NOTES

AND

COMMENTS

ON MY TRIP

TO THE

Diamond Fields

BRITISH GUIANA.

W. GRAINGE WHITE.

1902.

BALDWIN AND CO., PRINTERS, DEMERARA.

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ERRATA.

Page 36, line 24 grows should be "grow."
Page 20, line 25 "base" should be in italics.
Page 8, line 17 "advantages" should be "advantage"
Page 5, line 32 comma should be after "thereby" not after "be."
Page 29, line 47 "decent" should be "descent."
Page 32, line 35 the parentheses should close at "discovered."

PREFACE.

When taking my recent trip to the Diamond Fields, it was with the intention of writing an account of my experiences, upon my return to town; but, up to the present, I have not done so.

"Procrastination is the thief of time;" but, with me, it was not so much a sin, as the fear that I was utterly incapable of doing anything like justice to the subject. Having been encouraged, by my friends, to go on with it, however, I have done so; and I trust that my attempt will not be wholly unappreciated by those into whose hands this booklet falls.

I might mention that, when going up, I took eight dozen photographic plates and a snap-shot camera with me. All these plates were used, either on the river, or in the bush; but it is a matter for great regret that, with few exceptions, these were affected by the damp, before they could be developed, and I have, therefore, only saved about a dozen views. Unfortunately too, none of these shew the workings in the Diamond Fields. I have thus lost an important factor in making these notes as interesting as they might have been: for, what a photograph will clearly depict, words would often utterly fail to describe.

W. Grainge White.

Mafeking Villa,
Georgetown, British Guiana,
18th July, 1902.

PART I.—PREPARATIONS.

GEORGETOWN AND BARTICA.

In fitting out an expedition, careful calculations should be made as to the amount of work intended to be done and the time to be spent in doing it; so that there may be proper provision. Appendix A. gives the usual requirements for an expedition of ten men and a manager for two months, inclusive of the time taken going to and returning from the Fields. It is not possible to give a definite period in which the trips should be accomplished, as this greatly depends upon the state of the river—whether the water is high, low, or normal. Experience has shewn, however, that the average number of days taken for the up journey, between Bartica and Ottawa Landing, is twelve; and for the downward trip, three and a half days. In both cases only working days are reckoned. Sometimes the up trip takes as long as twenty days, and the run down seven. Going up, the men do not work on Sundays; but, coming down, they will put out into mid-stream and drift.

Having decided upon the points mentioned above, it is well to obtain quotations, and, from these to decide which firm shall be patronised. The following well-known establishments are the best to go to, as they lay themselves open to the fitting out of such expeditions: Messrs. Booker Brothers, McConnell & Company, J. I. Chapman, Ho-a-Hing, Smith Brothers & Company, Ltd., and J. E. Strickland & Company—all having their business houses in Water Street.

When ordering, care should be taken to obtain round biscuits, as the men prefer these to the square ones. Everything possible should be packed in half-barrels, as these lend themselves better to stowing and are much easier to handle than barrels. At several places, in the falls, the boat has to be unloaded, and the goods droghed from one end of an island to another; so the smaller and lighter the packages are, the less fatiguing the work is to the men. They fully deserve this consideration, as the work of getting over the falls is a great strain on them. Sugar should be packed in tins, as it is less liable to get damaged, for tins will stand more rough handling than bags, added to which, the tins are easier to stow. Tea should also be in tins, as it has been found to keep better when thus packed. A careful selection should be made of cutlasses, as there are several articles in this line which will not stand the rough usage to which they are put in the Bush. The "Legitamus" brand appears to be the best; according to the experience of those whom I have questioned on the subject.

The necessary orders having been given for the goods, the next thing to do is to see about the men. These must be registered, as provided by the Mining Regulations of 1887 and amendments of 1899 and 1901. Each labourer receives an advance, in wages, of $5, before leaving Georgetown, 64 cents for second class passage, by steamer to Bartica (from where the boats all start) and 32 cents for breakfast, on board. Twenty-four cents must also be paid for registration and 24 cents for medical examination. All the men are registered at the Institute of Mines and Forests, but some are advanced by other Agencies, and should any of them get away, either before they embark at Bartica, or before reaching the Placer, a warrant is taken out by, the Institute, for their arrest, and they are, when caught, duly hauled up before the Beak. There is little satisfaction in doing this, however, as the fine goes into the Court's pocket and the employer does not regain one cent of the money he has advanced the defaulter. It is far better to try to persuade the man to follow on, as then no money is lost; but only time. One would have thought that when a man has received the sum of $5, before having done a stroke of work for it, he would not give any trouble; but such is not the case. If they are advanced several days before the expedition is due to start, it is very probable that they will be looking in for a further advance; and they are not particular in telling the truth. When I was leaving Town, one man came to me, five minutes before the steamer was to start, and asked for a gill to buy some bread, as he had nothing to eat on the way. Had I given it to him, he would have meandered through the Market (which is close to the Steamer Stelling) and missed the boat, and I should have had myself to blame for letting him leave in search of food at such a time. After we had started, however, I noticed that he was partaking of a hearty meal of rice and salt-fish, and, on inquiry, found that he had brought this with him, when he first came on board. Another man came to me and asked for a cent to pay a coolieman. "What for?" I asked. "For bringing my canister on board" was the astounding reply. Just think of it! A man, who was going into the bush to use a shovel, could not carry his own small canister along the stelling to the steamer! In such, and in many other ways the men "try on," and one must be pretty smart not to be caught napping.

And now a few words as to personal requirements. But few clothes are necessary for the trip up and for use in the bush—coats and waistcoats being entirely dispensed with. Old tweed trousers are better than serge; but blue linen drill is the best material to be used. Shirts should be flannel, or flannelette; socks of dark colour, and *not* of wool; boots with thick soles (such as brown Bluchers); putties, in preference to leggings; and a hat of soft felt, so that it may be turned up, or down,

wherever required. Merino underwear, being tight-fitting, is good; but this is only necessary in case of illness, or at night, to be worn under the pyjama suit. Heavy fire-arms are not a necessity, as little use will be found for them; but a good Prospect Knife, costing about 7/6, is invaluable. A light shot gun should be taken, as it will be the means of providing a change in the diet, which, otherwise, is a very salt one. A revolver can well be dispensed with. Perhaps above all, a liberal supply of Carbolic Oil should be included, as it is a fine preventative when sand-flies and other insects attempt to become too familiar. A rub down with this oil, every morning, also lessens the chance of catching cold by having to wade through much water, or getting wet during the day, when unable to change at once. Carbolic soap (the strongest) should always be used when washing in creek, or river water. It will often prevent ringworm and other similar troubles. A good compass is a *sine qua non;* and Indian negotia should always be taken, for the purpose of trading with and paying them. An Indian will, sometimes, work steadily for a month, if promised payment in the shape of a Buck gun—a cheap muzzle-loading weapon. Red, white and blue beads, looking-glasses, cheap jewelry, brushes and combs, saloo, knives, &c., are the usual things employed for these purposes; and it is well to remember that the Bucks do not like black, nor do they care much for blue. Out of a parcel of brushes and combs of varying shades, an Indian will always pick one of the brightest, and will turn up his nose at one shaded with dark brown, or black.

With reference to implements for working: a small sieve or two (about a foot in diameter) should be obtained, as these are easily manipulated when jigging, in the course of prospecting. The pic-axes should be chisel-pointed at one end; and a good cross-cut saw will be found to be of great service. Should the expeditionist desire to be able to use the creeks, and, thereby be, enabled to explore country without the harassing work of cutting lines, he should supply himself with a light canoe, and there are none more adaptable than such as are used in Canada. They are rather safer than the Indian woodskin, as they will not sink, if a shower of rain were to fall and fill them, as I have seen happen in the case of the Indians' craft. Uncertain trees are constantly a source of danger to life and property, and it is well to have a supply of rope, for the purpose of slueing them out of the way, when felling them. The fact of having bellied a tree to fall in a certain direction is no criterion that it will collapse there, on account of the interference of the, in some places, abounding bush rope; on this account, it is well to be furnished with the means of ensuring that the tree shall fall where desired. As water is a "perfect nuisance" when the sinking of pits is attempted, a strong suction-pump should be included in the list of "Indispensables;" and, as water often has to be discharged

at a level which is higher than the top of the pit, the pump should have a length of hose to attach to the discharge pipe; and the suction-hose should not be less than 15 to 20 feet in length. It might be found better to have a suction-pipe, in place of hose, as this would, on account of its stability, allow of better suction. This pipe could be in lengths of 5 feet.

Unless machinery is to be erected at once, it will be found requisite to have a good supply of sieves, for jigging, and these should be circular and of a wire mesh of one quarter, one-twentieth, and one-twenty-fourth of an inch. Brass wire does not wear well in sieves: it lasting only about half the time galvanised wire will serve. The sieves should have a support of crossed wire, of no mean thickness, underneath, and care should be exercised in seeing that the wire is securely fastened to the rim. A little attention to details of this kind will prevent many an unpleasant and annoying incident when away in the bush; far from the convenient stores of Water Street. It is, generally, a simple thing to obtain assistance from a neighbouring camp, in the line of provisions, should one run short; but it is quite another matter when tools and implements are applied for. Few camps keep more than the stock of tools and implements they actually require; but, even should they have a surplus supply, the Managers are against lending, or, for the matter of that, selling.

Much more might be written about the preparations to be made in Georgetown; but let this suffice here, and let us imagine that everything is on board Messrs. Sproston's steamer and we have cast off from the stelling. At present, the steamer for Bartica leaves Georgetown on Tuesday, Thursday and Saturday; returning from Bartica on Monday, Wednesday and Friday. This information can be had from the captain (amongst others), and if he is asked what he thinks of the arrangement, the complaint that he has to spend Sunday at Bartica, away from his wife and family, will, probably, be thrown in. This is, undoubtedly, a hardship, as Sunday is the only day the captain can call his own, and to have to spend it at Bartica, away from his home, is not a pleasant thing. The first class fare from Georgetown to Bartica is $2, and to this should be added 60 cents for breakfast, and (need I mention it?) the waiter's "tip." Messrs. Sproston supply a repast, on these steamers, which few can find fault with, and, as everything is well ordered on board, the trip is, generally, an enjoyable one.

The low coast-land does not present an attractive picture, as the course to Tuschen is followed. A belt of courida bush, behind which, here and there, can be seen a few cocoanut trees, and, at greater distances apart, the monumental chimneys of the several sugar factories, form the scene, and it is quite a relief when the long stelling of Tuschen is left behind and the islands

of the Essequibo appear in sight. The scenery changes somewhat, and the country shews signs of rising. Having passed Fort Island (the old Dutch seat of Government), Hog Island, Low Low, and Baboon Islands, hills are in evidence on both mains, and the settlements of Dallie (with Amper) and Wolga are not unpicturesque. At this point more peculiar names are met with, and islands boasting of such names as Two Brothers, Three Sisters, and Macoura are existent.

When these have been passed, the steamer proceeds to the Penal Sttlement, leaving Kaow and Calf Islands on the right. The home of the convicts, or Black Man's England, as it is called, is one of the prettiest sights yet come to. It is situated on a rising at the junction of the Massaruni, Cuynni and Essequibo Rivers, and the outlook, across the broad expanse of water, is very pleasing. In addition to this, it is one of the healthiest parts of the Colony. From the Penal Settlement, the steamer returns by Kaow and Calf Islands and courses for Bartica, its final destination. The Settlement and Bartica are the only two places of call that the Steamer makes, after leaving Tuschen; but, wherever required, it slows down to pick up passengers and provisions from the boats which put out from the shore to meet it. The customary halts are made opposite Fort Island, Groete Creek, Dallie and Wolga.

Leaving Georgetown at 8.30, the arrival at Bartica usually takes place between three and four o'clock; and, as it is too late then to do anything in connection with the loading of the boat, one usually makes for the Hotel. Not long ago, what is now the best in the place, was owned by Mr. S. E. R. Forbes; but, recently, this has been taken over by Mr. Ho-a-Hing, and has been nicely refitted. "Bartica Hotel," as it is called, commands a good view of the Essequibo River, and of the main street of the Town; and, as it is fitted with modern conveniences (including a shower-bath) comfortable lodging can be obtained. Mr. Ho-a-Hing pays special attention to the despatching of Gold and Diamond Expeditions, and, as there is a convenient stone wharf, no difficulty is experienced in loading up boats from the Hotel.

