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A Journey to the Summit of Mount Roraima

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Aymestrey and Leominster, rather nearer the latter. Eaton is about a mile on the opposite side of Leominster. Probably we may identify Leland's Eaton with Eaton above, as the residence of the knight of Agincourt. But if this is so, then the editors of Hakluyt are wrong in speaking of Eyton or Yatton: they should say Eaton and Yatton. The clearing up of the confusion may give some pleasure to a disciple of Hakluyt on the occasion of his tercentenary.

A JOURNEY TO THE SUMMIT OF MOUNT RORAIMA.

Mrs. Cecil Clementi.

Map, p. 520.

THOSE who have spent any length of time in a flat tropical country at sea-level know the depression of mind and exhaustion of body to be endured when leave is indefinitely postponed, and will readily understand why, after two years on the flat coast-land of Demerara, 4 feet below sea-level, with never a hill to be seen, and the Atlantic "slopping over" in waves of muddy yellow water, my husband and I decided to spend a brief six weeks' leave in exploring a part of British Guiana which, although for over a hundred years under the British Crown, is blank upon the map. My husband in October 1915 had made the acquaintance of Mr. J. C. Menzies, whose occupation as a diamond and gold prospector had carried him into distant parts of our Colony's interior, and his account of prairie tablelands at high altitudes to be reached in eight days from Georgetown, affording a view of the famous Mount Roraima, determined us to attempt a journey to this mountain under his guidance.

The colonists of British Guiana have never made any serious attempt to investigate the interior of their heritage. Their revenue has always been spent upon sea defence and coastal development, and a conviction exists that the hinterland is not only a death-trap but also a wilderness of useless jungle and sandy deserts. I was assured that I was risking my health; but the fact that I returned with health and vigour renewed may perhaps dispel the legends accumulated about the horrors of the bush, and induce people to investigate for themselves the charms and opportunities of this neglected land.

We left Georgetown on 2 December 1915, and travelled 60 miles by steamer up the Demerara River to Wismar, whence a light railway 18½ miles in length carried us over the low divide between the Demerara and Essequibo rivers to Rockstone on the banks of the Essequibo, where there is a small hotel. Thence we travelled by launch some 55 miles up the Essequibo to the mouth of its tributary the Potaro, and thence another 10 miles up the Potaro to Tumatumari, where a large and very picturesque

cataract bars the way. The Essequibo in its lower course is too wide to be interesting, but the Potaro is very pretty, winding its sluggish way between banks covered with thick forests, whose dense tropical foliage is reflected with wonderful clearness and brilliance in the river.

At Tumatumari there is a little rising ground on which stands a village with a post office and small bungalow-hotel. The portage from the lower to the upper landing is about half a mile by a good cart road. From the upper landing at Tumatumari a small launch carried us 10 miles further up the river to Potaro landing, where the launch service ends. A road runs from this point to the Minnehaha gold-mines, some 18 miles away ; and we followed this until at the second milestone we struck off along 4 miles of forest trail to Kangaruma. Here we rejoined the Potaro, which bends back on itself. The Pakatuk Falls, a series of big cataracts, are avoided in this way.

At Kangaruma we embarked in a boat, the property of Sprostons, Ltd., our party consisting, besides our two selves, of Mr. Menzies, a black cook, and fourteen Indians, of whom nine were from the Demerara River and five Makusis from the high savannahs. Two of these five, Johnny and Thomas by name, were headmen of Puwa village and proved very useful to us. The other three were picked up at Rockstone, where they were waiting for a job. All five were good fellows and did yeoman service. But the natives of the Demerara River were an idle and useless set, and we endured much delay and annoyance at their hands, until we were able to exchange them for the willing and friendly Makusis and Arekunas of the high levels.

The splash of the paddles was very welcome after the din of the launch travel and we spent a very pleasant afternoon paddling up the reaches of the Potaro to Amatuk, where a cataract once more interrupts the river's repose. Splendid forests clothe both banks of the river, the monotonous tropical green being broken here and there by some brightly blossoming tree or creeper. Behind us, on the left bank, stood a range of flat-topped, cliff-faced hills. At the edge of the cataract at Amatuk a small rest-house stands, owned by Sprostons, Ltd. To our delight we each of us needed a warm blanket that night. When you have scarcely used the lightest blanket for months, it is a real luxury to enjoy a good heavy one again.

At Amatuk the Potaro descends in two cataracts round a rocky tree-crowned island, and then swirls back into a little bay in which is the lower landing-place. The bungalow stands on a low hill immediately above the bay and at the side of the smaller cataract. This hill has been cleared of the dense forest and delicious English bracken grows freely on its slopes. Above Amatuk the Potaro flows in a gorge between flat-topped mountains whose summits and bases are clothed in forest, whilst their grim sides are vertical cliff.

At Waratuk a portage has again to be made, though the cataract is much

smaller than at Amatuk and can sometimes be run, whilst no one could dream of attempting Amatuk, in the centre of which is a big vertical drop.

From Waratuk to Turkeit was two hours' pull. The shining lazy river, lying half asleep between its sentinel hills, seems already to have forgotten the wild leap over the Kaietuk precipice which bars the gorge. Above the river is not navigable until you are above Kaietuk. Sprostons' rest-house at Tukeit has been placed in a clearing, slightly above the river-level, about 300 yards from the bank, where there is no air and no view. This is the greater pity as there is a low hill close by from the top of which, if it were cleared of forest, one would have a view of the Kaietuk fall itself and of the lovely rocky reaches below it. At present, unless a very difficult and laborious scramble is taken up the gorge above Tukeit, no view of the waterfall from below is anywhere obtainable. The camp at Tukeit is full of big biting cow-flies, and one would be very well advised to make a very early start from Amatuk and insist on reaching Kaietuk the same day, thus avoiding a stop at Tukeit altogether. Unless the river were very high this could be managed.

From Tukeit to the Kaietuk plateau is a climb of about 1500 feet, of which only a small portion is really steep, after which the path runs for some distance along the plateau, always in forest. We spent two hours in walking from Tukeit to the rest-house on the plateau, and nowhere could we obtain even a glimpse of the great fall until when we reached the rocky savannah on which Sprostons' bungalow stands and had made our way to the edge of the gorge.

