
Upon a Visit to Tsavo and the Taita Highlands

Author(s): C. W. Hobley

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the wonderful changes in Japan, one is surprised that the change has not spread over the subsidiary group, to which Japan will shortly, if it does not now, claim entire suzerainty. I had very little opportunity while there of examining or seeing much of the country; I travelled a little way, but not far. The admirable roads struck us all as marks of civilization. One would hardly have expected such a massive building as that in which the Prince of Luchu was concealed, like the Shogun of Japan, always invisible; it was a building of such massive structure that it would have required very heavy artillery to take it. However, that was not necessary, as they showed us the greatest possible civility, and were more than kind; but I must confess that that kindness was not extended by the ladies, who, although they may have seen us, did not take the opportunity of allowing us to see their charms. I thought, as one who had visited Luchu, it would be unfair if I did not thank Mr. Chamberlain for his paper.

The PRESIDENT: I am much obliged to Admiral Sir John Hay for having told us he has been to Luchu, for very few naval officers have the opportunity of visiting these islands. I am sure we have all listened to Mr. Chamberlain's paper with great interest; it is comprehensive, and when you have the opportunity of reading it you will find it exhaustive—such a paper as one would expect from the grandson of our old associate, who first gave us in our boyhood an account of these islands. Mr. Chamberlain's grandfather, Captain Basil Hall, the first modern writer on the Luchu Islands, was one of the earliest members of the Raleigh Club, which was the forerunner of this Society, and one of its most active members. He was also a member of the first Council of our Society, and I think that the occasion of this paper by his grandson being read before the Society should be taken as an opportunity for commemorating the great debt which geographical literature owes to Captain Basil Hall. That gallant officer and scientific seaman obtained for his books a place in the classics of British literature, through his admirable accounts of many distant lands, and through the thoroughness, elegance, and finish of his style. When I was a midshipman, and it was my all night in, I used to take Captain Hall's 'Fragments' into my hammock with me and read them by the light of the sentry's lantern. I think you will all feel it is an interesting coincidence that we should find his grandson following in his footsteps, in writing so graphic and lucid an account of the very islands the account of which served to build up the literary fame of his grandfather, Captain Basil Hall. We all, of course, regret that Mr. Chamberlain should not have been with us this evening, and I am sure that you will all join with me in a cordial vote of thanks for his valuable paper, and also a vote of thanks to Major Darwin for his kindness in taking so much trouble in preparing it and reading it to us.

UPON A VISIT TO TSAVO AND THE TAITA HIGHLANDS.

By C. W. HOBLEY.

WHAT follows is a short account of a journey to 'Tsavo and the mountain district of Taita, in the latter part of the year 1892. The start was made from Mombasa on September 21, with a small caravan of about 25 men all told. The ordinary route to the interior was taken by way of Mazera, Mwachi, and Taro. As there was at this season no water between Taro and Ndara, a distance of about 50 miles, a halt of one day was made at Taro in order to send on water ahead into the

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middle of the plain for the use of the caravan. A number of large tins containing water were sent on to near Maziwa Mitatu, and by the help of this water Maungu was passed, and the camp Mkuyuni on the east side of Ndara mountain was safely reached. This stretch between Taro and Ndara, commonly known as the Taro plain, is a vast area covered with fairly open thorn scrub, composed of varieties of the acacia and large numbers of very light sponge-wood trees. These sponge-wood trees have only one use: if an incision is made in the bark, a whitish treacly substance immediately exudes; this solidifies in the sun, and forms a bright amber-coloured bleb of gum arabic. Now, this supply is at present entirely untouched, though it doubtless will not be long before it is added to the list of products of the country.

From Ndara a track running round the north end of the mountain to Ndi was followed, and from Ndi the Tsavo river was reached in one day. Around the north end of Ndara there are vast thickets of the Nkongwe aloe, each leaf being a long fleshy spike almost circular in section and often 4 feet in length; the fibre prepared from the leaf of this plant, beaten out and dried, makes beautiful silky rope largely used by the natives, and one day this product of the desert will also be utilized. It is very happily situated, for there are large numbers of the Taita people resident near by who would readily gather and dry this substance if they could find a market for the fibre.

From Tsavo a three days' journey was made to the upper course of the river in the direction of Kilimanjaro; around Tsavo station on all sides is dense, thorny jungle, so that it may be imagined it was not an easy matter to follow the course of the river. At one time there was a very well-marked Masai track, but naturally, since the building of the station, this track has fallen into disuse and become almost obliterated. At intervals of a few miles, prominent rocky ridges of pink gneiss traversed the country in a north and south direction, the river having cut for itself a channel through which to pass, with steep walls of rock on either side; each of these ridges meant a step in general contour of the country—a series of rapids of small falls being present in the river at these points. The river is usually only 70 or 80 feet wide, and abounds in fish of three kinds—a flat mud-fish of the Siluroid family, similar to those found in the Tana; silvery scaled fish something like perch; and occasionally eels are seen. Crocodiles inhabit the river, but not in large numbers. Water-buck abound along the banks, and numerous rhinoceros tracks lead down from the bush to the river. The banks of the river are fringed with dense groves of the hyphæne branching palm, the baobab (*Adansonia*), the mkindu or *Phoenix* palm, the miware or *Raphia* palm, and the large umbrella-shaped acacia is also found along the banks of the river. The baobabs are nearly all stripped of their bark by the Wakamba, who carry it away to make their beautiful woven baskets for carrying grain, known as chondos. The whole of