Messrs. J. A. Gomes, and M. J. De Freitas also act as agents in despatching boats to the Gold and Diamond Fields.

The Town is nothing much to see, consisting, as it does, of the main street, badly maintained, and three cross dams, which join another, running parallel to the main road. These latter are not metalled, as far as can be seen, for the grass grows abundantly over them. On the Essequibo Bank, the road develops into a grass-covered track, which runs for some distance, passing through many picturesque settlements, owned by the Boviander and Bucks. The waterside, to each of these, has a white sandy beach, and, viewed from

a boat on the River, they present quite charming pictures. The Bush (or Forest) comes down to the water's edge; but, here and there, the settlements peep out, where clearings have been made for them. One of these, Unverwagt, I visited, and received hospitable treatment by the owners. Mrs. Boaters, the good lady of the place, regaled me with sugar-cane, papau and cocoanuts, and kindly offered me some of the well-known Indian beverage "Caseerie," which, being a "Tot," I had to refuse. She and her mother also took me aback to their forest farm, where we found the husband and brother working, and I was much interested in all they shewed and told me. In the opposite direction, past the Hospital, the road again verges into a track richly carpeted with grass. This is known as the Caburi Road, and extends for a distance of forty miles up the right bank of the Massaruni River. It is used by quite a large number of labourers, on the return trip from the Pruruni Gold Fields; but few appear to take advantages of it, going up.

There has been some talk of making a Railway along this road, and further continuing it, so as to tap the Diamond Fields; but, although it would be a pity for Bartica to be ruined, there can be little doubt that a Railway from Cartarbo Point, at the junction of the Massaruni and Cuyuni Rivers, would be much more useful. A line from this latter point, taking a middle course between the two Rivers mentioned, would not merely serve the Massaruni Diamond Fields; but also the Goldfields of Puruni and Cuyuni. And, as Diamonds have also been found on the banks of these two streams, it would appear that such a Railway would be running practically in the centre of the Diamond Fields of this District. The land rises gradually from Cartarbo point, and hills and mountains traverse the country; but most of these, I think, might be avoided, though, in doing so, many swamps would have to be bridged. It must be remembered also that the whole country is practically covered with virgin forest, so the task of constructing a Railway would not be a very light one; the timber at hand, however, could be used in bridging the swamps. But this is a divergence—This is not intended to be a discussion on the construction of Railways; but merely notes and comments in connection with my trip to the Massaruni Diamond Fields.

Once more Bartica is the scene, and the curtain goes up as the steamer leaves, at 8 a.m, to return to Georgetown. As soon as she gets out of the way, our boat is brought alongside the Bond (as our goods had come in the steamer with us and had not been sent on previously to Bartica Hotel), and the captain and bowman superintend the loading. The boat we went in was an eighteen puller (i. e. manned by eighteen men, with paddles), and was hooped. Some boards having been tied

over the hoops, and everything having been stowed well, a couple of tarpaulins were thrown over and securely tucked in.

But it must not be imagined that all this was done without trouble. First the men had to be found, and, when they had been found, they wanted another advance "Just to get a little something to drink;" but I had heard of their tricks and I made them to clearly understand that they would not get one cent, until the boat was loaded and they had finished breakfast. Some people humour the men by giving them money before the boat is loaded and all is ready for a start to be made; but those who do so generally find that it becomes a case of hide and seek with the men, who make off to the Rum Shops and from thence to friends' houses, and have to be routed out one by one. Even when the boat is loaded and is ready to pass Police inspection, the men often give great trouble. First one will jump out, with the excuse that he has left something behind; then another will go in search of him. After waiting for a long time and neither putting in an appearance, you venture out in seach of them; but when you have brought them back, you find that several others have disappeared. This has been known to continue until late in the afternoon, and the start has had to be put off until the following morning. If an attempt be made to start on a Saturday, or on a Monday, there is small hope of success; for the men to do not like to miss spending Sunday in Bartica, and, on Monday morning, they are seldom in a fit state to leave. Monday, with most Bartica people, is a *dies non* as much as Sunday, and, on this account, I would not advise anyone to take the Saturday's steamer, from Georgetown, in the hope of loading up and getting away on Monday. I do say it is an impossible feat; but its accomplishment is very improbable. A change in the days of running the steamers might, therefore, be of advantage, as, if one went in on Monday, he could get away on Tuesday, and avoid the expense of having to remain, with his men, in Bartica, for two days. In my case, there was no trouble; but, owing to a sudden squall (the order of the day at Bartica), loading was delayed, and it was 2 p.m. when we pulled round to the Police Station. Here the Captain got out to give the required particulars as to the number and name of the boat, its destination, and its crew. The Police then called for an exhibition of the lines, and our Bowman held up the life-line, the bow and stern brace, and the end of the warp. Every boat leaving Bartica on such an expedition is obliged to have, at least, four boat-hands. By "boat-hands" is meant, men who are accustomed to handle the paddle and to fight the falls. These men are employed at Bartica, as a rule, and their selection is left with the captain, whose place it is to see that he has four good men. As the Captain is solely responsible for the safety of the boat, on the river, and he is aware that the onus of having reliable

men rests on him, the fact that no registration of boat-hands is required by the Government need not alarm one; though, of course, it is open for the captain to take any man as a boat-hand. The Captains can be well relied upon, however, not to betray their trust in such an important matter.

Boats can nearly always be hired, at Bartica, for prices varying from $1.20 to $2.00 per diem, for the trip; but it is advisisable to have a boat of one's own. There are several boat-builders, both at Bartica and in Georgetown, and the selection is not confined. Our boat, "The Electra," was built by the famous boat-builder (of 'Nymph Dock,' Croal Street, Georgetown) Mr. Robertson; and we have no cause to complain of our choice.

It is advisable, in all cases, for the purchaser to inspect his boat, while in course of construction, and to take special note of the "crooks," or ribs. Unless these are natural in their bend, they are liable to crack and break, when the boat bumps against the rocks; and any "crooks" having a cross-grain should be at once discarded. One should also be careful to see that the "crooks" are of sound wood all through, for, should any part of them be sap-wood, a division of the sap-wood from the sound is almost sure to take place, during the knocking about in the falls. The dimensions of our boat, which is an eighteen-puller, are 38′ x 6′ 8″ x 3′ 6″—the bottom being of Greenheart and the body of Silverballi. These have been found to be the best woods for the purpose.

It is customary to give the boat-hands an advance of $3.00 each, and to pay them at the rate of 48 cents a day for every day they work. Not to be too hard on them, however, some employers pay them for all the days, Sundays inclusive, and such treatment is not without its good results. A captain may usually be had for $35.00 a month, and a bowman for $25.00. The former should be allowed to choose the latter, and, if possible, both should be employed permanently. Employing by the trip is not satisfactory, and men regularly engaged will work better. It is also a question for consideration whether there should be a permanent boat-hand, or not. If such be taken on, he can be trained by the captain and bowman, and, should either of them take ill, or an accident happen on the way, he will always be there as a fall-back-upon. In the case of the bowman being "non est" he would act for him; and should anything happen to the captain, the bowman can take his place and the permanent boat-hand stand up to the bow. This boat-hand would also be useful in looking after the tacklings, on the boat's return from the Fields. Another matter must receive consideration, before leaving Bartica, and that is the supply of paddles. These are commonly made of Yarri-yarri and Packoosana (spelt as pronounced), and can be obtained, through the captain, from the Bovianders of the District. It is

very important that they should be straight-grained and without flaw, for the breaking of a paddle (especially the bow or steering paddle) in the falls, might mean the loss of the boat.

The four boat-hands take their places in the bow of the boat, and from these the other men take stroke. When a change in stroke is being made, the water is thrown high into the air by one of the boat-hands, as a signal to the rest of the crew.

PART II.—ON THE RIVER.

It was a glorious afternoon when we left Bartica, and the smooth water glittered, as if strewn with flakes of gold. The boat glided rapidly over the smooth expanse, and the men gave vent to their feelings by singing their stirring shanties. Most of these are senseless; but the tunes, to which they are sung, are very taking. Perhaps the best song, as far sense goes, is one entitled "Sir Ramso," which runs something like this :—

Sir Ramso was sailor
(Chorus) Sir Ramso, boys, Sir Ramso
He left his wife and family
(Chorus) Sir Ramso, boys, Sir Ramso
He took a voyage round the world
(Chorus) Sir Ramso, boys, Sir Ramso
He did not know navigation
(Chorus) Sir Ramso, boys, Sir Ramso
They took him to the main mast
(Chorus) Sir Ramso, boys, Sir Ramso
They gave nine and thirty, m' bully
(Chorus) Sir Ramso, boys, Sir Ramso.

There are individual additions and alterations in these sentences; but the crew in our boat confined itself to the above.

Another shanty runs—

Bamboo fire, bamboo fire,
(Chorus) Bamboo fire mek so.
Bamboo fire cook yo pot,
(Chorus) Bamboo fire mek so.
Bamboo fire boil yo salt fish,
(Chorus) Bamboo fire mek so.
Bamboo fire, bamboo fire,
(Chorus) Bamboo fire mek so.

Other travellers have assured me that *all* the river songs are "unfit for publication;" but I am pleased to be able to refute this charge, as in no instance did I find anything objectionable in the songs, of which those given are two fair specimens.

As we sped along, the bang-swish-bang of the paddles keeping time to the songs, the scenery compelled admiration. In the distance, to the right, the Penal Settlement presents its attractive picture; a little above it, there is a break in the thickly wooded shore-line, where the Cuyuni has its confluence with the Massaruni; in front, the banks of the Massaruni appear to meet, as the river takes a sharp bend; on the left, the forest-clad hills, dotted with picturesque settlements, vie with the

scenery on the opposite bank; while, behind, Kaow and Calf Islands and a portion of the Essequibo are visible.

Such scenery, added to the stirring boat songs and a cool breeze, made one's spirits rise; and, as we watched a school of porpoises, playing close at hand, I wondered if they enjoyed the afternoon as much as I did.

On the top of a rising, to the left, appears the residence of Mr. McTurk, the Navigation Officer. This is called Kalacoon. Away on the right, again, S. Edward's Mission is seen; then, further on, to the left, Barra-carra hoves in sight. This settlement is noted for its cascades.

Our boat did not stop here; but, having visited the place some time previously, I am in a position to speak of it.

Landing on a small, sandy beach, one has to mount a steep hill, following a winding path between beds of cassava, plantain, ochroes, sorrel, bananas, peppers, &c., until, at the top, where most of the houses are clustered, one enters upon a small flat. Most of the huts are light, wooden structures, thatched with palm leaves, and their simplicity adds to the beauty of the scene. To get to the cascades, a winding path has to be pursued, through the forest; but this is not more than a few minutes' walk. Here a strikingly pretty picture bursts upon one's gaze. A small creek, about five or six feet wide, breaks over ledges of rock, and, falling from one to the other, through the course of years, has worn out, for itself, basins, used by the people for bathing and washing clothes. Passing the first of these, and walking along the smooth, rock bank, one proceeds to the second and larger basin. Left alone here, I stood still and admired the surroundings. The tall forest trees around prevent an extensive view, and one can only see the sky through the opening made by the creek. A bright-blue butterfly flitted about over the stream, and, save for the bubbling of the water, as it tumbled lazily along, all was silence. A cool dip in the basin was immensely enjoyed; but, at the time, I was unaware that snakes sometimes crawl out to bask in the sunshine, or are washed down in the stream. Perhaps I should not have found it so pleasant, being alone in such a place. Like the water of most of the creeks and rivers in the Colony, that of the creek at Barra-carra is of a rich, brown hue: dyed by the decomposition of the leaves, which it collects, in its course through the forest.

