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A journey through Somaliland and southern Abyssinia to the Shangalla or Berta country and the blue Nile, and through the Sudan to Egypt

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To Mr. Henry Coates, Perth, I am greatly indebted for the photographs, from which the first three and the seventh illustrations of this paper were made.

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A JOURNEY THROUGH SOMALILAND AND SOUTHERN ABYSSINIA TO THE SHANGALLA OR BERTA COUNTRY AND THE BLUE NILE, AND THROUGH THE SUDAN TO EGYPT.

By REGINALD KOETTLITZ, M.R.C.S.Eng., L.R.C.P.Edin.

ABYSSINIA, the ancient Ethiopia, historically a land of many mysteries, which contains one of the sources of the Nile, the land of many glorious mountains and the seat of tremendous volcanic activity within geologically recent times, the highlands and Switzerland of Africa, had always had a great attraction for me; therefore, when I was offered an opportunity for visiting it, the offer was too tempting to refuse, and when it was also proposed that we should travel across the southern, less visited portion, from east to west, and return *via* the Sudan and Egypt, it could not be resisted.

Mr. Weld Blundell's expedition consisted of five white men: himself; Lord Lovat his nephew; Mr. Harwood a taxidermist; a valet to act as camp major-domo; and myself. Our coloured attendants were numerous and varied in number.

The objects were to map the country, especially the portions which had not been visited before by white men; to investigate the geological formation, make zoological collections, especially an ornithological one; and make as many anthropological and ethnological observations as possible. It was proposed that we should travel continuously, so that we should get back again in about six months.¹

Mr. Weld Blundell had been in the country before, having in fact returned from Addis Abbaba in the July previous. He had accompanied Captain Harrington, the British representative to the court of King Menelik, upon his journey to Addis Abbaba for the purpose of establishing the Agency there and presenting his credentials to the King. The experience gained upon that journey gave him the requisite knowledge as to how to proceed, and enabled him to make all the necessary preparations, in the most expeditious manner, for the journey we now proposed to make. We met at Aden at the end of November 1898, and after some days occupied in hiring Somali servants, buying a few more necessaries, waiting for our baggage from England, which had been delayed, writing letters, as well as making arrangements for crossing the Gulf of Aden, we crossed to Berbera on the Somali coast. There we hired camels for our caravan, bought ponies and mules, as well as hired more Somali servants, and on December 6th we started upon the first stage of our journey, to Harrar.

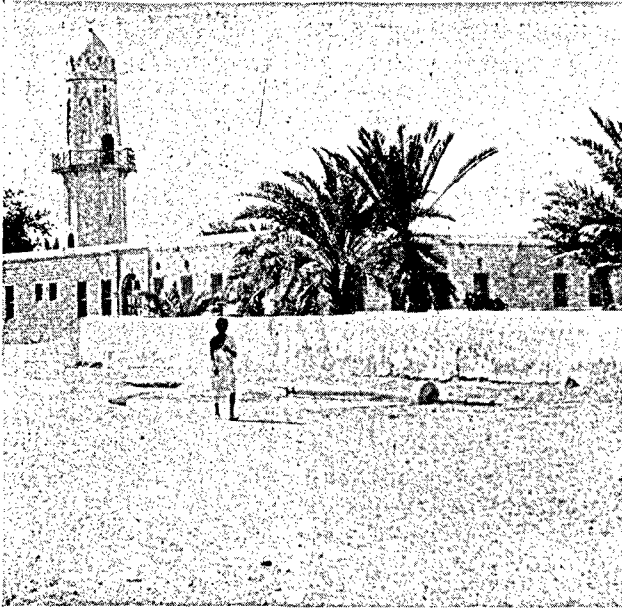
Berbera was selected as our starting-point, so that we might avoid the long, monotonous, hot, and disagreeable desert route from Zeyla, which is the usual and nearest port for Harrar; for though the distance from Berbera is forty miles longer, yet as our road passed through so much more varied, more elevated, and therefore cooler country, where game also was more plentiful, it was thought that we should thus be compensated for the greater distance we had to traverse. Part of our baggage and supplies were forwarded by the regular supply caravan *via* Zeyla to meet us at Harrar, while a further supply was to go on to Addis Abbaba. Notwithstanding this, however, when we left Berbera our caravan consisted of some thirty-five pack camels, with eighteen attendant drivers, our head man, ten personal servants, four Sudanese soldiers (who had fought at the battle of Omdurman, and who had just got back to Cairo, where Mr. Weld Blundell hired them) to act as escort, a donkey as bait for lions, should we come across any, some sheep and goats, for food on the journey, besides the four ponies and a mule which carried us.

Berbera town, as is well known, consists of two portions about a mile apart. It is situated upon the coast, and built upon the low-lying coral-sand desert which fringes the coast everywhere here, and which has

¹ As a matter of fact, on account of unavoidable delays, the journey occupied eight months.

evidently comparatively recently risen above sea-level; a spit of sand juts out into the sea and encloses a shallow bay, which forms a fairly good harbour.

The western and better-built portion is where the British Resident resides: here also are the travellers' rest-house or bungalow, the barracks, post-office, mosque, hospital, besides other stone and sun-dried brick buildings, built by the Egyptians when they occupied the country. The eastern part of the town is where the merchants' offices and Jewish and other tradesmen's bazaars are, as well as where the natives live; between



Berbera Mosque.

the two are the temporary encampments of the caravans of the natives from the interior. In this native encampment I had an opportunity of seeing the Midgan blacksmiths and artificers at work.¹ They were making spears, Somali swords, axes, knives, and many other things. Their forge was constructed after the widespread African method: the fire made in a hole in the ground, down to which an earthenware tube led, which was connected with two wide-mouthed jars; to these, in order to close them, loose leather bags were firmly attached all round the edges. To the centre of these bags vertical sticks were fastened, and these being alternately raised and lowered by the man operating with them, a

¹ The Midgans are an outcast and dispersed tribe of the Somalis, who are pagans, expert hunters, and artificers. They are despised by the others, but are tolerated because so useful.

draught of air was produced in the same way as from bellows, and thus the iron was heated in the fire.

What most interested me was the expertness which they showed in applying the fine brass wire round the spear-heads and upper parts of the shafts. This is put on so as to assume different patterns in numberless variety, and to ornament them. It was done very expeditiously with the hands and feet, for the latter are used almost as much as the hands in order to hold and rotate the spear while the wire is being put on. The manner in which the ornamentation of the handles of the short Somali sword was produced was also not a little remarkable, for each mark upon them is made by separate pieces of the different metals and horn, being threaded upon a central iron rod attached to the blade and hammered tight; when all is finished and firmly fixed, they file the whole smooth. These ornamental handles are very much prized by the Somalis, and therefore have a very ready sale.

After a short delay in Berbera we started, as already remarked, on the afternoon of the 6th December. We started thus late in the day because we wanted to get our Somali men away from the town; for these people are like children, they have no idea of responsibility and the necessity of keeping their time and being ready; so by doing this we had them together in readiness for an early start on the morrow.