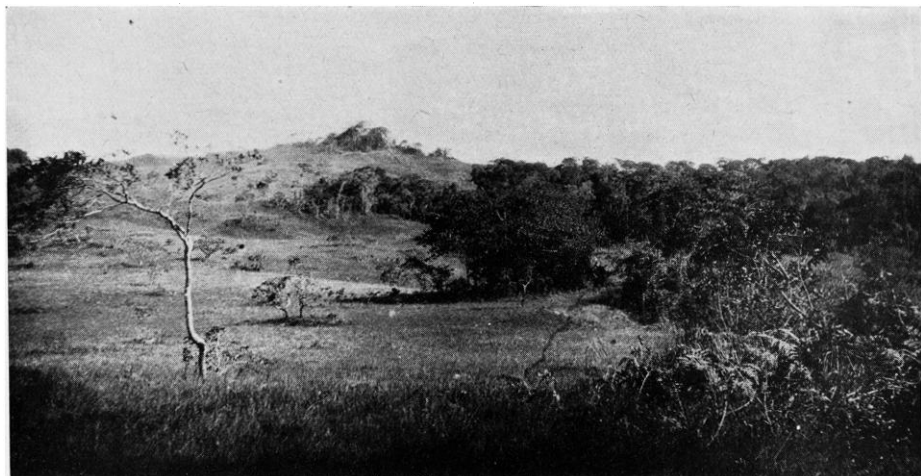
The lazy, dreamy Potaro leaps down fully 800 feet into a great black cauldron below, and then flows between precipices of equal height, their bases clothed in forest. The river was low, so that comparatively little water was going over, and it looked as though the whole mass turned to spray before reaching the black depths beneath; but sometimes a rush of wind blew the foam-curtain aside for a second, and one caught a glimpse of the amber column descending. The contrast between the black and red stained cliffs and the gleaming, falling water is marvellously beautiful.

From the cliff-edge near the bungalow one can see the entire fall and the tumbling reaches of the river below, which alternate with large still pools. One can also look upstream over the vast densely forested plateau stretching away to the distant blue hills, forest clad save on their vertical cliff-sides. From a jutting rock about a mile from the edge of Kaietuk, to which Sir Walter Egerton had a trail cut through the forest, it is possible to photograph the fall in its entire length, which cannot be done from any point nearer. There is also a trail to the brink, where one obtains a wonderful view down the gorge to Amatuk and the dim plains beyond, a distant sea of forest; but from this place it is of course impossible to see much of the chasm into which the river falls, unless you lie prone on the overhanging rock and look straight down.

Round about the head of the fall on the left bank is a curious open



KAIETUK FALL, POTARO RIVER, BRITISH GUIANA
From a negative taken by Sir Everard im Thurn in 1878 at time of drought



BARAMAKU-TOI



FORDING THE KOTINGA RIVER



MOUNTS WEITIPU AND MUKÖRIPÖ FROM THE LEFT BANK OF THE KOTINGA RIVER

plain of hard smooth rock. It is almost entirely flat, and is strewn with small round white pebbles. Only a few bushes and big orchidaceous plants grown on it. It must be a good many acres in extent, and the dense forest with huge boulders beneath its trees girds it all round. It was the only patch of ground clear of forest on our way between the coast-lands and the high savannahs.

The spelling "Kaieteur" usually adopted is a mere mistake. The word "kaietuk" (Dr. Bovallius writes it Kaijituik) means "Old man's rock"; and the falls are so named by the Indians because of a folk-tale to the effect that an aged Indian, becoming a nuisance to his relatives, was put in a woodskin and allowed to drift to his death over this chasm. The word "tuk" or "tuik" means "rock," and is also to be found in "Pakatuk," "Amatuk," "Waratuk," and "Tukeit," all of which are well-known cataracts on the Potaro river.

Two boats are kept about a mile and a half above Kaietuk in a little cove on the left bank of the river. One is a "parson's boat"; the other, belonging to Mr. Menzies, is very handy and light, 30 feet in length and built of silver-balli wood, which is extremely buoyant. Mr. Menzies brought it up from Georgetown in sections and screwed it together with the help of two men in the little cove aforementioned, where it is safely housed even in flood-time.

The Potaro above Kaietuk is as calm and peaceful as below Tukeit, and the primeval forest is unbroken on both banks, save occasionally where patches of secondary jungle and "congo-pump" suggest that in bygone days there were Indian settlements on the banks, now abandoned, probably for "kenaima" reasons. Whenever a chief dies in an Indian village the people are apt to attribute any run of bad luck to his "kenaima," or spirit, and they migrate from the place. Indeed, a village is nearly always deserted for a short time after the death of any important person. There are also whole districts into which Indians will not go for fear of "kenaima."

At the junction of the Potaro and Chenapowu several trails from the high savannahs converge, and here it was that an old Swedish gentleman, Dr. Bovallius, some years ago made a settlement, which he called Holmia. He cleared about one hundred acres of land and built himself a house admirably situated on a hill overlooking the two rivers, furnishing it with every comfort. He began a trade in balata with the Indians of the neighbourhood. Mr. Menzies did the transport work for him, and by his direction explored the forest-trails to find a short line to the high savannahs. It was thus that he found "Menzies' line," which balata-laden Indians could travel in two days, and which is certainly an excellent path from the Potaro to the high levels. Dr. Bovallius' foreman estimated it to be 32 miles long when it was cleared and made straight. Now it is covered with fallen trees and débris and must be rather longer, as détours are made to avoid all the bigger obstacles. It is unfortunate that Dr.

Bovallius did not come here as a young man ; for he was over seventy years of age when he began his enterprise, and though he lived to be seventy-eight yet time was lacking for him to establish it on firm foundations. When he died the Indians carried off everything that could be possibly removed, and his entire clearing is now covered by secondary growth and the horrible " congo-pump " tree, which, bearing a ghastly resemblance to rubber, grows only where a clearing in the primeval forest has once been, and appears to mock abandoned human endeavour. There are still remains of Dr. Bovallius' roads and bridges to be seen, and a small corrugated-iron powder-house exists in good repair to this day.

At Chenapowu we left the river and began our long march with Makusis of the high savannahs as our baggage carriers. Leaving on our right the Tumong trail, by which all previous travellers have gone to Roraima, we marched to the Akrabanna. The path is comparatively good going ; there are two low hills to climb and several creeks to ford, the largest being the Chenapowu itself. The silver sand bottom of these creeks contrasts prettily with the amber bush water. At the summit of a low bracken-covered sandhill is the junction of the Arnik trail with " Menzies' line " to the high savannahs. The road lay for a long time on a level ridge forming presumably the divide between the Chenapowu on our right and the Akrabanna on our left.

After two days we reach a low saddle with a little swamp out of which two tiny streams trickle in opposite directions. We assumed this to be a water-parting between the Essequibo and the Amazon, for on our right a valley went down in the one direction of the Siranibaru, which flows into the Potaro, and thus into the Essequibo, and on our left was the valley of the Yawong, which flows into the Kowa river and thus into the Ireng and Amazon. A little further on the Arnik trail came in on our left, having come up *viâ* Mount Enwarak (the Nose Mountain). Here " Menzies' line " ends, and from now onwards we were on the main trail between Arnik and Baramakutoy.

At last, after seven days' march, we emerged into the sunshine of the lovely Baramakutoi or savannah of Baramaku to find ourselves standing in the scented, flower-starred grass, able to look over long views of distant tiers of hills into fading blue distance, whilst sunshine warmed us, and the most delicious cool and fragrant breezes blew in our faces. The savannah is a small one, about 3 square miles.