The Sun was sinking behind the trees, when we drew in at a camp, called "Lady's Hope." Here we found the necessary stakes, to which to sling our hammocks; as well as the runners and props, for use in spreading the tents (tarpaulins). Having propped a runner against two trees, using forked sticks as supports, I got one of the tarpaulins and assisted to throw it over the runner and stretch and fasten it out, so as to form a roof-like covering; then, having planted two stout stakes, I slung

my hammock between them. On this occasion, only two of us occupied the "tent;" but, on wet nights, as many as seven have taken shelter under it. On moonlight and fine nights, most of the men prefer to ignore the tent provided for them and to sling between two trees.

While some of the men attend to the putting up of the tents and the slinging of the hammocks, others busy themselves lighting fires and collecting fuel. My cook was very apologetic when he handed me a heaped-up plate of rice and salt-fish and a large cup of cocoa, promising faithfully to give me better dishes when we reached the Placer and could have a proper kitchen. He also assured me that, when we were under way properly, he would do better on the river; but I found it, notwithstanding all this, a case of rice and salt-fish for breakfast and salt-fish and rice for dinner. To me, however, as long as it was clean and there was plenty of it, it did not matter; for, with my entry into the boat, I was seized with a ferocious appetite, and it would have required the proverbial "small fortune" to have supplied me with luxuries.

While on the subject of "Eating," it might as well be mentioned that the Gold-diggers (some, now, Diamond-diggers) are noted for their "Water Whelps" and "Bakes," and I must admit that they are very filling, if nothing else.

We had taken some Guava Jelly (amongst other sweets) with us, and the bakes, eaten with this, made a very palatable item.

My first night, in the bush, was passed in peace and quietness, broken only by the sound of the paddles of a distant boat, running out of the Cuyuni. "Dr. Blade" (a small vampire) was much in evidence, as is his custom, when the Sun goes down; but he did not include me in his list of patients to be visited, on this occasion. He, in the course of his round, lanced one of the men, whom the others had nicknamed "Shakespeare;" and woeful was the expression the great Poet's face bore, when he woke, next morning, and discovered it. Nearly every night, after this, some of the men got bitten. To keep the bats away from me, a lantern was always kept burning and slung under my tarpaulin, at night; but, as people have been bitten with light shining directly upon them, this does not seem to be a perfect safeguard. It is always well to wear socks and to wrap up in one's blanket.

Early next morning, the Bowman's cry of "Come fo' yo' sugar" woke me up. After the morning's rations of biscuits and sugar had been distributed, and tea drawn, the afterwards familiar calls "Canister, canister" and "In boat, in boat" were shouted, the men took their places, and we pushed off. "In blades, and open all about" came from the Captain; and once more, to the knocks of the paddles and stirring shanties, we were rapidly making headway.

Although the Sea does not come as far up as this point (fresh water being obtainable as low down as Fort Island), the effect of its tide is to make the rivers back water, and this is the case at Bartica (which is 40 miles from the Essequibo's mouth) and beyond, as far as the first fall. We hauled over Turtruba Fall at high tide, so that it appeared to be little more than a strong rapid; but, in the process of hauling, one of the men got washed off the warp and was carried down the stream. Fortunately he managed to grasp a bush-rope, as he was being swirled along, and he was thus enabled to swing himself on to the island, close to which we were hauling.

After getting over this fall, the work became much harder, and the men had to bend with a will to their blades. The river now becomes bescattered with islands, islets, boulders and rocks, of many shapes and sizes. Fall after fall and rapid after rapid is encountered, and the scene presented is one of indescribably, wild confusion. With a roar and a bound the torrents burst between and over the obstructions, bubbling and spitting, like water in a cauldron under which a huge fire is blazing. This description seemed so applicable that, whenever a new fall was sighted, I would turn to my companion and say "Some more boiling water." At Maripa, Caburi, Mora and Itaki, the boat had to be unloaded and the goods carried to the top of the rock. The empty boat, its only occupants being the captain and bowman, was then hauled, by means of the warp, over the fall, and, on arriving at the top, was again loaded up.

Of the whole river, between Bartica and the Landing, the scene at Caburi is the grandest. Grand it is, in the full meaning of the word. We hauled up Mootesie Hole—a long and straining haul—on coming out of which, the majestically beautiful scene burst upon us. Immediately before us, rising out of the water, stands the large rock, on which the frame of an old Police Station still rests. Behind this, Parimap Fall rushes, tossing and foaming over the rugged rocks. In front of the old station, the water takes a magnificent leap, and, on striking the rock beneath, bursts back in foam, as if to remount the place it has left, forming a grand cyamo. Meeting this, the water from Parimap circles and swirls about, forming many dangerous "sucks," bubbling and bursting, then rushing with tremendous force down Parboocash, where it is again broken up and tossed about. Some of this water finds an outlet through Mootesie Hole, down the long and narrow passage of which it runs in a stream difficult to stem. At the top of Mootesie Hole, another quantity finds an outlet through a narrow channel, where it is joined by other waters and leaps down, in three descents, what is known as Warra-Warra. We pulled safely across the boiling basin, and, while doing this, took a snap-shot of the scene; then, while

the men were unloading the boat and preparing breakfast, we took the opportunity of having a swim at the edge of the basin. As if to shew Nature in the wildest grandeur, a heavy thunderstorm broke over us, as we were preparing to leave the rock. The noise of the falls all round had been great enough, and the picture one of wild beauty; but, when the downpour came and the high breeze bent and swayed the trees on the islands around, a feeling of awe came over me. Then the rain became heavier, and we could not see the lower fall through it; and the noise of the water upon the leaves added another music to the "Play." Now and again, loud peals of thunder would seem to shake the very earth; and bright lightening flashed, like limelights in a tragic scene. I do not think I shall ever forget it.

The Coast Lands never experience the grand storms which strike the Hinterland, and, for the sake of nervous people, it is well they do not. On several occasions have these storms come on, just as we were preparing our meals, and it was a common thing to have to cook and eat under an umbrella. But even an umbrella is of little use on such occasions, as the rain simply beats through it and is blown under it by the high wind. To me such experiences were fascinating, and the fact that my cup of cocoa and my plate of rice and salmon were being copiously diluted with water did not count for anything.

But, besides grand scenes, we had some exciting experiences, and on one occasion a man narrowly escaped death. It happened that we were trying to get over Popikai Fall, and the boat was riding a large cyamo, being held in position by one or two men, who had run out on to the rocks with the warp. The other men were following, when the one in question (the same man who nearly lost his life at Turtruba) slipped, while stepping from one rock to another. The Bowman, who was also in the water, bracing himself against the strong current, clutched him and tried to help him over; but he was over-balanced, and the two of them toppled into the current. The Bowman made a plunge for the boat, and saved himself from being washed away; but the other man sank in the cyamo, and was lost to sight. The next instant, however, his head was seen to shoot up, not where he had fallen, at the bow of the boat, but at the stern, and, with wonderful presence of mind, our Captain (Captain Edmund Vanderhyden) stooped down, and, grasping his arm, held him in the current, until another man dashed to his assistance. On another occasion, the man who was holding the stern brace, instead of plunging after the boat, as it was hauled ahead, let go the line and was left on a rock in the middle of a fall. This time it was Bowman Marcus's turn to distinguish himself, and he did so by swimming and fighting his way out, and bringing the man safely back.

Some of the worst falls are avoided by taking the itabus—passages through which the water runs over a sloping bed, instead of taking an abrupt leap over a broken ridge of rock—and a few of these passages are so narrow, on account of the islands being so close together, that there is scarcely space for the boat to pass. The bushes, too, come close to the water's edge, and the branches of the trees meet almost on its surface; the boat, therefore, has to be literally forced through them. This is always an exciting time for the passengers, who are on the tarpaulin, as they stand a fair chance of being swept off into the water or crushed by a strong limb of an overhanging tree. As the foliage is shaken during this process, showers of spiders, ants and other insects—not to mention rotten bark, dust, leaves and twigs—fall into the boat, and, occasionally, a snake will be added to the quota. Although no snake visited us in the boat, one of the men closely missed a bite. We were passing a bush covered with berries and he caught hold of a branch to gather some. As he did so, a snake dropped off, and wriggled out of sight. This was the first of many snakes we were to see on the way.

On the eleventh day, after leaving Bartica, we pulled over the last of the fifty odd falls. Toboco is the name of this; but it was not wholly with regret that we said "Adieu" to the "boiling waters."

From Toboco, the river becomes what is called "Still Water." Why this name should be given to it, I cannot imagine, as the whole stream is rushing down the side of, as it were, a huge mountain. Looking back, the country can be seen to sink away, and looking forward, a gradual rise is perceptible. This can even be seen by looking over the placid surface of the River.

Now one gets a chance to examine the beauty of the forest scenery. In places, against the background of dark green, patches of pink, red, and light-green leaves appear. Here one sees a cluster of bright blue flowers, there the spinal flowers of bright red hue and the bottle-bushes of the mimosa. Further on, the trees are bound together by festoons of vines and creepers, some smothered with white, others with red, others with blue, and others with yellow flowers. In one place it will appear as if fairies had played their part in draping, and, in others, the fern-like leaves and lilac blossoms of the tricle, or the bright orange flowers of the Cassia Multijuga, burst through the network. Further away, the ruddy leaves of the Mora form crowns, over the surrounding forest; and then again strong thongs of bush rope remind one of a ship's rigging. For some distance the scene is very confined, as it appears as if the whole world consists of nothing but the river, the boat and a belt of trees on each side. Being low down on the surface of the water, the country beyond cannot be viewed from the boat, and the sky seems to meet the

river and the trees. After a time, the scene changes. The huge Mcrumae Mountains are visible, silhouetted in the distance, and these take such curious shape that they excite general comment. The Sun was setting at the time I write of, and the sky was cloudy: thus lending itself to a variety of colours. The views were instantly changing, and it was as though an artist were placing pictures, in crayons, upon a slate, wiping each out and replacing it by a better attempt. From fleecy white Curri-curri to deep black of the storm, in many shades and forms the clouds arranged themselves. Now illuminated with a glowing red, now changing into a soft pink, now assuming the yellow of a buttercup, and now the various shades of purple and lilac. The mountains appeared as forms of dark blue-grey, and, in the crevices of their rugged sides, light clouds nestled, as a girl in her lover's arms. The scenery is well worth the trouble and danger gone through; and one felt it a great privilege to see and experience these beauties and wonders of Nature.

PART III.—THE FIELDS.

The general landing at San-San-Kopai is half a day's pull above our destination—Ottawa Landing—which latter is the first one sighted, on the way up the River. The magazine is built upon a high mound, well out of the reach of the water when the River is at flood. It is a light structure, wattled in with sticks, and roofed with neponset (a thick waterproof paper). Inside, barbracots, or stagings, are built, on which the stores can be placed, above the ground. Another barbracot serves as the bed of the Waterside Clerk, while, outside, there is a rudely made garden seat, on which he can bask during the day.

The duties of a Waterside Clerk are: to keep watch over the goods, to receive letters and parcels, to forward despatches by passing boats, to keep a record of all boats passing, and to issue the loads as the droghers come for them. His pay is, generally, $15 00 per month.

On arrival at the landing, the boat is unloaded and the goods carefully stored in the magazine, where they remain for the time being. Having done this, if it is not too late in the day, each man is given a load of 25 lbs., which is to be taken in with his baggage; but few of our men took loads. They preferred to loose a day's pay and to take in their own canisters, or prospect-bags, as the case might be. It is allowable for one man to bring in 50 lbs. while another takes his baggage with his own; and this plan is often found the best to work upon. After the men have once gone in aback, the droghers, going out for goods, are paid by the pound—the pay being a cent a pound. This encourages the men to bring in larger loads, and enables the provi-

sions to be brought in quicker than if the men were paid a stated wage per diem. The usual pay for a good labourer is 48 cents per day, and for this amount he must bring in 50 lbs.; but if a cent a pound be paid, a man will bring in as much as 100 lbs. at a time.

The boat we went in arrived at the Landing at 3 p.m., which was too late for the men to be sent in aback; but they all came in on the following day. In the next boat-load, a sergeant in the Militia came up, as a labourer; but when he reached Camp he was minus coat, shoes and hammock. After going a little distance, he begged one of the other men to carry his canister, promising payment in tobacco, at the end of the journey. A little further on he took off his coat and threw it away, then he let fly his hammock (of all things), and, after passing the last swamp, his shoes were also discarded. Having now only two pieces of garment on, neither of which he could do without, he set to whimpering, and he finally reached camp more dead than alive.