Our way at first led obliquely over the belt of stony, sandy desert which fringes the coast for some ten or twelve miles inland; our course was SW. Not a blade of grass or bush was to be seen while going over this, but when these ten or twelve miles were traversed, stunted mimosa and other thorny shrubs began to appear, and gradually became numerous; odd tufts of grass could be seen, antelopes bounded off out of the way and out of gunshot—the pretty little dik-dik (*Neotragus saltianus*) was one, the elegant speke's gazelle, and the madoqua (*Cephalophus abyssinicus*) were others—while ground-squirrels, jerboas, and hyraxes were caught sight of, and the birds were represented by the sand-coloured desert lark and odd vultures. The jackal, so hated by the Somalis, was also seen sneaking away under the bushes.

All this time the ground was rising, though imperceptibly, and before the second day was over we got into more rocky, stony country, the rocks being composed of handsome salmon-coloured and other granites, syenites, quartzites, and schists. Here the vegetation became more varied, more bushes and odd trees; all of thorny varieties of acacias, cacti with peculiar sooty ball-like flowers of cricket-ball size, varieties of aloes, and other kinds of plants gradually became more numerous; and with the vegetation more birds, such as wheatears, weaver-birds, and others. Dry beds of watercourses had to be crossed, and the ground alternated with rocks and loose, sharp-cornered gravel, as well as sand very frequently.

Every now and then we would meet native caravans with camels laden with the household utensils, and the huts of the men, women, and children who were on their way to the coast for the rice and dates which hold so large a place in their daily regimen. Cows, sheep, and goats were being driven along with them, and were to be disposed of for the

purpose of obtaining the necessary money for the purchases they wished to effect.

On the way we camped at Hamas, a place at the base of some flat basalt-topped hills. In the morning early, one of our men was stung by a scorpion, a big one, which I prevented from again doing any injury by putting into a bottle for preservation.

During the day we passed a place called Addi Adeya. For Somaliland, this is a place for luxuriance of vegetation: trees of more variety, including palms, were scattered about the banks of dry river-beds, in the sand of which, by digging holes, water could be obtained, and there was much grass in patches under the bushes and trees. This, together



Laden pack-camels.

with the bushes themselves, gave pasture to the large flocks of sheep and goats which, with their attendants, and with some cattle and camels, were covering the ground. This place, having so much pasture, is often resorted to by these wandering people, and has suggested its name Addi Adeya, which means "White with flocks."

Here we had already arrived at the elevation of 2740 feet above sea-level, and the nights were comparatively cool. The evenings were remarkable because of the swarming moths which flew about the fires and lights incessantly; many of them were like our ghost-moths.

In the cool of the morning we generally walked, and one or two carried guns for the purpose of bagging a few of the numerous partridges,

which are so clamorous at that time. Frankolin partridges, guinea-fowl, and an odd bustard would also occasionally be added to our larder.

During our daily marches, dik-diks and geranook antelopes (*Lithocranius walleri*), rock-squirrels, and rock-rabbits or hyraxes, warthogs, an odd hyæna, and desert-rat would be caught sight of; while birds became increasingly varied and numerous—parrots, toucans, rollers, sunbirds, beautifully coloured starlings, besides partridges, guinea-fowl, and bustards, together with Egyptian and other vultures, as well as an occasional golden eagle,—a pair of which we once saw nesting in a tree—these engaged our interest, and relieved the monotony of the march.

During the night, at our next camp, Jummat, we were startled by a rather awkward visitor in the shape of a leopard. He had suddenly leaped into the small zeriba in the middle of the camp, where the sheep were confined, and before the Sudanese soldier who was on the watch could get his rifle ready, had carried away a sheep out of the camp. A couple of hasty rifle-shots in the darkness, although apparently without having other effect upon him than to scare him, induced him to drop the sheep and take to flight without his prey. The sheep was, however, dead, for he had seized it by the throat. When making his exit from the camp he had got foul of the ropes of one of the tents, and had caused it to collapse upon the man inside, but otherwise no damage had been done.

The country continued rocky, the nature of the rocks remaining the same, except that a most extraordinary number of all sizes of veins of quartz and biotite, of beautiful shades of pink and green colour, intersected them in every direction. Dry sandy-bedded river and watercourses were frequent, while the banks of these occasionally showed luxuriant vegetation, but otherwise the general nature of the country was arid; nothing but the desert mimosa, with several species of aloes, dotted the gravelly or sandy ground. Occasionally a peculiar chalky conglomerate rock would show through the surface; and at one place, very much cut up by water, flint chips strewed the slopes. When we got as far as Gelele we caught sight of the Nasha Habalo hills: these are a landmark, for they can be seen for a great distance all round, and are near Hargaisa.

The country about here is very much sprinkled with the extraordinary obelisk-like white-ant or termite heaps. These take all sorts of fantastic forms, but here they always have a columnar shape which is quite different from that seen some three weeks later near the Hawash river in Abyssinia, yet in similar country. Why they should be so different in the two places is not easily accounted for, unless they are different species; but the reason they assume that shape here is because these termites attack the trunks of trees in order to devour the wood. They do this by enveloping the trunk of the tree in the clay mass to a considerable height; in the course of time the tree is killed and devoured, in fact disappears, but the columnar ant-heap remains. In the Hawash valley the heaps take more the shape of steep-sided mounds, of from three to five feet high. This shape appears to come about because the ants there attack a bush, which they gradually envelop with clay in a similar manner to that of the others; but in order to make short work of it they do not cover the

short and narrow trunk and branches piece by piece, but take it as a whole. I saw bushes being covered up and disappearing in this way.

Hargaisa, a more populous part of the country, is a more or less level plain, which appears to have been a large lake in times gone by. This lake had been silted up in the course of time. It is entirely composed of alluvium, to what depth it would be difficult to say, but that it is considerable is easily seen in the sections which the torrential rains have cut through it, in the form of deep, steep-sided water-courses and river-beds. These are sometimes from thirty to even fifty feet in depth, and for the most part have perpendicularly precipitous sides. In some parts of the country near here, these are so numerous as to form a perfect net-work



Somali black-headed, fat-rumped sheep at Aldi Adeya.

or maze, which, when once among, it is most difficult to get out of, for any one that does not know the country intimately.

There is a fair amount of game to be found generally at this place—gazelles and antelopes of all kinds, lions, leopards, elephants also; but when we were there most of them seemed to have left the country, and no sportsman was successful. Old tracks of elephants, but no other sign. Close to our camp there, several large tortoises were discovered: I measured the largest, and found it to be 29 inches over the back, 18 inches under the belly, and 40 inches in girth.

The place was alive with birds in great variety and remarkable beauty in the colours of their plumage: the lovely azure-blue roller; the gloriously iridescent metallic greens and blue-blacks of several varieties of starlings; the gorgeous greens of the parrots; the beautiful browns, goldens, and

buffs of the sunbirds were specially noticeable; while the pretty long-tailed sparrows, the toucans, weaver-birds, shrikes, doves, some of which were smaller than thrushes, and numerous other birds always gave one something to gaze at, and to delight the eye.

