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Route March, with Camels, from Berber to Korosko in 1863

Author(s): J. A. Grant

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Route March, with camels, from Berber to Korosko in 1863.

By Lieut.-Colonel J. A. GRANT, C.B., F.R.S.

Map, p. 364.

THE following notes are taken from my Field-Book, kept during the journey across the Nubian Desert which I made with the late Captain Speke, on descending the Nile in 1863. As the mode of travelling is the same now as then, they are of interest at the present time, and the notes were made during the season of the year, that is in spring, when the Nile is at its lowest. A further inducement for offering them is that there does not appear to be any description of the route in the Society's publications.

Of all the journeys I have made in Africa—Abyssinia included—and in India, from the Khyber Pass to Calcutta and Bombay, this from Abu Hamed to Korosko is the very worst, from its barrenness, its heat, and from the fatigue and discomfort it necessitates. Abu Hamed, at one end, is a miserable hole with its fort and huts almost smothered in sand; and the scattered village of Korosko at the north end of the route is well described by the governor, who was there at the time, and called it as hot as —, for it is the focus of heat, being completely surrounded by steep-sided fiery mountains, which inclose the small confined space to the very huts, no exit except the Nile being visible.

Between these two miserable places there is a desert of 230 miles without one drop of water, except once at the Morad wells—not enough grass to fill your hat, not a hut nor a bundle of firewood in the entire route, nothing but eternal sand to walk over, varied by climbing over the most rugged ridges of rocks.

Our Zanzibar men and ourselves were each provided with a camel which carried our small kit, our water in leathern sacks, the same as the “mussocks” of India, two to each individual. The camels were the ordinary baggage animals, rough to a degree, going a solemn pace of from two to three miles per hour, according as the route necessitated. Our camel-men hurried them over yielding sand and led them slowly over the rocky divisions between the valleys, taking each camel by his guide-rope and telling him to be cautious over the stones.

At Abu Hamed we had to wait two or three days to fortify our camels for the desert journey, and to procure the requisite supplies for our party of thirty, for there was not enough in the bazaar. Our guides crossed the branch of the Nile here to an island (Mokrat) and procured a sheep and some vegetables, on which we lived for seven days, helped by biscuit, water, and tobacco.

In our journey across the desert, we travelled, at this dry season, day and night, chiefly by daylight, resting during the hottest portion

of each day, and the time occupied, from the fifth to the twelfth of May, was as follows:—

Day marching		53½ hours.
Night „		36¼ „
Halts for sleep and rest .		76 „
Total time		165½

We were much overcome by sleep the first day or two; our men were so also, one actually tumbling off his camel while asleep; but we got used to this, though we were very sore from the motion and miserable saddles by the end of the journey, and were extremely delighted to arrive at Korosko and take boat to Assuan, though our beds on the bare desert were more comfortable than the hard planks of the boat.

The eight wells of Morad, at the middle of the journey, are in a valley surrounded by rugged hills, all jumbled together as if there was no outlet from them. The water, though natron-tasted and nauseous, is drunk by the natives regularly residing there, and is the only water procurable by travellers going across this desert towards Khartûm. Those in charge keep their sturdy little goats and sheep here, and exact a tax for the water supplied. The wells are protected by stone walls, partly for preventing camels and donkeys, and indeed human beings, from getting too near the water, and partly to prevent the drifting sand falling down the wells and filling them up, as a good dust-storm would do this effectually. The scene in the valley round the wells is of the most desolate description imaginable; the rocks are black, rugged, and destitute of the appearance of life; the valley is of sand. Still, somehow, there is a charm in the desert as well as a danger in the surrounding circumstances. Its utter stillness, its solitude, the chance of being drowned in a dust-storm, the chance of losing the way, the wildness of the narrow passes through the mountains, the almost total want of beast, bird, and insect life; no water, no wood, and the route unmistakably marked out by skeletons of camels displaying every form of death-agony; the tantalising, miraculous mirage of lakes and seas; the starlight marches—all excite an indefinable, but not wholly unpleasant feeling, which is not soon forgotten.