I started in, with one man, the same afternoon we landed, as it was understood the walk could be done in two hours and a half; but the memory of that walk shall never from me part.

By the time I had taken a look round and made the necessary arrangements for the proper stowing of the goods and the sending in of the men the next morning, it was four o'clock. The first obstacle we met was within a few yards of the Magazine, where we found that we had to walk across a wide itabu of the Enachu Creek, on a tacouba (fallen tree), which we could only feel, as it was covered with water: waist deep. Beneath this tacouba the water's depth is from eight to ten feet more. In dry weather the tacouba is above water; but heavy rains had fallen just previous to my coming up. By probing with a stick, we traced the run of the tacouba, and succeeded in crossing without accident. This invisible tight-rope walking and the hip-bath being over, we entered the forest, walking rapidly, notwithstanding the fallen branches, stumps, and bush-rope. The sirahee led us over several hills, through many creeks and much mud, until we came to the Enachu Creek itself. Here another invisible tight-rope walk had to be accomplished; but this time on a tacouba so narrow that we had to sidle along it. Some distance out in the stream, which, here, is fifteen yards wide, one tacouba is crossed by another, and we nearly lost our balance in getting from one to the other: not being able to see either, and our sticks not being long enough to touch the bottom of the creek and thus serve as a prop. Then came several more hills, creeks, varying from knee to arm-pit depths, and a swamp. This was not very bad, however; but light was fast failing, the last rays of the Sun being shut out by the dense forest. My guide became rather alarmed, and continually remarked that he

hoped we would get to the swamps before night set in, as he could not find his way through them in the dark, there being no path to follow. We quickened our pace to a half-trot and had the satisfaction of sighting the first one soon after. A short distance ahead I could see clusters of graceful palms, Turoo, Manicole and other varieties, and, as they came in view, my companion informed me "This is the first swamp." It is a pretty stretch to look at; but we were in a pretty mess when we came out. On entering, the mud and slime only covered our ankles; but, as we proceeded, we found it reached our knees. Above it all was a layer of six inches of water, and this greatly assisted our painting-up, as we lunged and floundered about. Without warning, holes of much greater depth would be encountered, and, as we stepped into these, we threw out our arms to save ourselves, and this caused more splashing of the slime and water. To make it more objectionable, this black, slimy mud has a very strong smell, which is not at all pleasant, and, as I inhaled it, smelling it stronger as we stirred it up, I wondered how many malaria microbes we were taking in. The extent of this swamp is about half a mile; and, when it has been passed, and some more hills traversed, a similar one is met with, which has to be negotiated in like manner. I wore only shorts, "dogs" and socks, and, when crossing the first itabu, the last had slipped down in rings round my ankles, so my legs, which were left exposed, got well stockinged with the slime, and, at a distance, might have been mistaken for being clothed in a pair of these black articles. It is possible also that I might have been mistaken for a chimney-sweep, as my face, hands and shirt were smothered with black mud. Having battled with the two swamps, we came out at the foot of a very high hill, up which my companion had to help himself by roots, trees and saplings. The distance up the hill is nearly a quarter of a mile; and, being muddy, the descent was rather a slippery one. This climb over, another hill of similar dimensions and form faced us, and seemed to say "Now I'll just see what you are made of." When the two hills are passed, the country becomes more level, for a distance, and the underbush thicker; and darkness was nearly upon us when we came to an abandoned Buck Field, called after its late owner, Bagot's Field. This was, at the time, one mass of bush and grass and vines. It is now the Camp of the Coronation Syndicate. At the end was an abandoned banaboo: the home of a large Cammodie Snake. After wading a few more creeks and climbing a few more rocky hills, we came to James' Field; but we did not stop to notice the dogs, which came out barking at our approach, nor the Indians, who were attracted by the noise. Hastening along through the sugar-canes, cassava beds, banana trees, and maize, we soon left the Indians behind, and entered the forest once again. Similar country, broken by

a newly cut field, and we found ourselves at Bagot's new field and banaboo. It was now all but dark, and, fearing he might miss the track, my companion stopped to ask for an Indian to guide us home. As there was only one man and his sick wife in, we could get no help, and so we started off again. We had not gone far, however, when we lost the track, and, on this being repeated a second time, we turned back to the banaboo.

We had had nothing to eat nor drink since breakfast-time, so our chagrin can be imagined when the Indian (Francis) informed us that there was no water and no eatables. After a lot of talk, we got him to take a torch and go in search of water for us; but not before I promised payment in the shape of my prospecting knife. He returned with one small bottle full, which he had dipped from a creek, and, as this was not even sufficient to quench our thirst, we had to leave the question of washing alone.

We had brought our hammocks with us, and these we slung near to the fire, which burned in the centre of the hut; but I was too tired and famishing to sleep. Later in the night, some other Bucks came and took away the sick woman, when her husband went with her, and we were left in full possession. As I tried to doze, innumerable crickets dropped, one by one, from the roof and rafters, into my hammock, and every now and again a bat would dash against it, in its rapid flight about the hut. The chirping of so many crickets and the croaking of numerous frogs (with voices ranging from base to treble), with the occasional hoot of an owl, supplied me with continual music; but, even in such a state of affairs, the position was so fascinating that I could not help enjoying it. For a few moments, towards morning, I dozed off, and during this short time "Dr. Blade" thought fit to call upon me. When we turned out of our hammock, my companion called my attention to a large patch of blood-stain on it, and, on looking at my feet, I saw that there was a circular hole, and the big toe of my right foot was washed in blood. This did not pain me at the time; but, when I put on my muddy socks and shoes and proceeded to walk, the sensation was not pleasing, as the dirt worked into it. The Indian, Bagot, had abandoned his old house on the death of his child, whom, according to custom, he had buried in the middle of the hut, in the ground. The new banaboo (the Indian name for any shelter) is circular in shape, running into a point at the top; and the eaves are extended so close to the ground that the rain cannot blow in. The thatching is of Manicole and Turoo Palms, crowned, at the peak, with a head-piece of Powis Leaves; while the interior is supplied with several runners, to which a large quantity of roasted maize was suspended. Several bunches of unripe bananas were also hanging up; while, on the ground, two large earthen jars, containing newly made caseerie, awaited the return of Bagot and his people.

The Sun had not appeared above the horizon when we started away; and, after an hour and a half's walk, we entered the Camp, at the foot of the clearing. Two more miserable-looking objects could hardly have been seen before. Bespattered with black mud, which had been moistened into its slimy state again, as we waded creeks; stumbling up the hill in the last state of exhaustion, through want of nourishment; and the perspiration running, in streams, over our faces, necks and arms. We were met at the verandah by my cousin, who was Manager of the Claims, and, without waiting for words, he led the way to the Creek close by. In the higher of the falls (there are two close to the Camp) we enjoyed a good bath, and, hurrying back to the house, partook of a hearty meal. When this was over, we took a walk round the clearing, and I had a chance of examining it well.

Undoubtedly, it is one of the finest camping-grounds in the District. The Manager's house, store-room, and kitchen are on the top of the hill, while the men's logies are at the foot. The house commands a good view of the logies; but they are too far away for conversations to be overheard. On the right, looking, down the hill, which has a gradual slope in front, runs the Enachu Creek, which, here, is about ten feet wide. The clearing is bounded by the stream on this side, and, at the top, the side of the hill falls almost perpendicularly down to the water's edge. Two clumps of bamboos form an arch above the creek; and a third clump, at right angles to the other two, meets the second one, forming a pretty arch in front of the house. This structure is of rough poles, bound together with nibbee and cockaralli (the former a cord made from a certain bush-rope and the latter a thong formed from the bark of a tree.) The roof is of neponset, fastened to the runners by galvanised nails and washers; and the sides are of a wattling of split bamboos, with the green turned out. The verandah, in front of the house, is wattled with bamboos also; but each alternate wattle faces in the direction opposite to the one before it. This gives a green and white front, both inside and out. Two bamboo seats adorn the verandah; and a rough plank table, supported by sticks driven into the ground, supplied, on three sides, with backless barbracot seats, complete the furniture. For some time after my arrival, the gable ends of the house were not closed in for more than five feet from the ground, on one side, and eight feet from the ground, on the other; and it was amusing, when a shower of rain came on, to see us all make a rush for our hats, and sit down to our meal with our headgear on. The table, I must explain, was close to one end, and got the benefit of all showers coming from that direction. Viewed from the foot of the hill, the scene is an extremely picturesque one; and the roar of the falls, close by, adds to the "effect." All around, the thick

forest shuts out the view; but the clearing has been cut so large that no tree falling can do damage to any of the buildings.

The sudden uprooting of trees by a heavy storm is one of the dangers of the Bush; and, when work has been properly started, the Manager is wise who takes the precaution of removing all trees, which, in coming down, might in any way injure his house or logies.

A logie, it might be mentioned, is a frame, roofed (in this case, with neponset); but not wattled in. In my opinion, and that of several others, houses roofed with leaves are cooler than those covered with neponset; for neponset attracts the heat very much. Sometimes, however, as in our case, leaves are only procurable at a long distance; and the expense of cutting and bringing them in would have been greater than the cost of supplying neponset, as then no Indian labour could be obtained.

It is said (I was unable to prove it) that leaves must be cut when "Dark Nights" are the order, as, otherwise, they will not keep long; but will be attacked by insects. This is not meant to imply that the leaves must be cut *in the night*. It goes without saying that, all leaves, for roofing purposes, must be thoroughly dried, before being used.

After a while the Indians came to work for us, and I had the interesting experience of watching them make, and assisting them in making, what is known as a "Rain-splitter." This, as the name implies, is, merely, a split-roof shelter, completely open on all sides. The roof was made by putting two leaves, split in half, across each other, and binding them with nibbee. These were arranged about four inches above each other on the rafters, and fastened with more nibbee. The ridge-pole was covered with Powis leaves, plaited together, and the whole formed a covering quite impervious to the rain.

After having taken a walk round the camp, we strolled down to the work-sheds; but we had hardly entered the Bush when my cousin, who was walking ahead of me, stepped, unnoticed, over a Labaria, which was lying at length, sunning itself. My prospect knife was in my hand, and, stooping down quickly, I made a slash at it and divided it in two. The head portion commenced wriggling away, so I gave it another chop, which decapitated it.

The custom is, when going through the forest, to adopt the Indians' style of walking, one behind the other. Each one should keep a few yards' distance away from the other, as, in case of a snake being in the way, the man in front can spring back, so as to avoid it, without knocking the next man down. It is, generally, necessary to do some clearing, as one goes along; and, should one person be too close to the other, he is liable to receive a nasty, if not fatal wound, as the prospecting knife sweeps behind.

On one occasion, when I was walking with the Manager of a neighbouring Camp, a powerful slash was made at an obstructing bush-rope. Meeting with little resistance, the force of the stroke carried the knife out of his hand, and it flew back at my feet. Fortunately, we were separated by quite ten paces.

Bush-rope is a very deceiving thing, and one is often mistaken in it. Meeting a thick piece, one imagines it to be very tough, and makes a vicious stroke, to cut it; but the arm receives a nasty strain, as the knife passes through, without encountering resistance. In another instance a small bush-rope stands in the way; but this requires several strong cuts before it will consent to be severed. On this account, it is necessary to be very careful, when clearing away bush-rope.

The walk from the house to the work-place was not a long one, and in a few minutes, we found ourselves there. On looking round, I saw two sheds: one formed of a tarpaulin thrown across a ridge-pole, and the other having a slanting roof of palm leaves. The former was a sorting-shed and the latter a drying-shed.

Let me now proceed to describe the methods I saw adopted for collecting the precious stones from the earth.

