the Uranga and the Ruaha. From Mpembeno the river would appear to take a great bend north, till reaching Kimkumbi it turns slightly south to the point where it divides.

Recommencing our march on the 17th, we followed the river for two miles. To the west of Kimkumbi, it is divided by a large island covered with long sedges.

The country through which our route lay is an arid stretch, uninhabited, and covered with stunted trees which were shrivelled up by the recent burning off of the grass. After a somewhat short march we camped at the village of Mtemere. This village is situated on the flood banks of the Lufigi, which is at this point about two miles distant, the intermediate space being occupied by swamps and lagoons, in which the villagers content themselves with paddling about after fish, and do not trouble themselves with the river, which I attempted to reach, but failed. This large space covered with water in the rainy season raises another difficulty in the navigation of the river.

The following three days' march carried us through an uninhabited tract of country, with not a spring or stream to water the ground.

The dreariness of these marches can hardly be conceived, still less described—the view circumscribed to a few hundred feet, not a sight or sound to attract the attention, nothing to divert us in our weary plod onward. The distant glimpse of a herd of antelope was quite sufficient to excite the whole caravan. Our camps in these stages were made near the banks of three small lakes, which seem to form a chain and probably mark out some old water-course. The porters felt these three marches most severely; the roads were cut up by the footprints of game during the wet season and had become hardened during the dry, making it most difficult for the men to walk. Then the trees were principally nasty thorny acacias, the thorns of which, shed on the ground, were constantly getting into the feet of the men.

On the 20th we emerged from the forest and entered a more undulating piece of ground with many pebbles of quartz. With the pleasant and novel view of hills in front of us, we then entered Behobeho, after passing through a small tract of tropical forest, and luxuriating in a drink of clear, crystal water, flowing over sand, the first stream of the kind we had yet seen.

Behobeho itself is a charming village, consisting of a winding line of houses of most varied and irregular architecture—impregnable with its forest-bound walls of tall trees bound together into an impenetrable mass by creepers of all sizes, the latter forming a tangle impossible to see through, in some places hanging snake-like, as if ready to strangle one, in others drooping from lofty mparmusi or graceful palm in light festoons. Outside flows a crystal stream through fertile fields, and beyond rise the picturesque hills.

During our stay at this place I took occasion to visit the hills. Crossing the stream and rounding a ridge which fronts the hills, we reached a small stream which flows to the Ruaha. During our walk my curiosity was aroused by the peculiar shape of the largest mountain. It consisted of a lower mass, quadrangular in form, upon which another of the same shape but of a smaller size, is placed; the sides rising quite perpendicularly and having a broad, level terrace round its base, giving

it a remarkable likeness to some Cyclopean monument. Our further approach revealed a terraced appearance in the lower part.

On examination this peculiar shape was seen to arise from its geological structure, which was that of a series of lava beds intercalated between beds of fine chocolate-coloured sandstone in the lower part and greyish-red, coarse sandstone in the upper. The lava not being very decomposable, has resisted denuding influences longer than the sandstone, which has got worn away till a broad, flat terrace of about half a mile lies between the base of the upper part, which rises almost in sheer perpendicular precipices, and the edge of the lava sheet in the lower.

I attempted to ascend to the top, but became so sick that I had to descend. The name of the mountain is Mkulimahatambula, but I would suggest that for this uncouth name that of Mount Johnston be substituted. This mountain is the northern termination of a short range which extends south to the Ruaha, and from its geological formation and position I have little doubt that it was originally connected with the Marui Hills, and cut off from that range by the combined action of streams flowing to the Ruaha and Mgeta respectively. The sandstones are identical lithologically with those of Usambara, and doubtless belong with them to the lower part of the Carboniferous system.

With regard to the melancholy event which marked our stay at Behobeho, little more need be said. On the day after our arrival we constructed a hut into which we removed our leader, as being more convenient and comfortable than the tent, but the little we could do was of no avail; he gradually sank until the 28th when he finished his career, evidently not expecting that event, as he left no instructions and no messages.

The position I was thus thrown into was one of peculiar difficulty, and over the question whether I ought to return or go forward, I spent many anxious hours of thought. The conclusion arrived at, after carefully considering the pro's and con's of the question, was that I ought to go forward.