Many objects in the scenery of the desert are wonderfully interesting to those who have never previously seen the like; the forms and formations of the rocks gave me much to think on both then and since. What marvellous forms! how came they to be in such shapes? the beautiful colours of the sands of the desert formed from the different kinds of rock; purple and yellow, red and blue sands having been lashed up the slopes of the hills by the wind, and there resting like patches of snow on the hill-sides. Those marvellous solitary hills dotting the desert to the horizon—all nearly of uniform height, two to three hundred feet higher

than the sandy plain—some with cairns on them—how came they to be so formed? they are of sandstone—now in the shape of extinguishers, ninepins, batteries, ironclads on the ocean, table-topped mountains, busts of giants in stone. These I believe are formed solely by the dry penetrating sand, which, beating for centuries upon the platform of sandstone rock which once covered this region, and getting into the crevices, has by friction carved them out. Thus, sun and sand and wind combined have done the part of the engineer and excavated millions of tons of earth, leaving nothing but the bones as it were in the strange shapes which now remain, and the earth thus excavated is spread over the vast desert. Upon this plain there are strewn what looked in the distance like eighteen-pounder shot; some were stuck together, others were oblong: what were they? and how came they to be on the surface? They were heavy as iron, but not of iron; they were unctuous, and I could scarcely break one; they were a puzzle, but while sheltered under a solitary hill my curiosity was gratified by finding numerous specimens firmly imbedded in the solid coarsely grained sandstone rock of the country.

There was therefore much of novelty and of interest in this journey, but already too much space has been occupied by these preliminary remarks, and the march route will give fuller details.

I commence the notes from the river Atbara, one stage above Berber, to which we came by boat from Gondokoro, and from whence we took camels to Korosko.

April 23rd, 1863. Arrive at Berber by boat from Khartûm; should say there were four thousand inhabitants. Barracks fifty yards down the river. On the northern outskirt of town a high, mud-walled square place like a magazine, with embrasured towers at the north-west and south-east corner. Door is in south side—a high double one of wood.

24th to 26th. Halt, engaging 30 camels for the journey to Korosko. The Wukhil Rahan-Aga gives us the following stages to Abu Hamed.

1. El Chore 2 hours.	6. Nuddi 6 hours.
2. El Abidy 4 „	7. Abu Hashim .. 6 „
3. Gin-Euitah 4 „	8. Gegyh (?)
4. Wady Chumar .. 5 „	9. Meshra Jahesh .. 4 „
5. Thündûm 7 „	10. Abu Hamed .. 4 „

27th, Marched in the afternoon and arrived by sunset at El Chore, in 2¼ P.M. to sunset. hours. Route never more than quarter of a mile from the Nile. We were twenty-five souls, twenty-three followers, Speke and myself, each mounted on the ordinary baggage camel. Road firm, hard, and dead level. Distance six miles; north wind disagreeable.

28th, Ride for three hours nine miles over firm level sand, occasionally 7 to 10 A.M. with bush or with pebbles; arrive at El Abidy, where there is the course of a small stream. Nile bank high, no island in the river. Some acacias (*masalla*) give shade to those who wait at the ferry.

