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Third and Fourth Journeys in Gaza, or Southern Mozambique, 1873 to 1874, and 1874 to 1875 Author(s): Vincent Erskine and Dr. Mann

Source: Journal of the Royal Geographical Society of London, Vol. 48 (1878), pp. 25-56 Published by: Wiley on behalf of The Royal Geographical Society (with the Institute of British Geographers) Stable URL: http://www.jstor.org/stable/1798761

Accessed: 28/06/2014 12:25

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and life, and with the accession of comfort and wealth; whilst others will move off into the wilderness, and there still cling to their habits of independence and indolence. But when a native race is once subdivided in this way, that unmistakably foreshadows its end. The noble savage will be swallowed up and lost in the rapid growth and the ultimate predominance of his more advantageously-placed kinsman. And black civilisation will finally swallow up the fragments of barbarism which for a time have escaped that fate.

III.—Third and Fourth Journeys in Gaza, or Southern Mozambique, 1873 to 1874, and 1874 to 1875. By St. VINCENT ERSKINE.

[Read January 28th, 1878.]

Third Journey.

IT will be remembered that upon two previous occasions I have visited Umzila's country. My first visit was purely and simply a matter of exploration, incidental to my examination of the mouth of the Limpopo. On the second occasion, I went to Umzila on a political mission.* On the third, which I have now, in the first instance, to allude to, my immediate object was the opening up of trade, in which I enjoyed the advantage of the support of the Dutch firm of Dunlop, Mees, and Co., of Rotterdam. My principal aim in this expedition was to secure the consent of the Chief Umzila for the passage of traders and goods through his territory, which lies between Umzeligasi's country and Lake Ngami, and Sofala, and which I cannot doubt is the proper and legitimate inlet to trading operations with those parts. The route which I traversed upon this occasion is a very important track, as it is one of the main roads from the unhealthy and sterile districts of the coast to the salubrious and fertile mountainous region of the interior. My allusion to the sterile coast districts must, however, be understood to be restricted to the flat, sandy, brush-covered plains which spread outside of the alluvial deposits of the Sabi and other streams; tracts that are themselves fertile even near to the seaboard.

I left Natal, May 12th, 1873, in the barque *Sofala*; touched at Delagoa Bay, and reached Inhambane, after a long and boisterous passage, on the 6th of June.

After some preliminary difficulties, I secured a passage to Chi-

^{*} Vide 'Journal of the Royal Geographical Society,' vol. xlv. p. 45.

luana (Chuluwan), in company with Mr. Reuben Beningfield, in an Arab vessel. We left Inhambane July 6th, and arrived at Chiluana July 30th. Chiluana is an island extremely low, and difficult to make, being, indeed, three-quarters of it under water at spring-tides. It has a wide channel between it and the main land, open to ships at the northern end, but only to boats at the south. The island is 9 miles long, and faces the northernmost part of the delta of the Sabi. The town stands some little distance from the north point (in lat. $20^{\circ} 42'$ s.), and contains about 18 Europeans and 4000 Arabs, Moors, half-castes, and natives. There is no place in it of public accommodation, but I was hospitably entertained in it by Mr. Swart, the Governor.

There are two French merchants carrying on operations in the place; but the trading arrangements are of the most unsatisfactory kind, the traffic being in the hands of black agents, who commonly give more than the market value of the produce which they collect, and not unfrequently make away with the goods without rendering any return. The system is certainly even worse than that of the unlimited trust given to whites at Inhambane. The houses are very rude and leaky thatch-covered structures, of wattle and daub. The climate is pleasant and cool in the winter season.

Umzila's kraal at Tshamatshama, to which I was bound, lies about 135 miles in a direct line from Chiluana. The mouth of the Sabi is a few hours' sail to the south of the island, with a dangerous bar; but a large accessible creek, called Maluli, runs up into the delta opposite to the island. After due consideration. I determined upon adopting this route, and on the 13th of July started with my merchandise in a large boat of about 10 tons' burthen, and entered the creek, there about 3 miles wide, with the flowing tide, passing between mangrovecovered banks in a westerly direction. At half-past 10 in the evening I arrived at Shitembu's kraal, and then moved a mile further on to Manama's. Manama is a Mandowa under the rule of Nonxanga, the Zulu governor of this part of Umzila's territory, who dwells himself on the Sabi, not far away. The creek has no water-communication at its head, but there are several lateral channels of communication with the Sabi from its lower part. There are numerous creeks of this character in the delta, which terminate in wide expanses of sandy mud, covered by salt water during the spring tide, and by fresh water at the season of flood; and giving rise to a very remarkable production of mirage at times, in which the reflection of even moving animals is produced with marvellous clearness, so that they seem as if running along upon smooth looking-glass.

I was comfortably lodged in a double hut by Manama. The place enjoys a fertile soil, and would be admirably suited for a trading settlement, on account of its being so easily accessible from Chiluana, and of its being at the same time on the firm land, well beyond the creeks and mud of the delta, and surrounded by open grassy plains that afford good feed for stock. Water stands on the plains during the heavy rains, but soon drains off when these cease, the subsoil being an arenaceous limestone. The place is fairly supplied with trees, scattered about, the most abundant of which is the umphongoti (Kigelia pinnata), with great seeds hanging down like Bologna sausages. The evergreen mukooshi,-the candle, or butter, tree,-deciduous baobabs and mimosas also occur. There is likewise a notable palm, the umfuma, or umkowan, which grows to a height of 100 feet, is thicker in the middle than above and below, and has a fruit somewhat like the coco-nut in appearance, but consisting of three large seeds in a husk, which are eaten after they have been made to sprout.

The arenaceous limestone overlies a bright red sandstone on the plains. The remarkable deposits of lime become even more strongly marked along the channel of the Sabi, where bluffs of pure lime and pebbles, 100 feet high, rapidly succeed each other for from 150 to 200 miles.

Having placed my goods in store, I sent off a messenger to Nonxanga's to ask for porters to his place, and then found amusement in hunting antelopes and guinea-fowls. The natives, however, are not a pleasant race to dwell amongst. The Umgonis, or Zulu section of the community, are completely the masters of the Portuguese; they are indolent in the extreme, and subsist mainly by robbing the Tongas. The country, although fertile in itself, is consequently always in a state of approximate famine.

My bearers having arrived, I started off soon after mid-day, on August the 19th, for the Sabi, and enjoyed a pleasant walk over breezy open flats, reaching a kraal appointed for me near to Nonxauga's, after a march of 12 miles. On the following day I exchanged ceremonial visits with the chief, and arranged with him for porters to go trading with one of my men, but in company also of a Zulu of his own. It appeared, however, that no trade could be accomplished in this individual's presence, as the Tongas would have been fined immediately for the possession of ivory. My man returned in a few days with this account of his expedition. Nonxanga possesses an engaging countenance, and seems to be about 30 years of age; but he proved to be a very sharp hand at a bargain, and was unceasing in his demands for rum. The natives manifested a pertinacious

craving for this spirit, but nevertheless would not pay for it. The exchange expected for a miserable fowl was a bottle of rum. I soon found that it was to my advantage to get rid of the intoxicating drink entirely, and consequently disposed of my whole stock to a native attendant of Mr. Beningfield.

The latitude of Nonxanga's kraal was $21^{\circ} 2'$ s. The mornings and evenings were calm and clear, and a sea-breeze generally prevailed during the day, laden with cumulous clouds. Hyænas were numerous and bold, and I had to defend my possessions with strychnine.

The natives of this district are by no means so warlike or powerful as those of the districts around Natal, and might very soon be reduced to a state of orderly obedience if a garrison settlement were established in the interior, and a steady stream of immigration were encouraged. At present the natives look upon white men as people appointed to supply their needs, and to be robbed and ill-treated whenever this can be done with impunity. There is not a shadow of respect entertained amongst them for the Portuguese.

On the 10th of September I received four donkeys that were to follow me from Inhambane, and that had been twenty days on the road. On the 18th I sent off fifty loads of merchandise, and on the 21st started myself for Umzila's. I had seventeen carriers and thirty hunters in my company. I found the Sabi at this season not more than 18 inches deep, and 50 yards across, with a sand-bed about a mile wide. One of my donkeys was killed by an hyæna, and a second was not in a fit state to ride; but the remaining two rendered me inestimable service, and, in reality, carried me to Umzila's and back, a distance of 400 miles. They beat natives on the march, because they do not need the same amount of rest. I attribute my almost entire immunity from fever and illness upon this journey to the fact that my donkeys saved me from exhaustive exertion in the great heat. At the time I attributed my success with these animals to their having been bred upon the sea-coast of Natal, for they were well and fat upon their return to the coast. Ι had afterwards, unfortunately, some reason to reconsider this opinion, as they all ultimately died. The donkey, however, requires very careful handling in the matter of equipment, as he readily chafes. The crupper, breast-plate, girths, and haunchstraps should be all cased in sheep-skin, and a pad rather than a pack-saddle should be adopted.

