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OF

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**Society**

OF

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Edited by ... .. JAMES RODWAY, F.L.S.

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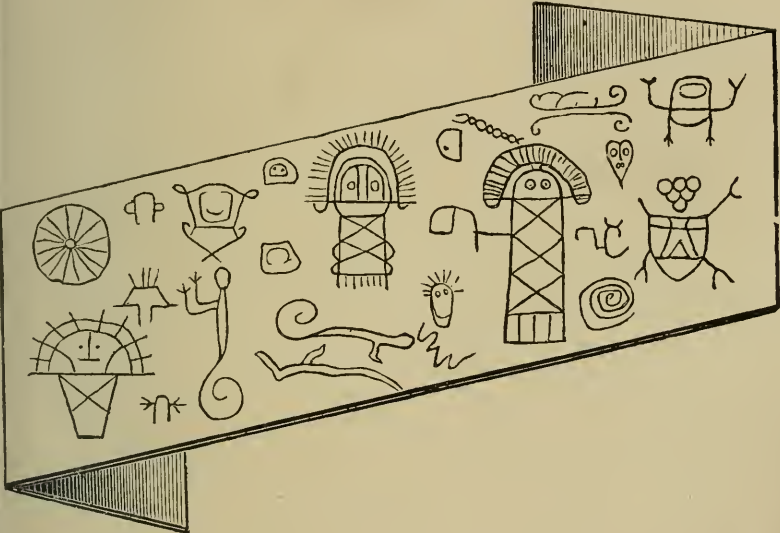


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## “ Multiple Evaporation.”

By *William Price Abell, Wh.Sc., Assoc. M. Inst. C.E.*



INCE the efficient cycle of evaporation introduced by RILLIEUX in 1830, or more correctly speaking by PECQUEUR in 1829, no one appears to have put forward a satisfactory explanation of the unequal distribution of heat between the units of multiple evaporators, and, as clearly pointed out in Mr. SCARD'S interesting paper on the subject, we are not yet in possession of all, or even sufficient facts and data on which to base a satisfactory theory.

With our present knowledge of this subject we are very much in the same position with regard to a satisfactory explanation of the behaviour of “ Multiple Evaporation” that Engineers were, for a hundred years after HORNBLOWER in 1781 introduced his Compound Engine, before finding a theory that satisfactorily explained its established efficiency. It is now a matter of history that only a little over ten years since, was data available to prove that the efficiency of the Compound Engine was due to the reduction of the variation of pressure and temperature in each cylinder, this not only reducing the amount of liquification but by re-evaporating

the condensed steam which took place in the high pressure cylinder, it was enabled to do useful work in the cylinder of lower pressure instead of passing direct to the condenser.

This is a digression which you will tolerate seeing the analogy in the old difficulty of establishing a satisfactory explanation of the behaviour of heat in Compound Engines and our still existing want of a satisfactory explanation of the behaviour of heat in multiple evaporators.

Before proceeding further it is advisable to clearly survey the ground we stand on, and state the beneficial results we expect from the evolution of a satisfactory theory.

First. Taking the only true standard of efficiency; viz., work done for fuel used, there is no doubt whatever that as much is being got out of the present cycle as is possible, and that until a new cycle is introduced, (this not probable), the most we can expect is improvement in small details of construction that will reduce the first cost and upkeep of the apparatus; but which cannot materially affect the economical work of a multiple evaporator from a fuel point of view.

Second. We can look for cheaper evaporators that will require less to keep in order, by obtaining data that will enable manufacturers to eliminate the deleterious gases before they either monopolise a portion of useful heating surface; or to damaging corrosion to the tubes and pumps.

With regard to the first clause; we well recognise that so long as CARNOT'S principle is fulfilled in RIL-LIEUX'S cycle, the amount of work done will depend on the constant temperature at which heat is received and

at which rejected ; no matter what difference there is in the details, or whether film or ordinary evaporation is adopted. The following facts from actual practice, taken from estates making mostly yellow sugar, will illustrate this.

On *Aurora* estate there is a triple built to an old design in 1883, containing 3,000 square feet of heating surface, having in the centre of each calandria an 8-inch circulating pipe, and 12-inch vapour pipes (with no provision for circulation) connecting the vessels at one spot in each calandria ; the syrup is taken off with a vacuum montejus, its usual evaporation is 3 lbs. of water per square foot of heating surface, and compared with more modern evaporators looks obsolete and defective ; but as a matter of fact, from a fuel and upkeep point of view, this old fashioned triple with tortuous passages will compare more than favourably with the best work of the most modern evaporators in this colony. The only disadvantage appears to be in the large amount of heating surface embodied, and consequently high first cost of the apparatus.

At *Perseverance* a modern evaporator having 18-inch circulating pipes, and efficient divided 18-inch steam passages, also at *Anna Regina*, where the triple embodies Mr. CHAPMAN'S well thought out improvements in circulation ; double the work per square foot of heating surface is done ; but the fuel cost for work done is practically the same,

The successful working of the first “ Yaryan ” erected here led many into expense and difficulty through expecting fuel economies from this and other film evaporators that were quite impossible ; the writer well remembers

at that time often pointing out that the internal economies of film evaporation would not admit of economies not already obtained in other good and much simpler evaporators. The same remarks hold good with regard to the vexed but simple question of the economy of film and water tube boilers, *versus* boilers of the ordinary type.

Other cases that are legion might be instanced to show that so long as we conform with CARNOT'S law and RILLIEUX'S cycle, the evaporation per square foot of heating surface is in no way connected with fuel economy, and that until some one introduces a more perfect cycle, the ground left unturned for us to cultivate and improve, is very small indeed.

With regard to the second paragraph, we all recognise that invariably a deleterious active corroding gas is given off; to carry this away in the old evaporators separate pipes often connected the top of the calandrias to the calandria pump pipes; this in all cases under observation has proved useless; the far better plan is that instanced by Mr. CORNISH, viz., connecting the tops of the calandrias direct with the main pump. However, unless this is done in a manner to get the condensed gas well diluted with the injection water, the pumps are soon damaged; the writer well remembers a case where by attending to these facts the main triple pumps, instead of wearing out after incessant trouble every three years, now give no trouble whatever and show but little wear. Also another case where by designing a pump with no internal bolts, having a combined air vessel and receiver containing lime for the calandria water to pass through, no trouble has been experienced this last six years. The other day

a friend made the following novel and probably good suggestion ; to draw the deleterious gas from the top of the calandrias into, and discharge from separate small vacuum receivers.

Why the calandria water from some cane juice is more vicious than others is a mystery, this difference is well illustrated by the following examples taken from yellow sugar factories.

On both *Aurora* and *Perseverance*, wrought iron connections are partly used to carry the calandria water to the pumps, these pumps are made of cast iron with wrought iron valve guards and nuts (these are practically as perfect to-day as when erected) in the former case twelve, and in the latter case four years ago ; corroded tubes and other parts of the triple apparatus have never been experienced on these estates, see the sample tube (A) cut from the *Aurora* evaporator after twelve years' work ; you will notice that it is in practically good condition for another twelve years run. On the other hand, there are estates on which we too well recognise the destructive activity of the calandria vapour and its very definite lines of active corrosion and destruction, invariably on the top of the calandrias as pointed out by Mr. CORNISH, and particularly on the side remote from the entrance of the vapour. For instance, the triple effect tubes of both *Taymouth Manor* and *Hampton Court*, have during eight years been corroded twice in the parts of the calandria's remote from the vapour entrance ; no longer ago than to-day two W. I. stay rods (D) and (E) were taken out, these during only a few months' work have been corroded from one inch down to half-an-inch in diameter ; just one-half the original area. These rods

are so interesting and illustrate the foregoing so clearly that a piece has been cut off and sent for your observation; a sketch, Fig. 1, has also been made, on which it will be noticed that the corrosion extends exactly one and a half inches from the top tube plate down, and that beyond that the iron shows only one-sixteenth of an inch corrosion, the zone of active gas being clearly and distinctly shown, the bottom of the rod in contact with the water was a little more corroded than the centre of the rod, but nothing like the top part. Tubes (B and F) were cut from triples after three years' work, these also show plainly the effect of the active top corroding zone. Tube (C) is another similar example, except that it was originally tinned, in this case the corroding zone is quite as marked, besides this there are pittings and longitudinal grooves also corroded in, doubtless these practical examples will be interesting to chemists, who by letting light on the subject and giving engineers an antidote will confer a boon on planters.

In the two cases under consideration the copper water pipes have been renewed oftener, as a matter of fact some  $2\frac{1}{2}$  inch wrought iron gas pipe, used as a temporary water pipe, was eaten out repeatedly in three days, whilst on a neighbouring estate with practically a duplicate evaporator and exactly the same process of manufacture and chemicals used, a wrought iron pipe has been satisfactorily used for years; these are facts. Will some one explain the cause? The vapour is derived from the cane juice after it leaves the eliminators; the most active is given off in the third or last vessel of the evaporator; on some estates it is light and harmless, whilst on other estates the cane juice, though treated in



an exactly similar manner, gives off a destructive, vicious, corrosive gas.

Having so far dwelt on the benefits to be derived from a more comprehensive knowledge and data of evaporators we will proceed with the points raised by Mr. LUBBOCK in 1883, and Mr. SCARD in his paper before this Society.

That there is not an equal division of temperature between the units of a multiple evaporator we all recognise, but so far cannot give a satisfactory explanation of the why or wherefore.

Has not the diathermancy of the various vapours, that is, their transparency to heat, much to do with the work of evaporators, and the unequal distribution and requirements of heat that we observe in the actual working of multiple evaporators dealing with cane juice ?

Although the adiathermancy of substances is well-known to you, perhaps it will not be out of place to give a striking instance of it experienced by the writer. At “ Joppa,” in the gardens of the late Mr. JENNER, there is a glass summer house that admits the full light of the sun; but its heat is prevented from penetrating by the adiathermanous character of water with which the glass is covered, this produces a phenomenal and curious coolness to persons inside, although exposed to the full glare of the sun.

MELLONI has shown clearly that water is adiathermanous, and this explains Mr. CORNISH’S observation that the calandria water from one vessel does not deliver up all the heat in passing through the next below. Hence the doubtful practical economy of passing the corrosive calandria water from one vessel through the next below.

Again, from MELLONI’S experiments we know that

steam and air are diathermanous, whilst ammonia vapour is adiathermanous, and interferes to a very considerable extent with heat waves. For an explanation of the phenomena of temperatures in a multiple evaporator it is more than probable that we must consider the adiathermancy and varying specific heats of ammonia and other gases given off under conditions of density, temperature and pressure, which we know, but the cause of which we are ignorant.

For instance, going back to calandria tubes corroding at their tops, and this taking place most actively in the third vessel, the action being invariably most severe on the side remote from the entrance of the vapour; these are facts, and reasoning from these facts the following conclusions present themselves:—

(a.) The Calandrias contain two or more very distinct gases or vapours.

(b.) These gases or vapours separate, and locate and appropriate whole or parts of zones suitable to their characters.

(c.) The destructive gases are the lighter.

(d.) The light and most destructive gases are given off in the third vessel, where the density and vacuum is the highest and the temperature the lowest. And where the difference of temperature is greatest, this latter (apart from actual observation), is one third more than one would expect.

(e.) Different cane juice under exactly similar chemical treatment gives off very different gases.

With regard to paragraph (a), the writer has not on hand at the present moment an analysis of calandria water; chemists and scientists tell us that these gases are



ammoniacal compounds, and that ammonia is adiathermanous whilst steam is diathermanous. Is it not rational to conclude that these gases, separated from the steam and collected in blocks, and also the remainder partly mixed with steam may bring about a totally different effect to what would be obtained from pure steam? A trial of the condition and behaviour of an evaporator dealing with water would let much light on the point.

In paragraph (*d*) we have an apparent anomaly very difficult to account for, particularly when we consider that ammoniacal gases boil at two-thirds of the temperature required to boil water. This particularly calls for our consideration, for in the writer's limited experience it appears rational to conclude that the light gases should be given off in the eliminators, particularly on estates where yellow sugar is made, and the juice retained a considerable time under the boiling action of high pressure steam. Again, if not all liberated in the eliminator, one would expect to find the lighter gases given off in the first vessel of the multiple evaporator. Such is not the case. We all know that it is in the second vessel, at a temperature of 180° F., and a vacuum of 15" that these light gases are most actively given off, and passing over to the third vessel distinctly separate and appropriate spots and blocks to themselves, mostly at the top, and usually at the side remote from the entrance of the vapour to that calandria. It is the wandering about of these blotches or blocks of ammoniacal or similar gases that doubtless accounts for the wandering irregular flow of circulation or boil in the second vessel; and the spasmodic constantly changing position of flow in the third vessel as instanced by Mr. CORNISH,

Will some one explain why these light gases are not given off earlier in the career of the juice, when its temperature is higher, and its density is lower?

Data taken by the writer in 1888, immediately after erecting the first "Yaryan" evaporator in this colony, will be interesting when compared with data taken after the addition of another vessel, converting it from a quadruple into a quintuple effet; also data taken from a triple. It is well worth noting that in each case the greatest difference of temperature was in the last vessel:

Steam	Pres.	1st.	2nd.	3rd.	4th.	5th Ves.	
5 lbs.	...	5" Vc.	15" Vc.	26" Vc.	...	...	T. Effet.
5 lbs.	...	5" "	13" "	17" "	25" Vc.	...	Qd. Effet.
10 lbs.	...	...	9" "	14" "	19" "	25" Vc.	Qt. Effet.

One gathers from Mr. CORNISH'S letter that he believes circulation prevents corrosion; with soft scales this is correct but with the hard scales here dealt with, circulation appears to have little effect in preventing deposit; for instance "Yaryan" and other film evaporators scale quite as quick as ordinary evaporators. To prevent scaling, what appeared to be a very good practical suggestion was made in *Sugar Cane* some time back, viz., to insert a wooden lath into each tube for the scale to deposit on. This lath at the same time by displacing much idle liquor facilitated circulation, and consequently increased the evaporation per square foot of heating surface. Of course if this was applied to a vertical evaporator means would have to be taken to prevent these wood laths from floating out whilst at the same time facilitating their withdrawal. The writer has some under observation at the present moment. As a matter of fact a spanner inadvertently left in a calandria

at the beginning of this crop was removed last week and found to be coated with scale four times thicker than that on the tubes and sides of the vessels.

In passing it is well to draw attention to the apparent neglect of entrainment, not only by the makers of evaporators but by the users also. There are many instances where this entrainment is continually wasting a very small quantity of liquor, imperceptible to anything but chemical observation, but, by its constancy, causing a tremendous loss of sugar on the year's crop.

Having given some very pointed facts it now only remains to offer suggestions on the best method to be adopted in order to get the data on the physiology of multiple evaporation as instanced by Mr. SCARD. In doing this the normal condition of working should be as little interfered with as possible. In passing one cannot help remarking that this is a case in which the makers of evaporators might and should give assistance.

The following would be required for the syrup :—

Meter or Tank to measure the liquor entering the 1st vessel.

Meter to measure the liquor leaving 1st vessel for 2nd.

” ” ” 2nd ” 3rd.

Tank to measure the liquor in 3rd vessel.

For the steam :—

Meter or Tank for measuring the water from the condensed steam.

” from the 2nd calandria pump.

” from the 3rd vessel calandria pump.

In fixing up the water measures or meters, care would have to be taken to avoid the possibility of registering gas instead of liquid, the photo Fig. 2, shows how this was done in 1890 with a meter made by the writer out of an old clock and galvanized roofing sheet.

The syrup meters might be of the WORTHINGTON or

any other suitable type that register correctly without interfering with the usual working condition of the liquor in passing from one vessel to the other.

These are simply suggestions admitting of fuller consideration and doubtless open to improvement, but if carried out they would render visible the internal work of an evaporator without interfering with its normal working conditions or thwarting the work of the factory.

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FIG. 1.

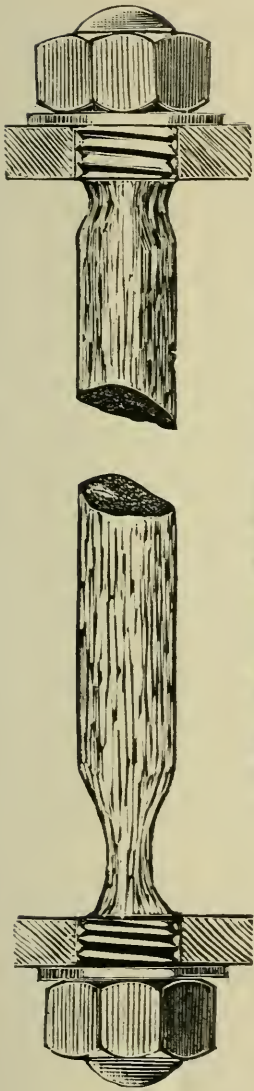
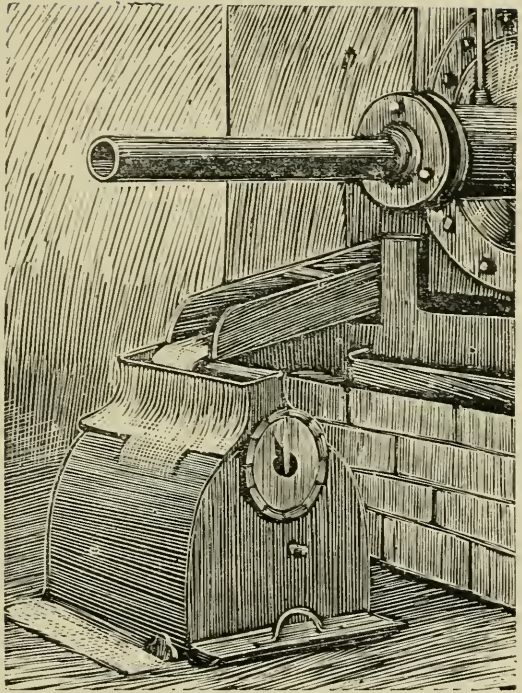


FIG. 2.



Calandria Water Meter.





## *The Indian Policy of the Dutch.*

*By the Editor.*



WHEN Guiana was discovered the coast and lower districts must have been fairly well populated. Of the four tribes which then came in contact with the traders, the Caribs were estimated at something like 140,000, about a fourth of whom lived between the Corentyne and the Essequibo, and the remainder in Caribana, which included the North-West district and the delta of the Orinoco. If we take this estimate as being anything like exact then Caribana must have contained a population of a hundred thousand besides Arawaks and Warrows. There appears to have been four great Carib centres known as the Kingdoms of Pawrooma, (Pomeroon), Moruga, Waini and Barima, the chief towns of which were Maripa, Cooparoore, Tocoopima and Pekwa, each community being under one or more war captains. The estimate of Major JOHN SCOTT, made in 1666, puts down the population of what is known as British Guiana, up to the delta of the Orinoco, as 28,000 families of Caribs and 8,000 of Arawaks, besides Acawoios and Warrows. While making every allowance for exaggeration, we are bound to admit that the Indian population was a factor to be reckoned with in any attempts to settle. That the natives were somewhat different from the scattered communities now living in the interior is proved by the fact that cargoes of tobacco, cotton, and other produce could be obtained at regular intervals, and that it paid to send small trading vessels

on such risky voyages, For, they were risky, notwithstanding the fact that Guiana was outside the track to the Spanish Indies, the claimants to the whole of America having no hesitation in attacking vessels of other nations whenever and wherever they had the opportunity.

After the Spaniards had shewn the Caribs what they might expect if they allowed them to gain a footing in the country, the cannibals defended their homes whenever they were attacked, and everywhere apparently with success. As in the case of the Caribbee Islands, it followed therefore that Spain never gained a footing here, and that the country was left open to other nations. These later arrivals, by proclaiming their enmity to Spain, soon gained the confidence of the Caribs and were allowed free access to places from whence Spaniards would have been at once expelled, had they dared to show themselves.

In the earliest years of the trading factory at Kyk-over-al we find the Dutch at peace with both Arawaks and Caribs, and doing their utmost to prevent quarrels between them. By the conditions made in 1627, under which Berbice was settled, VAN PEERE agreed that the Indians should be treated justly and honestly, that promises made to them should not be broken, that they should not be robbed, and that his colonists should not interfere with their wives. "The Articled Letter" of the West India Company also charged all persons not to ill-treat the natives of the countries they visited, and not to injure them in any way in their persons, goods, women or children, on pain of fines or flogging. In the "Instructions" to ABRAHAM BEEKMAN, dated 1st September, 1678, he was told to get from the former



Commandeur, exact information on the nature and customs of the Indians who came to trade there, and he was also enjoined to see that not the least offence might be given to them. At the same time however he was to keep a good watch, day and night, to prevent a surprise, and take care that the Indians did not approach the fort when armed with guns.

With all their care however the early Commandeurs could not avoid disputes altogether, and when the English were at war the latter seem to have used their influence to make trouble. Apart from these great quarrels however there were difficulties in connection with the Indian slave trade, which caused so much trouble in Berbice as well as in Essequibo, that Ordinances were passed prohibiting the taking of any inhabitant of these rivers as a slave. As far as we can glean the first regulation on this matter was made by Commandeur ABRAHAM BEEKMAN in 1686. A white man and a negro had been killed by Indians through the enslaving of one of the natives, and it was therefore ordered that no one should buy these people in future without the transaction being witnessed by the Commandeur. It was then stated that Indians sold their wives, and even their friends, to the settlers, and the Commandeur was of opinion that such conduct had led to trouble in Surinam. Later, in 1717, a special tax was laid upon red slaves and the number owned by each inhabitant was limited to six, who were to be procured from the Orinoco (probably Barima) by purchase or exchange.

The hunting of runaway negroes by the Indians became common towards the middle of the last century, being commenced by offering rewards for their recovery

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either dead or alive. The first record of such a transaction was in 1743, when three barbecued right hands were brought, for each of which the Commandeur paid ten axes. As the number of Africans increased and desertions became more frequent, every effort was made to conciliate the Indians and induce them to guard the plantations, but it was not until a system of regular presents came into use that the settlers were able to command their services. We first hear of the engagement of a large body of Indians in 1763, when Governor GRAVESANDE sent them overland from Demerara to Berbice, to capture or kill the rebels who attempted to escape after the insurrection was suppressed. This measure proved so effective that very few negroes took to the bush, and therefore no great community of runaways was formed to give trouble in the future. For the services then rendered, the Carib, Acawoio and Arawak Chieftains were presented with silver collars on which were engraved the monogram of the West India Company. The arrangements with the Indians appear to have been similar in some respects to those with the Bush Negroes in Surinam, and in the absence of any written treaties with the former we may take a few articles from the agreement made in 1768 with the Auca negroes. If slaves ran away to them they were bound to bring them back and deliver them to the nearest white man, who would send the runaways to a Burgher Officer and get a premium of ten to fifteen guilders for each. As soon as a desertion was reported they were bound to hunt the runaway, and if there should be a riot they must assist in its suppression. There was to be one Captain, who must be elected for life, and he was entitled to nominate

his successor. When they required anything from the Governor they must send five or six of their headmen as delegates, and that these might pass free, the Chief was provided with silver headed sticks to be carried while on the mission.

In November 1772 a slave riot took place in Essequibo, but the Indians under Captain VAN DER HEYDEN suppressed it without much trouble. The Company gave the Captain a silver-hilted sword, and the Indian Chiefs also got silver ornaments, and their men presents of salem pores, trumpets, looking-glasses, &c., from the colonial authorities. The Company, when they heard the news, sent out six silver collars for the Chiefs, but as they had already received presents, these were ordered to be returned.

From this time we begin to see something like a system, but as yet the Company was too mean to carry out any such arrangements as were made later. The planters saw the advantage of having the Indians at hand in case of a riot or negro hunt, but the authorities were limited by the mean policy of their High Honourables the Directors. After the French had restored the colonies to Holland in 1784, attempts were made to put everything on a different basis, and the Directors ordered that the Indians should be conciliated, to prevent slave desertions and put down revolts. They recommended that land should be given to the Caribs so that they might be kept together, that they should receive regular presents, and that their Captains or "Owls" should be provided with silver-headed sticks with the Company's arms engraved upon them, and silver collars. This appears to have been done a little while afterwards, when the Chiefs

were also presented with hats trimmed with silver lace. In October 1784 the Arawak Chiefs were convened at Fort Zeelandia to arrange for pursuing some runaways who had wounded a white man and afterwards escaped to the Orinoco. It was then resolved to establish a new post on the Moruca (the former having become dilapidated) and to man it with forty or fifty Indians; no one was to be allowed to go beyond this post without a pass from the Governor. It will be interesting to note that when troops were expected from Holland in April 1792, it was proposed to station some of them at this post, which we may presume was done.

In 1795, there was a great insurrection on the West Coast, where the slaves were joined by the Bush Negroes from the savannah between the Hobabo and the Boeraserie. A large body of Indians was employed who scoured the whole country aback of the plantations and broke up the camps of the runaways for a time. Some of these people came from the Corentyne, and in September of the same year the Court of Policy awarded them 5,500 guilders in gold joes. The expenses of putting down this insurrection were so great that an extraordinary tax had to be imposed. We may here note in connection with the rewards to the Burgher Officers engaged that they each received 250 guilders and a piece of land either on the West Coast of Essequibo or in the Pomeroon. The year following over £2,000 were given to the Indians in goods, and about £700 in cash.

In a former paper\* we have given an account of some of the raids on Bush Negroes which were carried out after 1795. The result of these and the continual de-

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\* Charles Waterton and his Demerara friend. *Timehri*, Vol. iv, N.S.

sersion of slaves was the adoption of a regular system of presents which were given by the postholders. Instructions to postholders were passed by the Court of Policy on the 18th of May 1803, during that brief period when the colonies reverted to the Batavian Republic, and these may be considered as embodying the Indian policy of the Dutch, for there appears to have been little or no alteration made in them under British rule. There seems to have been at that time two Protectors of Indians, one for Demerara and the other for Essequibo; later there were six for the Demerara river, Pomeroon, Mahaica, Mahaicony, Essequibo river and Boeraserie creek, at each of which places there was a postholder who received a salary of 1,200 guilders (£100) per annum. The Protectors were not paid and therefore as a rule took little interest in their duties, which included a general supervision of their subordinates, and the auditing of their accounts. The "Instructions" were as follows:—

1. The postholder shall keep an accurate journal of his proceedings, and of all the occurrences at the post.

2. He shall transmit quarterly a copy of his journal to the protector of his district.

3. In case of any extraordinary occurrence at or near the post, he shall immediately acquaint the protector therewith.

4. He shall take care to keep the post in good order, and he shall use his utmost exertions to attach to it the Indians who call upon him or who live in his vicinity.

5. He shall endeavour on all occasions to prevent misunderstandings or quarrels between the several Indian tribes, and, where any such exist, he shall exert himself to restore peace.



6. When required by the protector, he shall be obliged to repair to him without loss of time, and to execute promptly any orders he may receive from the protector.

7. He shall not permit any persons, whether whites, free coloured or negroes to pass the post unless they shew him a pass from the Governor or from one of the protectors of the Indians, the latter being empowered to grant such passes, which must always specify the reason why the persons therein named are to go beyond the post.

8. If any person, not provided with such a pass should attempt to pass the post, the postholder shall be authorised, and is even obliged to detain such person or persons, and to bring them to town before the Governor, at the same time giving notice to the protector.

9. But, to persons having a proper pass he shall give every assistance in his power towards forwarding the business they are upon.

10. He shall not be allowed to carry on any traffic, nor shall he compel the Indians to sell to him the articles they bring down, but he shall suffer them to proceed without any molestation whatever in their trade. Any articles bought from them he shall cause to be duly paid for.

11. He is on no account to compel the Indians to do any job or work of whatever nature for him.

12. He shall not take or appropriate to himself the property of the Indians, much less their wives or children, on pretence of their being indebted to him, even in case of an Indian having had goods from him on credit and refusing to pay for the same ; the loss arising therefrom to be for the postholder.

13. Should any Indian apply to him with complaints of ill-treatment, against other persons, he shall repair with such Indian to the protector, who will then examine and enquire into the complaint and give redress if the case requires it; all exclusive of the action which the fiscal might think proper to bring against the offender or offenders.

14. Any white or coloured person above the post who might be desirous to have an Indian woman to live with him, shall acquaint therewith the postholder, who is then to wait on the protector with such woman and her parents or nearest relations, in order that the protector may be enabled to enquire and ascertain whether such cohabitation take place with the free consent of the parties and whether the woman is not engaged to some Indian; and the protector is then either to sanction or to refuse such cohabitation as he may think right.

15. Should the postholder be desirous of employing any Indians for clearing wood, or for fishing, or paddling his boat, he shall be at liberty to hire them for that purpose, with the consent of the protector, who shall previously enquire whether such engagement has been entered into voluntarily and who will at the same time inform the Indians that if they are not duly paid as agreed upon they may complain to him.

16. He shall be present at the annual\* distribution of presents to the Indians.

17. He shall apply from time to time to the protector for the rum he may want for the purpose of giving a dance to the Indians who call upon him.

18. In case of Indians passing the post to go down the

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\* These were afterwards given once in three years.

river, the postholder shall recommend them to wait on the protector."

Under these regulations the posts were kept up until after the abolition of slavery, the cost forming a large item in the Colonial expenses. In 1817 the allowances and rations to Indians amounted to 39,044 guilders and the cost of bush expeditions to 18,479. This was very high, for in 1819, the amounts were only *f*16,980 and *f*2,976, and two years later *f*32,312 and *f*2,262. The Essequibo post was at one period at Ampa and later on the site of the Penal Settlement. Here the Indians of the three rivers assembled at regular intervals, bringing their families and residing for some days in open logies. In the Pomeroon those who lived as far away as the Barima also came to receive their presents, this going to prove that they were in the position of protected native races.

Under this protectorate the Indian chiefs shewed a very independent spirit, which is well exemplified by a case mentioned in the Court of Policy in 1804. Mr. MACK, Protector of Indians in the Essequibo, then stated that the Caribs of the upper river were very much dissatisfied, notwithstanding the measures taken the previous year to revive friendly intercourse. This he accounted for by the fact that, from insufficient notice, they had not shared in the presents given in April 1803. It was well-known, he said, that the Caribs surpassed all other nations in personal courage, and from this had often proved of the greatest utility; it was highly necessary therefore that the colony should secure their assistance in case of need. He suggested that a deputation should be sent up to call them all together and to give them a treat as well as presents of gunpowder and salt.



The Court agreed with this suggestion and appointed Councillors MACK and CLEMENTS, with Mr. VAN DER LOTH, Fiscal of Essequebo, to give them a feast and presents, at the same time authorising them to make such promises in the name of the Government as they should think most likely to promote their friendship.

On account of sickness two of the delegates could not go, but Mr. MACK went up alone and found about three hundred Indians, under twelve Captains or Owls, at the rendezvous. These he entertained, and endeavoured to satisfy with some small gifts, at the same time promising more when the goods already ordered by the Government should arrive from Europe. He was sorry to report that by mistake some had arrived too late for the feast, and also that some of the distant tribes were not represented. This, he said, was the more to be regretted since it appeared from reports that they were very discontented. The ill-feeling had gone so far that a Chief named Arawara, who had been of great service in the revolt of 1795, had come down as far as the house of Mrs. TOME some time before, where he left his Commission as *Uil*, which he had received from Governor GROVESTINS. He asked that lady to return the document to the Government, at the same time expressing his dissatisfaction. He (Mr. MACK) had however done his best to acquaint the Caribs with the good feeling of the Government towards them, and of his intention to return shortly to distribute rations. From the accounts for articles furnished to the Protector we glean that the Indians were supplied with bread, salt fish, sugar, salt, gin and negotiæ. On the 30th of April 1805, it was reported to the Court that the goods ordered had come out, with invoices amounting to £3,179 13 6,

when it was agreed to have a distribution as soon as possible.