From the top of the ridge which bounds Baramakutoi on the east, the ground drops down very steeply into the densely forested Yawong valley, beyond which one can see shoulder upon shoulder of forest-clad hills rolling into distance. From this ridge the savannah descends towards the north-east in gentle undulations, with softly contoured knolls whose copses and bracken slopes remind one of Dartmoor. All round is dark forest, and to the north, beyond the depression of the Kowa valley, Kowatipu rises a thousand feet or more above the trees, a rectangular

plateau edged by cliffs. He is a magnet for all the rain of the neighbourhood and is generally wrapped in forbidding mist. It is strange to think that this ideal spot for a European health settlement, only two days' journey from the Potaro if transport is properly organized, and less if a bridle track were made, is absolutely unknown and uninhabited.

About two hours' march through the forest is the savannah of Kwaibaru, not nearly so charming as that of Baramaku. It is a succession of very steep little valleys; three houses are perched on the hill, at the side of which the path emerges from the forest, and there are two more on a hill a little further on. The houses of the savannah Indians are as a rule circular, about 30 feet in diameter, and they accommodate a large number of people and dogs. The walls are of mud, about 4 feet high, but the thatch slopes up sharply to a high pointed top, so that inside there is a sort of upper storey, where provisions can be stored out of the way of the starving curs which abound in every village. The houses are lighted only by the doorway and are therefore very gloomy within, the reason for this being that the pest of the savannahs, the biting "kabouru" fly, never enters a dark place. The doorways generally face north-east so as to get as much breeze as possible, the wind blowing almost steadily from that quarter over the savannah as it does on the coast.

From a hill ridge, before descending the very steep forest slope to the Kowa river, we got our first view of the big savannah, rising a shining tableland high up behind smaller forested hills on the other side of the river. It is a glorious plateau, which forms part of the area over which Mr. Menzies has obtained a grazing permission, at an average elevation of 2400 feet, and walking was perfectly delightful in that exhilarating air. We had enchanting views of blue distance in all directions. Far away on our left the tableland was bounded by the rift of the Kowa river, beyond which rolling forest-clad hills faded into the horizon, whilst nearer to the right the headwaters of the Chiung river wound away among green savannah mountains, in the knees of which lay little rounded terraces and small gulleys, studded with Eta palm. These hills form another tableland, about 500 feet higher than the one over which we were making our way, and would probably be a good country for sheep. None of these smiling, healthy highlands are marked on the colony's maps, and their very existence has been steadfastly denied.

Mount Mataruka lay south-west of us, almost in a straight line with our path, but we made a détour to take us to Puwa village, and left the tableland to drop down 700 feet into a river valley, where four streams from off Mr. Menzies' plateau unite to flow as the Kowyann to meet the Chiung river near Chiung village.

We took our way down the Kowyann valley, steep grassy hills rising on either side of us. We travelled alternately through little savannahs, whose long waving grasses and crooked trees had a curious resemblance to an English orchard, and through patches of woodland, where a broad

bridle-track had been cut for us by our good Makusi friends. The shade in these little forest belts was very grateful as the sun was extremely hot. When we reached Chiung village we found a large assemblage of Makusis, all very pleased to see us. They explained that they had cut the broad trail all the way to Puwa for us, and they provided an abundance of cassava and cassiri for our bearers. The village consisted of two houses, with a third unfinished one which was being erected for us. Until darkness fell we were much troubled by the biting "kabouru," which are slightly larger than the ordinary sandflies. Their bite is much more irritating and raises a red lump with a black spot in the centre. Though this lump soon dies down the black spot remains for some days. Kabouru flies are always found near water; and we had to pay for our close proximity to the Chiung river, which flowed with a delicious noise close to our house. The path followed from Chiung to Puwa was nothing more than a big *détour* round a hill. We should have preferred a short cut over the summit, but the Indians having prepared a road for us with much care along the valleys we felt it would be ungrateful not to take their line. This ran through a thick belt of forest fringing the banks of the Chiung, and they had most carefully straightened and cleared the forest-trail to a width of 6 to 10 feet, removing most of the stumps, while in places they had actually swept it clear of fallen leaves. The trees, though small, were of hardwood varieties, such as purpleheart and letterwood, and the road-makers were justly proud of their work.

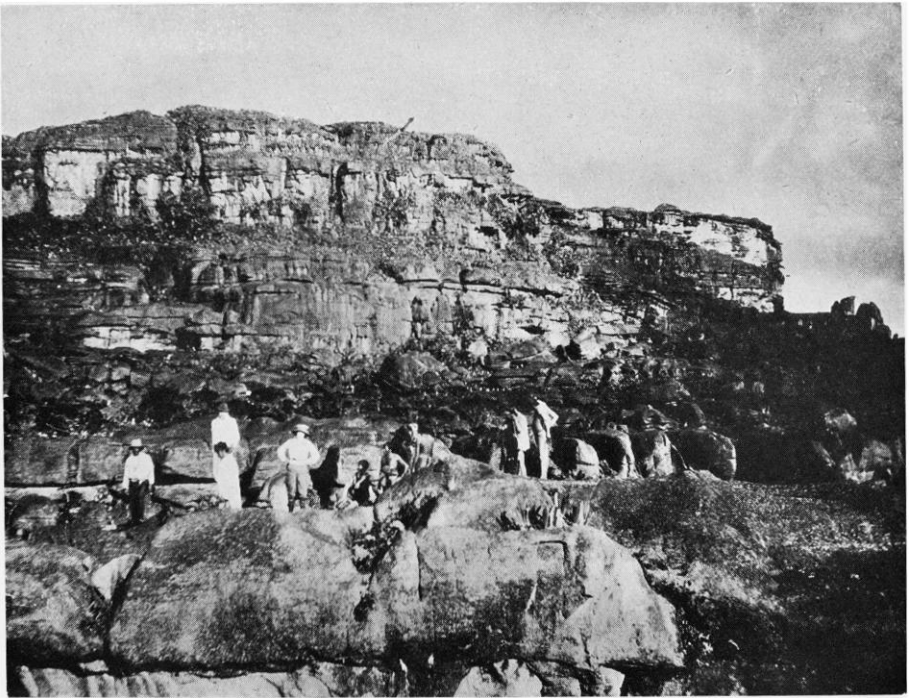
Beyond Puwa the road runs first through an almost level open savannah valley, where rice is grown, and then slopes gradually up to the top of a hill immediately above the Ireng, which commands one of the best views of the whole country. To the south lies the fertile-looking golden Mataruka plain crossed by a stream; to the east-south-east a tangle of big hills beyond the Ireng; to the east-north-east the Puwa hill and a little piece of Menzies' tableland; from north through west to south, beyond the winding Ireng, the most glorious stretch of open rolling grass hills and valleys that one could wish to see; and beyond all that, in the far, far distance, Roraima's great block some 60 miles away.

We crossed the river to the Brazilian side, landing at the point where the Waikana creek from the Mataruka plain flows into it, and set out over the plain to Mataruka village at the foot of Mount Mataruka, where we found a large population drawn up in two long lines with chief Albert at their head, waiting to shake hands.