On this journey I found that there is only one possible way in which the native Tongas can be dealt with. On arriving at a kraal I always demanded what I required, and took what I wanted, and then gave them an equivalent present when I left. I failed entirely to get necessary supplies by any attempt at an open bargain and purchase.

Rice of a very fine quality is grown along the lower Sabi, but not in any quantity, because the Tongas are in constant dread of attracting the notice and rapacity of their Zulu oppressors. If any man in this region is successful or prosperous beyond his fellows, he is immediately credited with being in league with the evil powers, and his possessions are wrested from him upon that pretence.

Our route lay along the valley of the Sabi, until, on the 23rd, we came up with the party we had sent forward with the merchandise. We found them feasting upon fish which they caught in the river, often with their hands whilst in the act of diving. They were quite contemptuous in regard to crocodiles, catching them in the water and bringing them to land. I saw them do this with small ones, but I was assured they did the same with some of large size. The latitude of this place was 21° 12' s.

From this station we had to proceed for some distance along the bed of the river, in consequence of the encroachment of the overhanging rocky banks upon its channel, crossing and recrossing frequently in the loose sand. After this time I limited my progress to about 12 miles per day, because I found that when I exceeded this distance I could not get my men in by nightfall.

My bearers soon after this became so insubordinate and unmanageable, that I resolved to build a store for the chief bulk of my merchandise, and carry on with me at first only the King's present. I accordingly set to work, and built a three-roomed wooden shanty in about five days. I killed two hippopotami, at a neighbouring pool covered quite over with a kind of water lily, during the progress of the work. There were 87 natives at this time in my following, and they nevertheless refused to return for the meat of the second sea-cow, until I began to poison that of the first with tartar emetic, to prevent them from feasting upon it until they had brought all I required in.

After crossing the Sabi River on October 4th, the latitude of my store hut being 21° 17' s., I passed through a district inhabited by the Hlenga * tribe, an offshoot of the great Makololo race. The Tongas of the district are properly Mandowas or Umyi. We here entered a country of open woods and grass, resplendent in this mid-spring season with verdure. The trees were laden with flowers, which filled the air with strong perfume. The most powerful of the fragrance came from the altogether

^{*} Pronounced "Thlenga."

insignificant flowers of a kind of vine called the umtshanjowa, which bears an edible fruit that is made by the natives into a blood-red wine. We soon after crossed the Upipa River, an affluent of the Gorangosi, and then traversed an open grassy country bearing ivory palms (Phytelephas) and abounding in game. There is here plenty of water, and the region is called "Mapanini," or the "Land of Pools." We rested at the kraal of Umtani, who is chief of the Matschongonini, or Mandanda people, kindred apparently to the Chobis, Marongwis, and Basutos. The women of this race are almost entirely unclad, but loaded with beads and red clay. One old woman, to whom I made some remark upon this point, answered me: "People do not smell, unless they cover themselves with rag. It is better to go naked." These people disfigure themselves sadly with rows of skin-lumps between their eyes and at each corner of the mouth, and file their teeth to points.

The Mandandas are dog-eaters, and keep their dogs fat and in good condition for roasting. They give as their reason for the adoption of this practice that the Zulus will not eat dogs but do eat goats; and they say that if they kept goats instead of dogs, they would soon be deprived of them by their oppressors, and that hence "dogs are their goats." These tribes also eat rats as well as dogs, and are abundantly supplied with them. Fowls have long since disappeared from amongst them.

My next stopping-place was the kraal of Ishoppa, an old friend, who gave me a cordial welcome, and feasted me with goat's flesh, corn, and Kafir beer. When I went on from his place, after a full day's rest, he sent on fifteen women with water-pots for my use, as we had some distance to traverse where there was no water.

We soon afterwards entered a country of dense bush, which is called "Magwasha." It is inhabited by Mandandas, under the chieftainship of Umgupe, a direct descendant of the original Tonga king. The occupation by the Mandanda is, however, contested by the ants, which are in incredible swarms everywhere, both white and red. The white ants destroy the trees, and the red ants feed upon the white. The original vegetation of the land seems, indeed, in process of being exterminated by the ants-a young tree of any kind is scarcely to be seen. The Mandandas build their huts in the dense bush, and away from water, to elude the visits of the Zulus, and perhaps also for the advantage of a richer soil for their gardens. At any rate, the bush serves them for an unassailable retreat in case of need. They themselves have an inconceivable instinct for penetrating its leafy fastnesses. The women make a flax-like fibre out of a weed, twisting it into a string by passing it between the hand and the thigh, and then weave this into ornamental coverings.

On the 9th of October I crossed one of my old routes in $20^{\circ} 56'$ s., and beyond the Umkoni River, an affluent of the Upipa, the bush became more open, with a rich chocolate-coloured soil. The Umkoni River was here about 780 feet above the sea. The belt of bush expands and contracts as it runs along the base of the mountains, separating them from the higher plains. By the Mapanini road it is reduced almost to nothing. On passing out of the bush, near the head-waters of the Umkoni, we stopped at the kraal of Mashadsi, Umgupi's younger brother, who, although a Tonga, collects tribute for Umzila.

From Mashadsi's kraal we proceeded on through an arid, sandy, and uninhabited tract to Malumelila's place, which we found to be in $20^{\circ} 42'$ s., and about 1250 feet above the sea. The ascent thus far is, however, quite imperceptible to the senses, on account of the very gradual nature of the slope. The culmination of the ascent is about 95 miles from the sea, and the water beyond collects into rivers which have outlets some distance away from the Sabi, the principal one being the Gorongosi, whose sources are almost completely encircled by the Sabi and Bosi. The Gorongosi is navigable for boats some 20 miles from its mouth.

At Longoneli's kraal we found the chief had recently been making some practical experiments with damaged gunpowder and a fire-stick, which had ended in blowing the experimenter In the neighbourhood of this kraal there was a large tract up. of country with a rich black soil, whose fertility was due to the presence of volcanic rocks, which were seen rising into small isolated hills. The higher mountains were now distinctly in view, lifting their sombre purple outline from a dense covering The Gugoya Mountain rose in the form of a hog's of forest. back about 900 feet above the plain towards the N.N.W., with the Umtschemsi River at its base, running towards the Bosi. This river was reached in the early morning of the 12th. The stream was rapid, with a breadth of 120 feet, and a pebbly bed, about 2 feet deep, and with steep banks 100 feet high. I found the drift of the river to be not more than 460 feet above the sea. and must therefore have descended some 800 feet to reach it. We now traversed the rocky, hilly, and forest-covered district of Umtonto. The rock was here principally greenstone porphyry, with quartz gravel and quartz bands, and was very suggestive of auriferous deposits. We next climbed a ridge of loose porphyritic rocks, capped with sandstone. Thus far the track had been quite accessible for waggons; but beyond this no waggon could have passed. The country was now a succession of hills, valleys, and streams, with a red clay-soil and porphyritic rocks. At Umkontwain we came to the kraal of Kater, who is a brother of Umzila, and were there hospitably entertained. On the 14th of October we traversed some mountainous districts, and descended suddenly by a steep precipitous path to the Bosi, then crossed another mountainous spur and descended gradually into the valley of the Utschiredsi, an affluent of the Bosi, and then climbed along its course to the plateau, about 3000 feet above the sea. I here soon reached the path I had traversed in 1871, and at the Gauda kraal found a familiar friend in the form of a venerable lemon-tree, which had rendered me good service upon that occasion.

On the 16th of October Umzila's Indunas came down to me with an invitation to visit the King. On the following day I found him at one of the royal gardens, where he was celebrating the opening of the hunting season by a kind of public ceremonial. He gave me a friendly reception, and proposed that I should bring up my goods to his kraal. This I for the present declined, until I better understood upon what footing we were likely to stand. I wanted to get leave to pass on to Umzeligasi's territory, but found there was war with that chief, and that Umzila was jealous, and adverse to any trade communication passing on to him. Lobengula, who had succeeded Umzeligasi in the sovereign sway over the Matshoban, is as friendly and accessible to the white people as Umzila is the reverse, and would certainly open his country if the latter chief were out of the way. Umzila avowedly aims at keeping the gold produce of Manica to himself. He refused me permission to visit the fields, and told me that when his ivory was done, he intended to work then for his own benefit. He is afraid of the Dutch of the Transvaal Republic, but not of the English, because he thinks that Cetywayo serves as an effectual shield between them and himself. He is quite aware of the power of "Inyanisi," as the Queen is called, but thinks she is too far away to do him any harm. There can be no doubt, however, that he is by no means himself a powerful chief. His authority would already have crumbled away if the Portuguese had established a fortified camp in the neighbourhood of his kraal. As it is. the natives of Gaza hold the Portuguese in the utmost contempt, and say that they keep near the sea in order that they may be able to run away easily. These people entirely understand the meaning of the concentration of power. The Portuguese have so scattered their forces at insignificant stations along the coast, that they are quite incapable of rule. The climate is eminently healthy and cool in these upper regions, and well suited to cattle, and to the cultivation of wheat and the vine. Cotton, sugar, and coffee also thrive in the deeper and warmer valleys. It is much to be regretted that the Portuguese have not a wellordered province from Delagoa Bay to the Zambesi, divided into subordinate governments, with its sea-gate at Sofala. The Zambesi itself would be more easily approached in this course than along its own water channel.