The Indians did not always agree with the bovianders and in 1805 Postholder LINAU was sent up the Essequibo to reconcile the parties in a dispute. He met with an Arawak who had abandoned his home because the mulattoes had frightened him with a report that the Acawois and Macousis were coming down to murder them all. He found the bovianders from Essequibo, Massaruni and Cuyuni congregated on a small island, as they said, for defence against the Indians. Being confronted with some of the Arawaks, they affirmed that the report of the expected raid came from the Indians, which the latter denied. Finally the postholder forbade the bovianders to interfere with the Indians, at the same time saying they must pay the Arawaks properly and live in peace with them. The offenders were however very impertinent, refusing to obey these orders and saying that if the whites did not give them satisfaction they would attack the Indians. They were, they said, not only free people, but Burghers, and in every respect as good as the whites; if the Fiscal tried to seize their arms he might depend upon it that not a single gun would be given up. On further investigation Mr. LINAU also found that the Indians charged the mulattoes with stealing their children to sell as slaves. The Court decided to send two persons who understood the Indian languages to assure them that they would be protected, and to renew the prohibition of 1793, against their being purchased as slaves.

Here we have a glimpse of one of the causes which led to the gradual desertion of the lower districts by the

Indians, which however was not so conspicuous as long as the presents were regularly distributed. Captain ALEXANDER, writing in 1833\*, and probably inspired by Mr. HILHOUSE, who had an ill-feeling against the Government, said that it was a very painful reflection that, although the colony paid for presents, provisions, postholders' salaries, &c., about £3,000 per annum, in order to induce the Indians to remain in British Guiana, yet the office of postholder had been so shamefully abused that they were rapidly decreasing in numbers every year. In the rebellion of 1795, eight hundred Caribs took to the field; scarcely fifty could then be found in Demerara; nine-tenths of the Arawaks that then lived in the colony existed no more, and half the Acawoios and Warrows had disappeared.

Captain ALEXANDER thought the system should immediately be changed:—"First, on the score of humanity; at present the Indians near the Coast imitate the vices of the European and contract their diseases, and no arm is stretched forth to save them from the utter destruction, bodily and mental, which is about to overwhelm them.—Secondly, on the score of interest; if the colony is again attacked by a foreign foe, the negroes would probably rise in rebellion, if there are no Indians to keep them in check; the regular militia will be obliged to succumb to the invader; the honour of the British arms will be tarnished, and the rich South American colonies lost." How curious this reads to one who knows the Indians of to-day! Yet, there is no doubt that these people were of great use under the social conditions of slavery.

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\* Transatlantic Sketches.

Mr. HILHOUSE, who was looked upon as an Indian chieftain, and who seems to have known more of them than any other white man in the colony in the first quarter of this century, had strong objections to the Protectors and Post-holders, whom he painted in the blackest colours. It will be interesting to note in this connection what took place in Moruca about 1822. On the declaration of the independence of Venezuela, or rather Columbia, about three hundred Indians, lately belonging to Spanish Missions, refused to remain under Republican Government, and therefore fled to British territory and claimed protection. They were said to have been civilized, clothed, and acquainted with agriculture as well as several mechanical arts, and therefore a valuable acquisition to the colony. A deputation from them came to Georgetown soon after their arrival and asked for a priest, but the Roman Catholics appear to have been unable to supply one at that time. The postholder at Pomeroon seems to have said nothing of this immigration, but according to HILHOUSE set the Indians to work for himself, which treatment drove many of them to wander about the colony and acquire dissolute habits. What these Indians wanted was something like the Spanish Mission system, but the Governor could not see his way to give them anything of the sort. Their Captain was however granted a Commission formally recognising him as a British official, but the Governor declined to go further. The reasons for not going farther as given by Mr. HILHOUSE were : first, that granting a Mission was creating a new colony ; second, that giving a Catholic clergyman magisterial authority was a dangerous precedent ; and third, that making an exclusive grant was impolitic.

Captain ALEXANDER gives an account of these people from the information of Father HYNES who paid them a pastoral visit in 1830:—"Musquets were fired as he approached, and on his landing, men, women and children, flocked to kiss his hand in token of respect. It being night the forest was illuminated with wax lights of their own manufacture. Considerable numbers had arrived from all quarters for the celebration of the festival, and they danced and enjoyed themselves with much sobriety and decorum till a late hour, and without indulging in any of that uproarious mirth so characteristic of the savage.

"On the morning of the festival (St. John's Day) great preparations were made for the celebration of the divine mysteries; a large logie was cleared out for the purpose and tastefully decorated with flowers and green boughs, and in this rustic temple the service was performed to a most orderly and devout congregation. Seventy-five children were then baptized, all under the age of ten years. The appearance of these little innocents was quite attractive; they approached the font attired in the prettiest manner, attended by their god-fathers and godmothers; the girls robed in white, with necklaces of coral and silver, and their hair nicely arranged with combs tipped with gold. These children were catechised and they were all well instructed in their prayers. Some couples were then joined in wedlock; and their appearance and demeanour also gave great satisfaction to the worthy padré.

"During the three days that Mr. HYNES stayed at Morocca a single case of inebriety did not fall under his observation, so that in the work of reforming these

people there was a vice less to combat among them. They were generally decent in their manners, and their appearance was very prepossessing. The men were all well clad, in Spanish straw hats, trousers and a loose upper robe; and the females were also gracefully attired in flowing drapery, and their hair carefully arranged. In all the scattered settlements Mr. HYNES remarked a degree of comfort and cleanliness that it would be in vain to look for among other Indians; their houses were all neat and commodious and their grounds tolerably well cultivated—sufficiently so perhaps for their wants. Coffee, sugar-cane, plantains, yams, cassava, maize, and a variety of vegetables were observed growing. They also raised great quantities of feathered stock. They expressed the juice from the cane by a simple machine, and from it made a liquor like spruce beer; if this were to be introduced among other Indians they might be weaned of their liking for rum. They also cured fish, particularly the querriman, so much sought after in the colony.”

If this is a fair representation of the results of the Spanish system, it is certainly a great improvement on that of the Dutch, which virtually made the protected tribes dependent, instead of encouraging them in self-reliance. So bad were the results that, what with the removal of most of the incentives to industry, and the issue of rum as part of the supplies, the poor children of the forest became fewer in number every year.

Like HILHOUS; SCHOMBURCK deplored the sad condition into which those who lived near the coast had fallen, and in December 1838, Governor LIGHT in addressing the Court of Policy said:—



“ We used these people as auxiliaries—they were useful and faithful ; we made them presents, often misapplied, too often baneful ; their influence brought much larger numbers of Indians than at present are within our borders—it is evident, if some equally powerful motive were presented, they would again appear. We owe them a debt ; let us endeavour to repay it in a useful way to ourselves, but let it be beneficial to a fallen race.”

The *Royal Gazette* of August 3rd, 1833, said there were then within the boundaries of the colony about 20,000, a fourth of whom received the regular presents. These were considered as a sort of retaining fee, binding them to capture and restore runaway slaves that might take shelter in their territories, and to render any assistance in their power in case of a servile disturbance, which pledge they undoubtedly redeemed during the East Coast Insurrection of 1823. The editor spoke in avour of the Moravian and Jesuit Missionaries, who began first by instructing them in simple arts and *after that* gradually drew their attention to more abstruse considerations.

During the same year Mr. HILHOUSE wrote a number of letters to the *Gazette* bearing upon the Indian policy. How strongly he felt on the matter may be seen from the following extract from one published November 16th :—

‘ There never was a greater blot on the reputation of a civilized country than the present state of our aboriginal population ; I am firmly convinced it will be expiated in sackcloth and ashes. The creators and preservers, without whom the colony would long since

have been a Maroon camp, like that of Surinam, have been used, and then neglected and abused, till scarcely a hand remains to pull a trigger in defence of his Bacra friend. *They will be wanted*, but they can no longer come, when you do call for them."

In another letter he said that of 350 Indians who assembled in Georgetown in 1823, not half were in existence; they had been cut off in their prime by *patronised* debauchery and drunkenness. He believed there was an amiable disposition in a high quarter to apply a remedy, but why was it delayed when delay meant death?

Ultimately, on the 16th of February 1838, in view of the Emancipation, the system was altered by passing an Ordinance to provide for Superintendents of rivers and creeks. The preamble stated that the existing establishment of Protectors of Indians and Postholders was inadequate to the efficient performance of those duties which were required from those entrusted with the superintendence of the water communications of the interior, and that therefore all laws and regulations relating to such officials were abolished. There were to be Superintendents for each county who were to visit the posts at least four times a year and see that the Postholders performed their duties and kept everything in good order. Whenever money should be granted to encourage industry and the location of Indians near the estates, the amount was to be spent in agricultural implements to be distributed to them free, but no plantains, salt fish, or spirituous liquors were to be given. Neither Superintendent nor Postholder could lawfully carry on any trade with the Indians and new regulations for the posts were formulated. These regulations were rather



more stringent than those of 1803, but differed little beyond the substitution of the Superintendent (a paid officer) for the Protector.

The results of this change as far as the Indians were concerned were virtually *nil*, and even the Superintendents and Postholders were suspended during the financial crisis of 1842. True, the churches began to bestir themselves; already there were several mission stations, and efforts were made to establish others. Bishop HART, in his charge of the 18th of July 1839, said that there were many circumstances favourable at that moment to the conversion and civilization of the Indian tribes. The negroes were free and the Indians would therefore no longer consider it degrading to work with them. Though still too much addicted to the use of intoxicating spirits yet a check had been legally put upon the too easy acquirement of that bane of their race, and the Indians themselves were in many cases manifesting a laudable anxiety for clothing and domestic comforts.

In August 1857, whatever existed of the Postholder system was merged in the Sub-Registrars, who were succeeded by Commissaries and the Crown Lands Department, since which the Indians have been left alone, except for the Missions.

When we review the position of the American Indians of to-day, we are compelled to admit that they cannot live in presence of the Anglo-Saxon race. The Spaniard, on the contrary, notwithstanding his cruelty in early times, did not exterminate the native from the continent, and now it seems as if his descendants will ultimately be merged in the true American. Something of this may also be seen in British Guiana, as long as accessions from

without are not made. Thousands of creoles have more or less of Indian blood, and no doubt a great deal of the apparent decrease of the pure aborigine is due to absorption. But, whereas in Spanish America the aliens are being lost in the native, here on the contrary the opposite is conspicuous.

The lines on which the American can live and develop appear to be distinct from those natural to the European. With the latter friction of tribe with tribe, and race with race, seems to be the great factor; with the former a very slow progress is possible only apart from outside influences. If brought too suddenly in contact with other races the Indian either moves on, or, if he has nowhere to go, dies out, notwithstanding every effort of the humane. If it were possible to leave him severely alone he might develop slowly on his own lines, but in presence of the fact that this is impossible the question is what can be done? Even Indian reservations have proved useless in the United States, and here the gold industry is a factor to be reckoned with. Possibly something like the Spanish mission system might be useful, but protestant missionaries are as a rule not trained in the mechanical arts and agriculture. To civilize the Indian the first object should be to put him in the way to support himself apart from outside help, *i.e.*, make him independent, but how can this be done? Away from the forest the man's occupation is gone, and with nothing to do, he must necessarily degenerate. Under natural conditions the woman has her duties and the man his, both sexes are well fitted for these; but when the man is driven to work in the field or to do anything unsuitable he naturally resents it and no doubt feels more

uncomfortable than we should if forced to do women's work. The only employments suitable are wood-cutting and river navigation, but neither of these is favourable to a fixed mission station or to permanent development. With such a large extent of forest as we have in British Guiana, however, every wood-cutting facility should be given to the original owners, and the laws which hamper them at present should be at least relaxed if not abolished entirely. Some of these, especially those which allow the Government officers to seize timber and punts, are decidedly unjust, for it cannot be expected that the Indian can be thoroughly acquainted with the law. If the Indian steals timber from so-called Crown Lands he is only taking it from his own territory, while the Government steals the result of his labour of weeks and months. In our journeys on the Demerara river we have heard most shameful stories of this kind of thing; Government officers charged with going out of their way to interfere with people who are trying to earn a living by hard work, instead of lounging in their hammocks all the day. The sufferers by these raids do not mince matters; they virtually call these seizures thefts, and are they not right? The principle under which many of our laws are administered seems to be that of retaliation, rather than prevention. No official should be interested in a seizure and his object should be to explain the law rather than to pounce down upon an ignorant offender.

Instead of putting obstacles in the way of the Indian as a wood-cutter the Government should rather encourage him in every possible way by trying to find a market for his collections, whether timber, shingles, firewood or other forest products such as orchids, tonka beans and locust

gum. If he is to be preserved from extinction this appears to be about the only thing left to do; otherwise it is probable that during the next century he will be quite extinct where not absorbed. Since the beginning of the present century, as may be seen from the foregoing, he has decreased wonderfully, and even within the last twenty-five years many a creek on the Demerara river has been deserted.

Governor CARMICHAEL SMYTH in 1833 refused Father HYNES a grant for a mission on the Moruca, because the area petitioned for was so great—twenty-five miles by fifty, yet nothing has been done by the colonists during the sixty years which has elapsed to develop that part of the country. He refused the grant “to the ridiculous extent applied for” and declined giving the Catholic Priest any civil authority, yet the colony might possibly have been the better for such a mission to-day. True, a smaller grant was made later, but nothing would have been lost by treating these poor refugees in a liberal manner. Such a mission might also have been a model for others as we believe that of Santa Rosa is to-day.

A great deal has been said at different times about the desirability of populating the interior of the colony from outside, but little about promoting the welfare of our native tribes. While not wishing to disparage the missions at present in existence we are bound to admit that their lines are not quite suitable to the race in question. The old system of presents was very bad, but it was an Indian policy; now we have nothing whatever in its place, for the missions can hardly be considered as a system. The result is disastrous and it would be well to consider the possibility of saving the small remnant of

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the people who were once of such great benefit to the young colonies, and who probably prevented Guiana from falling into the hands of Spain. We do not want laws for the Indians, but laws to prevent their being oppressed by other races ; they require the fullest liberty and this is in honour due to them.



## Queer Homes.

By C. A. Lloyd.



TO Naturalists, the homes of the various species of humming-birds are perhaps the most interesting, but as my object here is only to refer to nests of peculiar shape, or those placed in unusual situations, my notice of these pretty little structures must necessarily be brief.

In all the humming-bird's nests I have examined, I have never found more than two tiny white eggs, and I believe this number to be the rule with the whole family of humming-birds, or *Trochilidæ*. I once saw one of these nests in a very strange situation; it was attached to a slender wisp of thatch which projected from the eaves of a shed, under which the Indians were in the habit of drying their meat. Although the smoke from the barbicue was often annoying to the Indians themselves, the little humming bird sat unconcernedly on her nest, until the eggs were hatched and her tiny brood had been reared in safety. The nest was composed of the feathery appendages of various seeds, and was covered on the outside with small bits of leaves and straw, which from a short distance rendered it indistinguishable from the thatch on the shed.

Birds very often make use of strange materials in building their nests. Here is an example: A small finch (*Oryziborus* sp.) was noticed one day making frequent visits to a rubbish heap, where a quantity of the coloured paper found in tins of "Captain" biscuits had



been thrown. The bird was carefully watched, and at length observed flying away with a long strip of blue paper dangling from her beak and disappearing suddenly in a thicket some yards off. I followed her quickly, and there, in a forked branch, was a large spherical nest composed almost entirely of strips of coloured paper. The nest was subsequently completed, and four speckled eggs deposited in it, but one day I missed it; some vagabondising Gold-digger having ruthlessly torn it down and carried it off.

The "hang-nests" may be reckoned among the most skilful of bird architects, and a cabbage palm I once saw at *Broomlands*, (Mr. C. A. PARRETT'S plantation in Mahaicony), was decorated in a most singular manner with the nests of the black "Bunyah," *Ostinops decumanus*. At the end of every arching frond was attached a long purse-like nest, and the whole were arranged as symmetrically as if placed there by human hands. I never remember seeing a more interesting sight, and often wish I could have photographed the tree. While speaking of the "Bunyah" it may be as well to note that another hang-nest, the large black rice-bird, *Cassidix oryzivora*, seems never to build a home of her own, but contents herself with making use of the deserted Bunyah nests, in which to lay her curiously marked eggs.

Of all strange places that a bird should select to construct her nest, that of a ground dove, *Chamæpelias passerina*, which I saw at the Island of St. Thomas in the skull of an ox, was certainly the most unexpected. The old skull was lying on the ground in an exposed position, and the bird had found entrance to it through the *foramen magnum*, which had been accidentally enlarged, and had

there deposited her eggs on a few bits of grass and sticks.

Another strange place was chosen by our common house wren, *Troglodytes furvus*. A friend informs me that a pair of these little birds lately made a nest in an old Tam O'Shanter Cap that had been thrown aside on the top of a clothes-press.

Some months ago a pair of pretty little hawks, *Hypotriorchis rufigularis*, were to be seen every day for some weeks flying about the tower of the Town Hall. They evidently intended to breed there, but perhaps the discord of the Salvation Army on Sundays made them alter their minds and give the neighbourhood a wide berth. I mention this circumstance simply because it is very unusual even to see this species near town.

The spiders, ants and wasps are noted for their curious homes, which are sometimes placed in the most unexpected localities, as was the case with a small colony of "Curabelly" ants which had established themselves in my penholder. For days I could not make out what was the matter; every time I had occasion to use the pen, my hands were seized with a burning sensation impossible to describe. At last one day on taking it up to write I noticed a small grain of dirt fall on the paper, and examining the penholder narrowly, discovered that some tiny red ants had made it their home. They were "Curabellies," and if the reader has never made their acquaintance, I can assure him that he will ever remember them if he sees. Taking into consideration their minute size, they are in my opinion the worst stinging ants known, and were they of the dimensions of a common house fly and virulent in proportion to those of them might be sufficient to kill a man. Other species of ants make their homes



in the aërial roots of Orchids, and one uncommonly long and slender kind takes up its abode in the swollen petioles of a shrub, the *Cordia nodosa*.

Several species of wasps belonging to the Genera *Polybia* and *Polistes* are to be seen in our forests, and many of them construct very singular nests which cannot well be described without the aid of drawings. One however that I came across while travelling in the Kanaku Mountains, was so strange that I will try to describe it. It consisted of about a dozen cells of much the size and shape of those of the *Polistes*, but instead of being composed of a papery substance, they were apparently made of mud, and were attached to the branch of a small tree by a fine thread of two or three feet in length. The thread resembled a horse hair, both in texture and colour, in fact it might have easily been mistaken for such by anyone unacquainted with its origin. At the end of this hair-like cable the nest swung to and fro in the breeze like the pendulum of a clock. What could be the object of this strange provision we cannot even conjecture, nor do we know the insect that made it, but judging from the shape of the cells and the larvæ they contained, the architect was most probably a *Polistes*.

A species of wasp belonging to the *Polistidæ* forms its nest by fixing cell after cell in a line, until the structure, which is of a dark brown colour, often attains the length of six inches. Others construct nests of three or four irregular cells composed of a grey papery substance. A good example of this family of wasps is to be found in the red "Marabunta" that takes up its abode under the bridges of sugar estates, and most planters can testify to

its pugnacity. On nearly every Sugar Plantation "killing marabuntas under bridges" is a common item in the Weekly Pay List.

In their manner of reproduction the *Polistiāx* present us with a very remarkable phenomenon. It has been proved that one set of females produce ova which give rise to female insects only; these without fecundation lay eggs producing only males, thus constituting a division of physiological labour, technically known as *parthenogenesis*, or virgin reproduction. This phenomenon has been noticed in other insects as well, but we believe it was first observed in those of which we are now speaking.

Another of our native wasps builds a nest of so hard and polished a substance, that a cardboard maker to whom REAUMUR showed a portion, mistook it for the genuine article, and even declared it to be the product of a certain manufactory in France.

There is also to be found here a species of the upholsterer bee, which, unlike most of its tribe, forms no burrow in the ground for its nest of leaves, but fixes it instead on the outside of bird's nests, interlacing the leaves among the fibres and twigs of which they are composed. We have never seen the insect itself, but the nests are constructed exactly on the same principle as those of the European upholsterer bee.

The genus *Melipona*, which is peculiar to this part of the world, comprises some very small stingless bees. Although producing honey they do not store it away in combs of neatly made cells as in the true honey bees, but form large globular vesicles of blackish wax, in which to store the honey and pollen. The honey produced by some of the species is really very good, while that

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made by others is often quite sour. The insects generally make their nests in hollow trees, but on one occasion in rambling through the bush on the Upper Essequibo River I saw a nest in rather an unusual situation. It was placed on the top of a stump and appeared so like a wood ants' nest, that I gave it a prod with a stick to see what kind of termite was there. Out flew a swarm of little yellow bees, which getting entangled in my hair, buzzing about my ears, and at the same time attempting to nip with their mandibles, produced such an unpleasant sensation, that I made a precipitate retreat and got out of their way as quickly as possible. These little bees are well-known to all who have travelled in the forests of Guiana as inveterate robbers of everything sweet, often falling into the traveller's tin of milk, scalding themselves to death in his coffee, and stealing away his sugar and jam. In Brazil one of the species producing the best honey is known by the name of "John D'Abreu."

A bee which I have only observed on the Rupununi River is at times a regular pest. It is hardly larger than the "Nunca" sandfly of the same district, and on account of the habit it has of flying into one's eyes the Indians call it Eng-gyka (eye bee). I have never seen the nest, but it would be interesting to know what it is like. This pigmy is the smallest of the bees found in Guiana if not in the World.

Our spiders as far as we are aware, make nothing remarkable in the way of nests, though some are often of exquisite geometrical patterns. I can only record three examples of curious spider's webs. One was the largest I have ever seen. It covered a tree of about twenty feet

high from top to bottom like a veil of gauze and spread along the ground for some distance. Whether this was the work of a single spider or of several I am unable to say. The web was most likely spun by a species of *Galeodes*. Another spider often met with, fastens small bits of wood and dirt in its web in such a way, that when quietly resting amongst them it is difficult to detect its presence. I have also seen a spider that had the singular habit of tucking in his web every evening and retreating into a crevice. In the morning he would come out again and set his snare. He was a dapper looking creature, but had it not been for his eccentric behaviour I should never have noticed him.

The scorpions found here make no habitation of any sort, simply hiding away under leaves, stones, &c. In other parts of the world, however, they are stated to form burrows, the entrances to which are said to be like the holes cut in the seats of wooden stools for the purpose of introducing the hand when they are lifted. I have taken a scorpion out of a hole in the ground which looked as if it had purposely formed it, but in this instance the hole was cylindrical and the aperture circular.

The curious little Arachnids known as book scorpions or chelifers are represented here by three species, one of which lives in the forest between the spurs of mora trees, and is coloured exactly like the bark. He is a very large chelifer measuring about a quarter of an inch in length. The other is very handsomely coloured, having a bright steel blue body and scarlet *palpi*. This species is parasitic on the large *Coleoptera*, especially affecting the Harlequin beetle *Acrocinus longuimanus*, hiding under the elytra or wing cases. The third is a very tiny crea-

ture, strictly adhering to the traditions of its race and making its home between old books and paper.

Two or three of our beetles are remarkable for their habit of cutting off the branches of trees. For a long time the reason of this proceeding remained one of Nature's secrets, some supposing that it was done by the beetles out of a pure spirit of mischief. It is now known however that the larvæ of these beetles bore and excavate the branches of trees for the purpose of undergoing their metamorphosis and that the perfect insect, with wonderful instinct, "rings" the bark to prevent the sap from flowing into the branches too freely and injuring the young larvæ. Branches thus cut often break by their own weight, or are snapped off by the wind. These beetles are known here as "Sawyer" beetles and one of them is a very large insect often growing to the length of six inches.

I have seen the larvæ of a beetle in soft Hiawa gum. It was a snow white grub, neatly coiled up in the fragrant substance. Other members of the beetle family pass through their larval stages in all sorts of curious situations, such as the sour legumes of the Tamarind, the hard pods of the locust, and the stony seeds of various palms.

The egg cases (*Ootheca*) of the voracious mantidæ are very curious looking objects. They are generally attached to twigs, and some of them look like the galls made by species of *Cynips*. Our large green mantis covers its eggs with a very curious corrugated capsule. They are often attacked and destroyed by a small black ant, which being frequently found crawling about them have led some to suppose that they were ants' nests.

## Note on Berbice Bats.

By C. G. Young, M.D.



THE following is a list of the bats which have been collected in Berbice by me up to the present date. They have been identified by Dr. F. A. JENTINK of the Leiden Museum. The distribution of the species is that given by the late G. E. DOBSON in the British Museum Catalogue of the Chiroptera. Where they were collected here, I have placed in brackets.

1.—*Atalapha intermedia*.

(Berbice River, beyond Fort Nassau).  
Texas.

2.—*Vespertilio nigricans*.

(New Amsterdam; Berbice River, beyond Mara).  
West Indies; Guatemala; Venezuela; Columbia;  
Ecuador; Interior of Brazil.

3.—*Natalus stramineus*.

(New Amsterdam).  
Brazil; Central America.

4.—*Rhynchonycteris naso*.

(Berbice River, beyond Mara).  
Honduras; Guatemala; Demerara; Surinam; Upper  
Amazons; Peruvian Amazons.

5.—*Saccopteryx leptura*.

(New Amsterdam).  
Surinam; Brazil.

6.—*Noctilio leporinus*.

(Abery Creek; Plantation Friends Hospital; Berbice  
River, beyond Mara).  
Demerara; Coast of South America.



7.—*Noctilio albiventer*.

(Berbice River, beyond Mara).

Bolivia.

8.—*Molossus planirostris*.(New Amsterdam; Pln. Friendship; Abary Creek;  
Canje Creek).

Berbice; River Cupari; Amazons.

9.—*Molossus rufus*.

(Berbice River, beyond Mara).

Oaxaca; Mexico; Choctan; Pernambuco; Brazil.

10.—*Molossus obscurus*.(Berbice River, from New Amsterdam upwards).  
West Indian Islands; Central and South America.11.—*Molossus abrasus*.

(Berbice River, beyond Mara).

Central America; Demerara; Surinam; Cayenne.

12.—*Vampyrus spectrum*.

(Plantation Friends Hospital).

Jamaica; Nicaragua; Panama; British Guiana; Brazil.

13.—*Phyllostoma hastatum*.

(Providence Hospital; Friends Hospital).

Demerara; Cayenne; Brazil.

14.—*Phyllostoma discolor*.

(Upper Berbice River.)

Surinam.

15.—*Phyllostoma elongatum*.

(Upper Berbice River).

Surinam; Brazil; Peru.

16.—*Carollia brevicauda*.

(Upper Berbice River).

Mexico to Sta. Catherina; Brazil; West Indian  
Islands.

17.—*Rhinophylla pumilio*.

(Berbice River, beyond Mara).

Bahia.

18.—*Glossophaga soricina*.

(Upper Berbice River).

Central America; Venezuela; Jamaica; Trinidad; Grenada; British Guiana; Surinam; Upper Amazon; Peru; Bolivia.

19.—*Artibeus planirostris*.

(Canje Creek; Abary Creek; Berbice River, from New Amsterdam upwards).

Guiana; Brazil.

20.—*Artibeus quadrivittatus*.

(Pln. Friends Hospita!).

Surinam; Brazil.

21.—*Desmodus rufus*.

(Richmond Hill; Canje Creek).

(Central America; Guiana; Brazil; Peru; Chili.

22.—*Desmodus Youngii*.

(Upper Canje Creek).

A new species.



## *Venezuelan International Law.*

*By Hon. N. Darnell Davis, C.M.G.*



AN American Humourist, yclept JOSH BILLINGS, has "gone one better," upon the admonition, that "thrice is he armed who hath his quarrel just," by declaring, "and four times he who gets his blow in fust." Acting in accordance with this Proverbial Philosophy, our neighbours of Venezuela got a long way ahead of us, in taking the World into their confidence, as to the question of Boundary between the Republic and Great Britain. Among their publications, was one issued in 1888, under the title *Venezuelan International Law: British Boundaries of Guiana*. In this Blue Book of 588 pages, the "claims" of Venezuela are set forth. It is only in this year of Grace, 1896, that the belated Briton has come forward with his Boundary Blue Book, wherein he has shown what are his rights to territory in Guiana. The Venezuelans had sworn, by the Treaty of Munster, that, in 1648, they possessed the territory in Guiana from the right bank of the Orinoco to the left bank of the Essequibo. Spanish Records, quoted in the British Blue Book, demonstrate that, all that the Spaniards held and possessed in Guiana, in 1648, was the still-born settlement of San Thomé, on the right bank of the Orinoco. Leaving the main question, however, to be dealt with by that Blue Book, let us examine some of the miscellaneous statements made in *Venezuelan International Law*.

On page 185 of the Venezuelan statement, Señor FORTIQUE is described as having alleged, to Lord

ABERDEEN, “ the title of first occupant and discoverer  
 “ of the new world in favour of Spain, as she had been  
 “ recognized by all nations, especially in the country of  
 “ Guiana, over which she exercised jurisdiction and  
 “ founded towns and established missions to spread the  
 “ Gospel; so much so that the enemies of Spain found  
 “ there in 1579 towns to destroy and priests to persecute.”

“ Towns to destroy”! This is, indeed, a magniloquent description of a supposed Mission station, for Indians, with two priests! But, the mythical town of 1579, itself disappears. The British Blue Book shows, that the first town of San Thomé came into existence only in 1596, so our neighbours must be at more pains to re-write the History of their Country. Quoting CASANI’S *History of the Society of Jesus* (1741), the British Case states that “ About 1664 the Fathers LAURI and VERGARA were sent to explore Guiana, with a view “ of seeing whether a Jesuit Mission should be founded “ there. They reported the province abandoned by “ the Spaniards, and nothing came of their expedition.” A footnote to the year 1664, says, “ The date sometimes “ erroneously assigned to this expedition is 1576.” It is true that Father GUMILLA, in his *History of the Orinoco*, says that Captain JANSON, a Dutchman, destroyed San Thomé in 1579; but, this must be a slip of the pen, or a misprint (pp. 38, 39). At the end of the same chapter in which that date is given, Father GUMILLA says that Father LAURI and his companion laboured at *New Guiana* (p. 42, *Histoire de l’Orenoque*: Marseil 1758). Now, it was not until 1637, that there was a *New Guiana*. So the good Jesuit Priests could not have visited the Orinoco in 1576.

And who is the first witness brought into Court on behalf of Venezuela?—None other than that great Elizabethan Englishman; the Founder of England's Colonial Empire: that "good hater" of the Spaniard, Sir WALTER RALEIGH, the valiant knight, who was Captain of the Guard to Queen ELIZABETH, and one of the heroes at the capture of Cadiz. This mighty man of valour, who was unjustly put to death by King JAMES, in 1618, to gratify Spain; after the destruction by Captain KEYMIS and RALEIGH'S men, of San Thomé of Guiana; is actually quoted, or misquoted, to support the "claims" of Spain!

Here is the statement in *Venezuelan International Law*:—

"Sir WALTER RALEIGH affirms that in his time the Spaniards possessed the Orinoco and all its surroundings; that they already occupied the rivers Barima, Moroca and Pumaroon; that their dominions extended as far as the Essequibo; and that according to the document which he found in the possession of the Governor ANTONIO BERRIO, possession had been once more solemnly taken of those lands in the name of the King of Spain on the 23rd of April 1593."

As Mr. WILBERFORCE EAMES pointed out, in the *New York Nation*, last year, the Lennox Library of New York contains a copy of each of the three editions of Sir WALTER RALEIGH'S *Discovery of the Empire of Guiana*, which issued from the press in 1596. It is, therefore, practicable for our American cousins to read that charming volume, in all its Shakespearean English. As they will search it in vain for proof of any, excepting the last, of the assertions in the extract

above given, they will conclude that the policy that prompted such sweeping statements partakes of DANTON'S *l'Audace: toujours de l'Audace*. What did RALEIGH say?—Let us quote from the Hakluyt Society's edition of his *Discovery*, published in London in 1848, and ably edited by Sir ROBERT SCHOMBURGK, with whose name the Boundary question has made the World familiar. Of Guiana, Sir WALTER recorded (p. 115):—

“ To conclude, Guiana is a countrey that hath yet her  
 “ Maydenhead, never sackt, turned, nor wrought, the  
 “ face of the earth hath not been torne, nor the vertue  
 “ and salt of the soyle spent by manurance, the graves  
 “ have not beene opened for gold, the mines not broken  
 “ with sledges, nor their images puld down out of their  
 “ temples. It hath never been entered by any armie of  
 “ strength, and never conquered or possessed by any  
 “ Christian Prince.”

