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PROCEEDINGS
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ROYAL GEOGRAPHICAL SOCIETY
AND MONTHLY RECORD OF GEOGRAPHY.

Geographical Excursions in South Central Madagascar.

By the Rev. WILLIAM DEANS COWAN.

(Read at the Evening Meeting, June 12th, 1882.)

Map, p. 584.

IN 1874, while in connection with the London Missionary Society (a society whose agents have done much to add to our knowledge of Madagascar), we took up our residence at Fianárantsoa, the second town in the island, and the capital of the province of Betsiléó.

Of our journey from the coast in the autumn of that year, little requires to be said, as the route and the tribes through which we passed are well known to all who have taken interest in the island. The works of Ellis, Sibree, and Mullens, together with the journal of Lieut. Oliver, give graphic accounts of this part of the country. Like all travellers, we were struck with the charm and beauty of the coast scenery, the solemnity and grandeur of the forests, but disappointed with the barren uplands of Imérina.

We entered Betsiléó shortly after Dr. Mullens had left it, and unfortunately it was not given us to make his acquaintance, or to receive from him any geographical results which had been obtained by his party, so that our work was begun without any aid from previous maps. A most remarkable sketch-map had been published, accompanying a small pamphlet from the pen of one of the missionaries; but it was such as only Mark Twain could have conceived in his happiest moments. Everything was put just where it ought not to have been, and rivers were made to run where no river could run, and where no river ever did run. M. Grandidier had also visited the province before 1874, having journeyed from the east coast at Mananzára; but with the works of this distinguished traveller I am not fully acquainted.

Among those who accompanied Dr. Mullens to Betsiléó was a Mr. Cameron, to whom we are largely, if not entirely, indebted for the excellent maps that we now have of the provinces of Imérina and Betsiléó.

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Mr. Cameron no sooner entered Betsiléó than he measured out a base line, between Ikánjasóa and Iháranány, and began a system of triangulation, so that by the close of the year, when we reached Betsiléó, much of the real hard work had been done, though the results had not been made public.

Early in 1875 I began to work over the province, taking Cameron's base line. I traversed it in all directions, until every mountain, hill, valley, river, and stream were familiar to me, so that when Mr. Cameron's compass came into my possession at his death, I was able to go over the province in a satisfactory manner. From Betsiléó, with its many mountain-peaks and characteristic hill-tops, now so well known, I was able to carry on the same system, to the east, south, and west, through the provinces of the Tanála and Bára, the results of which are given in the sketch-maps of these provinces illustrating the present paper.

The province of Betsiléó has been described by Sibree and Mullens in their works, I will therefore content myself with a general notice of it, and that principally to draw attention to the watershed of the district, and to what appears to be a very strict divisional line, separating the island into an eastern and western region, each having its characteristic flora and fauna.

The watershed of Central Madagascar, that is, the provinces of Imérina and Betsiléó, is in close proximity to the western edge of the great forest, marked green on the map, and within a few miles west of the sudden dip which the country takes to the east. In an area of a few miles there are considerable numbers of small spongy valleys, from which the head-waters of the main rivers ooze out, and take their flow to east or west, as the case may be. In Betsiléó these are situated very nearly in $47^{\circ} 30' E$. The important rivers which rise in this watershed are the Mananzára, the Inamórona, the Faráony, and the Matitánana, with many of their tributaries, all of which flow to the east; the Maniá and the Matsiátra or Onymáinty, with its many important affluents, such as the Manantánana, the Manambólo, and the Faníndrona, flowing to the west. Within a very few miles, in the neighbourhood of the mountain Irátra, we have the sources of the Matsiátra, Inamórona, Faráony, Matitánana, and the Manantánana, all of which are rivers of importance, and which drain South Central Madagascar.

The Matsiátra is the principal river, and on this account I will endeavour to describe its course.

Oozing out from the small marshes lying at the western base of the great mountain Irátra, it flows directly northward, mostly through a marshy valley, as far as Ambohipó, a few miles east of Fianárantsóa. Here it begins to take a north-westerly course past Ankaramilaza and Ambohimánitra, where it has become a river of some considerable size. Flowing onwards in the valley between Ambohinámboárina and Ifanjakána, it receives from the north the Faníndrona and the Manandriána

rivers, after which it flows westward as far as Imedóngy, where it takes the name of Onymáinty or Black River, and flows away to the south-west, forming the divisional line between the Bára and the Sakaláva tribes.

Between Imedóngy and the northern parts of the Isálo mountain range it receives from the east the important rivers of Manantánana and Ranomáitso. According to Mr. Walen, in his paper on the Sakaláva, as contained in the Antanánarivo Annual for 1881, the Onymáinty appears to flow westward from the Isálo, under the name of the Mangóky, which falls into the Mozambique Channel, near Kitombé.

Concerning the divisional line already mentioned, it may be traced from seven or eight miles west of Ambósitra, down the range of hills as far as Nandehízina, the hills west of Ikingáro, keeping to the westward of Ifanjakána, the eastern edge of the valley of Ikalamivóny, crossing the Matsiátra at Analatsóy, and keeping to the west of the plain of the Manambónarivo, the ridges of Ilamboánana, and along the hills, through Ivohibóry, Isáisotsa, Iváry, and Ifótsihíra. All my natural history investigations point to the conclusion that this is a well-defined divisional line, on either side of which are characteristic floras and faunas. It will also be found that with one solitary exception in Betsiléó and another in the Bára, east of this line is entirely free from Malagásy fever, and that west of it fever is common in all districts. The mountain ranges, both in Betsiléó and Bára, are distinctly marked, and run very nearly north and south, being all, without exception, composed of huge granite masses.

The following journeys were taken in preparation of the sketch-maps now submitted to the Society. In 1876 a visit was made to the northern Tanála, then ruled by Queen Ihóvina. Journeying from Ambósitra southward we crossed through the central part of the Nandehízina forest, and rested for the night at Ivátotsílo, a small village situated on a hill on what might be called debatable land between the Tanála and Betsiléó; we found the village empty, as the inhabitants had fled at our approach. The night was exceedingly cold, and when we rose in the morning the hill was covered with hoarfrost. The want of food, together with our disagreeable night, so disgusted my palanquin bearers that they deserted me; we were, however, able to continue our journey onward to Andráina, where I was fortunate enough to get other bearers. From this place we entered Tanála proper, passing the villages of Ambohipéno and Ambohimilánza in the forest, descending to Ambohimiera on the banks of the Mananonaka; from this we passed in a northerly direction as far as Ambohimánnga, the residence of the queen. From this town I journeyed to the north and east, visiting Ambohimánitra and Ambodiára, in order to trace the river Manandriána. While at Ivohimánitra I made the ascent of the mountain Isahazávona, from which a magnificent view was

obtained of the whole Tanála country and the greater part of northern Betsiléó. This mountain, which was of great height, had formerly been the stronghold of this part of Tanála, and on the summit there were still the remains of the town with its rude fortifications.