Accordingly on the 2nd of July, we once more got in motion, though I was in a very unfit state for travelling, having caught a fever through running in and out of Mr. Johnston's hut during the night-time, and from the anxieties consequent on the position I was thrown into; however, so much time had been lost with one stoppage or another that I felt it necessary to push on. Crossing a dry, stony stretch of ground forming the water-parting between the Mgeta and the Ruaha, with low wooded hills on our left, we reached a pleasant stream, called Vilanzi, where we formed our camp, the stream flowing north-east to the Mgeta, which our guide, no less a personage than the headman of Behobeho, always called the Lufu. During our march we passed over some beds of fine grey shale dipping slightly W.S.W., then volcanic rocks with

much quartz, and finally, at our camp, very hard chocolate-coloured sandstone with coarse grey sandstone and conglomerate, which were exposed in the bed of the stream.

Our route the following day led through a country still uninhabited, but clad with a richer vegetation than anything we had yet seen, though not much pleasanter to march through, being the half jungle, half forest, which Burton has so well described. On the road we were scared by some Wakhutu we met, who had each a different and more alarming tale to tell of "war," "roads shut up by the Wamahenge who were scattered throughout the country," "we should have to march during the night," &c., &c.

This seemed to mean a stoppage of our march in that direction, and where were we to get another? Knowing the character of African rumours I determined to push on to Mua where we were to camp and try to get some more definite information regarding this sudden appearance of the Wamahenge. Now and then, through the walls of vegetation which hemmed us in, the distant Duthumi Mountains were descried in the north-east, and to the south-west a low range of hills connected with Mkulimahatambula inhabited by the Wamahala, a race nearly exterminated for slave purposes by the Wakhutu and the Wamahenge. They live principally on fish and honey.

About midday we reached the town of Mua, situated like Behobeho in the centre of a dense mass of tropical vegetation, and reached through a narrow gateway and along a winding way. These masses of vegetation, growing frequently in a desert tract and linear in shape, deserve notice. The linear direction is generally in the line of drainage, so that probably it indicates some current of water under the soil. A peculiarity of Mua is that the houses are all of different shapes—conical, quadrangular, beehive, and composite of various forms. There could be no better place in which to study African architecture than Mua.

I found that the people had no definite information regarding the Wamahenge, and were the more afraid in consequence, not daring to move out of their gates. I was compelled to stay here a day to recruit, as my fever was getting worse, and it was only with the greatest exertion that I could move along.

Improved somewhat by my rest, I resolved next day to go on till I could get a proper understanding as to the position of affairs. The country on this stage was somewhat more open. While our party was marching in a somewhat straggling manner, I was aroused by seeing the porters all flocking back, some in hot haste, and shouting "Wamahenge! Wamahenge!" I at once supposed we had got into a fix, these warlike people being much dreaded by the whole country. Still I thought this was a good opportunity of making friends with them and securing a pass through their country; so selecting Chuma, a porter who could speak the language, and another, we proceeded to meet them. On

coming upon them we were surprised by their strange "get-up." They were all naked, with the exception of a few who had some wild cat-skins placed indifferently on their backs and sides, and all had huge heaps of feathers on their heads, with a long tail of the same hanging down their backs. They also had various other arrangements, such as circlets of long hair, strips of skins, &c., all worn with the object of making themselves as fierce-looking as possible, and certainly they did look like typical savage warriors. Their arms consisted of a spear, two assegais, a club, and an oval or elliptically-shaped shield of bullock's hide which they carried over their heads.

On making our appearance they gathered round us with shouts. After we had obtained silence we proceeded to explain our peaceful intentions, and tell them where we were going. They on their part were as ready to explain that they were not fighting the white man or the Wakhutu, but the Walugulu who live on the Mkambaka Mountain; that they had been there and were now returning home with their chief's son who had become ill. They would welcome us when we reached M'henge. This was satisfactory, and relieved my mind considerably. We sealed our friendship by Chuma, on my part, drinking blood from the breast of the chief's son, who did the same from Chuma's; thereafter we fraternised on the best of terms.

The Walugulu are the Waruguru of Burton, whose country seems always to have been the hunting-ground of the slaver. They are nearly exterminated, but we found afterwards that the Wamahenge had failed this time in their vile object, the people having retired to places where they could not be followed.

After a short rest, to wait for the runaway porters and guides, we proceeded together to Mavigonga. The following day, burdened by some Wamahenge, left to go with us, and who proved a nuisance, we proceeded on our way down a valley, enclosed on the right by the Ulugulu Mountains, rising in high rugged peaks 3000 or 4000 feet, terminating to the south in a conical hill called Wigo, and on our left the Umahala Hills, having the hot spring called Magi ya wheta, which Burton has so elaborately described, though all I could get from my guide was "that it was a large spring, very hot, and always toot-toot-tooting."

