

An Expedition between Lake Rudolf and the Nile

Author(s): A. Donaldson Smith

Source: *The Geographical Journal*, Vol. 16, No. 6 (Dec., 1900), pp. 600-624

Published by: [The Royal Geographical Society \(with the Institute of British Geographers\)](#)

Stable URL: <http://www.jstor.org/stable/1775265>

Accessed: 01-03-2015 11:00 UTC

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at
<http://www.jstor.org/page/info/about/policies/terms.jsp>

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.



The Royal Geographical Society (with the Institute of British Geographers) is collaborating with JSTOR to digitize, preserve and extend access to *The Geographical Journal*.

<http://www.jstor.org>

administrative surveys of all those territories in Africa which are directly dependent on the Home Government, and that in conjunction with the other European Powers which have African possessions.

AN EXPEDITION BETWEEN LAKE RUDOLF AND THE NILE.*

By Dr. A. DONALDSON SMITH.

IN 1895, when my first expedition reached Lake Rudolf, it had been a whole year on the march, and had been successful also in exploring much more new country than I had anticipated, so I contented myself in making a fortnight's journey up the Mela river. On this side journey, however, I made up my mind, on looking across a vast expanse of plain towards the west, that some day I must pursue the setting sun from Rudolf to the Nile, and I continually watched for an opportunity to satisfy my desire. Since I could not do this at once, I filled in a part of the intervening time by a journey through some of the unknown parts of the Khingan range in Mongolia in 1897, a short account of which was published in the *Geographical Journal* of May, 1898.

The whole of the winter of 1898-99 I was in the jungle in Somaliland, hoping for an opportunity to cross the border, but owing to political reasons and to the gratuitous interference of the Consul-General, I was unable to put my project into execution until mid-summer. During May and June, while negotiations with the Foreign Office were under way, I employed my time in recruiting twenty-eight Sikhs and Gurkhas in the Punjab. I thought it advisable to enter *viâ* Kismayu, but the Mombasa local authorities stopped me. To be brief, I fitted out three distinct expeditions before I managed to get finally out of the reach of incomprehensible officials. I started from Berbera on August 1, 1899. After the first march eleven of my Sikh ex-Sepoy's deserted, having become aware that they must sweat occasionally, and that they could not be supplied with all the manifold luxuries they were accustomed to in the Indian army. Knowing that I should never succeed if I took one of the officially recognized headmen with me, I had great difficulty in getting Somali camel-men, since all the Berbera headmen formed a ring against me. Several camel-men having deserted me at Hargeisa, and fearing further official interference, I started across the Haud with only seventeen Somalis, and as many Gurkhas and Sikhs, besides my assistant, Mr. Frazer, and my excellent Goanese cook, kindly lent me by Captain P. Z. Cox. During the journey to the Shebeli river *viâ* Milmil, Sesebane, and

* Read at the Royal Geographical Society, November 12, 1900. Map, p. 712.

Sheneli, I increased my following to forty-eight men. Near Milmil a small caravan of camels and women which was following us was attacked by three highwaymen. One of the robbers was captured by my boys and brought before me. He was a lad of eighteen, with wiry limbs and an intelligent expression, and struck me as a likely recruit, and a better brigand than the majority of my men. So I contented myself by making him march handcuffed for a day, and then enlisted the homeless fellow as a camel-man. He became known as Ali Hatbury, or "Ali of the handcuffs," and proved one of my best boys.

My surveys began immediately upon leaving Sesebane. Although I had with me all the most recent maps, the "tug" Fafan had been given no resting-place by cartographers. All the way to the Juba river we had work to do filling in what had been to all intents and purposes a blank upon the maps, except where I came upon my old line of march in 1895 at Turr. Sportsmen had knocked about the country in places, but they evidently never thought that Longfellow's idea of a brook applied to a tug or wady from the different positions the poor sandy river-beds were made to assume.

At the end of our march on September 8, we reached the Shebeli river at a spot called Godi, over 400 miles from Berbera by road, and crossed without unloading the camels. It contained only from 2 to 3 feet of water in its deepest part. So dry was the country about the river that I pitched my camp in a dark grove of immense cedar trees within a few yards of the stream, not having to fear malarial poisoning. Not a single mosquito disturbed our rest at night. On September 11 we started west again across a rich river-made plain, passing numerous villages of Aulihan and Dagodi to the foot of the highlands, which intervene between the river Web and the Shebeli. We followed up a tug to its sources in these highlands, and found many pools of water in it. Considering the extreme dryness of the season, I believe this tug must be usually a flowing river. The natives would sell us nothing at any price, although they were rich in live stock. For the next few days we experienced a delightful change from the trying heat of the low plains, where the mean temperature for the twenty-four hours was over 90° Fahr. The plateau was only 2500 feet above the sea, but that was a sufficient elevation to give a slight tonic effect to the atmosphere. The land was only suitable for grazing purposes to a limited extent, since the granite and iron ore, of which the hills were composed, was bare, or else covered with a thin layer of sub-soil, which supplied nourishment to a tangled mass of mimosa and acacia trees and bushes. Inhabitants were consequently very few, and giraffes very plentiful. Water is to be obtained in holes in the rock.

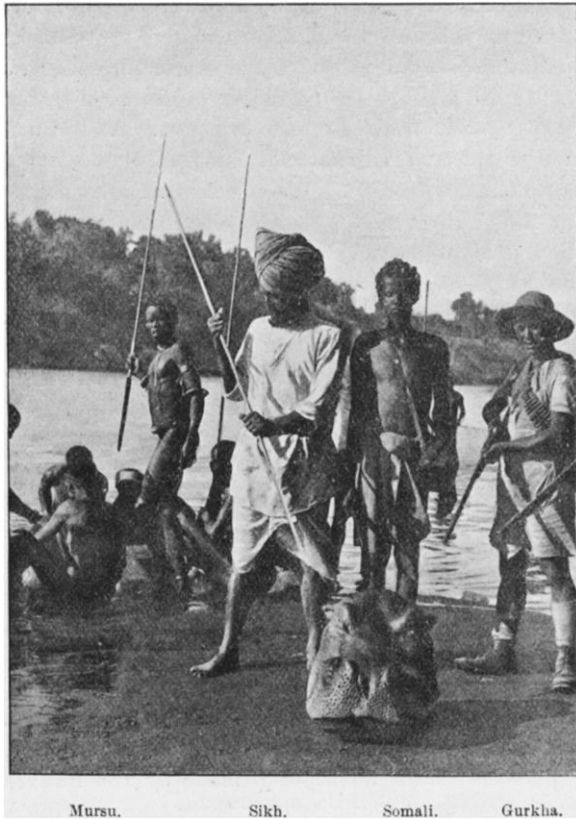
Near some villages called Mucha, which we reached on September 14, there were some remarkable deep rock wells. Two days after leaving these we descended from the plateau and reached my old line of march

at Gohule. From here until we reached the Boran at El Dere I cannot add to the description I gave to you of the country when I read my paper before the Society in 1896. The rivers Web and Juba had only half their usual supply of water. The people were flourishing, and nothing could have exceeded their meanness in not wishing to sell us food, which made it most difficult for me to keep my men supplied, there being also little game on our line of march. The Boran, on the other hand, were most friendly. I must here refer to the Abyssinian method of annexation. In 1895 I saw the worst side of their treatment; but on my recent journey, I found that their treatment of tribes, once thoroughly brought to submission, was commendable. In their first attacks they are certainly very cruel, but later, when the natives have been so harried that they look upon their masters with the greatest respect, they are given back a good proportion of their belongings and very nearly their original self-government, but a moderate tax being imposed. From the Somalis to the Boran I was surprised to find the natives quite as rich apparently as they were before they had come under Abyssinian rule.