As to the precarious footing the Spaniards held on the Orinoco, RALEIGH said (p. 39).:—

“ Now BERREO for execution of MOREQUITO and  
 “ other cruelties, spoiles, and slaughters done in Arro-  
 “ maia hath lost the love of the Orenoqueponi, and of all  
 “ the borderers, and dare not send any of his soldiers  
 “ any farther into the land than to Carapana, which he  
 “ calleth the port of Guiana; but from thence by the  
 “ helpe of Carapana he had trade farther into the  
 “ countrey, and alwaies appointed 10 Spaniards to reside  
 “ in Carapana's Towne; by whose favor and by being  
 “ conducted by his people, those ten searched the coun-  
 “ trey thereabouts as well for mines, as for other trades  
 “ and commodities.” So that mention of 10 Spaniards,  
 stationed at San Thomé, is equal to RALEIGH'S “ affirm-

“ing that in his time the Spaniards possessed the Orinoco and all its surroundings ;” even though RALEIGH expressly mentions that the Spaniards were hedged around, by hostile natives, “all holding the Spaniards for a common enemie” (p. 52).

So far from RALEIGH'S saying that the Spaniards “already occupied the rivers Barima, Moroco and Pumaron,” he merely said (p. 39) :—

“Among manie other trades, those Spaniards used in Canoas to passe to the rivers of Barema, Pawroma, and Dissequebo, which are on the South side of the mouth of Orenoque, and there buie women and children from the *Cannibals*, which are of that barbarous nature as they will for 3 or 4 hatchets sell the sonnes and daughters of their own brethren and sisters, and for somewhat more even their own daughters : hereof the Spaniards make great profit, for buying a maid of 12 or 13 yeeres for three or fower hatchets, they sell them againe at Marguerita in the West Indies for 50 and 100 pesoes, which is so many crownes.”

It is readily admitted that RALEIGH printed a translation of a Spanish document, in which is solemnly set forth the taking possession of “the noble provinces of Guiana and Dorado,” on the 23rd of April, 1593, by DOMINGO DE VERA. The action of DE VERA, on the right bank of the Orinoco, may be likened to that of the Englishman ROBERT HARCOURT, who, about to settle on the Wiapoco, there solemnly took possession “by turf and twig,” of the whole country of Guiana, between the Orinoco and the Amazon.

The citing of Sir WALTER RALEIGH, in support of Spanish claims to the country of the Orinoco, can

hardly be considered fortunate. So far from that valiant sailor-soldier having affirmed that, "in his time, the Spaniards possessed the Orinoco *and its surroundings*," he seems to have felt very grave doubts as to their possession of even the Orinoco; as will be gathered from the following extract from a letter written by him to Lord CAREW:—

"The Oronoko itself had long ere this had 5,000 English in it, I assure myself, had not my employment at Cales the next year after my return from Guiana, and after that our journey to the islands hindered me for those two years. After which Tyrone's rebellion made Her Majesty unwilling that any great number of ships or men should be taken out of England till that rebellion were ended. And lastly Her Majesty's death, and my long imprisonment, gave time to the Spaniards to set up a town of sticks, covered by leaves of trees, upon the bank of Oronoko, which they call San Thomé."\*

The Orinoco itself was renamed as the *Raleana*, in 1596, by KEYMIS, in honour of Sir WALTER. The poets of his time looked upon Sir WALTER RALEIGH'S Discovery of Guiana, as opening the way to the founding of a new Britain in the New World. CHAPMAN, the trans-

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\* Between the San Thomé of 1618 and the San Thomé of 1723, there was not much to choose. According to a Spanish account, San Thomé consisted of 20 or 25 cabins, occupied by as many persons, destitute, indeed. Surrounded by thick forest, the place was unhealthy and fever-stricken. The inhabitants "never went any distance from the place on account of the great risk of falling into the hands of the Caribs, who occupied and wandered over all those territories." See p. 109 of the British Blue Book.



lator of HOMER, in lines of greeting to Sir WALTER, sings of Guiana as standing

“ On her tiptoe at fair England looking,”

and, of

“ Where, New Britannia humbly kneels to Heaven,”

SHAKESPEARE did not admit that Guiana belonged to Spain. He makes OTHELLO speak of the Spaniards' deadly enemies,

“ The canibals that each other eat ;”

and, FALSTAFF refers to

“ A region in Guiana, all gold and bounty.”

The poets had probably talked with the traveller, at the *Mermaid* tavern, over his voyage to Guiana.

It is asserted by the Venezuelan Foreign Office, (p. 171) that the learned Dutchman JUAN DE LAET, “ agrees with Sir WALTER RALEIGH, that the Orinoco, “ the Moroco, and the Pumaron, belonged to the “ Spaniards, who occupied them at the time.” To this it must be objected, that DE LAET must have misquoted Sir WALTER RALEIGH, or must himself be misquoted in *Venezuelan International Law* : for, as shown above, Sir WALTER did not say that the Orinoco, the Moroco, or the Pomaroon, belonged to the Spaniards. On the other hand, Lord ABERDEEN, in his communication with Senor FORTIQUE, relied upon DE LAET, for support of the Dutch rights. (p. 188.)

Three charts are quoted in support of Venezuelan claims, in which Cape Nassau, and the river Pomaroon, are variously given as the Boundary. Then J. W. NORIE, the English hydrographer is quoted as saying, in 1828, that “ British Guiana extends from the Corentin “ to the Essequibo ; the latter belonged also to the Dutch, “ but was ceded to Great Britain by the Sovereign

“of the Netherlands by the convention of 1814.” Now, NORIE was an authority upon the science of Navigation, not an authority upon Political Geography. He cites no authority for his statement: which he may not unreasonably be supposed to have copied from “ALCEDO” THOMPSON, who was himself misled by the name of Essequibo, it being by him identified with the River alone. The *Columbian Navigator*, 1822, is mentioned as giving the Essequibo as the Boundary: but, what is the value of its authority upon a political question? LA CONDAMINE’S authority in a matter of this kind cannot carry much weight. HUMBOLDT’S monumental learning must always be respected; but he, made no special study of the question of Boundaries. He seems to have been misquoted by the Venezuelan Foreign Office, as regards the Boundary shown by Major VON BOUCHENROEDER, in his map of 1798. That map was prepared for the Committee of the Colonies and Possessions of the Batavian Republic, at a time when Essequibo was in the hands of the British. At the river Barima a line is drawn, and these words are printed along it:—

“*Ancien poste Hollandaise sur les limites des possessions Espagnoles.*”

The river Amacura is in this map erroneously placed on the Southern side of the Barima.

There seems to be some misapprehension of meaning in the following statement made on page 173 of *Venezuelan International Law*:—1794.—Mr. SIX, Secretary of the Dutch East India Company sent a communication to Senor CORRAL, the Spanish Minister to Holland, in which he says:—“That the Captain, pilot “and crew of the Spanish merchant ship “Nuestra



“ Senora de la Concepcion” after having been perfectly  
 “ well treated by the Governor General of Surinam  
 “ were conveyed to Moroco, west of the Essequibo, as  
 “ being Spanish territory, so that they could thence go,  
 “ *as on their own land*, to the nearest Spanish American  
 “ town. It was therefore acknowledged by the Dutch  
 “ at that time, that the Moroco river was in territories  
 “ belonging to Spain.” One would like to see the original  
 document; for it is hard to believe that, after the Dutch  
 had kept Moruca as a fortified post for many years  
 before, they should give away the place in 1794. Can it  
 be that the real facts of the case are described in a  
 statement preserved among the Records of British  
 Guiana, as set forth in the note below? \* Dutch soldiers,

\* Extract from the Minutes of the Proceedings of the Ordinary Meeting of the Court of Policy, held by His Excellency the Governor General and Honourable Members of the Court at the Court House, Stabroek, in Rio Demerary.

(*Translation, from the Dutch.*)

Thursday, 1 August, 1793.

“ The Governor General communicated to the Court, that a certain Captain commanding a schooner, which arrived in this river from Surinam, had reported to him having on board the Captain, Mate, and eight sailors, of a vessel which was captured by a French vessel and taken to Cayenne; these people having escaped from there to Surinam, he had agreed to transport them to the Island of Trinidad for account of the Surinam Government; but having learnt from another passenger on board, who understood the Spanish language, that, from the conversation carried on among themselves, they are of intention to seize this vessel; in consequence of which the Captain considered it advisable to put into this port, and to approach His Excellency with request for assistance to protect his vessel.

His Excellency, therefore, considered it necessary to inform the Court of this occurrence, in order that certain measures be adopted for the purpose of frustrating the intention of these men, at the same time, to send them on to the Island of Trinidad.

in the British Service were attacked by a Spanish Force, on the 19th of January, 1797, at Moruca, when the Spaniards were severely defeated.

On page 179 of *Venezuelan International Law*, Dr. SEIJAS gives the following statement, and an extract from the Convention of Aranjuez :—“ On the 23d of June 1791 a Convention was concluded between Spain and Holland to reciprocally restore the deserters and run-aways from their American Colonies, which Convention was signed at Aranjuez. In the preamble thereof it is stated, that the parties, moved by the repeated complaints of their respective colonies in America, and by the wish to cut these to the root, have found it convenient to conclude a Convention by which the reciprocal restitution is

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Whereupon it is resolved by the Court ; after due deliberation, and after examination of the said Captain, with the name of T. Schaeffer, commanding the schooner *Glory*, and the said passenger with the name of Steven Pouquet, as also the Spanish Captain Joseph Sariat, whose evidence was interpreted by a competent Translator ; to order on board the said *Glory*, as protection against any invasion of the schooner, a troop of soldiers, and to send the said Spanish Captain and Mate, and the eight sailors, in the same vessel, under command of a pilot, to the port of Morukko, with instructions to the Commandant to send these ten Spaniards from there to the Island Trinidad, by Indians in their large boats, in order to carry out the intentions of the Surinam Government.

Also resolved that all expenses incurred be paid out of the Colony Chest.”

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The Records of Surinam, of Trinidad, or those of Holland, may yet prove that the Spaniards, brought from that Colony, in the *Glory*, were none other than the officers and crew of the *Nuestra Senora de la Concepcion*. At all events, the Minute quoted above proves that, in 1793, the Dutch had not a shadow of a doubt as to their dominion over Moruca,

established of deserters and runaways *between their respective Colonies.*"

Article 1 is of the following tenor :

" The reciprocal restitution is established of white or black runaways between all the Spanish possessions and the Dutch Colonies in America, more especially between those where the complaints have been more frequent, to wit : between *Porto Rico and Saint Eustace, Coro and Curaçao, the Spanish Establishments in the Orinoco and Essequibo, Demerara, Berbice and Surinam.*"

So blinded by patriotic zeal is the learned Doctor, that he proceeds to argue that the term Essequibo restricted the Dutch to the river Essequibo, and that, the term " Colony " had no extended meaning. The terms used are " Spanish possessions," and " Dutch Colonies." If Essequibo, is to mean the Essequibo river only, then, by all parity of reasoning, the word Orinoco, used in the Treaty, must mean the Orinoco River only. The Venezuelan Nation cannot be allowed a monopoly of the science of Logic. If Dr. SEIJAS' mode of interpretation of the Treaty is to tell against the Dutch, it must tell against the Spaniards also. The result then would be, that there should be a *No-man's-land*, or a Buffer State, between Venezuela and Great Britain's Colony.

If *Venezuelan International Law* had been written to prove how shadowy were the " claims " of Spain, to the territory now forming part of the colony of British Guiana, one could have understood the reason for the publication therein, of the correspondence showing an intention, to attempt to occupy the lands of the lower Orinoco and its neighbourhood, in 1779 to 1783 ; and, proving that the Spaniards did not then hold or possess

ose regions. As it is, there is no need for the colonists of British Guiana to exclaim "Oh, that mine enemy would write a book!" Their "friends, the enemy," have already done that. The correspondence is set forth on pages 81 to 94. From it the notes following have been gathered.

On the 4th of February 1779, the Governor General of Venezuela issued a Mandate, in which he lays down rules for the founding of towns in the province of Guiana, and provides that the *occupation* of lands, in all the places he indicates, is to be done as in a part of the province (pp. 81 to 84). One object of the Mandate, be it noted, was the *occupation* of lands indicated. The Commissioners were to "endeavour to occupy said lands." So far, therefore, from the Spaniards' being then in possession of the territory now in dispute, this Mandate proves that, down to 1779, they had not even occupied it. Indeed, the very first article of the Mandate proves that the boundaries of Spanish Guiana were not known, for therein it is declared as follows:—

"The principal and most important point in this affair being to determine *the limits* of the aforesaid province of Guiana, so as not to work in vain, which province commences on the east to the windward of the point where the river Orinoco empties into the Ocean on the border of the Dutch Colony of Essequibo: one of the first cares of the Commissioners appointed for this affair in the establishment which is to be made, shall be to go as near as possible to this colony, endeavouring to find the most advantageous and convenient spot for the foundation of the first town, bearing in mind that, at that frontier, it will probably be necessary to erect

“ a fort for the defence of the limits, and that for this  
“ reason the spot selected must be a convenient one for  
“ the erection of this fort, so that the advantages of  
“ the ground shall further secure it against the enemies  
“ who may attempt to attack it.”

So little, in fact, did the Governor General of Venezuela, in 1779, know of the territory in question, that, in the last paragraph of his Mandate, he admits the impossibility of laying down certain and sure rules on so important a subject, about “ an unknown country.” Mark the words, “ *an unknown country.*”

The officer commissioned to survey this *terra incognita* was JOSE FELIPE DE INCIARTE. He reported on the 27th of November 1779, (pp. 84 to 89). Of course, INCIARTE was unable to report the presence of any Spaniards in the Barima district. He mentions, however, facts which show that, a few years before, a Dutchman had made himself at home on the Aruka, a tributary of the Barima. These are his words:—

“ Entering the aforesaid branch of Aruco, one meets  
“ at a distance of one league, the first hill, which was  
“ inhabited a few years ago by a Dutchman from Esse-  
“ quibo called MENER” (MYNHEER) “ NELCH and by  
“ several Indians of the Caribbean tribe. At the foot of  
“ this hill, in a small creek, I found the hulls of a large  
“ pirogue and of a boat, which an Indian assured me had  
“ belonged to the aforesaid Dutchman. On the hill we  
“ found portions of coffee, anonœ (?) and orange trees.  
“ I omit further details having entered them in a diary  
“ which I have commenced and to which I refer.”

MYNHEER NELCH, from Essequibo, had not only lived among the Caribs, the allies of the Dutch, but had

planted coffee and orange trees, on the hill where he dwelt. Surely INCIARTE'S diary should be published, as the details omitted might prove to be of value at the present time. Leaving the Aruka, the Spanish Surveyor descended the Barima, and entered the Mura (Mora?). Thence, by the Guiana (Waini), he entered the Paramana (Baramani?). He surveyed this stream, and those called Viara, Azacate, Itabo, and the one that runs through the *Sabana* "which leads to the post held by the Dutch "at Moruca." Again, INCIARTE refers to his diary for "full particulars." The position of the Dutch post at Moruca is described as being "at a distance of two "leagues from the commencement of the Cumaco lands "to the South West Quarter, South." At a quarter of a league before reaching the Dutch post, the Moruca formed a small bay, and this bay could serve as a port. INCIARTE was of opinion that, it would be convenient "to found a town close to this bay or port, as besides the "advantages offered by the produce of the land, the "communication which the Dutch have with the Orinoco "by means of the inside branches could be prevented; "there being no other pass, they would be compelled "to enter through the North of the Guaina into the "sea \* \* \*." After making suggestions as to fortifying the proposed town, INCIARTE dwells upon the expediency of dislodging the Dutch, from their post at Moruca, in this wise:—

"The aforesaid Post held by the Dutch on the Moruca "advances from Essequibo towards the Orinoco in a "distance of about eighteen leagues, in an almost North- "westerly, Southeasterly direction, the one from the other, "and although it is at present but an insignificant house



“ with only two dismantled guns and a few swivel-guns,  
“ as it could however receive assistance from Essequibo  
“ within less than twenty four hours, it would be very  
“ convenient, for the safety of the new towns that may  
“ be founded, to dislodge the Dutch from the aforesaid  
“ port, from which the distance to the sea and through  
“ the aforesaid Moruca, is of about five leagues.”

INCIARTE got as far as the Pomaroon: but makes no mention of the Dutch settlement on that river. On the summit of the second hill, on the left, going up the Pomaroon, a few years previously inhabited by Caribbean Indians, there was room enough for a medium sized town, “ after having properly fortified it.” For this reason, it seemed to INCIARTE that “ the first town “ which it is intended to found under the name of San “ Carlos de la Frontera, should lie on this spot, as, being “ distant from Essequibo by land only twelve or thirteen “ leagues, it commands, on account of its advantageous “ position, not only the surrounding lands, but also the “ aforesaid branch Bauruma” (the Pomaroon).

INCIARTE'S Report was sent on to Spain. On the 1st of October, 1780, a Royal Order was issued to the Governor of Caracas, respecting the surveyal and the peopling of the Eastern part of the lower Orinoco, (pp. 89 to 90.) The Spanish Minister, DON JOSE DE GALVEZ, therein conveyed to the Governor, the King of Spain's orders, in the following words:—

“ And having reported to the King all that these docu-  
“ ments contain, he has been pleased to command that  
“ the aforesaid INCIARTE return to Your Excellency  
“ so that you may, at once, or when you may see fit,  
“ charge him once more with the same mission of occu-



“pying and populating the lands which he described in  
 “his aforesaid report of 27th November last, and to erect  
 “the two small provisional forts which he has judged  
 “necessary, the one to protect against the attacks of the  
 “Dutch of Essequibo the town which may be founded,  
 “as he suggested in said report, close to the bay formed  
 “by the small river or creek Moruca, at a distance of a  
 “quarter of a league from the post or guard-house  
 “held by the Dutch, which stands at about eighteen  
 “leagues from Essequibo towards the Orinoco, erecting  
 “said fort on the highest point commanding the point  
 “that may be occupied by the town and its surround-  
 “ings; and the second fort with four or six guns in the  
 “bay itself of the aforesaid river Moruca, to prevent the  
 “entrance thereto of any unfriendly vessel; dislodging  
 “the Dutch from the aforesaid post or guard house which  
 “they have constructed there; it being understood that  
 “if the Director General or Governor of Essequibo  
 “should complain, answer shall be given that these  
 “proceedings are taken in conformity with the general  
 “laws and instructions given for the better government  
 “of our Indies, which do not allow of such intrusions of  
 “foreigners in the Spanish dominions, such as those  
 “are; which same answer shall be given here if the States  
 “General of Holland make any complaint or claim.”

So, the mission of occupying and populating the lands  
 in the “unknown country” of the lower Orinoco, was to  
 be effected by the “dislodgment” of the Dutch, with whom  
 Spain was at that time, ostensibly, on friendly terms!  
 The project bore a strong family likeness to the burgla-  
 rious compact entered into by the Spaniards and the  
 Portuguese in 1753, for ousting the Dutch from their

possessions in Guiana. As in that shameless international Conspiracy against the Boers of South America, the Spaniards also on this occasion, forgot to act upon the maxim, "first catch your hare." Expecting, however, that their plot would succeed, it was arranged that the Dutch should be dislodged from the Pomeroon and the Moruca; and, that a Spanish town should be founded on the Pomeroon, and a Spanish fort should be erected at Moruca. The town was to be named *San Carlos de la Frontera*. It must be borne in mind that INCIARTE was, in all these matters, acting under the authority of the King of Spain. He was commissioned to explore what was, to his own Government, avowedly, "an unknown country," in order that steps should be taken to "occupy" it with Spaniards. During his travels he finds signs of Dutch occupation, only. He makes a burgling proposal, afterwards approved by the King of Spain, to "dislodge" the Dutch from their ancient possessions in the Pomeroon, and Moruca districts. As a matter of History, the Spaniards never succeeded in effecting the "dislodgement" of the Dutch from those places. Nevertheless, most important are the conclusions to be drawn from INCIARTE'S statements. The name proposed to be given to the proposed town on the Pomeroon, speaks for itself. Turned into English, *San Carlos de la Frontera* becomes Saint CHARLES of the *Frontier*. That is to say, that, had the Dutch been "dislodged" in 1779, or thereabouts, the Spaniards would gladly have contented themselves with the Pomeroon as their Frontier! Now, as the Spaniards did not so "dislodge" the Dutch, in 1779, or afterwards: how, in the name of Justice, can Venezuelans be supported in their outrageous pretension

in 1896, that the Territory of the Republic includes the left bank of the Essequibo? Again: the reasons given by INCIARTE for “dislodging” the Dutch from the Moruca and for erecting a Spanish fort there, form an important admission as to the sphere of influence exercised by the Dutch, from the fortified post and trading-station of the West India Company, at the Moruca, in territory which was “an unknown country” to the Spaniards. INCIARTE bears testimony to the trading operations of which Moruca was the Centre, and which extended to the Orinoco itself, with the concurrence of the Indian Allies of the Hollanders. He says:—

“ It would be convenient in my opinion to found a  
 “ town close to this bay or port, as besides the advan-  
 “ tages offered by the produce of the land, the communi-  
 “ cation which the Dutch have with the Orinoco by  
 “ means of the inside branches could be prevented;  
 “ there being no other pass, they would be compelled to  
 “ enter through the North of the Guaina into the sea;  
 “ and although it would be easy for them to go to the  
 “ Orinoco through the Guaina, as they would sail before  
 “ the wind, the return to Essequibo in barges and  
 “ pirogues (which are generally used for unlawful trade  
 “ with the Orinoco) would be very difficult and almost  
 “ impossible when there is any breeze, especially from  
 “ the North-east, as, on account of the shallowness on  
 “ that coast, a very choppy surf rises, which besides pre-  
 “ venting them from advancing by means of oars, would  
 “ expose them (these vessels not being covered) to lose  
 “ their cargo, if this consist of tobacco, on account of  
 “ the water which necessarily and continually enters the  
 “ vessel, and if the cargo consists of mules or cattle, on

“ account of having to reach the Orinoco as quickly as  
 “ possible for, although they can get plenty of water  
 “ from the Guaina, they cannot get grass, there being  
 “ no plains in those regions.

\* \* \* \* \*

“ Communication with the Capital of the Orinoco can  
 “ be held throughout the year, through the branches,  
 “ and without going out into the sea, by means of  
 “ pirogues, and, during a great part of the year, even  
 “ with barges” (pp. 86, 87).

It may be well to mention that the visit of the Spaniards to the Moruca and Pomaroon, in 1779, was duly reported to the Governor of Essequibo, who noted it for action on his part.

INCIARTE seems to have eventually been placed in nominal charge of the lower Orinoco, as he wrote a Report upon it, on the 5th of December, 1783. He makes it clear, however, that the Indians preferred to escape from Spanish domination. The following extract from his Report shows that the Indians of the lower Orinoco were beyond the control of the Spaniards:—

“ The four Indian towns of Buena Vista, Maruanta,  
 “ Orocopiche and Panapana, were very considerable  
 “ when first founded, on account of the large numbers of  
 “ their inhabitants, but they are now so reduced and  
 “ fallen off that there are scarcely enough Indians in them  
 “ to cultivate in common the tillable lands necessary  
 “ for their maintenance, on account of the great distance  
 “ at which they are, for which reason those towns, instead of increasing, have greatly fallen off through the  
 “ continual flight of the Indians to the lands of the lower  
 “ Orinoco, the consequence of this being, besides the

“ loss of the lands, that they prevent the conversion  
 “ and subjection of many others, through the news that  
 “ the runaways give them, exaggerating the great trou-  
 “ bles and necessities they have to bear with in the above  
 “ mentioned towns, thus doing away with the hope of  
 “ bringing together, and founding a town in the neigh-  
 “ bourhood of said capital, with the Indians who inhabit  
 “ the lands of the lower Orinoco.”

Later on, he says, with reference to a proposal to  
 people lands in the Orinoco, on the island of Imataca,  
 that it would be very convenient to found two Spanish  
 towns, one “ on the lands of the Orinoco, on the south  
 “ of the Western extremity of the aforesaid island of  
 “ Imataca, and the other from eight to twelve leagues  
 “ more to the east of the first.” As Archbishop LAUD  
 proposed to force Episcopalianism upon the Puritans of  
 New England, at the point of the bayonet, so did  
 INCIARTE intend “ by apostolic blows and knocks, to  
 “ prove his doctrine orthodox.” It “ would, further-  
 “ more be very necessary,” wrote this militant coloniser,  
 “ to send eight missionaries with a suitable escort to  
 “ subject the numerous Indians, Mariosas, Guaraunos  
 “ and Caribbeans, who inhabit that neighbourhood. I  
 “ do not think that it would be difficult to subject them,  
 “ especially if they were given to understand that they  
 “ would be left in their own lands, as the great obstacle  
 “ to their conversion has been hitherto that they have  
 “ been carried away from these fertile lands and taken  
 “ into others, almost barren.” Again :

“ If the lower Orinoco is not populated, the pro-  
 “ vince of Guiana, far from being profitable to the  
 “ Royal Treasury, will be very expensive as it has been

“ hitherto ; of all of this Your Excellency, can be in-  
“ formed, if you find it necessary, by DON ANTONIO BAR-  
“ RETO, Captain of the veteran Companies of Guiana and  
“ by the aforesaid DON MANUEL FERAN, both residents  
“ of this city, well acquainted with the lands in question,  
“ especially the latter who has property and has made  
“ many trips on the river ; both of them persons well-  
“ known for their veracity and notorious honesty.”

The foregoing statements of INCIARTE indisputably prove that, even within limits to which neither Dutch nor English have pressed their claims, the authority of the Spaniards was not respected by the Indians. Quite as clear is it, that the lands in that region were not occupied by the Spaniards.

The occupation of the Eastern portion of the lower Orinoco, and particularly of the frontiers of the Colony of Essequibo, was, in December, 1783, still a matter of “ to-morrow ” with the Spaniards. In the last paragraph of his Report INCIARTE wrote :—

“ As regards the populating of the eastern part of the  
“ aforesaid lower Orinoco and of the frontiers of the  
“ Colony of Essequibo, for which I have been commis-  
“ sioned, I beg to refer Your Excellency to what I have  
“ stated both to Your predecessor and to His Excellency  
“ DON JOSE DE GALVEZ in my report of 27 November,  
“ one thousand seven hundred and seventy-nine ; but  
“ hearing that the French have taken possession of the  
“ aforesaid colony of Essequibo during the war, for which  
“ reason the Dutch have abandoned the advanced post  
“ which they held on the banks of the river Moruca,  
“ which post it is most important to occupy before any  
“ new event takes place, I am of opinion that it would



“ be very convenient and necessary to provisionally  
 “ fortify it, and to establish there a town with the native  
 “ Indians who inhabit the neighbourhood, appointing for  
 “ this object two missionaries with a detachment to serve  
 “ as escort ; in this manner the inhabitants of said colony  
 “ will be prevented from entering the lands which lie  
 “ between them and the Orinoco ; as this cannot be of  
 “ great expense to the king, it will be of use when it is  
 “ intended to populate the other points of my mission  
 “ with Spaniards, as they will more easily find there the  
 “ necessaries of life with the exception of meat.”

The Spaniards did not occupy the post of Moruca. Their intention to do so got no further than *Manana!* The post was fortified by the Dutch, and was held by them against a Spanish attack, on the 19th January, 1797. The Dutch were not, “ prevented from entering the lands which lie between them and the Orinoco.”

To the Spaniards, *Amacura*, *Barima* and *Moruca*, were little more than names. This is shown by the bare statements about them which ALCEDO gives in his *Dictionary*, as will be noted in the subjoined extracts, and in which those places are claimed for Spain :—

“ *Amacuro*, a river in the same province, (*Cumana*),  
 “ which runs towards the *n.* and joins the Orinoco at its  
 “ large mouth, called De Navios.

“ *Barima*, a small river of the province and government  
 “ of *Cumana* in the Kingdom of *Tierra Firme* ; it rises  
 “ in the middle of the *sierra* of *Imataca*, runs *n.* and  
 “ enters the sea at the same mouth of the Orinoco, which,  
 “ on account of its size, is called De Navios.

“ *Barima*, a point or strip of land of the same pro-  
 “ vince and government ; it is one of those which form



“ the principal mouth of the river Orinoco, and is on the  
“ left side.

“ *Moruga*, a river of the province and government of  
“ Cumana. It rises in the *sierra* of Imataca, and enters  
“ the sea near the river Pomeroon, in the District pos-  
“ sessed by the Dutch.”

As regards the Treaty of Cession, in 1814, by which the property in the Dutch Colonies to the North of Surinam, passed to the British, there is the following note (p. 173) in *Venezuelan International Law* :—

“ 1814.—A Convention was concluded in this year  
“ between the Netherlands and Great Britain, by which  
“ the former ceded to the latter some of her colonies in  
“ America, conforming to the limits which were recog-  
“ nized at the time.”

The following is the clause in the Convention of 1814, that transferred the Dutch Settlements to Great Britain :—

“ In consideration of the engagements above mentioned,  
“ the Prince Sovereign of the Netherlands consents to  
“ cede in all sovereignty to His Britannic Majesty, the  
“ Cape of Good Hope and the establishments of Dem-  
“ erara, Essequibo and Berbice, on condition, however,  
“ that the subjects of H. R. H. the Prince Sovereign,  
“ who own property in said colonies or establishments,  
“ shall be at liberty (saving the regulations which shall  
“ be agreed upon in a supplementary convention) to  
“ navigate and trade between said establishments and  
“ the territories of said Prince Sovereign in Europe.”

The pretence of the Venezuelans, that, in ceding the ‘ establishment’ of Essequibo, the Dutch did not cede the right bank of that river, to Great Britain, is nothing less

than an outrage upon the comity of Nations. It is not practicable for Great Britain to treat upon the question of Boundaries so long as this insult is indulged in by the Republic. One has only to look at the Map of Essequibo, prepared, in 1798, by Major VON BOUCHENROEDER, to realize that the whole of the West Coast of Essequibo was, at that time, not only occupied, but also cultivated. Every bit of that coast was then lotted out in plantations of Coffee, Cotton and Sugar, or otherwise. Some of the plantations had even been thrown out of cultivation. This is shown as far as, and including, the Pomaroon, which is, indeed, the oldest part of the Dutch Colony, dating its foundation from 1580. VON BOUCHENROEDER'S chart was prepared for the Committee of the Colonies and Possessions of the Batavian Republic, at a time when Holland was under French influence, and when both those Countries were at war with Great Britain, in the very year of the Battle of the Nile. It was not prepared for the British Government. The Venezuelans cannot produce any chart of Spanish Guiana of that date, giving any like proofs of Spanish occupation in the part of Guiana that Venezuela is in possession of.

However, Venezuelans allege that when, in 1845, Spain recognized the Independence of their Republic, it was held by the Venezuelans that their territory was the same as that of the Captain Generalship of Venezuela had been under the Spanish Crown. The extent of that territory, they add, was described in an order of the King of Spain, issued in 1768, in which His Majesty decreed that "the province of Guiana was bounded on the South by the Amazon, on the East by the Atlantic Ocean": "so that," says Senor URBANEJA, writing to Sir SPENSER ST. JOHN,

on the 26th of January 1887, " the acquisitions of other  
" Powers within those limits were not valid until they  
" were made lawful by the posterior consent of said  
" Monarch.' (*Venezuelan International Law*, pp. 540  
to 549.)

If the consent of the Spanish Sovereign was not given to the colonizing of the Dutch in Guiana, that Monarch, nevertheless, gave official recognition to those Colonies, as is shown by documents published by the Venezuelan Government. On page 126, will be found treaties between Spain and Holland, in 1797, for the supply by Spain, at the expense of the Dutch, of troops to garrison Surinam, to protect that colony and adjacent places from Foreign aggression. Surely, recognition could not be of a more valid nature, than the supplying of a Spanish Force for maintaining those possessions for the Dutch ! Then, there is the Treaty of Aranjuez, on the 23rd of June, 1791, by which fugitive slaves and soldiers were to be returned, when they escaped from the Spanish " establishments " on the Orinoco and the Dutch " Colonies," Essequibo, Demerara, Berbice, and Surinam. This, by the way : for the Dutch had really no need for " the posterior consent of said monarch " of Spain.