Our next stage was a short one, owing to my weak state, terminating at the village of Padzi, which is situated in a forest like the others we had passed. On the 7th of July we reached Kilengwe, the Kirengwe of Burton. (It will be observed that Burton always uses the interchangeable letter *r* in preference to *l*, the latter being the one I invariably heard used, and which I employ accordingly.) I had now become reduced to such a state that I could not stand. On moving out of my tent to see if I was able to start with the men, I fell twice, so that it was quite evident I could not walk, and as I had to depend upon my

compass bearings, I did not care to be carried. I was never in much pain, but so dazed and stupid that I could not think with correctness.

Greatly improved by three days' rest, though still very weak, I ordered the men again to shoulder their loads. An hour's march up the muddy bed of a stream was not a very encouraging start for a person in a fever, but it had to be done; so through the water we splashed. When at last we got out of it, I had to lie for an hour before we could once more march forward. The vegetation along this stream—the Msegwe—was charming, with creepers, palms, mparmusi, and other trees of varied tint and form growing in profusion. Up to this time we had not had the pleasure of walking over a piece of broken undulating ground. We now entered such. Basalt appeared at the surface in a very decomposed form, and the rains of the wet season had wrought havoc in the mouldering rock, cutting it up into deep, narrow glens, which had become covered with a pleasant flora, while on the tops of the ridges, owing to the too porous soil, everything green was shrivelled up, even to the trees, under the fierce sun. A porous surface stratum in Africa has always this result; if the surface is not damp and marshy, it becomes a desert.

After a long march through a country of sharp ridges and narrow glens, we reached the stream of Viladzi as the evening shades were falling, camping in a grove of bamboos. The night was very dark, and the scene around was of so peculiarly enchanting a nature that I could not resist leaving my tent, ill and tired as I was, to see it.

The march to the chief town of Khutu the following morning commenced, as in the preceding, with an hour's tramp up the waters of the Viladzi, which flows between high mud-banks covered with dense vegetation. It is only in such situations, or where water is present throughout the year, that the vegetation becomes luxuriant enough to deserve the name of tropical as popularly understood. At all other places there is nothing to be seen but stunted trees with stems three or four inches in diameter, and burnt-up grass.

Leaving the stream, we crossed a broken piece of country through a pass between a range of low hills on our left, and somewhat higher ones on our right, which formed a water-parting between the Kingani and the Ruaha, the Viladzi on the one hand, the Engomma on the other, representing each of these river-systems.

Before reaching the pass we found sandstone cropping out and dipping about 35° W.N.W. revealing the true nature of the basalt as intrusive, belonging to a lower place in the Carboniferous system than the lava beds of the Behobeho Hills, which are volcanic, and have not been disturbed by any intrusive action since their production. Leaving the pass with a high conical hill on our right, and crossing the Engomma stream, we reached Mgunda or Mbwigwa, the chief town of Ukhutu.

Khutu or Ukhutu (both forms are used) consists of two tracts of country of very dissimilar nature. Between Keihimbwe and Behobeho

nothing more barren could be conceived, not a stream or a hill to cross, stunted trees forming long tracts of miserable forest. Between Behobeho and Mgunda (the present name of the town, from the chief who is called Mgunda), we enter amongst hills and mountains with clear crystal streams and a fertile soil supporting a rich vegetation.

The Wakhutu must have considerably improved in condition since Burton's time. The two or three families living in miserable hovels have increased to large villages of two or three hundred houses, and they have emerged from their hiding-places amongst marshes and jungles to live in charming tracts of forest, where nature has exhausted her resources in producing everything that could make the place charming.

The Wakhutu are an exceedingly mixed race, the purest specimens are to be found about Mwigonga, Padzi, and Kilengwe, and a more degraded looking set could hardly be seen. They showed little curiosity when shown anything, but would look with a sort of idiotic stare, and squat about with the most abject expression of face, looking like a squad of slaves resting on their way to the coast. At Behobeho the inhabitants are principally made up of two small tribes, which, to avoid being exterminated, joined the Wakhutu. Mgunda again is formed by a colony of Wanyamwesi, who have taken possession of the ruling powers of the country, the chief, Mgunda, being of the same race. The latter informed me that he was in a short time going to make war on the Walugulu "in order that they might become friends." After a detention of four days collecting food for five days' jungle march, and by heavy rains, we started for the Ruaha on the 18th of July, by which time I had recovered from the fever which had troubled me.