Since I could fill in many blank spaces on my former map before reaching Lake Stefanie, I started survey work again at El Dere, and continued it to the Nile. Marching in as straight a line as possible from Berbera, El Dere may be considered to be 750 miles by road and the same distance from the Nile. Three long marches from El Dere to Le lead us through a very wooded and broken country, where elephants abound and man is a rare visitor. There are many mountains scattered about, principally of limestone rock, and the deep wells at Le I now believe to have been originally formed by the disintegrating effects of water on chalk, in which the natives have actively assisted. My Somalis gave me infinite trouble and annoyance. They were never satisfied unless they had over ten pounds of camel meat or mutton a day per man, and when food was scarce I had to be constantly on the alert to prevent them from poisoning my transport animals, so that they could eat the meat, or from stealing sheep, but they were not, however, as miserable petty thieves as most of my Indians. All but four of them mutinied at a place called Gof on November 4, and remained out over night, putting me in a decidedly disagreeable situation. If I call my Somalis howling hungry humbugs, I describe some bad points of their character, but it would be unjust in me not to mention their superb physical condition, swift-footedness and endurance, and their intelligence, which made them compare favourably with the Indians. Of my nine Gurkhas, five only were pure-blooded men from the backwoods of Nepal, and these were among the best men in camp. The other four Gurkhas had Rajput or other blood in their veins, and it is with regret that I look upon them as human beings. These latter, and as many more Sikhs, continually

strove to commit suicide by hiding if the march was long, and gave me and the Somalis infinite trouble in hunting them up. Two Indians were cunning enough to evade the Somalis search-parties sent after them at different points on the journey, and were never heard from again. Whenever the march was protracted over five hours, either my assistant or I fell back far to the rear of the caravan to protect tired Indians from themselves.

Between Goff and Lake Stefanie the Abyssinian highlands are



ON THE OMO AT MURSU.

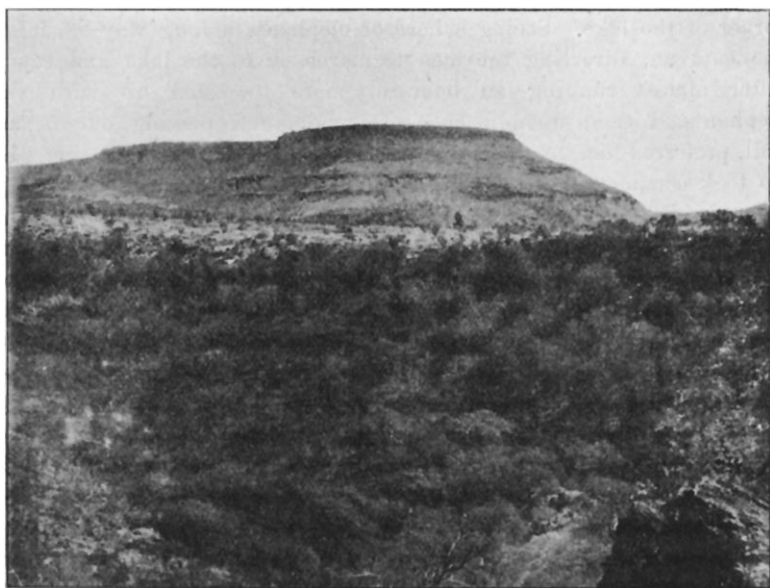
continued south as a long mountain chain all the way to Mount Koroli and Marsabit, near the southern end of Lake Rudolf, a fact that I was not aware of on my first journey. Proceeding westward three marches from Gof, and passing Egder, we arrived on November 8 at a large settlement called Gorili, at an elevation of 3000 feet, where the people welcomed us with large vessels of honey and milk. There were Arab and Somali traders among them from Kismayu, buying ivory in exchange for cattle.

On the next day we rose over 1500 feet to Mega, a beautiful broad open meadow or series of meadows between mountain peaks, into which tiny watercourses trickle, and where there was a delightful freshness in the atmosphere and in everything living. Besides the many cattle, sheep, goats, and donkeys which were to be seen grazing on the fine green grass, we were much impressed by the numerous droves of sleek ponies. For some reasons the natives west of Egder did not wish us to be a witness of their wealth, and whenever we managed to get a guide from them, he persisted in taking us by the most unfrequented paths, and away from the western course, which I was determined to pursue. I had finally to give up trusting in guides altogether, load up a two days' supply of water on camels, and march ahead. We camped when we got tired, irrespective of water or people, and then sent men in all directions to prospect. As it turned out, we usually found water and villages not far from camp, though with a considerable amount of trouble. We marched rapidly along easy paths after leaving Mega, through the same green upland basins, for a little over four hours, all of us revelling in the delicious cool atmosphere. The good old Gurkha Havildar voiced the sentiment of the crowd by exclaiming, "Ah! Sahib, if we could always have it like this."

We were at an elevation of over 5000 feet, when suddenly, on rounding a little promontory, the caravan was brought to an abrupt halt. We found ourselves perched on the edge of a precipice that sheared off almost perpendicularly down to a broad plain 1700 feet below us. Across the plain, some 30 miles to the west, rose what appeared to be a low mountain range, the southern extension of the Tertala mountains; but the plain itself we found to be over 3000 feet above the sea-level, a no mean elevation compared to the valleys of Lake Stefanie and Rudolf. On my first journey I crossed this plain 80 miles north of here, where it was only a narrow valley running up to its origin in the Amara mountains. The view was, indeed, magnificent from this great wall, the western edge of the Boran highlands, which run from the Amara to Marsabit, but it was appalling when I came to consider how my poor camels were to get beyond it. To my surprise, we found a winding path had been laboriously made by the natives for their donkeys, many stones, weighing two or three tons, having been rolled aside. We set to work on this road, and after a day's hard labour got it in fit enough condition to take the camels down empty. All the loads were carried down by my men, and then the long line of grunting, stumbling, patient "ounts" were shoved and lifted after. In spite of the inimitable Kipling, I have the greatest respect for the long-suffering camel. On this occasion only one animal was injured, but he was afterwards consumed by us to his last marrow-bone. Thus you see that the good that a camel does is not interred with his bones.

There were numerous villages about the foothills and on the plain,

and many natives helped us down the paths. The most important settlement, about an hour's march from the foot of the mountain, called Saki, was in a most flourishing condition, judging from the large numbers of cattle which the people owned. A couple of marches west of Saki we got into a very bad washed-out stony country, where the plain was cut into hideous designs by the rushing of the waters in times of flood. A guide whom we had got at Saki insisted on going to the north, which I would not do, so I felt that I had only myself to blame for getting into the bad land. It took five long marches to get across the plain, on account of several stretches of this character. A specimen of one of the tiny gazelle, or dig-dig, of this plain, which I



BAD LANDS, NEAR SAKI, EAST OF LAKE STEFANIE.

presented to the British Museum, has been proven to be new to science by Mr. Oldfield Thomas (*Madoqua guntheri smithii*). On November 19 we were among the mountains again, and not far from the south-east end of Lake Stefanie.

There was one rather isolated mountain called Janissa, 5600 feet high, which I decided to ascend while my camels were resting. From the top of it I got a splendid view, and picked up most important points of my previous journey—Mount Kanjaro, the Tertala range, Lakes Stefanie and Rudolf, and Mount Koroli—and could thus check my work, which I was most pleased to find correct. The trip was not without other advantages also, for on the very top of the mountain

I bagged two specimens of *Cervicapra chanleri*, a beautiful antelope not known to exist near Lake Stefanie. Two marches beyond Mount Janissa we came to what appeared to be an enormous barnyard, with a solid stone floor, and in the centre a bubbling warm spring. The water was sparkling with carbonic acid gas, tasting like acidulated seltzer, and it was evidently the drinking-place of many scores of elephants, judging from appearances. Elephants were ubiquitous; you could scarcely move in any wooded valley without disturbing many of them. The next day we were well down in the valley of Lake Stefanie, and looking forward to plenty of fresh fish and plenty of water for washing.

On November 26 we made an afternoon march to the south-east corner of the lake. Seeing a herd of elephants a long way off, I left the caravan, directing the men to march on to the lake and camp. After almost running an hour or more to catch up with the elephants, I came upon a herd of buffalo, and picking out a good bull, preferred him to the tuskers. Killing the bull and cutting him up took considerable time, and it was not until near sunset that I came in sight of the camp. To my horror I saw nothing but blazing grass where the camp should have been, and on some rising ground, covered with smoking ashes, stood my boys, looking like the central figures in one of Doré's conceptions of the *Inférno*. I certainly thought my ship had been burnt up, but my boys were only resting a moment after their heroic efforts to save the kit, which they had accomplished to the last camel-blanket. No wonder my camel-men's faces looked doubly sad when they brought me a tin of water and asked me to taste it. It was the briniest water I ever touched, and then I too felt sad. I learned that the lake with its undrinkable water was 2 miles away over a sea of mud covered with dead fishes. I only had two small barrels of water in camp, which I always carried for emergency, and these I divided immediately among the poor parched boys, who had been fighting the fire. Every man was tired, and yet I had to send at once several boys with camels to travel all night back to the mineral spring and fetch water the next day. Here is where the Somalis showed their pluck. Not a man that I ordered out objected, since it was a question of life or death. Other Somalis I sent in all directions to follow the paths made by the countless myriads of animals, and learn where they drank. Most of the Indians were dead to all intents and purposes, and considered themselves to belong already to another world. Luck was not so much against us, however, for in two hours my camel-men had found a spring of fresh water by following elephants' spoor, and soon after this the Indians were resurrected by a gallon of water each.