this district is a Wakamba hunting-ground; several of their camps were seen, and occasional parties met with. About two days' march brought us opposite the range marked on Ravenstein's map as *Theuka*. This mountain, viewed from the east or west side, has a most striking appearance; the lower half of the mountain is clothed with dense forest, the upper half is a mass of crags of pink gneiss, which terminate in a jagged serrated line of sharp peaks, but, upon reaching the south end of the range, it is found that these crags really run up into a sort of knife edge; the shape of the mountain from the south being that of an acute angled triangle, set upon a more obtuse angled pedestal, the forest-covered pedestal being mainly composed of an accumulation of talus or débris from the crags above. It was not possible to identify the range by the name *Theuka*, for neither the Wakamba nor the Wataita knew of the mountain by this name; the Wakamba called the mountain by the name *Ngovi*.

Away in the bush a few miles to the south of the river, opposite the *Ngovi* or *Theuka* mountain, a great irregular hump-like mass rises from the plain. This may possibly correspond with the gneiss dome called *Manda*; but here again the name is unrecognizable, the Wakamba calling the mountain *Vaita*. The Wakamba hunters told me that it is inhabited by a section of the *Taveta* tribe who cultivate the slopes. I was close under the northern slopes of the mountain, but could see no trace of the people, and the Wataita tell me that it was formerly inhabited, but is now deserted. The latter call it *Ngolia*. In connection with this, it may be mentioned that the people marked on the map as inhabiting this region, the *Andei* by name, as far as I know do not exist. The only people hunting over this country are Wakamba and Wataita, and neither of these people know anything of the *Andei*. Near the base of *Theuka*, on the right bank, there are large open stretches of alluvial ground covered with long water-grasses, and having signs of being periodically flooded, and on this account are highly adapted for the growth of rice; and the further one proceeded up river, the country became flatter, and these open stretches of alluvial soil occurred with greater frequency.

While we were in the neighbourhood of the Tsavo river, two curious phenomena were observed. On October 12, at about 10.30 a.m., a kind of parhelion was seen; it consisted of a luminous halo around the sun, the diameter being about 30° of arc, and between the halo and the horizon was part of another luminous inch, nearly touching the horizon, and running for about a quarter of a circle.

On October 20, at about 1 p.m., I experienced a slight earthquake, or rather earth-tremor. There was no perceptible motion, but it had a similar effect to the passing of an express train at a distance of a few yards. Its direction seemed to be from the west.

On the morning of the fifth day after leaving the station, our course

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other headman in the Taita district. He made his people grind and bring in flour during our stay at Mlalení, and a large amount of food was purchased, in the shape of maize, flour, plantains, and mbaazi (a small kind of pea).

As I was the first European who had visited the place, Mogodi was extremely anxious that I should make blood-brotherhood with him, and as he was about the most important headman in Taita, I deemed it judicious to accede to his proposal. The day fixed for the event having arrived, a large number of Wataita assembled to witness the ceremony. A goat was killed and hastily skinned, when a small piece of meat was cut from the region of the breast and broiled over the fire; a mat was spread on the ground, and we sat upon it, facing each other. When the piece of meat was ready and cooked, a small incision was made upon the chests of Mogodi and myself sufficient to cause a minute spot of blood to appear. The piece of meat was then divided, each piece being touched by one of the spots of blood; these pieces were then exchanged and eaten; then, after a final embrace, the ceremony was ended. At the conclusion, Mogodi made an impassioned speech to all the tribesmen, stating that, now this tie had been contracted, they were to look upon me in the light of one of their own headmen, and that at any future time, if any quarrel arose between us, it was to be looked upon as a matter for our two selves only to settle; and that even were I to kill him, this was to be considered no business of theirs, and that they were not to avenge it in any way. This was, I presume, intended to show what unbounded confidence he placed in any one with whom he had contracted this tie. At any rate, I must say that, in the light of subsequent events, so far as I had dealings with him, he never departed in the least from his profession of friendship; for I had occasion to leave in his charge a large amount of food, and on each of the bags I placed a very small private seal, and I may mention that on my return these were all found to be intact.

The valley of the Voi is here very distinctly marked, and the land is very fertile. There are wide strips of dark alluvial soil on either side of the stream. The ground is closely cultivated by the Wataita, Indian corn or maize being the principal product. Mbaazi, koonde, and sweet potatoes are also grown to a considerable extent, and there are large tracts along the river and below the hills planted with sugar-cane and plantains. Excellent butter can be obtained here, as the Wataita possess a goodly number of cattle, and enormous flocks of goats and sheep. The Taita ideas as regards cultivation are not very high; they promiscuously plant maize, millet, koonde, wimbi, etc., all in the same area—this, too, without cleaning the ground from the dead stems of the last crop; and yet, as a rule, they get magnificent crops—that is, if there is only a sufficiency of rain. Some 2 miles to the north-west of Mogodi's the Voi splits into two streams, the larger coming from the west

and the smaller one from the north. The Voi at this season (November) is only a small stream, but in the rocky pools of its upper course large numbers of tiny fish are found, about the size of a sardine, and are called *dagarr* by the Swahilis. There is also a large fish which lives under the boulders in the stream-bed; it is rather like an eel, but stouter, and often attains a length of between 4 and 5 feet; it is called *mkunga*. In the rocky stream-beds of the smaller branches of the Voi the maidenhair fern is found growing in great luxuriance.