The road which led to M'henge and the Ruaha was so little used that four men had to go in front with knives and axes to cut the way clear through jungle and forest. The first two marches took us through a small valley, at the head of which stands Mgunda, the only village in it having been cleared by the Wamahenge. It is now covered with grass 8 or 10 feet high. Through a narrow tunnel of this grass we slowly moved, and nothing more dreary could be conceived. The valley is formed by low, well-wooded hills running north and south, and there are a number of small streams, the main one being the Msendari, along which a large part of our route lay, and which reaches the Ruaha by a gap in the southern extremity of the valley. Two days' march brought us outside the valley, and after passing through a fetid swamp, we camped within a day and a half's march of the Ruaha.

On the 20th we had a long tramp through broken ground covered with small trees and short grass. The intrusive basalt once more re-appeared here, tilting the sandstones at a high angle, W.N.W. After marching all day we camped beside a small stream near the Ruaha, and on the following morning reached that river.

At first sight the River Ruaha looks promising, but subsequent
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experience of it proves disappointing. Where we reached it, the breadth is about 150 yards, the depth, for 40 or 50 yards among rocks, 8 or 9 feet, the rest varying from 2 to 4 feet. It had yet a month before reaching its lowest, when it is reduced at its deepest to about 4 feet. It here flows about due north and south, but only for a mile, when it turns more to the east on the one hand and to the west on the other.

But besides its want of depth, it has defects which will make it perfectly impassable even for canoes. About a quarter of a mile north of our crossing-place there are rapids; as much south, a rocky barrier stretches across, leaving only about 20 yards for the passage of the water in a swift current. A little further south there is still another rocky barrier, this time leaving only a number of small passages through which the water rushes. No boat or canoe would ever venture to pass through such a place. The rocks dip at a high angle W.N.W.

On arriving at the river, we at once opened out Admiral M'Donald's little folding boat, which had been carried all the way by two men, and launched it with the name of the *Agnes*. The prospects of our trial trip seemed most discouraging, and we looked forward to loss of bales and two days' hard work. To assist the boat we tried to throw a rope across the river, but from deficiency of rope failed in all our attempts. Two or three trips of the *Agnes* across the river put the men into better working order, and our hopes rose each time, till we began to admire her powers. In the afternoon, a rotten canoe which had been conveying Wamahenge warriors across, came to our assistance, but the great part of the work had to be performed by the *Agnes*, which between 10 A.M. and 6 P.M. conveyed across 100 men and 120 bales without the damage or loss of a single article. I came to the conclusion that Admiral M'Donald is to be congratulated on his ingenious and useful invention.

We had at last entered M'henge, but there were still two days of jungle and forest before reaching the inhabited portion of the country. Of the physical features of the ground there is little to notice. To the north, at a distance of six or eight miles, we had a high range of mountains trending north-east and south-west, while west and south of us nothing but jungle and forest could be seen. On the line of our route the ground was on the first day's march much broken, and the drainage was towards the Uranga. On the second day we entered level ground, half jungle, half forest, and after crossing two marshes reached Joto.

The rest of our way through M'henge was entirely through jungle, with cultivated tracts here and there, forest only seen along the base of the mountains and the sides of the Ruaha and Uranga, and the ground quite level, evidently formed by alluvial deposits from the two rivers. From Joto three marches brought us to the chief's town, Mkomokero.

At Pangalala the chief told me to stay and show myself to the people the next day. Not being inclined to be lionised, I promptly informed

him I would not stay; but what the chief could not compel me to do our men did, for they struck for a day's rest, saying they were not used to so many marches at once without a stoppage. I tried to induce them to go forward to Mkomokero, but all my arguments were of no avail, so I had to succumb. That same night the men danced like demons till twelve o'clock, amidst yelling, singing, drumming, &c., till one might have imagined they were in the lower regions; and yet they had declared they were all too tired to move forward.

While thus detained I employed the time by ascending one of the mountains of the ranges which have been cut out of the edge of the plateau inhabited, to the west, by the Uhehe, but as at Behobeho, before reaching the top I became too sick to proceed further. The day also proved to be misty, so that I got few observations of any consequence, except a sight of the Behobeho Hills.