I will pass over our journey from this point to Lake Rudolf, which we reached on December 10. The formerly rich tribe of Rusia had

ceased to exist, and except a few representatives of the Hamar Koki tribe, we saw no human beings at all until we reached the river Nianam. The water was 12 feet lower in the shallow lake than it was in 1895.

I was quite surprised at first at the manner of our reception by the Murle and by their poverty. The rich villages that welcomed us in 1895 did not exist. There were only a few little groups of huts, principally on the west bank of the river, that showed the remnants of a once large and flourishing tribe. We spent nearly a whole day endeavouring to get the people to come to us; but finally, when we



GAZELLA GRANTII BRIGHTII.

gained their confidence, they were most eager to assist us. The secret of the natives' distress was to be found in Abyssinian raids. With the help of the natives and their canoes we easily crossed the Nianam, which was half dried up like all the streams we had crossed. On my first journey I followed up what I supposed to be the Nianam for a long distance to Mela; but since I was there that illustrious explorer, the late Captain Bottego, discovered another river, the Omo, coming in from the west. It is clear to me now that my river, which I will call the Mela, and the Omo together in equal volume join at Gumba to form the Nianam, the name given by Count Teleki to the large stream flowing into the lake.

A remarkable change now occurred in the fauna. Not only did

we find a completely different set of birds between the Nianam and the Nile, but scarcely any of the mammalia that we had been accustomed to were to be found in this western section. The Soemerings gazelle had given place to the larger Boran gazelle, and now this had disappeared, to make way for a smaller variety without any longitudinal black stripe on its side, and which Mr. Thomas has proved to be new after examining a specimen which I have given your museum (*Gazella grantii brightii*). The bouncing, nervous, long-necked Waller's gazelle, which had been a constant companion, was nowhere to be seen, but oribi and reed-buck took its place. Speake's gazelle was replaced by the beautiful *Gazella thomsoni*. The hartebeests, as a matter of course, thought it best to give themselves differently curved horns, and to go under the name of *Bubalis lelwel*, Heuglin. The birds were represented by curious scarlet-breasted barbettes, with their enormous dentated bill for cracking hard berries; by curious tiny flycatchers, with large scarlet wattles around their eyes; and by more than a hundred other different species, all of them strikingly beautiful, belonging principally to the West African types. Many troops of monkeys made the tall forest about the rivers and ponds ring with their chatter. The most beautiful of these, a large horse-tailed colobus (*Colobus guereza poliura*), was found to be new on examination of some skins which I gave to the museum.

I may mention here that from the time we left the Boran gallas until we reached Arabic-speaking natives near the Nile, we could communicate with none of the tribes except by signs, unless we remained long enough at some village to pick up a few words of the vernacular. I had hoped to find some Masai, but there were none. The whole way to Tarangole the natives refused to give us guides, although they were friendly in other respects. This was to be accounted for, I suppose, partly in my refusal to pursue any other than a westerly course, when the natives advised my going north or south, or even east again, and partly through fear that the guides would be killed by their hostile neighbours. We kept our course, however, although we literally got into many a hole, and struck out each morning regardless of paths, waterways, or dire prophecies on the part of the natives.

The day after Christmas we bade the Murle good-bye, and struck out in a northerly direction that would bring us to the Omo, near the point where that stream makes an acute angle as it bends from north to east around the Mela hills. At the end of a long march over a grassy open plain, we came to a place where the loose fireclay which underlay the sub-soil of the plain had been cut away by the action of waters to a depth of 50 feet, and in the deep round basin a dense forest of giant sycamores, mimosa cedar, and tamarind trees stretched before us for about 2 miles. Finding plenty of elephant paths, we wandered through the dark woods the next morning until we came to a pretty lake a mile

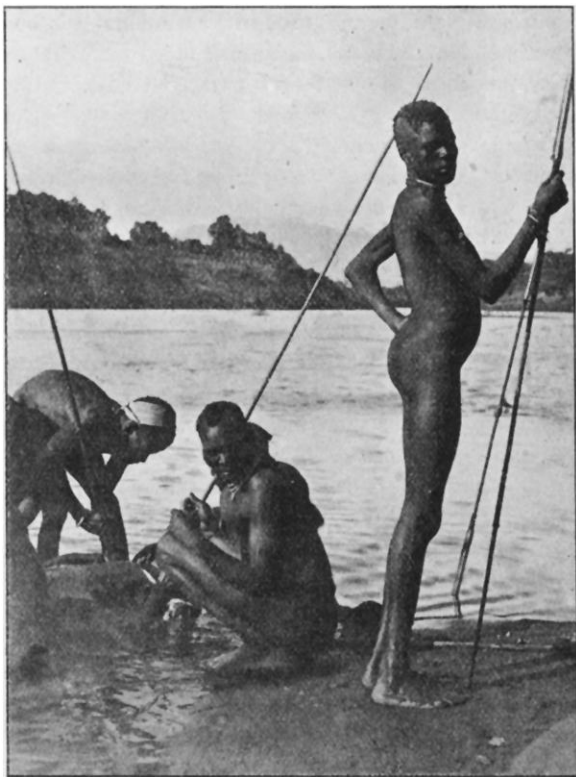
long, in which a school of over a hundred hippopotami disported themselves. The forest was alive with animal and bird life. The elephants were, indeed, so numerous that their stench was most disagreeable. From here to the river the land was so cut up that we did not reach the Omo until we had made a second march in the afternoon. I may say that most of our day had been spent in passing around and over little hills of crumbling clay. The Mursu, whom we found on the banks of the Omo, had escaped the raids of the Abyssinians, and were in a most flourishing condition. After we had shot a couple of hippos for them, they became most friendly, and brought us much food, consisting of durrha, or sorgham, lentils, beans, maize, and dried tamarinds. I bought a small tusk or two from them at first to start trade; but when I discovered a long line of ebony-like forms bearing about a ton of ivory upon their shoulders to my camp, I had to cry a halt, as it was impossible for me to transport more ivory than I then had with me.

The Mursu and Murle are very identical in speech, customs, and appearance, but the Mursu have more of the warlike spirit of the Turkana than the Murle. The Mursu shave the hair well up from above their ears, and also behind the head, a custom observed by the Dume, Bunno, and other tribes living to the north of Lake Stefanie. Moving along the river with camels was hard work, owing to the thick forests, in which much cutting had to be done. Several of my camels died from eating a poisonous vine, and many were made so ill that they never recovered. I have found it always dangerous to allow camels to remain in forests along rivers or lakes for any length of time.

On January 3 we left the river, and, proceeding west, arrived on the second day's march at another little pond at a point where several river-beds unite in one very deep and wide ravine. Thence our route lay across a fertile river-made plain to the base of a low mountain range. I have little doubt, from what I saw of the valleys passing to the right and left of the various mountain ranges and from levels taken, that Lake Rudolf, the Nile, and the Sobat were once united in a vast inland sea. A couple of hours' climb on January 6 got us over the crest of the first range of hills and on to a valley 15 miles broad, that provided excellent grazing to the numerous domestic animals which the natives of these parts owned. The waterways contained plenty of water in pools, and there were many broad stretches of open pasture, while the lower hills surrounding the plain were almost treeless, but covered with fine green grass. On the west, a splendid mountain range ran for 20 miles along the length of the valley; the highest point, Mount Etua, over 7000 feet high, stood out in bold relief as a bare-pointed volcanic remains—a splendid point for surveyors, and a magnificent mass from an artist's point of view. We saw this point from the Omo river, and did not lose it until we were 40 miles the other side.