In returning to Betsiléó from Ambohimánga we journeyed northward, crossing the rivers Manandriána, Maintinándro, Isandrakándro, and ascended into the high land at Ivohitrámbo, near which the river Mananzára has its source; from this we crossed the plain to Ambósitra. In 1877 I made a more extended journey. Leaving Fianárantsóa we passed through Alakamýs, and, crossing the head-waters of the Inamórona, descended through the forest to Ranomafána (hot springs), in the Ambodiráno district. Journeying from this straight eastward, we arrived in four days at Ivátóvávy, a lofty and conspicuous mountain not far from the sea-shore. We made an ascent of this mountain in order to get a view of the country and to take bearings. Unfortunately, however, after a difficult ascent, we found ourselves enveloped in a dense fog. From Ivátóvávy one day's journey brought us to Itsitósika, the government town on the Mananzára river, and from this place we went down the river to Masondráno, journeying northward along the sea-coast, visiting on our way the towns of Imahéla and Tanandáva as far as Andónaka. From this place we returned to Masondráno, and from it southward as far as the river Faráony, up which we journeyed. Keeping the northern side of the river we ascended it into the highlands near Anjólóbáto. From Anjólóbáto, passing through Ifándranáva, we reached Fianárantsóa in one day. In the following year a visit was made to the district of the chief Ratsiandraófana. This chief is one of the few who have been able to maintain their independence of Hóva rule. He is head of the Zafirámbo family, from which the principal Tanála chiefs are taken. From Fianárantsóa we went south-east to Imahasoabé, and entered the main forest a few miles to the east of that town, emerging from it at the village of Anáviávy. We passed southward from this through the districts of Isándrabé and Imarohála, crossing on our way the river Sandranánta, and skirting the base of the celebrated mountain of Ikóngó, we entered the forest at Atsimivóha, and emerged to the south of Irátra, round the western base of which we passed, returning to Fianárantsóa by Ivohitraféna.

The next journey of importance made was to the districts of Ivohitróso and Irianánana. From Fianárantsóa we passed southward by the west of Imedóngy and Itsitondroy, entering the forest near Ilómoka and emerging from it near Ivatolávo. From thence we journeyed down the valley as far as Ankaróvana, from which place we turned southward to Isanaráha, and from that hill down to the valley of the Irianánana. Journeying up this valley a considerable distance, we entered the forest at Ankísitra and emerged from it about 10 miles south of Imahazóny,

through which town we made our return to Fianárantsóa. These with other two short journeys to Ivohitróso and Anjólóbáto, comprise all my travels in the Tanála district, during which the bearings were taken and the survey made.

The Tanála country lies between $47^{\circ} 30'$ and $48^{\circ} 30'$ E. long., and between $20^{\circ} 15'$ and $22^{\circ} 30'$ S. lat.; as its name implies, it is nearly all covered by forest, comprising the great forest on its western side from which there run out broken and irregular patches as far as its eastern limit. In the great forest there are few villages of any importance, and the great bulk of the inhabitants are settled in the low country east of this forest. The sides of the great step on the eastern edge of the table-land is very precipitous, and many bold and rugged mountain sides appear to the east, the most conspicuous of these mountains, many of which are to be seen from the coast, are Ivohitrámbo in the north, Isahazávona, Ivohibé, Ivohibáto, Ivohibasiána, Ambóhitrاندriána, and Ikóngo. The country is well watered and exceedingly fertile; sugarcane and rice grow in great luxuriance, and on the hillsides coffee is well-grown and productive. The northern part of the Tanála, in the district of the head-waters of the Mananzára, is subject to the Hóva government, and is ruled by a Tanála chief resident at Ambohimánga. This district is divided into eleven sections named for the most part after the rivers that flow through them. With the exception of the towns Ambohimiera, Ambohimánga, Ivohimánitra, Ivohitrاندriána, and Ivohitrámbo, the remainder are occupied by a migratory population, who shift their villages from year to year, according as they remove to other rice-grounds. The manner of rice cultivation requires that this should be done; as instead of planting it in regular fields and irrigating these, they simply cut down some brushwood on the hillside, and burn it on the ground before the rainy season, and on this their rice is sown. They seldom remain two seasons in the same place. The same custom prevails all through the Tanála with few exceptions, and these generally near the residence of the chiefs.

From the Faráony southward the country is virtually independent, and is under the rule of the Zafirámbo chiefs. The head of this family, Ratsiandróafana, maintained a long and successful resistance to the Hóva soldiers, taking refuge in his stronghold, the almost impregnable mountain of Ikóngo. He was able to defy the large army of trained men which was brought against him.

On the summit of this mountain, which is comparatively flat, there is a large town, and many rice-fields well watered by a stream of considerable size. There are, however, no residents except the guards, who are changed annually. There appears to be no ascent except by long ladders of creepers which are let down and drawn up by the garrison.

They are exceedingly jealous of this mountain, and no stranger is allowed to ascend it. Ratsiandróafana rules over the Isandrabé and the

Imarohála, but the kings of Imanambóndro, Ivohitróso, and Imananáno are subject to him. The Irianánana district, which is perhaps the most populous of all the Tanála tribes, is occupied by the people called Ampidóngy, who revolted some thirteen or fourteen years ago against the Zafirámbo dynasty, and have formed themselves into a small republic, ruled by a few petty chiefs. South of this division there is the Ampelafá and the Taivóndro, but these, although belonging to the same family as those already mentioned, are not reckoned as being pure Tanála. The family of the Zafirámbo do not claim to be natives of the country, and in all public declarations this is generally stated. Their origin is very uncertain, but they claim to be the descendants of a family of adventurers who at one time settled on the east coast.

From these adventurers came the Zafimanély, who now rule over the greater part of the Bára, and the Zafiramaniá, who rule over the coast tribes at Mananzára and Mahasóra and the Zafirámbo already noticed. These families of rulers claim for themselves the sole right of taking life, both of animals and men, and as a sign of royalty they only are permitted to wear the red cap and use chairs. They generally intermarry amongst themselves, and hence by mutual help they maintain supreme authority over the Bára, Tanála, and south-eastern tribes.