The mountain, Chang by name, is of gneiss of a very hard and compact nature, dipping south-east, and weathering out into huge rounded blocks, forming a brick-red sandy soil. At this period my men were very troublesome. Knowing they were now on a short caravan route to the coast, they presumed upon their knowledge, and were constantly making extravagant demands, which were with difficulty avoided. From Pangalala we marched to Majuroko, a village principally distinguished by a general want of perpendicular walls to its houses, which were nearly all inclined at an alarming angle. The following day, a short march through cultivated ground, passing the harem of the head chief and crossing the River Mema, a large stream from the M'henge Mountains, and flowing to the Uranga, we entered Mkomokero, amidst a great waste of good powder, much to the delight of the men who, like boys, are much pleased with any kind of noise.

The head town of M'henge is of the most irregular character, no one house being placed in a line with another, and none resembling any other. The day following our entrance we were visited by the head chief, who was only distinguished from his subjects by the extra amount of castor-oil about him, so that he could be found in a crowd quicker by the nose than by the eyes. On asking for a guide to Ubena, he said to my alarm that we would speak about that again, and in the meantime I was to stay a few days that his people might see me, no white man having been there before.

It was no use talking or arguing with him, I could get no guide, and for four days I had to stop, and it was only after giving him two barrels of gunpowder that he at last gave us two guides who knew only half the way.

While thus kept virtually a prisoner, I took the opportunity of visiting the Uranga, which is only about four miles from Mkomokero. After a two miles' walk we had to take to canoes, as the river is so lined with lagoons and swamps that it is impossible to reach it in any other

manner. At this place it is divided by an island, and the huge sedges cut off any possible view of it either up or down. The part seen is about 50 yards broad, with a slow current and very deep, no bottom being reached by a very long pole. The fishermen said that the other branch was very much broader, and that as far as they knew it was all like what we saw as far as the Lufigi. I think there can be little doubt that it is navigable for the largest river boats as far at least as Mkomokero; but beyond that I could get no information, except that it flowed through the country of Ganga, in which there were very few people about whom nobody knew anything, and to which there were no roads.

It had been my intention to try and follow the Uranga as far as possible, but in the face of such circumstances I had to give up my project and take my way through Uhehe.

On the 1st of August we recommenced our march, and in four days, camping at Gambula, Mtolehera, and Paliogoalima, we reached Pakachewa, without any incident of importance occurring. At this place I was once more exhibited to the people for "one day only." The chief informed me on the day of my arrival that I was to remain throughout the next day, which I said I would certainly not do. But on leaving my tent the following morning I found the guides had been so frightened that they dared not go on with us for fear of the chief. I stormed and offered more cloth, but they remained unmoved, and I was accordingly exhibited as far as my wrath would allow of such exhibition.

On the 6th a two hours' march brought us to the River Luipa, which flows from the M'henge Mountains to the Uranga, and is about 12 yards broad and 10 to 12 feet deep, flowing with a swift current. The *Agnes* was once more launched, and did excellent work in landing men and bales safely on the opposite side. After vainly attempting to get more cloth our guides here deserted, and it afterwards turned out that they did not know the rest of the way. However, in the evening we got another from Pakachewa. On the following day we reached the village of M'matanga, on the further confines of M'henge, after passing through a somewhat broken country covered with part forest, part jungle.

Let me now say a few words regarding M'henge and its people.

The inhabited part of the country of M'henge is comparatively small, not occupying more than 40 miles north-east and south-west, along the base of the mountains which I have spoken of as the M'henge Mountains. In breadth it will be nowhere more than 20 miles, though in name the country occupies the whole of the angle formed by the junction of the Ruaha and the Uranga. From its proximity to the mountains, and from the level nature of the ground, it is kept constantly damp throughout the year, and with a hot sun must be one of the most fertile tracts in Eastern Africa, though it may not be

the most healthy. All the cereals, and most of the vegetables, of the coast are grown. Tobacco is produced very extensively, and cotton occurs, but is not cultivated.

The people are evidently a very superior race compared with the Wakhutu or Wazaramo. They are much lighter in colour, and have far superior features. The men have good figures, though many of them are somewhat effeminate in this respect. Hair on their face and head is also unusually abundant. The women, on the other hand, are short and stout, few or none being good-looking. Many, however, have not the pendant breasts so characteristic of East African women. The people know very little of their origin further than that they came from the south, and that previously to their settling in M'henge they did not use shields. Their language, however, may in future give some clue to their origin, as it is identical with that of the Wagindo, Wanindo, and the Wapanga, who live further south. One of our porters, who had been brought up in Gindo, spoke the M'henge idiom quite easily, although he had never been in the country before.