- 4 to 7 P.M. March again for eight miles to Gin-Enitah; a straggling set of flat-roofed huts running east and west. Three parts of the route is a gravel path, and the last quarter is along a richer country with doom palms and euphorbias. An island in river has the same vegetation, but with coarse grass from which a poor kind of rope is made. To the north-west hills are in view.
- 29th, A cutting north wind. March nine miles to Wady Chumar, on the
7 to 10.30 A.M. river which runs in many courses amongst low rocks. The route is along high ground covered with shingle; dykes of strata are common; and vertical strata of quartz followed by a purple-blue, unctuous, clayey rock, splinters of which covered the surface. This undulating part of the journey resembles Madi at 4° 30' north latitude. No habitations.
- 3.30 to 8.30 P.M. Fill our water-sacks and, leaving the Nile, cross the country for thirteen miles, so rocky and dreary, heavy sand in the hollows. Near the peaked height of Abu-ban, formed of loose, black rocks, some ariel were amongst the withered grass in herds of five and six. An interesting march geologically, as the strata are more recent as we proceed northwards.
- April 30th, Arrive at Bagére, 1½ miles ahead of Nuddi on bank of Nile, which
7 to 10.30 A.M. runs amongst numberless rush-covered rocks and islets with considerable speed; stream shallow, not navigable now, and five hundred yards wide. Doom and date palms are luxuriant on both banks. Several old cairns by road-side. Our guides did not add to them.
- P.M. March for two hours over high ground with gravel and rock, then descend to Wady Shirag. Camp for the night in huts under date and doom palms on the brink of the high bank of river.
- May 1st, Eleven miles to Abu Hashim—namely, “the father of hospitality.”
6 to 10.30 A.M. A pleasant road to ride, drive, or walk over, being on the outskirts of wheat stubble. Palms, &c., line right bank of Nile, and to our right are glistening quartz, mica, cobalt-blue, and other rocks. Right quarter of river is full of rocks; water three hundred yards across with a current of 2½ miles per hour.
- 3.30 to 11 P.M. March north-west across an elbow of desert, say 18 miles, to Gegyh. After the first hour dismount to drink at Nile. Camp is six or seven miles north-west of the large hill, Burgul-Anak. Crossing the desert was heavy walking, as it was generally strewn with pebbles and splinters of rock. River runs gently here, and has few rocks in its channel.
- 4.30 P.M.
- 2nd, To Meshra Jahesh, upon a bend of the Nile, 11 miles, level easy
6.30 to 11 A.M. walking over a desert away from the river which is here a branch, 200 yards wide, blue and placid, with abrupt rocks jutting out of the water from both sides. No habitations on this side, but there are some on the other. Rest under doom palms during the heat of the day. To the south-east, five miles off, is “Jebel Hasri,” a high, bare, abrupt block which the route passes three miles off to the right.
- 4 P.M. Rode from 4 till 9 P.M., arrive at Abu Hamed on the right bank of the Nile, distance 12½ miles, a wretched place of ankle-deep sand with a four-sided ruinous fort, having round towers at two opposite corners. The march across the desert is dreary and wild, but interesting from the quantity of delicately tinted pink and blue sedimentary rocks; others are marked red and white like butcher’s meat, or they are blue against white.

330 ROUTE MARCH, WITH CAMELS, FROM BERBER TO KOROSKO IN 1863.

- 7 P.M. By moonlight, at seven, were close to the river, and along its low, hard, firm gravel bank till the village was reached by 9 P.M.
- 9 P.M. Halt, testing water-bags, getting green fodder, and putting our camels into training for the eight days of waterless desert between Abu Hamed and Korosko. The bazaar has but two miserable shops with dates, oats, dūrā, tobacco, &c., and our guides have to cross the river branch by ferry to Mokrat Island to procure us onions, fodder, sheep, milk, fowls, and eggs. The price asked for a Hygeen (riding) camel is from 20 to 25 dollars, that of a baggage camel 14, 15, and 16 dollars. The latter carry eleven cantars; the cantar varies in weight, but a load is from 4 to 500 lbs. Camels not allowed water for two days, but will have as much as they can drink just before they start.
- 5th. Cut up a whole sheep into fragments and boil it in grease for eating in the desert when there is no wood for fire. Take some firewood. Hire guides at one and two dollars each. Several of our camels' feet were shod with leather sewn to their hoofs as protection against the sharp-pointed rocks on the route.
- 12.30 P.M. March 12.30 P.M. from Abu Hamed with 29 camels carrying water, baggage, two guides, three men and ourselves—also our twenty-four Zanzibar followers. The supply of water for this party of thirty-one people was fifty-four goat-skins and four cow-skins filled with Nile water. The guides wished us to engage more camels for the water, but we had more than enough water as it proved; besides which, the camels carried their own corn. Going along a gravel-covered desert, we made for the right of a roach-backed hill called Mukran—the country is called by this name—reaching it by 6.30 P.M., when we rested two hours to corn the camels. The route was without even a shrub; one dove, a jet-black swift flew about the legs of our camels, sand-larks or finches, sand-grouse, lizards of two sorts, with shiny and rough skins, and the holes made in the ground by sand-rats, were the only signs of life in this desert. Of death, numerous skeletons of camels, in all the stages of decay, showing their manner of dying—a sinewy extended leg, a leg cramped up and the head everted—marked the track of caravans; nine-tenths of these animals had succumbed towards the end of the journey. Our followers enjoyed the journey, keeping up a continual “chaff,” making jokes on the mirage, such as, “Fetch me some water! Don't you see the lake with boats? Cook me some dinner!” Natives call the mirage *belama*, or “the false sea.” During this march I had drunk twice, but could very well have done without water, besides which, it had a vile taste from the oil which had been rubbed on the exterior of the water-sacks.
- 6.30 P.M. Were in our saddles by 8.30 P.M., sailing over the perfect plain, which was strewn with small pebbles; continued this for six hours, making 18 miles, as the camels went famously during the coolness of the night. Reach Abu-Inteh-Shurrut (short of Furrudh) by 2.30 A.M. and lie down for four hours. Felt as if drugged during the journey—walking over heavy sand had little effect in awaking me. Hills were in sight all along this route. Our course to the west of north.
- 6th, Up and off by sunrise after a refreshing beverage of coffee in the desert. Though the route is firm and level, the camels go stiffly today. Reach Furrudh (single) by 10.30, making 10 miles; rest till
- 8.30 P.M. to 2.30 A.M.
- 6.30 to 10.30 A.M.