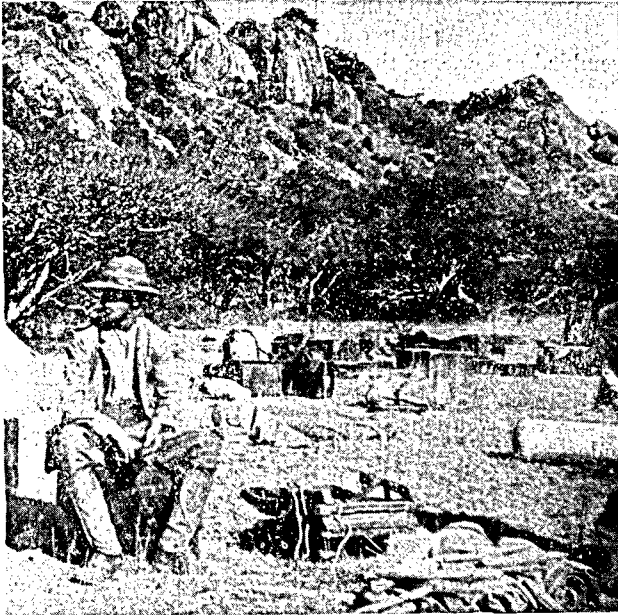
Travellers have been so apt to describe the birds as beautiful, but as having fearful and discordant voices and cries; but my experience has not borne out this, for though the parrots and one or two other birds emit sounds that are the reverse of musical, yet by far the larger number have notes which are sweet or interesting, certainly not discordant and ear-splitting. Most remarkable in sound perhaps of all the birds is the bell-noted shrike or anvil bird. The sounds which this bird utters are extraordinarily like those of the blacksmith when striking his anvil at some distance: the notes are very full, searching, clear, and musical. Some of us got tired of these sounds after a time; but for my own part, I never heard them without being filled with wonder and interest, they are so clear and sonorous.

One often sees a bird or other animal vigorously scratching and digging in the soil to find food, make a burrow, or cover something over; but one day, while halting for lunch, we were impressed with seeing a very vigorous fly of no great size working most energetically in doing the same. It was evidently burying something—what it was we could not discover; but turning its back to a small hole which it had probably previously excavated, and by holding itself firmly with its four hinder legs, it very rapidly cast sand and loose soil with its two front legs, under its body between the hinder legs to the back of it, into the hole. The vigour it exhibited in this work was remarkable: every now and then it would turn round and examine how the work was progressing, and, not satisfied, would then resume it again. It did not cease until the depression was covered up level and quite obliterated. I tried to catch it for preservation, but its wariness and quickness was as remarkable as its performance, for in the end it disappeared down a large ants' hole, and with all my digging I could not reach it.

From Hargaisa we diverged from the main route and made our way to Jejr Auri and Jejr Medir, in the hope of finding game, for it was said to be plentiful about there. We went through Darbolek and Arabsyu, the latter place being crowded with flocks and herds, besides many people. On the journey there we saw a flock of tame ostriches, which were being farmed by one of the Midgans. He kept them from straying by means of hobbling them above the heel of their legs—that is at the lower part of the *thigh* of the bird, as it is generally called. Odd antelopes were seen, the oryx (*Oryx beisa*) among the number, and several fell to our rifles. After passing Arabsyu we went on *via* Jibuli. Here again was a great gathering of flocks and herds which had been driven a considerable distance for water, found at this place by digging holes in the sand of the river bed. The peculiar Somali fat-rumped, black-headed sheep; the small, white, nimble goat, and the humped Somali cattle were there in great force; and there was a great scramble and a lot of excited gesticulation when the separation of one owner's animals had to be effected from the others before departure.

Soon after we passed this place, having heard that a lion paid nightly visits to a village near by in order to steal a sheep or goat, Mr. Blundell separated from us for the purpose of sitting up at the village and waiting for its next visit, which was expected that night. He took with him the devoted donkey as bait, but the next day he rejoined us at Jefr Auri, having been disappointed, for no lion put in an appearance.

After going to Jefr Medir (both Jefr Auri and Jefr Medir are hills which are rocky bosses of sandstone-schist and granite respectively, which protrude from the more or less level surface of the plain), we crossed the Meran prairie—sometimes called the Bund—to Jig-jigga. The prairie is an almost level stretch of treeless coarse grass-land 5374 feet above the



Our camp at Jefr Auri.

sea, and very different from the country we had come through since leaving Hargaisa. This had been less arid and stony: the ground was covered with a good deal of sandy soil and thorny acacias, cedars, and other trees, with aloes; many other plants and grass clothed the surface and formed a more or less continuous open "bush" or wood. Soon after leaving Jefr Medir this wooded condition came to a rather abrupt termination, and gave place to a stretch of thirty or forty miles of almost flat grass-land with only odd trees here and there at about the centre of it, near some knoll-like hills which rise from the level plain. Mirages, as might be expected, were very common here: lovely visions of lakes of water were spread out at no great distance from us, and looked very real. The grass

at this time was dried up and shrivelled to a yellow colour, yet countless numbers of antelopes of all kinds could be seen feeding in company together all round between us and the horizon. Many fell to our rifles, though nearly all had to be long-range shots. Among them were Hartbeeste (*Bubalis swaynei*), oryx (*O. beisa*), and Aoul (*Gazella søemmerringi*).

This stretch of flat plain appears to me to be simply a basalt plateau which has not been elevated in the same way as the hills around: masses of rock, almost certainly *in situ*, slightly protruded above the surface, but only rarely; nearly the whole was covered with soil, and the few loose stones to be seen were also basaltic.

I ascended one of the hills, some 400 feet higher than the plain, situated about half-way across. This I found to be also basaltic, but a peculiarity of the basalt was, that filling up many of the fissures in the rock there was a mortar-like calcareous substance containing pebbles, which resembled and was of the consistency of chalk.

One of the features peculiar to the prairie was the number of grasshoppers and locust-like insects which swarmed there. It was here that I first noticed the bird-like flight of these. Not only do they fly straight and swiftly, but they turn and dodge to one side so as to avoid one when they approach: this is done very swiftly, and they are exceedingly difficult to capture. Many of them have their under-wing coloured a rose colour, so that when they are spread out as in flight, this colour is very conspicuous and striking.

For several nights before our arrival at Jig-jigga the temperature after sundown had begun to become cool, and even cold, for we had arrived at a considerable altitude above sea-level, the height as shown by boiling-point being 5374 feet. The temperature in the day was, however, not excessive, averaging rather under than over 80·0°, while at night it sank under 44·0°. Our Somali servants therefore in the chill of the morning were rather pitiable objects, for until the sun's heat warmed them and the surrounding objects—as their clothing is nothing but thin cotton—they felt it acutely.