Soon after my arrival at Umzila's place the rainy season began. The rain sets in with a driving mist from the east and s.s.e., which is shortly followed by thunder and lightning, and rain then falls for two or three days. Northerly and westerly winds restore the fine weather.

There are fine forests of hard wood on the slopes of the Silinda and Sipunyambili Mountains. The trees are 4 feet in diameter and 60 feet high, with trunks as straight as pines. Elephants, buffaloes, and antelopes abound. Both the eland and the sableantelope may be shot. I saw three lions, but failed to bag them.

Umzila has about a thousand head of cattle at his kraal, which have been, for the most part, plundered from the Amadumas. There are, however, amongst them cattle that unquestionably came from Zoutpansberg in the Transvaal, many years ago. There seems to be no tsetse fly, excepting in the neighbourhood of the Sabi. I procured exactly the same latitude for this kraal that I did upon my former visit, namely, 20° 22' 30" s., and consider it to be about 180 miles in a direct line from Zoutpansberg in the Transvaal. Some lunar distances which I was enabled to secure I have sent on to the Royal Observatory at the Cape, for examination and reduction.

The influence of Umzila amongst the native tribes is mainly dependent upon a reputation he possesses of having some powerful wizards in his service, who fight with diseases and the elements, instead of with arms. He is very much feared by the surrounding barbarous chiefs, on this ground.

I was detained by Umzila by false promises and under various pretences for nearly two months. He then gave me eight tusks of ivory, with permission to hunt in the lower district of Mazibbi, but would not allow me to go on towards the Matschoban country. I accordingly commenced my return to the Sabi on the 9th of December. On reaching it upon the 15th, I found the river almost impassable from flood, but ultimately succeeded in getting my donkeys across. On reaching my hut I found everything safe, and now turned my attention to trade. Nothing, however, was brought to me for purchase, and no doubt the situation of my huts was unsuitable for the establishment of traffic.

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On the 24th of December I started for a visit to the Zulu governor of the Tonga district, extending up the river some 20 miles above. The thermometer at this time frequently marked 102° and 104° in the shade. On the following day I was hospitably received by Singvingu, and feasted with goat's flesh and beer. He also gave me a tusk of ivory. The river was alternately in a state of rising and falling, according to the floods which it received in the mountains. As it rises, small flakes of foam first appear, then larger ones, and, finally, floating reeds and fragments of huts. The larger flakes of foam always indicate that the river is impassable on foot. At this period the river is quite navigable by boats that would draw as much as 3 feet of water, but the current is too fierce to be stemmed by any power short of steam. Singyingu's kraal was the highest point of the Sabi that I reached, and was estimated as being about 21° 28' s., from my dead reckoning. I returned to my hut by a stiff and very long day's march on the 29th.

In better hands a steam float might be used for purposes of trade upon this river. But, under the circumstance of the rapacious presence of the Umgonis, or renegade Zulus, who are now dominant over the Tongas, nothing of the kind would be possible, as no produce could be obtained. "Dug-out" canoes came up for me, against the current, upon this occasion, as far as Singyingu's, but only arrived after I had started on my way down.

The thermometer on the shady side of my hut often rose to 105°, and the coldest temperature of the night at such times was 74°. The Sabi here frequently rose and fell in its channel, although the ground remained parched and baked, for want of rain. I acquired quite a high reputation as a rain-maker, because it frequently happened that it rained upon my arrival at kraals. An old chief, called Sondaba, once brought me a present of some corn and three fowls, and asked me to make him some rain. I told him that his offering was too small, and that he must bring me a goat before I could accede to his request. He had scarcely left, however, when a thunderstorm broke, and deluged the place with rain for three days. I suppose I was held to have relented on his behalf.

I now found that there was no profitable trade to be established at my hut, on account of the paralysing fear of the rapacious Zulus which was over the people. I accordingly came to the conclusion to get rid of the main stock of my goods in whatever way I could. When I had done my best, there, however, still remained about 40 loads to get transported down the river. I st rted to accomplish this on the 9th of January, 1874. The streams were all inconveniently high. We marched from 12 to 14 miles a day, and often had to go knee-deep in water. On the 14th of January we reached Mazitu's, the Zulu overseer of the district. As he was absent, I had to wait until his return. His kraal was about 8 hours' walk, or 20 miles from the sea. Singyingu's kraal was 76 miles from the sea, and in 1872 I crossed the river 60 miles higher up, in 21° 27' s., about 15 miles below the confluence of the Lumdi with the Sabi, probably about 21° 26' s., 32° 18' E. longitude, and 150 miles from the sea.

On the 17th of January the Sabi became brimful, a mile and a half across, and deep enough to float a hundred-ton vessel. The current was muddy and like a mill race, covering islands, trees, and reeds, and presenting the appearance of a rolling expanse of brown water. I went some distance down the rapid river in a canoe, to join Mr. Beningfield; and we then arranged to go on together to Chiluana. We had, however, to seize a cance before we could get any native to go with us. We paid two eight-yard pieces of blue baftas for the passage, and launched upon the stream on the 18th of January. We flew along at a terrible pace on the rapid current, with constant danger to the canoe from half-submerged trees. We turned aside into a creek to rest at Manyati's kraal. In one place we had to seize a hostage of women, whom we found hid in a tidal creek, to induce one of the men to go on with us as a guide. We finally reached the coast at a break-neck pace, turning out of the Sabi by a side creek called Macowa, nearly opposite to Maliki's place. We now paddled through a series of in-shore creeks and lagoons, at one place passing a very dangerous gap in the sand-dune, through which heavy sea-breakers tumbled in. We had here to unload the boat before we could venture upon the passage. This dangerous outlet is well known to the natives. and is called by them "Umperta." This lagoon route is traversed by traders. We again passed along through mangrovefringed creeks, and crossed one lagoon, about 4 miles wide, availing ourselves of the drift of the tide. The mangroveroots stand up, like the rafters of a miniature round-house, out of the water. The tide rises in these creeks about 18 feet, but there is generally shoal water where the creek passes into a lagoon. There is often a reflux current, on account of the tide entering some stretch of creek at both ends. Our last haltingplace was at a spot called "Shimilimili," amongst the mangroves, where the musquitoes bit through a flannel shirt and thick moleskin trousers. The entrance to this place was appropriately called Umbarba, or "biting." We started from this

wretched place an hour after midnight, and soon after entered the Maluli creek, by which I had passed up to Shitembe's, and about 10 o'clock on the 22nd of January reached Chiluana. Altogether I traversed about 100 miles in the "dug-out" canoe, through the mangrove swamps of the delta of the Sabi. I found very melancholy news awaiting me at Chiluana. I there, for the first time, heard of my brother Robert's death, who had been killed in the brush with Langalibalele's people, in their escape with their cattle through the pass of the Drakenberg frontier of Natal.

I still had to get my ivory down the Sabi. I first went up to Nonxanga's by the old route, and then returned to Chiluana to arrange for a boat. At this time in the prosecution of my negotiations I made one trip to Shitembe's, in which the whole route was under water, and in which I swam ten considerable streams with rapid currents. Every landmark had been effaced by the flood, and I had to guide myself entirely by the compass.

Through the kindness of the Governor I was now enabled to attempt to visit the mouth of the Sabi by sea, in a boat which he provided for me. I entered one of the mouths of the great river, called "Macow," and found 6 feet of water in the channel, with a stream of water that drifted the boat 4 miles out from the land, and at that distance was still fresh enough to make The fresh-water current was clear and green, excellent tea. with floating mosses, rushes, and reeds in it. We managed, by tacking across the current within the banks, and by the use of the tow rope, to reach within a couple of miles, or so, of the main channel of the Sabi. We here got a night's shelter, by swimming to the kraal of Inynasiva, pitched upon an island in the watery waste. I crossed the flooded country for some distance in a canoe to Matiki's place, and there loaded it, and a second canoe which I pressed into my service, with the ivory that I had left in Matiki's charge. We slept in our boat, after we had re-crossed to Invansiva's, on account of the flooded state of the land, and on the following day again traversed the Macow lagoon, once touching the bottom, and having to leap overboard to hold the boat up from being capsized by the current, and, passing out to the sea, made a fair-wind passage to Chiluana. The water in the harbour was perfectly fresh when we arrived, in consequence of the enormity of the land-flow.