The Wamahenge dress in a somewhat varied style. The most common fashion among the men is a strip of cloth of the narrowest dimensions, brought up over a cord round the waist before and behind. The women have simply two pieces of cotton, each about one foot square. Bark cloth and pieces of skin are also frequently used. Their houses are generally built on poles, and some of them are of the most peculiar character, testifying to the ingenuity of the people. There are houses of basket-work, some of millet stalks of the common Khutu form, others again of grass stalks. The most peculiar form is that in which the house is built on a platform, with a huge roof (the house being circular) projecting all round and reaching a much lower level than the platform, so that nothing is seen but a huge cone elevated on poles. They keep their fowls and goats in separate houses. Their dead they bury in the position they love so much in life, that is, sitting with legs doubled up and arms clasped around them. The wives and female relations of a defunct M'henge clothe themselves in cords and sit outside the house for a certain number of days. They have many curious customs and fashions, but I must wait for leisure and more favourable circumstances before entering into greater detail.

It was with a feeling of great relief that I found myself on the outside of this district, at the foot of the Uchungwe Mountains. This range, like the M'henge Mountains, is simply cut out of the Uhehe Plateau by the long-continued action of streams; but the hills are very much more irregular in form than the latter, from the stream cutting more across the strike of the rocks, while the streams of the M'henge Mountains follow the strike and have thus produced a series of short ranges trending north-east and south-west.

Quitting M'henge, we were informed that by the best route we

should be able to cross the mountains in three days, and that there would be only one day in which we could not get food. This road was pointed out and guides were supplied us. They said there was another road, but that it was not nearly so good as the one they spoke of. Trusting to this information, we started and nearly got starved in consequence. What in the distance looked like an unbroken range, proved to be a large number of mountains. Some of them were excessively steep, and tried all the men's powers in climbing; up and down, up and down we went one after another; ascending 1000 feet to descend as much on the other side. The men of course with heavy loads could not go far in one day, and it was wonderful how they could thus march for hours together. The three days thus expanded to eleven, and it was only with the greatest exertion that about half the usual amount of food was gathered together each day from the various isolated houses on the surrounding hills. On two days no food was to be got, and the men appeared likely to have to go without any, or take the preserved meats which I was on the point of issuing out, although they would have done little good. On each occasion a bullock was brought in to sell, which carried us on for the time being.

The Uchungwe Mountains trend north-east and south-west along a part of the great plateau which stretches to the west. There is no main range, but simply a number of mountains trending generally north and south, rounded in appearance, and covered with vegetation, forests of large trees occurring even on the highest points. From east to west there is a general rise in altitude up to 7000 feet on the edge of the plateau, which at the point where we leave the mountains is 6700 feet in height. The drainage is south to the Urunga till we reach the western side where one large stream, the Ecose, runs north to the Ruaha. There are a few inhabitants scattered over the different mountains, living in isolated houses perched even on the highest points, and there they cultivate a few sweet potatoes, indian corn, and a grain called unliza. The men go absolutely naked, not having even a few beads, and the women are not characterised by the possession of a large amount of cloth. They are well made, muscular people, and have not the weatherbeaten aspect which we might expect from such a life.

Our passage across the mountains, besides hard climbing and want of food, was made vastly more uncomfortable by the almost continuous mist and rain, which also contracted our view of the surrounding country. As far as we saw through the misty atmosphere, the scenery might be described as neither grand nor beautiful; the outlines were too smooth and rounded to produce such effects, and it was only along one or two of the streams that the eye found anything to rest on with pleasure; in such places ferns of all sorts grew in profusion, from the tree-fern to the small *Asplenium* peeping out from beneath the rock.

From a height of 6700 feet (bar.) we started on the 18th of August on

our march across the great plateau of Eastern and Central Africa. The country is undulating, with the drainage south to the Ruaha. We camped at a row of mud-built houses with flat roofs of the same material, and as no food was to be got, we were glad to get off on the following day, and passing through an uninhabited country and over some low hills, we once more reached the Ruaha near the large village of Mwhana. At this place the river is six yards broad and 10 feet deep, flowing swiftly north between mud-banks, with trees meeting overhead and hanging down into the water. There being no bridge upon which we could trust the loads, the *Agnes* once more crossed the Ruaha, and by means of a rope all the bales were safely landed on the opposite bank in an hour and a half, the men crossing by a rickety bridge. Calculating from the height of Mwhana (5602 feet by boiling-point), the Ruaha at this place is about 5200 feet.