Almost all the natives fled to the hills on our approach, and seemed

inclined to fight. From their long parallel-sided shields, their Masai-like spears, and their tall athletic build, I made them out to be a branch of the Turkana. A lot of about twenty warriors attacked two of my camel-men one day, who were loitering behind the caravan with my sheep and goats, and were only driven off by my boys firing at them. This was the only time on the journey that the natives attempted hostilities. The people here call themselves Mushas, but I could not get any vocabulary from them, as I only managed to get speech with them on



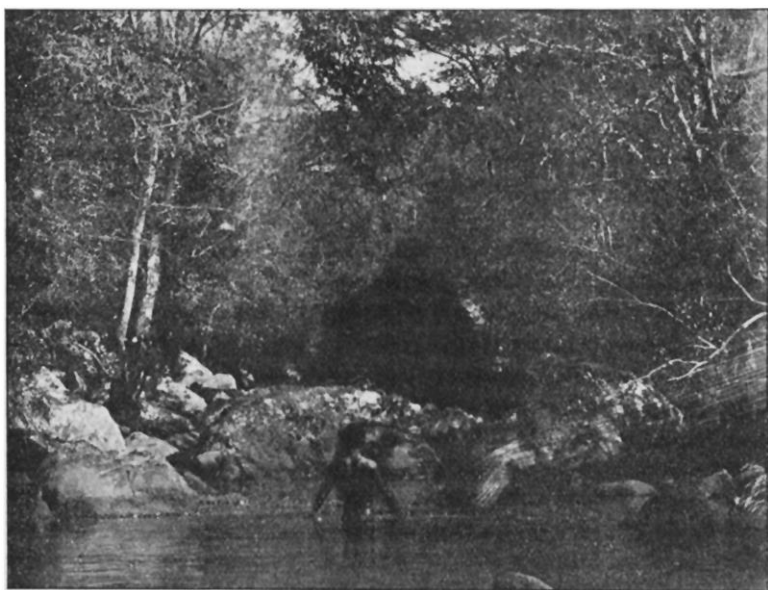
MURSU ON THE RIVER OMO.

two or three occasions before I was about to quit their country. We kept pretty much to the valleys, which were at an elevation of 1700 feet as we progressed through their country for seven long marches, occasionally going over some mountain passes, where stretches of open upland meadows and grass-covered hills made me feel that I should be wearing tweeds instead of khaki. In such places there were usually a good number of small villages, but occasionally, where the bush was very thick, we sometimes did not see a sign of any inhabitants

for a distance of five miles. I frequently saw the male members of the tribe, and tried to get them to approach the caravan, but in vain, and occasionally I met a few old women who had remained in their villages while the caravan passed them, and once a dozen hunters came into camp to sell ivory. I bought a few ornaments and a beautifully tanned goat-skin apron from the women, which were very like the things in use among the Turkana. Except for the goat-skin apron worn by the women, the Mushas contented themselves with the same cleanly nakedness that was the fashion from the Boran to the Egyptians. The taller mountain ranges of this country are of volcanic origin, and in many cases their slopes are covered with abominable brecciated rock, principally granite, while most of the flat-topped hills are composed of argillaceous sandstone and shale. The surface of the valleys, which are for the most part covered with bush and forest, is composed of the richest alluvial soil underlaid with clay. To the south of our line of march the broad, yellow, grassy plains were considerably below 1700 feet from the sea-level. In a large valley at the outskirts of this country we remained a week to rest the camels, where a shower or two of rain had freshened up the foliage of the mimosa bushes. A day or two before we left, the natives living in the vicinity began to come to camp, finding that we did not disturb them; and if we had remained longer, no doubt we should have been on intimate terms with the whole tribe. They did not care to sell me any sheep, however, and for this and various other reasons connected with my outfit of men and camels, I thought it best to push on. While here we had the last of the autumn showers.

Since the changing climatic conditions of East Africa is now a subject of much importance, I must not omit to mention some of my meteorological observations. It is well known that the "karif," or fierce winds, that sweep the Somali coast in the summer months are a part of the northern trade winds. Now, these northerly winds persisted until we had got well beyond Lake Rudolf, and with them came a little rain. It was the autumn rains that are expected in Somaliland in September which first struck us in a sudden burst after we had left the Dawa river on October 13. These rains followed us all the way to our camp of January 13. They were very scanty, but it was curious that they should progress so from east to west. Half a dozen slight showers were all that any particular section of country received. The reason that Somaliland and the lowlands to the south of Abyssinia are so dry must be found in the drying effects of the Abyssinian highlands on the northern trade winds, the lofty mountain ranges condensing all the moisture in the air, and allowing only a pitiful drop or so to work south. All the rivers and lakes which came under my observation were half dried up—surely because there was a scanty rainfall this year in the Abyssinian highlands. The

secret can only be solved by a study of the changes that occurred in the northern trade winds. Hardly had we left our camp of January 13 before we began to see the natives preparing for a spring rain, and a spring rain dependent upon the monsoon winds from the south, which gives life to Uganda and most of the East African Protectorates. Thus we had arrived at a point where the autumn rains of one country, dependent on the northern trade winds, would have met the monsoon rains coming from Madagascar had not these been extremely late in arriving this year, as they were in reaching India. The famine which we found to spread all along the upper Nile was dependent upon the same conditions as the famine in India, and the very low condition of



CEDAR VALLEY.

the Nile at Cairo was caused both by the changes in the monsoon and also by the northern trade winds, since the Sobat rises in Abyssinia.

On January 21 we ascended a steep pass to a long narrow plateau, over 3000 feet above the sea, the game path which we took leading us along a beautiful clear-flowing brook shaded by tall cedar trees. The accompanying photograph shows a pool in "Cedar valley" near our camp at the top of the pass, in which a Gurkha is to be seen following my example in having a delicious cool plunge. The men I had sent ahead, and who had found the trail up Cedar valley, did not go far enough across the flat top of the ridge, and consequently did not discover that this ended abruptly in a sheer precipice on the other side.

Beyond, to the west and north-west, stretched a vast plain, as far as we could see. For a distance of about 30 miles the plain did not look so unattractive with its occasional little watercourses, fringed by many a pretty bit of green meadow or shady grove, but towards the horizon the monotonous greyish-white appearance of the surface looked very ominous. We spent three days on the top of the mountains in finding a game trail, and clearing this so that the camels could descend. Game was abundant, and it was in this country that I secured the specimens of the new gazelle, which I previously referred to, and also two varieties of buck, *Aurebia haggardi* and *Aurebia montana*.

At the foot of the hills we crossed at right angles the line of march of the late Captain Wellby. A couple of marches beyond this brought us to a large watercourse flowing west, where we found a new tribe of natives, the Magois. Noticing from the distance that the people were preparing for a fight and driving away their cattle, I pushed ahead with two boys, and persuaded them to desist from their hostile exhibitions. One stout young fellow in particular persisted for a long time in giving frequent leaps into the air to show that he would fight if called upon to do so, but this man proved afterwards to be as friendly and jolly as he was fat. He is shown in the accompanying photograph.



A MAGOIS YOUTH.

The Magois were distinctly different from any tribe previously met with on the journey in appearance and customs. They had the heavy build and large features, with high cheek-bones, of the Soudanese, and, above all, the lines of raised tattooing on their cheeks that is so typical of the people about the Nile. I believe that it is not unlikely that they are a branch of the Dinkas, who, perhaps, being driven from the Sobat by the Neurs, put the desert between themselves and their persecutors. They seem to care principally for small red beads, of which they had many already, some of them worked in gorgeous patterns on leather plaques, with which the warriors adorned their massive head-dresses. The most *outré* of our fashionable young men can never aspire to the height of collar worn by some of the Magois. With a collar of beads, which shoved their chin high up in the air, their locks done up in a great chignon, composed principally of clay covered with ostrich feathers, they looked the very pink of gay deceivers.

Parallel lines of raised tattooing on the chest and abdomen, leopards' No. VI.—DECEMBER, 1900.] 2 T

skins hung over the back, and a bell hung on a slender cord around the waist, helped to liven up the men's appearance. These are the only people whom I have ever seen wearing a zebra's tail suspended from the elbows. Many of the younger girls had rather attractive features and pretty figures, but I will not mention the appearance of the fair sex after they get to be twenty. The worst burden which they have to carry in life, however, seems to be the countless necklaces of beads which spread over their bosoms to the waist, and the large bracelets and anklets of ivory, brass, and iron. Their hair is shaved above the ears, and cut fairly close on the top of the head.