From Inyansiva's I could distinctly see the true mouth of the Sabi, about 8 miles away, and bearing, by the compass, s. 70 E.

I now made another visit to Nonxanga's on the Sabi, leaving

Chiluana on the 23rd of February, and returning to it on the 27th.

On the 8th of March I started for as much examination as I could get of the Gorongosi mouth. The common maps of this region are quite incorrect. The Admiralty chart shows a place between Chiluana and Sofala, marked "Boene." The river which falls into the sea there is, however, really the "Gorongosi." It does not go to Sofala Bay, as it is made to do in the Boene is an island in the delta, and was formerly a maps. Moorish settlement, and still has a clump of coconut-palms planted by its old masters. It affords a good safe harbour for small vessels, and is a favourite place for landing. It has a somewhat notable exportation of bees'-wax, as the bees seem greatly to affect the mangroves in the delta. I entered the mouth of the river, and secured observations on the western point of Boene, which I found to be in lat. 20° 28' s. The entire coast in this region abounds in fine harbours, which contrast singularly with the poverty of the English possessions in this particular. My sketch-map shows quite a long series of creek and river embouchures, beginning from the Inyambesi, the farthest towards the south. The Donde comes next, then the Inyambungu, twenty-four distinct mouths of the Gorongosi, the main channel of that river; the Malaya; other unnamed mouths; the Invatshisi; and, finally, the Macocoa, which trends some distance along the coast, it is said almost to Sofala.

I returned to Chiluana on the 20th of February, and had now determined to make my way by a boat as far as Cape San Sebastian, and to cross overland thence to Inhambane. In accordance with this plan, I sailed in a launch for Bazaruta on the 30th of March. I passed the mouth of the Sabi at noon, and secured an observation 6 miles off the mouth, which gave me $20^{\circ} 53'$ s. for latitude, or $20^{\circ} 58'$ for the place of the mouth. It is consequently 33 miles of latitude north of Cape Bazaruta. At 4 o'clock we passed "Makoban," and another of the mouths of the Sabi, and then the mouth of the Gabulu, or Gavuru, which comes down from near the frontier of the Portuguese territory at "Terra de Croa," and enters the sea in about 21° 8'. At midnight we reached Santa Carolina, the small island occupied by the Portuguese. The large islands of Bazaruta and Bengura have only native inhabitants. On the 1st of April I reached Bengura; there is a channel between it and the land for vessels not drawing more than $1\frac{1}{2}$ fathom of water. Further south there is an island called Sijini, and two islets, Shidundesi and Bangwa. The point where people land at San Sebastian is called Singoni. We reached this

on the 2nd of April, and started at once for Inhambane. On the fourth day we reached the Lake Invamani ("the large lake"), about 6 miles long. We crossed the Portuguese frontier at the River Inyamfu, and then traversed independent territory to Shivalu's kraal. He is the first chief tributary to the Portuguese settlement at Inhambane. We next stopped at Matshegowo's, in the hollow of Burra Falsa, or False Bav, formed by Cape Lady Grey, in latitude 22° 56'. On the 6th we crossed the Isonziweni River, and descended to the sea-beach. The country now became thickly inhabited, with abundance of coconut-palms, which had been planted by the natives. On the 8th, still travelling near the sea, we had our first glimpse of the hills at the north entrance of Inhambane Bay. We then struck in through a dense forest, with a rich soil and numerous gardens of Kafir corn. This district is terribly infested with a tick of nocturnal habits, which causes severe fever by its bites. On April the 9th I reached "Coche," on the north-western side of the bay, and the next day crossed to the town of Inhambane in a launch.

On the 10th of April I embarked in the steamer Adonis for Delagoa Bay, which I reached safely and happily on the 2nd of May. During the passage we entered the Mapoota, or Usutu, River. Having crossed shoal water at its mouth at high tide we found the river a mile wide, and with abundance of water for the steamer's draught, which was $7\frac{1}{2}$ feet. A message and present were sent to the Chief Nonzungili, of the Makasan tribe, inviting him to come on board. A golden sovereign was sent back as a present, with a complimentary message, in return, but the chief himself kept at a safe distance.

Abstract of the Fourth Journey. By Dr. MANN, F.R.G.S.

It will be remembered that these journeyings of Mr. St. Vincent Erskine have principally concerned the approximately coast district of South-Eastern Africa that lies between the Limpopo and Zambesi rivers. Umzila's kraal, which is the most inland point of the traveller's excursions, lies about 140 nautical miles due west of Sofala, and would be not more than 200 nautical miles in a direct line from Mosilikatse's (Umzeligasi) kraal, situated on the threshold of the high mountain plateau of Mashona-land, and of the gold-bearing region traversed by Karl Mauch and Thomas Baines. It is obvious that the route traversed by Mr. Erskine on his third journey, from Chiluana, would afford a ready and very desirable mode of access to this mountain region, if Umzila, the chief of what Mr. Erskine calls the Gaza country the Mandanda district of the older maps—were favourable to the venture. This was one of the practical objects at which Mr. St. Vincent Erskine aimed. From his own account of the third journey, however, it will appear that Umzila has no present intention of opening the door beyond his own domain, and that this is a difficulty which will have to be overcome by time, and by the gradual progress of events, before this interesting part of the country between the Limpopo and Zambesi can satisfactorily be opened out. It is clear that the present idea of the wily chief who dwells beyond the upper stretches of the Sabi River, is to reserve the mountain gold for the time when the ivory of the forests and plains, which now yields so convenient a royalty, has been exhausted by the hunters.

In the autumn of the year in which Mr. Erskine returned to Delagoa Bay from his trading trip, he once again landed on the Manhlin coast, intent upon turning the permission which he had received from Umzila to account, by hunting the elephant. The district to which his licence applied was that known as Mazibbi, immediately beyond the Manhlin frontier. He was here joined by 100 native hunters, whom he had engaged at Lorenzo Marquez, in Delagoa Bay, and who had marched overland through the Chobe country. He passed the Gabulu River and entered the Manhlin territory on the 3rd of November, 1874, and remained hunting between Timbiti, near to the 23rd parallel of south latitude, and the Sabi, until the end of June, 1875. During this time he followed the rudest form of the hunter's life. He had neither tea, nor sugar, nor pots or pans. He lived altogether upon elephant-meat and water, with the addition of such coarse native food as he could procure from time to time. He had arranged to send up a present of guns, that he had brought for Umzila, direct from Bazaruta, in the hope that by that means he would avoid the necessity of a personal visit to the King. But in this, as it turned out, he had reckoned without his host. After he had been some time engaged in his hunting, a messenger came to him from the royal kraal to tell him that the King wanted to see him, and that no excuse could be allowed.

The attention of the traveller was mainly occupied upon this occasion with the exigencies and demands of the hunter's life. But his journal nevertheless contains reference to some matters of geographical and general interest, that are worthy of a place in the transactions of the Society.

The expedition does not appear to have been attended with remunerative results. About ninety tusks were secured, over

and above some small collection that was made on the ground of old outstanding trade debts. The game was comparatively scarce in the Mazibbi district, and the arrangement with Umzila did not permit the operations to be shifted to the more productive grounds of Makalingi, Indoboleni, and Shiskongi, where elephants were said to abound. Mr. Erskine found that for an expedition of this character, each hunter required a provision of not less than 15 lbs. of gunpowder, 70 lbs. of lead, and 450 percussion-caps. For the party which Mr. Erskine had in his service this would have amounted to 1500 lbs. of gunpowder, 7000 lbs. of lead, and 45,000 caps. His own preparation, indeed, had actually involved something in excess of half this amount, but was insufficient for the circumstances of the case. He believed that 20 picked hunters would have given better results with an expenditure of not more than one-third the ammunition, but he remarks that it is simply impracticable to get any selection of this character. The skill and capacity of the hunter is only discovered in the progress of the hunt. Mr. Erskine thought that in his experience about ten elephants were wounded for every one that was secured. The native hunter, however, invariably refers any want of success with his game to some fault in the performance of an initiatory charm, or incantation, called "Pahla Umhamba," which is carried out under Umzila's authorisation. This incantation was duly administered by Sibomo, the chief of the Mazibbi, on behalf of the first batch of hunters who arrived; but this subordinate chief refused to repeat the incantation for those who came afterwards, saying it could only be done at the risk of his own life. This caused great discouragement to the rest of the party. The natives confidently believe that the elephants are made more vulnerable, and that they are led to the hunting grounds where they are doomed, by the performance of this incantation. Exceptionally successful hunters are conceived to possess some "muti" or charm of this character of their own which draws the elephants into their toils, and makes them powerless against the Incense from India and pastiles are very generally bullets. looked upon as potent "elephant medicines," and in some districts small pieces of *coal* are accepted as by no means inefficient substitutes, when the incense and pastiles are not to be had.