- 2.30 P.M. 2.30 P.M., and then made for "Dur-wæbt," or the door of the Pass.
- 6.30 P.M. At Taban, 10 miles, we halt from 6.30 till 11.30 P.M., feeding camels with corn and waiting till a dust-storm blew over. Not a twig nor a blade the whole distance, path firm and any breadth. Just as the proper time came to start, our guide warned all against the coming dust-storm, "Look out, it's going to blow." A dense cloud of dust was rolling towards us from the east: out went the candle, pelt went the gravel and sand on our heads and faces, and down all lay flat—muffled up till it was over—nothing after all. Packed and away, marching at 11.30 P.M. over a flat, dreary, long desert.
- 11.30 P.M. 7th, By 1 A.M. had the two cones of Gorebat to our left, and a mile on, another cone, the "Drummer," "Abnugara." Enter a winding valley, three to one thousand yards wide, and $23\frac{1}{2}$ miles in length, paved with sand and rock splinters from the rugged hills on either side. The route runs parallel with the hill ranges, which are in waving dykes or ridges of stratified rock, rather vertical and black, similar in contour to Jebel Kuku 3° N. lat., each receding dyke rising higher and higher till they attain say four hundred to one thousand feet above the valley.
- 1 A.M. At sunrise the path for our camels in file became so narrow and steep that the camel-men cautioned their animals earnestly against danger, calling, "Abd el-Ka-a-der," to them. Met seven or eight men mounted upon camels and donkeys. During the march through this death-like prospect, saw a dozen acacia, and camp, 8.30 A.M., by one in a wide valley raised to a high level by drifted sand and surrounded by cloud-like scowling hills. Distance to Ipseha, 23 miles; time, $9\frac{1}{2}$ hours.
- Sunrise. Re-saddle after five hours' rest, and are off from 1.30 to 6.30 P.M., 11 miles. Pass varies, at one place the width only allows two camels to pass abreast; again it is one thousand yards wide. The sand sweeps up the sides of the hills almost drowning them. Heat reflected from the rocks on either side made all perspire profusely.
- 8.30 A.M. 4 P.M. Four P.M., we had got out of the pass and were marching upon a high level of drifted sand on which we rest. The look back upon Jebel Jafaz'dba—lit up by purple and yellow tints on the sand—is wild and even grand. Now, for the first time, we had entered upon a desert formed of moving sand—boundless as far as the eye could reach—no path nor track, and all the camel-men uttered their howl of "Abd el-Ka-a-der" to urge the camels to a smart pace, as there is danger in such a desert from storms, and the shades of night were falling fast. But there was no chance of a dust-storm as the sky remained clear. The footing was firm; and as the sun was setting we lay down for two hours' rest to refresh man and beast with a snooze and food. Distance marched 11 miles. At 9.30 P.M. the march recommences, continuing till 3.30 next morning.
- 1.30 P.M. 7.30 P.M. During last night the first part of the march was over sand, the country then changed, we walked over the peaks of the hills, then again we returned to a path, surprised at the knowledge our guides have of the route during the darkness of night, but the hills in a measure guide them. Last half of this march, up to the outskirts of the Morad valleys, is generally level, but with rocky ground making the footing difficult. Camels move abreast of each other in such places, as in this formation they move quicker than when in file.
- 9.30 P.M. 8th, 3.30 A.M.