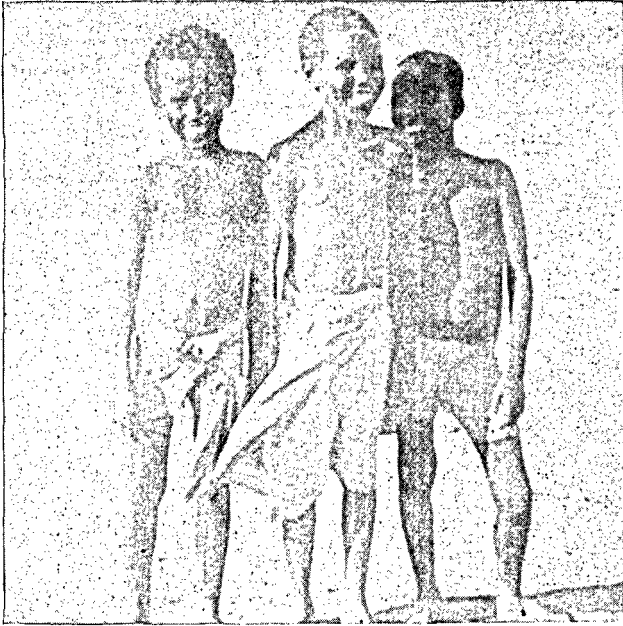
Jig-jigga, where we arrived on the evening of the 22nd of December, is the name of a place and station situated upon a small river which forms the boundary-line between British and Abyssinian territory. At this place its course is more or less south, near the base of the Mardo range of hills, which range forms a natural frontier and can only be crossed here by steep and rugged passes over it.

Our course until now had been roughly south-west, though we had diverged somewhat in the hope of coming across game, lion and elephant especially. Though antelopes had been plentiful, in this last we were unsuccessful, for no lion or elephant was either seen or heard, while all tracks seen were not of recent date.

At this point we had our first introduction to the Abyssinians, for here they had a military station in the form of a stockaded compound, in which were a number of toukuls or primitive circular huts, made of mud-plastered sticks and roofed with thatch, the roof being of the common conical form. These stockades are characteristically Abyssinian, being made of sticks of all lengths firmly fixed into the ground, and strongly

interlaced to form a fairly compact wall. Some of the toukuls were the residences of the chief and head officials, while others were store-houses, for this is a station where customs are levied upon all merchandise coming into the country.

We were courteously received by the Abyssinian "Choom," or Chief, who called upon us in the usual state—that is, with a numerous retinue of men armed with rifles, who awaited his return. Presents, such as sheep, goats, fowls, eggs, milk, and tedge,¹ were sent us, and return gifts were given by us; while, hearing that we had a letter of, and permission



Somali boys.

to travel in the country from, King Menelik, no opposition was made to our progress.

Our journey to Fiambiro, a market-place and trading centre about two days' journey into Abyssinian territory, was through very different country from that which we had until now passed through. Brooks and streams intersected the land after we had crossed the rocky Mardo range, and watered it; hence villages and patches of cultivation dotted the landscape.

The houses forming the villages also indicated a condition of more

¹ Tedge is the native hydromel or mead, made of different proportions of fermented honey and water according to the strength required (1 to 7 being a common proportion), and flavoured with the leaves of a bushy herb called geyshe (the "jershooa" of Sir Samuel Baker; see p. 347, *The Nile Tributaries of Abyssinia*, 1874 edition).

settled and regular pursuits, for though they were still surrounded by stockades or zeribas, some of them were not; and the huts, instead of being mere temporary shelters, such as the Somalis use, were the permanent, conical-roofed, circular-shaped Abyssinian and Galla toukul. At this time also the harvest had been just gathered in, hence there were large heaps of ears of grain, dhurra, hadoti, and other kinds arranged outside many of the houses; while the recently cropped fields were yellow with the five to eight or more feet high stalks from which the ears of corn had been cut, and which were allowed to remain standing where they grew.

Our road, if such the unmade path or worn track can be called, led up rocky ascents and down extraordinarily steep descents, as well as over heavily undulating ground, much of it cultivated in terraces upon the hillsides, and reminding one of the vineyards of the Rhine and Mosel, until after a steep, very rocky ascent, up which the laden camels found it most difficult to climb, we reached the summit plateau upon which Fiambiro is situated. This is 6403 feet above sea-level.

The plateau is studded with small villages and habitations, while Fiambiro itself is simply a conglomeration of the temporary huts of the Somalis who come here to trade. Sheep, goats, cattle, donkeys, and camels, as well as grain, red pepper, and other food-stuffs, also cotton cloths of all kinds, are the principal wares exposed in the market, which at this time was being held every day. A more or less ruinous conical tomb of a holy sheyk is placed upon a conspicuous position here.

The geological formation of the country is very heterogeneous and diversified, for it is broken up in a chaotic manner. Basaltic layers interbedded with tuffs were to be seen in different places at all levels, but, where in any mass, generally in more or less parallel beds; underlying this in a few places a calcareous but unfossiliferous sandstone could be seen, and under this again granites, syenites, porphyries, and schists. These last are tilted at all angles, even almost vertically, and with a general tendency to dip to the NE.; they are intersected in all directions with dykes of quartz, biotite, and similar rock, and form the main mass and foundation of the whole. Needless to say, this diversity in level is caused through the breaks or faults which have broken up the surface, and these again have caused the magnificent scenery which is here presented to the view, but to which also are due most of the many difficulties with which the road of the traveller is beset.

At Fiambiro we spent Christmas Day, and it was occupied by paying off our Somali camel-drivers, who were to return to Berbera from here with the camels, for, the country being too hilly and mountainous for these animals, our baggage was transferred to the backs of mules, a number of which were awaiting us by arrangement by letter and messenger sent on before to Harrar, and with which our caravan was in the future to be made up. Needless to say, there was much excitement, gesticulation, and chatter while all this business was going on, and many the requests for baksheesh which were advanced by the departing camel-men.

Many of the baggage mules we used were Mr. Weld Blundell's property, having been bought by him on his former visit, and kept with

others by Captain Harrington at Addis Abbaba, from whence they had been sent to meet us. In charge of these, and their attendant drivers, was an extraordinary figure, M'Kelvey, the Abyssinian Englishman. This man, though white, was attired in every respect just the same as an Abyssinian: his head was shaved, and, as so common with Abyssinians, bound up in a white cotton cloth; upon it was the usual terrai-like hat so frequently used by these people, the shamma or long cotton cloth worn as a shawl, or toga-fashion, over his shoulders, the short narrow-legged cotton pantaloons, and nothing upon the lower legs and feet. Under the shamma he also wore a cotton shirt, and that is all. This man was now one of the interpreters of the British Agency. He had been one of the



Humped Somali cattle.

original prisoners at Magdala, had been tortured like the rest, the scars of which he still retains; he had been rescued with the others, but after having returned as far as Alexandria, had elected to go back to Abyssinia and become an Abyssinian, and there he had remained ever since, thirty-seven years. When Mr. Harrington first found him he had almost forgotten his native language, but soon picked it up again when he once more heard it spoken by others.