Mr. Erskine was strongly impressed upon this expedition with the unexpected fact that facilities for successful trade diminish with distance from the base of operations. The best trading work is done in the immediate neighbourhood of the Portuguese settlements, to which the natives themselves come for the traffic. When they themselves bring produce in this way to the traders' doors, they are naturally disinclined to carry it away again, and are therefore disposed to give favourable consideration to any reasonable offer. On the other hand, when the white trader transports his merchandise to the homes of the natives, the influence tells in exactly the opposite way. It is the white trader who is then disinclined to carry his wares back again, and the natives accordingly are not slow to recognise this difference, and to take advantage of their opportunity. Mr. Erskine found that, from this cause, india-rubber, bees'-wax, and even ivory, were actually cheaper near Inhambane than they were far up amongst the independent tribes. The trade amongst the Umgonis, or Zulu masters of the land, was literally of no value at all, as their expectation is that barter is to be carried on upon the principle of a friendly interchange of gifts, in which the Zulu share of the bargain is to consist of large promises never fulfilled. The objects of barter which were most valuable and "current" amongst the Tongas, were 8-yard pieces of blue bafta, 32 inches wide; red and white striped salempore; blue-ground prints; and red Umgazi beads. about the size of a pea, with a white eye. There was only a limited sale for muskets, powder, and caps. Blankets, and most of the fancy articles acceptable elsewhere, were quite unsaleable. Iron picks are not worth the cost of transport.

On his incidental trip to Umzila's kraal, which was again performed upon a donkey, this time sent up to him for the purpose by Mr. Beningfield, he crossed the Sabi River about 40 miles lower down than the drift which he used in 1872, probably in about 21° 30's. and 33° 15'E. The river here bore its usual character of an immense sand-bed, more than a mile in width, with a small stream meandering tortuously in the midst from side to side. Here and there reedy islands stood in the midst of the river, or occasionally upon the sand, which was of a vivid orange tint, contrasting singularly in most places with the sombre green herbage of the raised banks. His interview with Umzila took place about the 6th of March, at a new kraal on the banks of the Sinike, to which the King had removed since 1874, and which was called "Utshani Udi," the place of long grass. It stood in 20° 35' s. lat. It proved that what Umzila especially wanted just at that time was a silver ring, which was to have a lion rampant upon it, and the inscription, "Umzila. Inkosi kwa Gasa." Mr. Erskine, however, had not a sufficiently good opinion of the King's fidelity to professions and promises to undertake to furnish the ring. He stated that he heard of one instance at this time in which

Umzila had managed to get goods worth 1000*l*. from a Portuguese into his hands, and had given him back in exchange ivory not worth more than 250*l*. The interview was a brief and altogether unsatisfactory one, and led to no practical result.

There are several distinct characters of Bush Land recognised by the Tongas of this district. These different tracts are based upon physical peculiarities of the ground, and are distributed in the form of belts, which are so well recognised and known that they serve as valuable landmarks to the hunters, and guide them in their course when neither sky nor horizon can be seen.

The UMTONTO consists of open woods of deciduous thornless trees, some 20 feet high, growing in hilly tracts to a larger size, and sinking in sterile regions into mere scrub. They are without underwood, but are often draped with hair-like lichens. The tree is a leguminous plant, and its bark is universally used for the construction of corn-bins, canoes, and water-vessels. The soil is sandy, with little grass on the plains, and a red clay upon the slopes of the hills. The ETSENGI is a dense, thorny, almost impenetrable scrub, without grass, chiefly found in damp places at the bottom of rising ground. The UMZIMBITI occurs invariably upon a bright-red soil, both as woods and forests, but never upon the mountains. The trees are straight, and grow closely together, like some trees in England. The ground is destitute of other vegetation, and covered with fallen leaves. The leaves are shining, dark olive-green on the upper side, and white and velvety below. Meat roasted with the wood is bitter and uneatable. The juices of the plant are poisonous, as is also the honey collected in the neighbourhood of these trees. The MONJO is an open and grassy country, much frequented by game, especially in the early morning. It has a hard subsoil, with outcrops of limestone, and frequent water-pools. It is dotted over with Umtomboti, Umganu, or Muruli trees, and numerous trees of large size bearing edible fruit. It has The MAGWASHA also hooked-thorn trees with knobby bark. is a dense, thornless scrub-bush, with intertwining lianas and climbers, on a red soil, destitute of water, swarming with ants, and occupying the higher parts of the plains towards the base of the mountains. The IMBALENI is open country, with grass and water-pools. It is almost synonymous with Mapanini, or Pool-country. The UMSAGARI is low bush of Makwakwa (strychnine), Mashlala, and other fruits resembling the Kafir orange. It has a white sandy soil, and is without underwood. The MARUKA is a land of ant-hillocks, often as large as summerhouses, with the bush confined to the summits of the mounds. A little beyond the frontier, which divides the Imbendane's from the Shishongi, an open country, with brackish water, was entered, with water-pools encrusted with salt round their margins. This salt plain stretched to some distance, and then a heavily wooded tract was reached.

In the wood immediately beyond the thirsty salt plain Mr. Erskine was fortunate enough to find a cherry-like fruit, known to the natives under the name of "simwerbi," and furnishing a delicious and refreshing feast. Its juice is, however, so heavily-laden with india-rubber that the moustache gets varnished and the lips almost cemented together, when the fruit is eaten; the berry is, neverthless, one of the most palatable fruits of the country—with a lusciously sweet taste and with milky juice. It has a few light-brown enamelled seeds, and grows in luxuriant abundance upon a large evergreen tree. Elephants appreciate this fruit quite as highly as men. The natives look upon the trees in the light of a granary during a couple of months or so, when they are golden with their crop. The fruit is at its best in the middle of January, and at that time it is made into a very pleasant wine, decidedly the best drink prepared by the natives, who also prepare fermented beverages from the imbongwa, the mayogomela, the waterboom, the umtshangowa, and a species of palm-all wild and uncultivated products of the bush.

The imbongwa is the india-rubber plant of the country. It bears an edible fruit, which yields the juice that is fermented into wine; the fruit is about the size of an orange, with a yellow skin or shell, easily broken by the thumb-nail. It contains a number of flattish seeds, which are imbedded in a small quantity of acid pulp, saturated with sweet juice. The seeds and pulp are squeezed out and watered, and then put in the sun to mature. The plant is a climber, with a light-brown, rough, lumpy bark, and with a stem that is occasionally as thick as a man's arm. The small leaves are set upon the ends of the branches. The india-rubber furnished by this plant is of the kind which is known as "fingers."

The "Makwaka," or "Umfooma," a very highly-prized Tonga food-luxury, is prepared from the large calabash-like fruit of a deciduous shrub, which Mr. Erskine believed also to be allied to the strychnine or nux vomica plants, and which is greatly appreciated by the elephants and their thick-skinned kindred. The calabash is full of a bright orange-coloured seed, about as large as a shilling, when ripe, and at that time covered with a thick, glutinous coat. The seeds are dried upon a wicker-

work frame, fixed over a hole with a fire kindled at the bottom. The seeds acquire a flavour from the smoke, and assume a darkbrown colour. The roasted seed-coat, or testa, is then stripped off the seed by the women, pounded up in wooden mortars, and pressed into drums made from the untonto-bark. In that stage it is very like oat-cake, and if it has been mixed with honey, is palatable, notwithstanding its pervading bitter taste. There is a refined way of preparing it green, when it is called "shugutsu," and is deservedly in high estimation. In this form of preparation the seeds are soaked in a succession of quantities of water, to extract their bitter flavour, before they are stamped. In this state, however, the product is so rich and rare that it is not to be bought. A dark-coloured oil drips from the drums of the matured makwaka in considerable quantity; and this proved to be quite as good as olive-oil for lubricating the guns. The fat of a land-iguana also yielded a very serviceable oil for the same purpose, which seemed never to congeal.

Mr. Erskine speaks of a plant of the Strophanthus family, as yielding a powerful poison used by many of the inland tribes for anointing their arrows and spears, or assegais. The poison is so energetic that men wounded by the arrows in the fleshy part of the leg have been known to die within three hours. With small bucks the poison takes effect before they can run out of sight. The seeds of the plant, which are the parts from which the poison is extracted, are known to the natives under the name of "umtsuli." The flower is vellow, with curiouslytailed petals, and the seed has the form of a huge military frogbutton, with lobes nine inches long. The plant is a runner, bearing large, rough-ribbed leaves, arranged in clusters of three or four together. Each shoot consists of three branches, of which one bears the seed and the other two the leaves. The plant is probably indentical with the one described by Dr. Livingstone as being used for the same purpose. The active principle of the poison appears to be strychnine. The solitary donkey was shot by a poisoned arrow near Injarkazan's kraal, having been apparently mistaken for a hyæna in the darkness of night. The arrow fortunately struck the bones of the spine. It was carefully cut out, and the wound washed with hot water. The wounded part became very swollen and painful, and a profuse salivation followed; but the donkey recovered.