On November 15 we left Mlalení, and after marching about two hours in a southerly direction, then turning to the south-west, in about half an hour we began to descend into the Mwatate valley, and another three-quarters of an hour brought us to the camp at Mwatate, on the Taveta road. The Mwatate valley varies from half a mile to a mile wide, and is very fertile in its lower portions; it contains large plantations of maize, sugar-cane, and plantains. The valley lies on the south-east side of the range of mountains, which ends so abruptly in the bold crag of Mwatate or Javia.

Some few miles to the north-east of Mwatate a colony of Wakamba have settled on the hills and cultivated a portion of the valley; they originally came from an isolated Wakamba settlement south of Kisigau, just within the German boundary. The hills in this part of the district, namely, at Mwatate and Bura, have a greater rainfall than those further north, as is shown by the greater amount of verdure visible upon their slopes and summits. The grass is perennially green, and the top of Mwatate mountain is partly covered with luxuriant growth of bracken fern. The Wataita show great ingenuity in conducting water through artificial channels among their plantations in the mountains, and, the little rivulets having a very rapid fall, they are enabled to do this without any great difficulty, and without the intervention of any mechanical water-lifting apparatus.

The Mwatate valley runs away southwards to join the Umba river, its course being marked by a belt of good timber; there is a fine fertile stretch of land at the bottom of the valley, capable of growing a large amount of grain. On November 18 we left Mwatate, and proceeding westward, climbing over the lofty spur which runs south from the crag of Javia, and winding round the flanks of the hills, a march of nearly 3 hours brought us into the Bura valley, where we encamped. Bura consists of one wide valley running nearly north and south, this valley ascending towards the north in a series of steps until the higher peaks are reached, the peaks being ranged round the head of the valley like a gigantic amphitheatre. From the bottom of the valley not a single village is visible; but if one climbs up to the higher parts, one is amazed at the number of villages dotted about in the nooks and corners of the slopes below him. The whole area of both hill and valley is extremely fertile, and in the hills, wherever there is a lack of moisture,

the natives artfully construct small conduits to irrigate the spot requiring water, there being perennial streams in every valley. The portion of the valley below the lowest step is an area of surpassing fertility; it is covered by one extensive banana grove, with here and there a sycamore fig tree dotted about. The banana plants grow to a large size, attaining a height of 15 feet, and the parts of the valley in the direction of the plain are principally given up to the cultivation of maize. In the hills, sweet potatoes, manioc, koonde (a small bean), and sugar-cane are the principal products. Here was also noticed the *mayugwa* of Kikuyu; it is a variety of colocassia. From the point where the Bura plantations end to a distance of, say, 16 miles into the plain of Serengeti, the course of the dry sandy stream-bed proceeding from this valley is fringed on both sides by a belt of noble forest trees, many of large dimensions. Up to about 6 miles from Bura, water can be obtained in various spots by digging in this stream-bed; beyond that point the water seems to become quite absorbed, none being found unless after exceptional rainfall. It is rather undecided at present whether this stream-bed drains away to the river Rufu or to the river Umba.

During my visit to Bura, being desirous to see the great plains of Serengeti, and if possible to obtain a little meat as a change of diet for the men, I made a short trip in that direction. These plains were formerly famous for the enormous quantity of game which inhabited them; but now, thanks to numerous European sportsmen, and the efforts of Wachagga and Wataita hunters, such is no longer the case. Very little game was seen, the only thing of note being a magnificent herd of about twenty giraffes. For the first few miles beyond Bura there is a fair amount of bush, and occasional belts of cactus and aloe; but beyond that, the wide open rolling plains stretch out before you in the direction of Taveta and Lake Jipe without a break, and with hardly a tree or bush.

On this journey I took with me several Wataita guides, and amongst these a native of Chagga, who had been driven from Chagga for practising witchcraft, and come to live at Bura; but soon after his arrival suspicion was aroused that he was killing cattle by his art, and the Wataita decided to kill him, and would have done so, were it not for the interposition of the French *padré*, who took him under his protection. This man volunteered to accompany us in the hopes of obtaining some meat, and I took him with us on account of his local knowledge of the plains. In camp at night he said he would prophesy as to whether we should obtain any meat during our wanderings on the following day. He accordingly took some pebbles, put them into a calabash, and rattled them about, listening the while with an air of intense concentration. After a while he informed us that in the first place a beast unfit for food would be killed; secondly, a supply of food would be hit upon right away in the bush; and thirdly, some large animal would be

killed. I thought no more of it at the time, but we started off before sunrise next morning, and after being out about an hour and a half, passed over some stony ground, and I suddenly saw the native in front leap high from the ground, and immediately ahead espied a large puff adder raising itself up and about to strike. Bringing my rifle to my shoulder, I at once blew off its head. This was incident number one. Going ahead for about a quarter of an hour, I suddenly came across a small *zereba* or *skerm* of thorns made by some hunters, and inside this we found a small pile of green bananas, beside the ashes of an old camp-fire. This was incident number two. About a couple of hours after this I managed to shoot a hartebeest; so, as it turned out, his forecast was right in every particular. At night he was again asked to find out what was to be the luck on the following day. He repeated his performance, but said that nothing would be killed; and although we had a long day, and every effort made to obtain some meat, the game was so wild and kept in the open, that we never found it possible to get within range; so the result of his prophecy, although a negative one, again came correct. I give this simply as an example of native attempts of prognostication of events. Whether the fulfilment was anything more than a coincidence I cannot pretend to say; one can always explain these sort of things by talking of coincidence. I have, however, given the facts as they occurred.

