

LUNARS taken with a small Circle.—Calculations by Mr. BURDWOOD, Hydr. Off.

	Distinguishing Letter in Calculations.	Body observed.	E. or W. of Moon.	Proximate Altitude of Sun or Star.	Proximate Altitude of Moon.	Proximate Distance	Longitudes deduced.	Means.	Longitude by Means of E. and W. Distances.	Sets not used.		
T'ounobis . . . .	a b c d e f g	Sun . . . .	..	14 58	107		20 51.2	21 5.3	21 1	b c d e f g		
		Antares } W.		18 66	51	21 7.5						
		Sun . . . .		46 16	117	21 9 21 12						
	h m n o p	Saturn	E.		24 68	45	21 2.2 20 55.7 20 55.5 21 20 52.5	20 57				
				Ontonga, Nangoro's	Regulus	W.	38 72	46	16 17.5	..	16 14	q r s
				Werft.	Antares	E.	44 72	54	16 10.5			

XII.—*Latest Explorations into Central Africa beyond Lake 'Ngami, by the Rev. D. Livingston and William Cotton Oswell, Esq.*

Communicated through the LONDON MISSIONARY SOCIETY and Lieut.-Col. STEELE, F.R.G.S.

Read February 9th and June 14th, 1852.

IN our late journey to the country of Sebitoané, or the region situated between 200 and 300 miles beyond Lake 'Ngami, we followed our former route until we came to 'Nchokotsa. From thence, with our Bamangwato guides, our course became nearly due N., crossing the dry bed of the Zouga at a point where a few small stone dykes for catching fish still remain, when we entered a country abounding in what are termed "salt-pans," one of which, named 'Ntwétwé, was at least 15 miles broad and perhaps 100 long; another we found covered with an incrustation of salt about two inches thick, but in general they had only a thin efflorescence of salt and lime. Large numbers of several varieties of recent shells strewed their surfaces, and each salt-pan had a spring of brackish water on one of its banks. In speculating on these curious features in the physical appearance of this country we have sometimes thought that the continual deposit for centuries, resulting from the evaporation of the water of these springs, may have been the chief agent in their formation. But the presence of recent shells shows that the formerly more extended

flow of the Zouga may have had something to do in the matter. Beyond the salt-pans the country is perfectly level and hard, and covered with Mopané and Baobob trees, the underlying rock being white tufa, in which a great number of springs of good water are found. These, from their number and proximity, are called 'Matlomaganyana,' or the 'links,' as of a chain. A considerable population of Bushmen live in their vicinity, under the sway of Sekhami. They are remarkably unlike their more southern brethren, though speaking a dialect of the same language and bearing the same name. They are fine, tall, strapping fellows, and nearly as black as the Caffres, and are also the most daring Bushmen in the country, frequently killing the elephant both by day and during moonlight nights. The entire Bushman nation, as scattered over the Kalahari desert around and westwards of the Lake, and likewise in the regions to the N. of that, must be very large. The theory that Bushmen are Hottentots, driven to their present position and habits by the encroachments of the whites, receives no confirmation from any tradition existing among themselves, nor from the actual and immemorial condition of the more distant hordes.

Around the wells, and indeed through the whole region upon which we had now entered, a tree called *Mopané* abounds. The leaf is peculiar in shape, and affords shelter to myriads of a little insect not larger than the head of a common pin. The dwellings of these little colonists are in shape like a limpet-shell, and though each is only large enough to hold its little owner, so many exist on one leaf that, being of a sweet, gummy substance, the natives collect them in large quantities for food. The country between the Matlomaganyana and the Mababi was the worst we had seen in Africa. The drought was excessive; not a bird or an insect disturbed the stillness of death which reigned over the scene. All around was one level of low scrub, Mohonono bush, and Mopané trees. Our Bushman guide seemed to wander, or only follow the tracks of elephants made when going from one Mohonono bush to another, which, however, on the morning of the fourth day disappeared altogether. Having come at length upon a rhinoceros trail, we allowed the cattle, which were nearly worn out by the deep dry sands through which we had passed, to run along until their instinct led them to the water, unfortunately, however, at a part of the Mababi infested by the 'Tsetse' fly. We were unfeignedly thankful to find ourselves on the banks of this river, as it is a branch of the Tsō flowing to the E.N.E. Bakoba-Bushmen and Banajoa villages we found on its banks, the inhabitants deriving subsistence from a root called 'tsitla' when their crops fail. The Banajoa huts are built with a kind of second story, the upper being the sleeping place. A fire is placed