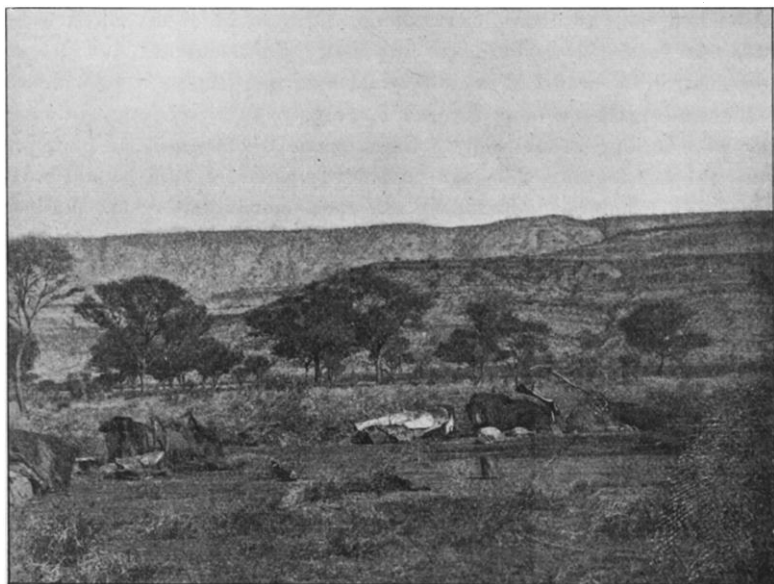
The Magois represented to us that if we went north-east again we would find a stream of water winding northward about the foot of the mountains into a bigger river a long way off, but I had no intention of going to the Sobat and thus leaving my work incomplete. Whenever I asked one of the natives about the plain to the west, he would draw his hand across his throat to represent that we must surely die if we attempted to march in that direction. However, we loaded up all our water-barrels and started on January 28 in a westerly direction, towards two mountains which loomed up on the plains. For a short distance the ground was firm, and we marched along swiftly, but then we came to the worst cotton soil I ever took men or beasts over. It was so loose that we sank in it up to our knees at one moment, while the next instant we stumbled in some crack hidden by a tuft of the coarsest yellow grass. The intense heat added to our burdens, so that we were glad to camp at the end of seven hours.

The next day's march was even worse than the first, and at the end of it I determined to stop and hunt for water about the two mountains, which were then near us. At the end of thirty hours the barren mountains and all the plain for many miles to the west had been scoured for water, but in vain. My animals had been nearly three days without food or water, so that there was nothing to do but to look disappointment in the face, and turn back to Magois. Two of my men found a stream, before reported by the natives, running north, where they told me there were many people and signs of cultivation. This was the stream I have since learned was followed by Captain Wellby to the Sobat. It starts in the mountains north-east of Magois, and not far away in the south.

Another of my scouts reported water directly east, and nearer the Magois, so in the afternoon of January 30 we started off in the direction indicated. My own Somali had been lying to me, since he had only seen what appeared to be a promising waterway, and took it for granted there was water in it without fully satisfying himself on the subject. Owing to this blunder we had one of the worst marches the next day that we experienced throughout the journey. From three o'clock in the morning until all hours the next night the wearied men and animals

plodded on in intense heat, and over the same terrible ground, to a pool of water which I finally found in the Magois river-bed, not far to the east of the Magois villages. At midday I distributed the last of the water we were carrying, which gave the men three pints each, not enough for many of the men, especially the Indians, but sufficient for Frazer and myself, although we had harder work to do than any of the escort.

At 5 o'clock, when I reached water, there were only a few boys and two camels loaded with empty water-barrels with me. These barrels were soon filled and sent back to revive the broken-down men, who were being taken care of by my assistant many miles behind; and then



NEAR MAGOIS.

came the hunting up of the camels and donkeys, which had been deserted by their camel-men, and which were roaming about in the dark among the bushes with all their loads on them. All the men we got safely into camp during the night or the following morning, but I never recovered from the loss which I sustained in transport animals. Some five camels died within the next two days, and as many more within a fortnight; five donkeys were lost, not one of my two dozen sheep and goats ever reached camp alive, and many boxes were injured. I was obliged to throw away much valuable kit. Besides this, the men became so disheartened that they never afterwards recovered from their apathy. Two days after this found us back again among our friends the Magois.

We determined now to follow the wady as far as we could, even though it took us a little south of west. Two short marches on February 5 and 6 brought us to a long pool of still water, but here the river-bed spread out in many little dried-up ditches, that lost themselves within a quarter of a mile in the plain. Here we found another branch of the Magois, who called themselves Katua, and represented that they were very independent of their immediate neighbours, and at war with a tribe called Toporan, living in the mountains west of Turkana. The Katua occupied a dozen large villages, and owned an immense number of cattle and other live stock. Although rich, they wore scarcely any ornaments, and did not care much for any other kind of beads than the wonderfully fashionable little red sim-sim. Trading went on merrily until I had bought about sixty sheep and goats, and my stock of red beads was getting low, owing to the many drains upon it. Cloth and blue and yellow beads, of which I had a large supply, were valueless. In the trading the women figured largely, to my great annoyance, as they were so long in making up their minds, and so hard at a bargain. I was obliged to play salesman to these women for many hours a day, and I often wondered if European salesmen ever have to exact the same amount of patience.

To my surprise, I discovered these people to be cow worshippers, and to indulge in certain rites which were supposed to be peculiar to the Hindoo religion. Plastering themselves with cow-dung, and throwing bits of dried *bois de vache* at every one and everything they liked, seemed to be a matter of much import to them, and occasionally some old man or woman would be quite unmerciful in giving me a too generous dusting. The origin of this cow worship is presumably the same with the Katua as with the Hindoo, traceable to the great dependence placed upon the animal for sustenance. The Katua eat the cow, but all their people turn out when the beast is killed, and go through much ceremony. They would not sell me a single cow.

We were again confronted by the waterless plain to the west, but to the south-west, however, rose a mountain range 40 miles away, that I thought must surely provide water, and thither I accordingly sent Ali Esa, whom I had made headman, and seven other Somalis with a week's supply of water and food to reconnoitre. I employed my time that was not given up to trading, in surveying and collecting and studying the natives, of whose language I made a short vocabulary.

Just here, for the first and only time on the journey, I found a number of Rüppel's reed-buck, the original *Cervicapra bohor*. This animal was first described by Rüppel nearly eighty years ago from a skull, probably brought down the Nile by traders, but it was not until the arrival of my complete specimens at the museum that all the characteristics of the animal were known. It stands 40 inches at the

shoulder, and is remarkable on account of its pretty light yellowish hair, and the peculiar forward bend of its horns.

The natives were very busy moving their villages to the hills in anticipation of the spring rain, and by the time my scouts returned, there was scarcely a soul left in the huts by the river. Ali Esa returned on February 12, and, to my great relief, reported water and people at the mountains before mentioned. We set out, therefore, once again across the abominable plain, and after four long marches arrived on



RAFFIA PALMS, COUNTRY OF THE AKARA.

February 15 at some wells situated among pretty hills, the most northern extension of the Uganda highlands. Far away to the south we got glimpses of great rocky masses, towering about 7000 to 8000 feet above the level of the sea. The friendly natives, who are called Akara and Dinka-Dings, did not understand a word of the Magois language, nor were they as heavily built or as black as the latter. Fairly tall and slender, with small features and moderate-sized noses, they resembled the Masai more than they did the Sudanese. They are again different to the Latuka, their immediate neighbours on the west.

Two more marches in a north-westerly direction took us across as many very broad dry river-beds, in which the groves of handsome raffia palms, with their ripe yellow fruit, made a great display. The country was very thickly populated by the Akara, who seemed delighted to have us come among them.

According to old maps of this region, which were founded entirely on native reports, several running rivers should have been crossed by us on our journey from Lake Rudolf, one large one running north into the Sobat, and several others running north-west into the Nile. However many streams may rise in the tall mountains to the south, the water disappears except in the rainy season as it approaches the ghastly plain, and even the sandy beds themselves are soon obliterated in this great desert of the Sobat. Mr. Frazer and I made side trips to all the most northerly hills of the Akara, in order to secure further bases for the triangulation to the west, and to trace the courses of the wadies, which finally disappear on the surface of the plain not far from Katua.