The chief headman of the Bura valley is an individual called Mbogoli, a man of considerable influence in this district, with a large number of villages under his control. He and his people are very friendly to passing caravans, and food, although dear, can be obtained without much difficulty. Of an entirely different caste are the people in the western flank of the big peak Vuria; these are the people of the late chief Mongeka, who was killed in the punitive operations undertaken by the Company in May, 1892. They are a tribe of marauders, and even now, after the severe lesson they then received, they will follow and lurk round the camps of small Swahili caravans to steal their trade-goods by night. The rest of the Wataita seem to have very little sympathy with them; even their language is a more archaic form than that of the other districts, and there is reason to believe that at some time or other this section of the Wataita received a considerable infusion of Wachagga blood. Large numbers carry spears, which is not the Taita custom; others, again, wear the characteristic Chagga circular ornaments, distending the lobes of the ear. There is, moreover, a large iron-working industry among this branch; they are the only Wataita who work iron, and they supply the whole country-side with axes, hoes, and knives. This ability, as is well known, is a great characteristic of the Wachagga, and the idea of irrigating their plantations among the hills by means of lateral water-channels is in all probability imported from Chagga.

Some six or seven years back there was a great drought, and consequent famine at Taita; large numbers of the inhabitants died off, others moved temporarily to Taveta, Ukambani, and numbers of the children were sold into slavery to buy food. This period, which is known as the *Mokusenga*, and other similar periods in the more distant past, seem to have crippled the Wataita beyond their power of recuperation. Before the occurrence of these blows to their prosperity, large areas of ground at the base of various mountains—Ndi, Mbololo, Ndara, Kisigau, etc.—were under complete cultivation; but the people have been so reduced in numbers that only about one-fifth to one-sixth of the former areas is at present under cultivation, the remainder having lapsed into tracks covered with grass, and here and there dotted with light scrub, the most extensive of these tracks being at Ndara. Before this time of drought, the mountain of Maungu was even inhabited; but, the water-supply failing for so long a period, they were obliged to abandon it and retire to Ndara.

The question of the immediate development of this district is one, I think, that is worthy of some attention; the construction of the road, which is now nearly finished, will place Taita in close communication with the coast by means of wheeled vehicles, thus enabling products to be profitably exported to the coast markets; and it would be well for the administration to encourage the Wataita to reclaim the large areas formerly occupied by their plantations which have now lapsed into waste land. If the Wataita were found too few in number (which is probably the case) to cope with the work, native colonists could be introduced, preferably Indians. A colony of this description would do a large business with passing caravans alone, as all travellers would have to obtain food here to carry them on to Ukambani; moreover, if the railway be constructed, the presence of a food dépôt of this kind would be of great assistance to the work. The localities available for the cultivation of rice are limited to the Voi valley—there is a considerable swampy track at the north end of Ndara eminently suitable for this product; but dhurra, or millet, maize, beans, manioc, sweet potatoes, plantains, and sugar-cane can be extensively grown. The Mlalení district is eminently adapted for cattle; the Wataita told me that during the last visitation of the disease it nearly entirely escaped the scourge. Between Mlalení and Ndara are large stretches of good grazing land.

On November 30 we left Mlalení, and proceeded along the valley of the Voi towards Ndara; the road for about two miles actually follows the river-bed of the Voi, and on this occasion it necessitated marching knee-deep in water. About four and a half hours' journey brought us to the camp of Mkuyuni, just below the sight of the abandoned mission station of Sagala. There occur in the Voi valley vast beds of beautiful white crystalline limestone, interfoliated with the metamorphic