The country of the Tanála consists of undulating hills, for the most part covered with trees, bamboo, and the cardamon plant; the valleys between the hills are often marshy, but in many places they afford pasture land for the herds of cattle. Towards the south, more especially near the Ampelafá and Taivóndro the country is comparatively free from forest, and from the hill of Isanaráha it has the appearance of undulating grassy hills, and this is the reason why these tribes are not properly considered as Tanála or forest dwellers. Those who have settled in the great forest, such as the Imahasíla and those about Anjólobáto, are wood-cutters, while those on the western edge of the great forest are for the most part workers in iron, which is found in great abundance all along that district. Those in the low country have no particular occupation other than the formation of their rice-grounds, hunting the wild boars, and collecting honey with which to make their native beer. The whole country from the north to the south is remarkable for the beauty of its scenery. The deep valley of Ivohitróso is perhaps the grandest and loveliest of all; here the principal feeders of the Matitánana emerge from the forest into the low country, forming in their descent cascades and waterfalls of great grandeur and beauty, and the main stream of the Matitánana itself bursts from the green shades of the forest with a perpendicular fall of 500 or 600 feet, its dense columns of water being broken into clouds of misty spray long before the deep pool at its base is reached. Over this pool, sacred to the natives from their superstitious ideas, there is spanned many a gorgeous rainbow born of the bright sunlight and the misty vapours of the fall. These falls I

have named the Victoria falls; those at the head of Faráony river near Anjólóbáto the Cecil falls. Near the eastern base of the hills, near the Inamórona river, there is a hot spring, close to the falls of that river, which at the time of my visit had a temperature of 112° F. as compared with the atmospheric temperature of 70° F. On the north of the Matsiátra near Ivohibóla we have another hot spring, and close to the village of Imanámpy there is a third, and in the Bára land we discovered another about five miles east of the Government town Tompánan-drarána. The precise situations of these hot springs are 47° 38' E., 21° 10' S.; 47° 18' E. by 21° 16' S.; 47° 5' E. by 21° 47' S.; 46° 23' E. by 22° 20' S. Notwithstanding these springs, I was unable to discover any distinct traces of volcanic action. The hills of Betsiléó and Tanála are largely marked with seams of white quartz and patches of decayed granite of milky whiteness. The western edge of the great forest is a deposit of iron ore, and I have no doubt that gold exists in great quantities in the beds of the Tanála rivers. All the iron and pottery work of the Tanála people is manufactured in Betsiléó, and is obtained in exchange for soft rush-mats and bark-cloth, the latter of which I was told by the late Dr. Hildebrandt, to whom I showed a specimen, bears hammer marks similar to those seen in the same material from Central Africa. The Tanála houses are made of bamboo, split and flattened; they are generally a few feet above the ground. All the Tanála proper content themselves with folded leaves of the cardamon plant for spoons and drinking cups, this being one of their peculiarities, which distinguishes them from the Ampelafá and the Taivóndro. They are a peaceful and hospitable people, kind and bounteous towards the stranger; they have but little knowledge of money, and prefer an exchange for their produce—beads or calico. Like most of the tribes in Madagascar they practise the rite of circumcision, and trial by ordeal is very common. Serious crimes are rare, and within the last twenty or thirty years, few, if any, have occurred; capital punishment is almost unknown. In the northern Tanála the seat of justice is at Ambohimánga, and to this place all cases must be taken. In the southern Tanála, however, Ratsiandráofana himself, with his judges, visits the place where the crime has been committed, and there pronounces judgment. The Tanála is, I think, the richest district in Madagascar, and presents a magnificent field for European enterprise in the cultivation of coffee, sugar-cane, vanilla, and even tea. The rivers are generally much impeded by cascades and boulders, and are only navigable for canoes or small boats for twenty or thirty miles inland; they generally flow into the lakes, with outlets to the sea full of sand and only suitable for lighters.

In close relation with the Tanála are the Bára, ruled over by the Zafimanely. These occupy the high land in the southern part of the central plateau. My journeys amongst these people were made in the

autumn of the year 1880, and the outlines of these are given on the map. Previous to this time I had endeavoured, with the assistance of others, to make a map of that country, but found that the data which they returned to me were altogether insufficient. First of all I sent a native as far as *Tompánandrarána*, with instructions as to the use of compass and other instruments; his returns were put upon paper and the result was chaos. Following him I advised a missionary and a deputation who visited the same town to take bearings on the route with my compasses. At first sight their returns seemed satisfactory; but there arose a great stumbling-block in the hill or upland of *Ilamboánana*, which covers an area of nearly 200 square miles. Nothing definite had been marked as to this hill, and the fruit of their labours had to be added to the chaos of their predecessor. Another traveller had wandered through the *Bára*, westward by the *Isálo* and down to *St. Augustine's Bay*; but on his return any geographical notes that he may have taken were lost in the general pillage of his goods.

In this state of matters I determined personally to visit the province. My first journey took us southward to *Ambóhimandróso*, westward and southward to *Iandraina*, and thence down the eastern side of the mountains of *Iváravárana* and *Itsiázombórana*, in the districts of *Isahanámbo*, and skirting the northern part of the *Menaráhaka*, we passed westward by *Iraikétampanány* to *Tompánandrarána*, the government station, from which, passing a short distance down the valley of *Ihósy*, we ascended on to the *Ihórombé* or great desert, across which grassy waste we journeyed two days until we reached the *Isálo* mountains. Returning by the same road across the desert we diverged to the southward, a little to the east of *Tompánandrarána*, passing up the valley of *Isahambángo*, and skirting the plain of the *Menaráhaka*. We reached our furthest limit to the south near *Ráno-tsára*, on the borders of the *Taivóndro*. On our return the course was north-east, past *Isáisotsa* as far as *Ivohibé*; then bending northward over the high land we descended to the marshy valley of the *Menaráhaka*, from which, passing up the valley of *Behásy*, we joined our former course, a little south of *Itsaranóro*. While upon this journey we had found continual evidence of the unsettled condition of the people, so that I was not surprised when shortly after our return numerous cattle raids were made into the *Betsiléo* province. As these continued, it was thought desirable that I should visit the northern and western *Bára*, to see what could be done towards preventing their farther extension. Leaving *Fianárantsóa* we journeyed westward by *Ifarénena*, *Ipáka*, and to the north as far as *Analatsóy*. From this a few miles south-west took us across the river *Manantánana*, near the *Ibára* village of *Imarozáza*. From this we proceeded north-west to *Inosifito*, so called from the numerous islands that occur in the river, and thence journeyed in a westerly direction by *Imelolóha* and *Imahasóa* as far as *Itsitondroy*, the residence of the king of North *Manongá*. Leaving this place we journeyed to the south-

east for two days and a half, for the most part over desert plains, as far as Itamiá; half a day's journey east across the plain of the Ranomáitso took us to Itsifóhy, and from this two days' walk towards the north-east, passing over Iharamiláza and Ilavatsára, brought us to Fianárantsóa.

The most striking mountain range in the Bára land is that of Menaráhaka, which, rising into prominence in 22° lat., runs southward as far as $22^{\circ} 30'$. These mountains are unlike any others that I have ever seen on the central plateau. They present nothing of the rounded forms which characterise the mountains of Betsiléo and Imérina, with their sharp and rugged peaks rising thousands of feet almost perpendicularly. They form a grand and awe-inspiring sight; the principal mountains in this range are Iváravárana, Imaroafó, Itóitrano, Iaritséna, and Ivohibé. This latter is the most southern part of the range, and on it Raibáha, the king of Isántsa, has his stronghold, from which he has on many occasions defied the Hóva power. The rivers which rise near this mountain range are the Manambólo, the Tsimandáo, the Menaráhaka, and Ranoména on the west, the Irianánana and Manambavá on the east. With the exception of the marshes of Menaráhaka and those of the valley of the Ihósy, the country is composed of dry barren uplands, in some places entirely desert. The people are scattered, dwelling for the most part in the valleys by the river banks. Rice is cultivated to some extent in the eastern part of the province, but in the west the food of the people consists of a kind of arrowroot obtained from the root of *Tacca pinnatifida*. The principal river in the Bára country is the Menaráhaka; it takes its rise in the hills of the same name, and flows into the valley of Iroká in a succession of marshes, where it receives the small river of Ibehásy; it thence winds round to the north-west as far as Ivátó, and afterwards southward for about 20 miles through a lovely valley as far as the mountain of Imenavála, where it receives the large river of Isahambánga, and those which drain the eastern side of Ilamboánana. The course is now south-east for about 30 miles through a wide plain, until it enters the mountains in the south of Isántsa, where it receives the Ináivo, a large and important river, and Ranoména which rises very close to the source of the Menaráhaka, and flows directly south round the mountain of Ivohibé to its junction with the main stream entering the forest. This magnificent river takes the name of Mananzára, and flows eastward to the sea near Vángaindráno.