The finest timber-tree that was met with was a species of Gardinia, known as the umshanatse, or mapani, and possessing small book-like leaves. There were specimens of this tree which would have furnished planks 2 feet wide and 40 feet long.

Near to the Portuguese frontier, in the approach towards Inhambane, Mr. Erskine made the acquaintance of a people known as the "Marongwes," whom he distinguished unconditionally as the finest race he had any communication with. They are of the same blood as the Chobis, Mandandas and Mashongonini, and bear a somewhat marked resemblance to the Basutos. They are armed with strong six-feet bows, are very brave, and are reputed to have great skill in bush-fighting. They live in dense communities, and clear and plant large stretches of ground, sometimes exceeding a hundred acres in extent, which are cultivated in common, with the families of the cultivators scattered around the margin of the clearing in The country was thickly inhabited, and separate kraals. abounded in fowls, corn, beer, and honey; in some places these people possess coconut-palms, the sugar-cane, and bananas, and distil ardent spirit with stills of native manufacture. Gigantic specimens of baobab-trees abound, covered by castana-nut creepers, which are festooned to the ground, and form magnificent canopies quite impervious to the sun's Mr. Erskine dwells quite lovingly upon the interesting ravs. scenery produced by the thriving gardens of this industrious race, ornamented and interspersed with the magnificent canopies of foliage.

The Mandowa race, which occupies the hill country above Sofala, is probably a branch of the Makalala tribe. It submitted to the Zulus, without fighting, at the time of the invasion of 'Cnaba, and has since remained tributary to Umzila, by whose father 'Cnaba was dispossessed. Their own hereditary chief, Umgapi, still dwells on the Umkini River, some distance towards the north. The south-western frontier of the supremacy of the Zulu Chief Umzila is now at the commencement of Manhlin, in 22° 50' s. All the tribes within this frontier, whether Chobi, Basiga, Bila-Kulu, Mandanda, or Mandowa, are classed together as Tongas, although severally of different blood and origin; but that designation is simply the general title of contempt for the subject tribes which has been applied to them by their Zulu conquerors, who in their turn are distinguished throughout this district as Umgonis. Mr. Erskine's narratives abound in frequent illustrations of the wretched state of destitution and misery in which the subject-races are kept by the Zulu despotism, which has here fastened upon the land. In many parts the country seems to be in very much the same state that Natal was when the first English traders settled on its coast, and found the Zulus of Chaka dominating and plundering the Natal tribes. Umzila and his father Manukuza, it will be remembered,* were the direct successors of the Zulu Chief 'Cnaba, who fied from the vengeance of Chaka in the days of his early ascendancy, and found a convenient spot upon the sources of the Sabi to set up for himself, and practise the arts of tyranny, from which he had fied.

Mr. Erskine observed that ants are not uncommonly propagated by being carried down the rivers in flood upon rafts of vegetation, until they are finally deposited on islands in the course of the stream. He quotes instances of their having taken up a permanent abode upon spots which they have reached in this way, and of their having increased there with such rapidity as to finally dispossess and expel the human occupants who preceded them.

A very interesting allusion is made in more than one place of the journals to a melodious feathered songster, called "Umloti" by the natives, which only sings, like the nightingale, before the dawn and after sunset. It is a grey-and-brown bird, with a little red upon its plumage, and its Kafir name means that it is the "king of songsters." The natives say that it lives upon insects and white ants, and that it dies immediately from fright, if captured.

An ingenious device which Mr. Erskine adopted for the recovery of the exact date, when he had lost his count of days in his rude hunting life, is worthy of notice. He first found his correct latitude by cross observations of the declinations of suitable fixed stars. He then observed the meridian altitude of the sun, upon the first practicable occasion afterwards, and, referring to the columns of an almanac, found what the day of the year must be when the sun attained such a meridian altitude in that particular latitude. On the 4th of April he thus determined the latitude of Timbare's kraal by stars, as being $21^{\circ} 29'$ s., and then on what he conceived to be the 7th of April found that the meridian altitude of the sun was 25 minutes less than it ought there to be on that day, and that consequently the day was the 6th, and not the 7th of April.

* See 'Journal of the Royal Geographical Society,' vol. xlv., p. 97.

Memoranda of Astronomical Observations. LATITUDES.

Sextant Observations.

Chiluana	Town	-F	abre's	s Fac	tory.		0	,	"
August 10, 1873 (by a Aq	uilæ)			••			20	41	48
August 11 do.		••	••	••	••	••	20	41	20
Lambisa's Kraal,	Mana d of l				(Shi	item	b u),		
August 15 (a Lyræ)	•••						20	45	15
August 18 (a Pavonis)							20	49	37
Mean	••	••		••			20	47	26
Majisi's Kraal—adjoi of	ining bank		0		ł of :	a mi	le no	rth	
August 24 (a Pavonis)	••	·		••		••	21	1	24
September 1 (a Aquilæ)	••						21	2	21
September 2 (same star)			••				21	2	21
Mean	••	••	••	••	••	••	21	1	52
Near Ivauli's Kraal	—hut	ons	outh	ban	c of i	Sabi	Rive	er.	
September 23 (a Gruis)	••	••	••	••	••	••	21	11	53
Nore.—Observations by no and by sout							h of m	ean,	
Kraal of Malumelila, in	n the	Bush	, hig	hest	part	of N	[agw	asha.	
October 10 (a Pegasi)		••	••	••	••	••	20	42	2 4
Camp near Un	nzila's	s Kra	al, I	'shan	na-ts	ham	з.		
November 26 (a Arietis)	••		••				20	22	27
November 29 (a Eridani)			••				20	22	14
November 29 (a Arietis)		••	••	••	••		20	22	33
Mean	••	••	••		••	••	20	22	33
Camp, south bank of Kraa						Kw	ikine	le's	
December 3, 1873 (a Argo)		••	••		••	21	17	16
January 8, 1874 (a Tauri)		••	••	••		••	21	17	28
Mean	••	••	••	••	••	••	21	17	22
Mouth of River Go	orongo -nuts				Boe	ne I	sland	,	
March 19 (Pollux)			••		••	••	20	28	0

3	Mr. St. Vincent Erskine's	T_{i}	hird d	ınd	Fou	rth	Jour	neys
	At sea, six miles off Sabi Mout		River	bea	ring	s. 50) w.	
	Magnet March 30, 1874 (sun)					$\overset{\circ}{20}$	58	0
	Fourth Jos	urne	eu.					
	Kraal of Matshes		•	lin.				
	October 27, 1874 (a Andromedæ)	••		••		22	12	0
	Kraal of Sihoya	N	fa nhli	n.				
	November 2 (a Pegasi)					22	33	48
	Kraal of Maporp	i, U	mzibł	oi.				
	No date (a Andromedæ)	•••				22	46	17
	" (a Eridani)	••	••			22	47	4 6
	Mean	••	••	••		22	47	1
	Kraal of Magnini, M	Iazi	bbi Di	istric	et.			
	February 15, 1875 (Regulus)	••		••		22	22	0
	Kraal of Imsolan, Sh	ish	ongi D	listri	ict.			
	February 19 (Canopus)		••	••	••	21	56	0
	Iluban's Kraal, Imbendan's Dis	stric	et, sou	th o	f Sab	i Riv	ver.	
	February 20 (Pollux)					21		0
	Matshumi's Kraal, Im	ben	dan's j	Dist	rict.			
	February 24 (Canopus)					21	27	0
	" (Pollux)				••	21	24	30
	Mean				••	21	26	0
	Pulu Miti's Kraal, Magwasha D	istr	ict, no	orth	of Sa	ıbi F	liver.	
	February 26, 1875 (Pollux)							20
	Umgazwi's	Kra	ما					
	February 28 (Regulus)		••			21	05	00
	Utshani-Udi, Umzila's New Kra	al	south	of T	'sharr	nater	ama	
						20		53
	March 8 (Pollux) ,, (Regulus)	•	 	••	••	20		$\frac{55}{34}$
	Return journey,	Sief	a's Kr	aal.		_		
	March 22 (Regulus)		••			20	47	43

in Gaza, or Southern Mozambique.