9 A.M. Halt from 3.30 A.M. after a march of 17 miles, till 6 A.M., march from 6 till 9 A.M. when Morad was reached, after a march of eight miles. Route at first was intricate walking for the tender feet of the camels, as they had to walk over the tops of rocks which showed on the surface and at the ridges to be crossed, but the ascents and descents were gentle and easy. At 8.30 A.M. observe a path joining from the right.

The Valley of Morad runs from east to west. Five to eight wells are dug here; the wells we rest by have six inches of water ten feet below level of ground, they did not run dry from the supply we all took; the water tastes of saltpetre; a double wall protects the wells from the animals which crowd round. There are some eight Arab tents made of matting seen from the wells—none but an Arab could live in them—with their herds of healthy looking, long-haired little goats—thirty to sixty of them. These are brought to drink every third or fourth day. No firewood here, though we expected it. Since leaving Abu Hamed, we have seen only about twenty-four acacias, and one doom palm in the distance of 114 miles. A caravan left at 10 A.M. for Korosko. I see that the leather water-bags are white outside from the water. Camels are freely purged by it for one day, soap curdles in it. People are like other inhabitants, but one man asked for chest medicine.

9th,
11 A.M. Were saddled and away from the well by 11 A.M.; passed through a succession of valleys by crossing rocky ridges of stratification. The valleys are tempting for a canter on horseback, and their sands of many colours sweep up the sides of the hills like drifted snow. The clay
2 P.M. slate rocks are now uplifted from the north. View of the Valley of Dulleh is very wild when seen through the cliffs overhanging the passes. A curious line of palms with strange fruit improves the landscape, they are single stemmed with leaves similar to the doom. Acacias also grow in the dry bed of the valley. The ridges of slaty rock now uplifted from the north plain stand erect like park palings, waving irregularly in the sky line. One very remarkable dyke in sight of Wady Sufur is crossed, it is 400 yards long and so regular that it seems as if built by man as a march boundary.

3 P.M. Reach Wady Sufur where there are wells during the rains. It is an open valley with no outlet visible. Then get to Thillatha Jinda
6.30 P.M. with a few trees in its valley. At Wady Marisha we rest at 6.30, and refresh after 18 miles' marching.

8.30 P.M. Were in the saddle by 8.30 P.M. and marched till 2.45 A.M. at a smart pace, getting over nineteen miles across heavy sand which floods the whole country, giving the hills a choked-up appearance. Some blue blocks of stone were like lumps of cobalt; tinted spar was also picked up. Halt to rest from 2.45 till 6 A.M.

10th,
6 A.M. From 6 till 8.45 A.M. nine miles across the desert of Bahr Hud-ab, with a long flat hill to our right, to a shelter stone called Abu Rakib ("father of shade") which stands on rising ground commanding a view of the sandy sea which we had just passed. Came on heavy stone round-shot here for the first time; they seem to be hard balls of clay rounded into varied forms by the cutting sand, from one to three and a half inches in diameter, sometimes stuck together, and are from the

coarse-grained sandstone hills where they may be observed imbedded in the rock.

The great sea of sand, Bahr Hud-ab, was strewn with these round-shot and dotted with black hills of equal height, in the form of cones, haystacks, mushrooms, batteries, &c. (See illustration in map.)

8.45 A.M. During the fiery heat of the day we got shelter from the "Father of Shade" rock. The postman of the district between Korosko and Murat, two and a half days' journey, passed us on his camel last night. He receives two dollars per month and supplies his own camels; six postmen are on the route. Mirages at eight this morning.

3 P.M. Off from 3 till 7 P.M., 10 miles of desert across Bahr Belāma with flat-topped and elongated cones dotting it; make one long descent and rest within two miles of the pass in the range of low hills in front of us and which we were to cross; the outline of the hills was very broken. At the lowest point in the descent a well had been dug, but was empty. Our sheikh made us urge our camels along fast and complained of one of our men who declined to ride; the man was a silly fellow, the sheikh saying any who remained in this desert went mad. Camels received grain morning and evening of yesterday, and again here to-day.