under it in order that the occupants may get rid of their troublesome tormentors, the mosquitoes, by means of the smoke. Chombo, the head man of the Banajoa village, became our guide to Sebitoané, and led us through the reedy swamp, about 10 miles broad, on which his village is situated, and across the river Sonta by night, on account of it being infested by the 'tsetse,' and early on the morning of the 19th of June we found ourselves on the banks of the Chobé. As circumstances led to our remaining on this spot, in lat.  $18^{\circ} 20' S.$ , and long.  $26^{\circ} E.$ , for more than two months, and the hopes which Mr. Oswell and I then entertained are not entirely extinguished, I may be excused entering a little into detail.

Sebitoané, the great chief of this large territory, was one of a horde of Mantatees, which in 1824 threatened to destroy Lattakoo and invade the colony. Driven back by the Griquas he fled towards the north, and fighting his way through the countries of the Bawanketsé, Bakwain, and Bamangueato, he followed nearly the same route as our own to the Zouga. Having plundered the Bakoba and Botléli, living on that river, he next crossed over the desert between Lake 'Ngami and the Dámaras, to the west. Scarcity of water and the bravery of the Dámaras obliged him, however, to retrace his steps much poorer in cattle than upon his arrival. Proceeding up the Tamunaklé, he conquered the black races inhabiting the rivers Chobé, Seshéké, &c., and at last established himself on an island, said to have been formed artificially by Seunturu, a chief of the Borotse. Having been informed of the efforts made in vain by Mr. Oswell and myself to penetrate into his country, he evinced great anxiety to open up a path for us, and not only sent men to search for us along the Zouga, but made considerable presents of cattle to different chiefs on the way, with the request that they would render us every assistance in their power, and furnish us with guides. He even came nearly 300 miles southwards, and would have come further, in order to be near to us and to English traders. When we met he seemed overjoyed, and having remarked that our cattle had been bitten by the fly and would certainly die, said, "Never mind; I have plenty, and will give you as many as you need." He then appeared anxious to remove us to the N., or the safe side of the Chobé, and also to be near his town of Linyanti; but when he saw that our waggons were too large for his canoes, he ordered the people of the town to remove to our resting-place. A few days afterwards, however, and when the new village was quickly springing up, he became ill, and, after lingering a fortnight, to our great regret died. His people received our condolence and advice in a friendly manner, and requested us not to leave them, but treat his children as we

should have done had Sebitoané been still alive. His daughter, Mamochishane, who succeeded him in the chieftainship, being still at the head town of the Borotse, a distance of 12 days, or nearly 200 miles, from the waggons, double that time was required to open up a communication with her. She was reported to be in childbed at the time, but sent the chief next in authority to herself to visit us on her behalf. His instructions were to treat us as kindly as if her father were still alive, and full permission was granted for us to proceed wherever we wished to go. We then rode about 100 miles on horseback to the N.E., and were well rewarded by a sight of the great river called Seshéké, in lat. 17° 28' S. A variety of considerations, all of which we had previously weighed, induced us on our return to the waggons to decide on starting for the Cape. On our return we went along the Mababi and Tamunakle, and after crossing the Zouga fell in with our old road to the Lake.\*

Before detailing the information which our two months' sojourn on the Chobé enabled us to collect, I may remark that the opening up of a path from either the E. or the W. coast to the centre of the continent—a prominent feature in all our plans—would be a worthy subject for the consideration of the Royal Geographical Society; and for such an undertaking I know no one better suited than my friend Mr. Oswell. He has courage and prudence equal to any emergency, and possesses, moreover, that qualification, so indispensable in a traveller, of gaining the confidence of the natives, while maintaining the dignity of a gentleman.