This brings us to what the Dutch " held and possessed " in connection with the Essequibo, and to what the Spanish " held and possessed " in connection with the Orinoco. The Spanish fortified outpost in Guiana was San Thomé, or Angostura, about 240 miles up the Orinoco, on its right Bank. In those days of sailing vessels, San Thomé was about 5 to 15 days' journey going down to Barima Point, and 20 to 25 days' going back. Moruca, on the other hand, would be a day or two's sail to Barima

Point, by sea. But, there is a short-cut by inland navigation, between those two Rivers, and boats could pass, in a day, from the Moruca to the Barima. Indeed, it was a common thing for Dutchmen and Aborigines to pass to the Orinoco itself, by means of the rivers, and especially by the use of the Mora Channel, which connects the Waini and Barima Rivers. Having a Fort at Moruca, and such easy means of movement to the Orinoco itself, one can understand why the Dutch did not find it necessary to maintain the Fort on Barima Point, that they had there as early as 1660. From Moruca, the Dutch could exercise complete control up to Amacura, with the help of their Carib allies. When the Settlements from time to time surrendered to the British Forces, orders were sent to the Commander at the post at Moruca, among others, as to the Capitulation of the Colony. The fact that the Spanish Arawaks sought refuge under British Rule in 1818 to 1830, at Moruca, shows that the Aborigines of Guiana knew that the Venezuelans did not possess that country. The fact that about 150 Spanish Royalists, fleeing from the power of the successful Revolutionists at Angostura, sought refuge in the Pomeroon District, in 1817, shows that the Spanish Colonists of Venezuela knew that the British possessed that part of Guiana. [See the *Minutes* of the Legislature of the Colony, 8th September 1817, in which the Governor is reported as saying, that he had sent an officer and 25 soldiers to the Pomeroon to maintain order]. The name of the settlement of Essequibo had been extended by degrees, as the Dutch occupied and possessed the neighbouring rivers. It grew in this wise, because the Government of the outlying places

had its Headquarters in Essequibo. The same expansion of meaning will be found in the names of Demerara and Berbice. The principal settlement, which held the seat of Government, gave its name to the districts dependent. The operations of the rule may be observed in our own time: the whole colony of British Guiana being frequently spoken of as "Demerara," merely: the most important portion of it. This usage prevails among people living within the Colony, and among outsiders as well. In the same way, the names of Surinam and Cayenne, are oftentimes used instead of Dutch Guiana and French Guiana, the all-embracing terms. Now, what do we find as regards the expansion of the name of Venezuela itself? In Lippincott's *Gazetteer of the World* (Philadelphia: 1857), is the following statement:—

"When OJEDA and VESFUCCI entered the lake of Maracaybo, in 1499, they were surprised to find there an Indian village constructed of piles over the water, the banks of the lake being thought unhealthy. They called the insular village Venezuela (the diminutive of Venezia or Venice), a name subsequently given to the lake, and ultimately to the surrounding country."

To the foregoing statement must be added the fact that the name of Venezuela was extended further, at a later date, so as to include that part of the mainland on the other side of the Orinoco, that properly formed Spanish Guiana.

That the Convention of 1814 was understood by the Dutch, and by the English, in a very different manner to that affected by the Venezuelans, will readily be seen. The Convention mentions the "establishment" of Berbice,

which is on that side of British Guiana next to Dutch Guiana. According to the Venezuelan manner of interpretation, the Cession would have extended only to the left Bank of the Berbice. As a fact, the Dutch have never questioned the right of the British, through that Cession, to the whole water-shed of the Berbice; to that of the Canje, and right up to the left bank of the River Corentyne. As between the Dutch and English, there could be no room for argument as to the extent of territory included in the "establishment," or "Colony or establishment" (as the Convention of the 10th and 13th of August, 1814, has it), of Essequibo. JAN JACOB HARTSINCK, an official of the Dutch West India Company, who had lived in Dutch Guiana, wrote a History of the Dutch Settlements in Guiana, which was published in Holland in 1770. In the XXII Chapter of his book, HARTSINCK wrote as follows:—

"Dutch Guiana is divided firstly into the Colony of Essequibo, to which the river Bonweron, or Poumeron and adjacent rivers and district appertain" \* \*

HARTSINCK says as to the Western Boundary:—

"Some place Dutch Guiana west with the river Baryma, lying 8 degrees, 5 minutes north latitude, which empties itself in the Oronoque—others again west of the river Waine, situate about five leagues east of the Oronoque."

HARTSINCK subsequently says:—

"The first rivers which we meet with in Dutch Guiana, coming from the Oronoque are the creeks or rivers Baryma, about a mile broad, where formerly we had a post; three miles further the Amachara" (*Amacura*) of the same breadth, which like the before-mentioned



“ empty themselves in the Oronoque, fully three miles to  
“ the east of the creek, Mocco Moco ; two miles further  
“ again the River Waine, three-fourths of a mile broad,  
“ but shallow.” [*Beschryving van Guiana of de Wilde  
Kust in Zuid America, Essequibo, Demerara, Ber-  
bice, Suriname, 1770.*] HARTSINCK then makes men-  
tion of Moruca and Pomaroon : but there is no reason  
to give full particulars as regards those places. It  
is, however, well to note one fact mentioned by him, as to  
the fortification at Moruca. He says that the fortified  
post was “ at present fallen into decay.” As his book  
was published in 1770, the fortified post must have  
existed years before to have “ fallen into decay ” at the  
date mentioned. There are, in fact, records in British  
Guiana, showing that Moruca had been fortified years  
before 1770. The place was re-fortified after 1770 ; and,  
on the 19th of January, 1797, the Dutch severely defeated,  
at Moruca, a Spanish expedition that had come over,  
from the Left Bank of the Orinoco, to attack the place.  
There may be some excuse for the Spaniards not know-  
ing the boundaries of the Colony of Essequibo.\* To them  
the region on the Eastern side of the Lower Orinoco was  
“ an unknown Country.” There can, however, be no  
excuse for Venezuelans of to-day pretending a right to  
the Western bank of the Essequibo. ALCEDO, prejudiced  
as he was against the Dutch, describes Essequibo as  
“ a large District and River.” He says the Dutch Colony

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\* Even so far into the Nineteenth Century as the year 1840, Vene-  
zuelans were profoundly ignorant of the nature of the Settlements in  
British Guiana. In that year their infallible topographer, Codazzi,  
actually placed the Capital of the British Colony, on the left Bank of  
the Demerara ! [*British Blue Book, p. 238.*]



was on both banks of the Essequibo, and gives the Pomaroon as the Boundary.

For years before the Cession of 1814, and for years afterwards, the *Rubrics* to the Minutes of the Proceedings of the Legislature of Essequibo and Demerara, cited Essequibo *and its dependent districts*. This fact can be noted in the *Rubric* to the Minutes of the Proceedings of the last Meeting held while the Colonies remained under Dutch Rule, wherein appear the words *en onderhoorige districten*, which are equivalent to *and dependent districts*, in English.

On the 18th of September, 1803, the Colonies capitulated to the British Forces. The following is the *Rubric* of the Minutes of the Court of Policy held on that day:—

*Notul eener gecombineerde Krygsraad gehouden by den Gouveneur Generaal en de Raaden van Politie der Rivieren en onderhoorige Districten van Essequibo en Demerary, mitsgaders de Commandeeren de Officieren der Bataafsche Land en Zeemagt, ten Gouvernements Huize en Rio Demerary.*

In the year following the Capitulation, 1804, the British Governor addressed a letter to the Governor of Spanish Guiana, as to the Governor of *Angostura*, simply.

In the Commission, dated 4th March, 1831, by which the Colonies of Demerara, Essequibo and Berbice were united together in the single Government of British Guiana, Sir BENJAMIN D'URBAN was constituted and appointed Governor over all the British Settlements on the Northern Coast of the Continent of South America, “ comprising all such territories and jurisdictions as “ have hitherto been comprised in the said united colony

“ of Demerary and Essequibo and the said colony of  
“ Berbice respectively, *with their respective dependen-*  
“ *cies.*” In *Rubrics* to Minutes of the Proceedings of the  
Legislature, for years after 1831, the Colony and *Depen-*  
*cies* of British Guiana are cited.

No better illustration could be given of the manner in which the name of a portion of the Dutch possessions was made to stand for the whole, than the way this was done, on a memorable occasion, by the Spanish Government itself. In 1796, the Dutch Colonies of Berbice, Demerara and Essequibo, came into the possession of the British. On the 5th of October, in the same year, Spain declared war against Great Britain. One of the grounds given by the King of Spain, for making war, was the recent conquest, by the British, of the Dutch Settlements in the neighbourhood of the Orinoco. And how did the King of Spain name those settlements? He lumped them all in the name, not even of Essequibo, but, of Demerara. Here are the very words used in the Declaration of War against Great Britain:—

\* \* \* “ And lastly by the conquest she has just  
“ made on the continent of South America of the Colony  
“ and River of Demerari belonging to the Dutch, which  
“ advantageous situation puts her in the way to occupy  
“ other important points.”

Among the “ other important points,” thus referred to, were “ the Provinces of Orinoco and Caracas.” This much is indicated in a Despatch of the 10th June, 1796, from the Spanish Ambassador in London to the Prince DE LA PAZ, (British Boundary Blue Book: p. 137). The British Blue Book states, further (p. 20), that “ a  
“ Spanish Memorandum of 1797, expresses the fear that

“ the English were about to take the River Orinoco, “ and sweep the whole of the Spaniards out of that “ territory” [*Archivo de Indias. Confidential. Papers, Carác. 1790-1796, bundle B.*]. Is it not clear, from the foregoing, that the Spanish Government knew that the Dutch Settlements extended to the very mouth of the Orinoco?

The Liberator of South America, the heroic BOLIVAR, is quoted in *Venezuelan International Law* (p. 174), as having “ decreed” that Fort Moruca, “ not included,” was the Venezuelan Boundary. Here is the statement of the Venezuelan Foreign Office:—

“ 1817.—On the 15th of October, 1817 the Liberator “ issued his decree concerning the limits of the Depart- “ ments of Venezuela; and in fixing those of the Lower “ Orinoco, he says:—‘ North of the shores of the Orinoco “ ‘ from the mouth of the Caroni as far as the mouth into “ ‘ the sea through Rio Grande, and to the sea-coast as “ ‘ far as Fort Maraca, not included; on the East and “ ‘ South the limits of foreign possessions; on the West “ ‘ those determined for the central Department on the “ ‘ East.’ It was then an acknowledged fact that the “ Northern boundary of Guiana extended as far as the “ mouth of the Moroco.”

Every one must respect the name of SIMON BOLIVAR. His fame is to South America what that of GEORGE WASHINGTON is to North America. But, his “ decree” as to limits cannot be taken as infallible. There must be some corroboration, by proofs of Occupation, Possession, or exercise of Dominion. Again? why did BOLIVAR himself, in addressing his compatriots, on one occasion, congratulate them upon having driven out the

Spaniards, so that the country was free of them "from the Andes to the *Orinoco*?" Why the *Orinoco*, and not, the Essequibo? It is clear, at the same time, that the Liberator did not dream of making the outrageous claim, of late asserted by his countrymen, to the left Bank of the Essequibo. He, only claimed up to Fort Moruca, "not included."

A statement is made by the Venezuelan Foreign Office as to Moruca, that is so misleading that it cannot be too thoroughly examined. It refers to the year 1840, and is as follows:—

"1840.—In September or in October of this year an Englishman was tried for having killed an Indian, and his lawyer having proved that the crime had been committed in the Moruco, this was enough for the tribunal of the Colony to declare itself without jurisdiction in the matter, the crime having been committed on foreign territory. Mr. FLORENTINO GRILLET, Governor of Guayana, informed the Government of this fact in a remarkable note about limits, dated the 23rd of August 1841; and in it he affirmed that there were still to be found in the Moruco, the remains of the palisades of the fort which the Spaniards had erected on said river: he doubtless referred to one of those that DON FELIPE DE INCIARTE was to have erected in 1780." [*Venezuelan International Law*: 174]. Taking the latter part first, it must be observed that Governor GRILLET was cruelly misinformed as to the Fort at Moruca. Any palisades there, were remains of the Dutch post, whence the Spaniards were severely repulsed on the 19th of January 1797. The Spaniards never had a Fort at Moruca, and never captured the

Dutch Fort there. The Dutch had a post at Moruca from the early years of the 18th century, at the latest. The intention of INCIARTE to erect a Fort, near to that of the Dutch, remained among the many good intentions that have found a place in the Spaniards' *Mañana!* As regards Governor GRILLET'S allegation, that in September, or October, of 1840, an Englishman was tried for having killed an Indian, and that the accused's lawyer, having proved that the crime had been committed in the Moruca, "this was enough for the tribunal of the colony to declare itself without jurisdiction in the matter, the crime having been committed on foreign territory:" here, again, Governor GRILLET must have been hoaxed. It is not necessary to dwell upon the trivial mistake made: but the "Englishman," was an African. His name was JOHN MOLL, or MOLE. His offence was actually committed in the Barima, not at Moruca. In the indictment, the offence was charged as having been committed in the County of Essequibo. In the minutes recording that trial, there is no note of any question having been raised as to jurisdiction. The Record does, however, state the lack of Belief on the part of the Indian witnesses. The trial did not take place in September, or October, as the Criminal Session of the Supreme Court of Justice was not opened until the 23rd of November 1840. After a postponement, the case was tried in February, 1841. The writer of these Notes, is obliged to his friend Mr. EDWARD HENRY GORING DALTON, Registrar of the Supreme Court of British Guiana, for pointing out the following explanation of what was undoubtedly the germ whence sprung Governor GRILLET'S erroneous statement,



in his very "remarkable note about limits." On the 4th of March, 1841, the Governor of British Guiana, Sir HENRY LIGHT, thus addressed the Legislature of that Colony:—"I have to draw your attention to the fact, " that several criminal cases were brought before the " Supreme Court during the last Session, all of which " were quashed from the gross state of ignorance and " behaviour of the witnesses.

" These witnesses were Indians of the Morocco and " Pomeroon Rivers.

" The most serious criminal case in question, was that " of a negro boatman, belonging to one of the wood- " cutting establishments, who, having seduced or forced " an Indian to enter his boat, is said to have fired at him, " after he had jumped overboard to escape to the shore. " I am willing to believe that the person who fired the " gun, had no other intention than that of frightening " the Indian, for it is said he was an excellent marksman, " and also of good character, but it was the duty of the " Superintendent of Rivers and Creeks to take the offen- " der to trial. The witnesses to the fact were brought " forward. When questioned as to belief in a God, " a great Spirit, or a future state, they had no reply " to make but in the negative. They had no idea " of God, or Spirit, or Future State—their testimony " could not be taken—the accusation fell to the ground. " The other cases were for assaulting Indians—these " cases also fell from the same causes." [*Royal Gazette*, 4th March, 1841].

In the result, a Law was passed, as Ordinance 19 of 1841, allowing the unsworn statements of the Aborigines to be received in evidence in the Courts of Justice,

*Voila tout !* So far, however, from there being any question of relinquishing the right of dominion over the region of the Moruca, in 1840: the Government of British Guiana made a *Grant of Land* at Moruca, for Missionary purposes, in that very same year, to Dr. CLANCY, the Roman Catholic Bishop in British Guiana. The following is the entry in the books of the Crown Surveyor of British Guiana, preserved among the records of the Government Lands' Department of the Colony, at the Office in Georgetown:—

“ By His Excellency HENRY LIGHT, Esquire, Governor and Commander-in-Chief in and over  
 “ the Colony of British Guiana, Vice-Admiral and  
 “ Ordinary of the same, &c., &c., &c.

“ Whereas an application has been presented to me  
 “ by the Right Reverend WILLIAM CLANCY, the Bishop  
 “ of Oriense and Vicar Apostolic of British Guiana,  
 “ praying for a grant of a tract of land situate, lying,  
 “ and being, on the left Bank of the Morocco Creek  
 “ *on the West Coast of the County of Essequibo*; com-  
 “ mencing at the upper boundary of the Settlement of  
 “ the Indian Captain PUNSHA, and extending upwards or  
 “ Westwards therefrom 82 roods in façade, and North-  
 “ ward 50 roods in depth, and containing seven acres,  
 “ the said tract having been the site of an Indian Settle-  
 “ ment known by the name of Mariana; as described in  
 “ chart or diagram of the same made by the Sworn Land  
 “ Surveyor WILLIAM HILLHOUSE, dated April 1840,  
 “ hereunto annexed: and whereas the sum of seven  
 “ pounds sterling has been paid into the hands of the  
 “ Receiver General of this Colony, being at the rate of  
 “ one pound sterling per acre for and in behalf of Her



“ Majesty’s Treasury of this Colony as consideration  
 “ money or quit rent for the said land :

“ Now I therefore in the name and on behalf of Her  
 “ Most Gracious Majesty do hereby grant unto the said  
 “ Right Reverend WILLIAM CLANCY, as aforesaid, and  
 “ his successors in office; for the use of the Roman  
 “ Catholic Church in British Guiana, this my licence and  
 “ permission, to occupy, cultivate and improve, the herein-  
 “ before described tract of land, with all its appurtenances,  
 “ during Her Majesty’s pleasure, subject to the following  
 “ condition and restriction, vizt. :

“ That the said tract of land shall be subject to the  
 “ Laws and Regulations respecting Roads and Bridges,  
 “ now in force in the Colony, or yet to be enacted.

“ And that the occupants of said land, or any of them,  
 “ or any person or persons employed by them, shall not  
 “ use any violence or outrage upon the persons, or com-  
 “ mit any depredation on the property of the Indians.

“ Given under my hand and seal of Office, at the  
 “ Guiana Public Buildings, this Twentieth day of  
 “ July, 1840, and in the Fourth Year of Her Ma-  
 “ jesty’s Reign.”

Registered 20 July, 1840,

(Sd). J. HADFIELD, C.S.

It will be observed that the Morocco, or Moruca, is described as being “ on the West Coast of the County of “ Essequibo.” Now, in pursuance of that grant of land, there is a Roman Catholic Mission at Moruca unto this day. It has not only a local habitation but a distinctive name, being called *Santa Rosa*.\* The Mission has for

\* A Roman Catholic Priest had been stationed in the Moruca District, as far back as 1837, when the Abbe Hermant came from Trinidad for the Mission.

several years been in the charge of the Reverend Father MESSINI, of the Society of Jesus, who is himself subject to the authority of the Right Reverend Doctor BUTLER, the present Roman Catholic Bishop in Guiana. The landing place at Santa Rosa is formed of *Dutch* bricks, which formerly were used in the building of the *Dutch* fortification at Moruca.

Before leaving Moruca and its history, mention should be made of the historical fact, that in the "twenties" of this Century, a number of Aborigines came into British Territory from the Orinoco, to escape from conscription for the Venezuelan Army. The Governor of the Colony, Sir BENJAMIN D'URBAN, allowed them to settle in the Moruca district, where their descendants, the so-called Spanish Arawaks, are to be found to this day. Some account of these people will be found in *Timehri*, the Journal of the Royal Agricultural and Commercial Society of British Guiana, (December, 1884).

The foregoing notes do not set forth the British case upon the Boundary Question.\* They show, however, that an examination of the allegations made by the Venezuelans, discloses the unfounded nature of their "claims." Their own documents prove that the Spaniards had never occupied the territory between the Moruca and the Amacura. The Spaniards talked of occupying that region in 1779, but they put off their attempt to do so, which never got farther than *Manana!*

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\* American readers who may care to learn some of the facts in support of the case for British Guiana, will find articles upon the subject in the *New York Nation* for 1896, viz:—*A British Guiana Colonist upon the Venezuelan Boundary Question* (January 23rd); *The Caribs of Guiana* (March 5th); and, *Pope Alexander the VI'S Bull, and the Treaty of Munster* (March 12th).

The Dutch, on the other hand, occupied that territory, settled in it, and exercised dominion over it. How effectively the English succeeded the Dutch in this regard, can be gathered from a very precious document, which is published in *Venezuelan International Law* (pp. 237). It is a *Memorial on Limits* by Senor MARMOL. In urging upon the Government of the Republic, the pressing need for a settlement of the Boundary Question, Senor MARMOL makes the following statement :—

“ In the neighbourhood of the Amacuro, a navigable  
“ and important affluent of the Orinoco, the mouth of  
“ which is West of the Barima, there is a town of natives,  
“ belonging to the District of Curiapo in the Department  
“ of Zea. When the last census was taken in 1874,  
“ some subjects of the British Government from Demera-  
“ rara, trading with these natives, pretended that this  
“ town should not be included in the census of the  
“ Republic, under pretext that it was under the juris-  
“ diction of the Government of Demerara. Fortunately  
“ our Commissioner for the census vigorously impugned  
“ that pretension, and the native town was included in  
“ it.”

It should be well understood that the district described by Senor MARMOL is situated to the West of the Amacura, and in the region to which the British Government does not press its claims. Senor MARMOL further makes mention of a tradition of a land communication, between the mouths of the Essequibo and the interior of what is now claimed as Venezuelan Guiana. These are his words :—

“ And still more and more worthy of the most serious

“ consideration : the tradition exists of a land communi-  
 “ cation between the mouths of the Essequibo and the  
 “ interior of our Guiana, which communication does not  
 “ appear improbable, if it is borne in mind that the  
 “ waters of the Pumaron and of the Imataca descend  
 “ from the Imataca Mountains which go far into our  
 “ territory of Guiana.

“ Considering the facilities of such communications  
 “ and the industrial interests of both territories, the  
 “ consequences of the nondetermination of the limits  
 “ are as obvious as they are worthy of being carefully  
 “ considered by the high National powers.”

Finally : Senor MARMOL says that the Indians in that  
 district to the West of the Amacura are beginning to  
 speak the English language.

It is said that the Orinoco receives the waters of 436  
 rivers, and of more than 2,000 rivulets and streams. It  
 cannot be too often pointed out that the Amacura is not  
 one of those tributaries. That independent little river,  
 taking its own course, discharges its waters into the  
 Caribbean sea, just

“ Where Orinoco, in his pride,  
 “ Rolls to the Main no tribute tide.”

Georgetown : British Guiana,  
 June, 1896.

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## “India-Rubber Collection at Para.”\*

By J. A. Coelho.



SOME weeks ago I had a conversation with Mr. ÆNEAS D. MACKAY *re* cultivation of rice in this Colony, and it struck me that such a venture would only yield beneficial results should a ready market be found for the produce abroad, and not be dependant solely on local consumption, for, if so, rice cultivation in this Colony would suffer the same consequences as that of plantains. I suggested the cultivation of the India Rubber plant as a valuable addition to the intended industries of this Colony, as that product finds a ready market abroad and always bears a steady price owing to its increasing demand.

In suggesting the cultivation of the rubber plant to Mr. MACKAY, I had no idea that he would ask me to read a paper on the subject to you, and I felt somewhat diffident as to how it would be received; but I promised and am, therefore, in honour bound to do so. I trust, however, that you will not look for anything like choice English in this paper, but to the possibility of a future to British Guiana should the subject it is meant to advocate be judiciously carried into effect. I am not a botanist, and therefore cannot tell you anything here about the nature of the rubber tree, nor is it essential to the point at issue. Neither do I intend taking up much of your valuable time though the subject is of great importance, so I am only going to tell you what rubber

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\* Read at the May Meeting of the Society.

is doing for Para, and how it is got and prepared for the market, that the members of this Society and the community at large may see whether something similar may not be carried out in this Colony.

The State of Para, it is said, is the most progressive of all the States of Brazil, chiefly from the enormous quantity of rubber exported monthly to Europe and North America, besides other forest products such as the "Castanha," (Brazilian nut.) "Caucho," "Copahyba," Sarsaparilla, &c., and also Cacao. To give you an idea of the exportation of Para, I may mention that on the 9th May, 1895, the s.s. *Bazil* left Para with a cargo of 60,000 kilogrammes of rubber, and on the 21st May, 1895, the s.s. *Hilary*, with 180,000 kilogrammes, all for New York, at an average figure of five milreis per kilogramme; the exchange at the time being  $9\frac{3}{16}$ d., or about 18 cents per milrei, and the Custom House dues on the 7th and 8th of that month were 574,840 milreis.

During the eight months of my stay in Para I was more than pleased at its healthy state and prosperity, and indeed were it not for the rubber product Para would be in a far worse decline than British Guiana is at present, as the manufacture of sugar there is quite a thing of the past.

The sugar cane is still grown in great quantity, but for the making of "erchaça" only, rum of 22 degrees, and even this is quite insufficient for local consumption: the sugar consumed in Para is imported from Pernambuco chiefly.

Having become acquainted with several grant-holders in the upper Amazon River, I had the opportunity of gaining from them much information in connection with the india rubber tree.



The rubber tree exists no more as formerly, in great quantity, within easy reach of the City of Para, for it has perished through the injurious treatment of the inexperienced bleeder, or “Syringueiro,” and it is only now to be found plentifully at very great distances away up the Amazon River and its branches; owing to this, the planting of the rubber tree has been taken up of late years, and is now being carried on, but the bleeding of the cultivated trees has not yet commenced. Young plants are taken in preference to seeds, and transplanted where required, and thousands of plants, of the best quality, have been shipped away to Mexico.

There are several kinds of rubber-yielding plants, but the best known is, what is called in Para, the “Syringueiro Preta,”—Black rubber tree. As this kind of tree is not found in great numbers together the extractions from them are mixed with that of the others.

The grantholders live entirely on their grants, and most of them have very well-built residences, with beautiful gardens and fruit trees surrounding them, and also ground provisions. Long ranges are provided for the “Syringueiro,”—Bleeder—as also a shop where the “Syringueiro” buys his requisites. Owing to the scarcity of labourers, grant-holders are obliged to come down to town, generally at the end of the year, when they settle their accounts with the merchants, pay off their men, and proceed to Ceara and Maranham in quest of new hands to take up to their grants. The bleeding of the trees is carried on by task, and the “Syringueiro” is paid for the number of kilogrammes of rubber he prepares for the market each day: the price varies according to the quality he prepares, viz: from two to four milreis per



kilogramme, or 36 cents to 72 cents per  $2\frac{1}{4}$  lbs., and at this figure he easily earns from ten to twenty milreis per day. Many of the "Syringueiros," who are not at all unlike some labourers in British Guiana for carelessness, destroy the trees by making unusually large incisions, reaching the fibrous part and thereby causing their untimely decay.

What seems very remarkable in the preparation of rubber is that the troolie seed is an essential adjunct to the smoking process, and I was told that nothing else served the purpose so well. The rubber tree is generally bled about 6 feet from the ground to start with, that is: on the first day the "Syringueiro" makes the first incision in a circumferential line about 6 feet from the ground, and the others about 7 inches apart on that line; and, as soon as the incision is made, a small tin cup made for the purpose, with a dent looking outwards on the sharp edge of the cup forming a beak, is fixed to receive the milk issuing therefrom. He proceeds to the next tree and does the same, until he gets through with the number of trees he wishes to bleed for the day; he then begins with the last tree, collecting the tins containing the milky substance which has drained from the incisions, and pours the contents into a large vessel, which he carries with him, until he collects all the tins; when this is got through the smoking process is proceeded with, and for this purpose a smoking furnace is used. The furnace is a very simple contrivance, and consists of a cone made of sheet iron, about fifteen inches in diameter at the base by three inches at the apex, and about eighteen inches in height, with a furnace door about 4" by 5" cut out at the base. To use this

furnace a hollow is dug in the ground and a small smoky fire is made, with troolie seeds, in it, and then the iron cone, or furnace, is placed over the fire so as to confine the smoke to one narrow jet issuing at the top. The "Syringueiro" now dips a stick, prepared for the purpose and made smooth, into the milky substance he has collected, draws it out and keeps twirling it over the smoke until the coating taken up by the stick gets hard or coagulated, and this operation is repeated over and over again until a ball of rubber, about 12 inches diameter is formed. The stick is then drawn out of the ball and a fresh one is commenced and finished in the same way until all the fluid collected is coagulated, and this ends the first day's work. The second day's work of bleeding is resumed and the same trees are again bled, but the incisions are now made about 7 inches below those of the previous day, also on a circumferential line and 7 inches apart; and this is continued every day until the foot of the tree is almost reached and then the tree is allowed to rest for some time that the incisions may close and the milk ascend.

With due care and bleeding at the proper time the rubber tree scarcely suffers any injury. The tool used for bleeding is of the shape of an axe, and only measures  $2\frac{1}{2}$  inches in length by  $1\frac{1}{4}$  inches in breadth at the cutting edge; it weighs about  $\frac{1}{2}$  lb. Under cultivation the rubber trees are planted from ten to twelve feet apart, and bled at from seven to eight years old.

In conclusion, I see no difficulty in cultivating the rubber tree in this Colony if proper inducements be offered by the Government, as is done in Para, where a premium of ten thousand milreis is offered to every

cultivator of ten thousand trees, and land given for next to nothing. I have no doubt that seeds or even plants of the best kind of rubber tree can be had from the forests of this Colony if sought for.

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## *Records of Old Barbados.*

*By G. H. Hawtayne, C.M.G., F.R.G.S.*



THE public records in Barbados dating from 1630, or even an earlier time, are full of interest to those who care about the history of our West Indian Colonies and their founders. Wills and deeds, quaint in their wording, make mention of names well-known in the Old Country and illustrate the beginning of the "ancient colony," as Barbados may well be termed. The records of the proceedings of Council and Assembly, of disputes between Governors and Legislatures, dissensions of Royalists and Republicans, the dignified language in which the public business was conducted, the outwardly respectful tone of addresses to or remonstrances with the Governor, and the equally courteous terms in which His Excellency at times administered a snubbing, with the grave earnest way in which the welfare of the colony was considered, these and such like are interesting and valuable to the student of Colonial History. Some few years ago the Legislature of Barbados, moved by representations from persons interested in the colony's history, voted the handsome sum of £500 to defray the expense of copying these records, many of which were decaying. It is to be regretted that more has not been done. Those documents which were most difficult to decipher and most needing transcription were neglected for easier tasks, and so there remain shelves of old books and bundles of old papers, sadly decayed and requiring the greatest care, lest the leaves fall to pieces at a touch, but containing

matter of the greatest interest. The grant, however, is exhausted, and the remaining records are, it is to be feared, doomed to oblivion, unless, indeed, some one "for the love of the thing" undertakes to calendar and edit them—unfortunately many of the parochial registers were destroyed in the hurricane of 1860.

The following notes and extracts (for some of which I am indebted to my friend, Mr. SINCKLER of Barbados) may of course be considered as more fit for the pages of a Genealogical and Historical Magazine or a West Indian "Notes and Queries," than for those of the journal of an Agricultural and Commercial Society, but it is hoped that they may be welcome to those readers of *Timehri*, who take an interest in the past history of the West Indies.

One of the earliest documents is the following agreement, dated 19th July, 1639 :—It states that the proceeds of the shipment referred to were to be applied "for the managing of certain affairs concerning the said Island." What these were, might possibly be learned from the minutes of Council. Among the signatories are men whose names still live in the island, such as DRAX, HETHERSALL, DOTTIN, CONSETT, (Consett's Bay), SPEIGHT, (Speight's Town), &c.

Articles of agreement made 19th July, 1639, between Capt. WILLIAM HAWLEY, Capt. WILLIAM FORTESCUE,\*\* Capt. THOMAS GIBBS,\* Capt. JAMES HOLDIPP, Capt. GEORGE BOWYER, EDMUND CRANFIELD, Esq., WILLIAM SANDIFORD, ESQ.,\*\* Capt. EDMUND READ,\* Capt. JOHN READ, Capt. JAMES DRAX,† Capt. PHILIP WOODHOUSE,

\* Of the Council in 1651.

\*\* Of the Assembly, 1651.

† A "delinquent or disturber of the Peace," 1651.