9 P.M. Off from 9 P.M. till 3.30 A.M., 16 miles. A black swallow hangs in the air round the heads and legs of the camels, sometimes resting on the ground as if wearied. After two miles of open desert, by starlight, we enter the hills at "El Bab," literally the door, and keep along the valley between hills: road of sand, but not very heavy. After we had passed within the hills our guides halted us and commenced rattling upon the bones of dead camels, skirling and yowling like jackals. This over, their leader begged that a present be given to the M'Zeema, as all new travellers pay their footing; they would get a present, so on we went. Walking ahead of caravan, previous to above event, the sheikh fired a gun as he feared we had lost our way, and strongly advised us to keep together.

10.30 P.M. Once within the hills, they are bare and abrupt; at the fourth mile they have been worn down into the shape of bosses, batteries, &c., and continue so farther north; the footing is of levelled sand.

11th,
3.30 A.M. From 3.30 till 6 A.M. sleep soundly, and then march. From 6 till 9.30 A.M. walk all the way, about nine miles, as it was downwards all the distance and good firm sand. Withered bushes blown into spheres were on the plain and green plants of senna showed that we approached vegetation. Here at Ugab Ghowab is a shelter-rock of sandstone with a dry well, protected by a stone wall; hills precipitous as usual, often with cairns on their summits as if they had once been accessible. The well had been built by an Effendi, and was intended to collect rain-water and protect it with the shelter-rock, but the well was a failure.

2.30 P.M. Having rested as well as the wind from every direction would allow us, we crossed a rocky ridge of hills between two valleys. This was a difficulty, and our guides had to urge our camels over it by cries of Abd el-Kader. From 2.30 till 7 P.M. made 11 miles; after the first mile we leave the bed of the valley to our left, and then pass over drifted sand with sandstone blocks rising from it. These were horizontal in strata, conical in form, black and weather-beaten. To-day,

7 P.M. on two occasions, we walked over irregular shaped slabs of sandstone which form a paved way. "Round-shot" were still about. Halt from 7 till 8.30 when we march till 3 A.M. of the 12th, making $16\frac{1}{2}$ miles, a winding course amongst frustums of cones over sand—sand, eternal sand. Between one and two in the morning cross rocky ridges from one valley to another, the camels being led over in single file with shouts of Abd el-Kader for every one; our direction for six days has been more or less on the pointers to the polar star, when horizontal, namely, to the west of north.

12th,

1 A.M.

6 A.M.

From 6 till 10 A.M. to Korosko on the Nile, 10 miles. During this march there are the same cone-shaped remnants of hills, the same "bombs" and sand as previously met with—not a tree, nor a blade of grass, no water, no firewood. Walked over genuine old red sandstone in the latter part of the journey, but there were river pebbles the size of a mango cemented in it, and forming a conglomerate almost flinty in hardness. The first indication of civilisation was some date palms and a general appearance that the Nile must be running between the range of hills in front of us, and to test this, the sheikh was asked for a drink of water. His reply was, "Do not have any now; the water of the river is so close." Each of the men had plenty of water left of what had been filled at Morad wells. Two of our followers used only one goat-skin of water in four days.

10 A.M.

Rounding a hill-spur, the scattered village of Korosko is full before the traveller, surrounded by hills whose sides are chiefly of fiery coloured sand—a focus of heat, certainly; the palms can scarcely bear it, they grow long stemmed and resemble the wild date of Uganda in height. Korosko has a few walled-in houses, some trees under which the people live protected by mats, and a wretched bazaar. The single diabeeah is engaged by Speke—our kit put on board with thanks for being delivered from camel-riding. Too stiff and sore to call on the Effendi governor who is under Assuan and not Berber. Receive some cuts of water-melon and sweet biscuit from him—such a treat. Bathe in abundance of water. Effendi calls on us with two of his sons—has a cigar and calls Korosko a hell and Assuan a cool place, because the hills cease there.

7 P.M.

Speke and all our party leave Korosko for Shillal at 7 P.M. on board a diabeeah for which twenty-five dollars and twenty piastres were paid; only six working oars, no plank covers the hold, but we are lucky to get away so quickly.