The following information, derived partly from the natives, who came in great numbers to see the white strangers, and partly from our own observation, will prove of service to any one who may wish to visit the country. The extensive region to the N., N.E., and N.W. of the Chobé and Seshéké rivers, which owned the sway of the late Sebitoané, and is now governed by the Makololo (Quilolo = Captain?), in name of his daughter, is for hundreds of miles nearly a dead level. In passing along 100 miles from the part where our waggons stood on the Chobé to the river Seshéké, we saw no rise higher than an ant-hill. The country is intersected by numerous deep rivers, and, adjacent to each of these, immense reedy bogs or swamps stretch away in almost every direction. Oxen cannot pass through these swamps, but sink in; and, on looking down into the holes thus made, the parts immediately under the surface are seen to be filled with water. These rivers are not like many which bear the

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\* Mr. Oswell informs me that "the country which owned Sebitoané's sway (now his daughter's) is very large. Eighty-two tribes or principal towns paid him tribute, and his influence may be said to have extended over a circle of 800 to 1000 miles."  
—Ed.

name of such in South Africa, mere "nullahs," containing nothing but sand and stones: on the contrary, all those which came under our observation here contained large volumes of water, and that too flowing with considerable rapidity at the end of an extraordinarily dry season. Yet on sounding the Chobé we found it to have a regular depth of 15 feet on the side to which the water swung, and of 12 feet on the calm side. The banks below the lowest water-mark were nearly perpendicular, and the water was as deep, a foot from the bank, as in the middle of the stream; the roots of the reeds and coarse grass seeming to prevent it from wearing away the banks, which, however, in many parts are undermined and overhang the water. The lands in this region are raised only a few feet above the prevailing level, on which the people pasture their cattle, make their gardens, and build their towns. The rivers overflow their banks annually. The unusual drought of the season preceding our visit seems to have extended even to the sources of the waters. The Chobé ought to have overflowed in July, and the people ascribed the non-appearance of the waters to the death of their chief. But when the rivers do fill, the whole country is inundated, and must present the appearance of a vast lake, with numerous islands scattered over its surface. The numerous branches given off by each of the rivers, and the annual overflow of the country, explain the reports we had heard of "Li-noka-noka" (rivers on rivers), and "large waters" with many islands in them. The Chobé must rise 10 feet in perpendicular height before it can reach the dykes made for catching fish, which we observed about a mile from its banks; and the Seshéké must rise 16 to 20 feet perpendicularly before it overflows its banks; yet we saw unmistakeable evidences of its flood extending 15 miles out. The natives traverse the country in every direction in their canoes, and even visit their gardens in them, so that a boat will be indispensable in the equipments of future travellers.

The soil seemed fruitful, and is generally covered with rank, coarse grass; but many large and beautiful trees, most of which were to us entirely new, adorned the landscape. We claimed acquaintance, however, with the gigantic Baobab, which raises its enormous arms high above its companions, and makes them in contrast appear as mere bushes. We recognised also date-trees in large numbers, and also many palmyras. The date-trees were in blossom on the road to Seshéké at the time of our visit, and the seeds were observed below them. Of the new trees some were splendid evergreens, bearing edible fruits; and, in addition to parasitical plants of great size, we observed two of the Orchidean family. One beautiful fruit-bearing tree particularly attracted our attention, but unfortunately the seeds, about the size of peach-

stones, were all broken by some animal. The natives raise, besides their usual grains, considerable quantities of a bean which bears its pods underground. They are called "motu o hatsi" (earthman), and are sweet when roasted. They grow well at Kuruman, and may succeed at the Cape. The people of the Borotse tribe cultivate the sugar-cane and sweet potato. Wheat, maize, peach and apricot stones, and other garden seeds, have been left with the Makololo, as they spontaneously offered to make a garden for our use. The moisture from the rivers permeates the soil, rendering constant irrigation unnecessary; and some of the seeds left may vegetate and increase the food of the inhabitants, but of this indeed their stout and healthy appearance indicates no want.