Capt. EDWARD SHELLEY, Capt. JAMES FUTTER, Capt. THOMAS BANHOPE or STANDHOPE, Capt. WILLIAM HILLIARD, Mr. THOMAS HETHERSALL, Capt. JONES, BARTH or BURCH, Mr. THOMAS BATTIN, Jun., Capt. BENJAMIN BERRINGER,\* Mr. WILLIAM DOTTEN, Capt. WILLIAM CONSETT,\*\* Mr. NICHOLAS BUTLER, Mr. RICHARD ASHTON, Mr. WILLIAM SPEIGHT, Mr. (GEORGE) ROBERT DOWNEMAN, Mr. JOHN LEIGH, Mr. WILLIAM GIBBES,† Mr. THOMAS ALDRIDGE, Capt. JOHN SWANN, Mr. WILLIAM CARTER, Mr. JOHN GRAY, Lieut. WILLIAM SINGLETON, and Mr. RICHARD GREGORY being the Councill and gentn. assembled for the ordering and disposing of businesses concerning the affaires of the country of the one part and JOHN DEANE now resident in the said Island, Merchant of the other part. The Parties of the 1st part covenant "on the behalfe of all the Inhabitants of the Island," that before 25 July, there shall be shipped in and upon the good ship called the *Exchange of London* (whereof is Master of this present voyage Mr. RICHARD LUCAS), 48,000 lbs. of good tobacco "for the manageing of certain affairs concerning the said Island." The said JOHN DEANE covenants that before he shall go to any port, he shall land or cause to be landed at "Waymaith or some other convenient port as wind and weather will permit" and deliver to Mr. EDWARD CRANFIELD and Capt. EDWARD SHELLEY, Agent for the "manageing of the cuntries affaires" 3 Bills of Exchange to be charged upon Mr. JOHN LEPOUR-TREE manager of London, of a hundred and four score pounds sterling (£180) within 5 days after sight and on

\* Of the Council in 1651.

\*\* Of the Assembly, 1651.

† A "delinquent or disturber of the Peace," 1651.



arrival at "Weymaith" pay and deliver to SHELLEY and CRAUNFIELD £20 sterling more and also allow them all such moneys as they may have occasion to use to the value of £1,000. The said JOHN DEANE is to sell the tobacco (40,000 lbs.) for the payment of £200 aforesaid for the best advantage of the Inhabitants of the Island that he can. And in case the said tobacco shall not make . . . . penny per lb. "clear of all charges" then the said "Councell and Assembled (?) . . . . shall on or before the 1st June next ship aboard such convenient ship as said JOHN DEANE shall appoint so much "cleere cotton at the rate of 3 pence per pound as shall be sufficient to satisfy the remainder of the said £200 which the said 48,000 lbs. of tobacco will not make good, "together with the forbearance after the rate of a hundred profit" as likewise for the satisfyinge of such other money as the said JOHN DEANE shall disburse to the said Mr. EDWARD CRANFIELD and Capt. EDWARD SHELLEY over and above the said £200 with the like allowance fortie per cent. profit in cotton at 3 pence a pound as aforesaid. And said JOHN DEANE is to get freight for the tobacco and cotton for the same penny halfe-penny per pound, the danger of the seas concerning the said tobacco and cotton to be borne by the Inhabitants of the country.

Dated 19 July, 1639.

Witnesses :—

GEO. STANDDAST.

THOS. REVE

WM. TAYLOR.

Sub : per JAMES HOLDIPP,

THOMAS ALDRIDGE, JOHN SWANN,

RICHARD ASHTON, JOHN GRAY,

WM CARTER. WM. SPEIGHT, WM.

BINGLETON, THOMAS BATTEN, EDWARD SHELLEY,

EDWARD CRANFIELD, JOHN BURTH, (?) PHILIP WOOD-



HOUSE, GEORGE FOWLER, JAMES DRAX, WILLIAM HAWLEY, WM. SANDIFORD, JAMES DOWNEMAN, THOMAS STANDHOPE, WILLIAM FORTESCUE, EDMUND READ, WILLIAM DOTTIN, JOHN LEIGH, WILLIAM HILLYARD, JOHN READ, THOMAS GIBBS, WILLIAM GIBBS, WILLIAM CONSETT, RICHARD GREGORY, NICHOLAS BUTLER, THOMAS HOTHERSALL.

There are sundry confirmations dated in 1639, of grants of land made by the Earl of Carlisle to several planters named ROBERT WOODCOCKE, Lieut. WILLIAM HOWARD, EDWARD BARREN, WM. RAILEY, DAVID ROWLEY, GEORGE ARDEN, STEPHEN WEST, MURPHY PROBART, THOMAS WARNULL, THOMAS PUNCHBACK, JOHN ROSEWELL and others. The terms of such grants may be learned from the following :—

“ I HENRY HAWLEY, Lieut. General and Governour of Barbados, by virtue of a Commission and order to me from the Right Hon’ble. JAMES, Earle of Carlisle, confirm to Lieut. WM. HOWARD, 50 acres, &c., he the said WM. HOWARD yielding and paying on 25th March in every year 20 lbs. of cleare cotton, or the value thereof, for each man, woman, or boy, of or above the age of the yeares of fourteene yeares inhabiting or living in and upon the aforesaid land and premises,”

1640, 10th June.—SAMUEL ANDREWES by Bill of Sale, sold a plantation containing 200 acres of land to Capt. JAMES DRAX, in consideration of 8,000 lbs. of cotton to be him paid before the ‘ensealing’ of the same deed, provided that the said Captain JAMES DRAX hath delivered to him at the Indian Bridge by the said SAMUEL ANDREWES 20,000 ‘foot’ of sound cedar boards 10 foot long and 3 foot or upwards broad.

Cedar trees are mentioned by LIGON as indigenous to Barbados

Captain DRAX also in Nov 1639, bought from Capt. WM. HAWLEY, 200 acres of land adjoining South to the land of FRANCIS EASTWICK and HUMPHREY PLUMMER, and west to lands of WM. SYMONDS and HENRY EASTWICKE.

The Governor exercised the powers of a Court of Law, for we find Sir RICHARD PEERS making the following order :—

*By the Governour.*

2;th April, 1644.—These are to command you to make surrender unto Dorathie Simons, the wife of Bartholomew Symons, deceased, or to such friends as shee shall appointe, true and perfect accompts of all the Estate of the said deceased, wch. to yo<sup>r</sup>. knowledge any waies apperteyned unto him. Fail not hereof at yo<sup>r</sup>. périll Given under my hand this 17 May, 1636.

RICHARD PEERS.

To EDWARD PULLEN.

1654, 3 Aprill.—Whereas Collonell HENRY HAWLEY, by due order of law, recovered against Coll. WM. FFORTESCUE and Capt. ANDREW WALMISLEY a certain parcell of land situate in Christ Church and St. Phillip's, containing 296 acres, in satisfaction of a debt of 40,000 lbs. of sugar, Order to Capt. WM. MOSS, Provost Marshall, to enter on the land and give possession to the said HENRY HAWLEY.

On 11 Sep. 1649, a law was passed:—" That no  
" woman shall be endowed, or have any right to be  
" endowed of any lands, tenements, or hereditaments in  
" this island, but such only whereof her husband died or  
" shall die actually and solely seized in ffee simple or ffee  
" tail general and no other."

This quaint and ungallant enactment may be ex-

plained by there being good reason why lands should only be held by men who would be available for the defence of the island or the conduct of its affairs. Anyhow, the advanced female of this *fin de siècle* would have writhed under such a law.

The following relate to the family of PEERS or PEARSE, at one time of importance in Barbados, members of which along with their connections the Hawleys, and others took active part in the events recorded by Mr. Darnell Davis in his "Cavaliers and Roundheads in Barbados":—

1640, 3 July.—THOMAS PEIRE sells to JOHN GREENHILL 60 acres of land in St. Andrew's Parish, bounding upon ROBERT ELLIS leeward and ADAM LEE windward, at the *Tarr River Heads*, with the appurtenances, &c.

James Pearce (Peers ?) of B/dos, Planter, sells to Ann Glover of B/dos, Spinster 20 acres of land, part of what was laid out by Capt John . . . . 15 Feb. 1642, butting on Capt. Berringer & Henry Mills, north & east of my Lord Carlile's land "the corner trees marked with an X." That the title is good, he binds himself in a penalty of 6000 lbs of good merchantable cotton.

Dated 2 March, 1642,

JAMES PEARCE.

Witness

Jo. Still

Richard Chen (?)

— — —  
*Ented. 10th Jan. 1643.*

Memorandum. That I Henry Pearce, (Peers) of the City of London Merchant, doe assign & set over Katherine Johnson my late servant unto Mr. John Dyer for the time and terme of 4 years & no more.

Dated 15 December, 1643.

HENRY PEARCE.

Witness

Robert Mills

Rees David.

*Entered Primo 7 bris 1643.*

Thomas Pearce (Peers ?) of B/dos, gent. in considn of 4500 lbs. of cotton & tobaccoe, sells to Henry Frankland his plantn. lately purchased of William Trotman, situate in St. James, between the lands of Hugh Burrowes eastward, the land of . . . Woolcott westward, the land of George Bowker (Bowyer ?) northward, and the greate . . . southward, together with all houseing, tables, boards, shelves, formes, comodities &c.

Dated 26 August 1643,

THOS. PEARCE.

Witness

Christie. Gill

Tho. Donall, Richard Harwood, Regia Norie  
Norris (?)

Geo. Wood Publ. Auct.

Thomas Pearce (Peers ?) of B/dos, Gent, in considn of 3040 lbs. of merchantable 'cotton wooll' sells to Henry Franckland Merchant, one acre of land, part of a plantn. he now lives on in St. James, commonly known by the name of the Whaler Plantn. together with the stores & buildings thereon late in occupation of James Pearson.

Dated 29 April, 1643,

Tho. PEARCE.

Witness

Edward Read

Wm. Topliffe.

*Entd. 3 June, 1656.*

Mary Parr, Widow, for £2,000 ster: sells unto her loving father, Richard Peers, Esquire, all that plant., her husband Capt. Richard Parr deceased purchased, situate in Christ Church, containing III acres of land, as well as 20 acres which her said husband bought of James Dolland? and also a storehouse "at ye Indian Bridge" which her said husband bought.

Dated 2 Oct: 1646.

MARY PARR.

Witnesses :

Marcus Brymble

John Fletcher

Thomas Whetsone.

Proved before John Colleton.

*Entd, 26 June 1665.*

The Will of Edward Peers of B/dos, contains bequest to nephew Richard Haughton of 60 acres of land, 20 good working negroes & 10 head of best working cattle, 3 of the best coppers, ladles, basons & scummers to the same belonging; to Valyntine Haughton 40 acres, 10 good working negroes, with cattle and implements as above. Bequests to sister Susanna Jones of 40,000 lbs. of mus: sugar; to Mary Coningham the dau: of Capt. Alex. Conningham 2 good working negroes 10 sheep & 10,000 lbs. mus: sugar; to Jane Cuningham the dau: of Capt. Alex. Conningham 3 good working negroes, one of which is to be lbella, 20 sheep & 10,000 lbs. of mus: sugar; unto Willoughby Coningham, youngest dau: of Captain. Alex. Conningham, 10 sheep & 10,000 lbs. of mus: sugar; to John Ashcroft 10,000 lbs. of mus: sugar & to his daughter Peers Ashcroft 50,000 lbs. of mus: sugar & a negroe girl called Asfee; to servant John Gilbert the time he has to serve and his passage to England & 1,000 lbs. of musc: sugar "to be paid 2 months after my decease;" to Barbara Hendy 1,500 lbs. musc: sugar to be equally divided between her children. There are similar bequests to his sister Mary Boate, William Parsons, Violetta Graves "servant to Capt. Alex. Conningham" and to Dr. John Springham, (in all 164,500 pounds of sugar worth at 6 cents per lb. \$9,870.) The Testator appoints John Berry & Mr. John Ashcroft, overseers of his will, gives to Capt. John Berry for his trouble "a piece of good holland" and all the rest of his Estate (after payment of his debts) he gives to his brother John Peers.

Dated 16 April 1665.

Witnesses:        Jessie Wharton  
                          John Springham.

Proved before Francis Willoughby on 12 June 1665.

FF. WILLUGBYE.

By a deed dated 9th October, 1667, John Peers Esqre sold to Valentine Hawtaine for 40,000 lbs. of good muscovado sugar, 30 acres of land situated in Christ Church butting northwards on said John Peers, east upon land of Richard Hawtaine, west upon Richard Buckworth and Ensign John Routh (probably Rouse?) and south upon the sea with the buildings, &c., on said lands.

Date 1675.—Richard Hawtaine sells to John Peers for £250, 30 acres of land in the Parish of Christ Church, Barbados, butting on lands of said John Peers and lands of Colonel Richard Buckworth.

Date 23rd March, 1675.—Articles of agreement between Richard and Jonathan Hawtaine, Gents: of Barbados and said John Peers as to the purchase of a plantation in Jamaica.

Date 1679 —Jonathan Hawtaine, Gent: sold part of 300 acres of land in Jamaica to said John Peers. This plantation in Jamaica was situated in St. Elizabeth's and contained 600 acres bounded on lands of Lieut. Col William Sinclair, &c., &c. Richard Hawtaine is mentioned in this deed also.

-----  
*Entered 20 July, 1681.*

Daniel Peerse (Peers?) of B/dos gent: Bequeaths to wife Katharine his Estate for life, she paying his debts and maintaining his children. After her death to go to sons John George and William Peerse, to be equally divided. Appoints wife Katharine and brother George Peerse, Exors., and appoints friends William Davis and Mr. Allenleer, Overseers of will. Dated 23 Oct., 1664.

DANIELL PEERSE.

Witnesses:

Thomas Crowder,

John Stevens.

Proved before P. Colleton, 20 April, 1678,

Sir RICHARD PEERS, Governor in 1636, died in 1660, and in 1661 his widow MARY, daughter of JAMES HAWLEY, Esq., of Brentford, and sister of Governor HENRY HAWLEY of Barbados, being then resident in England, appointed certain Attornies in Barbados and was commended to the President of Council by Lord WILLOUGHBY:

*Entered 9 Jun. 1662.*

Dated 11 Nov. 1661.—Appeared before Robt. Barber, Not. Public, London, Mary Peers, "Relict of Richard Peers of Barbadoes, Esq. Guardian to his brothers John Peers & Edward Peers," also John Peers heir at Law & Exor. of the last Will & Test. of his father Richard Peers (as by a copy of the said Will appeareth made in the Island of Barbadoes & attested by President Humphrey Walrond, the 2nd April 1660), which said Mary Peers & John Peers do appoint as their attorneys Alex. Cuninghame of London Merchant, & John Ashcroft. planter in B/dos, to collect the Estate of said Richard Peers, de-



ceased & to give acquittances &c., & to have the sole management & superintending of two plants. going by the name of *Lebanus or Rendezvous (Rivendou)* & *Staple Grove*, with all the houses, &c.

Witness	JOHN COLLETON	MARY PEERS.
Richard Barret		JOHN PEERS.
Ed. Parsons		
Geo. Burkhead		
John Dally.		

Sir John Frederick, Kt., Lord Mayor of London, certified Robert Barber, to be a Notary Public on 15 Nov., 1661.

—

*Entered 10 Jan. 1662.*

On 11 Nov. 1661.—Personally appear before Robert Barber, Notary Public, London, Mary Peers, Relict of Richard Peers of B/dos, who appoints in her own right, Alex. Cuningham, Merchant of London, as her attorney to receive into his custody all such sugar & other commodities, which shall on his arrival in B/dos be found, or in future be made on Plants. *Lebanus or Rendezvous & Staple Grove*, due her as widow of the late Richard Peers; he is not to sell or lease Estates.

Same witnesses as above.

—

*Entered Barbadoes, Jan. 11 1662.*

The Lady Peers being now a widow & whose Estate is in Barbadoes, she hath here applied herself to me for yt. lawfull & just protection yt. she in equity may challenge from me, & the rather for yt. Estate is in the possession of strangers, while she & her children are at a great distance from it, & for as much as I do understand it is a very considerable Estate, I have therefore thought fit to recommend to you a true & just care thereof, yt. so no inhandsome damages may fall upon it & whereas she has appointed her kinsman Mr. Alexander Cuningham and Mr. John Ashcroft to be her attorneys, I doe in an especial manner desire yt. upon all application by yem or any of yem you receive the complaints & addresses with kindness, & by all just & lawful means assist yem so, yt. neither losses or incurances by others the then \* \* persons either by will or ignorance may lessen or doe hurt to the Estate & yt. then performing what in reason & justice they ought to doe in order to the safeguard of this Lady and her children with also a

courteous & \* \* \* of the kinsman Mr. Alex. Cuningham, will be very acceptable to your very loving friend,

FRAN. WILLOUGHBY.

London, this 13 November 1661.

For "my very loving friend Coll, Henry Walrond, President of my Council in Barbadoes."

May 22, 1657.—John Peers of B/dos, in consideration of 1,800 lbs. of good musc. sugar & 20/, paid by John Battin gent of B/dos, sells his moiety or 1/2 part of 1/3 part of land in S. Michael, situate "in Indian Bridge towne" containing 404 "foot" in length & 27 "foot" in breadth butting on lands of John Morris (Moriss) towards east, on lands late in tenancy of Edward Barracks south, together with also that "ye moiety late in the tenure or occupation of Nicholas Butter west, upon ye land of Ralph Thomson north, and upon ye land of Edward Barrack south, together with all that moiety or 1/2 part of 1/3 part of ye messuage, tenement or house with all the profits of the said premises which said Peers bought of Francis Neeves of B/dos gent to hold unto the said John Batten &c.

Dated 23 Sep., 1656.

Witness: John Daughter (?)

JOHN PEERS.

James Dimocks.

Proved before Danl. Searle.

*Entd. 7 March, 1661.*

Richard Peerce (Peers?) sells to Geo. Russell, Blacksmuth, 3 acres situate in St. James, butting on lands of Capt. Francis Rainsberry, that were formerly ye lands of Doctor Hammersley, dec. on the south, & on the plant. of said Capt. Francis Rainsberry on the west, & on the plant. of Richard Parret on the north & east side, & all appurtenances of said place belonging to him said Richard Pearce.

Witnesses: Aulk Fulks (?) Dated 5th Dec., 1661.

Richard Jarret

RICHD. PEARCE (PEERS?)

Will. Hedy.

Proved before SAM. FARMER.

1657, Oct. 8.—Conveyance by DANIEL PEESE to JOHN HANDY of a plantation of 37¼ acres in St. Michael.

1660.—Sir RICHARD PEERS, Kt. and Bart. appoints his trusty friend, JOHN ASHCROFT, to be his Attorney, to

bargain, conclude and agree with WM. JOHNSON, lately called "Treasurer JOHNSON" about a Store House in St. Michael's. Witnesses: RICHARD HAWTAINE, THOMAS BASTON.

1653, 25 Oct.—DANIEL PEERSE, THOS. NOCKE and GEORGE PEERSE conveyed land in St. Michael's to PAUL POINTER.

The WILTSHIRES owned much land in the Island. By his Will dated 20 Sep. 1678, THOMAS WILTSHIRE gent. bequeaths to the children of his son, THOS. WILTSHIRE deceased, by name THOMAS, JOHN, RICHARD and LAWRENCE, all that plantation on which testator now resides, to be equally divided among them. To his son THOMAS WILTSHIRE'S daughter SUSANNAH £500. "To the child my daughter-in-law HESTER WILTSHIRE now goes with, if a son, a like share of the estate above mentioned with the rest of his brothers—if a daughter £500." To JOHN WILTSHIRE, he leaves "Spendlowes." To his daughter HESTER WILTSHIRE, after Testator's decease, £100 to be paid out of the Estate he now lives on, during her non-widowhood—bequests to daughter ELIZABETH GIBBS, JANE PARSONS, MARY PALMER and JANE PALMER, daughters of his son (? in law) SAMUEL PALMER—daughter ANNE PALMER.

Witnesses: WM. BULKELEY, WM. GREEN, WM. HARRIS, JOHN TULL.

HESTER WILTSHIRE married GERARD HAWTAYNE in 1680, and their son GERARD was baptized in the following year.

Bridgetown, the busy Capital of Barbados, derives its name from a bridge erected by the Aboriginal Indians,

and was at first known as the "Indian bridge towne." It is so termed in the following deeds:—

1647, 28 Feby.—Coll. Wm. Ffortescue of the Island of Barbados, to Richard Osler of the same island, gent. Demise of a parcell of ground situate at ye Indian Bridge Towne, in the parish of St. Michael in ye Island aforesaid, bounded by a parcell of land granted unto Captaine Gerard Hawtayne, windward, and ye land of John Thornhill leeward, and fronting upon ye house of Captain Edward Chamberlane. The deed contains a Covenant by Osler to build a house covered "with tyle or shingle."

On 12 August 1653, Coll. WM. FORTESCUE conveyed to JOHN ROBERT, ground over against the Ship-Careene at the Indian Bridge towne, abutting neare unto the house now in the occupation of CHRISTOPHER DANIELL, and \* \* \* commonly called the Stepping Stone.

The following record is connected with the making of Bridgetown, and the terms of the lease are worth noting:—

1654, 20 Dec.—Lease between Thomas Noell of Mount Clapham, in the island of Barbados, and John Browne, of land at the Bridge towne for 15 yeares. Lessee to build a house, to be left at expiration of said term. Rent £4 sterling or value thereof in sugar, ginger, indigo, cotton wool, or tobacco "and for further acknowledgment or quit rent for ye same, ye said Browne shall bring or cause to be brought unto ye mansion house of him ye said Noell at Mount Clapham uppon St. Thomas' day before Christmas, one Capon of 12 months old or two other dunghill ffwles."

Swan Street and High Street are mentioned in a deed of 1659, as is also "ye Boare at ye Bridge" and on 21 July 1861, EDWARD JONES sells to BARTHOLOMEW WASHINGTON for 16,000 lbs. muscovado sugar, a place in Cheapside, in the City of Bridgetown.

The following is a grandiloquent document:—

1653, 7 Feb.—We John of Brageslonge, one of ye privy Council of ye King of Ffrance, the first director of ye Companie of y North Cape, and John Chartraine De Plessy, Councillour of ye sai<sup>S</sup> King and the first Lieutent Generall of the Constably of ye said Kingdor

of France, Director and Keeper of ye Seale of ye said Companie doe certifie and signifie unto all persons unto whom it shall or may appertaine, we have absolutely and fully sold \* \* unto Cesar Dumsoll, of the Island of Barbados, gent: 6 negroes, &c.

Signed JOHN CHATARIN DU PLESSY,  
 „ JOHN DE BRAGELONE.

That so high and mighty Seigneurs should have condescended to such small dealings as the sale of six negroes is wonderful. They re-appear in a conveyance dated

1654, 6 May,—by which John Spence conveyed to John Bragelongue and John Cartaraine du Plessis, in consideration of 15,000 lbs. muscovado sugar, 19½ acres St. George's parish.

In 1681 the hour of meeting of the Councill was 8 a.m.

A tax was levied on every ship of 1 lb. of gunpowder for every ton measurement.

In that year the first Postmaster was appointed in the person of Mr. JOHN DALLISON. The order was some years ago printed in the *Argosy*, but may be reproduced here. It runs thus:—

*Barbados: By His Excellency.*

Whereas for ye preventing ye great inconveniencings which may and did happen to the inhabitants of this island by loose careless, and undue methods formerly used in giving out and delivering letters brought to this place from all parts, whenever any ships, or other vessels come with goods and touch and traffick here, I have thought fitt to grant the office of Postmaster to Mr. John Dallison, to exercise the same by himself, or his sufficient deputy or deputies. Now to the end all due care \* \* \* may be had that all letters brought to this island may be speedily and carefully delivered to the person or persons to whom they are superscribed and directed, and that it may appear upon all defaults, whether it bee the neglect of the Postmaster, I hereby further order and strictly require all Masters of ships and of all other sorts of vessells of what kind soever coming to this island and bringing letters for or directed to any person or persons in this Island, that they and every of them forthwith upon their coming to anchor in any part of this island, Deliver all such letters to the said Postmaster, his deputy, or deputies coming on Board and demanding the same and to noe other person or

persons whatsoever, together with a true and perfect list signed by such Master and Masters of all Letters brought to this Island in his ship or vessell, as hee will answer the contrary at his perill, and for his soe doing, this shall be his sufficient Warrant.

Given under my Hand this 12 day of July, 1681.

RIC. DULTON.

To all whom these p'sents shall or may concerne.

About 1650, the services of 8 Christian Servants for 2 years and 5 months, were valued at 7,200 lbs. muscovado sugar and those of one Servant for 5 months at 800 lbs. muscovado sugar. A negro woman 'CANDYE' was valued at 1,800 lbs. sugar.

There is a list of ship's provisions with their value in pounds of sugar, eighty of which are reckoned equal to one pound sterling. It does not say whither the *Barbados Merchant* was bound and it bears no signature, or rather the original was imperfect.

Account of charges and disbursements \* \* \* vessel called ye *Barbados Merchant* and "as constrained to hire to go :—

	SUGAR,
Paid for one punchon of bread ... ..	323
Paid for one barrelle of porke and one barrelle of beife ...	700
Paid for a quarter cask to put wine in ... ..	50
Paid for three gallons of brandy ... ..	120
Paid for 32 gallons of Canary wine ... ..	728
Paid for 8 gallons of rum at 20 per gallon ... ..	160
Paid Mr. Moore for 20 foules, one hogshead of beer, 6 ducks and 2 goates ... ..	700
To 2 gamons of Bacon and one cheese ... ..	156
Paid for 5 turkeys, 4 foules, 2 ducks and one goate ...	460
To petty charges disburst in money three pounds sterling ...	240
Paid Capn. Roger Jhones for my part, freight of his ship, or vessel ... ..	2,360

29th November, 1659.

There is frequent mention of the CODRINGTON family,



founders of the well-known College, the picturesque buildings of which are one of the sights of Barbados. It is not easy to ascertain who was the first of the family to emigrate, but as early as 1646, there are the following:—

1646, 15 Feb.—Conveyance by Wm. Thom of 60 acres in St. John's to Capn. Chr. Codrington, joyning John Ross East, Ensign Robert Brown, Westward.

1647, 9 Oct.—Ensign Robert Benson conveys to Cap. Chr. Codrington, half a plantation of 110 acres in St. John's.

1647, 10 Sep.—Cap. Chr. Codrington, conveys to Capn. George Martin, 20 acres of the pln. lately purchased of Mr. William Houghton, parish St. John, going into lands of James Edmon, West, to Mr. Robert Bridges, South, and to parish lands of St. John, North and East.

1647, 23 Oct.—Chr. Codrington assigns lease of 60 acres, to Capt. George Martin, J. Pylles, Jas. Gouldingham, Church Wardens of S. John.

“PYLLES” may be the former mode of spelling the name of PILE, now borne by a distinguished family of Barbados.

On 20 March, 1641, CHRISTOPHER CODRINGTON sold a plantacion conteyninge one hundred acres of land, “to JONATHAN HAWTAYNE, and this with one halfe part of ye plantacion, commonly called *Charles Fort*, lying by the Sea Syde, in the prsh. of St. James, nere the Hole,” containing 400 acres of land, were in 1643, mortgaged to Capn. DANIELL FLETCHER, as Security for the payment of the full and juste “sume of 30,000 lbs. of good sound “well condiconed and merchantable tobaccoe made up “in rowle and wreath, &c.”

CHRISTOPHER CODRINGTON and GERTRUDE his wife, on 11 Octoher, 1659, conveyed to EDWARD PARRIS, land in St. Michael's parish, lying between lands, late of Lt. Colonel BIX and late of FRANCIS . . . . deceased.

In 1681, Captn. CHRISTOPHER CODRINGTON, was member of Assembly for St. John's.

One meets in these records copies of deed srelating to property other than that situate in Barbados. For instance, a deed of Sale by EDWARD TURNER of ye Middle Temple, grantee of 1,000 acres of land in ye island of Antigua, in America, from the Right Hon'ble. JAMES, Earl of Carlisle, after reciting a lease dated 20 Jany. 1647, from the said EDWARD TURNER to JOHN CLARKE of St. Alban's in ye County of Hertford, deceased, and JOHN OURY, of the Island of Barbados, planter, of the said 1,000 acres, conveys the same to WILLIAM CLARKE.

And this :

1654, 20 Ffeb.—JOHN DENNY conveys to ROBERT MARGETTS and WM. SMITH, his house in ye Cittie of Westminster, and Gardens adjoyning unto the Mulberie garden, unto \* \* \* and commonly called and known by ye name of Goring's House.

Deeds and other papers executed by absentee proprietors are not uncommon, amongst them is one dated :—

1659, 13 Oct.—By which Captn. Wm. Jarman of ye Island of Mountserrat, conveyed to Captn. Henry Fford, a plantation in Christ Church, joining lands of Anthony Howsum, Philip Haddock, Lawrence Price, Stephen Wiseman, Jeofery Buller.—Also a lease dated 2 Sep. 1653, of 10 acres in St. Michael, by Thomas Rawdon, of Hoddesdon in Hertfordshire and Dame Elizabeth Rawdon, reliēt of Sir Marmaduke Rawdon, of Hoddesdon. The Rawdon family are frequently mentioned. Sir Marmaduke Rawdon, had greatly assisted the Earl of Carlisle with money.

1658, 6 July.—Indenture between Peter Legay and Isaac Legay of St. Olave Hart Street, London, Merchants, and Robert Hooper of London, Esq., recites conveyance by Hooper to Legay of plantation in satisfaction of debts, due by Robert Hooper and Martyn Bentley, of the Island of Barbados, Merchants, conveys plantn. of 205 acres in St.

Georges, lately in occupation of Sir Antony Ashley Cooper, Bart., or his assigns, and now in occupation of Robert Hooper, butting and bounding on lands, late of Capt. Gerard Hawtaine, Thomas Spendlove and Ludowyck Williams and that other plantation of 100 acres in parish of St. George, late in the occupation of Capn. Gerard Hawtaine and now in occupation of Robert Hooper, between lands lately of Sir A. A. Cooper and lands now or late in occupation of Captain Wm. Jarman. Contains proviso for redemption.

To appraise the value of an Estate after Contract for Sale is unusual, but in the following case it was done :—

Dated 7th July, 1642.

Henry Hawley of the Parish of St. Giles, in the Fields in the County of Middlesex & Turberville Morgan of *Wambayer* ? in the County of Monmouth. In considn. of £2,000 Hawley sells to T. Morgan 1/2 of his Estate in B/dos, in West Indies ; said Estate to be appraised & delivered to T. Morgan by Captain Richard Peers. Capt. James Holdipp, Capt. Edward Read, Capt. George Bowyer & Capt. Lancelot Payce, are persons specially selected by Henry Hawley & T. Morgan as appraisers. These appraisers were to see that the 1/2 part of the Estate sold was worth £1,611, £400 being fulfilled & satisfied before the sealing & delivery of these presents unto the said T. Morgan. If the 1/2 did not amount in value to £1,600, Hawley to make up the difference ; if over T. Morgan to make up the difference to Hawley.

HEN. HAWLEY,

Witness: William Morgan.

Jo. Morgan

John Wolffe.

Perhaps in the following Extracts are names which may be of interest.

Capt. Wm. Hawley acknowledges to have recd. full satisfactn. of all accounts between him & his brother Capt. Henry Hawley & Thomas Chapman and Capt. Ellice of B/dos from beginning of the world to present day except covenant betwixt Capt. T. Ellice & himself " concerning the good shippe called the William & Thomas."

Dated 1st August, 1638,

Will Hawley.

Witness

Valentine Hawley

Tho. Reeve.

*Deed dated 5 July, 1643.*

Dennis Clansy, Thomas O'Grady, & Cornelius Sisnam sell to John Peer & Richard Boyd (or Floyd) all that plant. on which they now live, containing 10 acres, in Christ Church, east on land of Thomas Barnes west on land of Daniel Dawley (?) North on lands of Robt. Daniel or Daull & south on lands of Lieut. Thomas Morris. This land was sold for 1100 lbs. of good merchantable cotton.

1649, 12 Jany.—To all christian people &c., I Captain CHRISTOPHER LACY of the Island of Barbados do grant &c., unto JOHN BAKER \* \* 6 acres of land lying "boulting" and bounding \* \* upon lands of Captn. JERRATT HAUGHTON East \* \* lands of Mr. LODYWICK WILLIAMS and Mrs. ELIZABETH MARSHALL, &c.

1640, 3 July.—RICHARD CLARKE sells to TIMOTHY MESSER all that plantation of ARTHUR LANDEN containing 20 acres lying between the Pln. of ROBERT YEOMANS westward and Captain RICHARD PIERCE (? PEERS) southward with all the premises &c. RICHARD CLARKE binds himself in the sum of 10,000 lbs. of cotton "for the defending of the title of this land."

*End. 17 Aug. 1649.*

John Boucher, Executor of John Spendlove, deceased, sells 1/2 of the plantacon, belonging to late John Spendlove, to Thomas Spendlove, brother of the deceased for (£500).