Keeping westwards across a broad valley, we came to many more of the Akara, who were agriculturalists as well as stock raisers, and had substantial large wooden dwellings with peaked roofs. Some of the villages which we passed could easily have contained fifteen hundred souls or more. Although friendly and eager to trade, the Akara were very annoying in not pointing out to us where water lay to the west of each camp. The wadies, which contained water in pools and wells, ran only from south to north, and I suppose the natives thought me excessively stupid in not following these river-beds instead of intersecting them at right angles, which involved long marches across hot plains and a hunt at the end for water.

Near our camp of February 21, in a large open forest, I shot a male and female spotted bush-buck (*Tragelaphus bor*, Heuglin), much to my delight, since they are the only specimens of this beautifully marked animal that have ever been secured.

On the 22nd we rounded the extreme northern end of one of the arms of the Dinka-Ding mountains, and camped near some villages at Lumin. A plain or valley similar to the one we had just crossed stretched before us to another arm of the southern highlands. We had some water difficulties crossing this plain, since my few remaining camels were loaded heavily enough without my burdening them with water. Some camel gave out almost every march, which necessitated my throwing away more and more loads. Although there was much to interest me, I cannot reflect on my journey from the time we reached the great desert of the Sobat until we arrived at the Nile with pleasure unalloyed, for shoving along a caravan of dying camels and would-be dead Indians, by the help of careless Somalis and a few tired though good Indians, for many weeks is a thing that one cannot forget. We were soon to meet more Sudanese tribes, the Latuka, together with the Okatela and Beri.

The Akara, Dinka-Dings, Turkana, Mushas, Mursu, and Murle seemed to belong to the Masai and to the aboriginal pigmies who live north of Lake Stefanie, and to have nothing in common with the Sudanese.

On February 27 we reached some pools of water on the plain, not far from the Okatela mountains, and the same afternoon my boys reported many natives to be watching us in a suspicious manner. Two of my Somalis, whom I had sent to the mountains in search of water for our next march, came back in the evening with strange tales of the natives trying to surround them and take them prisoners. They also



TRAGELAPHUS BOR (HEUGLIN).

reported very many large villages in the hills. I wished to pass around the northern end of the mountain range and proceed straight to Lado, but the reported attitude of the natives decided me on taking the southern route to Tarangole. Although there was but slight danger of not succeeding to come to friendly terms with the natives, I was particularly anxious just here to avoid any risk even of a fight, since I was near Tarangole, the most northerly point of Colonel Macdonald's expedition, where friendly arrangements had been entered into between the British Government and the native chief. Two marches brought us to Omin, a very large village near Tarangole, perched on a hill called Alanga at the foot of the mountain. During most of the morning's march crowds of natives, armed with spears and bows and arrows,

followed the caravan at some distance in an unfriendly manner. After a time, however, others more civilized from near Omin joined them, and these latter approached to within 100 yards and made friendly advances. The best course for me to pursue was to go over to these people without escort, and the result was even more than I expected. In a couple of minutes the natives were crowding round me, patting me on the back and grasping my hand in a rather annoyingly familiar manner, that showed plainly enough that they were greatly relieved to find that we were not a hostile party of Egyptians or Mahdists, from both of whom they had received many unwelcome visits since Sir Samuel Baker's time.

At Omin we found quite a number of blacks dressed in loose white cotton suits, such as are worn by Sudanese townspeople, or occasionally in Dervish "jibbas." Each man who wore any clothing carried some old musket or rifle, of which he was immensely proud, even though the weapon were useless. The people were all under the chief Amara of Tarangole and Loguren, who only allowed those who carried rifles to wear clothing, or who, in other words, gave to any bit of cloth the dignity of a uniform. Whenever a man laid aside his rifle he also dis-embarrassed himself of all clothing. There were strangers here from many Sudanese tribes, some of them deserters from the Khalifa's forces after the Belgians had destroyed the Dervish influence on the upper Nile.

It was an agreeable change to meet natives who had some knowledge of Europeans, and with whom we could converse through the medium of Arabic. The great strength of the people, however, lay in the magnificent physique, pluck, and skill in the use of the spear and bows and arrows of the proud young men who never knew the use of cloth, and who do not imagine that there is a power on earth equal to that of their king Amara. The one great ornament of these warriors is a heavy helmet made of brass plates, laid together on a frame of interwoven grasses. It has the appearance of a solid brass Crusader's casque, and when worn easily by jaunty and graceful warriors the effect is most striking.

We spent nearly two days at Omin, during which time I arranged for a rendezvous with chief Amara, at a village called Lorkale, some 6 miles north of his capital Loguren, and near Tarangole. Since I had now picked up many points of Colonel Macdonald's survey, and found them to have been relatively very correct, as were those of Major Austin at Rudolf, I dropped my triangulation after leaving Omin, and carried on my chartographical work to the Nile by means of a pocket compass and dead reckoning. I had wrongly judged that the country to the west of Tarangole had been thoroughly explored by Emin Pasha, Sir Samuel Baker, and by members of the Macdonald Expedition, but I find my map to be the only one giving any detail.

On March 2 a tramp of four hours west, principally through a highly cultivated country, brought us to Lorkale, where we were joined by King Amara in the afternoon. We were quite unprepared to receive so great a chief. Accustomed as we had been to meet with petty chiefs ruling generally but a single village, we were rather taken aback at the display made by this commander of perhaps 25,000 warriors on his visit to our camp. He was accompanied by a flag-bearer and about 200 soldiers with rifles, and clad in various kinds of uniforms, principally white with gay-coloured sashes and turbans, and by a much larger following of archers and lancers, naked except for their quick-flashing, bright helmets. Everything about Amara was "spick and span," from his dark blue uniform of a Uganda rifleman to the European saddle upon his mule.

I received him with all the honours that I could command with my insignificant though trained escort, for it was deemed a great honour that he should pay me the first visit. His curiosity as to how I had come was too great, however, for him to wait until I called on him. It took him a long time to grasp the fact that we had not wandered either from Uganda or Egypt; and from the many questions he asked, it was apparent that the fact that we had come directly from the far East exercised a great moral influence over him, which I was pleased to think could not be otherwise than for the good of European interests on the upper Nile.

In return for the many presents which I made him, he gave me much durrha flour, honey, and ground nuts, but it was not until I had bidden him accept a large leopardine blanket that covered my bed that his heart really warmed towards me. I am sure he has never owned anything which pleases him more than this rug, which resembles the skin of some marvellous species of the cat family. Not only did the king at once send for an escort and guides for us, but he insisted on having a large tusk brought me from his village, to my regret, for I am afraid a poor native had some of his bones broken in consequence, if he did not fare worse. This man had made a mistake, and instead of bringing the tusk the king had ordered, he arrived at midnight with two ridiculously small cow tusks. Amara was so enraged that, picking up one of the latter, he began beating the wretched messenger in a terrible manner.

The smiling chief had suddenly turned into such a ferocious brute that when I endeavoured to prevent his killing his subject, he at first turned upon me a pair of eyes so full of passion that I feared lest he might deal his next blow at me, but I pretended that I had only interrupted him to praise the two small tusks, with which "I would be delighted," etc., and thus managed to quiet him. The unconscious body of his victim was almost hurled out of camp, and others sent to bring the proper tusk, which did not arrive until two o'clock in the morning.

Amara was a splendid specimen of a Sudanese, over 6 feet in height, very broad and muscular, and with a strong, handsome face. But for his outburst of passion, which lasted but a minute, I should have thought him most cheerful and amiable.

Two long marches on March 3 and 4 brought us to a village where we were visited by a lady chieftain. I followed out my custom of offering a chair to a recognized chief, but I must confess the position was rather strange to me to be sitting with a well-formed young lady clad in the same manner only as Gunga Din, and talking over weighty affairs involving the welfare of her subjects with the latter. Her name was Kari, but she behaved herself in such a dignified manner as to preclude any idea that she would have recognized a name such as Caroline. The day after this we reached the village of the chief Uri Sube, the last of the villages under King Amara. From here on until we reached Loker we found ourselves in territory belonging to the Lukoyu, who inhabit principally the hills to the south, and possess but a few scattered hamlets in the bushy, wild plain through which we passed. We had much difficulty in cutting our way through the low forests and dense bush, occasionally getting tangled up in bamboo jungles, which we here encountered for the first time.