The next river of importance is the Ranomáitso, which drains the northern part of the Bára country. This river, under the name of Tsimandáo, rises near the mountain Iaratsena, and flows northward for about ten miles. Coming through the Menaráhaka range of mountains north of Iváravárana, it then flows eastward through the wide plain of South Manongá, where it receives the name of Ranomáitso. In its windings through this plain it receives many small tributaries from the north, while on the south it receives the river Ihósy, to the north-west of Ivohibé, and then, flowing westward, it joins the Onymáinty, about

thirty miles to the north of the Isálo range. The only river that we crossed in the great stretch of the Hórom-bé desert was the Hazompótsy, which was flowing in a south-westerly direction. This river is said by the natives to fall into a Mangóky river, which in turn falls into the Oniláhy river, which empties itself into the sea near St. Augustine Bay. The Manantánana river is another of considerable importance rising near the mountain of Irátra. It flows southward by the government town of Ambóhimandróso, from which it flows northward as far as Anosiláva; winding a little to the south-west it passes out of Betsiléó, and then for a distance of about thirty miles towards the north it forms the boundary between the Betsiléó and Bára provinces.

Near to the mountain Ambólo, it winds westward through the North Manongá, and from Itsitondróy it tends southward for over thirty miles when it falls into the Onymáinty. The Manambóniarívo district is a great plain, mostly desert, through which the river Ranomáitso flows; the South Manongá is hilly and mountainous; the Sahanámbo and Menaráhaka occupy the valleys west of the great mountain range; the principal part of the Isántsa consists of the plains through which the Menaráhaka and the Ranoména flow, but the bulk of the population reside near Ivohibé; North Manongá and the Mandrápaka districts are hilly and generally barren; the Bára-bé district is mostly occupied by the desert of Hórom-bé—the inhabitants are settled in the valley of Ihósy and to the east of the Isálo mountains. The desert is a high bare upland, very nearly level, and is about forty miles across from east to west; the natives say that it stretches for many days' journey to the north and south. The whole of the Bára land, with its many hills, is composed of granite, and no trace of any other rocks are met with until near the edge of the desert; here, in longitude $45^{\circ} 30'$, a slight descent brings us to a very recent formation composed of terraces of soft clay and shale; these terraces are very distinctively marked, and show that at no remote period this part of the country had been occupied by an extensive lake. The Isálo range consists of soft sandstone and rocks, rich in fossils. The summits of the hills are generally level, and the rivers which come through the range have cut for themselves deep gorges, almost perpendicular, in their sides. Such a sudden change in the geological structure of the country no doubt points to a considerable change in its flora and its fauna, but as I only remained there for one day, which was fully occupied by other business, I was unable to make any extensive collection.

I trust, however, that we may be able to make a survey of the country around those hills, especially towards the west and south-west; as I believe that we shall be enabled to make such a collection of fossils and natural history specimens as will enable us to come to something definite as to the history of this wonderful island. Such a survey could be made at comparatively trifling expense—five or six hundred pounds would no doubt cover the whole.

The people of Bára are very unsettled, but are kind and obliging to strangers, and no danger need be apprehended in visiting their country.

The Ibára, Betsiléó, and Tanála are of the same origin—African—and are very distinct from the Hóva. Nearly all that has been written about Madagascar relates to the Hóva and their country, the province of Imérina, and consequently most of the endeavours to trace this people to a Malay origin is based on the language, customs, and appearance of this tribe. Now the Hóva and Betsiléó are as distinct as a Hindoo and a Chinaman, and in any attempt to account for the origin of the inhabitants of Madagascar we must take into consideration the Betsiléó character as well as the Hóva.

I submit that the Hóva are without doubt of Malay origin, but I as strongly hold that the Betsiléó and the aboriginal tribes of Madagascar are of African descent. All the anomalies as to language and customs are not difficult to explain, but they lie outside of a purely geographical paper such as this is. We at present know but little of western Madagascar; all or nearly all of our knowledge relates to the eastern division of the island, its people, its flora, and its fauna. The western part yet holds its rich treasures for the naturalist and other men of science. As one who has lived in constant intercourse with these outlying tribes, as one to whom their language and peculiar customs are well known, and who has enjoyed the confidence of all the chiefs in the Bára and Tanála districts, I can assure to all travellers a hearty welcome and assistance. In all my travels I have met with nothing but kindness and attention.

It will be observed that in the foregoing rough and very general description no reference whatever has been made to the heights of mountains or table-land. This arises from the fact that I had no instruments suitable for taking such observations; but I sincerely hope that in all future explorations and surveys which I may be permitted to make in southern Madagascar such instruments will not be wanting; also that the result of my labours will be of a more satisfactory character than that which I have now laid before you.

ROUTES IN TANÁLA AND BÁRA.

Ambóitra to—	Miles.	Direction.	Description of Country.
Nandehízana	20	S.	Over grassy plains; cross river Ivato, fordable.
Ivátotsilo	10	S.	Through forest and over grass-covered hills.
Andráina	12	S.E.	Cross head-waters of Fauíndrona, narrow but deep; grassy hills.
Ambohipéno	6	E.	Through shrub and forest.
Ambohimilánza	2	N.E.	Beautiful forest.
Ambohimiera	9	N.E.	Forest; steep descent.
Amboihitánana	7½	N.E.	Cross Mananonaka river, shallow; through bamboo shrub and forest; cross Vangana river, canoes.
Ambohimánnga	10	N.E.	Through country with forest patches; cross Isahanafo river, shallow; road bad.
	76½		