All these years he had lived in the barbarous fashion of the natives; he had served King Theodore and King John as a soldier, but most of his time had been spent in making a living as a merchant, a kind of hawker who takes his wares upon pack-mules from place to place, attends the markets, and there disposes of his goods. He had thus travelled all over the country.

Needless to say, his moral condition has sunk. Not only has he the vices of the Abyssinian, but combined with these are some European ones, and there are no redeeming qualities. He is most unreliable, a perfect yet plausible humbug and cheat. When at Addis Abbaba I visited his house. This is in not the slightest degree better than that of the natives—in fact, it is worse than many of them. There is no furniture whatever, no seats or bedstead; he, like most of them, squats upon the ground upon a goat's or cow's skin, and the bed is the ground, though slightly raised above the general surface. A more comfortable existence it would be difficult to imagine. He has many children by native wives, the last of which, nine months old, whose mother is a typical negress, was quite white and indistinguishable from the child of a European mother.

Through having travelled so much he was of considerable use to us as guide as well as interpreter, but after some experience with him, through his puerile quarrels with the native head-men we had to dispense with his services. He also had all the native fears, but exaggerated, with regard to going into an unknown country.

The Abyssinians, as is well known, are Christians, but their Christianity is more in name than in fact. They, however, take a real pride in calling themselves such; and indeed it is very remarkable that, surrounded as they are, and have been, for hundreds of years by Mohammedan and heathen neighbours, they have so stubbornly adhered to it.

Their religion practically is restricted to the keeping of feast and fast. Church attendance is practised only by very few, while the ministrations of the priests are costly, and, as the people say, can only be indulged in by the rich.

Very little trade, agriculture, or other art is carried on by them. The Abyssinian is a soldier, and he does little else. The women spin cotton, a few embroider in cotton and silk as well as do needle-work; their principal business is to make bread, cook, fetch water, and grind the corn. Their status is, however, better than that of the females of the neighbouring races.

From here the road passed through some of the most cultivated country seen during the whole of our journey, for especially as we neared Harrar, gardens well watered and irrigated, by water being led through rough wooden aqueducts and gutters which also surrounded the beds, were numerous and well stocked with cotton, red pepper, tobacco, coffee, and other vegetables, as well as bananas and other plantains and fruits.

The present town of Harrar is a walled Egyptian-built town, situated upon a rise in a beautiful wide undulating fertile valley. It consists of the usual mud-plastered, flat-roofed houses so affected by those people, arranged close together and intersected by steep, untidy, frequently terraced¹ narrow streets; a few churches, mosques, and principal buildings are to be seen, and it is the emporium of the principal trade of the country. Here are many Greeks, Indians, as well as some French, in the hands of whom most of the principal trade is carried on.

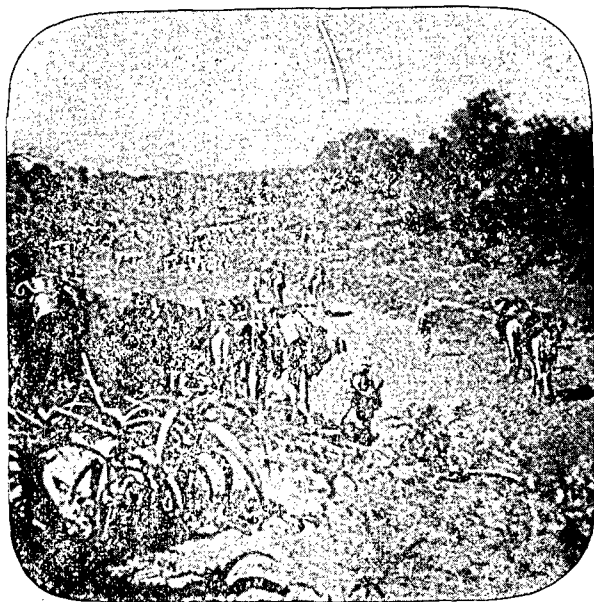
¹ That is, arranged in long shallow steps where the slope is at all great.

The gates of the town are guarded by a motley array of soldiers, who lounge or squat around in the shed-like guard-rooms about the gates, their rifles and other arms being hung upon the pegs upon the walls above them. Their duty is to collect a tax or custom's impost upon all merchandise and produce which comes in.

Harrar is the seat of the Governor, Ras Makonnen, whose house is one of the principal buildings of the town, and there are many bazaars, shops, and markets in different quarters.

Most of the rock near by, and the stone of which the houses are built, is a fine red granite.

After some days' delay here, where, after receiving our supplies, which



Assemblage of flocks and herds at Gibuli, in bed of dry river.
Our caravan going down in foreground.

had been sent on before, hiring more pack-mules, receiving and answering letters, as well as collecting and making scientific investigations, on the 31st we proceeded on our way by the upper or mountainous route, *via* Kunnie, so as to avoid the hot desert, though shorter and more direct route.

The undulating fertile country we passed through to Lake Hanamaya we found still much cultivated. Cactus-bushes and creepers abounded, while specimens of the peculiar Quolquol tree (*Euphorbia candelabrum* or *Abyssinica*) were not infrequent. Some of these we saw in bloom, the beautiful rose-coloured bunches of flowers being upon the summits of the long, extraordinary, candelabra-like arms. Many of the fields and

gardens were hedged round with branches of the tree planted in the ground; these grow like cacti, and form a very effective hedge.

For some days before as well as after this, we were charmed to see a goodly number of common British plants and flowers interspersed among the other, less familiar vegetation,—among them the dog-rose, jasmine, the wild clematis or travellers' joy, laburnum, mountain-ash or rowan-tree, dead nettles, scabious, and others were noted.

At Lake Hanamaya the birds were found to be so numerous and varied that it was determined to delay one day here in order to collect as many as possible, so we spent New Year's Day doing so. Warblers, grey wagtails, two varieties of coot, many ducks, teal, and pochard, geese, white and black ibis, stilts, sandpipers, knots, moor or water fowl, and grebes, swallows, martins, and finches, were some of those seen and collected. Some beetles and other insects were also found and preserved.

Here the rock was still red granite, among which blocks of a black and grey coloured sandy schist were erratically intermixed, as though pieces had been included in it when in a molten state. This granite had the usual veins and dykes of biotite intersecting it, and I here saw an excellent example of how deeply it becomes weathered and acted upon by the sub-aërial forces, for at one spot I came upon a perpendicular-sided gully or dry watercourse twenty or more feet deep, which a deluge of rain-water had washed out of the hill slope, the sides of which gully were so soft that they would crumble away upon touch. The coarser structure of the rock, with the veins and dykes, all showed perfectly, so that it was plain that it was *in situ*, and otherwise undisturbed.

We then continued our journey in a WSW. direction along the Arosso and Itu range of mountains, in part densely wooded and abounding in apes, as well as through often park-like scenery, to Lake Chercher.