In the first instance, the underbush is cleared away by cutlass and prospecting-knife. A hole is then dug and the various strata thrown aside, until gravel is reached. Should this shew "Indications," such as water-worn quartz, red and blue jasper, felsite, felspar, and tourmaline, or schorl (to which the faulty name "Carbon" is, locally, applied), on being washed in a sieve, work is proceeded with, at that spot. The gravel is shovelled into buckets and droghed to the nearest water, where the washers and jiggers are waiting for it. Two sieves, fitting into each other, (the top having a wire mesh of a quarter of an inch, and the bottom one being a one-twentieth, or one-twenty-fourth, of an inch mesh) are held, in the water, and the gravel emptied into the top one. Should it be deep, a barbracot is made, on which to rest the sieves, so that the water may but just cover them; but should it be shallow, they are allowed to rest on the bottom. Taking care that the sieves do not become separated, the man rubs and washes the gravel, until all but the coarse stones pass into the lower sieve. The top sieve is then taken off, the contents placed on to a table and searched, so that, should there be a very large diamond, it will not be thrown away. This gravel is not dried. Having disposed of the coarse sieve, the fine one is next taken in hand and thoroughly washed, by rubbing and shaking, so as to freee the gravel from all clay and sand, and then carefully jigged. Jigging consists in turning the sieve round and round, slowly, while under the water, and pulsating it up and down, at the same time. Now and again it may be shaken violently from side to side, turned round, and the opera-

ation repeated; then jigged again. The result of this will be to centre the tourmaline, the other indications, and the diamonds, at the bottom of the sieve, which is then taken to the table and dumped. By "dumping" is meant turning the sieve sharply upside down, so that its contents may be thrown out on to the table, without being disturbed. Most of the diamonds, with the indications, will be now on the top of the pancake (it has this appearance) and may be picked out. This is a simple method, which the Diamond-seekers of this colony have to thank Mr. Oats, a Director of the De Beers Co., for having introduced.

When the gravel has been sorted wet, it is scraped off and carried to the drying-table. This is a sheet of iron, under which a fire is kept burning. As soon as the gravel is dry, it is again removed, being taken, this time, to the dry tables, where other sorters eagerly pounce upon it, in the hope of finding what has been missed in the wet sorting.

In the wet state, the gravel is searched by glancing carefully over the surface, first; and, when all the stones have been removed from the top, it is turned over, by the aid of wooden knives (shaped like arrow-heads), commencing from the edge and working inwards, so that gravel which has been examined should not be scraped on to what has not been looked at.

On the dry tables, the gravel is placed in a heap, and the sorters spread it out before them, in a layer of one thickness, and scrape off, on to the ground, what is of no value.

When looking at the wet gravel, the end of a prism will often appear to be a diamond; but its worthlessness is soon detected on holding it in the hand, as the water then dries up and it assumes a dull surface. Diamonds are more easily detected in dry gravel, as there is no glistening moisture on other stones to deceive the sorter; but, if a sieve has been well jigged, unless the diamonds are in large numbers, very few are found after the wet sorting has been accomplished. Beginners are apt to mistake prisms, chips of quartz, and white sapphires (which are fairly numerous) for the precious diamond; but a careful person should not take many days to be able to discriminate between them. Others are apt to take quartz for white sapphires; but a little experience will soon remedy this error. To detect the diamond, one must be guided, principally, by two things, viz., its form and its surface. A diamond has, what may be called, an "adamantine" surface, which carries a peculiar "sheen" with it, which, to an experienced eye, is unmistakable. As is well known, diamonds are not all of the same shape; but, no matter what shape they take, their formation is regular. What I can only describe as "angles" must be looked for, and, when found, these will appear to be formed of lines slightly curved. It is known also that a diamond can easily be split at a point of cleavage, and it can break only evenly along these lines. When

a doubtful "chip" is picked up, its nature can easily be told, if this fact is borne in mind. Should it be broken in jags and projections, one may be certain it is not a diamond. Should the break be jagged, it will be noticed that the jags are even, along the different lines of cleavage. Next to Carbonado, the diamond is, perhaps, the hardest substance extant.

To ascertain, therefore, whether a stone is a diamond, or not, it is placed on a block of lead and struck sharply with a hammer. Instead of breaking, it will, if genuine, embed itself in the lead. Another method employed is that of placing it between two prospecting-knives and pressing heavily on it with the hand. Quartz and other such stones will powder under such forms of treatment; but the diamond and sapphire will remain intact. It sometimes happens that, when struck, a diamond will split, if the blow has fallen on a line of cleavage; but the fact of its splitting, and not powdering, will reveal its identity. There are many scientific ways of testing stones, to find out whether they are diamonds, or not; some dealing with reflection and refraction and others with specific gravity; but the tests given above will serve the purpose of the ordinary individual very well. As all doubtful stones should be kept, the other tests can be applied to them, if sent to the proper quarters. One gets accustomed to the diamond from its appearance, however, and an experienced man need only look at a stone to satisfy himself as to its nature. The colour of the diamond must never be taken into account, as, not only are white diamonds found in our fields; but black, blue, straw-colour, and green. In most of the stones found in this colony, the last two colours are merely surface colours, and, on being cut, only the white stone remains.

Nor are our "*Diamond Fields*" simply *diamond* fields, for other stones have been found, such as topaz, white and blue sapphires, emeralds and rubies. The blue sapphires I saw were only "chips"; but, if there are "chips," it stands to reason that there must be whole stones. Amongst the various stones found in the Enachu and Kupari Diamond Mining Company's claims (where I put up) was a "Rose Diamond," a rare specimen. The term "Rose" does not apply to its colour; but to its shape: it having the appearance of having been worn by the water (which is considered an impossibility) into the form of a full-blown rose. The sizes of the stones vary considerably—it sometimes taking 18 to the carat, while single stones will be found each weighing more than a carat.

Having rather gone out of my way in alluding to the diamonds, I must now mention other methods adopted in dealing with the soil. Some managers call the Gold-diggers' Tom into use; while others are trying what a sluice will do. For the information of those who do not know, I should say that, a Tom consists of a long box, having riffles of wood placed across it, at intervals

of twelve inches, or so, behind each of which a supply of quicksilver is deposited. The trough-like instrument, is placed on the slant, and, at the foot, it is supplied with a strainer. Above and below this, another trough, is placed, and into the top one the earth and gravel are emptied. Two men keep it well supplied with water, while another hoes the mixture backwards and forwards, so that it may all run through into the second trough; and down into the third, through a perforated iron sheet, at the end. From this trough the gravel is taken into the sieves and then washed and jigged. By adopting this process any gold which should be in the soil would be caught in the riffles of the Tom; but, as far as diamonds are concerned, I consider it a waste of time. As the stuff has to be washed in the sieves, after passing through the Tom, it might as well be placed in the sieves in the first instance, as is done by some. Although it would require rather more washing in the sieves than if it had first passed through the Tom, it seems to me that, were each of the five men required to man the Tom supplied with a pair of sieves, they could prepare more gravel for the sorters. Should the gravel, however, be bound with much stiff clay, the Tom would, undoubtedly, be useful in separating it, and would save the sieves, as well as the washers' fingers.

Some people dispense with the coarse sieve; but, as the fine and coarse gravels are then mixed, the task of sorting is rendered more difficult. To dispense with the coarse sieve is a great mistake.

Another method of preparing is that exemplified by the instrument recently imported. This consists of a rocking trough, worked under water, or kept supplied with a constant supply. The trough, into which the gravel is placed, is rocked violently, by hand (it being suspended by ropes), until the sand and dirt are removed from the gravel proper. This is passed into a sieve, placed above a finer one, and the pulsation is accomplished by turning a handle, which connects to the shaft by a bevelled cog. The instrument, in my opinion, appears to have one defect. As the box, in which the sieves pulsate, must be filled with water, so as to cover both sieves, and as no stone can be relied upon to fall straight down, in moving water, or in coming in contact with another, in course of descent; either the sieves should be closer together, or the lower one should be a trifle larger than the upper. If the lower sieve *is* a trifle larger, it does not appear to be sufficiently so.

The British Guiana Diamond Syndicate, it is understood, has erected both a pulsator and a rotary washing machine; but the latter, up to the present, has not worked satisfactorily. It appears to be unfitted to the soil.

The machinery being now taken up to the claims of the Massaruni Company, I am not in a position to describe.

In the earliest stages of the Industry, when Mr. Edward Gilkes, (who was backed by Messrs. Veerasammy and Conrad & Co.), the discoverer of the Fields, first went up, it is said that the gravel was neither jigged nor dried. He and his helpers must, therefore, have experienced great difficulty in picking out the stones from the wet mixture.

Now a few words as to how the land is secured. The first thing to do is to prospect, *i.e.* to walk over the country, digging holes and boring with the sounding-rod (ten feet iron rod), until "Pay Gravel" is caught. Before digging a hole it is well to sound with the rod, as this will give information as to the probable depth gravel (not necessarily "Pay Gravel") is to be met with. This will frequently save digging where no gravel will be reached, except at a great depth. Having touched gravel, a pit, say, six feet by four, should then be sunk, and the various strata washed, as thrown out. For this purpose it is well to be provided with two small prospecting sieves, as described in Part I. The first depth (of from six to eighteen inches) is, generally, of "Black Sand" (sand and decomposed vegetable matter) which affords the principal means of nourishment to the forest vegetation. The next layer is, as a rule, of "Brown Sand" (sand in which no vegetable matter is mixed). The third stratum is, frequently, of a bright yellow colour (a mixture of sand and light gravel). The fourth of a deep orange hue (mixture of sand and slightly heavier gravel). The fifth, a similar stratum, almost pure white. The Sixth, a layer of heavy gravel. In this the diamonds, if there are any, are found. Below this, a deep bed of blueish clay, or, what is supposed to be, bed-rock, is encountered. In cases where the blueish clay has been struck the underlying stratum was not ascertained. I am assured, however, that the blue clay always lies next to bed-rock. Where I have seen rock struck, there has been no blue clay; sometimes it has been the gravel (not "Pay Gravel") and, at other times, the "Orange Mixture" (as I call it). The "Pay Gravel" always had a dull brown appearance, as it came out of the pit; and it was found to largely consist of tourmalin, felsite, and iron-stone (or what appeared to be iron-stone). With these, large pieces of water-worn quartz and red and blue jasper were mixed, and forms of decomposed granite. Here and there, what is known as "False Gravel" is struck; by which is meant, a gravel which is not diamond-yielding (or only slightly so); but under which there is a layer of clay, covering the "Pay Gravel." This, and the presence of so many "Slides" of decomposed granite, make me think that, up to the present, the workings have not been deep enough; but my opinion remains to be proved.

When "Pay Gravel" has been found in two or three places, not very far distant, one may be satisfied that the land is worth taking, and prepare to locate.

As it is now known where the claim is to be cut, it will be well to have *all* the provisions and tools droghed in from the water-side, and a Prospecting Camp made, from which to work, as a base. The work of cutting out the Claims has, now, to be proceeded with. Each claim must measure (according to the "Precious Stones Regulations, 1902") "not *less*" than 800′ x 1,500′, comprising an area of 27½ acres, and the boundary lines must not be narrower than 4 ft. Most of the present Claims were cut under Ordinance with respect to Gold, which provided that they should not be "*More*" than 800′ x 1,500′, nor have boundaries less than six feet wide.

"Line Cutting" is the term applied to the marking off of claim boundaries; and it affords means of exercise. Cutlass, or prospect-knife, in hand (I prefer the latter), slashing right and left, the way is cleared of all under-bush and young trees. When a large tree is in the road, the path, and not the tree, is made to get out of the way, by going round it. As the claims are supposed to be parallelograms, having the opposite sides equal (and all its angles right angles—Euclid), it is necessary that these lines be straight, and, to get them so, they have to be compassed. To ensure the desired result, some Bushmen have recourse to ranging-rods, to assist the compass; and others use only the compass, and trust to Luck. Some walk ahead, guided by the compass, while the men cut behind them; others set the men cutting, while they compass from behind. To me, this last appears to be the best method to employ; and if the Compasser, occasionally, takes the centre of the line and looks back, he will get a better result, than if he went straight ahead, without seeing that the line behind him has no bend in it, which, obstructs his view along it. For line-cutting, four men are required. Two to cut; one to compass; and the fourth to carry the end of the measuring line or chain. Several Bushmen cut their lines first and then go back and measure them with a ten feet pole. The result of this, as far as has been seen, is anything but satisfactory, as the lines are either measured too long, or too short. In adopting this method time is wasted, in going back over the line and walking it up again; as, although only three men are then required (the Compasser being able to carry the rod) the cutters must both stop work, until it is seen whether the line is long enough, or must be extended. Where the other system is worked upon, the line is measured as it is cut, and the cross-boundary can be proceeded with immediately the end of the other is reached.