ROUTES IN TANÁLA AND BÁRA—*continued.*

	Miles.	Direction.	Description of Country.
Ambohimánga to— Ivohitrاندriána	18	N., N.E.	Cross Manandriána, canoes; valley of Mananzára; cross Imaintandro, canoes.
Ivohitrámbo	22	N.	Through broken forest; ascend in forest to high land.
Imady	15	W.	Through forest and over grassy uplands.
Ambositra	8	W.	Grassy hills.
	63		
Fianárantsóa to— Alakamisy	17	N.E.	Over grassy hills and plains; cross Matsiátra, canoes, but fordable in dry season.
Ivatotatana	13	N.E.	Over grassy plains, with shrub.
Ranomafána	14	E.	Over grassy plains, cross head-waters of Inamórona; dense forest; steep descent.
Ambalafasana	25	S.E.	Down the wooded valley of Inamórona.
Ampasimpotsy	19	E.	Through wooded valleys, crossing many streams.
Imaroavy	9	E.	Wooded valleys.
Ivátovávy	18	E., S.E.	Wood valleys; rapid descent; high hills on left; leave forest for open country.
Antanambao	14	N.E.	Grassy plains.
Itsitósika	12	N.E., N.	Grassy plains, with patches of wood; cross Mananzára river, canoes.
Masondráno	10	E.	By river in canoe.
	151		
Masondráno to— Ambaniefaka	9	N.	Along sea-shore.
Imahéla	8	N.	Along shore; cross two outlets of lakes to sea in canoes.
Tanandáva	5	S.W.	By canoe on lake.
Ambohetsara	12	N.	Along sea-coast; cross one outlet of lake in canoes.
Anosivarika	25	N.	Along sea-coast.
Andónaka	6	N.W.	Through heath shrub; cross lake and river Fanavelo in canoes.
	65		
Masondráno to— Ambalavotaka	9	S.	Through shrub and forest; cross lake in canoes.
Imarohita	8	S.	Over open country a little from sea-coast; cross lake in canoes on leaving Ambalavotaka.
namórona	15	S.	Grassy plains with forests, west of lakes; cross lake near Imarohita, and the river Inamórona in canoes.
Ambotaka	20	S.	Over grassy plains, and several deep water-courses.
Tanambao	15	N.W.	Up valley of Faráony; open grassy country.
Ivohimánitra	8	S.W.	Grassy country, with forest patches; cross Faráony in canoes.
Imahamay	12	N.W.	Up wooded valley of Faráony.
Ivohimánitra	24	W.	Wooded valleys and grassy hills.
Ambohimangakely	10	N.W.	Forest and wooded valleys; cross Faráony river.
Anjólóbátó	11	N.W., W.	Forest and wooded valleys; high mountains in front.
Ifádranáva	18	W.	Ascend to high land through forest; grassy plains, with several marshy streams.
Fianárantsóa	15	N.W., W.	Grassy hills and plains; cross Matsiátra in canoes.
	165		

ROUTES IN TANÁLA AND BÁRA—*continued.*

	Miles.	Direction.	Description of Country.
Fianárantsóa to—			
Imahasoabe	18	S.E.	Grassy hills; cross Matsiátra in canoes.
Anáviávy	25	S.E., E.	Grassy hills; marshy valleys; dense forest; rapid descent.
Imaromiandry ..	12	S.	Along pleasant valleys; wooded hillsides.
Ambohimitsivalana	8	W., S.	Grassy plain and wooded valleys; cross several streams.
Itsimvoaha	20	S.	Over mountain ridge; cross river Sandrananto and wood valleys; high mountains on the right.
Ankaranomby ..	17	N.W.	Ascend to high land through dense forest; grassy country.
Ivohitraféno ..	15	N.	Cross wooded ridge; descend into valleys well wooded; and cross grassy plain.
Fianárantsóa ..	20	N.N.W.	Grassy plains.
	125		
Fianárantsóa to—			
Imedóngy	17	S.	Grassy plains.
Itsitondroy ..	12	S.	Grassy plains and hills.
Ivohidroa	5	S.W.	High hills and rough valleys.
Ilomaka	10	S.E.	Grassy plains; marshes; cross Manantánana.
Ivatolávo	15	S.E.	Forest; sharp descent.
Ankaróvana ..	8	E.	Down the wooded valley of Matitánana.
Isanaráha	7	S.	Along wooded mountain spurs.
Ibetafo	6	S.	Crossing open valley of the Irianánana.
Ivohetromby ..	20	N.W.	Ascending valley of Irianánana.
Ankísitra	11	N.W.	Ascending valley of Irianánana, sharp ascent.
Imahazóny	22	N.	Through thick forest, and over grassy plains.
Fianárantsóa ..	30	N.	Grassy plains and valleys.
	163		

ROUTES IN BÁRA.

Fianárantsóa to—			
Ambóhimandróso ..	26	S.	Grassy valleys and cultivated plain.
Imanampy	6	W.	Cultivated plain.
Iandraina	5	S.W., S.	Through rough narrow valleys.
Itsaranoro	12	S.W., S.	Through valleys, with high mountain range on the left.
Antananarivokely ..	2	S.W., S.	Up rough valley into an open grassy valley.
Ivato	8	S.W.	Across ridge into the lovely wooded valley of Ivato.
Andavakaondry ..	10	S.W.	Along valley of Ivato.
Iraikétampanány ..	15	W.	Through wide valley, with a great plain stretching to the south.
Tompánandrarána ..	16	W.	Wide open grassy plains.
Ranohira	45	W.	Down valley of Ihósy; ascend to high land, and across desert.
	145		
Tompánandrarána to—			
Ambatosolo	13	E. and S.	Through valley between the hills, and a fine valley wooded.
Ibekily	14	S.E.	Cross into valley of Sahambanga; populous; wooded.
Ránotsara	20	S.E.	Cross over hills, and along the bare open plain.
Isáísotsa	18	N.E.	Winding through the hills; cross river Menaráhaka.
Ivohibé	14	N.E.	Open valley to south; hilly uplands to north; cross river Ranomena.
Menaráhaka	12	N.	Over high grassy uplands; descend into marshy valley.
Antananarivokely ..	6	N.N.E.	Up rough valley of Behásy.
	97		

ROUTES IN TANÁLA AND BÁRA—*continued.*

Fianárantsóa to—	Miles.	Direction.	Description of Country.
Iflangana	7	W.	Over hilly uplands; grassy.
Ifiarénana	3	N.W.	Over range of low hills into cultivated valley.
Iakarana	4	N.W.	Over grassy hills and rough rocks.
Ipáka	2	W.	Over grassy hills; descend into narrow valley.
Analatsóy	8	N.W.	Winding among grassy hills, and along bank of Manantánana.
Imarozáza	7½	S.W.	Along open plain; cross Manantánana, canoes.
Inosifito	9	N.W.	Open grassy plain; wooded mountain and valley.
Imelolóha	14	W.	Open plains, barren.
Imahasóa	18	W.	Over hills, and along open plain.
Itsitondroy	4	W.	Open plain.
	76½		
Itsitondroy to—			
Iangonarivo	7	S.E.	Up the banks of small stream; wooded.
Ambóhitrdragána	15	S.E.	Over bare barren hills.
Ifosamainty	16	S.E.	Across open plain; nearly desert.
Imarangavato	5	S.E.	" " " "
Itamiá	6	S.E.	" " " "
Itsifóhy	8	E.	" " " "
Iharamiláza	10	N.E.	Over bare hills covered with grass.
Itondotsa	7	N.E.	" " " "
Ilavatsára	9	N.E., N.W.	Over grassy hills, and across several valleys.
Fianárantsóa	20	N.E., E.	Hilly uplands; grassy.
	103		

The PRESIDENT, in introducing the subject of the evening, said it was not often that the Council were able to procure for the Society a paper on a region so new as the southern interior of Madagascar. Many of the papers that had been read of late years were rather elucidations of discoveries already made than accounts of travels into unknown countries. It might be said that Madagascar was a known land, but that was true of only a very small portion of the island. He believed that Mr. Cowan would tell them that not above one-third of that immense island had been visited by Europeans. After spending some time in the well-known parts, Mr. Cowan settled among the aboriginal tribes on the extreme verge of the territory belonging to the Queen of Madagascar, and from there he was able to make observations on a country of which so little was known. He was a member of that profession to whom the Society owed so much. He pursued the highest calling of carrying the Christian faith to barbarous tribes, but at the same time he observed everything with a keen and cultivated eye, and was able, while performing the primary duties of his important office in a most efficient manner, to add to the geographical knowledge of the regions which were the scene of his labours.