Being here at a considerable altitude above the sea, between 7000 to 8000 feet, we were subjected to extraordinary variations of temperature, for it ranged from between 75° F. in the day to as low as 24° at night. Thus, in the morning before sunrise, hoar-frost would cover the ground, and the numbed and shivering natives in their light cotton apparel could do little until the sun rose and its heat revived and warmed them, while soon after it would become warm, and even hot.

Every day our path would lead us down precipitous descents, rough and covered with large and small loose stones, so precipitous that it was a matter of wonder as to how any animal, other than a goat or cat, could go down, much less a heavily laden mule; as well as very dusty, into deep, flat-bottomed valleys, many of which were plainly silted up. lakes, again up steep ascents to often more or less flat-topped heights; yet, though the hills were frequently flat-topped, the outline and contour of these showed nothing characteristic of the basaltic formation, as is so marked a feature in other places where this rock is common, such as I have seen it in Skye, the west of Scotland, Franz Josef Land, as well as others show it to be in the Faroe Islands and other places. Here the hills had a rounded, flowing outline, which forcibly reminded me of the wearing down of old ice action. I looked to see if I could find any more marked evidence in the shape of grooved

and scratched boulders and stones, but in this I was disappointed. I cannot but remark that the weathering action in these hot portions of the earth's surface appears to me, however, to be far greater than in the Polar regions, where the destruction caused by this agency is considered to be so marked. Here, therefore, this weathering action may possibly have destroyed these characteristic features.

The hills are almost entirely formed of basaltic material, but the layers of basalt, often thick, are interbedded with enormous masses of tuffs, agglomerates, and scoriaceous rock, the first of which is frequently of a dirty, yellowish-grey colour, and has a strong tendency to weather a deep red; this, with the weathering of the basalt, causes the soil everywhere to



Termite, or White Ant heap.

be of this red colour, and makes it a marked characteristic. Wherever the dip was observable, it appeared to be an easy one to the NW. (5 to 8°).

At Lake Chercher we again delayed a day because of the abundant bird-life found there—herons, geese, storks, ducks, grebes, and water-fowl of many kinds were obtained. Crickets and grasshoppers abounded in extraordinary number and variety.

From here we went on *vid* Laga Hardim; where there is a very steep, rough, rocky ascent, at the foot of which is a telephone station, one of the many situated at every two days' journey upon the line which joins Harrar to Addis Abbaba. This line of wire, which is a single one, elevated upon posts or trees along our path, has been erected by a company,

principally composed of Germans, and in which King Menelik has shares. It is very badly looked after, so that more often than not it is found to be broken down and no message can be got through. We had tried at several places on our road to speak with Addis Abbaba, but until we got here were unable to do so. The stations are within large, strongly stockaded compounds, containing a few toukuls which are little better than sheds. In this one, a common deal-wood, rickety table, a case as a chair, an electric battery, and a few sheep and cow-skins, formed the only furniture. Patience, very long-suffering, was needed before a message could at last be got through.

Many of the villages about our route are really permanent camps of armed men. These are always perched high up on the summit of the loftiest hills, and are quite a feature here.

After the long steep ascent we had a glorious view from the top, of miles over the Hawash river and plain, down to which a long, dusty, stony descent led. The dust and stones were due to the loose powdery tuff and scoriaceous rock of which the hills there are composed.

We made our way rapidly over the plain and river, and travelled here, for the most part, in the cool of the evening and till well into the night, as well as in the early morning, in order to avoid the great heat of this comparatively low ground. While camped close to the river, there were many alarms raised by the Abyssinians, who feared a raid from the Gallas and Danakils, who have a very bad name for this at this place—indeed with some reason, as a little to the north of where we were a caravan had been set upon three weeks before, when twelve men had been killed.

On one occasion great excitement was caused by men having been seen dodging about suspiciously among the bushes not far away, and this was augmented soon after by a large party of armed men being seen coming towards us some distance away, who were thought to be coming to attack us. Mr. Blundell led a party of our men, armed with rifles, which formed an ambushade in a very advantageous position. The supposed hostile party, as it approached, was hailed, and ordered to halt and explain its business, when it was discovered that they were returning from an elephant-hunt in which they had been successful, so they were allowed to pass, and we were never molested either then or later.

After quickly traversing the Fantallé hills and the Kassim valley, we arrived at Godoburka. At this place we ascended the high rampart-like wall, and characteristically basaltic, which forms the edge of the south-eastern portion of the great Abyssinian plateau. This rampart-like wall has a very imposing appearance.

I may here observe that the great plain we had passed, through which the Hawash river runs, is studded to the southward with numerous, both small and large, beautifully preserved volcanic extinct craters. These are, without doubt, of quite recent formation, from a geological point of view. The Fantallé hills are composed of enormous masses of trachytic, andesitic lavas and tuffs, as well as obsidian and scoriaceous material of a different character from that of the basalt hills of the east, and of the rampart-like wall we had arrived at.

From what I then saw, as well as subsequently, it is very evident that this lower-lying volcanic plain represents a much more recent volcanic phase of activity, which has taken effect along a line of weakness in the earth's crust running from the SW. to the NNE., and which begins as far south as Lake Rudolph or farther, and passes northward to the Red Sea and Aden, as far even as the Dead Sea in Palestine. At Lake Rudolph even now, I believe, there are active volcanoes still existing.

From Godoburka, ascending to Balchi, we reached the higher plateau, then traversed a more or less level stretch of country, thinly peopled and cultivated, and in three days arrived at Addis Abbaba, the present capital of Abyssinia.

This place can scarcely be called a town, for it consists of nothing more than a vast number of toukuls scattered singly or in groups over a stretch of undulating country some six miles in extent from north to south, and four to five from east to west. The surface is cut through and divided up by a number of deep, comparatively narrow rivers or brooks. No attempt is made to bridge these, therefore steep rocky descents and ascents have to be made in order to pass from one part of the town to another.

The King's compound or Gebbi occupies a prominent position in about the centre, upon a low hill which rises rather higher than the general surface. Within this large compound are many toukuls similar to those of his people, yet rather larger for the most part. One or two buildings are, however, a little more pretentious, especially those which have lately been erected by masons from India, with the help of one or two Frenchmen and Italians. Stone is quarried near by, and some are still in process of erection.

Britain has now its representative staying there in the person of Captain Harrington; the French are represented by M. Lagarde, the Russians by M. Vlasoff, and the Italians have also their representative. Indeed, the Russians have quite a large establishment, especially a medical one.

The foreign trade of the place is largely carried on by Indians, Greeks, French, and Armenians, who have bazaars there; but the main and more popular trade is almost entirely performed by means of the market—so also all over the country, for there are markets everywhere, which are attended by the travelling merchants, as well as the Galla agricultural producers.

The market at Addis Abbaba is necessarily a larger one than others that we saw, and a huge motley crowd congregates there on the market-days. The vendors squat on the ground with their wares spread out before them, with little or no order or plan, so that it is a matter of difficulty to pass from one part of the market to another, for one has to thread one's way carefully through the packed medley of buyers and sellers, ponies, mules, donkeys, cattle, sheep, and goats, as well as avoid the wares which are scattered about all over the ground.