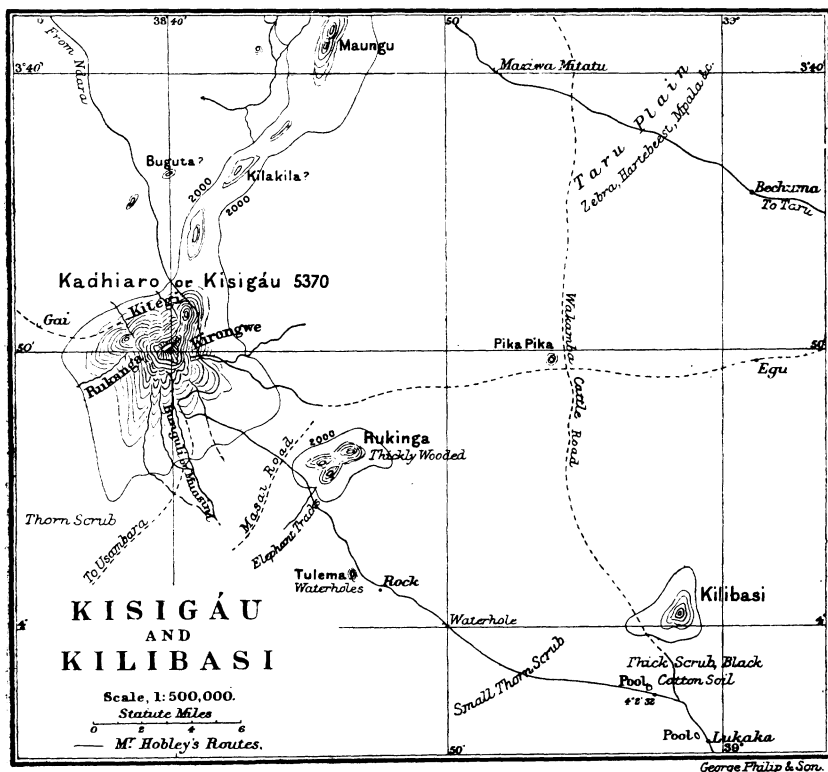
schists, and these same beds, by means of great faulting in the Bura mountains, are again repeated on Serengeti plain, and also near Mwatate. The western face of Ndara is entirely uncultivated, and covered with dense bush, but the summit is extensively cultivated, and is extremely fertile; it is intersected by a wide valley running north and south, abounding in rivulets of water. There are two camps at Ndara, known by the name of Mkuyuni, one in the east and the other on the west. The name of Mkuyuni is derived from *Mkuyu*, a sycamore fig tree, and the suffix *-uni* is simply one of location, meaning "at," both of the camps being shaded by fine specimens of this tree.

At the time of my visit the Wataita of the villages on the eastern face were suffering from the ravages of a disease, whether epidemic or otherwise I know not. The symptoms were swellings of the glands in the groin and armpits, pains in the head and abdomen, accompanied by diarrhoea. Death usually occurred at the close of the second day or on the morning of the third day after seizure; few of those attacked recovered from it, and, as far as I could gather, a considerable percentage of the population on the east side of the mountain had succumbed within a few weeks; they seemed quite paralyzed by the fear of it, all cultivation, etc., being at a standstill. The symptoms seemed to be identical with those of the Uganda plague.

On account of this sickness, which might have been contracted by the men, I decided to move from here as soon as practicable, and on December 6 the camp was struck, and a start was made for Kisigau. We first proceeded to the Swahili camp to the south of Ndara, known as Marago ya Kanga (camp of the guinea-fowl); near here a narrow track leaves the main road and runs away south to Kisigau. A march of about 21 miles from the south end of Ndara brings you to Kisigau. The last hour's march before reaching the mountains is through a most dense jungle of cactus, spiky aloe, and wait-a-bit thorn trees. The camping ground is most picturesquely situated at the foot of the mountain, the outline of which, with its tabular top, is extremely striking, and the great boulders of rock, which have in times past been broken from the upper face by atmospheric agencies and have rolled down the slope, stand out pink and grey among the banana groves, and form a most pleasing picture. After a short stay at the camp on the north-east face, we marched round the base of the mountain to the south. Progress was very difficult; the ground was fairly open, but every few yards it was intersected by deep nullahs, or torrent-beds, some as much as 20 feet deep, and these had to be crossed. But at last a native path was struck. Following this, we soon arrived at the camp on the south side, which is generally known as Marago ya Mnazi (camp of the coconut tree), so called from a solitary coco tree standing on the slope above the camp. Formerly a whole grove of coconut trees existed, following the course of the stream which runs down the

mountain, but in the famine year they were foolishly cut down that the owners might eat the soft, tender, undeveloped shoots at the crown of the tree. The camp is very completely shaded by a fine grove of trees with beautifully silver bark; they are known as *Msassi*. They have a very rough leaf, which can upon occasion be used as sandpaper.

The Kisigau people in many ways appear to be more enterprising than the other Wataita. They have, for instance, introduced from the coast, limes, coconuts, papaws, pine-apples, and one or two other



products, which as yet are quite unique among these tribes. All the importations seem to flourish.

The people on the south side of the mountain seem to live in considerable fear of the Masai raiders, who occasionally pass on their way from Arusha, Useri, etc., and camp here for the sake of the water; on this account the inhabitants of the mountain are afraid to open up for cultivation the plains around the base. As long as they confine their operations to the steep slopes they are safe, for the Masai will not venture upon the intricacies of the mountain-paths. There is a considerable amount of game in the plains south of Kisigau, and the rare antelopes,

the greater koodoo and sable, may be occasionally seen; the elephant and buffalo are also present. High up on Kisigau, at an altitude of about 3000 feet above sea-level, several specimens of the fresh-water crabs (*thelphusæ*) were observed.