We ascertained that the hilly parts beyond were without defence against the Matibele, and Mosilekatse constantly makes excursions against them, but their own deep, reedy rivers are safe against inroads.

Respecting the sources of these rivers we are quite in the dark. The Makololo have ascended the Seshéké, or, as it is otherwise called, the Borotse River, at least 400 miles above the town to which our journey extended. Its general course may be inferred from their statement, that, when ascending it, "the sun rose on one cheek and set on the other." But some, in drawing maps for us, gave it a little Westing. In lat.  $17^{\circ} 21'$  S. it contains a volume of water of from 400 to 500 yards broad, and though we saw white banks of sand in it, the depth was evidently considerable. The name Seshéké refers to these banks of white sand. Alligators and hippopotami abound in it. A series of rapids, situated above the town of Seshéké, compels the boatmen to drag their canoes some distance along the shore, and at about 80 miles below the same point a waterfall is reported, the spray and noise arising from which are so considerable as to have led to the name "Mosi oa tunya" (smoke sounding). The spray is said to be visible 10 miles off. This waterfall may have prevented the slave-dealer from sailing up this river, which we believe to be the main branch of the Zambesi, for it is a fact to which all the natives bore uniform testimony, "that the slave-trade only began on the Seshéké in 1850." At the falls the river is narrowed by means of rocks. It soon, however, spreads out, and becomes placid again. The natives, who have been to the eastward, know of the Seshéké being joined by another river at about a month's distance from the town, which, beyond the junction, assumes the name Zambésa or Zambesi. The large river referred to is called the Bashukulompo or Maninche, but it is only 80 or 100 yards wide. A great many branches, as the Loi Lombé, 'Njoko, Majelee, &c., connect the Maninche with the Seshéké. These are inserted in

the map as given by the natives, but even beyond the point where these streams empty themselves into it the Seshéké must be a large river, for Seunturu, the Borotse chief expelled by Sebitoané, built a large boat of planks sewn together, which was roofed in with white cloth, so that his people might see it at a great distance, and it required twenty men to paddle it. The best informed natives can give no information as to whence the supply of water comes which these rivers convey with considerable velocity to the E. The usual answer to our inquiries was, "The water comes from Lobale." And what is Lobale?—"The source of the waters." Lobalz in Sichuana means a large plain without trees, but whether Lobale means an expanse (lake), or a province,\* we could not determine. The Loena, Liambae, and Lonta are said to be large rivers, and the inhabitants possess many canoes. The Lonta contains light-coloured water, the Liambae clear water, and both flow for some distance in the same channel after their junction, side by side and unmixed. The water of the Seshéké is hard but clear, and does not readily form a lather with soap. The water of the Chobé is clear, and as soft as that of the Zouga. The Tamunakle and the Teogé had their annual rise in June and July, while, as we had an opportunity of observing, the Chobé was unaffected, or rather fell slightly  $1\frac{1}{2}$  inches during the same period. The sources of the Chobé and Zouga, &c., would therefore appear to be distinct. A good highway into a large section of this continent is now opened to our view, and any one may travel for hundreds of miles unmolested. The country around Libabe is reported very swampy, or rather boggy, for people not unfrequently slip through the crust of earth which covers the underlying waters, and perish. Near to the hill Sorila on the Embarras a waterfall is reported, but the natives of the country oppose any path being made in that direction.