There are from four to five of the usual circular, conically thatched-roofed churches in different parts of the town, surmounted by the never-failing, characteristic Abyssinian or Coptic cross.

We were delayed there, for Mr. Weld Blundell and Lord Lovat, in order to obtain permission from the King to proceed farther, were obliged to travel to his camp, some 180 miles away, for he had left Addis Abbaba and gone north to near Magdala with his army, in order to receive the submission of his rebel subject Ras Mangasha.

I remained at Addis Abbaba in charge of the main camp, and to superintend the necessary preparations for the continuation of our journey. Part of the time, however, I utilised for the purpose of going forty miles south and visiting Mount Zouquala, the famous holy mountain of the Abyssinians. It is a lofty mass in the form of a truncated cone, which rears itself some 2000 feet above the level of the surrounding country, and forms one of the series of perfect extinct volcanic craters already mentioned.

Villages are scattered upon its lower slopes, the upper portion is densely wooded, and upon its summit is an oval rocky-banked, flat-bottomed valley a mile to a mile and a half broad and about 200 feet deep, which is partially filled up by a lake. The altitude, 10,000 feet or more above the sea, causes the climate, in the day even, to be here comparatively cold and bracing.

It is probably on account of the extraordinary, to the native mind, though natural conditions here, that a certain amount of superstitious value is attached to it by them. For by drinking the waters and bathing in the lake, miraculous cures are wrought, so that pilgrimages are made to it by the sick, maimed, and diseased from far and wide.

Some springs trickling from the rocky walls are also drunk by women and fervently believed in as a sure cure for sterility. The whole mountain-top and the miraculous waters are dedicated to the Virgin Mary.

It has also attracted to it a number of priests and hermits, who form a so-called monastery. These men live in isolated separate huts imbedded in the forest, a large number of which are hidden there—so also are churches. They are said to spend their lives in prayer and self-mortification. I saw some of them engaged in these rigorous religious exercises, which often take the form of severe floggings with hippopotamus-hide whips till much blood is drawn. Those I saw had all a wild, half-maniacal appearance. At this place I came across a church, in the compound surrounding which I was very much interested in finding a company of priests engaged in casting out devils and similar religious acts. A priest was standing in front of the sick person, facing him some twenty yards away; the patient stood with a dejected, downcast, and humble mien; the priest raised his arms high above his head, and threw his hands towards him, with other gesticulations, at the same time using declamatory and emphatic expressions. I fear I interrupted him, though I was stopped from going too near, for he soon finished, and the patient was moved away by his friends. How long this had lasted before my arrival I cannot say. There were many other sick persons I saw standing near, no doubt awaiting their turn to be operated upon.

I was admitted into this church, though my Mohammedan attendants were not, and was shown the usual motley array of gaudy chromo-lithographs seen in all the Abyssinian churches, which are attached all over

the wall surrounding the inner square chamber, or "holy of holies." These represented the Virgin, Christ, and the Saints. Each had also descriptive letterpress attached in Latin, or in all or one of the four languages, English, French, German, and Italian, for they were of recent European origin, many of them having "Made in Germany" affixed upon them. The Russians having for some time had considerable influence in the country, the orthodoxy of any foreigner claiming to be a Christian is very much questioned, as the idea has gained considerable hold, through them, that no people are Christians except the Russians and they. I was therefore taken round and shown these pictures, and had to pass a sort of examination upon them. Needless to say, I came through with "flying colours," for had I been unable to make them out otherwise, the description upon each told me what they were. The priests, some ten or a dozen, were so delighted that, though they still somewhat doubted my orthodoxy, they took me to the door of the "holy of holies" and showed me one of their chief treasures, a double folding-panel on which were depicted the Annunciation of Mary, and St. George and the dragon. St. George is the patron saint of this church as well as of Abyssinia, I was told; so I pointed out—all this of course through an interpreter—that he was also the patron saint of England. This interested them considerably, though they still seemed doubtful; so the happy thought struck me that I had a sovereign in my pocket. This I quickly produced; it was rapidly and excitedly compared with their picture, the resemblance was immediately perceived, when their delight, wonder, and excitement was unbounded. I was indeed a Christian, and one of no mean order,—here was the proof, for I carried about with me a charm with the effigy of their patron saint, who was mine also, a talisman against all evil!

At Addis Abbaba, almost in the town, there are some hot springs which are very much used by the sick and diseased, especially those with rheumatism and skin eruptions. These bubble up through the mud and rock in a valley, and flow into a rivulet near by.

I took the temperature of them: that of the hottest I found to be 76·3 Cent., or 170° Fahr.

The people of both sexes strip themselves of all their clothing, and, without any regard for decency, sit in the small mud basins made by the water, selecting those where the water is less hot, in full public view.

Bathing is carried on in the same manner in the lake at the summit of Mount Zouquala.

Permission having been granted by the King, the reunited party proceeded on its way on the 2nd of March, and travelled almost due west, through hilly and varied country, for some distance along the base of the Metcha range of hills. We soon again crossed the Hawash river (which curves in a great semi-circle from here, where it is not far from its source, round to the south of Addis Abbaba, and then runs north), then the Guder and Gibbé rivers, passing through varied country, and arrived at Bilo in the Leka district. This is an important place 4768 feet above sea-level, and very populous, and here resides the "Choom" or Chief who administers the district.

The people of the place having heard that a Hakim Ingleesé (English

doctor) was one of the party, a number of the sick and ailing of them practically besieged and mobbed my tent in order to obtain treatment. They came in such crowds, and were so eager to obtain medicine, that they pressed upon and almost overwhelmed my tent, so that in pure self-defence as well as to obtain breathing-space, for they would not listen to remonstrance or reason, I was compelled to get two of our Sudanese soldiers to lay about them with their hippopotamus-hide whips and so to clear a space in front of it—even then they would scarcely be kept back. Some of the priests did not disdain to join the number and swell the crowd of those who came for treatment. Needless to say, as many as possible were attended to. The examination of them, however, could be only cursory, while they (of both sexes) had to detail their symptoms, some of these being of a delicate nature, through an interpreter, before all the others who were within hearing and sight, for privacy was unobtainable. They, however, did this without any hesitation whatever.

Here also, before we departed, we had some difficulty with the Choom, who would not allow us to pass; for the King's letter, although mentioning that we were allowed to shoot elephants, did not mention that we might carry rifles, and here was the Choom's difficulty. It apparently never struck him that one could not shoot without rifles, or else he wanted to try to get a substantial present out of us—this is the conclusion we came to. We, however, would not be coerced into giving him anything, so after bluffing him a bit we passed on in spite of him, and proceeded to Gatamma.