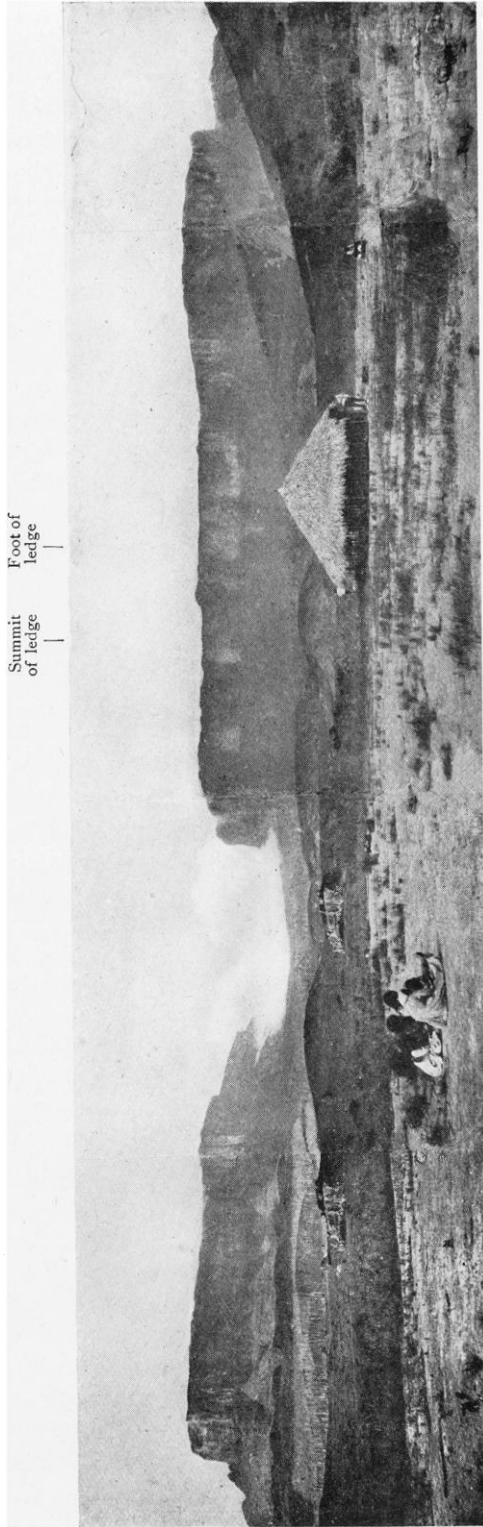
Albert has a very nice church, with a pointed apse, a picture of the Madonna and Child, and a floor raised above the ground with logs on it to serve as pews for the congregation. He has lengthy prayers and hymn-singing every night and morning. We could frequently catch the words "Ave Maria" and "Spiritus Sanctus," and whenever the congregation fastened on any phrase or tune they knew they all shouted together lustily.



MOUNT KOWATIPU FROM MR. MENZIES' TABLELAND



ON THE SUMMIT OF MOUNT RORAIMA



Summit
of ledge

Foot of
ledge

KUKENAM and RORAIMA from KAMAIWAWONG

Albert intones rather well, having been taught by a Roman Catholic priest who sometimes comes up from the south.

From Mataruka our path sloped upwards between Mount Mataruka and Mount Kako. When after over an hour's climbing we reached the final ridge, the view was glorious and the air keen and invigorating to the last degree. From this point the most striking feature of the landscape is a peak far away on the left, which the Indians call Chakbang. It looks in shape somewhat like a clenched fist, with one finger pointing to the sky. This mountain is indeed a surveyor's friend, for it is visible from nearly every elevated point in the country.

We descended by a steep valley into another golden plain—that of Rera, almost as large as Mataruka, well watered and with cattle in it. From this plateau it was five days' march to the foot of the mountain, by Parōwopo and Enamung to Kamaiwawong.

On January 15 we made the ascent of Roraima, most fortunate in having a cool grey morning, whilst the mountains were still quite clear. There was heavy dew on the grass, and it was delightful walking up the savannah slopes. The path winds continually uphill over long grass with big boulders lying on all sides, much as they do on Dartmoor tors, whilst the depressions are boggy and full of marsh plants. From Kamaiwawong to the brink of the forest was a steady three hours' walk with no halt, and we reached the forest edge at 6510 feet above sea-level. Our guide introduced the place to us as "English pappa banaboo"; and we thought he meant to indicate it as the site of Sir Everard im Thurn's camp. He made the first ascent on 18 December 1884 after spending a month in camp at the foot of the forest belt while his Indians cut a trail to the toe of the ledge by which alone the cliff-face is surmounted.

The climb through the forest belt is the only disagreeable part of the whole ascent. The ground here is a pell-mell of huge boulders, over which grows a mass of small trees and magnificent tree-ferns, rooting on the débris of earlier fallen jungle, which is covered with a carpet of shiny green moss and has a horrid corpse-like smell. The whole place is dank and cold to the last degree; and the moss makes it impossible to know whether one is planting one's foot on a piece that will hold, or on a rotten tree-branch, or on a mere covering of twigs and leaves over a chasm between boulders. It is a thoroughly nasty piece of going, and one must use hands and feet almost equally. It lasted two hours, and I must confess that part of the time I was very unhappy. After reaching the ledge the path is still in jungle for a little way, but with the precipice rising sheer on the right hand. Gradually the ledge widens and the forest drops away, so that one gets a glorious view of the country, spread out below like a great green sea. Lovely flowers abounded at our feet, and the air was like a tonic after the damp oppression in the forest. A troublesome feature of the ledge is that it has three V-shaped descents in it; these are very steep and we had to slide down, clinging on to every root, bush,

or stone we could catch hold of. Getting up again was of course more difficult, and in the second place we used a rope. It could be managed without one save for the baggage, which must be pulled up. At the third dip the ledge passes under a waterfall, when after a heavy shower of rain doubtless a great deal of water comes down; then it would probably be very dangerous to try to pass underneath; but on this occasion it was only falling in drops like a heavy and ice-cold rain shower. The rock is very slippery, but it has weathered into convenient little steps and presents no real difficulty. From this point the ascent is direct and steep, and in three hours from the foot of the cliff we reached the top of the escarpment, 8625 feet above sea-level. Roraima was kindly disposed towards us, for we had the rare luck of an absolutely still cloudless evening in which to look about us at the extraordinary scene.

The summit is covered with enormous black boulders, weathered into the weirdest and most fantastic shapes. We were in the middle of an amphitheatre, encircled by what one might almost call waves of stone. It would be unsafe to explore this rugged plateau without white paint to mark one's way, for one would be very soon lost in the labyrinth of extraordinary rocks. There is no vegetation on Roraima save a few damp-sodden bushes (*Bonnetia Roraimæ*), and fire sufficient for cooking can be raised only by an Indian squatting beside it and blowing all the time. Directly the sun had disappeared it felt desperately cold, and we longed in vain for bonfires to warm ourselves. At 6.15 p.m. the thermometer was 51° F.; not very low, of course, but when you are used to such high temperatures it feels like freezing. Any party wishing to explore Roraima's summit would have to organize matters so as to let their Indians spend the night in the forest below and occupy the day in bringing up firewood for them.