On reaching Mwhana, a mile further on, we found the place all astir. We had sent one of our men forward in the morning to announce our approach. On his arrival, some hours previous, he had found the headman fled, the women sent off to the mountains, and the men turning out fully armed. It appeared that they had heard of the arrival of a body of men; and it being the custom for caravans to send a day's notice, it was supposed because we had not done so that we meant war. The arrival of our messenger helped to allay the excitement.

Three marches from Mwhana, through a bleak moorland-like country, with one rounded ridge succeeding another and trending north and south, and huge blocks of granite protruding everywhere, with hardly a sign of human habitation, brought us to Misimiki, the second chief's town. The latter proved to be an excessively greedy personage, and it was only after satisfying all his demands that he would allow the people to sell us food, and he kept us two days before giving us guides to the head chief. As he was evidently suspicious of our intentions, we were told the most extraordinary lies in answer to our questions regarding surrounding countries, and the different roads and distances. Food was here so scarce that we could hardly collect sufficient for each day.

Four days' march brought us to Mkubwasanga, the town of the head chief of Uhehe, through a bleak uninhabited country, where even grass can barely take root in the hard clay, and grows in stubby tufts. On the second stage of our route, and when on the point of camping, a messenger arrived from Mamle, the chief, saying that he was greatly displeased because we had not previously sent him notice of our arrival, and he was now going by his own road to Misimiki (the chief having a special road by which he passes from place to place), to stop there, while I was to go on to Mkubwasanga, and remain there during his pleasure. This indeed was unpleasant intelligence, and meant I was to be kept indefinitely a prisoner. However, I could not help myself, so on we

marched, and hoped that the soothing sight of a good present would soften his heart.

On the following day a much more serious incident occurred, which nearly wrecked the Expedition. A very cold wind was blowing, and about midday the men stopped to make fires to warm themselves. After an hour's rest I ordered a start, but as some of the men wished to camp there, although there was a tembe about an hour's march further on, little movement took place; annoyed at this, I seized my water-bottle, and cleared the place in a surprisingly short time, with the exception of two men who said they would not go on. For such rank mutiny I said I would fine them four dollars. In about an hour they followed the caravan. In the evening a large number of the men came and declared that if these two men were fined, all the party would desert. As I did not believe it, and wanted to test the men, intending to give in if the case became serious, I remained firm. The consequence was that they laid down all their guns and accoutrements, and that night, over the whole camp there was nothing heard talked of but the different routes through Uhehe and Urori to Unyanyembe, Ujiji, &c., the speakers displaying a surprising knowledge of the whole surrounding country.

In the morning I turned out of my tent with somewhat anxious feelings. One of the men blew a horn, and to my amazement every man, with the exception of the headmen, cook, two boys, and three porters, one of whom had his wife with him, marched out of camp; some running, some singing. On seeing such a stampede, involving utter ruin to the Expedition, I at once ran after them offering to remit the fine, but no heed was paid to me; Chuma and the other headmen also did their best. On we ran gesticulating and shouting for a whole mile before we could get any of them to stop for a palaver. However, we succeeded at last in inducing them to listen, and after an hour's discussion, during which I made one or two small concessions regarding fines, we all marched back to camp, the loads were lifted, and, as if nothing had happened, we took the road for Mkubwasanga, arriving there after a short march.

The town turned out to be the worst collection of huts we had yet seen in Uhehe. The country of Uhehe, though an ever-changing quantity, reaches at the present time from Usagara in the north to the Konde Mountains in the south. In the east it is bounded by M'henge, Ganga, and Makangwala, and west by Urori. It includes Ubena, which is simply the district where the chief of Uhehe resides. Machinga, as it is called in Captain Elton's book, is a country which has no existence, that being the name which the Wahehe took from their chief, whose name it was, during the war with Merere when Captain Elton passed through the country of the latter. Since the second war with Merere, large tracts of Urori have been annexed to Uhehe.

In its physical features the country is most dreary and monotonous. Continued undulation of ground is one of its most characteristic features, the ground rising from broad shallow valleys to form smooth rounded ridges, to fall down again, forming another shallow valley and then another ridge. The direction of these ridges is north and south, and is determined by the drainage, which as far as we have seen is in that direction. A dreary moorland-like country it is, with long tracts of scrubby trees, and an occasional large acacia or tree euphorbia, alternating with grazing-grounds, which at this period form yellow fields of burnt-up grass. The soil is mostly a stiff red clay, which becomes in the dry season as hard as rock, and hardly supports any kind of vegetation; hence the greater part of the country is a sterile waste, incapable of affording grazing ground and useless for cultivation. It is only when the clay becomes sandy or changes its character that we find good grass and a little cultivation.