Our camel-men from Berber to Korosko, two sheikhs and eight servants—uncle, nephew, four men and four boys—we shall never again meet the like of for civility, knowledge of their work, modesty, and unpresuming manners. During the march they would hand water, pack the camels, pick up fallen things, and do everything for our native Zanzibaris as readily as for us—never a grumble nor a beg. On wishing us good-bye, the sheikhs received three dollars each, and each of the eight men a dollar, and went their way rejoicing.

EXTRACT FROM THE ABOVE FIELD-BOOK, SHOWING THE TIME TAKEN BY BAGGAGE-CAMELS IN APRIL AND MAY, 1863, BETWEEN BERBER AND KOROSKO.

Dates.	On the March.	Time Taken. Hours.	Distances in Miles.	Stages or Camps.
1863. 27th April to 2nd May }		40 $\frac{1}{4}$	115	From Berber to Abu Hamed by route mentioned on 24th, in eleven stages.
3rd and 4th	Halt at Abu Hamed.			
5th	12.30 to 5.30 P.M.	7	15	Desert.
5th and 6th	8.30 P.M. to 2.30 A.M.	6	18	Abu-Inteh-Shurrut.
6th	6.30 to 10.30 A.M.	4	12	Furrudh.
6th	2.30 to $\frac{1}{4}$ after sunset	3 $\frac{1}{2}$	10	Tabun.
6th and 7th	11.30 P.M. to 8.30 A.M.	9	23	Ipsaha.
7th	1.30 to 6.30 P.M.	5	11	Desert.
7th to 8th	9.30 P.M. to 3.30 A.M.	6	17	Desert.
8th	6 to 9 A.M.	3	8	Wells of Morad.
9th	11 A.M. to 6.30 P.M.	7 $\frac{1}{2}$	18	Wady Marisha.
9th and 10th	8.30 P.M. to 2.45 A.M.	6 $\frac{1}{4}$	18	Desert.
10th	6 to 9.15 A.M.	3 $\frac{1}{4}$	9	Abu Rakib.
10th	3 to 7 P.M.	4	10	Desert.
10th and 11th	9 P.M. to 3.30 A.M.	6 $\frac{1}{2}$	16	Desert, "El Bab."
11th	6 to 9.30 A.M.	3 $\frac{1}{2}$	9	Ugab Ghowab.
11th	2.30 to 7 P.M.	4 $\frac{1}{2}$	11	Desert.
11th and 12th	8.30 P.M. to 3 A.M.	6 $\frac{1}{2}$	15 $\frac{1}{2}$	
12th	6 to 10 A.M.	4	10	Korosko on Nile.
	Total ..	89 $\frac{1}{2}$	230 $\frac{1}{2}$	Abu Hamed to Korosko.

The Alpine Notes of Leonardo da Vinci.

By DOUGLAS W. FRESHFIELD, A.C., Secretary R.G.S.

LEONARDO DA VINCI's miscellaneous writings have lately been collected, translated into English, and annotated by the well-known German art-critic Dr. Paul Richter, and published in a sumptuous form with many facsimile illustrations from the great artist's sketches by Messrs. Sampson Low and Co.

This is not the place for any general criticism or appreciation of a labour of love, which, as a whole, has been carried out with great industry and intelligence. I cannot even attempt to summarise the many curious speculations in physical geography and geology which show Leonardo's extraordinary instinct as a scientific observer, or his minute and curious notes on mountain landscape, on the play of light and shadow among the folds of the hills, on the picturesque effects of storms and landslips. The combination of man of science and artist revealed in these pages is unique, and they will repay the most careful study.

My present object is a far humbler one; to take up the Alpine and a few of the Italian topographical memoranda of Leonardo da Vinci, and
No. VI.--JUNE 1884.]

Drawn from Notes by Col. J A Grant.

$$\frac{1}{1,162,000}$$

Shape of solitary Hills of Sandstone in the Deserts of Bahr-Hu
the remains of level plains, cut down and cleared away by dry drifting sand which acts like a h

Published for the Proceedings of the Royal Geographical Soc

of Bahr-Hud-ab and Bahr-Belââma,
acts like a hot blast. The desert of sand is thus formed. J.A.G.
ographical Society, 1884.