*Entered 12th October, 1649.*

Articles of Agreement, made concluded and agreed upon, between John Boucher of Barbados, gent. and Thomas Spendlove, dated 10th February, 1648.

By this deed said John Boucher and Thomas Spendlove, entered into a further copartnership respecting the plantacon, whereof John Spendlove died possessed, containing 140 acres of land, lying in the parishes of St. George and Christ Church, adjoining the lands of Captain James Drax, of Edward Box, deceased; on lands of Edward Drax, Nicholas Hide, Captain Jerratt Hawtayne and Captain Williams.

Half of "Spendlove" Plantn. which contained 140 acres, appears to have got into the possession of Thomas Wiltshire in 1674.

Thomas Palmer and Ann his wife, by deed, sold to Thomas Wiltshire, "half of a plantation in partnership with us, situated in St. George butting westwards on the other moiety of the plantacon, south on Robert Hooper deceased, eastward on Mr. Martyn Bentley, Richard Pollard and Richard Battson deceased and northward on Drax Hall Estate.

The half part contained 73 acres.

Dated 1st July 1670. Signed Samuel Palmer, Anne Palmer.

Executed in the presence of

Richard Forde, Thomas Wiltshire Junior, James Williamson.

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To all xtian people to whom these presents shall come Major Rowland Bulkeley, Lieutenant John Wiltshire and Gerard Haughtaine, Gent, of Saint George's, send Greeting.

After referring to a Deed Poll executed on 19th November 1680, by which for £1,550 sterling paid by the said parties a certain plant in St. George was sold to them by one Palmer, containing 70 acres and bounded by lands of Capt. George Greene, Captain Thomas Gunstane and "ye Great Gulley," by this present deed dated 2nd February 1680, the 3 parties re-convey said plant, back to Palmer.

ROWLAND BULKELEY

JOHN WILTSHIRE

GERRARD HAWTAINE.

Witnesses : Johannes Tull

Anthony Palmer

J. White.

Upon ye 16 day of May, 1681, Major Rowland Bulkeley and Mr. Gerrard Hawtaine did before me acknowledge ye above writteing to be their act and deed.

EDWARD LITTLETON.

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Will of Samuel Palmer of the Parish of St. George, Gentleman.  
Bequeaths all his Estate to his loving children to be equally divided between them.

Anne Palmer (his wife) to have the sole management of his Estate during her widowhood, she maintaining children.

Bequeaths to the gentlemen who shall bear him to the grave yard each a ring of 20 shillings in value.

Gives to each of his Executors a ring of 30 shillings in value.

Appoints as his Executors Major Rowland Bulkeley, John Wiltshire and Gerrard Haughtaine, Gent, earnestly requesting them to "doe for mine as I would for them if I were capable of executing soe good an office."

Dated 10th May 1681.

Witnesses : Charles Buttal, David Morgan, William White, John Dempster, Junior, James White.

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*Entered 23rd February, 1653.*

Dated 17th July, 1649, Will of Captain John Fletcher who apparently owned two or three ships.

Persons named in will :

Cousin William Briskoe  
 Mate Kiddick  
 Friends Captain Richard Peere  
 Mr. William Vassell  
 Mr. Thomas Wardall.

Witness :

Gerrard Hawtaine  
 James Joanes  
 John Kiddicke  
 Curtishon Sparrow  
 Ezra Jennings  
 Marcus Brunt.

Proved before Governor Daniell Searle by Captain Gerrard Hawtaine.

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 Proved before Humphrey Walrond, dated at Jamaica, 3rd December, 1661.

Will of Rowland Haughton.—Being sick he makes his will and appoints his wife (christian name not given) and friends, Miles Brathwaite and Jonathan Fitts, to look after his estate. Mentions his daughter Mary Haughton and son Robert Haughton.

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 Dated 30th June 1665, Holograph will, Testator died 3rd July 1665. Proved on petition of Francis Carnes of parish of Christ Church, before Francis Willoughby.

Thomas Halton or Hatton, of Parish of Christ Church, mentions his mother Ann Halton, Brothers Henry Griffeth and Benjamin, Sister Ann ; also mentions his friends (to whom he for the most part bequeaths



diamond rings) Mrs. Elizabeth Crofts the younger, Mr. Richard Richardson and Sarah his wife, William Kirton and his wife, Richard Buckworth and Jane his wife, Major Nathaniel Kingsland, Doctor John Wharton, Mrs. Constant Springer his "beloved Ant" Thomas White Junior, Francis Tomson. The Executors are William Johnson and Duncan Gilbert.

Proved before Chr. Codrington, Will of William Halton or Hatton or Hatten. Mentions his wife Francis, Sons Charles and John, Daughter Frances, Godson Lancelot Sadler Junior, Wife and Friends.

Richard Carew and Lancelot Sadler Senior Executors.

1651, 26 July.—EDWARD TENNANT conveyance to ROBERT HEYWOOD 10 acres land in St. James which JOHN NORTHEAST lately held.

1651, 12 August.—THOMAS CREECH to ROBERT HEYWOOD 5 acres St. James—mentions RICHARD SPAINSWICK Executor of LUCIE REEVE.

1653, 26 Nov.—Cap. JAMES HOLDIPP—Pln. in St. George 700 acres Locust Hall bounded by lands of RICHARD HAWKINS, THOMAS APPLEWHITE, THOMAS EVANS, BENJN. POYSER.

1653, 25.—Cap. RICHARD HOLDIPP to brother Cap. JAS. HOLDIPP, 470 acres.

1654, 9 May.—Cap. JOHN FFRERE to TOBIAS FFRERE 125 acres at Christ Church.

1653, 21 June.—TRISTRAM FFLETCHER and ARMINALL his wife convey to Mr. RICHARD CONYERS of Barbados 9 acres of land in St. Peter's bounded by Pln. of Mr. WALTER HEAVENS, Mr. EDWARD RENOLDS and EDWARD JOURDAN.

1657 27, Feb.—Conveyance by RICHARD CONYERS of land at Speight's Bay to DAVID DAVIES.

1659.—JOSEPH DE SOLIS mentioned.

1651 29, Sep.—THOMAS PRICE conveyed to DAVID

JONES 25 acres of land situate in "ye newe parishe" butting on lands of Mr. PETER LEESE, Capn. THOMAS HOLDIP and Mr. BLUNT.

1659, 11 Oct.—Lt. Colonel DAVID BIX mentioned in a mortgage by CHRISTOPHER CODRINGTON and GERTRUDE CODRINGTON to EDWARD PARRIS, of land in St. Michael.

DAVID BIX of the County of Kent came to Barbados in 1639. He died in 1659. His Will dated 12th June, 1659, (entered 1 Sep., 1659), mentioned his brother JAMES BIX of Canterbury, Co. Kent.

The PARRIS family still own property in Barbados.

1655.—A deed of this date mentions JAMES FFAUNTELEORY of Conger Roade. Could this have been an ancestor of the London Banker who early in this century suffered for forgery?

1659.—A deed contains names of THOMAS TONY and dame MARY his wife, and another of the same year mentions one DE CASSORIS.

Dated 14th July, 1674.—William Halton, or Hatton of St. James Parish, mentions daughter Anne; sons, Charles, William, George and Thomas; grandchildren, Rebecca and Elizabeth, daughters of son William; friend, Robert Richardson; Executors are Lieut. John Poack and James Holmes, along with his daughter Anne.

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Will of Richard Pearce or Pearse. Dated 13 May, 1670.—Mentions wife Mary; sons John and Thomas; Executors, wife along with Samuel Perry and Fras. Turton.

Dated 28th June, 1677.—Proved before Sir Jonathan Atkins.

Will of Rowland Hulton or Rullton, of the Parish of St. Philips, Manumits certain slaves; firstly mentions his sister Katherine Cutrool, (Cuttrel), living in Wigg in Lancashire, and leaves her an annuity, mentions his brother William Hulton to whom he has apparently leased his estates. Speaks of his Estates *Congo Road* and *Foul Bay*; bequeaths *Congo Road* to William Hulton's son, (his nephew); makes provision

for his wife Deborah Hulton, formerly wife of George Ashbye and he bequeaths *Foul Bay* to her son William Ashbye, (his stepson). Leaves a legacy to the "poore people amongst them called the Quakers." Mentions his friends Richard Ford, (Surveyor); Richard Shearman and the two daughters of William Peacocke and Deborah his wife.

Executors; Ralph Fretwell, John Brathwaite and Francis Brussey.

Oliver Hooton of Island of Barbados, Merchant. Bequeaths to Isabella dau: of Thomas Pilgrim £10, to Sarah dau: of Walter Newbury of Road (Rhode) Island £80. To John Snowden of West New Jersey £5, & to his mother & brother "within" 50/ each. Bequeaths to 9 children of Thomas Lambert in West New Jersey "which he hath by my sister Elizabeth his wife" (£20 each wh' is £180).

Gives to Elizabeth ye dau: of my "brother Samuel Hooton" in East Jersey £60. To Martha ye wife of Joseph Grove £50. Rest of his Estate bequeathed 1/2 to his wife Martha, & the other 1/2 to be divided between "my three brothers Samuel, Thomas & John Hooton, my sister Elizabeth Lambert above mentioned, & my nephew Oliver, ye son of my brother Thomas Hooton, "each an equal share." Two of my brothers, my sister, & my nephews are in New Jersey in America, & my brother Thomas is "in old England about Mansfield in Nottinghamshire." Testator appoints his friends, William Bicknell & Joseph Grove, Exors.

Dated 19 March, 1686.

OLIVER HOOTON, (L.S.)

Witnesses:

John Pilgrim                      Thos. Quintyn

Thos. Horner

Proved by John Pilgrim & Capt. Thos. Horner before Edwyn Stede at Fontabell 4 Nov. 1687.

Will of Mary Wiltshire, born Lucumbe. In this Will she speaks of a property in Suffolk which her father apparently leased from John Shepherd of London. On the death of her father she became Executrix of his Will. She bequeaths to her husband Captain John Wiltshire all her right and interest in said property. This Will is dated 20th October, 1689.

Witnesses

Robert Hooper      (H. M. Attorney General)

David Lowe

Robert Wilmeson,

Robert Hooper, H. M. Attorney General, to the Honourable John Wiltshire of Her Majesty Council, and John Feane.

Conveyance of a Plantacyon containing 350 acres, in trust, situate in the parishes of St. George and Christ Church, butting on lands of Major John Wiltshire, Mr. Thomas Wiltshire, Senior, Martyn Bentley deceased, Captain Lawrence Price and Captain John Cousins, dated 6th February, 1693.

Note.—The will of Robert Hooper of the parish of St. George was proved January 10th, 1700. It was dated 5th December, 1699. He appointed as his Executors the Honourable George Andrews, David Ramsay, Lt. Colonel George Peers, Major John Wiltshire, Mr. Francis Eyles, and Anthony Walsin of London.

Will of Samuel Haughton at present resident in Barbados but late of the province of Pennsylvania.

He directs his body to be buried among the people called Quakers.

Having already settled how his estate in Pennsylvania is to be disposed of, he gives to his loving brother Jonathan Haughton, of the County of Derby, in the Kingdom of England, and to his sister Katherine Haughton, and their heirs, all his estate in Barbados, to be equally divided between them, share and share alike. Appoints Captain John Dutton his Executor, to whom he gives 20 shillings to buy a ring. Dated 3rd March, 1693.

(Signed) SAMUEL HAUGHTON.

Witnesses : Robert Hemsalls

Christ. Frankland

Thomas Huse.

These extracts, for the most part made in the course of searches in connection with three or four families, represent but a very small portion of the wills and deeds recorded in the Colonial Secretary's Office in Barbados, which of course are not of such general interest as are the Minutes of Council and other records of the Legislature of the 17th and 18th centuries. Still, it is hoped that the foregoing will not altogether be 'caviare to the general.'

## Tea Planting.

By *H. Messervy.*



THE plant I should recommend for cultivation in the colony is a Hybrid Assam Tea, as in my experience the seed of such a variety bears travelling well. The seed should be packed in charcoal dust, and two cases of 6 cubic feet each would contain sufficient seed to plant up 50 acres of land. In clearing the land of course all trees should be felled and lopped, and after the branches have dried up a little, the whole field should be burnt off, leaving only the trunks of the trees lying on the ground; the next work to be done is to line out the field. This is done from hill to hill, two men holding a long rope between them, the rope having marks every 5 feet along it, these men stretch the rope and then gently lower it on the ground, and boys run along putting in pegs at every mark on the rope. The men then raise the rope and move on 6 feet, when they drop it again and the boys peg off as before. This lines off the field in rows 6 feet apart and pegs 5 feet apart in the rows, thus giving about 1,200 pegs to the acre of ground. After the plan has been lined off, shovelmen are put into the field who dig a hole at every peg, the hole being 18 inches in diameter and the same in depth. These men are followed by others who fill the holes with the fine vegetable mould which they rake off the surface surrounding the holes, they tramp the soil well down into the hole and then replace the peg to mark the centre of it. Then comes the planting; I should advise this being done during the November rains. The seeds

are tested by being thrown in water, those that float being discarded and those that sink being sown 3 round each peg. After the plants have grown to about 6 or 8 inches in height, one sturdy plant is left at each peg; the others are pulled out and used for supplying any spots in which the seeds have failed to sprout. After this all the work to be done for two years is to keep the place clear of weeds and to arrange such a system of drainage as it may require; this drainage is not for draining the land as the tea is planted on the slopes of the hills; but it is to prevent a rush down the hills of an accumulation of water during heavy showers, which would wash out the young plants.

When the young plants have grown into shrubs, which they do in about 3 years, the tops are trimmed flat, much as a gardener trims a cherry fence, after which the first shower sends out a "flush" of young green shoots which is the material from which Tea is made. These young bright green shoots are then picked by hand, the picker nips them off with his thumb nail in the middle of the 3rd leaf. These shoots when picked, are crisp and brittle, and an attempt to "roll" them would result in breaking up the leaf, so they are placed for a few hours on mats in the sun, to "wither;" this renders the leaf flaccid and comparatively tough, and so able to stand the "rolling," which is the next process. For the rolling a long table is necessary, a row of labourers (8 or 10), stand along this table, at one end of which is a pile of withered "leaves," the first man takes up as much leaf as will when pressed together, form a ball about 5 inches in diameter, he rubs this on the table, squeezing out the juice, rolling the leaves for a certain time, then he passes



it on to the next man who repeats the process, and so it goes down the table to the last man, who kneads the crushed mass into a ball and places it carefully in a basket by his side, and when the basket is full of balls it is covered up and taken to the fermenting room to ferment; up to this stage all teas, whether green or black, undergo the same process. It is in the fermenting that the difference is made, the leaf for black tea being fermented till a test ball, being broken open, shows the leaf of a brown colour right through, while for green tea the fermentation is checked at an early stage and while the leaf is still green. When the right stage of fermentation has been reached the leaf is "fired," that is, the balls are broken up on large sieves, each of which is placed over a charcoal fire. An experienced man in charge of the firing-house decides when the tea has acquired the necessary amount of twist and colour, and then draws off the sieves and empties their contents. The tea process is now completed. All that remains to be done is to sift it, and out of the heap of tea lying on the floor on the firing-house, by a choice of sieves, you can turn out either "Souchong," a black tea of full leaf without "tip," or Pekoe, a medium tea with a fair amount of "tip," or "Broken Pekoe" or "Broken Mixed" or any other of the numerous varieties of tea which owe their difference chiefly to the absence or presence in varying quantities of the "tip." The tea is now ready to be packed and shipped.

The above will give you an idea of the process. The labour is light and the picking is done chiefly by women and children, the men doing the heavier work and all the work in the factory.

Taking wages at current rates out here, the cost of

filling, clearing and planting 50 acres, and weeding and draining for the first year, would come to about \$2,500; this of course not including labourers' houses. For the 2nd year, expenses would come to about \$1,000, for the 3rd the same, during the 4th year, your expenditure would rise owing to gathering and manipulating crop, but you should get a crop of about 3,500 lbs. of Tea, which should fetch, say 20 cents 'per lb.= \$7,500—after this your crop would increase without any great increase in expenses.

In Ceylon wages range from 1/ per day for men to 6d. per day for women, and Ceylon Tea can be put on the London market, all expenses paid, at 7d. per lb., but it must be remembered that freight there is considerably heavier than here, and that carriage on the island is also expensive.

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## *Tropical Farming.*

*By G. N. Lord.*



AT the present time when so much is being written and talked of Farming and agricultural pursuits, with the burning question, how can we as colonists make two ends meet in the near future, as well as provide an opening for the energy and intellect of our sons outside of the professions, it appears to me that a few remarks on the best way to attain a degree of independence and comfort, however small, might be read with interest by every well-wisher of this magnificent province. I will preface my remarks with a short reminiscence of the past, hoping it will enable some one to form an idea of what he could do for himself, as well as stimulate his ambition.

Although I have been engaged in a fairly lucrative calling in this city for many years, my mind has always leaned towards the ideal farm life. I attribute this particular yearning to several causes, but mainly to the fact of having been born in one of the neighbouring islands, on what must have been a Model Farm. It bore the name of "Happy Cot," and the position it held in the estimation of those who knew it,—the peace and plenty of the old Homestead—made an impression on my mind as it naturally might on that of any youngster, that can never be effaced.

Well do I remember the old pet milch cow, Rose, with one horn, and the delight my mother took in milking. She gave 2 gallons daily, the churning jars were

always kept in the cellar, and the butter-making was either done by my mother or under her supervision, to supply a grocery in the city with fresh butter at 1/6 per lb. There were in all 12 milkers, 2 bulls, and 6 oxen for the plough. At the rear of the house was the sheep pen, shaded by two evergreen trees; it was always a difficult matter for me, to reckon the number of sheep as they crossed and recrossed the path of each other in their eagerness to get out of the gate and on to the pasture in the morning. The pig-sty was somewhat removed from the dwelling, walled round, and about 4 feet high, with a small iron gate through which could be seen the old sow with a large litter of pigs, and several fine boars partitioned off, fattening for the butcher. The poultry yard was an interesting feature as it was alive with choice feathered stock. The utmost care seems to have been bestowed on the Turkey cocks, for as now, these fowls brought as high as 1/ per lb. live weight, and everyone who reared them tried his best to get them to turn the scales at 20 lbs.

There were also numerous Guinea fowl, which from their semi-wild habits could only be found in the fields and hedges, and required shooting when wanted. Their nests were frequently stumbled upon accidentally, revealing rich treasures, of generally several dozen eggs. The Guinea fowls are sold at the present time as high as 10/ per pair. The beehive was situated near the garden at the front of the house, and sheltered by the spreading frangipanni tree. Many gallons of honey were expressed at each season, which, when carefully prepared, most certainly brought a good return. There was not much pasture land about the place, but nevertheless everything

thrived, the vegetable kingdom being represented by the sugar cane, Indian and Guinea corn, sweet potatoes, eddoes, tannias, several kinds of grain, and many fruit trees. The acreage only amounted to about 35, yet this place was recently sold in Chancery for over £6,000.

The question being asked now is, can a farm be established in this colony on similar lines, prove remunerative, and continue for any length of time to bring an income to its owner? If so, then he may maintain his family respectably and inculcate a love for agricultural pursuits in his children, by their taking the success which might attend his efforts as an example, and thereby encourage other members of the community to follow in their footsteps? I should like this question answered by some of the gentlemen who possess a thorough knowledge of agriculture in this colony.

But I will here venture to mention a scheme that occurs to my mind, and which is not impracticable if the Government will lend its assistance. The question of drainage on our coast lands has always been the great bugbear, daunting all efforts put forth by the modest farmer, so I say away with it and let us seek higher lands. This country possesses many acres, not however along the railway track from Wismar to Essequebo, as the snow-like sand which met my eyes as far as I could see marred all the anticipations I cherished of that part of the country. But what of that between Bartica point and Kalacoon, where the colonial steamers go daily? In 1889, I went to the latter place in company with four other gentlemen. Mr. MCTURK was not at home but we were pleased with the appearance of the surroundings; the space around the house was covered with a soft carpet of grass

and I wished there were hundreds of acres on which to rest the eye. We went a little distance into the forest, which rose high up behind, and considered it a pity that such apparently fertile lands, with such beautiful slopes and risings, should remain covered with bush instead of pasture for flocks and herds. I made enquiry as to whom these lands belonged, and was told they were Crown lands which the Government will not sell. This I consider wrong, and suggest that the Government appoint a Committee of expert planters, with Professor HARRISON, Messrs. JENMAN and QUELCH, to explore the country near Kalacoon, especially its back lands, to a point on the Essequibo above Bartica, examine the soil as to its suitability for cultivation and pasturage, and find out what sort of grasses and vegetables could flourish there. If it is suitable for cultivation and pasturage, select a good spot to establish a Government Model Farm, utilize convict labour to clear the site of its forest, reserving a few trees for shade and ornamentation, and plant several acres of a few good species of grasses and perhaps Alfalfa. Two grasses are known by Professor HARRISON to flourish in Barbados, viz :— the sour grass, or as it is sometimes called Barbados hay, and the Guinea grass. Nurseries, from which a supply can be obtained for planting on other farms could be made, for both these grasses are excellent fodder, and cattle flourish on them. I am of opinion that the sour grass can find a place in the market to compete with hay, as it is eaten as readily (when carefully dried) as the best hay which commands so easy a sale ; it is considered an excellent flesh-former, and will grow here, as I have seen it in a gentleman's garden. He grew a beautiful tuft in



a tub as an experiment, and found it to seed freely. If these grasses flourish here we shall hardly require anything else in the way of fodder. Having got them there will be an improvement in this respect which I consider very desirable. This is shewn by the fact that, if you import a milch cow from Barbados, where she has been given 16 or 18 pints of milk daily, in a few months the supply dwindles down to 6 or 8. This is a certain proof that there is something lacking in our present grasses, for climatic influences are not everything.

The next thing that I would recommend is the cultivation of Guinea Corn, Indian Millet (*Sorghum vulgare.*) This article can with safety be placed in the market to compete with oats, which nothing else can. I am almost sure that it will find a ready sale in any quantity, and if shipped to England it might even be sold there. The finely-ground flour is an excellent article of food. I believe Barbados is the only West Indian island in which it is cultivated to any extent, and there it competes with oats for horses, and is largely used for that purpose, with the very best results. I am of opinion that it can be grown here, and placed for sale at far less cost per sack than oats, and it is not likely that the market would become glutted for a long time. I am not one of those who would advocate the planting of ground provisions on a large scale, as our supply at the present time is in excess of the demand, and the present growers can hardly realize any profit from their produce; they are also perishable and cannot be exported.

I would also recommend the rearing of sheep. I do not see why we should depend so largely on America for

our mutton, which is sold at such a prohibitive price, viz. 28c. and 32c. per lb. Because sheep will flourish so well here, I mention them now. The means whereby we can improve the flesh is already mentioned, viz: good fodder. No other West Indian country has ever sent us a shipment of sheep, but if we could rear them here in large numbers we might also be able to export. Again, having selected high lands, sheep farming would be most successful and a quicker return would be derived.

Next in order come hogs. It is a well-known fact that the present breed of hogs can be improved, and greater care should be paid to pen-fed stock in general. It is not a pleasant sight when passing through our villages to see hogs burrowing in the cess-pits and to think that the next day you might eat the flesh of those very same animals. A quick return can also be obtained from them, and, as we can make our own ice, I don't see why we can't pickle our own pork and place it in the market to compete with American pork, so large a quantity of which is used in the Gold-fields and bought at a high price. The selection of a centre for supplying the different gold districts with this commodity would be of importance.

Poultry should next be reared on a large scale and the means could be easily provided. Turkeys and fowls thrive excellently on Guinea corn, the grains of which, being small, are easily eaten by the chickens. I believe that is one of the reasons why Barbados can supply us with turkeys, while we cannot rear them here because we cannot give the chickens the proper sort of food that is required before they can fight for themselves. The excellent flesh of the turkey is very desirable but

the price is often prohibitive. If they are reared in any quantity they can be sold cheaper and at a profit. High lands are best suited as they do not thrive in swampy land ; a quicker return is also obtained.

While the smaller stock are developing, and returns are being obtained from these several sources, a good breed of cattle can be introduced. It will naturally take a longer time to get an increase from this branch than from the others, but means will be obtained to meet the expenses of the farm, and a profit will remain. My opinion is that not enough care is taken of cattle in this country. They are left to run wild, and when caught for the market they receive very rough treatment, which often renders the flesh unfit for food. I would recommend that cattle, when they are being prepared for the market, should be driven into pens every evening, fed with good fodder, well cared for and tamed. This treatment might last for about six months, with the result that the meat would rival that of the prime American ox. The demand for such animals would always exist. Again, more care should be taken of the cow and her calf ; she should not be turned adrift immediately that the calf is born, but she should be domesticated, and kept in an open pen for a few weeks to undergo a little training as a milker, and to teach her and the calf to be accustomed to the hand of man. The result would be improvement of the whole herd.

Very many attempts have been made here to improve the breed of horses, but we cannot approach Jamaica in this respect. I consider that this is from the simple reason that our horses are reared on the low swampy lands and are fed on inferior grass. The highlands I have

mentioned are specially well-suited to produce the class of horses that are wanted, only requiring the same care in this case as with the new-born calf, to teach them to appreciate the sheltered pen and the fostering care of man. There will then be no necessity for the owners to brutalize them when they are being broken to saddle or harness, as is often the case now. The sturdy build of the Prince Edward Island horses is due to their being reared on high lands.

There is no special reason why we could not produce a strong, well-bred mule in the same district, and supply the city in the near future. All that is necessary is a knowledge of breeding and rearing them as in the case of the horse. We ought to be able to produce as good a mule here as any that comes from Montevideo.

One of the reasons for which I advocate the keeping of pen-fed stock in general is their supply of manure. Suppose we are told by the gentlemen who might be asked to report on the soil, that after a few years it will become too poor to produce large crops, we shall have on the spot an abundance of the best manure that can be obtained, for the purpose of renewing it. Its fertility will be perpetuated, and barren spots turned into fruitful fields.

The planting of cocoa, coffee, fibres, and other economic products, could be carried on at the same time. I mention these few important items because they would become permanent, be inexpensive, and give a quick return. If I had the means these would be the lines I would take up.

I would also recommend the cultivation of the following economic products, viz: arrowroot, ginger, avocado pears, pine-apples, oranges, and the Jamaica and Chili plums (these last being very rare and delicious fruits).

I do not think it desirable that individuals should isolate themselves in the interior, as life on such a farm would be almost unbearable. When attempts are being made to establish homesteads, the parties entering upon such an undertaking should have in their mind's eye the establishing of a good social circle. It is impossible for the average farmer, who is but an agricultural labourer, to take the lead in that direction. It is therefore in my opinion the duty of some others of our enlightened fellow-citizens to take the initiative step, and bring to bear the advantages of their education and culture in building up the social circle. All that our people want is example, and they will soon follow in the footsteps of those who have succeeded, for which they cannot be too highly praised. We have many gentlemen in our midst who have done well for themselves and for their country, in the pulpit, at the bar, and in the practice of medicine; these are the examples that the rising generation are striving to follow, and I say all honour to those who succeed. I am sure if we could point to a dozen men who have succeeded in making comfortable and independent livings, on well-established homesteads in the highlands of our country, there would be hundreds of good and true men in our midst ready to do likewise. We should also encourage thousands from afar to join us in turning a howling wilderness into an earthly paradise. Finally, farm-servants and labourers should likewise be well selected, for I not only advocate choice lands, choice grasses, choice stock, fruits, vegetables and economic products, but also the best of the human race.

## *Schomburgkiana.*

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THE following unpublished documents from the Colonial Records require no apology for their insertion in *Timehri*:—

Post at Cuyuni,

the 25th Septber., 1835.

Dear Sir,—We arrived safe at the post last Tuesday evening, where I will be detained for a few days in order to collect the crew for the Corials, several of which live at some distance. I do not regret this delay, as the weather is still unsettled and unfavourable for my expedition, and as it will afford me an opportunity to rate my watches and to take a series of astronomical observations.

It has been connected with some difficulties to procure the necessary crew, and Mr. RICHARDSON, succeeded today to persuade four Carabisce Indians to accompany me. Mr. RICHARDSON is unwearied in his attention to forward the interest of the expedition, and deserves every gratitude from my side.

I beg you, in case letters should have arrived for me, to send them under Mr. RICHARDSON'S address, to Messrs. A. GLEN & CO., who very likely will be able to forward them before I have left for the interior, Mr. ALBUOY'S schooner being expected here at the commencement of the week.

I am with every sentiment of regard and esteem.—  
Dear Sir, Your very Obedt, & humble Servt.,

ROBERT SCHOMBURGK.

H. E. F. YOUNG, Esqr.,

Government Secretary,

&c., &c., Demerara.



*Endorsed by Governor.*

In answering this letter have the goodness to say to Mr. SCHOMBURGK, that if he can procure some Electric eels for the under Secy. of State, Mr. HAY, he will oblige me.

J. C. S.

30th Sept., 1835.

Done 2 Octbr., 1835.

H. Y.

Rapids of Rapoo in 00 4° N. Lat 8 o'cl. a.m.,  
22nd October, 1835.

Dear Sir,—We have just passed the last rapid North of the Rupununy, and meeting a body of Indians, who are going to Demerary River, I avail myself of this opportunity to inform you that we are all well, and that every thing has gone to my satisfaction. Though *en route* I have collected about 1,500 specimens of plants. The Latitude of several places has been determined, and drawings of fishes, birds and plants have been completed.

I hope to be to-morrow at the mouth of the Rupununy, where I purpose to make a halt for some weeks. At the time the free coloured people and Indians which I took from the post are leaving me, I shall have the honour to write to His Excellency; have the goodness to communicate to him the chief contents of my letter.

The Indians, Macoosies from the Rupununy; PARON-WAICBOI being their leader's name; are to return to the Rupununy in a short time, and this will afford an excellent opportunity to forward any letters &c., which may have arrived. I have likewise requested Mr. GLEN to forward me some medicine, having found many Indians with dysentry &c.; the most necessary medicines

in my chest are insufficient for my long journey. I request you therefore kindly to use your influence with Mr. SPENCER, the Postholder at Demerary River, that he interests himself to forward such things by the above Captain PARONWAICBOI as he may receive.

Excuse haste and the trouble I cause, but you so kindly offered your valuable services at the point of starting that I have felt myself encouraged to make use of them.

Believe me with greatest esteem and regard.—Very truly, Yours,

ROBERT SCHOMBURGK.

Recd., 2nd Dec. 1835,

F. H. YOUNG.

Pirarara, on the left bank of the Rupununy.

5th, December 1835.

Dear Sir,—I had the pleasure to write to you when not far from the river Rupununy, since which period I had the honour to address His Excellency, and to give him an outline of my proceedings ; it was then a gloomy time with us, fever kept us to our hammocks, and though Mr. HAINING and myself have since recovered after I had a second attack of fever and ague, Mr. BROTHERSON is so weak, that it had become necessary to send him to Fort San Joaquim. An excellent opportunity has offered itself for that purpose ; on leaving Georgetown, I was requested to take charge of a letter to the Bishop at Para and to send it by an Indian to the Portuguese Fort ; as I did not understand Portuguese I wrote the Commandant in French requesting him to forward the letter with the first eligible opportunity, but the gentleman not understanding French conjectured that I wanted to come to

Fort San Joaquim ; he wrote me therefore that his canoe and horses should await me here. The time having approached when I purposed to continue my exploring Expedition, I started from Anna-y on the first December, ascending the Rupununy ; in  $3^{\circ} 38'$  N. Lat, and  $58^{\circ} 34'$  W. Longt. a messenger awaited us, to give us information that Senor CORSIERS, the Commandant, was awaiting us with canoe and horses to bring us to the Rio Branco, and next day, he came himself with 5 servants to offer his service. An opportunity was then offered to send Mr. BROTHERSON to a place where he would receive that attention and comfort which we were unable to give him. Mr. HAINING and myself have accompanied him to Pirarara where we purpose to stay a couple of days to procure Cassada bread, and next Monday morning we intend to continue our voyage up the Rupununy. Sre. Corsiers has just ordered a beef to be killed, and we are in expectation to enjoy in a couple of hours *un bon bouche*.

My crew consists of Caribees under JACOBUS, the grandson of the late CAZIQUE MAHANAWA, a most intelligent Indian, who has paid every attention in his power ; indeed we would have suffered the greatest deprivation while ourselves and servants were confined to our hammocks, if he had not attended to our wants.