The Wahehe are upon the whole a rather good-looking class of negroes, not very dark-coloured, and having fine muscular figures. One of their most marked characters is the total absence of hair on their faces and bodies, and the scantiness of it on their heads; I have not noticed a single individual with hair on his face. Their language has evidently considerable affinity to that of Kiswahili, many of the words being nearly alike.

In the matter of dress they are very simple, and wear indifferently forty or more yards of cotton in a single piece, or go perfectly naked. About one half of the people go in the latter condition, and the others, when they have anything to do, begin by taking off their clothes. The manner in which some of them wear this vast amount of cloth is very picturesque and classical, the effect being heightened by the long wands which they always carry. During windy days their whole attention is taken up in keeping it from being blown away. As a rule, however, they have to carry it rolled up in a bundle in their arms, and it is a continual source of annoyance to them. The women in the most fashionable style wear a piece of skin behind, cut into three strips and ornamented with beads, an apron of kaniki in front and several pounds of beads, to which latter alone, indeed, they are not infrequently reduced, as their sole apology for a dress.

The houses of the Wahehe are square, flat-roofed buildings of mud and grain-stalks or poles, the roof being of similar materials. They rarely occur separate, but joined together for their mutual benefit, forming villages of three kinds, viz. 1st. Simple houses, with the cattle occupying one portion and the people the other. 2nd. Double houses, in which the front part is occupied by the cattle and extends sometimes 100 feet or more without partition, the people living in the back part; and 3rd. The tembe form, in which the houses are built so as to form a huge quadrangle, where the cattle may move about or go into

their houses. The people depend to a great extent upon their cattle, and very little ground is cultivated, producing two species of millet and indian corn, and here and there sweet potatoes. They eat their meat nearly raw.

The climate, judging from the experience I have had of it, must be very trying. The temperature varies throughout the twenty-four hours from above 80° to below 50°. An exceedingly cold wind blows across the plateau from the north-west between sunrise and sunset, and on cloudy days becomes very trying. I have been very glad to put on an overcoat at midday on such occasions. Under its influence the men shook and shivered, and had to stop twice and build fires to warm themselves when on the march. Most of them complained of pains in their legs and feet, and a large number were walking quite lame. There is a very long dry season, during which little rain falls.

Mamle, the present chief of Uhehe, is not the legal possessor of that position. After the war with Merere, Machinga died, and was succeeded by his son according to custom. Mamle murdered the latter and made himself chief. He then declared war against Merere, defeated him, and now occupies a large part of the latter's territories. The rest of the country is quite broken up, and ruled by the various chiefs, while Merere, with the remnant of his warriors, seized upon Usafa, where he now resides.*

GEOGRAPHICAL NOTES.

Lake Nyassa.—The Free Church of Scotland have received letters from Livingstonia down to September 20th, by which we learn that the Rev. Dr. Laws had returned to that station on September 5th. Mr. James Stewart, C.E., then left with a party of natives in the *Ilala* for N'gkata Bay. Being joined there by Mr. Moir of the Trading Company, he started inland towards the Angone country and Kambwe lagoon. The party intended to secure more carriers and stores in that district, and afterwards to explore the country for a sanatorium, and to survey a road to Lake Tanganyika. Mr. Moir had previously made an excursion to the heights and on to the table-land, due west from Kaningina, into the very heart of Africa, on which occasion he was accompanied by William Koyi, a native convert educated at the Lovedale Institution, in Cape Colony. The two made their way as far west as Kambomlo's, where their food supply was exhausted, and they had to trust to their rifles for zebra soup and buffalo and even elephant meat. They came to the conclusion that Bandawa is a better site for a sanatorium than Kaningina, but the settlement of this and other important questions

* A letter of later date than the above Report has since been received from Mr. Thomson. He has overcome his difficulties in the Uhehe country, and reached the northern shores of Lake Nyassa. This letter is given in the present number, p. 134.

POSTSCRIPT, JANUARY 30th.

ARRIVAL OF THE SOCIETY'S EAST AFRICAN EXPEDITION AT LAKE TANGANYIKA.

On the eve of issuing the present Number we learn by Telegram from Mr. Chernside, Mozambique, that Mr. Thomson and his party reached Bambe at the south end of Lake Tanganyika on the 28th of October. The distance from Lake Nyassa is 250 miles; the country level and the natives friendly.