On December 12 we left Kisigau, and struck coastwards by the Wanga route. Generally speaking, the road bore south-east by east. A march of about $7\frac{1}{2}$ miles brought us to the south end of Rukinga, a mountain mass running north and south, and rising abruptly out of the plain east of Kisigau. It is uninhabited, and its slopes are clothed with thick woods. After passing Rukinga the bush is very thick, and the path becomes very obscure; for this road, although the most direct, is now unused by the Wataita, as they pass by way of Pika-Pika and Kilibasi. A few miles beyond Rukinga we arrived at the Ngurunga, or rock-pools of Tulema. Upon reaching a point opposite Kilibasi, a halt of one day was made to explore in the direction of that mountain. Proceeding towards the mountain, the aspect of the country entirely changes; new species of trees make their appearance, in many places massed together in dense forests; the bright red sand gives place to a black cotton soil, and there are evidences of the presence of large swampy patches in periods of heavy rainfall. Upon seeking the reason, we find that we have now reached the boundary of the metamorphic rocks of the interior, and have entered the area occupied by the sedimentary deposits, which are most characteristically seen in the neighbourhood of Taro, which may be conveniently referred to as the Taro sandstones. The boundary passes a little to the west of Kilibasi. That mountain, protruding through the sandstones, stands isolated as the most eastern representative of the metamorphic series. To the south of the mountain, in its immediate vicinity, the large trees disappear, and the ground is covered by dense bush, about 8 or 10 feet high; the mountain itself is clothed with thick forest.

The Wakamba cattle-road to Wanga skirts the western flank of Kilibasi and joins the direct road from Kisigau, and henceforward the road coastward is much improved. About 3 miles from this junction is the camp of Lukaka, one of the regular camping-places at which water can be relied upon; there are here large and numerous water-holes in the Taro sandstones. Another $6\frac{1}{2}$ miles brought us to Birikani, which is also a regular camping-place; and here, on the summit of an isolated mass of rock, are some very peculiar water-holes. The orifices are about 6 inches in diameter, but within the rock they are chambered out to a diameter of several feet, and the surface for evaporation being so small, they are hardly ever known to dry up. The rock is composed of Taro sandstone, which seems to be naturally adapted for the formation of these water-holes. There is, however, not the slightest doubt that their formation is entirely due to natural causes, to the weathering action of the air and the organic action of plant-life.

The whole of this district is the hunting ground of the Walungulo tribe, who live in the vicinity of Taro. These people are, like the Waboni, hereditary slaves of the Wagalla, and they are supposed to hand over to the Gallas half the ivory they kill; they formerly lived in the jungle around Taro, but have now moved to near Samburu, where they are intermixing a good deal with the Wanyika, and thus evading the authorities of the Gallas. The Walungulo are marvellously keen hunters and clever trackers. The Wanyika told me that the Walungulo prepare a drug from certain plants which enables them to track game by means of scent. This drug being swallowed by the hunter, renders his smell so acute that it enables him to follow up the game in the same way as the hound; in fact, I was even shown two plants said to be ingredients of this mixture. Of course, this idea may be accepted for what it is worth. It may have arisen from people having seen those hunters following up tracks which were to the ordinary native quite invisible. In appearance they are very similar to Wanyika, but they carry very long powerful bows. Parties of these hunters are often hired out by the chiefs of Chagga to hunt elephants; their method of dealing with thick-skinned animals, like the elephant and rhino, is to shoot them with a poisoned arrow in the comparative thin skin at the back of the foot just above the heel.

In the bush to the south of Kilibasi a considerable number of the lesser koodoo (*Strepsiceros imberbis*) are to be found, but between Kilibasi and Kisigau very little game is to be seen, a few giraffes, mpala, and hartebeest. Some little distance to the north of this road a curious sight was seen—namely, that of a pack of wild hunting dogs engaged in pursuing a solitary zebra; the zebra was flecked with foam, and evidently, being very hard pressed, could not possibly hold out much longer from its bloodthirsty pursuers.