My journey up the Rupununy will occupy me for the next four weeks ; on our return Mr. HAINING, whose leave of absence will draw towards an end at that period, purposes of leaving us, when it is my intention to write His Excellcy. and inform him of my future intentions during the months from Febry. to May.

While writing this no letters have reached me as yet

from the Colony, but I live in the hope that on our return from the sources of the Rupununy we may meet some at Anna-y.

Believe me with every esteem and regard,—Dear Sir,  
Yours very faithfully,

ROBERT SCHOMBURGK.

— — —  
Post Essequibo, 1st October, 1835.

Sir,—I beg leave to inform your Excellency that I intend to leave to-day the Post on my further advance to the interior. The most unfavourable weather, and the circumstances that several of the Carabisce Indians, who were engaged to accompany me, had gone to the Coast and returned only last night, and that some others of my crew were confined with the measles, has caused my detention, however, I have taken the best advantage of it, and commenced to collect plants, birds, etc., so that the time has not been entirely lost.

I have to mention with gratitude the kind reception and attention the gentlemen and crew belonging to the Expedition received from Mr. RICHARDSON, Postholder at the Essequibo, who though the measles prevailed to an alarming degree in his own household, gave us every assistance in his power to further the views and objects of the Expedition.

The men, who with the assistance and advice of Mr. RICHARDSON, have been engaged to accompany us to the Ruponoony consist of

5 free coloured men; two of which are to act as Captains of the Coorials; 7 Carabisce Indians; 2 Accaway Indians; 3 Maccousie, do.

According to the enclosed receipt I deposited with

Mr. RICHARDSON, Six Hundred Guilders, out of which I requested him to pay the wages due to the above men on their return. That paper and the accompanying contract between Mr. BROTHERRSON and myself, I beg your Excellency to deposit in the Government Secretary's Office until I call for it.

Permit me once more to return my sincerest thanks and gratitude for the patronage you have so kindly bestowed upon the present Expedition; may it be always favoured with the same, and under its auspices, I feel my zeal increased.

I have the honour to be,—Your Excellency's Most Obedient and very humble Servant.

(Sgd.) ROBERT H. SCHOMBURGK.

To His Excellency Major General,

Sir JAS. CARMICHAEL SMYTH, Bt., &c., &c.,

Lt. Governor of British Guiana.

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Know all men whomever it may concern by this present, that Mr. ROBERT N. BROTHERRSON and Mr. ROBERT H. SCHOMBURGK have agreed to the following terms, which are to be considered valid, and to be adhered to as such according to the terms generally in practice on such occasions.

I

Mr. ROBERT BROTHERRSON accompanies an Expedition in the Interior of British Guiana, under the direction of the Royal Geographical Society of London, aided by His Majesty's Government, and conducted by the above Mr. R. SCHOMBURGK, and has promised to superintend the collection and skinning of birds and animals in general.

## 2

Mr. ROBERT N. BROTHERSON has promised in the presence of His Excellency Sir JAMES CARMICHAEL SMYTH, Lieut.-Governor of British Guiana, and promises again by his signature attached to the present instrument, not to publish, causé to be published *or* be instrumental to publish any thing whatever relating to the above expedition.

## 3

Mr. ROBERT N. BROTHERSON promises to give his personal aid and advice wherever it may be of service and advantage to the object of the Expedition.

## 4

In order to assist Mr. BROTHERSON in his ornithological pursuits, the services of two persons of colour have been engaged, who are placed under Mr. BROTHERSON'S orders, their hire to be paid as mentioned hereafter ; when not employed by Mr. BROTHERSON, their services are at the disposal of the conductor of the said Expedition.

## 5

Mr. ROBERT H. SCHOMBURGK guarantees, to the best of his abilities and power, every protection which he or the expedition can afford, as well as regards Mr. BROTHERSON'S personal security as his sustenance.

## 6

Mr. ROBERT H. SCHOMBURGK reserves for the British Museum one male and female of each species collected, and the remainder to be sold, and one half of the gross proceeds to be remitted to, or drawn for, by Mr. BROTHERSON ; Mr. SCHOMBURGK reserves likewise one male and one female of each species, to be valued by Mr.



SWAINSON and the amount to be deducted from Mr. SCHOMBURGK'S half of the gross proceeds.

7

Mr. SCHOMBURGK bears all the expenses connected with the transport and sale of the skins, but the hire of the two coloured men, JOHN KILCHORUS at eight dollars per month, and JOHN WADE at five dollars per month, is to be shared equally between Mr. BROTHERSON and Mr. SCHOMBURGK.

8

Mr. BROTHERSON and Mr. SCHOMBURGK have agreed that all skins of birds and animals collected by him and his assistants shall be sent to England to Mr. SWAINSON of St. Alban's, and to Messrs. LODDIGES & SONS of Hackney ; to be disposed of as mentioned.

9

Mr. ROBERT N. BROTHERSON, or his assigns are authorised to draw for the amount of his share, or to dispose of it as he thinks convenient, as soon as the account sales have been rendered.

Post Essequibo, the thirtieth September, One Thousand Eight Hundred and Thirty Five.

Sealed signed and delivered.

Witnesses hereof :

(Sgd.)	{	ROBERT N. BROTHERSON,
		JAS. HAINING,
		THOS. RICHARDSON,
		ROBERT H. SCHOMBURGK.

Received from ROBERT SCHOMBURGK, Esqr., the sum of Six Hundred Guilders, for the purpose of paying those free People & Indians who proceed on the Expedition with him up the Essequibo, on their return, according to

documents of service having been performed by the said parties, being presented to him, and of which sum a regular account will be kept and balance paid to order, 600*f*.

(Signd.) THOS. RICHARDSON,  
Postholder, Essequebo.

Post Massaroonny, 30th September, 1835.

Memorandum.—PETER VAN PATERSON, as Capt. of Corial @ 3*f* per day; CLAAS. CORNELISON, as Capt. of Canoe @ 3*f* per day; free people paddling; say, GOVET, PAAV, FREDERICK LEANDER and HERMANUS PATERSON, @ 2*f* per day and the Indians @ 1*f* per day.

Brook Currassawaak, 3° 50' N. L., 58° 35' W. Long.,  
3rd February, 1836.

Sir,—I had the honour to write to your Excellency on the 1st of November, and to inform you of our arrival at Annay; continual indisposition of me, or the other individual, obliged us to stay there until the 1st of December, when accompanied by 14 Indians as a crew, I commenced to ascend the river Rupununy. The difficulties connected with this undertaking were great, the river being on its lowest level, and to make it still worse I was attacked anew by intermitting fever, which has accompanied me during the whole journey, nevertheless, we penetrated as far as 2° 36' 24" N. Lat., (further than ever European was in that direction), ascended the Conocou mountains, crossed the site of the lake Amucu or Parime, and paid a visit to the mountain valley of the Maou, this was executed during the intervals of the fever, and though in a financial respect, the Expedition has suffered greatly, as the healthy moments were taken up by Geographical pursuits and little time was

left to increase the collections, I have to make myself no reproaches of having neglected my duty towards the Society. For details I beg leave to refer Your Excellency to the accompanying report to the R. Geogr. Society which you will have the goodness to forward after you have read the same, if deemed worthy Your Excellency's perusal. It is my purpose to leave the Rupununy next month, and to follow the Essequibo as far as the great Cataract, which I understand from the Indians is 7 days journey higher up, and which they tell me makes every further advance in corials impossible. In order to see myself whether that be really the case, I have concluded to visit the same, after which I purpose to descend leisurely the Essequibo, visiting its tributaries.

I have met with a serious loss; Captain ARREGHAY, a Macoosie Indian, who visited Georgetown, and to whom at his return to the Rupununy several letters, some provisions, medicines, etc., destined for me, were entrusted, had the misfortune, through neglect, to be upset at the Falls of the Essequibo, and to lose letters, provisions, etc., saving only his hammock and a small case with five bottles of brandy.

Lieut. HAINING will be good enough to deliver to Your Excellency the skins of a tiger and a tiger cat, the acceptance of which I beg as a particular favour.—I have the honour to be, Your Excellency's most obedient and very humble Servant,

ROBERT H. SCHOMBURGK.

His Excellency, Major General,

Sir JAMES C. SMYTH, Bt., &c., &c.,

Lieut. Governor of British Guiana.

*Minutes of Court of Policy, May 2nd, 1838.*

To EDWARD BISHOP, jr. Esq.,  
Georgetown.

Dear Sir,—I beg leave to enclose for your perusal the letter of Mr. SCHOMBURGK from the Upper Essequibo of which I spoke to you last week. His first letter to me on the present expedition was dated Quitaro, in north latitude  $2^{\circ} 50'$  and  $58^{\circ}$  west longitude the 13th Nov. 1837, being then on the eve of his departure thence to the Sources of the Essequibo. By the present you will see that, after many difficulties and hardships, he reached the object of his immediate plan on the 27th Dec. last at a distance of about 41 English miles north of the Equator. His Chart and Journal, which will be published like the former ones by the Geographical Society, will show the exact latitude and longitude thereof, which he ascertained astronomically like all the principal points and bearings of the course of this magnificent river.

His next proceeding, after getting possession of the supplies, for which he sent to Town last month from the mouth of the Rupununy, will be towards the sources of the Orinoco, where he hopes to continue the discoveries of the celebrated Baron HUMBOLDT, who on a late occasion has directed the attention of the Geographical world to the progress and exertion of this spirited and persevering traveller.

The interest you took the other day in my verbal relation, and the sympathy you expressed for his sufferings and losses, induce me on the present occasion to address you in your quality of Vice-President to our Financial Body, in the hope that you will exert your

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influence to obtain some encouragement and remuneration for the hardships and sacrifices this young man is undergoing, and which though not undertaken in the immediate employ of the Colony, must ultimately prove highly beneficial to its general interest. Allow me to repeat the expectations he expresses on this head in the letter I send you, which I merely translate from the German original. After stating that the means allowed him by the Geographical Society were all consumed in his two former expeditions, before the preparation of the present one, and that the expenses he incurred on his own account, to supply himself with provisions for himself and crew, and articles of traffic with the Indians in the interior, amounted to upwards of two hundred Pounds Sterling, all which articles and the greatest part of the provisions were unfortunately lost in the month of September by an accident upsetting one corial and by the other getting upon a rock, he continues : “ Would it not be possible for my friends in this part of the world to forward my interest ? I have traversed the Colony since the last three years from North to South, have examined its boundaries from the Essequibo to the Corentyn, and would the Colonists look on quietly that I should sacrifice not only my health and constitution, but even my personal pecuniary means ? Surely not. New South Wales and VAN DIEMEN’S Land, not to be compared with Demérar in wealth, have remunerated similar exploratory travels with munificence. I should not like to appear hereafter before the public as an indigent mendicant, and should it be thought that my exertions and sacrifices be unworthy of any acknowledgement, I will rather bear all expenses on my own account, what-

ever may be the personal consequences to myself. A small sum placed at my disposal on my return in the Spring of 1839 would enable me to effect the publication of my charts, views, and description of the manner of life of the Indians, as I am in hopes that the Geographical Society will be satisfied with the mere description of my travels.

I now leave this concern in the hands of a gentleman who is possessed of ability and zeal to do full justice to the subject, and to expose all the advantages the Colony may derive from the better knowledge of its boundaries and extent, the original sources and exact course of its large rivers and their confluents, and of its natural products and means of subsistence and wealth for a future increased population.

I have the honour to remain,—dear Sir, Your most obedient humble Servant.

(Signd.) U. J. F. BACH.

Plantation L'Heureuse Adventure.

26th April, 1838.

It was then moved by Captain WARREN and agreed to, that the sum of two hundred pounds sterling be placed upon the estimate at Mr. SCHOMBURGK'S disposal for the prosecution of his travels.

Mr. ROSE stated that he should certainly not oppose the vote to Mr. SCHOMBURGK, but begged leave to place in an equally favourable point of view the merits and services of Mr. HILHOUSE, a gentleman who had passed many years in the Colony, and to whose enterprising character and abilities the Colonists are indebted for much valuable information in charts, writings, etc.



The Honourable Colonel MCTURK expressed his readiness to second a similar motion in favour of Mr. HILHOUSE to that which has just passed in favour of Mr. SCHOMBURGK. It was, however, understood that Mr. HILHOUSE'S claims to the favourable consideration of this Court would be introduced when the superintendence of the Rivers and Creeks should come under discussion.

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*Minutes of Court of Policy, Decr., 19th, 1838.*

His Excellency requested the attention of the Court to a communication which he had recently received from Mr. SCHOMBURGK. being a Copy of a very interesting despatch which that zealous and enterprising traveller had addressed to Mr. BUXTON, calling his attention among other things to the expediency of affording some protection to the Indian tribes on the Brazilian frontier, who were threatened with being pressed into the Brazilian Navy, strongly urging upon him (Mr. BUXTON) the propriety of moving the British Government to the adoption of some steps for their progressive civilization, and giving a most favorable account of the result of the Reverend Mr. YOUNG'S Mission to the Macousie Indians. His Excellency gave due merit to Mr. SCHOMBURGK for his Communication, nevertheless it was highly gratifying to reflect that the expediency of taking some measures for the improvement of the Aborigines of this vastly extensive Province had already been before this Court, and agreeably to notice from an Honourable Member, would have been taken into consideration on Monday last but for his unavoidable absence on that day. His Excellency read the greater part of Mr. SCHOMBURGK'S letter, reiterated the sentiments and opinions which he

had expressed and recorded upon introducing the subject but a few days ago, and then moved the following Resolution :—

“That this Court will take into its favourable consideration the expediency of adopting such measures as it may deem to be practicable for promoting the civilization of the Indian tribes in the remote parts of the Colony.”

The Honourable Colonel MCTURK rose to support His Excellency's Resolution. It afforded him the greatest gratification to do so, he had had frequent intercourse with the Indians, and considered them well deserving of everything that could be done for them. He agreed with Mr. SCHOMBURGK in the opinion he had expressed of their general integrity—the Indian was seldom known to be guilty of theft unless when in a state of inebriety.

The Honourable Member gave notice, that as soon as the Estimates were before the Court, he should move that the sum of Six Thousand Guilders be placed in the usual proportions for Demerary and Essequibo and Berbice, for promoting the civilization of the Indians.

The Honourable Mr. ROSE moved as an amendment upon the Resolution of His Excellency The Governor, the addition of the following words, viz., “as far as might be consistent with the diminished resources of the Colony.”

The Court divided, and there appeared :—

For the Amendment	Against it
Honble. ROSE	Honble. MCTURK
„ MACRAE	„ ROBINSON
„ DOUGAN	„ GLOSTER
„ WARREN	„ Chief Justice
	„ Governor.

The amendment was declared to be lost accordingly,

whereupon the Honorable Colonel MCTURK moved, seconded by the Honourable The Attorney General, that the previous amendment be agreed to, omitting the word diminished. The Honourables DOUGAN and ROBINSON, and His Honour The Chief Justice, supported the amendment, the other Honourable Members declined to vote.

His Excellency was of opinion that a certain spot on the Corentyne Coast beyond Plantation Skeldon, where a Moravian Missionary had been some years ago established, would be the most desirable quarter in which to make the first attempt at the formation of a new Mission should such a measure hereafter be agreed to.

The Honourable Mr. MACRAE concurred in the opinion just expressed by His Excellency, that the Corentyne Coast would at present be the most eligible situation for such an experiment. The Honourable Member then referred to Mr. SCHOMBURGK's recommendation that the boundaries of the Colony should be properly defined. In the Honourable Member's opinion this was highly desirable. The Honourable Captain WARREN would not be averse to any measure this Colony could afford that would in its ultimate results prove beneficial to the Indians. It was a more difficult matter than Honourable Members might suppose, to give the Indian a sufficient taste for the habits of civilized life to prevent his returning after a certain time to his natural element; the experiment had been tried, and, except in very rare instances, had always failed. If religious instruction was to accomplish the end aimed at, the first object should be to encourage them to approach nearer to the Plantations, and to locate themselves within convenient distances of the different places of worship with which this

Colony was so well supplied. Whatever might be done he feared he could not congratulate the promoters of the measure upon any chance of success.

His Honour the Chief Justice advocated the propriety of something being done for the Indians. It was not to be expected that the present generation would either reap the benefit or be a fair illustration of the result in a question of this kind ; it was necessary to look a little into futurity.

Colonel DOUGAN was of opinion that the Finances of the Colony were not in a sufficiently flourishing state to be able to make anything like an efficient experiment in the matter before the Court.

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Pirara, 29th August, 1842.

My dear YOUNG,—Our boats arrived on the 22nd inst., and I received with them your kind letter from Ampa. I have given CORNELISEN a severe reproof, as you will observe from my official letter to you. Your express, which left Ampa only 6 days after my boat, arrived at the same time, and brought me your letter of the 16th July and the extract of a note from the British Minister, &c.

I am glad that the Military detachment is to be withdrawn, as it has done more harm than good. Recollect what I told you in your gallery when you first communicated to me the resolution of H. M. Government to send troops to Pirara. I gave them eight months before they were withdrawn, and I have proved a true prophet. Their stay in Pirara will have cost Government something about £8,000, and the note of the Ministers proves that matters were arranged provisionally before the troops left Georgetown.

I have been on the best understanding with the authorities at St. Joaquim, even with SEAL, whose shrewdness and cunning must be fully acknowledged; politeness is a cheap kind and I pay him in compliments, which he returns in flowery speeches and sentiments.

As the boats for transporting the detachment to Demerara arrived yesterday at the portage, I have no opportunity to communicate to you the result of my interview with the Brazilian Commissioner. Since I have no orders regarding him, I shall be all ears to hear, but have no tongue to speak.

I purpose starting next Monday for Roraima, and we are making every preparation for it. You will observe from my letter to the Governor, that I have every inclination for finishing the survey, I cannot do more than what I have said in my letter, and must leave the rest to the recommendation of the Governor.

It is truly a hardship that our half-salary is still withheld. You can have no idea of the deprivations of the life in the interior, and Messrs. BRIGHAM, WIEBERG, &c., will give you a touching account of it. Now if you consider that they were stationery and we *en route*, draw the inference, and you will confess that ours is a *thankless* business.

I take the liberty to enclose a note to Mrs. LIGHT, which I beg you to deliver; a box of curiosities for Miss LIGHT accompanies it.

You will receive a small package with a hammock, from the Brazils, which I hope you will accept as a proof of my friendship and gratitude.

Take it with you upon your trips up the Essequibo; it is just such a one as is easily slung between tree and tree.

Have the goodness to forward the box of geological specs., the Journal, map and views, by one of the first opportunities; as no doubt Lord STANLEY will send to the Geographical Society my Journal and map; it will just arrive in proper time for their opening session.

Adieu my dear YOUNG, I hope to see you in best health in January. If you should have occasion to send an express to me, it must be forwarded to JULIEN with orders to send some fleet Indian messengers to Roraima,—  
Yours, ever,

ROBERT SCHOMBURGK.

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## *Ships and Shipping.*

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### I.—TONNAGE CAPACITIES.

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*By Thomas Hubbard.*

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**I**N speaking of the capacity of a ship the word ton as used does not represent a ton weight, but simply one hundred cubic feet of space, which is called a ton register. The nominal ton of the present law is 100 cubic feet. The statute under which tonnage is admeasured is the Imperial Merchant Shipping Act of 1894, which came into operation on the 1st of January 1895. It is the largest Act in the Imperial Statute Book, containing 748 Sections and 22 Schedules, and consolidates the provisions of some 48 previous enactments. Almost the whole of the mass of legislation that had accumulated, and which had been distributed in various statutes relating to Merchant Shipping, have now been repealed, and the repealed provisions have been re-enacted with some additions, alterations, and amendments.

As with other matters than Merchant Shipping, Amending Acts are sometimes required; but it is to be hoped, however, that the necessity for this will not arise with such frequency as was the case in the years between 1854, (the date of the last principal Act), and that of the present Act, when some 48 enactments were passed, which, reckoning the number of years, gives an average of one per year.

On the register of a ship there are three items, each being distinct in itself. First, there is the tonnage

under tonnage deck, which is the roomage or cubic content of the ship below her uppermost deck. Second, there is the gross tonnage, which consists of tonnage of permanent closed-in spaces on the uppermost deck, available for cargo, stores, &c., and crew, added to the under-deck tonnage. Third, there is the register tonnage, which is obtained by deducting from the gross tonnage in sailing ships any space used exclusively for the accommodation of the Master, and also any space occupied by seamen or apprentices, which is certified under the tonnage regulations contained in the Merchant Shipping Act; any space used exclusively for the working of the helm, the capstan, the anchor gear, and other instruments of navigation, and for boatswain's stores, and the space occupied by the donkey engine and boiler, if connected with the main pumps of the ship, and any space set apart and used exclusively for the storage of sails, not to exceed two and one half per cent of the tonnage of the ship. With respect to steamships there are the foregoing stated allowances from tonnage with the exception of that for sails, with the reduction from tonnage as regards ships propelled by paddle wheels, in which the engine room space is above twenty per cent and under thirty of the gross tonnage of the ship, thirty-seven per cent of the gross tonnage; and in ships propelled by screws, when the engine room space is above thirteen per cent and under twenty per cent of the gross tonnage, thirty-two per cent of the gross tonnage. In the case of screw steamers, the contents of the shaft trunk is ascertained by multiplying together the mean length, breadth and depth of the trunk and dividing by 100. Hatchways are measured in order to ascertain the per-

centage they bear to the gross tonnage of the ship; the excess above one-half per cent is added to the tonnage of the ship. It is provided, however, that in respect to all other ships the deductions shall, if the Board of Trade and the owner both agree thereto, be estimated in the same manner, but either they or he may, in their discretion, require the space to be measured, and the deduction estimated accordingly; but in this case the tonnage is to consist of the space actually occupied for the proper working of the boiler and machinery, with the addition in ships propelled by paddle wheels of one-half, and in ships propelled by screws of three-fourths of the tonnage of said space.

In the allowances for engine room in steamers, space or spaces above crown of engine room and above the upper deck, framed in, for the machinery and for the admission of light and air, shall not be included in propelling power space, except the owner should so request the Board of Trade, in writing, and shall not be included in pursuance of such request, unless that portion is first included in measurement of gross tonnage, and that a Surveyor appointed under the fourth part of the Merchant Shipping Act, 1894, certify that it is duly constructed safe and seaworthy, and cannot be used for any other purpose.

By the Merchant Shipping Act, 1854, it was enacted that in the admeasurement of ships, the depth shall be taken to the upper side of the floor-timber at the inside of the timber strake. At that time most of the ships in the mercantile marine were built of wood; they have subsequently, for the most part, been built of steel or iron, and have neither floor timber or timber strakes, but are

fitted with floor plates and double bottoms for water ballast. It is now enacted by the last Merchant Shipping Act that if the space between the inner and outer plating is not available for cargo, or stores, or fuel, the depth is to be taken to the upper side of the inner plating of double bottom, which is to be deemed to be the floor timber. (Sect. 81, M. S. Act, 1894, and Schedule No. 2, Rule 1). There are further provisions for the measurement of ships having cargo on board, and for ascertaining the tonnage of open ships or vessels, but these are seldom used.

By Section 82 of the Merchant Shipping Act, 1894, the tonnage of a ship once ascertained is to be deemed the tonnage of the ship, unless any alteration has been made in the form or capacity of the ship, or unless the tonnage has been erroneously computed, in either of which cases the ship shall be re-measured and her tonnage determined and registered according to the tonnage regulations of the Act. It is well to observe with regard to the last paragraph, that registration anew will not be required, unless the ship has been lengthened or altered into a barque, or the latter into a brig, &c., &c.; a new poop or deck house would be recorded on the ship's register. As a means of testing approximately the tonnage of small vessels, such as generally trade between this port and the Pomeroon district, previous to registry with a view of ascertaining whether they are of less or more than 15 tons, the following formula will be found of use:—

$$\frac{L \times B \times D \times .45}{100} \left. \vphantom{\frac{L \times B \times D \times .45}{100}} \right\} \text{approximate tonnage under deck.}$$

The trunk or rise over cabin would be separately measured, and added to the tonnage under deck, thus :-

feet.
40 length.
12 breadth.
---
480
5 depth.
---
2400
.45 factor.
-----
12000
9600
-----

$$10800 \div 100 = 108 \text{ Tons.}$$

Tonnage under-deck 108

Trunk or rise of cabin :

L. 4'6 x B. 4'5 x depth 2'5,

4'5
---
230
184
-----
20.70
2'5
-----
10350
4140
-----

$51750 \div 100 = 517.5$  Tons approximate.

By Section 85 of the Merchant Shipping Act of 1894, the space occupied by deck cargo is liable to tonnage dues, but this Section has never been applied in this colony. This provision of the Act however is carried out in Barbados.

By Section 84 of the Merchant Shipping Act, the tonnage of ships of Foreign Countries adopting British tonnage regulations, shall be deemed to be of the tonnage denoted in their Certificates of Registry, or other national papers. The provisions of this Section have been applied to ships of sixteen Foreign Countries by Orders in Council, and is known as the International Tonnage System. The only European Maritime States which have not adopted the British system of tonnage are Portugal and Turkey. It should be observed however, that the British system for the measurement of tonnage does not imply that there is a uniform plan of measurement, by which a ship would be computed as of the same registered tonnage when ascertained in any of the Countries which have accepted the system of British tonnage, as when measured thereby; the main portion of the ship would not vary, while the allowances for engine room, for crew space, and for navigation space, would differ. But the tonnage of the hull being accepted as shewn on the ship's national papers, the measurements of the engine room space and crew space, &c., &c., can be easily effected.

It is of importance to observe that Part One of the Merchant Shipping Act, 1894, applies to the whole of Her Majesty's dominions, and wherever Her Majesty has jurisdiction, (Sect. 91). We have hitherto dealt entirely with legal or parliamentary tonnage; we have now to consider other applications of the term tonnage.



Firstly, there is displacement tonnage, which is the weight in tons of the ship, and what may be on board at the time.

Secondly, there is dead weight tonnage which includes cargo, coals and stores.

According to one of the laws of hydrostatics, a floating body displaces a quantity of the fluid in which it floats equal to its own weight. The line in which the surface of the water cuts the surface of the ship when floating in any position is called the water line, the area enclosed by this line, being the water plane area, is called the light displacement. The line shown by the ship when fully laden is termed the load water line. The difference between the light and load displacement gives the dead weight cargo capacity of the ship when she is immersed to her load line, which includes coals, stores, and cargo. If, when a ship is floating in water, the water line is marked, and the cubic contents ascertained of the space occupied by the ship below the plane passing through the water line, and the cubic contents in feet multiplied by the weight of a cubic foot of water will give the total weight of the ship and what is on board; the displacement is calculated in tons, the immersed portion is calculated in cubic feet, allowing 35 cubic feet of sea water to the ton; this divided by 35 will give the tonnage.

The ton of displacement, as we shall see farther on, does not always mean 35 cubic feet, as it depends on the density of the water. Some water equals 1,025 ounces to the cubic foot. The divisor of 35 cubic feet to the ton weight is taken as allowing that 1,024 ounces are equivalent to one cubic foot; the difference, however,

is of little importance, as, for practical purposes, the fraction may be eliminated, and the divisor only made use of.

Some ship owners have the displacement of their ships calculated to various draughts of water by means of a very skilfully invented instrument called a planimeter, and either a table or a scale of displacement made by which is indicated how much weight their ships have on board by observing the draught of water. An approximation of the displacement of a ship may be arrived at in the following way:—Multiply the length on the load water line by the extreme breadth, and this product by the draught of water amidships, less the hanging keel. This latter measurement is the moulded draught. Thus:

$$\text{Displacement} = \text{Length} \times \text{Breadth} \times \text{Draught.}$$

$\frac{xc}{c}$

$c$ . is a co-efficient representing the percentage of the surrounding figure taken up by the volume or dimensions of the ship. The value of the constant  $c$  has been adapted to various classes of ships, for instance:

Merchant (passenger) Steamers ... .. .55 to .60.  
Cargo-carrying Steamers of moderate speed ... .65 to .70.

Cargo Steamers have of late years been built of fuller form, and the co-efficient exceeds .70 to .75. Fresh and river water, differ in weight from sea water: the former is about 62 and a half pounds per cubic foot, while the latter differs considerably in various parts of the world, and varies in weight according to its position relative to the mouths of rivers. A change of draught in a ship is caused by a change of the density in the water. When a ship goes from the sea to the river her

draught increases, and when she goes from the river to the sea it diminishes. The Load Line Committee some years ago took samples of water and found the densest water on the British Coast to be 1.025 ounces for one cubic foot. Among other features in the displacement of a ship the consumption of stores has some effect in lessening the displacement. It is necessary, therefore, in loading a ship to the proper load mark, to determine the specific gravity by a hydrometer or otherwise of the water in which she is loaded, and especially so as one or two inches with low freights may be of considerable importance to the ship-owner. If it is required that the ship should leave the port with the legal freeboard, it should be settled beforehand how deep the ship can be loaded below the load water-mark, so that when she reaches the sea she will float with the regulation freeboard. This can be done by a scale of displacement ; but this is not always at hand, and it is often necessary to ascertain the difference between the draught in salt water, brackish water, and fresh water approximately. A simple rule which gives results not very wide of being correct is, that a ship, in going from water of 1.000 specific gravity to water of 1.025, rises one quarter of an inch for every foot of her mean draught. We will suppose however a ship loaded in brackish water, then the reduction of freeboard for a ship of 16 feet of moulded depth without erections, loaded in fresh water, would be 3 inches, but the specific gravity of the water in which she is loaded is 1.010; the extent to which she might be loaded beyond the load mark so as to have the legal freeboard would be as follows :—

Multiply 3 inches by 15 the difference between 1.025

and 1.010, and divide by 25, the difference between 1.025 and 1.000.

$$\text{Thus } \frac{3 \text{ inches} \times 15}{25} = 1.8 \text{ inches.}$$

or  $\frac{1.5}{\frac{2}{5}}$  of  $\frac{3}{1} = \frac{4.5}{2}$  or 1.8 inches.

If the tons per inch of the sinkage of a ship at various draughts are known, the weight of the cargo and stores may be checked.

We will suppose that a ship has a sinkage of 20 tons per inch in salt water, and it is required to take in 150 tons, the increase in her mean draught would be as follows:—

$$20)150 \text{ Tons} (=7\frac{1}{2} \text{ inches.})$$

At the load draught a weight of 20 tons is ascertained to sink a ship one inch, the load water area would be

$$\frac{20 \times 35}{\frac{1}{2}} = 8,400 \text{ feet.}$$

A steamer has a load water line area of 15,000 square feet, her increased draught on taking in 150 tons would be

$$\frac{150 \times 35}{15,000} = .35 \text{ feet or } 4\frac{1}{5} \text{ inches.}$$

A steamer's mean draught is 21".5', after coaling the mean draught is 22".5' and the load water area is 7,500 square feet, the quantity shipped is as follows:—

$$22".5'$$

$$21".5'$$

-----

$$\text{Sinkage } 1.0 = 1".0'$$

$$\text{Then } \frac{7,500 \times 1}{35} = 214.\frac{2}{7} \text{ tons.}$$

Another simple rule for approximately estimating the difference in draught of a vessel according to whether she be in fresh, brackish, or salt water is by the rule of proportion.

Suppose a vessel draws 18 feet when lying in water where the hydrometer shows a cubic foot of water weighs 1008 ounces, on getting to sea she would rise  $3\frac{7}{12}$  inches, or draw 17 feet  $8\frac{5}{12}$  inches.

		As 1'025	:	1'008	:	18	to the
				18			draught
				—————			required.
				8064			
				1008			
				—————	ft.	ins.	
ft.	ins.	1025)	18144(	17	$8\frac{5}{12}$		
18	0			1025			
17	$8\frac{5}{12}$			—————			
—————				7894			
$3\frac{7}{12}$ inches.				7175			
—————				—————			
				719			
				12			
				—————			
		1025)	8628(				
				8200			
				—————			
				428			

The tons per inch may be ascertained by multiplying the length on the Water line by the beam, and dividing the product by a Constant *M*.