The following discussion ensued after the reading of the paper.

Mr. SCLATER said he had listened with great interest to Mr. Deans Cowan's explanation of the principal physical features and the different tribes of Central Madagascar, and he cordially wished him success in endeavouring to obtain the aid of the Geographical Society in extending the area of these investigations. But he must remind them that they had to thank Mr. Cowan not only for the discoveries of which he had just given an outline, but also for an extensive collection of specimens of the flora and fauna of Madagascar which he had brought home. Several papers of very great interest had been communicated to the Zoological Society, principally by assistants in the Zoological Department of the British

Museum, relating to the animals brought back by Mr. Cowan. The fauna and flora of Madagascar were of very special interest to the students of geographical distribution. They were perhaps more peculiar than those of any other limited part of the world's surface. Those who wished to get an outline of the present views of naturalists upon this subject could not do better than refer to Mr. Wallace's book lately published, called 'Island Life.' According to Mr. Wallace's theory, Madagascar must have formed part of the African continent in a far-distant epoch when animal life in Africa was very different from what it was at the present moment. Africa was now tenanted by many different species of monkeys: in Madagascar, on the contrary, there were only lemurs. The finest, and largest antelopes also were found in Africa, where there were sixty or seventy species; but there was not a single antelope in Madagascar. In that large island, however, there were most peculiar types, such as the Aye-aye in the class of mammals, and many strange types of birds. Among reptiles too there was the Chamæleon, of which he believed Mr. Cowan had discovered two or three new species. In the vegetable kingdom Madagascar contained also many peculiar Orchids and other plants. Owing to these circumstances, the island had long been a favourite ground of exploration for naturalists. The Dutch work by Pollen and Van Dam, founded upon collections formed there, had been until lately one of the principal authorities. In France, too, M. Grandidier had begun to issue a magnificent series of volumes containing a complete account of the island. Nor had English explorers been altogether wanting, for many discoveries had been made by them. But although so much had been done, more remained to be accomplished, particularly in the outlying provinces. They had to thank Mr. Cowan for having considerably added to the collections of the national museum in this respect, and he was sure they would all join with him in thanking him for what he had told them, and for the collections he had brought home.

Sir GEORGE BOWEN (Governor of Mauritius) said he had no personal knowledge of the vast and mysterious island of Madagascar, one of the very few parts of the world which still opened a nearly virgin field for the explorations of the Geographical Society. But neither of the speakers had said anything about the political state of the island. The Governor of Mauritius had always been in certain political relations with the Hovas. From his official correspondence with the English Consul in Madagascar, and his conferences with a great many people who had been to Antanánarivo, he had conceived the idea that the Hovas occupied in Madagascar the same sort of position with regard to the other inhabitants as the Spartans did with regard to the Lacedæmonians in ancient Greece, the Magyars in Hungary, or the Sikhs in the Punjab; that they were in fact the conquering race, and were gradually extending themselves, and would ultimately subdue the whole country and form a great and compact kingdom. Mr. Cowan had complained that the reigning dynasty made no roads between the capital, which was on the central plateau, and the coast. He had good reason to believe that that arose from what was perhaps a not altogether unfounded jealousy of the possible entrance of European Powers into the country. On one occasion when there was a great quarrel between the Prime Minister of Madagascar, the husband of the reigning queen, and the Consul of a great Power, the latter said, "If you do not yield we will march an army to Antanánarivo." "Oh," said the Minister, "there are no roads for you to advance over, but only a pestilential territory of low grounds: we have got two generals, Hazo and Tazo (that is Forest and Fever), and as long as we have them we will laugh at your armies." Of course that was not strictly original. The Emperor Alexander said something of the same kind to Bonaparte when the latter first threatened to march on from Moscow to St. Petersburg. Alexander reminded him that the two generals *Janvier et Février* he would find it difficult to cope with. Sir Henry Barkly had

had greater opportunities than himself of knowing the political position of Madagascar; but he had very little doubt that the reason why the people did not make roads to their seaports was that they were determined that Madagascar should not be the prey of European Powers. Already at Antananarivo they had something like 20,000 troops disciplined in the European fashion, principally by English officers. A former Governor of Mauritius sent a sergeant there who drilled them, and as far as he could make out the Hovas were now as far advanced in civilisation as the Russians before the time of Peter the Great. They were in a semi-oriental state with a little smattering of European civilisation, and it was most desirable that they should, without interference otherwise than by advice, be allowed to develop themselves.

Alderman HADLEY said he had had some experience of Madagascar, and was one of those who some years ago instigated a visit to this country by some representatives of the Government of Madagascar. At that time he hoped that results would have followed far different from those prevailing at the present moment. Still he did not despair in a political sense. He then strongly urged upon the Queen and the chiefs the making of roads to the capital, and he believed that they would yet be made. He also recommended the introduction of a coinage similar to the English. There were at Antananarivo buildings almost equal to any of the city of London. The people spoke the English language, and their influence would spread not only towards the southern and western, but to the northern provinces. It might be taken as certain that the governing power would be the Malay or Hova element. The island was full of everything which could make a country great if properly administered, but as Sir George Bowen had said, it was at present in a state something like Russia in the time of Peter the Great. In the time of Lord Russell, under whose auspices he went out there, great interest was taken in the island, and he hoped that something might yet be done politically with regard to the country. There was formerly a very great jealousy between England and France as to the control of the island, and he strongly recommended that it should be placed under a British protectorate. Had that been done there could be no doubt that now it would be under one central authority, and that the advancement of civilisation would have been of such a remarkable character as had not been previously seen in the history of the world.