The labourers, as a rule, do not like this work, on account of the possible meeting with snakes, scorpions, marabuntas, and the like. Cutting into the raw bush, it is no uncommon thing to disturb a nest of marabutas. Sometimes the men actually poke their faces against one, with the result that the marabuntas

attack them, and so smother them with stings that they are forced to drop their cutlasses and make for the first creek, into which they plunge, to get relief. If not marabuntas, then there is the chance of stepping on an Annies' or a Mooneries' nest, with a consequence just as bad. These Annies and Mooneries are large ants, black in colour, and having stings, in their tails, like wasps. Besides the sting, they can give a nasty nip with their mouth, and, so, can inflict a double wound. The effect of these stings, on some men, has been a severe attack of fever. All through the forest, the decaying trunks of fallen trees are found lying. Many of these are hollow and provide cosy retreats for snakes and scorpions; and here a fresh danger awaits the cutters (who go about bare-footed).

On one occasion, when we were out line-cutting (I tried my hand at most things, for the sake of the experience), the man who was clearing, in front, suddenly sprang from one of these tacoubas, crying out "A snake, a snake!" He then called to his companion to cut a stick, and both of them commenced looking about for one. "Where is it?" I asked "And what do you want with a stick?" Leaping over the tacouba, a snake, measuring between six and seven feet in length, was seen stretched out, with its head raised. It appeared that the men wanted a stick to kill it with; so that they might keep a fair distance off and strike, as they dread coming to close quarters. As such a mode of attack was not a sure one, I, once more, made use of my trusty prospect-knife, and divided the snake into three parts.

Although snakes are very numerous and are met with at almost every turn, they appear to do little harm. Most of them glide away at the approach of man, and, unless one walks right upon them, they do not attack. In the water, the Camoodie and Hymarali are met (the latter delights in a pool of stagnant water); while, in the forest, the Rattle Snake, Labaria, Matape, Bushmaster, Yackman, Whip Snake, Land Camoodie, Parrot Snake, &c., abound. The Yackman (one of which was killed, as it came out of the bamboo clump, in front of the house) is a kind of Whip Snake, and, with the Whip Snake and Camoodie, is not venomous. The Labaria is the commonest snake met with, and the Bushmaster (as its name signifies) the most dangerous.

On another occasion, when out line-cutting, I met with two "adventures," one of which might have proved fatal. It chanced that we were cutting at a entanglement of bush-rope, not noticing that it entwined the trunk of a dead tree, the lower half of which had fallen to the ground, while the upper half was suspended by the bush-rope. Suddenly there was a crash, as the bush-rope parted and the suspended wood fell. In its decent it broke, and the piece which struck my shoulder was only about three feet six inches in length with a diameter of

seven inches. Beyond a bruise, no further damage was done. Not long after this, on the same day, while cutting at another part of the same line, I tackled a fairly thick Blackheart sapling. I commenced by showering several blows, in quick succession, first on one side and then on the other; and, as I showered the blows, the tree showered red ants. It might not be correct to say that the ants "showered" bites; but I know that they inflicted many on me that day.

Line-cutting, therefore, as can be seen, is "Not all beer and skittles."

As in most things, there is an art in cutting, and a novice is at once detected by the many slashes he has to make. The trick is in the way the cut is made. The stroke should be slanting, and downward—not at right angles to the object to be cut, nor upward (unless the cut has to be made from below, as is often the case when cutting bush-rope). Let the stroke be as perpendicular as possible, and it will be surprising to see how easily and quickly the underbush and saplings drop to the ground. The reason of this is easy to explain; for, when cutting down, the grain is closely followed; but, when cutting at right angles, the cut is "cross grain" and the resistance is greater.

The next thing to be done is to nail up the Location Boards. Squares of tin, painted white, are found to be very suitable for this, as the Prospector's name (or that of the Firm or person he represents), the number of his Prospecting Licence, and the date the Claim is located, can be painted on them, in Black. When the Claim Licences have been issued, the number of each should be added at the foot of the Location Board. Each Claim must have four boards, one at each corner, and each board must *face the claim it marks.*

Under the old Regulations, claims were taken out for Gold, at a cost of $2 48 per claim (48 cents for advertisement and $2 for the licence). Application was then made for a licence to search for and collect Precious Stones from such claims, and this licence was granted on payment of a further sum of $1 per claim. The precious Stones Regulations, 1902, provide for the payment of a tax of $7\frac{1}{2}$ cents per acre, during the first three years (or portion thereof); for which an Exploring Licence will be granted. At the end of this term, or as soon as the Explorer has decided upon and has commenced to work any place, or places, within the area held under his Exploration Licence, he then comes in for the payment of $100 an acre, for each acre he works (in the case of alluvial working), or 4 cents per cubic yard for all material removed (if in the case of mining) whether this material contains diamonds, or not. For all the lands he desires to hold, after the expiry of this period, he then must pay 20 cents per acre; and, for as much of it as he actually works, the special fees mentioned ($100 an acre, or 4 cents per cubic

yard) must be met. From this comparison, it is seen that, in future, Locators will not have such a light time of it as they had in the past.

When the lines have been cut, the boards put up, and the licences obtained, work can be commenced in earnest; and the first thing to be done will be to clear the camping-ground of the dimensions required by the Law. It will, probably, be found that many of the trees are strongly bound together, at the top, by thongs of bush-rope: thus rendering the work of felling difficult. I have seen a tree cut and the upper portion pushed off the stump, but only to slip down and embed itself in the earth, as if it had taken root afresh. This was caused by the top being firmly held by bush-rope, which prevented it giving on either side. Three times this tree was junked; each time with the same result, and, as the dropping of other trees would have blocked the pits, it had to be left, standing as majestically as if an axe had not been put to it. To avoid difficulties like this, the bush should be well examined before work is commenced at any spot, and, should the trees be found to be similarly bound by such strong thongs, a large clearing should be made to begin with. It is very annoying to find, after work has been well started at a place, that a tree has to be removed, to allow for an extension of the works, and that tree is so entangled that it cannot be brought down without bringing others with it and blocking up all the works and causing a standstill for some days. An easy way of making a large clearing is to belly about twenty or thirty trees, which are bound together by bush-rope, then back one, which, in falling, will bring the others with it. The cross-cut saws can then be set to work and the trees sawn into convenient lengths and removed. The Indians are expert axe-men, and the rapidity with which they can make a large clearing is noteworthy. If possible, the site chosen for the camp should be on a hill, as it is always sure of good drainage, is, consequently, drier than the valleys, and is not so likely to encourage fever. The more open the camp, the better will be the health of its occupants.

In locating land, one of the most important things to look after is the water supply. Many of the creeks dry up entirely during the hot weather, and pits will then have to be sunk to get water for washing the gravel and for domestic purposes. Creeks are found in almost every valley and dale, during the rainy season; but it is the dry weather creek that is to be prized.

PART IV.—MISCELLANEOUS.

During my stay in the Upper Massaruni District, I did a fair amount of walking: having visited Messrs. Armery and Fogel's Camp, The Camp and three work-places in the Mazaruni Compa-

ny's claims, Harrison and Company's Camp, and also that of the Coronation Syndicate. My walks took me through lands held by Messrs Smyth and Menzies, J. C. Menzies, J. Wood Davis, Forbes and Company, The Marshal Syndicate, The Lucky Jim Syndicate, and (through the Coronation Syndicate's land) to the six claims of the Enachu and Kupari Diamond Mining Company, which are situated on the Kupari Creek. The hill, on which "Manitou Camp" (the property of the last named Company) is built, attracted my particular attention, as a pit sunk to a depth of over twenty feet contained a stratum of water-worn gravel for nearly the whole depth, and yet bottom was not reached. It would appear that this hill, for a matter of fifty feet, is formed solely of this gravel, which is coloured a peculiar dull red all through. As the "Run" would, probably, be at the bottom, the best way to get at it would be to let in a rift from the side, which runs almost perpendicularly down to the Turtle Creek. The work of sinking a shaft would be very laborious, as, on account of the sandy nature of the soil, caving in would be frequent. Another hill which interested me is one, on another Syndicate's ground, which shews white water-worn gravel right up to the top. It is very evident, from the general presence of water-worn stones, that, at some time or other, a "Wash" passed over the country, distributing the diamonds with it; but where the "Wash" came from has yet to be determined. It is pretty evident, however, that, in the District visited, the "Wash" took a N. W.—S. E. direction. The mountain ranges, here, take this direction also, and ridges of rock traverse the country in the same line. These ridges can be traced where the creeks cross them and have washed away the covering strata; and boulders are seen, jutting out from the hills, in many places. Three or four of these ridges were compassed by me, and I found them all to take the direction mentioned. Dr. Biallo Sterski (from Holland), who has walked the Upper Massaruni Diamond Fields (as far as yet discovered from end to end), also bears this out; in fact it was he who mentioned the matter first, in course of a conversation, when he visited our camp. The "Runs" do not always keep to the valleys; but, generally, cut under the hills, and it is clear that the hills were thrown up (or otherwise formed by the "Wash") over them; as the Diamond Gravel does not rise and fall with the hills. This explains the fact that, in some parts, thirty or forty feet of stripping have to be removed, to get at the diamonds. In some places a whirpool appears to have taken place, and, here, the "Run" takes a circular course, under the hill, which, in time, will necessitate the removal of the hill. Perhaps it might be a repetition of the South African affair, where not only had the hill to be removed, but a mine sunk to a great depth where the hill once stood. Time alone will shew.

During my walks, I, one day, had the experience of being lost. I was returning home, with the Manager of a neighbouring camp, and as I did not know the country, he acted as guide. Instead of taking the lines he knew, he said he would make a short cut; with the result that, after seven hours' walking, we appeared to be no nearer home than when we started. We had left his camp at 6.30 in the morning, and 2½ hours was the time reckoned upon to bring us across. On this account, I had taken a very light meal and it so happened that one knee was weak, having had to hop about for a whole week previously. Through Creeks, mud, and the branches of fallen trees, we wended our way, and, to add to our discomfort, a heavy shower of rain came on and drenched us to the skin. My friend had had good training in the Boer War, and was pretty used to such experiences; but I had to give in. It was arranged, therefore, that he should leave me and try to find the way into camp, before night set in, and to return with food, &c. next morning. Accordingly he bent down a few saplings, forming a "Maroudie's Tail," and went off. Before doing so, though, he shook hands and said (with solemnity which would have done credit to a Judge passing a death sentence) "Good-bye, old chap. Christ knows if I'll see you again." Comforting words to be sure; but they did not have the desired effect upon me. I threw myself on the bed of leaves and endeavoured to sleep; but, with the rain pouring under me, down the side of the hill, and dripping through my by-no-means-water-proof shelter, this was an impossibility. My limbs got numb and I was obliged to rub them violently to keep up circulation. Once I got up, took off my clothes, wrung them out, and put them on again—only to get soaked as before. In the meantime an insatiable thirst took possession of me; but I could not leave the place to go in search of water, in case my companion should return, find me gone, and, not knowing the direction taken, lose track of me altogether. For some time, I was at a loss what to do, and tried to quench my thirst by catching the drops from the leaves. At last my mind was made up to go, at all costs, so I cut a piece of wood from the heart of a sapling, wrote on it "Gone for water," drew an arrow, pointing in the direction taken, and set it up, with my handkerchief, on a split stick, in front of my shelter. Providence favoured me and water was soon found; but it was fast beginning to get dusk. I tried to go to sleep again; but was disturbed by two large black scorpions taking a walk round and over me. One got killed; but the other I could not trouble with, as, with every movement, the chill of my wet clothes was more felt. I did not expect relief that night, and was just preparing to go to sleep, when a shout was heard and my friend, accompanied by my cousin, two men with a hammock and an Indian boy ("General Buller"), with a

lantern, appeared. I hastily ate and drank the sweet-bread and lime-juice, and started off with them for home, managing to get along without the hammock. All our matches had got wet, for the rain had not ceased falling, until a few minutes before, so we gave ourselves up to the Indian boy's care and he piloted us safely through the dark forest, and we arrived in camp at 9 o'clock. Fortunately no ill effects have resulted from my experience. I took a cold bath, immediately on reaching Camp, and followed this up with a plate of pease soup, a cup of hot cocoa, and some wild pine-apple. The next day I was able to walk over to another camp; and strolled round some claims which had been recently located.