The morning sun, gaining power, dispelled all mist, and we revelled in the great sweep of air and view in front of us. Our old friend Chakbang was the only hill that looked more than an earth-wrinkle, save for some cliff-faced mountains far away in Venezuela, which must be as high as, if not higher than, Roraima. We had a good view of the summit of Kukenaam, the same expanse of grotesquely weathered rocks arranged in the same curious amphitheatres. Then we set off in an endeavour to reach the edge of the gorge between our mountain and Kukenaam; but a great chasm lay across the path.

Shortly after 11 a.m. we set out on our return journey. The steepness of the descent made it almost as slow a business as getting up had been. Mercifully the forest trail was much improved by the fact that all the carriers had climbed after us, so that the moss had to a great extent been trodden away, and we could see where to put our feet. How the Indians managed to negotiate that climb with loads on their backs without breaking their legs was beyond our comprehension. They were a good deal cut and scratched, it is true, but their prehensile toes saved them from

all more serious damage. Indians catch hold of things by their toes in truly monkey fashion; and if a man drops a thing on the march he picks it up by his toes and puts it into his hands to avoid stooping; our feet seemed stupid, clumsy things by comparison. We spent $1\frac{3}{4}$ hours descending to the edge of the ledge, during which time we enjoyed most exquisite views; one hour and fifty minutes in the forest, after which a leisurely descent of $2\frac{1}{2}$ hours over the savannah slopes brought us to Kamaiwawong.

When on our return journey we emerged on a bluff above the Kotinga near Joseph's Ford we were delighted to see a novel aspect of Roraima. The morning was gloriously clear, and behind Weitipu on the left Roraima's south-eastern face projected clear and red, and beyond that again Kukenaam's southern face, whilst on the right of Weitipu we saw plainly not only the other end of Roraima's south-eastern wall, but also a small and fore shortened portion of the eastern cliff. This view enabled us in a small degree to grasp the enormous area of the mountain, which it is impossible to do when one is opposite one great wall only. Roraima is an immense irregular quadrilateral, of which the south-eastern side, 10 miles in length, is the longest.

On the march back to Mataruka we saw a big waterfull shining white in the distance. Our guides said it was a fall on the Wairann, and at close quarters it must be a fine sight, for even at a distance of about 7 miles it was a striking feature in the landscape.

On the way down my husband made inquiries as to a way of reaching Enamung by a direct line, avoiding Puwa and Mataruka. He learned that there is a trail crossing the headwaters of the Chuing, going on thence to a ferry a great deal higher on the Ireng than the Mataruka one, and so to Enamung *via* the Wairann river. This is a two days' journey, and my husband's map indicates how great a détour would thereby be avoided.

The following extracts are from a lecture delivered by Mr. Cecil Clementi in Georgetown on 29 March 1916, as reported in the "Daily Argosy" of March 30. The map and section are reproduced from drawings furnished by Mr. Clementi, based on the surveys executed by him.

No British community in the East is contented unless it has its hill station as a city of refuge when the tropical heat of the plains becomes unendurable. The words "a plateau between 2000 and 3000 feet above sea-level" were therefore a lure to me, particularly as Mr. H. P. C. Melville, the Commissioner of the Rupununi District, reported June 29 last as follows:—"The locality chosen by Mr. Menzies is an exceedingly pretty and healthy one; the climate may almost be called temperate, and there is abundance of running water all the year, the want of which is such a drawback to the plains." I had visions of finding a hill station within reasonable distance of Georgetown, which might be to British Guiana

what Kandy and Nuwara Eliya are to Colombo, what Simla is to Calcutta, what the Peak is to Hong Kong, or Kuling to Hankow, or Chuzenji to Tokyo.

The Colony might well spend a little money on making the most glorious scenery [of the Kaietuk Fall] readily accessible. If the railway to the interior, which many of us yearn for, is one day built along the line shown in the 1913 map of the colony, it will be possible to reach the mouth of the Potaro River from Georgetown in a few hours; and although I speak as a layman and not as an engineer, I am quite confident that it would be possible to construct a motor-road from the point where the Potaro meets the Essequibo to the summit of the Kaietuk Gorge. [Many is the cart-road I have travelled upon through more difficult country!] Now, a motor-road branching off from the projected railway would bring Kaietuk within two or three days' journey of Georgetown. If, however, this project is considered too expensive, there should at least be no difficulty in finding money enough to make a bridle-track from the vicinity of Potaro Landing to the plateau above the falls. This modest instalment of hinterland development need not await the era of railway construction, and cannot, I venture to think, be taken in hand too soon. It would be no mere sightseers' path, for the Potaro, from Kaietuk to the junction with the Chenapowu Creek—a distance of about 30 miles—presents no obstacle to navigation, winding lazily between flat forest-clad banks, and is the main avenue of approach to the savannah highlands. These reaches of the river are eminently suitable for launch traffic; and one day I hope that many a launch may ply busily over them.

The whole march through the forest between the Potaro and Baramaku-toi (*toi* in the Makusi language means "savannah") can be done, and was done by us on our return journey, in 14 hours and 26 minutes. Our average rate of progress I estimate to have been $2\frac{1}{2}$ miles an hour; and the length of the trail in all its windings would therefore be some 36 miles. On the outward journey this march through the forest occupied $16\frac{1}{2}$ hours, and was spread over four tedious days because of the inefficiency of our Demerara River droghers. The gradients of this route are shown in the attached diagram (the altitudes have been estimated by observation of the boiling-point thermometer and the aneroid barometer); and the credit of discovering and cutting it belongs to Mr. Menzies, who accomplished the task some years ago with the assistance of one of our droghers, Thomas, the Makusi from Puwa village, already mentioned. The original object of the trail was to facilitate the droghing of balata through the forest of Holmia.

In days to come I hope that one of the main roads of the colony may lead up to Mr. Menzies' plateau; and, when the time is at hand for

building such a road, I expect that its trace will be carried from the watershed of the Siranibaru into the Kowa Valley by easy gradients, and thence round hill-contours, without ascending the Baramaku or Quaibaru savannahs, up to the high-level tableland at Karto. But the existing trail could with small expense be made into a bridle-track suitable for pack-animals and for cattle; and if this were done you will perceive that the savannah highlands, which are to-day within 19 hours' march of the Potaro at Chenapowu, will be made economically and speedily accessible. A launch would place Chenapowu within two hours of Kaietuk; and by a bridle-track it should be possible to reach Potaro Landing from Kaietuk in two easy stages. It would then be a matter of no difficulty and small expense to travel up or down between the high-level savannahs and Potaro Landing in five days or even less. You will also note that we took $10\frac{1}{2}$ hours to paddle from Kaietuk to Chenapowu and 19 hours to march through forest and savannah to the boundary of Mr. Menzies' ranch, or $29\frac{1}{2}$ hours in all. This means four stages of rather less than $7\frac{1}{2}$ hours each. Moreover, you can, as it is, reach Kaietuk from Georgetown in four days, the stages being Rockstone, Tumatumari, Amatuk, and Kaietuk. Therefore Mr. Menzies' statement that he can reach his ranch from Georgetown in eight days is entirely borne out by the facts of our journey.