Thence we passed over hilly country north to Lecampite in Sibü, when, after crossing the Didessa river and ascending the tremendously steep and rocky range of mountains on its western side, we passed on to Gimbi; thence we went in a NNW. direction over hilly and beautiful country through Najo to Mendi. All this portion of our route lay through the Galla country. The Gallas here have comparatively lately been subjugated by the Abyssinians. They are a fine-featured, well-formed agricultural and pastoral race, who are kept in abject subjection to their conquerors by means of their not allowing them to have fire-arms. The Abyssinians rob, ill-treat, and tax their produce without mercy, and they are evidently in a very unhappy state.

At Mendi we were kept prisoners for a time, for Dejudge Demis, to whom we were recommended and directed by the King, was away on a distant raid, and his deputy was either too stupid to understand, or else dared not use his discretion; so he obliged us to halt, until by our sending a letter post to the King, definite instructions could be sent to him. In three weeks our messenger returned, and all was arranged. Some delay was also caused on account of the difficulty of obtaining food, for the country had been twice raided by the Abyssinians, who had devastated and destroyed everything,—hence the dearth of supplies.

We then crossed the Dabus river and proceeded through the Berta or Shangalla country to Amdurahman's village, the Beni Shungul of the maps.

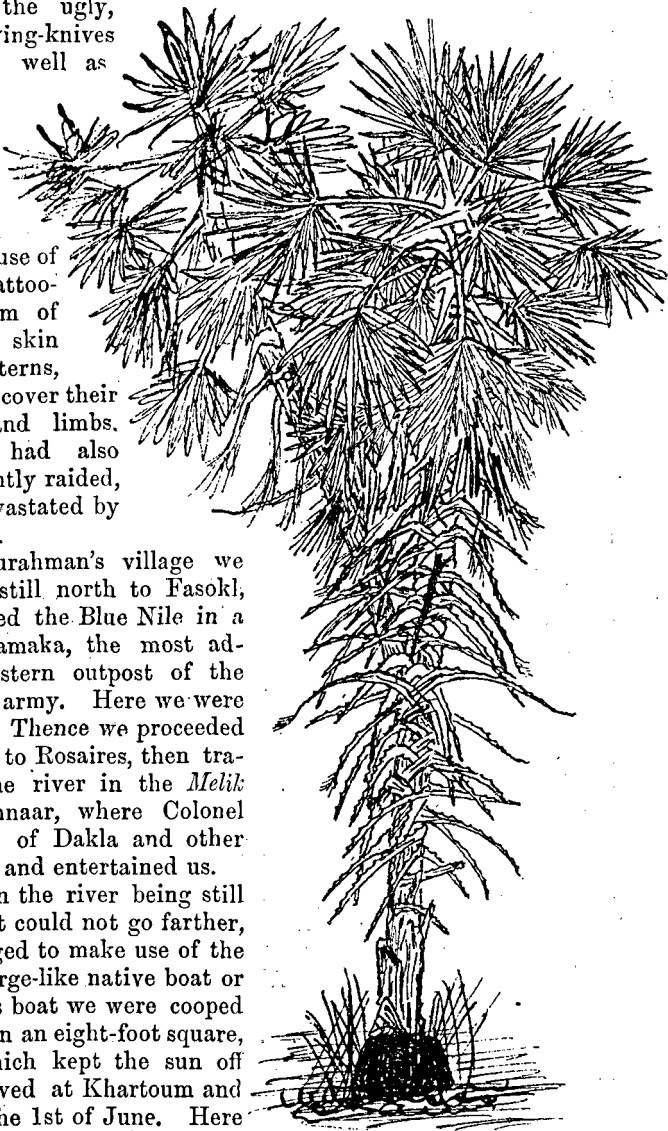
The Berta, or Shangalla people, as they are called by the Abyssinians,

are quite a different race from those we had up till now been among. These are true negroes, while the Somalis, Abyssinians, and Gallas have almost European features and frames. They are the people who make use of the ugly, dangerous throwing-knives or swords, as well as boomerang-like throwing-sticks, also some very ugly barbed spears. They are also remarkable because of the amount of tattooing, in the form of gashes in the skin arranged in patterns, with which they cover their bodies, faces, and limbs. Their country had also been quite recently raided, burned, and devastated by the Abyssinians.

From Amdurahman's village we made our way still north to Fasokl, where we crossed the Blue Nile in a ferry-boat to Famaka, the most advanced south-eastern outpost of the Anglo-Egyptian army. Here we were kindly received. Thence we proceeded still by caravan to Rosaires, then travelled down the river in the *Melik* gunboat to Sennaar, where Colonel Lewis, the hero of Dakla and other battles, received and entertained us.

The water in the river being still low, the gunboat could not go farther, so we were obliged to make use of the slow, clumsy, barge-like native boat or nuggar. In this boat we were cooped up for ten days in an eight-foot square, rough booth which kept the sun off us, and we arrived at Khartoum and Omdurman on the 1st of June. Here we were lodged in the Kaleefa's palace and entertained by Colonel Maxwell and the officers of the garrison.

After three days' stay, one of which we made use of for visiting the battlefield, we again took another nuggar, and after shooting the



The Dom palm. West side of Dabus river.

Shabluka rapids arrived at the Atbara, where we found two of the piers of the new bridge had already been erected. Thence by train and boat we were soon in Cairo.

Time will not allow me to enter into the details of much of the special work done by the expedition. Last night I was laying before the Royal Physical Society some of the results of the Anthropological and Ethnological observations and collections, and with the help of Dr. Catherine Raisin the Geological work will be published. In Zoology, vertebrates, consisting mostly of mammals and birds, have been handed over for description to the British Museum. Besides lions and elephants, there are about seventeen species of antelopes, as well as a number of rodents—"Some of which prove to be new"—and many very valuable scientifically.

But the birds, to which Lord Lovat continuously and untiringly devoted himself, are the feature of the collection. Altogether 523 specimens were taken, including 303 species, of which at least sixteen are new to science. Mr. W. R. Ogilvie Grant is giving an account of the birds in the *Ibis*. My invertebrate collection I have intrusted to my late comrade in Franz Josef Land, Mr. W. S. Bruce, who will attend to the proper recording of the species which are represented. It consists mainly of insects, which promise to be of very considerable interest. There are also a number of land Mollusca, as well as a few marine specimens from the Somali coast.

Mr. Robert Turnbull has kindly consented to describe the plants which I gathered and preserved during the journey, and at a subsequent date will publish the results of his investigations.

To Mr. R. T. Omond of the Scottish Meteorological Society I am specially indebted for having already worked up the meteorological observations I took during the journey. He has been so very good as to allow me to have it published as an appendix to the present paper in *this* Society's magazine,—it is therefore unnecessary for me to enter into details at the present moment.

TEMPERATURE OBSERVATIONS IN SOMALILAND AND ABYSSINIA.

By R. T. OMOND, F.R.S.E.

THESE observations, made with a portable dry and wet bulb hygrometer by Dr. Koettlitz, while travelling through the countries named above, are necessarily imperfect in two ways: first, they could not be taken at regular hours owing to the exigencies of travel; and second, the exposure of the instrument was often unsatisfactory. But even with these drawbacks the data collected show many interesting features, and are