Here let me disabuse the mind of many who are under the impression that it is absolutely necessary for a bushman to partake occasionally of alcoholic drinks. Experience has shown that total abstainers enjoy better health in the bush than those who "take a little."

While writing these notes "Notes" it will, perhaps, interest some, if mention be made of a bird which takes away the stigma attached to the *ornisi* of the Tropics, viz.—that they are very bright in plumage, but are wanting in song. The Quadrille Bird, which it was my good fortune to hear, when returning from line cutting, one day, is second to none of any of the many feathered songsters to which I have listened. While in England, two of my most interesting studies were Ornithology and Oology; and frequently was there in the person of myself a silent "audience" to the song of the Nightingale and its second, the Blackcap The songs of the Blackbird and Thrush were also very familiar; bnt neither of the birds mentioned come up, in my opinion, to the little Quadrille Bird of our forests. I say "little" because I am told that it is so (being about the size of a Blackcap); for, although its song was heard, it was not seen by me. My informant (an old bushman) also says that it is very unobtrusive in appearance, being, principally, of a brown plume—rather a curious coincidence with the Nightingale. The notes of the Quadrille Bird are very varied and the tone is exquisitely rich and pure. Commencing with a high, loud note, it travels up and down the scale, with easy glides and graceful turns, giving forth an enchanting harmony, the only expressive idea of which can be described as "Silver Chimes." The words and air of this pretty song are forcibly impressed upon one's mind with the bursting forth of our forest songster:—

"They are chiming gaily now
"As they chimed so long ago
"Silver tones that we know so well."

One could scarcely have imagined the notes of a bird to be so clear and sweet, and, with me, the Quadrille Bird will, in future, always take a place before the Nightingale.

The birds of our forest are of many varieties, and the study of them, their habits, building and breeding, give ample scope to an Ornithologist; but the task of cataloguing them and classifying them all will prove quite herculean. Apparently the commonest ones in the upper Massaruni are—Parrots, Maams, Toucans, Maamoos, Tiger Birds, Warracaubras, Dooroquaroos, Powis, Macaws, Crows, Maroudies, and Humming Birds. The Indians frequently keep Maams, Maroudies and Warracaubras; and our camp was not wanting in specimens of these. The last-named is also called the Trumpet Bird, and it makes a good pet and a reliable guard for fowls and chickens, on account of its strong antagonism to snakes, which it is very sharp in detecting and bringing to destruction. It is a very playful bird, and it amused me very much one day to watch one of them playing hide and seek, round the huts and bamboo clumps, with three Indian children, who had paid a visit to the camp. Its antipathy to strange dogs was also very marked, and many were the laughs we had as it drove would-be canine friends out of the clearing.

To anyone who has not travelled on the rivers, far away from civilisation, the pleasure of meeting other human beings can hardly be realisable. While travelling through the falls, one might meet many boats, going up and coming down; but, after the falls have been passed, the boats can make better headway and are, therefore, not so clumped together on the river. The first warning of an approaching boat is that of the sound of paddles, keeping time to some stirring shanty. Long before the boat can be seen, these sounds come wafting over the water, and the first man to hear them calls out "Boat a ramble." Returning boats have an easy time of it, as the stream is strong and little effort it required to make them speed on their course. With such light work, no wonder the men's spirits are equally light, and, should they be travelling at night (as they often do, on the down trip) with the Moon shining brightly, their singing is very lusty. As the sound of the paddles grows louder and louder and the words of the song can be heard more distinctly, one is thrilled with real pleasure. Then when the boat draws in to the camp, to receive letters and messages for Town, it is gladdening to see with what true delight men of the different crews recognise each other. Springing out of their boat, the homeward-bound men jump and leap over obstacles, in utter wildness, and the warm greetings, which are exchanged, are a speaking lesson to the stiff and formal rehearsals amongst Town Society. Loud laughter with like loud talking stir the quiet of the forest, and the whole scene is a lively one. The latest news from Town is exchanged for that from Topside; messages from folks at Home, sent on the chance of being delivered, are bartered for remembrances from those who are on the upward trip and who will not, in all probability, see their people for the

next four months—the usual time the men are registered for. The men from Bottomside give freely of their stores of tobacco; and the goodwill on all sides shews that mankind, if allowed freedom from all the restraints of a choked-up Town, will assert its true character and give vent to that feeling of friendliness which, in Town, must be smothered, or run the risk of being termed "boldness, presumption" and what not, if allowed exposure. If there is one thing a trip to the interior reveals it is the fact that man bears more love for his neighbour than Society's restrictions allow him to shew. The pleasure of meeting others is so intense that position is not considered. Universal and unclassy good feeling prevails, and that "Love for all men," so much preached and so little practised in the heart of "Civilisation," asserts itself and gives life an extra charm. When, at last, the Captain gives the order "In boat, in boat," knowing that he has halted too long already, one is inclined to bear a feeling of resentment towards him, for having disturbed such a happy state. The men are obedient, however, and they commence to rush round, giving last words and hearty handshakes, and then leap back to their places in the boat. For some few moments "Goodbyes" and parting words are shouted in exchange; then the paddles are taken up, the knock-bang-swish commences, and another stirring shanty drowns all further attempts at messages. Fainter and fainter grows the sounds, as the boat rapidly recedes down the river; but it is quite a long while before the last is heard and the spirit-like voices and the indistinct knock-bangs die away altogether. The feeling left behind is indiscribably sad, and one turns into one's jack with spasms of regret, which are almost unaccountable. When camping in the upper reaches of the river, at night, the deep silence of sleeping Nature reigning all around, on occasions when even the frogs condescend to be mute, there can be scarcely a more thrilling cry than "Boat a ramble." Such a trifling incident as man meeting man is thought nothing of where men are congregated in settlements; but when man has been away for days without having seen a human being other than the few in the boat in which he travels, the pleasure of meeting others causes him such a thrill of pleasure, which he scoffs at when he is once back in thick population.

Of my intercourse with the Indians, their customs and peculiarities, deer and hog hunting, chigoes, and camp life generally, nothing can be said here, having run into more pages than was my intention when commencing. I cannot conclude, however, without giving a short description of "Running the Falls," on the return journey.

Going up, we had taken fourteen days; but, coming down, we did the trip in two days and a half.

Leaving the waterside at four o'clock, one Sunday afternoon, we put out into mid-stream and drifted. The current took us swiftly along, and we soon left Ottawa Landing far behind. My hammock was slung under the hoops, where the provisions had been stowed, on the up trip, and, as it was a bright moonlight night, it was very enjoyable. The Captain, Bowman and all the Crew (seven in all) rolled themselves up and went to sleep; but I remained awake most of the time. Suddenly, at about midnight, there was the sound of scraping, a stop, and the boat swung round. It had drifted into the bushes at the end of an island. One of the boat-hands was sleeping in the bow of the boat and he received a thorough brushing up. After this, no one went to sleep. Before six, we put in at "Rockstone Camp," for the purpose of boiling coffee and cooking breakfast, which having been done, we started off again. Travelling at a rapid pace, we reached Toboco Fall shortly before Noon, and we hung out in the stream to take breakfast. At an island above this fall, we took in a boat-load of passengers, and then hastened away, with a paddle at each seat. What was laborious work, coming up, was now very light, and we soon got over Turesi Still Water and Turesi Fall. We camped, for the night, below this, at a place called "Brathwaite Camp," and the next day was spent in running the falls and shooting the rapids. Full headway was given to the boat and away she darted over the water. We were hardly at the head of one fall than we found ourselves in another, and we had scarcely left one rapid when seven or eight others had been passed. The Bowman and Captain were kept hard at work, guiding the boat in and out between the many rocks and boulders, dashing out of one channel into another, dropping from one level to another. Caburi was reached at one o'clock, and the boat was hauled over the rock, without being unloaded. Then we shot across the boiling basin beneath, and turned off, at the head of Mootesie Hole, down Warra-warra. This fall has three drops, and with each drop we shipped water. The boat, having full speed on, so as not to be sucked in by the eyamos, leaped from one level to another, like a deer chased by hounds. Before the danger could be realised, it was passed. And so we continued the whole day. The best run of all was that taken down Tramway Hole. This is a narrow passage, of great length, down which a very strong current flows, and every man put forth his utmost energies to give the boat headway. Trees and islands were passed in rapid succession, an object was barely seen before it was lost to sight; but, had there been a fallen tree, or another boat in our way, it is very probable that we should have been lost to sight also. To stop would have been an utter impossibility and the only course open to us would have been to make for an island and run aground, with the danger of all being brushed off, by the trees, into the water. It

was excitement from beginning to end; but, before the day was out, we only had half an hour's pulling to get out of Tutruba—the last fall, coming down. We left Crab Fall Camp at 5.30, next morning, and had the pleasure (?) of meeting the steamer at the Penal Settlement, on its way to Town. No one being allowed to leave a boat from the river, until it has first proceeded to Bartica and been declared, we had to be resigned to our fate and spend the two days in Bartica. Although the run down had been very pleasant and exciting, I was not sorry when the falls were all passed and life made more certain—for, when running the falls, every moment is one of danger.

A lengthly account of the run can scarcely be written, as it is accomplished in such a short time that not much can take place —except an accident.

"Trifles make the life of man."

APPENDIX A.

Ordinary requirements for an expedition of ten men and Mananger, for ten weeks.

5 bags B. B. Shot; 1 bag wads; 24 boxes gun caps; 2 lbs. powder; 1 shot gun; 1 box cartridges; 2 Buck guns; 120 yards print; 36 yards braid; needles; thread; hooks and eyes; 3 pieces calico; 28 yards salloo; 28 yards cotton; 6 thimbles; 6 strings gold beads; 6 strings blue beads; 12 strings red beads; 18 strings white beads; 1 doz. brushes; 1 doz. combs; 1 doz. looking-glasses; 1 box foreign note paper; 3 foolscap account books; 1 blotter; 1 manifold copying book; 1 box receipts; 1 Miners' Hand Book; 1 wages aocount book; 1 gold register; 1 diamond register; 1 jug ink; pens; 4 packages envelopes; 48 one cent stamps; 50 sets Location Forms; 1 memo book; 1 Collins' Royal Diary; 2 sticks sealing wax; 1 Application for Prospecting Licence; 1 Authorisation Form; 1 box stencil plates; 1 Labourers' wages and time book; 1 magnifying glass; 1 bottle Carbolic Oil; 2 bottles quinine tabs; 1 oz. quinine; 2 bots. Achonite; 1 bot. diarrhœa mixture; 2 boxes Haydock's Pills; 2 doz. diarrhœa pills; 3 ozs. essence of Peppermint; 3 ozs. Red Lavender: 3 ozs. Anodyne; 2 ozs. tincture of steel; 1 bot. Chlordyne; 2 bots. Glauber Salts; 1 bot. Fruit Salts; 1 bot. Castor Oil; Senna; 1 bot. Ammonia Forte; liut; plaster; linseed meal; 1 box ver. ointment; 2 bots. Radway's Ready Relief; ½ pint turpentine; indigo blue; 1 hammock; 1 blanket; 2 pairs Bluchers; 2 pairs of putties; clothing; toilet requirements; 8 fathoms rope; 13/2 brls. flour; 3½ bags rice; 3 drums fish; 3½ brls. beef; 12 tins sugar; 3 glns. H. Wines; 2 pints brandy; 3/48 ft. N. Y. boards; 2 criminels; 6 shovels; 10—18″ cutlasses; 1 L. spade; 2-5 lb. pickaxes; 5 yds. wire mesh ¼″ mesh; 5 yds. ditto 1/24 inch mesh; 5 lbs. 1″ wire nails: 5 lbs. 3″ wire nails; 3 balers; 6-7″ files; 4 lbs. chalk; 10-2 gal. buckets; 1 pr. snips; 1 dinner knife; 1 dinner fork; 3 spoons; 1 lb. coffee; 10 bars yellow soap; 1 bar carbolic soap; 1 square; 1 compass; 1 pencil; 1-2 ft. rule; 2 tents; 1 pr. compasses; 6 brls. biscuits; 5/2 brls. pork; 4/2 barrels split pease; 36 tins milk; 24 packs cocoa; 3 lbs. tea; 6 tins butter; 12 lbs. black tobacco; 24 cig. books; 8 lbs. cig. tobacco; 2 tins kerosine oil;

3 tubular lamps; 6 pros. bags; 3 rolls nesponset; 2 skillets; 1 frying pan; 1 claw-hammer; 1 hatchet; 3 axes; 1 scale and weights; 1 steel yard; ½ gross matches; 1 Jack plane; 1 hand saw; 1 cross cut saw; 1-2″ chisel; 1 enamel plate; 18 blk. handle knives; 1 wooden bucket; 2 tins white paint; 1 tin black; 1 enamel cup; 1 pros. knife; 1 case tin sheets; 1 chalk line; 3 paint brushes; 18 tins jam; 1 bot. Worcester Sauce; 1 box table salt; 1 box pepper; 1 box mustard; 2 doz. potted meats; 12 bots. lime juice; 4 heads cords; 4 packs fishing hooks.