The people of these regions are black, totally distinct from the Bechuanas. Those of Sebitoané are called Makololo. The black race which he found inhabiting the numerous islands consists of tribes of different names, as Borotse, Manyeti, Batoka, Bashukulompo, &c. Being the victorious party, the Sichuana is the language of the court. The Bible is being translated into that language, and Providence has prepared the way for it. Besides Sichuana there are the different dialects of the black race inhabiting the country, and though some of the radicles show them to be of the same family of languages as the Sichuana, none of the Bechuana could understand it. To judge from a comparison between 300 words of the Bayeyié or Bakoba, and about an equal

\* Mr. Oswell thinks that there may be some connexion between the names of the R. Lobali and of the Portuguese province of Loyal or Louval to the N.W. of the Borotse.—Ed.

number from each of the following tribes, viz. the Bashubea, Borotse, Batoka, Bamyenka, Bamapanda, and Balajaze, with the Sichuana, the former bear about the same relation to the latter that provincial English does to broad Scotch. We found everywhere people who could understand us. These blacks designate the Supreme Being by the name of Nyampi or Reza, which latter is identical with the Oreeja of the Bayayé. The Borotse are very ingenious in basket-making and wood-work generally. The Banyeti are excellent smiths, making ox and sheep bells, spears, knives, needles, and hoes of superior workmanship. Iron of excellent quality abounds in their country, which they extract from the ore. They are famed as canoe-builders also, and the abundance of a light, strong kind of wood, called Molompi, enables them to excel in this branch of industry. Other tribes are famed for their skill in pottery; their country yields abundance of native produce; but though they are stoutly made, especially their upper extremities, they seem never to have been addicted to war, but appear to have trusted to the defences which their deep, reedy rivers afford to their numerous populations. In constructing the rough sketch of their country only the largest towns are given. Scores of the people were employed by Mr. Oswell and myself at different times, and as their accounts generally agree, we consider that we give an approximation to the truth. The size of the towns, as indicated in their drawings, derives additional confirmation from the fact that in our ride to Seshéké we saw several villages of from 300 to 500 inhabitants each, which were not enumerated by our informants, being in their estimation too small to mention. The Batoka and Bashukulompo follow the curious custom of knocking out the upper front teeth at the age of puberty; the lower incisors, being relieved from the pressure of the upper, become long and press out the lower lip, while the upper lip falling in, gives to the countenance a sort of gaberlunzie appearance. European manufactures in considerable quantities find their way from both E. and W. coasts to the centre of the continent. We were amused soon after our arrival at the Chobé by seeing a black gentleman walk towards us in a gaudily-coloured dressing-gown, and many of the Makololo possessed cloaks of blue, green, and red baize, or of different coloured prints. On inquiry we found that most of these had been obtained in exchange for slaves, and that the traffic began on the Seshéké only in 1850. A party of an African tribe called Mambari visited Sebitoané during that year with considerable quantities of English manufactured cloth, and a few old Portuguese guns, marked "Legitimo de braga," and they refused everything in exchange except boys of about fourteen years of age. The Makololo viewed the traffic with dislike, but having great numbers of the



black race living in subjection to them, they were too easily persuaded to give these for the guns. Eight of these old, useless instruments were purchased by Sebitoané for as many boys. They then incited the Makololo to go on a razzia against the Bashukolompo, stipulating beforehand that, in consideration for the use to be made of their guns in the attack on the tribe, they should receive all the captured slaves, while they, the Makololo, should have all the cattle. While on this expedition the Makololo met some Portuguese, or bastard Portuguese, slave-dealers on the Bashukulompo or Maninche river. They were said to be as white as we were (our complexion being then a shade or two deeper than wash-leather), and they had straight but short hair. These traders presented three English muskets to the Makololo in exchange for about thirty captives. The Mambari went off to the N.W. with about 200 slaves, the other party towards the E. coast, but both were so well pleased with their new customers as to promise to return in 1851. The Mambari are said to live in the vicinity of the sea to the W. The other party came up to the Zambesi from the sea on the E. If traders from Europe would come up the Zambesi, the slave-dealer might soon be driven out of the market.