I heard from Amara that there was an Englishman stationed on the east bank of the Nile considerably south of Lado, so I abandoned my intention of going to the Belgians on account of the pleasure I felt it would give me to talk once more to an English officer, not dreaming that I could not enjoy the same benefit in the Uganda Protectorate that all civilized countries extend to visitors—that of being able to leave my valuables in bond at a frontier post, if I did not intend to enter them in the country. I firmly anticipated finding the Nile open, so that I could take my outfit to Cairo either in steamers or canoes. The first great disappointment came at Loker's, a large settlement situated almost on top of the long mountain which can be seen from the Nile 25 miles east of Fort Berkeley or Rejaf. On reaching here on March 10 we were informed that no steamers had come up the Nile, and that, furthermore, there were no canoes to be had. We were all cut up by the news, for my transport had already given out, and I was obliged to leave thirteen loads with the chief Loker to hold until I sent back for them. However, we reached Fort Berkeley on March 14, 1900, and although I was much pained at the extortions which were enforced upon me by the Government, according to Uganda Protectorate regulations, I shall never regret having touched an English outpost, from the simple fact that I met Captain Wm. K. Dugmore of the Uganda Rifles, and remained with him as his guest for nearly seven weeks.

I only wish I could look upon some other officials with whom I came in contact at Aden and Berbera with nearly the same respect as I do my good friend and hospitable host at Fort Berkeley. Learning from

despatches to Captain Dugmore, three months old, that "sudd" cutting had been begun on the Nile, I kept my men for nearly a month at the post, hoping that a steamer would come up the river and take us out *via* Omdurman. But on April 13, I found it necessary to send Mr. Frazer with all my men to Mombasa, except my cook and my bright Gurkha orderly, Hasap Singh. Famine was raging throughout the upper Nile districts, and had it not been for the great kindness of the Belgians in giving me grain, I could not have kept my men at all. I was obliged to remain longer myself, since I could get no transport for my collections and kit; and I had just made arrangements with the Belgians to go down



THE NILE AT FORT BERKELEY.

the Congo, a journey of four months in the rains, to the west coast, when, to my joy, Major Peake turned up in a gunboat, after having cut through the "sudd," and most kindly took me away with him on May 5, on his homeward journey of 1100 miles to Omdurman.

I reached Cairo the beginning of June, just ten months from the time of starting from the Somali coast for the interior, and a fortnight later found me in London with my collections safely installed at the British Museum of Natural History, to which I am presenting the most valuable of my specimens. The Academy of Natural Sciences of Philadelphia will also receive a large share. The collections include several hundred different species of birds, mammalia, plants, reptilia and batrachia, fishes, butterflies, etc.—a good number of them new to science.

I am much indebted to the Indian Survey Department for the loan of a valuable set of surveying instruments, by which I was enabled to lay down in detail over 500 miles of previously unmapped country between occasional known lines.

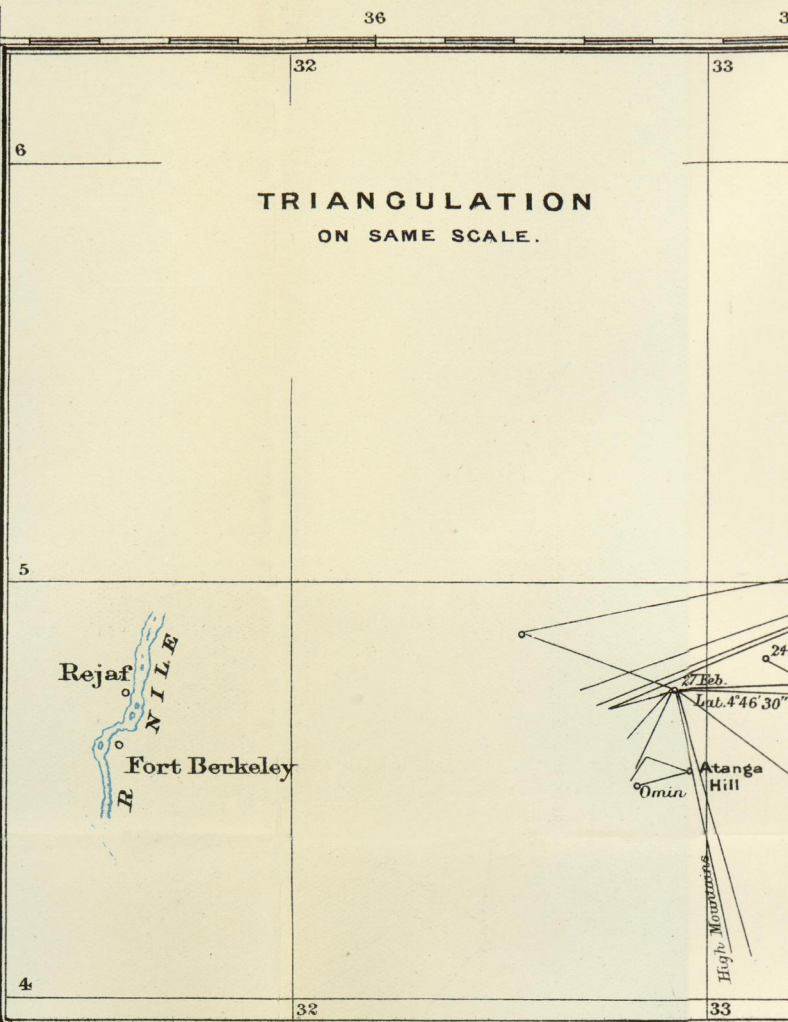
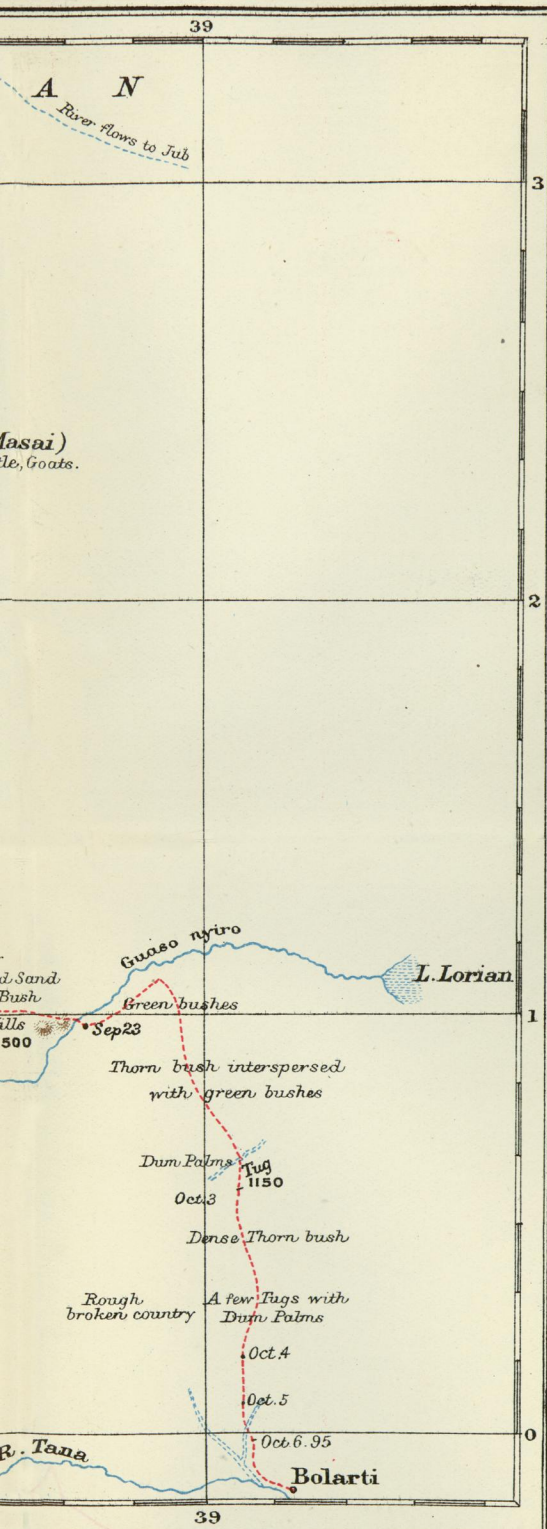
Before the reading of the paper, the President gave his introductory address (see p. 597). After the paper—

Major R. G. T. BRIGHT said: I have listened with very much interest to Dr. Donaldson Smith's paper. It is, perhaps, doubly interesting to one who has had the good fortune to pass over much of the country which he has traversed. Judging from the amount of water which Major Austin and I found in the country south of the Sobat, when at the beginning of this year we tried to make a journey to Lake Rudolf, I am inclined to agree with Dr. Donaldson Smith in his surmise that at one time the Nile, the Sobat river, and Lake Rudolf were one vast inland sea. In 1898 I was at the north of Lake Rudolf with one of the columns of Colonel Macdonald's expedition; there were then a few wretched natives, where, but a short time before, there had been a very rich and prosperous community. These natives at the time were suffering from famine, and an epidemic of small-pox. I am, therefore, not surprised to hear that now there are but few inhabitants in that part. This is due to the so-called civilizing raids of the Abyssinians. Dr. Donaldson Smith will, I am sure, not rest long. He has already led several expeditions to a successful issue, and I wish him, as in the present case, safe and many happy returns.