N.B.—This is, of course, subject to alteration, according to wishes of parties concerned, and must, therefore, be taken as only approximate.

APPENDIX B.

DIAMONDS.—FROM INSTITUTE OF MINES REPORT.

During the twelve months ending June 30, 1902, 132,077 diamonds have been declared at the Department of Mines. Of these stones, 1,414 were found in Potaro, 18 in Conawarook, 5 on the Essequebo river, 3 in the Cuyuni and one in the Barama, and the rest on the Mazaruni. This seems to show that the area over which the drift is scattered is a very considerable one. An encouraging sign has been the discovery quite lately of stones larger than the ordinary run. Up to this, the larger stones have been found in the Potaro district; but this is probably due to the fact that the stones being mostly found in the sluices accidentally while washing gold, the smaller ones were overlooked, whereas in the Mazaruni district where work is carried on systematically, scarcely the smallest stones would escape notice. The stones hitherto found in British Guiana are exactly like those coming from Diamantina in Brazil and were probably formed under the same conditions.

It is quite possible that patient and continued prospecting will lead to the discovery of a deep deposit such as that reported at S. Jâo de Chapado in Minas Geraes. Up to the present, however, this remains hypothetical, though there seems to be little doubt that at any rate some of the Companies now working will achieve good results, even in shallow deposits, especially with the labour saving machinery which is now being introduced. Perhaps the greatest drawback to the future prosperity of Diamond Mining, if mining it can be termed, in this Colony is the difficulty and the not inconsiderable amount of danger involved in reaching the district. This, however, is far from being an unmixed evil; for the initial expense, though somewhat burdensome to the beginner, has served to deter an undesirable class from pursuing towards the new industry the same dishonest practices which have wrought such harm to the gold industry. And as the present policy of the Government appears to be one of non-intervention, it is more than likely that the more successful companies are congratulating themselves that though it cost them more to get their provisions to the theatre of operations,

they are not over-run by the miscellaneous collection of adventurers that infests the gold fields, presumably because their presence is undesirable where there are police.

Messrs. Armeny and Fogel head the list with a production of 55,608 stones and after them follow the British Guiana Diamond Company, Limited, with 27,557, the Mazaruni Company, Limited, with 26,280 and the Marshall Syndicate with 14,045. Twenty-seven Companies have declared diamonds during the year but only 14 of them have declared more than 100 stones. The Customs returns shew an export of 9,822½ carats for the year ending June 30th, 1902.

The Government has on hand a scheme for facilitating the journey to the fields of the Upper Mazaruni by means of a path from the terminus of steam communication at Potaro to the still water above the falls of Mazaruni, a considerable reach of which is now being navigated by a launch provided by the enterprise of Sprostons, Limited. Another suggestion has been made to the effect that an extension of the Caburi road, which already runs for over sixty miles from Bartica, would allow of a light steam or electric tramway being put down.

THE MEDICINAL BARKS OF BRITISH GUIANA.

TO THE EDITOR: THE DAILY CHRONICLE.

Sir,—A great many persons who are working in the gold and diamond fields, and also on wood-cutting grants, are not aware of the medicinal properties of the barks which can be found in our forests, as I think that it will be of some use to publish a list of these barks and what they are good for from a medicinal point of view, as stated by Messrs. John Bremner, junior, and Edward Seon, of the Demerara River, whose lists were published in a hand book or catalogue enumerating the exhibits sent from British Guiana to the Calcutta International Exhibition of 1883.

They are as follows, namely:—

1. Warahia bark. A decoction of this bark is used by the Indians for sore throat.
2. Dally bark. A decoction of the bark should be taken early in the morning for sore throat.
3. Cacarwa bark. A decoction of this bark is used as a purgative.
4. Caracara Rope. A decoction used for bathing sores.
5. Sereda bark. This is used as a febrifuge, a purgative and for smallpox.
6. Oboody bark. Used as an emetic.
7. Etekeboroo bark. Used as an emetic.
8. Cacarally bark. A decoction, is used for bathing ulcers and sores, and the inner bark of the white cacarally is used by the Indians as a substitute for and in preference to paper for making their cigarettes, and is called "ouina."
9. Aresarroo bark. This bark powdered and mixed with gunpowder is a useful remedy for ringworm, and the decoction of the bark is used for dressing ulcers.

10. Cocoro. A decoction of this bark is used in cases of palpitation of the heart.
11. Haezebie bark. A decoction, is used as a gargle for sore throats.
12. Dacama Bark. Used as a purgative.
13. Waracozie bark. A decoction of the bark is used as a dressing for sores.
14. Semaropa bark Used in cases of bad diarrhœa.
15. Troisle bark. A decoction is used for washing sores.
16. Sarubaba bark. A decoction, is used as a febrifuge.
17. Caraba bark A decoction of this bark is used for constipation.
18. Yaruquara and Corehecoqoco bark. Used conjointly for asthma.
19. Cowabally bark. Used as a febrifuge and for toothache.
20. Wallaba bark. Used as a febrifuge and for toothache.
21. Kerecowa bark. A decoction of this bark is used as an antidote to certain poisons.
22. Arewewa. Usued as a purgative.
23. Toraly bark. Used as a purgative.
24. Ouloo bark. Used as a febrifuge.
25. Hiawa bark. A decoction of the bark is used for curing coughs.
26. Aramata. A poultice of this bark is used for snake, centipede and spider bites, and a decoction of the bark is used by the Indians to wash their dogs, and sometimes their own heads to destroy vermin.
27. Wimorshie bark. Used as a febrifuge.
28. Squarie bark. Used as a febrifuge.
29. Mora bark. Used for dysentery.
30. Cacoryan bark. Used as a purgative.
31. Wauradary bark. Used for bathing sores.
32. Mani bark. Used as a purgative.
33. Moraballi bark. Used as a fish poison, and also for dressing sores.
34. Locust bark. Used in cases of dysentery.
35. Cashew bark. Used as an astringent.
36. Simaruba root. Used for dysentery.
37. Wild Guava bark. Used for dysentery.
38. Curuballi bark. Used as an emetic.

According to Mr. Michael McTurk, C.M.G., the following barks are not mentioned by Messrs. Bremner and Seon, but have medicinal properties :—

39. Bullet-tree bark. Used occasionally as an emetic.
40. Greenheart or Bibiru. From the bark and seeds "bibirine" is extracted. The Indians used the seeds medicinally in cases of diarrhœa, and for food grounded and mixed with other meals in times of scarcity.

From the above enumeration of the usefulness of medicial barks it will be seen that almost all of them will be a great help to persons whose avocations take them into the bush. As the labourers and others in the gold-fields generally prefer to use barks (if they can get them) instead of other medicines in certan diseases a supply of these barks could always be easily obtained, and many valuable lives might be saved. If the barks named were subjected to proper chemical tests many of them, I venture to say, will become valuable as medcines which generally could be adopted. Assuming that that will be the case then another "minor industy" will come into existence which can help to add something to the revivifying of the waning prosperity of the "Magnificent Province"—an expression which, by the way, was first used by Governor Sir James Carmichael Smyth in one of his speeches addressed to the Legislative body of the colony, I believe, somewhere about 1835 or 1836. I am sure that if the

Indians of our forests are encouraged in a systematic way they could be of very great use in the collecting of these barks and many other useful things which they alone could obtain for us in sufficient quantities for commercial purposes.

I am, Sir, etc.,

F. M. CARBIN.

July 21st, 1902.

THE MEDICINAL PROPERTIES OF COLONY BARKS.

TO THE EDITOR: THE DAILY CHRONICLE.

Sir,—*Apropos* of Mr. Carbin's letter in your issue of to-day, it might interest some to know that the inner bark of the tapparow is a splendid cure for dysentery—a complaint very common during the trip up to and while in the bush. The tapparow is a bush which grows on the banks of the streams. First remove the outer bark, then scrape the inner, and let the shavings soak in water for several hours. The "tea" thus made should be taken frequently in place of other drinks.

Bamboo is not to be met with everywhere; but it is well to know that tea made from its leaves (taken hot) is useful in cases of fever, as it induces perspiration. Bamboo leaf tea is also a cure for headache.

The leaf of the fiddlewood tree when pounded yields a juice which if taken with a little salt will often free a person from a conglomeration of phlem on the chest. It causes violent expectoration and everyone cannot take it.

Mr. Carbin has confined his list to barks, gums and roots procurable in the bush. This, necessarily, excludes many things which cannot easily be found there, but which can be obtained in the colony; though to enumerate all the medicinal trees, plants, herbs, &c., of the colony would require a longer list than most people would care to go to the trouble of making out.

I have often heard people complain of being unable to retain nourishment, but I think a great many of these cases might be relieved if the use of mint tea were more generally known. Let the mint be soaked in hot water, until it has brewed properly, then strain and add milk. From experience I know the beneficial effect of this, though it sometimes happens that the first draught is not retained and a second has to be taken. Mint tea has the effect also of strengthening the stomach and soothing it, and of curing "wind." As dried mint will answer the purpose almost as well as fresh, bushmen can easily take a supply of this with them into the bush.

Another useful tea in cases of fever is that made from fitweed and the juice of a lime.

Though somewhat foreign to the subject referred to, I might take this opportunity of mentioning that the beverage is made by boiling (and afterwards sweetening) the tapparow berries are refreshing. It might also be news to some that bamboos hold water; and a thirsty traveller coming across a bamboo clump may quench his thirst by "tapping" the stems. And many people are unaware that our forest boasts of a certain bush-rope, called "travellers' rope," which on being cut yields a supply of clear drinkable water.

I am, Sir, &c.,

W. GRAINGE WHITE.

Georgetown, British Guiana,
July 22nd, 1902.

ADDENDUM.

When this booklet was ready for binding it was discovered that although jigging and dumping were first practised here by Messrs. Oats, the method had been furnished to the local press by Professor Harrison, some time previously.

On submitting the proof to Professor Harrison, he kindly informed me that the *highest* authorities disprove of the hammering of stones as a test—many diamonds having been spoilt by the process. He was also good enough to refer me to page 1,189 of the "United States Geological Survey," Eighth Annual Report, 1896–7, part v., of which the following is an extract, which he allowed me to make from the copy in his possession:—

"A writer in the *Engineering and Mining Journal* recommends "the following outfit: a light pick, a shovel, a miner's 'wallett' "or a long bag for carrying the gravel, and two screens, or "'riddles,' of $\frac{3}{4}''$ and $\frac{1}{8}''$ respectively, together with a tub for "washing, easily made by cutting a barrel in half, or else a "rubber bath tub, and a sheet of rubber cloth, to sort the washed "gravel upon. To examine it he should have a watchmaker's "lens (2 powers) and a hardness scale, made by fixing a chip of "diamond, one of corundum and one of quartz, with lapidary's "cement, into the end of a piece of glass tubing, or of a pencil "from which the rubber has been removed. The lapidary's "cement melts easily over a spirit lamp, may then be easily "moulded with the fingers, and becomes very hard and firm."

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Georgetown,
15th October, 1902.

W. F. Laurie Thomas, C.E.

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