We were informed of the existence of a large water or lake called Sebolemokoa, in the direction usually given as that of Lake Maravi (Tanganna?). Many slaves come from that quarter, and the goods employed in the traffic probably go up the Zambesi. Can English traders not equal slave-dealers in enterprise? Any party possessing sufficient energy would reap abundantly, for since we opened up a way to the river Zouga, considerable profits have been made. We know of 900 elephants having been killed on the Zouga in the space of three years, and previous to our arrival no use whatever was made of the ivory; but on the rivers indicated in my map armlets are made of the ivory, half an inch of which is lost in the process of making, the saw used being a quarter of an inch in diameter, and armlets of brass wire would be preferred by the natives. Tusks (called by the people "Marapshela" or bones) may even now be seen, completely spoiled by sun and rain, lying with the other bones of the animal. More than 10,000*l.* worth of ivory has been brought down to the colony from that river alone, and if the discovery of only one river has added so materially to the commerce of the colony, what may we not expect from the numerous populations which are now brought to light?\*

But should European traders proceed into the new region, the blacks will be supplied with fire-arms, and give the

\* Mr. Moffatt writes to the Rev. Dr. Tidman, "Of course Livingston has written to you fully, and you will see what an immense field for missions presents itself on the banks of the Zambesi among a teeming population speaking *Sichuana*."—ED.

colonists much trouble afterwards. Can the trade in fire-arms be prevented? So long as, according to Cumming's account, 3000 per cent. can be made by the trade in arms, it is in vain to attempt to stop it. The result, however, of all our observations in this matter is, that the introduction of fire-arms among the blacks has produced the same effect as it did among the whites. It puts an end to most of their petty wars, and renders such as do occur much less bloody than they formerly were. Should any one be disposed to establish a trade on the Zambesi, let it be particularly borne in mind that June, July, and August are the only safe months we at present know. We arrived on the Chobé in July, and had frost, but the winter is very short. We observed swallows on the Seshéké in the beginning of August, and the trees, generally speaking, never lose their leaves.

The bite of the tsetse (fly) is fatal to nearly all domestic animals, yet, when allowed to settle on the hand, all it is observed to do is to insert its proboscis a little farther in than seems necessary to reach the blood. It then withdraws it a little, the proboscis assumes a crimson colour, the mandibles appear in operation, the shrunken body swells, and in a few seconds the animal becomes quite full and quietly leaves. Its size is almost that of the common blue fly which settles on meat, but the wings are longer. In the ox the following symptoms are produced by the bite of the insect:—The eye runs, the glands under the jaw swell, the coat loses its gloss, there is a peculiar flaccidity of the muscles generally, and emaciation commences, which proceeds unchecked until, perhaps months after the bite, purging supervenes, and the animal perishes of extreme exhaustion. Some die soon after the bite is inflicted, especially if they are in good condition or should rain fall, but in general the process of emaciation goes on for months. I had a horse which perished five months after being exposed to the insect.

When the animal is destroyed, in consequence of not being able to rise, the following appearances may be observed. The cellular tissue under the skin is injected with air, and the surface of the body presents the appearance of a number of soap-bubbles strewed over the carcase. The fat is of a greenish-yellow colour, and of oily consistence. The muscles are flabby and the heart frequently pale and softened. The lungs have diseased patches on their surface of a pink or grey colour, the liver is frequently diseased, and the gall bladder always distended with bile. The stomach presents no particular appearance, but the small intestines are pale and generally empty. The blood is remarkably small in quantity, and so devoid of colouring matter that it scarcely stains the hands. The poison seems to be of the nature of a ferment, capable of propagating itself, and acts principally on the brain,

heart, lungs, and liver. The brain seemed affected in several by the circulation of the morbid fluid, for the animal became unsteady in its gait and sometimes even blind. The tsetse is fatal only to domestic animals, as the wild feed in parts infested by it quite undisturbed. There are large tribes which cannot keep either cattle or sheep because the tsetse abounds in their country, yet it bites man and no danger follows. Our children lived for two months among the tsetse, and were frequently bitten, but suffered no harm, while we lost most of our best oxen after having been in contact with the fly on only one or two occasions. We have seen zebras, buffaloes, and antelopes feeding undisturbed in the vicinity of our waggons on the Chobé, quite unmolested by the tsetse which buzzed around them. Oxen and buffaloes, horses and zebras, antelopes and goats, jackals and dogs, possess somewhat of the same nature. What is there in domestication which renders domestic animals obnoxious to the poison? Is man not as much a domestic animal as a dog? Is it the tsetse at all which kills the animals? Captain Vardon, of the Indian army, decided this point, for he rode a horse up to a hill infested by tsetse, and in ten days his doubts were removed by the death of his horse. A curious feature in the case is, that dogs, though reared on milk, die if bitten, while calves are safe so long as they suck the cow. A dog, reared on the meat of game, may be hunted in tsetse districts in safety. The tsetse only inhabits particular localities well known to the natives. Is there any anti-septic in the fluids of game and man which does not exist in the fluids of tame animals, or in those of dogs reared on milk?