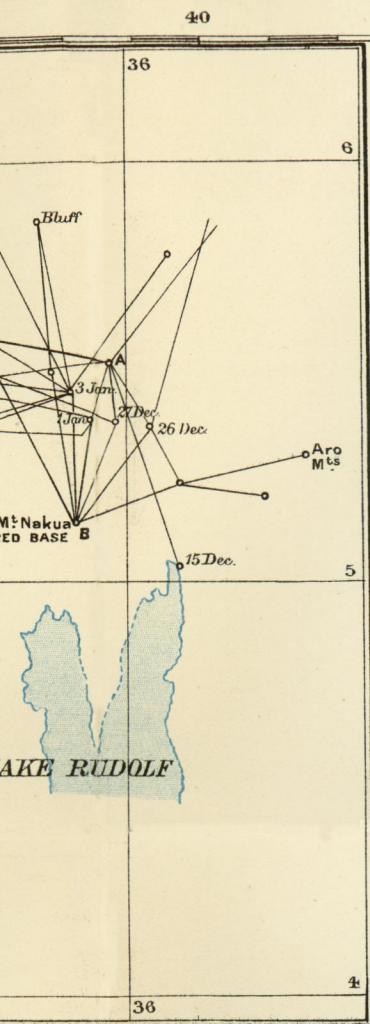
Dr. BOWDLER SHARPE: Dr. Donaldson Smith has on his former, as on his present expedition, greatly benefited zoological science, and his discoveries are quite on a par with the wonderful new facts which he has brought from the countries through which he has been. You have heard from the paper that we have at the Natural History Museum five new specimens of mammalia. I have not quite finished the birds, but there are certainly some new species, and many of great interest, especially from that new part of Africa which has not been visited by a naturalist before. I need hardly say that the British Museum thanks him on this occasion, as it has on former occasions, for not having forgotten zoological science. He has presented us with those specimens which we before had not in the Museum.

The PRESIDENT: Dr. Donaldson Smith's paper is certainly one of peculiar interest, even apart from his description of a new and almost entirely undiscovered region. I was particularly struck by the remarks (very important remarks, I think) he made respecting the meteorology of this country. The desert lands, especially to the eastward, are caused by the winds from the north blowing over the mountains of Abyssinia, and being thus wrung perfectly dry, coming down on their southern sides as dry winds. This no doubt accounts for many phenomena connected with the regions south of Abyssinia; but it requires a great deal more careful study, and this is a point of some importance, as the country will hereafter become a British settlement. Possibly connected with this question is the very remarkable fact that the whole fauna, both birds and mammals, appears to change as soon as Lake Rudolf is passed. There is a different fauna on the eastern to that on the western side. In considering the paper of Dr. Donaldson Smith, all these points give rise to reflection; but we get very little idea of the important geographical work he has done from simply listening to his paper, even when taken in conjunction with the paper he read to us a few years ago. He has not only explored a new region, but has done so with the greatest care; and has made a





1894-95.				ASTRONOMICAL	
Date.	Place.	Latitude.	Longitude.	Date.	Place.
1894.				April 9.	Ile ...
Aug. 13.	Bodele ...	7° 41' 0" N.	42° 28' 15" E.	" 15.	Argasa ...
" 24.	Crocodile Camp	7 15 38	42 28 15	" 21.	Elwayi Dist
Sept. 1.	Webi Shebeli	7 11 35	42 25 35	" 23.	Burga Camp
" 5.	Rawa ...	7 18 37		" 30.	Camp near Galan
" 9.	Berbade ...	7 19 14	42 9 15		Amara ...
" 21.	Sheikh Husein	7 43 32	40 44 30	May 11.	L. Abaya ...
Oct. 30.	Sheikh Mahamed	7 19 0		" 18.	Budesa ...
Dec. 7.	Finik ...	7 1 0		" 20.	Near Rua...
1895.				" 22.	Lenja ...
Jan. 13.	Gumer ...	5 33 30	44 17 0	" 28.	Near El Re
Feb. 2.	Moliko ...	5 22 12	43 54 30	" 29.	L. Stefanie, N.E.
" 3.	Tug. Yuali	5 19 26			end
" 4.	Berdale ...	5 18 0	43 35 0	June 14.	L. Stefanie
" 6.	Gohule ...	5 8 32	43 8 0	" 27.	Camp ...
" 11.	Bargheilo...	4 41 30	42 35 15	" 28.	Gura ...
" 14.	Barmetawen	4 36 0	42 28 15	" 30.	Camp ...
" 15.	Fidegan ...	4 28 10	42 9 15	July 14.	Camp at Rusia, I
" 17.	Merika Garsli	4 14 0			Rudolf ...
" 22.	Warwai ...	4 8 30	42 10 0	" 29.	Camp on Nianar
" 24.	Handudu ...	4 1 30	41 52 42	" 29.	Buki Village
" 27.	Mata Safaro	3 58 30	41 40 45	" 29.	Camp S. of Bod
Mar. 1.	Yabuch ...	3 58 0		Sept. 18.	Camp ...
" 3.	El Modo ...	3 57 55	41 13 30	" 23.	Camp near th
" 7.	Dida Guba	3 52 30			Guaso Nyiro
" 9.	Aimola ...	4 5 30	40 21 15	Oct. 3.	Camp ...
" 22.	El Dere ...	3 53 0	39 57 30	" 4.	" ...
" 25.	Kurava Wells	4 4 30	39 51 0	" 5.	" ...
" 26.	Garsa ...	4 5 9	39 40 20	" 6.	Bolarti ...
" 29.	Le ...	3 50 30	39 25 0		
" 30.	Buki Pond	3 55 0		189	
" 31.	Gof... ..	3 55 22		Aug. 24.	Gagap ...
April 1.	Egder ...	3 53 57	38 53 45	" 26.	Sesebani ...
				" 30.	Sheikh Hosh



MAP

to illustrate Explorations in

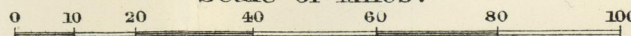
NORTH EAST AFRICA

by

DR A. DONALDSON SMITH

Route of Expedition in 1894-5
 " " " " 1899-1900

Scale of Miles.



Natural Scale, 1:2000,000 or 31.56 miles = 1 in.

..... Tug (Torrent bed) . Spring, Well.
 Heights in feet.

The Map has been constructed from the
 Author's survey only.



AFRICA.

SMITH

00

80 100
miles = 1 inch.

ug, Well.

e

mountains

adabella
Land of death

2850
Tag Lomo
(Good Wth all Year)

Uninhabited

Crocodile Camp 1700
River 300 ft. wide

Wadi Shabsh

Kaldash

Mountainous

Met. Prince Boris Tugs
Dec. 21. 94.

Wadi Shabsh

Wadi Shabsh

Wadi Shabsh

Wadi Shabsh

Wadi Shabsh

Wadi Shabsh

Wadi Shabsh

Wadi Shabsh

Wadi Shabsh

Wadi Shabsh





Sesebani ... 7 57 30 43 47 30 20. Edjo ... 5 48 59
 Sheikh Hosh ... 7 27 30 44 0 23 21. Camp ... 4 40 27