Mr. Menzies must be regarded as the pioneer of development in this almost unknown part of our colony; and we all owe him a debt of gratitude on that account. He has had, I am sorry to say, an uphill and discouraging battle to fight. In 1910 he applied for a cattle-grazing permission over 50 square miles of Crown land, situated on the left bank of the Ireng to the eastward of the Puwa Creek. He was met by the astonishing statement that 15 square miles was all the available country for grazing at this point, and he was only granted a permit for that area. However, he persisted in believing the evidence of his own eyes and feet rather than conjectures, which, in the absence of any official survey, had been enfacéd upon the map of the Colony; and in the following year he was successful in obtaining a permit for 50 square miles. But the plan attached to that permit represented the tract as extending from the mouth of the Puwa Creek "11.3 miles north and about 3 miles east to the Chiung River," and in no way corresponded to the actual area of the grazing-ground in question. This permit was renewed in last September, so that it will not expire until 31 March 1921; but the plan attached to it is still incorrect, and it was freely said by those who should have known better that "not the hair of a cow" was to be found in this locality. It is therefore of interest to describe Mr. Menzies' ranch in some detail; but before doing so I venture to draw special attention to the fact that, after more than a century of British occupation, much of this colony remains *terra incognita*. This is a reproach to us, and it has not been the record of the British race in other parts of the globe. In

saying this I am in no way reflecting upon the work of the Land and Mines Department. On the contrary, such knowledge as we have gained of the interior of the colony is largely due to the unremitting efforts of the officers of that department. What I mean is that surveys cost money, and that no funds have been provided for the purpose, although under the resolution of Combined Court No. 14 of 27 February 1912 there is ready to hand authority to raise a sum of money "by loan under the provisions of the Public Loan Ordinance, 1869, sufficient to defray the cost of making a full and comprehensive survey of the whole or such portions of the Colony as may be deemed expedient." The resolution did not specify the sum that would be necessary.

Mr. Menzies' tableland is a flat grassy plateau some 2400 feet above sea-level. It is bounded on the east by the Kowa River, on the north-west and south-west by the Chiung River, both flowing in rifts far below the plateau level, and on the south-east and north by hills which divide the Kowa from the Chiung Valley. Its extreme length from north to south is 7 miles, and its extreme width from east to west is some 8 miles. Its area is roughly 50 square miles; and the distance across the plateau by our trail, which ran in a tolerably straight line, I estimate at 5 miles. The whole tableland forms an excellent grazing-ground; and although there was at the time of our visit no water on the central part of the plateau, there were many streams at its edges falling into the Kowa and the Chiung, while across it ran a few dry channels, which are no doubt full of water in the rainy season. An Indian village, named Karto, stands at the north-west corner of the plateau, not far from Mr. Menzies' banaboo. Its provision fields are partly in the tree-clad hills fringing the plateau on the north and partly down in the fertile Kowa Valley, near the point of our crossing, where an extensive area is covered with fruit trees—banana and papaw growing wild. We saw no cattle on the tableland, but the Karto villagers told us that there was a herd on some very attractive-looking pasture-grounds near the head of the Chiung River; for it must be understood that the highlands suitable for grazing are by no means confined to the tableland which we crossed, and from which we could see the savannahs round the upper reaches of the Chiung only a little below our level, while across the valley of the Chiung, lower in its course, we looked up to a yet higher and apparently not less extensive savannah plateau, which Mr. Menzies, to whom it is well known, considers suitable for sheep farming. I may perhaps here suggest that much of the country on the elevated savannahs would be well adapted for growing tea. These attractive and spacious highlands deserve to be developed, and would support a considerable population. They would, as it is, make an admirable hill station. The scenery is beautiful. The climate at the season of our visit was delightful. The locality could be made easily and cheaply accessible from town, and

would, I venture to think, prove much superior as a health resort to the West India Islands. If however cattle and sheep farms are to be established here, it is very desirable that steps should be taken without delay to put a stop to the pernicious habit, prevalent among both the Makusis and the Arekunas, of setting the prairies on fire. They do this partly in order to make clearer their trails in the savannahs, where high grass is apt both to conceal the path and to impede progress; partly as a measure of precaution against snake-bite—a somewhat remote danger, for we only saw two snakes during the whole of our march over the savannahs; partly as a signal of approach; and partly, I believe, merely for the joy of watching a good blaze. The effect of these frequent burnings is to impoverish the land and to facilitate the action of water in eroding the hill-sides; but, without doubt, as cattle farming extends in these localities, the aborigines will realize that it is contrary to their own interests thus to devastate their splendid pasture-lands.

In passing I may mention that from Mr. Menzies' tableland I did not see Mount Roraima, although I did get a good view of Mount Chakbang. I do not, however, doubt that from one or other of the savannah hills which surround this plateau it would be possible to see Roraima, if by fortunate coincidence one reached the proper point of observation at a time when that mountain was free from cloud; for on the way back we saw Roraima from many hill-tops, and even from valleys, which on the way out had vouchsafed us no such view.

It is evident that it would be possible to reach Enamung from Mr. Menzies' tableland by a route far more direct than ours had been. Indeed, Joseph afterwards told us of a trail leading from Karto village to Enamung in two stages. That would undoubtedly be the best line for any future traveller bound for Roraima, as the long *détour* through Chiung, Puwa, Mataruka, and Rera is thus avoided.

The plateau does not continue to the foot of Mount Roraima, for there intervenes on the north a forest valley of much lower level between Mount Weitipu and Mount Roraima, while Joseph's trail at the end of the tableland dropped sharply by steep-sided terraces, some 1000 feet, in the course of an hour, to the valley of the Kukuenaam River. Thence a march of $1\frac{3}{4}$ hours through flat savannah land up the left bank of the river brought us to Kamaiawong, the village from which we proposed to make our ascent of Mount Roraima.

Kamaiawong takes its name from the Kamaiwa, a stream which, after a vertical leap of some 1000 feet from the point on Roraima where the ledge ascending the cliff-face reaches the summit of that mighty wall, flows past the village, between it and Tekwonno, to join the Kukuenaam River. This larger river curls out from behind the south spur of Mount Kukuenaam

and makes its way through a gap between low savannah hills into the valley which our trail had traversed. On the east the little plain of Kamaiwawong, 3700 feet above sea-level, is bounded by the Towashing, a much larger stream, also a confluent of the Kukenaam River, but taking its rise near the detached pinnacle which forms the southernmost corner of Mount Roraima. . . . Both mountains rise from the same pediment of savannah hills surmounted by forest which, though rising to a height of 3000 feet above the village, are completely dwarfed and dominated by the immense cliffs towering over them. The whole scale is so huge that eyes unaccustomed to it are easily deceived as to the distances involved. The cliffs seem within easy reach, whereas they are really not less than 4 miles off in the direct line of vision at the nearest point. The ledge by which Mr. (now Sir Everard) im Thurn first cut a path to the cliff top can easily be seen from the village—a line of green across the red face of the rock.