Questions having been asked by Mr. H. B. INCE and Mr. J. LEWIS,

The PRESIDENT, answering for Mr. Cowan, said he would remind the gentlemen who had put questions on matters which Mr. Cowan did not profess to deal with, that the author of the paper had apologised for making his remarks very general in their nature. He had authorised him (the President) to say that the Hovas, although undoubtedly the most intellectual and intelligent people in the island, formed at present but about one-fifth of the population. The whole territory governed by the so-called Queen of Madagascar, including that occupied by the two large tribes subject to her, was less than one-tenth of the whole island. The remainder was independent. Though the Queen claimed a sovereignty over it, it was practically not exercised. Whether it was desirable or not that the rule of the Hovas should spread was a question for consideration. One thing was quite clear. The inhabitants were an intelligent and, on the whole, a tolerably virtuous people, excepting apparently some of the chiefs, who were described as spending their time in intoxication. Indeed, there seemed a curious analogy between the fauna of the island and its inhabitants. Africa, from which Madagascar appeared to have been parted at a very early period, was the home of some of the largest and most destructive animals in the world, and a considerable portion of its inhabitants were extremely warlike and dangerous, and

sometimes bloodthirsty; but in Madagascar there appeared to be a singular lack of these dangerous animals, and at the same time an extraordinary innocuousness on the part of the population. Whether or not there was any connection between these facts he could not say, but it was not impossible that the people were harmless because their warlike instincts had never been called forth by the necessity of warring against wild beasts. He was sure they would all agree with him that a speaker of more graphic power than Mr. Cowan had seldom addressed the Geographical Society, and that he was well deserving of their thanks.

Notes on the Shaktú Valley, Waziristan.

By Captain G. F. YOUNG, Bengal Staff Corps, Deputy-Assistant
Quartermaster-General.

Map, p. 584.

THE Shaktú river issues from the Waziri hills and enters British India about 20 miles south of the frontier station of Bannu.

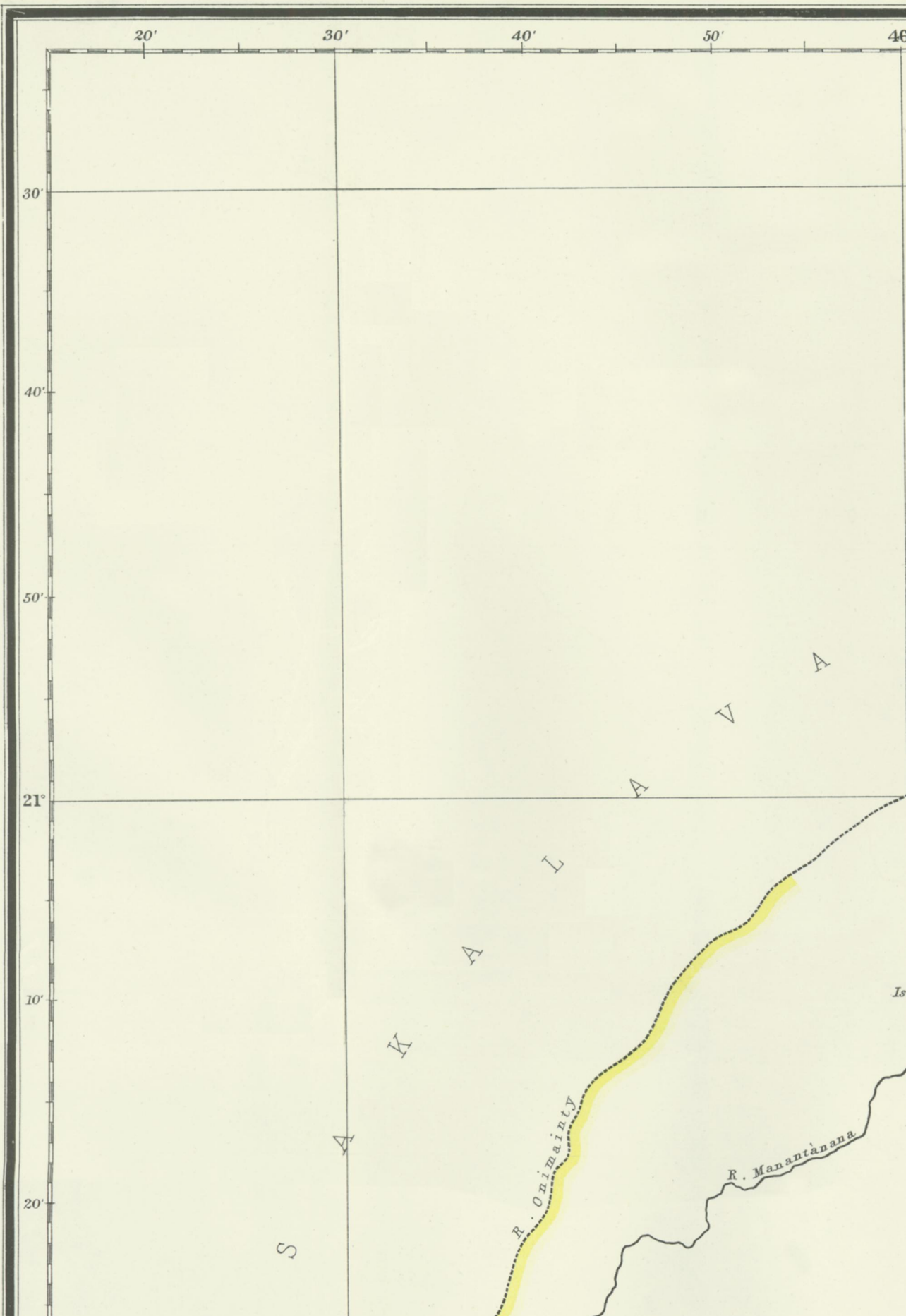
The Tochi (or Gambela), the Kaisor, the Shaktú, and the Tank Zam, all flowing through different parts of the Waziri hills, run, roughly speaking, parallel to each other in the order named, i. e. the Tochi is the most northern and the Tank Zam the most southern. Their courses are from west to east.

The valley of the Tochi is as yet only partially known or surveyed; those of the Kaisor and Tank Zam were visited in 1860 by General Chamberlain's force, and again this year (1881) by the columns under Generals Kennedy and Gordon.

The Shaktú had up to the present time remained entirely unknown, and the space between the Kaisor Valley and that of the Tank Zam was a blank on our maps. It is inhabited entirely by the Mahsúd Waziris, whose extreme jealousy of all other tribes has been an effectual bar even to native explorers. General Gordon's brigade in returning from the Ruzmuk Pass in May 1881, traversed its whole length, thus opening up an entirely new piece of country.

The Mahsúd Waziris.—The Mahsúds are the most powerful of the three main branches of the great Waziri clan, and are one of the most warlike, turbulent, and independent of the frontier tribes. The other sections of the clan hold the Mahsúds in considerable awe, and are consequently looked upon with much contempt by the Mahsúds themselves.

The Mahsúds do not appear to be so much given to intertribal feuds as other clans, and it is a noticeable fact in the Shaktú Valley that not only are the villages of four or five different sections of them considerably intermixed, but also that there is only one tower and two walled villages in the whole valley. They are as treacherous and



46°

10'

20'

30'

40'







10'

20'

30'

40'

50'

22°

K

A

L

S



R. Onimainty

R. Manantanana

NORTH MANON

R. Ranomainty

B

Falls into Ranomainty R.