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EXTRACT from a letter received by Mr. Oswell from Mr. Livingston, dated Cape Town, April 27, 1852.

“Captain Tuckey gives a vocabulary of the dialects on the River Zaire, and among many other words which we know, there stands staring at us Mokañju’s favourite ‘Mabotabota,’ with very little alteration; and many of the ‘Prize men’ here know the parts mentioned in the Map in the fork of the Bashukulompo and Seshéké rivers. They are also well acquainted with the Maninche or Bashukulompo.”

Mrs. Livingston has since arrived in England with her children, her enterprising husband having proceeded again northwards upon two years’ leave from the London Missionary Society, to explore still further the central portions of Africa.—Ed.

From Captain Parish, 45th Regt., at Winburg in the Sovereignty, March 6, 1852.

“I omitted in my map the lat. of Blomfontein, which I can get correctly from the Surveyor-General, Mr. Ford. I have just seen a map of the Bassuto (Mospah’s territory), published in Paris by the French mission, from the Notes of M. Dyke, a French missionary—it seems very well got up, and as far as I can judge, correctly drawn. Although the Missionary Maps are principally to show the boundaries of their Chiefs, they are the only ones on which many of the principal points are mentioned.

“Mr. Green is now staying with us in camp, having returned from an expedition to the Great Lake with Messrs. Shelley and Bushe. He is just starting again with some of my brother officers to shoot lions. He proposes returning towards the lake in April. All travelling in that part of the country is just now stopped by a disease which attacks the horses; even here they are dying of it every day. It seems epidemic, and carries them off very quickly. An animal, quite well in the morning, is dead before night: sometimes an hour or two after taken with it. It has the appearance of inflammation of the lungs, and is dreaded by the Boers and farmers as one of the worst scourges they are subject to.”

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XIII.—*Proposal for a Rapid Communication with the Pacific and the East, viâ British North America.* By Capt. M. H. SYNGE, R.E., F.R.G.S.

Read Jan. 12 and 26, 1852.

THE proposed communication consists of component parts, each of which is in itself complete and independent, opening a new and distinct feature of the country, and forming separately a profitable and reproductive work. Each part is characterised by these distinctive features, and by marks of superiority over competing routes, similar to those which distinguish the entire proposed inter-oceanic communication. Every part of the chain may, therefore, rely on its intrinsic merits, and is capable of separate execution. That execution would, however, be the most profitable, and for every reason the most desirable, which would most speedily open the country and effect the communication the whole way to the Pacific.

An examination of the globe shows that the entire route, as connecting Europe with the Pacific and the East, is shorter in proportion as it is *northerly*. Thus one through the United States is shorter than one through Central America; and one through British America, shorter than one through the United States. Equal facilities existing for crossing the respective transcontinental portions of these routes, it necessarily follows that the shortest can also be most quickly traversed. These and other important advantages belong equally to the several parts which form the route through British America. The comparison presents the same result through every link and feature; but the detailed examination of vast tracts of country which it would require, involves so many points of physical, special, and political geography, that to be at all adequately dealt with they must be treated as separate, though subordinate and related subjects.\*

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\* It must suffice briefly to remark that no route can be carried out within the United States by similar natural advantages. That which is universally allowed to be the best that could be formed there, is longer by the inferior position of the Atlantic seaboard within their territories, and extends to the same termination of