The scene when one has at last scaled the cliff-face of Roraima is fantastic and almost grotesque. Little meets the eye save rock which the weather has blackened and worn into many weird shapes,—a dragon, a frog, and a couple of umbrellas, all of rock, were conspicuous objects at the point where we camped for the night: but there is in general a monotonous lack of differentiation in the rock-shapes, making this rugged plateau a maze where one would soon be lost, especially if mist settled down on the mountain . . . Here and there are stunted trees (*Bonnetia Roraimæ*). Water is abundant, clear as crystal and icy cold.

From one point we obtained a good view of the top of Mount Kukenaam, which appeared to be the same fantastic jumble of black weather-worn rock that surrounded us where we stood. Neither mountain seems at all suitable for human habitation in spite of the invigorating climate at this high altitude, 8630 feet above the sea. From the cliff-edge the panoramic view to the south-west is superb, though the charm of the scenery is greater when one is lower down the mountain . . . On the western horizon, many miles away, stood out two vast Venezuelan mountains, which even Roraima seemed powerless to dwarf, both apparently cliff-faced and flat-topped like the twin giants which guard the frontier of British Guiana.

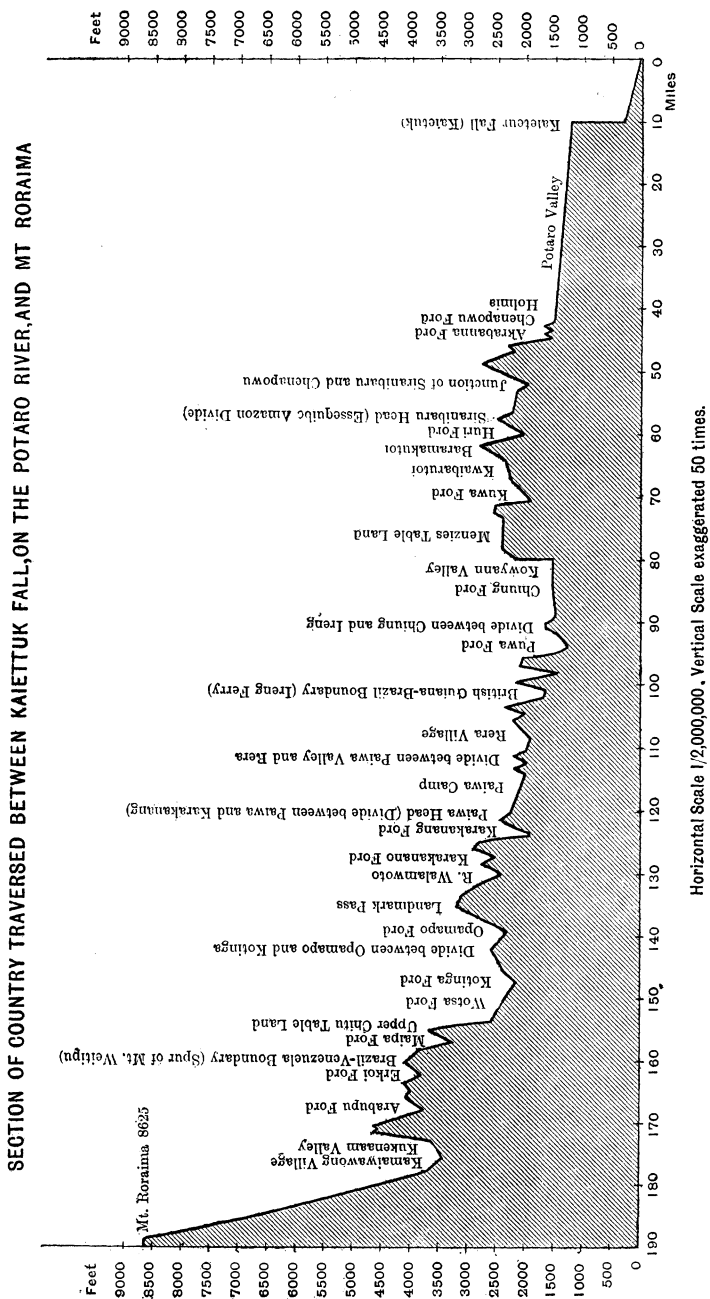
Weitipu is one of the giants of this country, set as a landmark between Brazil and Venezuela. The mountain seems to be made of quartz, cliffs of which stood out where the savannah slopes had been washed away. Its southern end is roughly circular at the base, the sides being terraced and the small plateau at the top being surmounted by a sharp peak, which affords an uninterrupted view to every point of the compass. All this part of the mountain is savannah with occasional tree-clumps and is seamed by the channels of small streams tumbling from its terraces in sparkling waterfalls. To the northward the mountain is forest-clad and is shaped

into the cliff-sided, flat-topped rectangular block, which is so characteristic of this country. From its north-east side stretches a sea of forest, in which two crags jut out fantastically, side by side, the more conspicuous of the two being known as Mukoripo. Weitipu is a very attractive mountain, majestic, but without the bleak austerity of Roraima and Kukenaam. Its southern summit would afford a splendid camping-ground and several of its terraces would make beautiful house-sites. In China such a mountain would have been studded with temples and monasteries.

To sum up, the outward journey between Mataruka and Kamaiwawong by Joseph's trail was a march of 32 hours and 47 minutes; and the return journey between the same villages by Schoolmaster's trail was a march of 32 hours and 51 minutes, of which 11 hours and 28 minutes were occupied in retraversing those parts of the route where the two trails were identical, namely, the Kukenaam valley, the ascent from the Kotinga ford to landmark peak, and the line from Rera to Mataruka. There is little to choose between the two routes. Both mean five stages of rather more than six hours' march a day. Schoolmaster's line was slightly more direct, but Joseph's line was appreciably less arduous.

The route which, as the result of our experience, I would recommend to the future traveller from Chenapowu to Roraima would coincide with our own from Holmia to the north boundary of Mr. Menzies' tableland. This section can be accomplished, given adequate transport, in three days. Thence it is, according to Joseph, two days' march *viâ* the headwaters of the Chiung River to Enamung, and from Enamung it is four stages to Kamaiwawong. The whole distance could therefore be covered in nine days' march by the line southward of Mount Kowatipu. Now the record for expeditions travelling over the trail from Chenapowu to Kamaiwawong running north of Mount Kowatipu *viâ* Saveretik is held, I understand, by Dr. Crampton, who, believing his life to be threatened by Jeremiah, the late chief of the Arekunas at Kamaiwawong, accomplished the return journey in eight days of actual marching. The general profile of the country traversed by him between Roraima and Kaietuk is shown on a diagram published in *Timéhri*, and for the sake of comparison I have drawn a similar profile of the country traversed by us. The balance of advantage appears to lie with the southerly route, for (*a*) it involves only two days of forest travel; (*b*) it affords an opportunity of visiting the high-level savannahs of this colony; (*c*) it passes through a region in which both the Makusis and the Arekunas have numerous banaboos, and consequently (*d*) there is no fear that food supply or means of transport will be insufficient.