Tumbari's Kraal, Shishongi District.
April 1 (Regulus)
" (sun) 21 28 50
Handu's Ernel Magikhi District Matenerson's people
Haydu's Kraal, Mazibbi District, Matengwan's people.
No date (a Centauri)
Frontier of Portuguese Territory, Terra de Croa, 10 miles to s.E.
Camp on confluence of Ingdgoa and Manya River, north of Inhambane.
October 15, 1875 (a Andromedæ) 23 36 37
" (a Eridani) 23 36 37
Variation of the Compass.
September 7, at Manisi's Kraal, Likugu District, Sabi River, adjoining Nonxanga's Kraal 19 12 w.
September 8, same place 18 18 w.
November 12, Umzila's Kraal—Tshama-tshama 19 15 w.
November 22, same station 19 30 w.

Note.—For Map of the district concerned in these journeys, see 'Journal of the Royal Geographical Society,' vol. xlv., page 45.

VOL. XLVIII.

TABLE OF LATITUDES SUPPLEMENTARY to MR. ST. VINCENT ERSKINE'S JOURNEY OF 1871-1872.

SECTION I.

	REMARKS.	Agrees with Raper's	 Tables of Fostious. Stands for upper and lower limbs of 	the Sun.	Inyabalungu.		Differing 6' in conse- quence of floating	glass of George Ho- rizon being practi- cally inefficient. See	Menio.		
Position to be Adopted.	Latitude S. Longitude E. by D. R.	35 25 0Ű	34 56 00	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	33 41 00 33 26 00	$33 \ 04 \ 00$:		$\begin{array}{cccccccccccccccccccccccccccccccccccc$		
Position to	Latitude S.	23 52 3Ű	23 56 17	сı 1	24 27 48 24 37 48	42	:		$\begin{array}{cccccccccccccccccccccccccccccccccccc$	24 58 00	24 59 30
the second s	Latitude S.	2°3 52 30	23 56 17	12	$ \begin{array}{c} 24 & 22 & 00 \\ 24 & 37 & 48 \\ \end{array} $	12	24 40 00		$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{ccc} 24 & 58 \\ 24 & 59 \end{array}$	25 00
Tudar	Error.	+5 25	$+^{2} 30$	$^{+3}_{+3}$ 40	12 10 + + 3 + +	+2 00	+3 00		$^{+3}_{+0} 30$	Nil	
Meridian	Artificial Artificial Horizon,	$\overset{\circ}{90}$ 18 20 +5 25	$95\ 50\ 20\ +2\ 30$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	97 35 00 98 54 40	100 0 20	113 31 00 +3 00		$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	115 44 00
	Object.	⊙ Sun's l. l.	© Sun's l. l.	⊙ Sun's I. I. ⊖ Sun's un. I.	⊙ Sun's I. I. ⊙ Sun's un. l.	Sun's l. l.	* Altair, N.		* α Paro S. Ξ Sun's up. 1.	* Morkab, N. * Altair N	* a Paro, S.
	Date.	1871. July 20	Aug. 2		≈-1 ::::		,, 26		.,, 26 Sept. 7		
	Place.	Inhambane	S. bank, Inyanombi River, Ma- Aug. 2 gajin's Krad.	In the Bush	S. of Inyabalungu River	Manjobo's Kraal N. bank, Limpopo River	Ditto		Ditto Sidudu's Kraal, N. bank, Limpopo		Ditto

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George Horizon again ineffective. Blowing hard. Obliged to use fnating glass- pressure of wind and blown sand col- lecting on glass fal- sifies the arc. But opposite stars-same and mean correct.				• Fortified village.			again return routes longitude by D. R. differs 11 miles, exactly the amount due for difference between miles and minutes of longitude not allowed for-showing perfect check.	_		A subject of the Por- tuguese.
:	33 31 00 33 31 00	5	33	34 08 00 34 18 00	26	34 25 0	nce between		35 22 00	35 28 00
:	_	25 9 36	40	$\begin{array}{c} 24 & 33 & 15 \\ 24 & 29 & 00 \end{array}$	29	24 3 00	e for differe		23 30 33	23 00 00
25 14 36	25 7 50 25 7 00 25 7 00		$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\frac{32}{28}$	29	3 2	amount du		23 31 00 23 30 7	23 00 00
^		-0,35	-0 30	-1 30		080	actly the	11.	-0 30 Nil	+0 30
114 41 30	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	128 19 30	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	133	102 1 0	$102 \ 30 \ 40$ $112 \ 21 \ 30$	s 11 miles, ex check.	SECTION	111 16 45 110 31 40	101 31 20 +0 30
* α Eridani, S. 114 41	* γ Pegasi, N. Altair, N. σ Paro S.	© Sun's I. I.	* ε Pegasi, N. α Gruis, S.	a Gruis, S. a Fridani, S.	Morkab, N.	Morkao, N. Aherend, S.	e by D. R. differs showing perfect		a Eridani, S. Aldebaran, N.	Aldebaran, N.
, 20	$\frac{20}{18}$	Concernant of the second		26 27	30	11	s longitude		Dec. 31 ,, 31	1872. Jan. 8
Mouth of Limpopo, Inhampura, Bembe Ouri, or Miti River, S. side	Ditto	Magajin's Kraal, behind hills, S. bank. Limpopo and Coast.	Mabingwan Kambane District	Hlambagati's © Stockade	Singabagapa 🛈	Ditto	Maronga (again return routes longitude by D. R. differs 11 m Inhambane (longitude not allowed for-showing perfect check.		Leave Inhambane for northwards. 1871. Mabotshan, Shibuki River	Ehlati Kraal boundary, Portuguese possessions.

in Gaza, or Southern Mozambique.

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	Remarks.	Tonga of Umzila.						Parallel of Walfish Bay, West coast, 4 miles north of parallel of N. point Bazaruta Island,	East coast.	
Position to be Adopted.	Longitude E. by D. R.	。 ' " 35 22 00	35 12 00	35 10 00	35 13 00	$35 \ 01 \ 00$	34 50 00	34 20 00	34 15 00	34 04 00 34 01 00
Position to	Latitude S.	° ' " 22 42 00	22 37 42	$22 \ 28 \ 55$	$22 \ 16 \ 30$	$22 \ 15 \ 00$	21 53 00	21 27 30	21 19 30	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
;	kesult Latitude S.	$\begin{array}{c} 22\\22\\22\\22\\42\\51\\52\\51\\52\\51\\51\\51\\51\\51\\51\\51\\51\\51\\51\\51\\51\\51\\$	37.0	1529	12	22 15 00 21 51 00		51	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
	Error.	Nil '.	• •		"		::	~ ~		
Meridian	Artificial Horizon.	$102 & '9 & 50 \\ 120 & 11 & 25 \\ 120 & 0 & 25 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 &$	120 2 30 120 1 00 190 18 30	4545	19	119 18 45	5° 4		$\begin{array}{c} 92 & 26 & 40 \\ 84 & 19 & 40 \\ 84 & 18 & 00 \\ \end{array}$	92 27 30 92 33 30
	Object.	Aldebaran, N. Canopus, S.	a Uriouits, N. Canopus, S. 2 Orionia N	canopus, N. Canopus, S. a Orionis, N.	Canopus, S. 2 Orionie N	Canopus, S.	Procyon, N.	* " ruey on, N.	Jupiter, N. B Argo, S. B Argo, S.	Jupiter, N. Jupiter, N.
	Date.	1872. Jan. 11 , , 11	н 1 2 3 2 3 2 3 3 2 3 3 2 3 2 3 3 2 3 2 3	ан 4 4 4 4 4	; 41	:: 		110	Mar. 6 ,, 6 ,, 8	
	Place.	Imbooban Hlenga country		Ditto	wiver, 5. Du	·· ·· ·· ·· · ·· ·· ··		Ditto	Sihenzi, S. bauk, Sabi River Ditto	hiver. Ditto

TABLE OF LATITUDES SUPPLEMENTARY to MR. ST. VINCENT ERSKINE'S JOURNEY OF 1871-1872-continued.

SECTION II.—continued.

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Mr. St. VINCENT ERSKINE's Third and Fourth Journeys

			With pocket sextant.	Erskine's furthest.	See preceding pp.
$\begin{array}{c} 33 & 51 & 00 \\ 33 & 41 & 00 \\ 33 & 27 & 00 \\ 33 & 30 & 00 \\ 32 & 51 & 00 \\ 32 & 37 & 00 \\ 32 & 37 & 00 \\ 32 & 34 & 00 \\ 32 & 34 & 00 \\ \end{array}$		32 30 00	32 43 00	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	32 30 00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	_	20 22 40	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	20 22 40
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		22	$\begin{array}{c} 20 & 22 & 18 \\ 20 & 24 & 7 \\ 20 & 13 & 59 \\ \end{array}$	20 9 56 20 3 5	20 32 48
$\begin{array}{c} \begin{array}{c} & & \\ $	III.	+5 0 M:1	-6,40	-6 30 -6 30 ning.	Nil
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	SECTION I	92 3 50	97 47 15	109 13 30 -6 30 100 43 20 -6 30 By dead reckoning. - - - -	
Jupiter, N. B Argo, S. Jupiter, N. Jupiter, N. Jupiter, N. Jupiter, N. Jupiter, N. Pollux, N. Regulus, N. Crucis, S.		© Sun's l. l.	Arcturus, N. Q. Sun's I. I.	β Leonis, N. β Centauri, S. Ι	N. * a Cor. Bor.
$\begin{array}{c} & 10 \\ & 10 \\ & 10 \\ & 11 \\ & $,, 28 ,, 28 May 23	,, 24 ,, 25 .,	July 30
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	-	Umzila's Kraal, Tshamatshama sources, Umswelisi River, near Silinda Peak and Forest.	Ditto	Kamean. Kamean Benon-trees	hiver. Junction with Lusid. Tshamatshama

in Gaza, or Southern Mozambique.