B A R A - B E

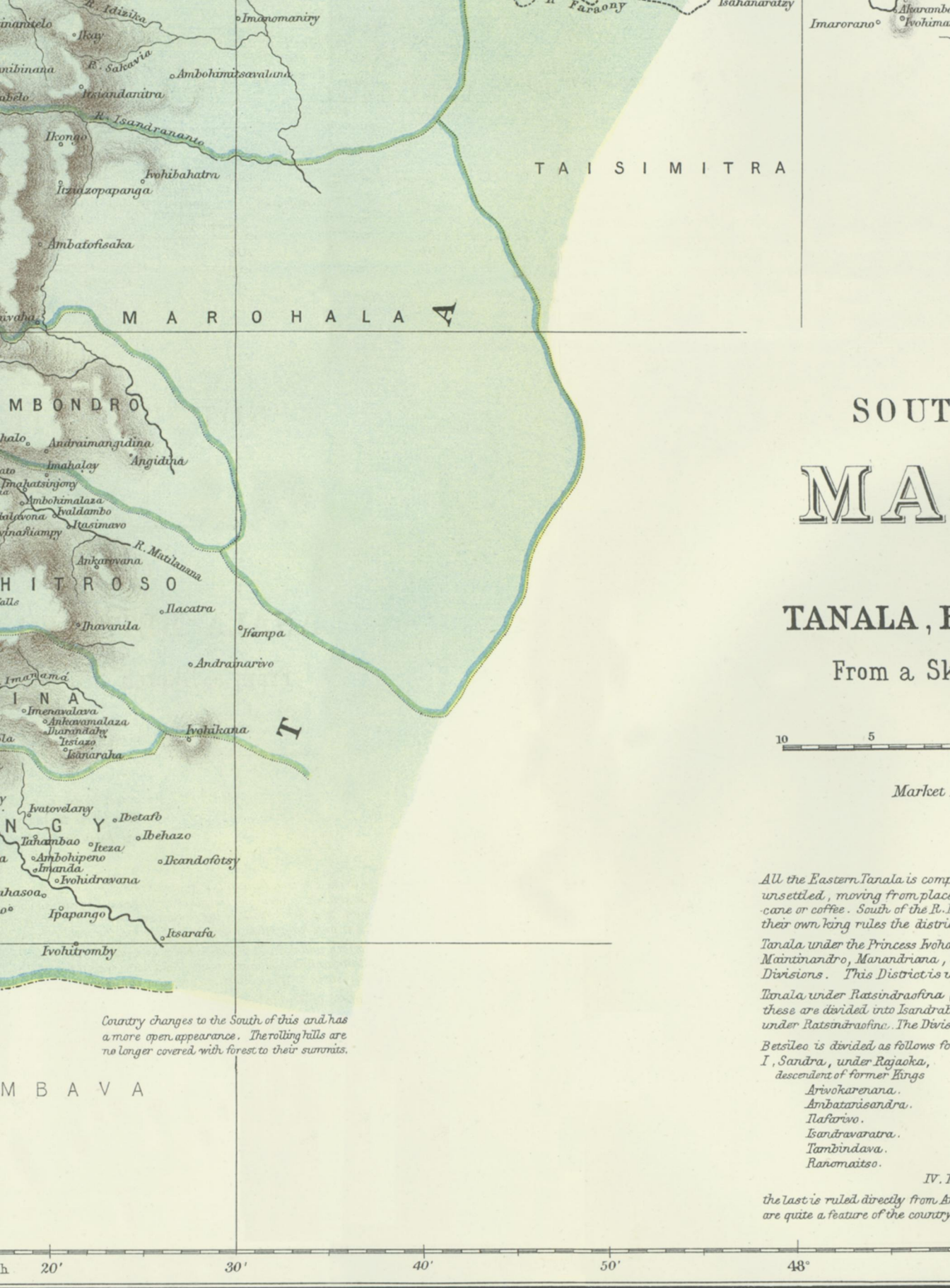






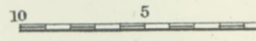
H. Sharbau, R.G.S., del.





SOUTH
MADAGASCAR

TANALA, I
From a Sketch



Market

All the Eastern Tanala is comparatively unsettled, moving from place to place to care for coffee. South of the R. Isantranana their own king rules the district. The Tanala under the Princess Ivohimbahatra is divided into the Mairinandro, Marandriana, and Marandriana Divisions. This District is under the Princess Ivohimbahatra. The Tanala under Ratsindrafina is divided into the Mairinandro, Marandriana, and Marandriana Divisions. The District of Betsileo is divided as follows: I, Sandra, under Rajaoka, descendant of former Kings Arivokarenana. Ambatarisondra. Ifarivo. Isantravaratra. Tambindava. Ranomaitso.

IV. The last is ruled directly from Antananarivo. The rolling hills are quite a feature of the country.

Country changes to the South of this and has a more open appearance. The rolling hills are no longer covered with forest to their summits.



MAP OF
SOUTH-EASTERN PROVINCES
OF
MADAGASCAR
comprising part of the
TANALA, BETSILEO AND BARA COUNTRY
From a Sketch Survey by the Rev. W. Deans Cowan.

Scale of English Miles. 1 Inch = 7.7 Miles

Market Towns and Villages are underlined, thus: Ambositramanjaka.
The parts tinted green are covered with forest.
□ Forts and ● Residences of Hova Governor.

Eastern Tanala is composed of rolling hills the summits of which are covered with wood. The people are very mobile, moving from place to place every year, so as to get new rice ground. Country very fertile; well suited for sugar and coffee. South of the R. Faraony the people are independent, and do not acknowledge the Hovas. Ratsindraofina is King rules the district between the Rivers Faraony and Matitanana. Small villages of from 10 to 20 houses.

under the Princess Ivohana is divided into nine Divisions; Zafimania, Zafiandriamanana, Sandrakandro, Manandro, Manandriana, Sahanofo, Ivangana, Mahasila and Mananomaka. There are, however, three other smaller divisions. This District is under the Hovas, and pays tribute; they have also to furnish 6000 men in time of war.

under Ratsindraofina (Head of the Zafimbo division of Chiefs) are practically independent, pay no tribute to Hovas are divided into Isandrabe and Imarohala; but the tribes of Vohitraso, Manambondro, Safina and Ampeondony are also under Ratsindraofina. The Divisions of Zafimiarasoa, Ambodirano, Zafimiry, Taimino, Hobina, are directly under Hova rule.

is divided as follows for Government purposes.

I. Isandrabe, under Rajaoka, descendant of former Kings

- Arivokarenana.
- Ambatavisanandra.
- Ilfarivo.
- Isandravaratra.
- Tambindava.
- Ranomaitso.

II. Ilalangina, under Ramaharo, descendant of former Kings.

- Avaradrano.
- Ilalanginarivo.
- Mandranofofety.
- Ivohibato.

III. Arandrano, under Ralainory, descendant of former Kings.

- Matsiatra.
- Isantrananto.
- Ivatovantrana.
- Mandranofotey.
- Homatrano.

IV. Manandriana (Tsi-emina-parihy)

V. Avaradrano

is ruled directly from Antananarivo. There are few towns of importance in Betsileo. The people live in homesteads which are a feature of the country.

10' 20' 30' 40'