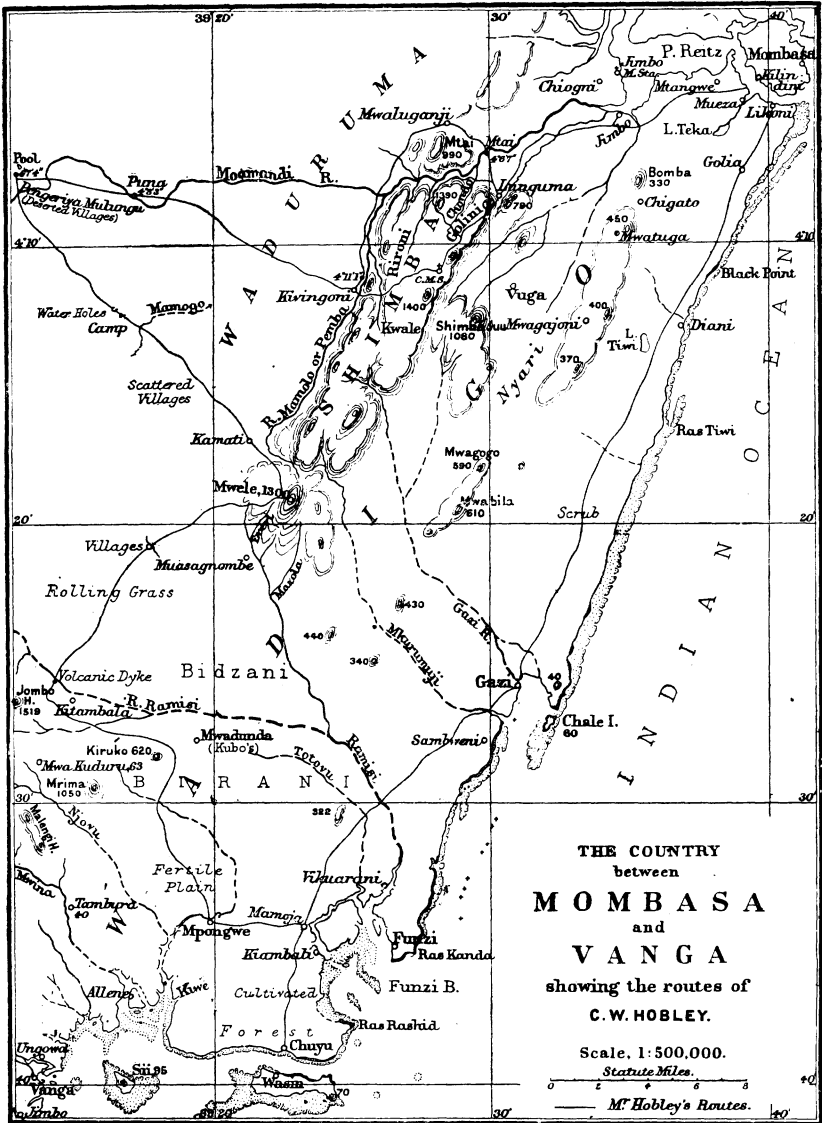
Leaving Birikani, we marched on another 4 miles, and camped in a small valley with abundant water-holes. However, before reaching camp we passed through a very desolate-looking stretch, too stony to grow much vegetation. On the 16th a short march of about 5 miles brought us to Ada, and we camped here with the idea of purchasing food, but to our surprise found the Wadigo villages one and all deserted, at some comparative distant period. I afterwards found that all the inhabitants had moved coastwards soon after the year of the big famine. This discovery was rather serious, as the caravan was short of food, but later in the day I was fortunate enough to obtain some game to supply the deficiency. The country to the north of Ada is of a very desolate, stony character, and also seems to suffer from a chronic state of drought; even the trees are all dead and shrivelled from want of moisture, and grass there is absolutely none. However, from later observations I find this barren belt is not of very great extent. On the 18th, after about 8 miles' march, we entered the Digo country proper, and thenceforward

to the coast is one inhabited stretch. The country is vastly greener and more fertile than any passed through from Kisigau, and there is, moreover, an abundance of water in most of the villages. After a march of about 16 miles we camped to the north-west of the hills of Jombo. Passing to the south of this hill on the following day, we reached the river Mwena. Leaving the river Mwena, about $6\frac{1}{2}$ miles' march brought us to the river Uмба, and the coconut plantations which follow its course. The point at which the Kisigau road reaches the Uмба is marked by a village called Gonja. Proceeding onwards about south-east, a continuous series of fine plantations of coconut and mango trees are passed through, and there is a thick population of Wadigo. About 9 miles from Gonja we entered the town of Wanga, and camped in a large coconut grove outside the walls belonging to Sheikh Mbaruk. Immediately behind Wanga is a large extent of very low-lying flat land, the soil of which is black alluvial mud; this area can be periodically flooded, and is extensively employed for the purpose of rice cultivation. The whole tract is divided up like the squares on a chessboard by means of earthen embankments or causeways, which partition up the area into a series of shallow tanks. The water is first let into these squares nearest the river, and by means of primitive sluices it is taken on to the adjoining plots at the will of the cultivator. On account of this large swampy area near the town, and the abundance of mangrove on the sea-front, the town of Wanga is distinctly unhealthy and malarious.

Leaving Wanga on the following day, we proceeded by boat to Chuyu on the mainland, opposite the island of Wassein. The Company have here built a substantial residence for the agent of the district; it is a very pleasant site, and is a much healthier situation than either Wanga or Wassein. There are here found numbers of large caves in the coral rocks, the rock having been dissolved out by the action of the sea-water. At the back of the house, some miles in either direction, there is a belt of dense forest containing excellent timber; moreover, the creeks all along this stretch of coast are lined with thick fringes of mangrove; this mangrove timber often attains large dimensions, many of the spars being from 60 to 70 feet, perfectly straight, and having a diameter of 2 feet at a man's height from the ground. Even now the timber trade of the district is considerable, a large amount being sent to Zanzibar; but the quantity is so great, and so admirably situated in close proximity to the seashore, that it cannot be long before European enterprise will establish steam timber-mills in this locality.