Under existing conditions, good organization and fine weather will always be essential to the success of a journey from Georgetown to Roraima. Good organization we had, thanks to Mr. Menzies' experience, for he is



persona grata among the Makusis, who have known him for years, who have confidence in him, and were most hospitable and friendly to us on

that account. The weather also favoured us ; and I do not think that any season of the year is likely to be better suited for this expedition than the months of December and January. Unfortunately the journey is an expensive one ; but that is a fault which will be cured as soon as this colony takes a practical interest in the development of the high-level savannahs of the interior. The heavy expenses are all incidental to the river journey up the Potaro. In the savannah country, the cost of transport is at the rate of one shilling a day for each drogher. A party such as ours, in order to travel rapidly, needs about twenty droghers, whose wages would therefore total £1 for each day's march. According to the custom of the country, days spent at rest in camp are not paid for.

ROUTES IN KAN-SU.

Eric Teichman, B.A.

Map, p. 520.

THE following notes accompany a route map of Kan-su Province which I have recently compiled during my spare time from full notes made during an extended tour in that province in connection with the investigation of opium cultivation and other matters. As the journey was made with the assistance of the Chinese officials I had quite exceptional opportunities of going wherever I pleased, and covered practically the whole province except the extreme west.

The map does not pretend to be geographically accurate, but was drawn up to accompany an official report on the journey. I found the existing foreign maps of Kan-su singularly unreliable away from the main Peking-Turkestan road. I have therefore compiled the accompanying map from my own notes and from Chinese maps, which I found more reliable than the foreign ones. The Kan-su sheet of the China Inland Mission atlas of 1906 was about the best of the latter, but even it is full of remarkable inaccuracies, such as the position of the two Tao Chous in the south-west, the Koko Nor border north of the Si-ning, and the rivers between Ping-liang and Ning-Hsia Fu.

The names given are all Chinese. Many places have Tibetan and Mongolian names also. The map was made as follows :—

I kept up a route survey with a prismatic compass all the way with the exception of a very few days when special circumstances did not permit of my doing so. I then fitted my routes into a map of the Province which I had compiled from Chinese maps. The Chinese information is more reliable than that on foreign maps, especially that obtained from the district magistrates. The existing foreign maps of Kan-su seem to be made up of a collection of the routes of the old Russian travellers with weird place-names which the local Chinese have never heard of.



The survey has been adjusted by Mr L. S. Hohenkerk, Government Surveyor of British Guiana, to the following astronomically determined positions as given on the Boundary Maps of the Colony, the originals of which were forwarded to the Colonial Office, London.

Place	Lat. N.	Long. W.	Map	Date
HOLMIA (Potaro R.)	4° 58' 16"	59° 34' 48"	Brazilian Bdy.	30.9.1910
PUWA VILLAGE	4° 31' 30"	59° 59' 10"	do.	do.
KAMAIWAWONG V.	5° 06' 11"	60° 47' 45"	Venezuelan Bdy.	7.1.1905

60°

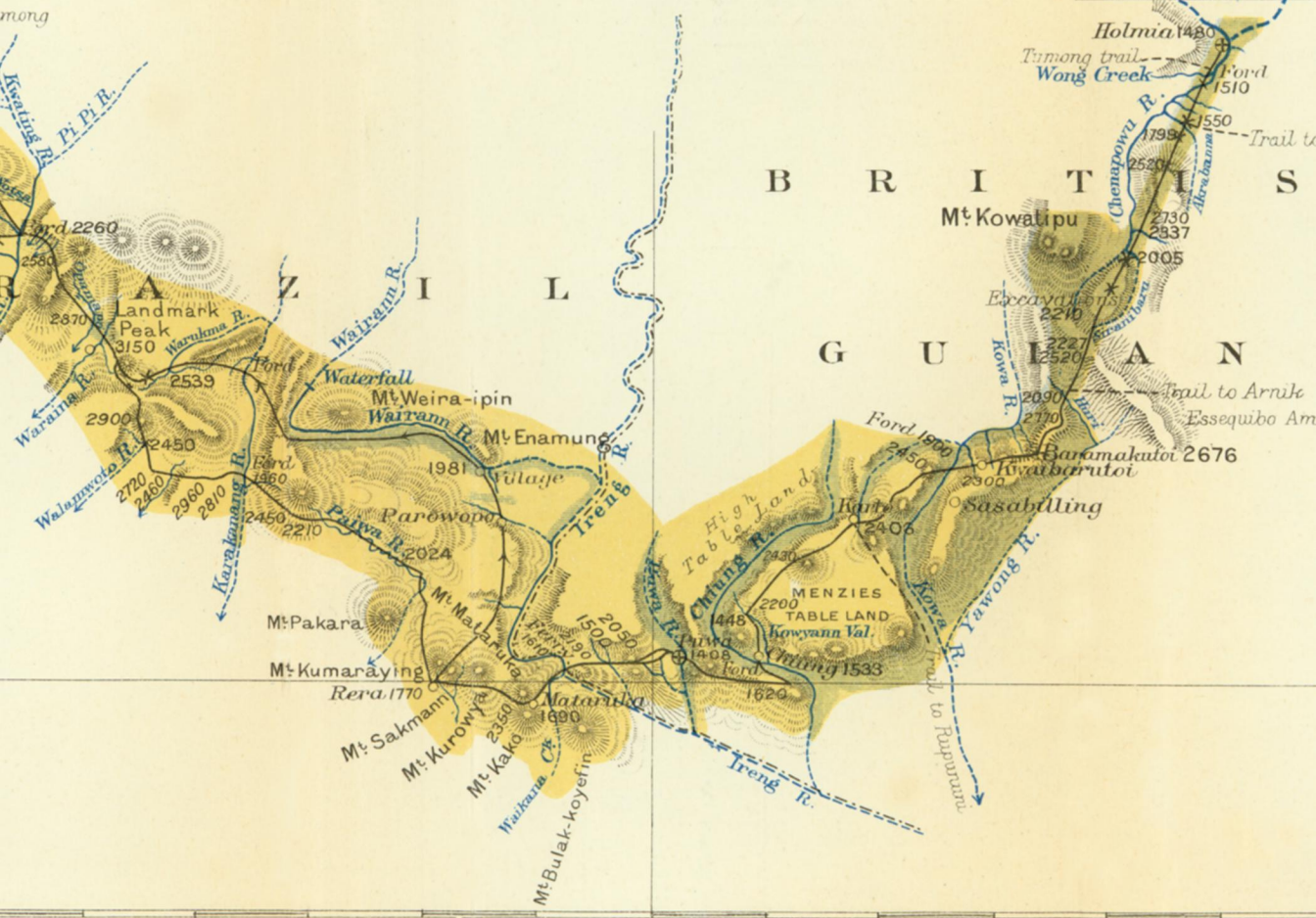
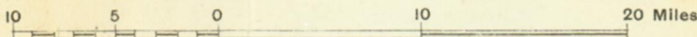
I A N A

Route from
HOLMIA IN BRITISH GUIANA
 TO
MT. RORAIMA

from a prismatic compass traverse by
 C. CLEMENTI, C.M.G.

1915-16.

Scale, 1/600,000 or 1 inch = 9.47 Statute Miles.



60°

Published by the Royal Geographical Society.



BRITISH GUIANA
Clementi