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		REMARKS.	* α Cor. Bor. stands	Ior α Corona Borealls. Δ Aust. for α Trian-	Surrause Australia.				© stands for Sun's	upper muo. © ditto for Sun's lower limb. Sabi	KIVer.			Date obliterated in	HULE-DOUK.
	Position to be Adopted.	Longitude E. by D. R.	32 36 00	32 38 00		$32 \ 40 \ 00$		32 47 00	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	32 53 00	33 03 00	32 55 00	32 58 00	$\begin{array}{c} 32 \ 56 \ 00 \\ 33 \ 10 \ 00 \end{array}$	
	Position to	Latitude S.	$\overset{\circ}{20}$ 32 47	$20 \ 38 \ 00$		$20 \ 45 \ 10$		20 57 21	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	21 25 40	$21 \ 42 \ 30$	21 54 30	$22 \ 02 \ 00$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	
	Domlt	Latitude S.	$\overset{\circ}{20}$ 32 46	20 37 05	$20 \ 45 \ 50$	$20 \ 44 \ 30$	20 58 28	20 56 15	21 12 30	21 25 40	21 43 23	21 55 23	22 03 03	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	
[V.	Toda T	Error.	Nil	••	• •			••	ning. +0 25	+0 20	+0 40	+0 30	+0 30	$^{+0}_{+0}$ 30 $^{+0}$ 45	
SECTION IV.	Meridian	Artificial Horizon.	s ³ 29 00	83 43 30	84 12 50	83 56 20	83 47 50	84 19 50	By dead reckoning. $104 \ 28 \ 40 \ +0 \ 25$	106 56 20	$59 \ 16 \ 00$	58 52 50	58 36 50	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	
		Object.	ъ.	$* \alpha \Delta$ Aust. S.	* a \ Aust. N.	* a Cor. Dor. S.	$a \Delta Aust.$	a Cor. Dor. S.		© Suns up. I. N. © Sun's I. I.	N.	a Lyra . Twee	a Lyra . T	a Lyræ a Lyræ O Sun's I. l.	
		Date.	1872. July 30	,, 31	Aug. 1	,, I	,, 2	,, 2	01 12 01 12	,, 12	,, 15	,, 17	,, 19	,, 21, 23, 23	
		Place.	Injakazan Zone Valley	Mahonondo's	Umfaan	Ditto	Impanda	Ditto	Impogonyolo	U'Larkeni Drift, N. bank, Lopi River.	Halata	Munju River, 1 mile S. of it	Gwegwatsi River	U'Tshefu River	

Table of Latitudes Supplementary to Mr. Sr. Vincent Erskine's Journey of 1871-1872-continued.

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Mr. St. VINCENT ERSKINE's Third and Fourth Journeys

	eed the latitude about 1' the column " Position to Sr. VINCENT ERSKINE.	No more people along river until Basutos at Myaki.
33 15 00 33 10 00 33 05 00 33 02 00	North placed sequently the are two. Sr	33 2 00 32 33 00 32 20 00 32 00 32 00
22 54 30 23 17 00 23 26 50 24 8 00	ved to the l jects. Coni where there	24 8 00 23 57 49 23 52 30 23 54 10 23 54 10
22 55 30 23 18 00 23 27 38 23 26 00 24 8 46 24 7 24 24 5 30	ojects obser Southerly of or the mean	21 8 00 21 8 0 22 21 5 30 23 56 20 23 56 20 23 55 40 23 55 40 23 55 40 23 55 40
$\begin{array}{c} +0 & 30 \\ +0 & 30 \\ +0 & 30 \\ +0 & 30 \\ +0 & 30 \\ +0 & 30 \\ +0 & 30 \\ \end{array}$	at all ol rsâ for 5 vation, o V.	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	liscovered th , and vice ve nly one obser SECTION	115 39 15 116 1 20 112 36 0 112 36 43 113 36 43 113 36 43 113 56 0 111 59 40 115 5 10
a Lyra N. Aquillae a Aquillae a Aquillae a Paro N. D. Sun's I. I. a Aquillae a Paro, S.	rument used, I opposite bearings	C Sun's I. I. a Aquillæ a Paro a Paro a Paro a Paro a Eridani, S. a Aquillæ a Bridani, S.
,, 28 ,, 30 Sept. 1 ,, 1 ,, 6 ,, 6	the Inst two on c d latitud	Sept. 6
Inyantshitshi Inyangomba Matsambu, S. bank of the Limpopo River. Ditto Meeting of the waters-Limpopo (Benbe), and Oliphant (Upaluli). Ditto	From repeated experience with the Instrument used, I discovered that all objects observed to the North placed the latitude about I' (one minute) S. of the mean of two on opposite bearings, and vice verså for Southerly objects. Consequently the column "Position to be adopted " gives the corrected latitude when there is only one observation, or the mean where there are two. Sr. VINCENT ERSKINE. SECTION V.	1872. Meeting of the waters—Limpopo (Bembe), and Oliphant (Upaluli). Ditto Ditto Banga's Kraal (Sifumbat) Matsatsphi Ditto Tabi River, near Junction Lisani Nwshaliis Kraal

in Gaza, or Southern Mozambique.

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	•	SECT	SECTION V.—continued.	ontinued					
			Meridian	1	1		osition to	Position to be Adopted.	
Place,	Date.	Object.	Artificial Horizon.	Error.	Latitude S.		Latitude S.	Longitude E. by D. R.	REMARKS.
Upaluli River, near Junction Scha-	1872. Sept.21	a Aquillæ, N.	114 45 0	+0 35	² 4 5 00	00 24 24	4 00	31 45 00 [′]	
Upaluli River	22, 22, 22	a Aquillæ, N. a Paro, S.	$\begin{array}{c} 114 \ 43 \ 30 \\ 113 \ 52 \ 30 \end{array}$	$^{+0}_{+0}35$	24 6 24 4	$\begin{array}{c} 00\\ 00\\ 24 \end{array}$	5 00	31 40 00	
near Old Kraals of Sumban Myaki (The Gate) Upaluli River, Ditto	,, 23 ,, 23	α Aquillæ, N. α Paro, S.	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	+0 35 +0 35	$\begin{array}{cccc} 24 & 5 & 00 \\ 24 & 2 & 00 \end{array}$	00 24	3 30	31 34 00	Solitary settlement of Resurves who work
-	٤	;			t	1			the native iron ore into picks.
Lydenburg	 	γ regasi, N. α Andromedæ,	100 50 50 73 3 40	+0 + 0 + 0 + 0 + 0 + 0 + 0 + 0 + 0 + 0	22 22 6 -	29 9			
Ditto	., 10	a Eridani, S.	114 23 13	+0 35	25 4 17	17			This is a reduction to meridian.
Ditto	· , 10	O Sun's l. l.	130 19 20	Nil					Time 12 21 28
Ditto	;; 10 ;;	© Sun's I. I. © Sun's I. I.	129 50 10	::	25 04 06		$25 \ 05 \ 00$	30 37 00	12 25 40
The longitude of Lydenburg is deduced from bearings and distances carried up from Newcastle in Natal, which latter town is fixed by Survey at long. E. 29° 52′. See Appendix, Brisine s "Journey," &e., 'Journal R. G. S., vol. xiv., p. 127. The above are deduced from the original notes lost temporarily in a flooded river and since found very much damaged but yet legible.	deduced See Appe original	from bearings a ndix, Erskine's " notes lost tempo	nd distances Journey," & rarily in a flo	carried u c., ' Journ oded rive	p from 1 nal R. G er and si	Newcas S., v nce fou	ttle in N ol. xlv.,] nd very	atal, which p. 127. much dama	latter town is fixed by ged but yet legible.
									ST. VINCENT ERSKINE. January 9, 1878.

TABLE OF LATITUDES SUPPLEMENTARY to MR. ST. VINCENT ERSKINE'S JOURNEY OF 1871-1872-continued.

56 Mr. St. VINCENT ERSKINE's Third and Fourth Journeys, &c.