Leaving Chuyu, we returned to Mombasa by the route following the coast-line; *en route* the town of Gazi, the residence of the great chief Mbaruk-bin Raschid, was passed through, and the old sheikh visited. This man is a very striking character, and is the head of the Mazrui faction on the coast, and he claims to be King of Mombasa, the Mazruis having held independent possession of that town until driven

out by the Sultan of Zanzibar. Mbaruk's power was, however, greatly broken by Said Burghash, who sent an army under General Mathews to bring him to terms. Mbaruk fled to his fortified stronghold Mwele,



at the south end of the Shimba hills, and was there besieged by General Mathews' forces; but after a few weeks the place was taken by assault. This place, Mwele, is situated on the summit of a hill, 1400 feet above

sea-level. The hill is crowned by a fine patch of forest; from without not a trace of habitation can be seen, but upon approach an arched tunnel is noticed. Following this footpath for about 200 yards, one arrives at a strong timbered gateway, and passing under this emerges suddenly into the town, which is built entirely in an open space cleared in the centre of the forest. The forest is very dense, and impassable on all sides—so dense that no stockade is needed. The open space is approximately circular, and about 250 yards in diameter; there are two entrances—one from the east and the other from the west. The houses are built wholly of wattle and daub, but they are all clean and tidy, and the whole town is kept exemplarily clean, every householder having stringent orders as to sweeping, etc. There are numerous traces still visible of the fighting between the Sultan and Mbaruk, in old rifle-pits, earthworks, etc. The forest around the town abounds with various species of monkeys, amongst which is the rare *Colobus Kirkii*, which was thought to be extinct when exterminated in Zanzibar Island.

Mbaruk belongs to the great chiefs of the coast, among whom might be placed Bushiri, Hamis Kombo, Suliman bin Abdullah, and Fumo Bakari. These men were the last representatives of a great race of war-like Arabs, who wrested the whole coast, from Magodisho down to Mozambique, from the hands of the Portuguese. In a few years they will be extinct; for these men, being brought up in troublous times, pushed themselves to the front by the sheer force of their personal abilities. But their sons have not undergone any such severe training; they are now living a life of laziness and apathy, and are effete and degenerate representatives of their race. In many ways this is to be deplored, but it will probably render the administration of the country an easier task, for the younger generation will not be able to raise much opposition to the innovations attendant upon European modes of government. Leaving Gazi, about a day and a half's journey brought us to Mombasa on December 24, 1892, after a trip of 95 days' absence.

There are a few points relating to the physical features of the coast-lands in the southern parts of the territory that I should like to note. In the neighbourhood of Mombasa, starting inland from the sea, we first get what may be termed coral beds, which are the remains of enormous fringing reefs now raised above sea-level. The soil on the surface of this coral is an indefinitely small quantity near the sea, the country being simply a mass of jagged coral spikes; however, notwithstanding the paucity of the soil, vegetation seems to flourish in the rich calcareous humus lying in the interstices of the coral. This belt of rugged land varies from $\frac{1}{2}$ to $1\frac{1}{2}$ mile in width; after that the soil deepens, and the area is covered by a continuous belt of coconut shambas, the width of this belt varying from 2 to 3 miles. This area was formerly occupied by the lagoon which may be seen to-day within the reefs of the coast. Beyond this there is a very sudden change from

shambas into grass lands of a very arid, stony character, and thus marking the line of junction between recent coral formation and the older ferruginous shales and mudstones of about Jurassic age. These shales being much jointed and broken are easily denuded, and during the periods of the tropical downpour of rain, the area in which these beds crop out is dissected and carved out into numberless steep ravines, and the bulk of the soil is completely washed away, the ground being covered with a mass of shale and *débris*. This belt possesses no good timber, but is characterized by specimens of a stunted variety of ebony and other hard-wood trees of small dimensions. Beyond this comes the massive sandstones, probably of newer Palæozoic age, which compose the prominent ranges of Shimba, Buni, and Ribe. Slight variations are sometimes caused by the occurrence of a bed of white alluvial sand, which covers the arid shales often to a depth of 20 feet. Where this occurs, as at Changamwe, the plantations run inland nearly to the limit of this belt; but usually between the plantations and the open barren lands there is a tract of forest, and this tract carries some very useful timber: *msandarusi* or copal, *bamba kofi* or red copal, *mriti* or African ash, *mwalika*, *mchaani*, *mkwaju*, or tamarind, *mkomo* or hyphæne palm, *mzambarao* (which bears an edible plum-like fruit), and many other species specially adapted for all kinds of carpentry.

Now, at the southern end of the Company's boundary, this sequence is varied a little; the belt of rugged coral on the immediate coast-line is practically similar, but for some reason, perhaps a greater rainfall, it is usually covered by a magnificent belt of wood, from which a large quantity of valuable timber can be obtained. Proceeding further inland, the coral is at length lost sight of, but instead of the secondary shales dropping out as in the north, the deep white sand previously referred to covers everything, and there are large flat stretches of savannah-like country with timbered patches and belts at intervals. This type of country is varied by the presence of volcanic rocks, which stand out in the three summits, Jombo, Mrima, and Kiruko. The lower slopes of these hills are very fertile, and, in the case of the two latter, are extensively cultivated by the Wadigo. The flat stretches of savannah country give place to a gently rolling country, in which the older beds crop out, but the coarse sandstones of Shimba are entirely missing, their southernmost exposure being at Mwele. But throughout the whole width of the coast-belt, the barren secondary shales and mudstones never crop out to the same extent as they do between Changamwe and Mazera, and from this reason the width of the belt of very fertile country is several miles wider to the south than it is in the region of Mombasa. It may be here remarked that the volcanic intrusions of Jombo, etc., are of a later date than the shales and sandstones of the Taro and Shimba group, for in many places dykes, evidently contemporaneous with these centres of disturbance, may be seen intersecting and traversing these rocks.