*M*. is supposed to have the following values :—

For fine-lined ships ... .. *m.* = 600

For a moderate fine-lined ship ... .. *m.* = 560

For Cargo ships ... .. *m.* = 540

For ship of very full form ... .. *m.* = 500

In the specifications and contracts for building in modern shipbuilding are included *inter alia* :—

Displacement Curve.

Curve of metacentric height.

Curve of statical stability.

Tons per inch curve.

The above designation or particulars being found, a ship may be employed in a useful manner, and with a proper application of stowage, the impair or waste of the strength of the ship may be lessened, and the quantity of cargo that may be carried on deck without hazard to the ship may be ascertained.

Certain methods for estimating approximately the measurement cargoes of vessels and dead weight cargoes, were suggested by the late Mr. MOORSOM, to whom is attributed the system of measurement in the Merchant Shipping Act of 1854, now repealed by the M. S. Act of 1894.

With regard to the reckoning of measurement cargo, the rule was to ascertain approximately for an average length of voyage the measurement cargo at 40 feet to the ton which a ship can carry, multiplying the number of register tons contained under the tonnage deck by the factor  $1\frac{7}{8}$ .

In respect of dead weight cargo, multiply the number of register tons under tonnage deck by the factor  $1\frac{1}{2}$ , and the product will be the approximate dead weight cargo required.

For coasting vessels, Mr. MOORSOM allowed an addition of 10 per cent to the foregoing results.

In the selection of the factors shown, provisions and stores were allowed.



With regard to passenger ships, no definite rule was arrived at.

In the case of the measurement of steam vessels, the spaces occupied by the machinery, fuel and passenger cabins under the deck, would be deducted from the space or tonnage under the deck, before the application of the measurement factor, and as regards dead weight cargo, the weight of the machinery, water in the boilers, and fuel, were to be deducted from the whole dead weight as ascertained by the application of the dead weight factor. By these rules it was assumed that there is a fixed proportion between the internal cubical contents of ships of the same or a similar class, the internal contents being indicated by the register tonnage under the ship's deck, the external by the load displacement which is supposed to be a proportion of the ship within the external surface of the ship under deck, the rules applicable were, no doubt, intended only as to what ships might be supposed to convey with a certain register tonnage, and not as to the limit of what they ought to convey, and it must be observed, at this time, they only referred to wooden ships.

It has been remarked that ships by their register do not carry any special quantity of cargo ; it must be further stated that register tonnage is adopted as a principle for assessment of the ship for dues ; further, the estimate of cargo under the rule can only be obtained by ascertaining in steamships the dead weight of the engines, machinery, &c., and the allowance for these under the law affords no indication for their calculation.

Owing to the substitution for the most part of steel and iron for wood, and steamships for sailing ships, to-

gether with the variation of the type of ships in modern shipbuilding, the rules or methods supplied by Mr. MOORSOM, have to a great extent become obsolete and inapplicable.

It is found, however, that the proportion of varieties between dead weight capacity and gross register tonnage is very small, as for instance, a steel screw cargo steamer, with double bottom for water ballast, has a dead weight capacity for cargo, coal and stores, of about  $1\frac{1}{2}$  of her gross registered tonnage, a steel sailing ship about 1.70, and an iron ship about 1.54 their respective gross tonnage.

It must be observed also that in estimating the carrying capacity of a ship, that tons in weight of various goods fill very different spaces ; for instance, a ton of sugar in bags will fill from 39 to 40 cubic feet, of ginger 80 cubic feet, of granite 4 cubic feet, and of rice in bags about 42 cubic feet.

The scale of tonnage for dead weight, light freights and measurement freight, differs at various ports, the difference for measurement goods varying between 40 and 50 cubic feet per standard ton, and dead weight being on a basis of from 16 cwt. to 20 cwt.

The measurement with regard to light freight goods, or measurement goods, such as chests, boxes, or plain sided packages, may be readily done by multiplying the length, breadth, and depth together, which gives the number of cubic feet. And, if the freight ton be 40 cubic feet of space, multiply the total cubic feet by .025 or divide by 40. For example : We have 9 cases of goods, each case being 4 feet long, by 2 feet broad, and 2 feet deep.

Then  $4 \times 2 \times 2 = 16$  cubic feet each.

9 cases.

—  
144

·025

—  
720

288  
—

$(3\frac{6}{10}$  tons)  $3\cdot600 = 3$  tons 12 cwt.

In order to arrive at dead weight tonnage, it is necessary that the density or specific gravity of the body or goods should be known.

Specific gravity or weight, is the term used to denote the weight of bodies compared with similar bulks of pure water; the standard found as the unit of gravity is rain water, and is written water 1·000. A cubic foot of pure water at 60° F. weighs 1,000 ozs. Avoirdupois. Thus the difference between the weight of water and an equal bulk of any other substance is found. For example:—

Water	...1·000	} an equal bulk of marble is 2·7 times as heavy as water.
Marble	...2·716	

Water	...1·000	} an equal bulk of cork is less than one-fourth the gravity of water.
Cork	...·240	

Water	...1·000	} an equal bulk of cast iron is 7·2 times as heavy as water.
Cast Iron	7·207	

Thus, if by mensuration we obtain the capacity of any substance in some determined part, the weight of which has been ascertained by experiment, we have then simply to multiply the measurement by the gravity in order to arrive at its weight; in other words, by known specific gravities of goods the weight of these goods may be calculated from cubical measurements.

Suppose the section area of the lower hold in a ship is 240 square feet, and it is required to know how much space in the hold 130 tons of Anthracite Coal will occupy. This coal we will take as occupying 42.3 cubic feet per ton.

Then we have

$$\begin{array}{r} \text{feet} \\ \text{Length } \frac{42.3 \times 130}{240} = 22.9 \end{array} \text{ feet.}$$

of space required.

Suppose again we wish to know the weight of a block of marble 8 feet long, 4 feet broad and 3 feet deep. The specific gravity of marble averages 1.516 cwts. per cubic foot,

$$\begin{array}{r} \text{cwts.} \\ \text{Then } 1.516 \\ \quad 96 \text{ Contents} \\ \hline 9096 \\ 13644 \\ \hline 145.536 = 145\frac{1}{2} \text{ cwt.} \end{array}$$

$$\begin{array}{r} \text{or} \\ \quad \text{tons} \quad \text{cwts.} \quad \text{qrs.} \\ \quad \quad \underline{7} \quad \underline{5} \quad \underline{2} \end{array}$$

Or specific gravity per cubic foot in ounces,

$$\begin{array}{r} 16) 2716 (169 \quad 12 \\ \underline{16} \quad \quad 96 \text{ Contents} \\ 111 \quad 16,224 \\ \underline{96} \quad \quad 72 \\ \hline 156 \quad 16,296 \text{ lbs.} = \quad \text{tons.} \quad \text{cwts.} \quad \text{qrs.} \\ \underline{144} \quad \quad \quad \quad \quad \underline{7} \quad \underline{5} \quad \underline{2} \\ 12 \end{array}$$

Or specific gravity or weight per cubic foot.

2716 ozs.

62½ lbs. per cubic foot

---

5,432

16,296

---

168,392

1,358

---

169,750

96 contents

---

1,018,500

1,527,750

---

		tons	cwts.	qrs.
2240)	16,296,000 (	7	5	2
	15,680			

---

112) 616

560

---

28) 56

As we have stated, goods are usually freighted by weight, and at different weights, and light goods are shipped at times, exceeding 40 cubic feet to the ton; they are also shipped by quantity and number, but in almost every case the term "ton" is used. The number of tons weight that form the cargo of a ship will therefore vary according to the kind of goods loaded. The ton of commerce is thus an arbitrary quantity, but a ship can-

not stow or safely carry more than a certain weight, which is called dead weight.

In England a ton by weight is 20 cwt. or 2,240 lbs., and a ton by measurement is assumed as the quantity which will fill 40 cubic feet. If the cubical contents of the goods are less than 40 cubic feet to the ton weight, the term "dead weight" is applied.

By the term capacity is meant that a certain number of cubic feet go to make up the ton of measurement for the stowage of the goods. The ton register is uniformly one hundred cubic feet. The capacity for stowage is, however, not a true indication of what a ship can carry with safety, the hold of the ship may be filled with light goods without her hull being too deeply submerged, but if loaded up to her deck with dead weight she would lose her buoyancy or power of flotation, in fact she would sink, therefore when the ton of capacity is used, the capacity to load or the capacity to stow and load is understood.

Further, a ship may be described as of 800 tons register, but with respect to her burden she may carry equal to 1,300 tons, more or less, according to her proportions, build, and type.

Again, the burden of a ship is not in every case the measure of the exact number of tons that a ship is capable of carrying; this depends upon the specific gravity of the goods. A ship of given dimensions will be able to carry a larger number of tons of a given kind of goods that are of a greater specific gravity than of another of a less specific gravity. The modern sailing merchant cargo-carrying ship in some instances will carry from 30 to 70 per cent. over her registered tonnage. The



modern built steamship other than one with spar and awning deck, or deck houses, would carry nearly double her registered tonnage.

It has been decided in the case of a charter-party, that if the charter-party be of the whole ship, and the freight is to be paid at so much per ton, or other portion of the ship's capacity, the freight must be paid according to the actual tonnage and capacity of the vessel, and not merely according to the registered tonnage; and where in a charter-party the vessel was described to be of the burden of a certain number of tons, and the freighter agreed to load a full and complete cargo, the loading of goods equal in number of tons to the tonnage mentioned in the charter-party, was held not to be a performance of this agreement, but that the freighter was bound to put on board as much goods as the ship was capable of carrying with safety.

It has also been held that if the size of the ship is described to be a certain number of tons, or "thereabouts," that is considered a representation only, and not a warranty; and therefore although the description be not strictly correct, if it be made *bonâ fide*, and without any intention to deceive, the merchant will be bound to carry out the charter, notwithstanding that the ship is larger or smaller than described in the charter, unless the difference is very unreasonable.

In a case where the ship was described to be of the measurement of 180 to 200 tons, or thereabouts, but was actually 257 tons, the statement of the tonnage was held not to be a warranty or an unreasonable difference, and it was held that the merchant was bound to load the ship with a full cargo according to his contract—whether the

difference is unreasonable or not, would be a question for the court to decide.

A ship is capable of carrying only a certain quantity of goods, and in excess of this she could not transport her cargo with freedom from danger, she would lack buoyancy or floating power, and her stability would be affected. In other words, she would be unseaworthy, her draught of water would vary more or less with her proportions, build, and type, and she might be loaded down to her maximum load draught; but the ship should carry her full cargo so distributed in her hold, as to occupy the whole of the available space therein.

Take the case of a ship capable of carrying 350 tons, that should be laden with 350 tons of goods, and presuming that her hold has a space of 21,000 cubic feet, the goods should take up the entire space; in this case, for every ton of goods, there is a space of 60 cubic feet, and if for every ton of goods 60 cubic feet were engaged the ship would be loaded thereby, but as has been already shown, goods are of various densities, as an example of which it may be observed, that some goods only occupy 35 cubic feet more or less per ton, thus a difficulty occurs in arriving at the due proportion of each of the several kinds of cargo that would complete in the whole the ship's carrying capacity.

For example:—Suppose it is required to load a ship of the tonnage and capacity we have stated with one kind of dead weight and one kind of light weight, and 35 and 80 feet represented one ton of each, it is evident that 50 tons of the dead weight would occupy only 12,250 feet and leave 8,750 feet unoccupied, while on the other hand 350 tons of light freight would

occupy 28,000, or 7,000 cubic feet more than her space.

It is therefore apparent that only a due proportion of each kind of cargo can occupy the entire space and jointly weigh 350 tons.

Let the average space per ton in the ship be ascertained by dividing the space in the hold by the tonnage; from the average deduct space per ton of dead weight, multiply the remainder by the tonnage, and divide by the difference between the space per ton of light freight and dead freight; the quotient is the light freight, and the difference between it and the tonnage is the amount of dead weight goods. Thus:—

	Tons 350) 21,000 feet	(60, average space per ton
		(35, dead weight do. do.
		—————
Light freight per ton	89	25, difference multiply by
Dead weight „ „	35	350, ship's tonnage
	—————	—————
difference	45	)8,750(194 tons for light frght.
	—————	45 (156 tons for dead „
		—————
		425 350 ship's tonnage
194 x 80 =	15,520	405 ———
		—————
		200
156 x 35	5,460	180
	—————	—————
Tons 350	20,980	20 $\frac{4}{9}$ quotient.
	—————	20 fraction
	21,000	
	—————	

Although it seldom happens in maritime commercial transactions that any two kinds of goods only are taken into a vessel, they are distinctively laden into dead weight and light freight goods, therefore, when goods are to be laden, an average must be made of the densities of dead weight and light freight goods, and the amount of each be ascertained; that due proportion of cargo which, when reckoned in the aggregate, would not be in excess of the space at disposal in the vessel's hold, nor with respect to her tonnage-carrying capacity when once ascertained.

All cargo-carrying vessels not being of the same build or type cannot be loaded alike. A vessel cannot be loaded like a cart or truck, and it frequently occurs that the bad stability and behaviour of the vessel at sea is owing to improper or faulty loading and ballasting.

The "displacement curve," "the curve of stability," and "the tons per such curve," furnished to ship-owners in modern ship-building, by the ship-builder, are of great use.

The displacement curve is applied by SIMPSON'S Rules by which the volume of the immersed portion of the ship can be obtained, which when assumed as water, and divided by 35, (this number of cubic feet being taken as weighing one ton) will give the displacement in tons.

The displacement curve by means of scale shows the draught dead weight, and free board (free board is now assigned by the Board-of-Trade Rules), the mean light weight of the ship and tonnage displacement, also her carrying capacity or dead weight; the total weight of the ship is equal to the displacement at her draught.

By the "tons per inch curve" is ascertained the num-

ber of tons required to be placed on board of a vessel, or to be taken out so as to cause an increase or decrease of one inch in the mean draught.

We will suppose a vessel to be floating at a draught the tons per inch of which is 20, and that a portion of her cargo has to be discharged. After putting out this cargo the mean draught is found to have decreased 5 inches, the weight of the cargo so put out is

$$20 \times 5 = 100 \text{ tons.}$$

Suppose again that a vessel is at her load line, and the tons per inch is 20 tons, to consume 125 tons of coal on her voyage, the decrease would be about

$$\frac{125}{20} = 6.2 \text{ inches.}$$

20

Dead weight is the difference between the displacement at any draught, and the weight or displacement of the ship when light.

By the curve of stability the metacentric height and the position of gravity is determined in any state of loading. The word or term metacentre is derived from the Greek—*meta* and *centro*—and is defined to mean a point or limit in a floating body, on the position of which its stability depends. The position of the metacentre is obtained by calculation from the drawings or diagrams of the naval architect or shipbuilder.

By the term stability, is understood the period of force at which the ship when inclined out of the upright position, immediately endeavours to right herself. The stability of a ship is a good deal dependent upon her design and loading; it is also affected by the strength and build, round of beam, sheer, and freeboard.

Freeboard is assigned to a ship as an edge or border for

safety. A ship floating too deep in the water, having no reserve buoyancy, would possess no rising force, and thus would be plunged under water at every wave, and might ultimately sink.

Legislation in England with regard to the Load Lines of vessels goes back to the year 1876. By the 6th Clause of that Act power was given to the Board of Trade or to appointed officers, to detain a vessel while in any port of the United Kingdom, for survey, which was unseaworthy owing to defects in the vessel, or owing to overloading or improper loading, and unfit to proceed without serious danger to human life; the detention was in the first instance provisional, but was subsequently made final if necessary.

The Act of 1876 was afterwards amended by the Load Line Act of 1890. The disc was, prior to 1890, placed on the vessel by the owner, at any position he thought proper, but being so placed, and the agreement being signed with the crew, it could not be altered; the vessel therefore could not be loaded beyond a certain point. The marking of the deck and load line discs, were applicable to all British ships unless under 80 tons, employed solely in the coasting trade, in fishing, or to pleasure yachts. With respect to the marking of the load lines on British ships in the coasting trade which were above 80 tons, the marking was imperative.

By the Act of 1890, instead of the owner fixing the position of the load line disc, it was to be done by the Board of Trade, in accordance with the tables of the Load Line Committee of 1885.

In 1892 a further Act was passed, which provides under Sec. 1. that:—"Every ship so loaded as to submerge in



salt water “the centre of the disc placed thereon, in pursuance of the M. S. Acts 1876 to 1890, and the regulations made thereunder, shall be deemed to be ‘unsafe’ within the meaning of the M. S. Act, 1876, and such submersion shall be reasonable and probable cause for the detention of the ship.” All the above stated Acts have been altered or amended by later legislation, and their provisions have been embodied in Sections 436 to 445 of the M. S. Act, 1894. By Sec. 462 of the M. S. Act, 1894, the provisions of the Act with regard to the detention of ships, are applicable to foreign ships when in any port of the United Kingdom.

Although the provisions of the M. S. Act, 1894, with regard to the assigning and marking of load lines and discs on foreign going vessels, are not in force in this colony, by Sec. 12 of Ordinance No. 2 of 1895, power is given to the Comptroller of Customs to order the survey and detention of overloaded or unsafe British ships, and by Sec. 15 of the Ordinance, the provisions of Sec. 12 are made applicable to the detention of overloaded or improperly loaded foreign vessels.

Provision has been made by Ordinance No. 2, of 1895, and the Regulations made thereunder, for the survey of coasting vessels carrying cargoes, and for the survey of passengers’ accommodation.

We had intended to make some observations on other phases of ships and shipping, but as our paper has already extended beyond the ordinary limits of an article, we must defer them for a future occasion.

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## *Report of Meetings of the Society.*

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*Meeting held January 16th.*—His Excellency Cavendish Boyle, C.M.G., President, in the chair.

Members present, 32.

Elections.—*Corresponding Member:* Mr. F. V. McConnell.

*Members:* Revd. J. T. Godfrey and Mr. S. M. Mitchell.

*Associates:* Messrs. Reginald Brooke, H. C. Castagne, C. T. Holder, E. Stewart and J. W. McPurgo.

The President addressed the meeting as follows: --

“In opening the year’s proceedings of this important Society, to the Presidential chair of which I have had the great honour of being elected by your votes, on the nomination of my friend Mr. E. C. Luard, I feel much diffidence. Previous inaugural addresses have been delivered by gentlemen intimately connected with the agriculture or the commerce, or with both, of the Colony. They have had by long experience, at their fingers’ ends, the data and details which have enabled them to speak with certainty, with accuracy, and without what our legal friends call “digging for information,” on those important subjects. Now, I do not for an instant yield to them in the interest taken in agriculture and commerce. I hold that my interest is as keen and as lively as theirs. For, the man who wishes the country well must of necessity take an interest, and a very real one, in those two factors of its welfare, and I trust that my earnest desire for the Colony’s prosperity may be the cloak to-day for

the many shortcomings, the frequent errors, which I am all too likely to make in dealing with subjects of such magnitude and importance. I do not propose to go at length into figures and returns of the past twelve months or to forecast therefrom detailed estimates for the year we have just commenced. We all knew, at the beginning of last year, that a period of grave depression in our producing powers, or rather in the returns which our products were likely to yield, had set in. But what we did not know, though in my humble opinion I believed it possible, was that the storm would be weathered in the creditable and sturdy manner the year's record shows.

Turn your memories back to the early days of January, 1895, and think again of the dread that was hanging over us, of the lack of confidence which was, I might almost say paramount, of the paralysis in all branches of trade and commerce which seemed to have overtaken us. Remember the fears, and they were very real ones, of a much more wholesale abandonment of valuable estates than has taken place. Think of the gloom which had settled down upon everyone alike—Financier, Planter, Merchant, Gold Producer, Employer, Employé, Master and Labourer—and then look at to-day's position, to-day's outlook; and congratulate yourselves, as I most heartily congratulate you, on the change for the better which we see around us. I beg, however, that in these words you will not think that I am arguing from a fool's paradise. I would not have you imagine that the time has come for any of us to think we are relieved from the battle; I would only ask you to go into your new year's work with the confidence which is so necessary, and which is justly yours: I say due and already here

for you, based on the results of the last year, and on the possibilities, nay the probabilities, of the coming months. It is true we exported in 1895 15,000 hogsheads of sugar less than in 1894, and that the rum sent out exceeded the previous year's returns by 1,400 puncheons only. It is true also that we "made" a total of gold which was less by 7,000 ounces than that of the previous year. But, gentlemen, I would ask you whether the returns you read in the *Daily Chronicle* of Thursday last, were not infinitely better than the forecast which one and all of you would have published, had you been asked to do so, on that day twelve months ago. And again, must we not take into account that the cost of production in almost every instance has been lessened, appreciably and wisely lessened, so that the net prices obtained, the net profits made, have more than covered the shrinkage in the amounts produced. And then let us turn to the commercial side. Of course we know that there has been a curtailment of purchases, and therefore of sales: of course we know that the consumer has had to look carefully after his expenditure, and to draw in wherever possible, but notwithstanding, I hold, and believe I am right in holding, that in our business centres there is a sounder trade, a firmer condition than that existing at this time last year, or than that gloomy time led us to expect would exist to-day. You have had some very heavy attacks to bear, some very nasty physic to take, but your constitutions were sound enough to withstand the first, and to profit by the second. And, for what is before us, I believe, as I have said many a time, that the future of the Colony is a bright one. I believe that not only has the ordinary course of

events given us reason to hope this to be the case, but I feel certain that recent and unusual occurrences have tended, and will tend, to advance us as a community, to make our existence, our whereabouts and our possibilities, more widely known, to attract to our shores both capital and labour, and to lead us into that place amongst the Colonies of Britain to which our territory and its producing power entitle us, and which is due to the courage of yourselves and of those who have fought the battle of Guiana's life in the years that are gone. And then as to our progress; well, a man does not make much headway when he is swimming up a stream and stemming a current, which those who know, admit to be strongly set against him. If he holds his own and struggles into still water it is not human, nor do I believe it to be divine, to expect him to instantly dash off towards higher points of the river. The probabilities are that if he does so, he will find himself in a current against which he is powerless to fight, and the result must be inevitable collapse. And you have held your own, in a long and arduous struggle, and that without outside aid. Employment has been found, and is still being found, for those of our people who will work on the great fruit belts and in the interior as well. We are for the moment, I believe, in still water, but we are panting, and just existing after the fight. We scarcely realise how much strength, how much capital has been put out, expended in reaching that position; and we are not sure to which river bank we can crawl. We have been I know—I am speaking of the Colony as a community—regarded as being lethargic, slow, tropical lotus-eaters, eggs-in-one-basket men. I do not hold with that view. Pioneers, here

I see them to-day, who have gone to work, who are working in many directions with the courage and with the determination which are the attributes of the British-born wherever his life be cast. Rome could not be constructed in 24 hours. The waterways leading into a great delta cannot be turned into easy flowing deep canals for the passage of comfortable steamers in a few months, or even in a few years. Roads and Railways cannot be laid out and constructed through virgin forest and wide stretching swamps by the stroke of a pen or the recommendation of a Committee. The capital sunk by adventurers requires time to gain its fruition; and a question of borders has been known to take more than half a century before it gets even to the acute stage which might possibly lead to a settlement. You have not been wanting in energy.

Others have come here and have been received with that open-handed, free-hearted hospitality for which British Guiana is proverbial. They have come, and to-day have seen. If they have conquered, however, their conquests have not been made known to us, and the problems they found on their arrival are still *for a time* unsolved. This therefore shows that no charge of want of action on the part of those who live here could for a moment be sustained. If these comers and seekers could have solved the problems for themselves, is it not to be imagined they would have done so? And, is it not a fact that they had every facility given them? And I deprecate indeed, any idea that would detract from the energy and activity, from the value of the work already done, and still continued by pioneers on the spot.

The problems will be solved, I feel sure; and my most



earnest wish is to see the solutions found by those here who have expended so much ; those who have risked so much in their initial stages.

Close on 280 years ago one of Guiana's first pioneers went to his death on the scaffold in London. But I am not aware that the sentence was carried out because he lacked energy, or because he had not found the great treasure, or because he had not laid down a causeway connecting Guiana's river-mouths with Eldorados of the interior.

But what Raleigh sought so gallantly, you who have fought an equally gallant battle will, I hope, find—not however, death on Tower Hill, not execution in London City—but the development, the opening-up and the garnering-in of the treasure of your great country ; provided always there be peace within its borders, and an assurance that your treasure trove be not snatched away from you.

And now a few words as to the probabilities, the schemes and paths which lay before us in this just-commenced year.

Our staple industry looks in a fairly healthy condition. Prices now ruling seem to point to the earning of somewhat more than bare existence or than a living wage, and, given anything like stability in the market, anything like a continuance of its present position, I do not think you will accuse me of undue optimism, when I hold that estate owners and sugar growers should feel happier in their outlook than they have been justified in feeling for some time past. But we want more than all this, we want to see other industries implanted and flourishing in our midst ; we want to see men taking advantage of and profiting

by the lavish gifts that nature here spreads before them. There are amongst you those who are putting forward their most earnest endeavours to promote and to foster agricultural industries, such as the production of rice and vegetable foods, and the utilisation of the vast stretches of country awaiting their labours. May their efforts meet with success.

And then there are works of public utility and public convenience long under consideration—long delayed from varying causes. Some of these too seem within measurable distance of commencement. It has recently been made known that the project for the extension of the existing East Coast Railway—a project the birth of which would probably antedate the natal day of many an individual here—is at last to be taken in hand, and very shortly we may see the actual commencement of this line, as well as of that most useful railroad which is to connect Vreed-en-Hoop with Philadelphia on the West Coast. And, this will all mean the letting loose of capital amongst you, it will add to our internal trade, and I trust, increase our revenues.

There are other schemes commenced, or shortly to be commenced, to facilitate travel in the interior; roads have been approved and begun, and surveys of other and even larger and more important works, are either being carried out, or are to be carried out very shortly.

The outside public in great centres of civilization and finance, are nibbling at the prospects which our land holds out. Those who are in power in the Mother Country, are not forgetful of our existence—our wants and our possibilities—and I cannot believe that 1896 will pass without some substantial advance being recorded, and,

indeed, some very appreciable return being garnered by those who have freely and courageously sown the seed of their capital on the land.

And now one word as to our wants. Perhaps at a first glance they might be summarised, as to agriculture, in the words, generous production and remunerative prices, and as to commerce by paraphrasing the old saying, into 'large profits and constant returns.'

But we want more than that. We want solidarity of purpose, a joining together of hands; and I would dwell for a moment on that want. We do not know the future, we cannot see beyond the moment. We do not know what demand may be made on our resources, or how soon. And therefore I would urge the absolute necessity for that agreement and unity, which alone can successfully secure the application of our best to general interests.

Small party divisions, the saying of "no" for individual reasons, when "yes" is the word for the common good; the intrusion of petty personal considerations, of sky signing by invidious and ungenerous insinuations, when every man's hand should be joined with that of his neighbour against the wrong and for the right; these are greater dangers to us now than any burden from foreign bounties, heavy though that be to bear, or any temporary shrinkage in the value of our exports, be they sugar or gold, food-stuffs or forest-products.

We want peace within well-defined and properly secured limits, and that, I believe, it is meant that we shall obtain. We want an absolute and lasting freedom from internal disagreement. Think of that grand old English word "common wealth," and my belief, is that no-

where in the British Empire—nay in the civilized world—is the true weal of the community more desirable, more necessary, and as I hope more easily obtainable, than within the borders of our great land.”

On the motion of the Hon. E. C. Luard, seconded by the Hon. Dr. Carrington, a hearty vote of thanks was accorded to the President.

The Treasurer laid over his Annual Statement, which in accordance with the Bye-Laws, was referred to the Directors, to be audited and brought up at the following meeting.

The Secretary reported the following elections of Office-bearers of Committees :—

*Agricultural Committee*—Chairman : Hon. B. Howell Jones ; Vice-Chairman : Professor J. B. Harrison ; Secretary : S. M. Bellairs.

*Commercial Committee*.—Chairman : A. Summerson ; Vice-Chairman : J. H. de Jonge ; Secretary : W. Cunningham.

*Committee of Correspondence*—Chairman : Professor J. B. Harrison ; Vice-Chairman : Rev. W. B. Ritchie.

*Book Committee*—Chairman : Dr. F. H. Anderson ; Vice-Chairman : S. M. Bellairs.

Mr. Quelch reported, in regard to the Government vote for timbers to be experimented upon at the Imperial Institute, that 25 different kinds of wood, 3 logs of each, had been forwarded. He also reported that the vote of \$50 for the Photographic Exhibition at the Imperial Institute had been exceeded by \$15 owing to the cost of framing.

The adoption of Professor Harrison's "standard method of polarisation" was postponed to the next meeting.

A communication from the Government Secretary, *in re* Mutual Trade between the United Kingdom and her colonies, was read and referred to the Commercial Committee.

Mr. T. S. Hargreaves gave notice that he would ask the following questions at the next meeting:—

1. How many books have been added to the library from January to December, 1895?
2. How many of these were works of fiction?
3. How many standard works of reference?
4. How much of the literature added to the library is of a purely ephemeral character?

Mr. W. P. Abell read the following paper in reference to Mr. Scard's paper on Multiple Evaporation.\*

On the motion of the President, seconded by the Hon. E. C. Luard, a vote of thanks was accorded, discussion being left over until the next meeting.

The thanks of the Society were accorded to Mr. W. Morrison for a copy of Guthrie's Geographical Grammar, and also for the following donations to the Museum.

Three rare hawks—from H. Lloyd Pryce.

Wood, cut by sawyer beetle—M. A. McGregor.

Marmoset monkey—T. S. Hargreaves.

Hercules Beetle—George Allan.

Rare spiders—F. A. Long.

Pigeon-pea weevils—Mr. G. S. Jenman.

A stone implement, a saouari nut, and some Brazilian beetles—Mr. Wm. Morrison.

Mr. Quelch exhibited two specimens representing the two species of otters of South America. The one was of the kind commonly found about the Coast waters and was of the same group as the ordinary European otters,

\* See Page 1.

having the cylindrical tail. The other specimen was nearly three feet longer than the European otter and was obtained from Tapacooma Lake by a Chinaman named Mr. Cheong. It was called the wing-tailed otter, and a characteristic of it was the head, the skull being elongated and the nostril entirely hairy, different from the ordinary type of otter. Mr. Quelch also exhibited a mount of the common woods of the Colony.

The meeting then terminated.

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*Meeting held February 13th, 1896.*—His Excellency Cavendish Boyle, C.M.G., President, in the chair.

Members present 22.

Elections.—*Associates* : Messrs. S. Wreford and C. Buie.

In the absence of the Treasurer, the Secretary brought forward the Financial Statement for 1895, which had been audited by two Directors, in accordance with the By-Laws. On the motion of Mr. T. Daly, seconded by Mr. A. Duncan, it was unanimously adopted.

The Secretary then moved that the surplus funds, amounting to \$1,096 05, be handed over to the Directors to be used in accordance with the By-Laws in such manner as they considered most conducive to the interest and objects of the Society. This having been seconded by Mr. Luke M. Hill, was carried unanimously.

In connection with Mr. Chamberlain's despatch on Mutual Trade between British Possessions, the Secretary read a further communication from the Government, and also a report from the Commercial Committee, to which it had been referred, stating "that the Committee have re-



ferred this matter to the Chamber of Commerce, who have received a similar communication."

Government Secretary's Office,

Georgetown, Demerara, 28th January, 1896.

Sir,—It will have been observed from the copy of Mr. Chamberlain's despatch which I had the honour to transmit to you on the 14th instant, that its first object is to obtain a return showing the extent to which, in each of the colonies, foreign imports of any kind have materially displaced, or are displacing, similar British goods; and the causes of such displacement.

2. The return, however, as will be seen from the 3rd paragraph of the despatch, is only to include such British manufactures as have been displaced to the extent defined therein.

3. An examination of the Customs statistics of the colony, according to the Comptroller of Customs, discloses the fact that the only British manufacture which shows a displacement within the limits of Mr. Chamberlain's despatch, is machinery. A statement is annexed hereto showing the value of machinery imported into this colony during the years 1884, 1889, and 1894; and also the countries of origin. It has further been observed, with reference to the concluding portion of paragraph 4 of the despatch, that a very considerable proportion of earthenware and glass, although imported from the United Kingdom, is of foreign manufacture.

4. The Acting Governor now desires me to ask your Society to be so good as to afford him their views as to the reasons which may have, in these cases, induced the Colonial importer to prefer a foreign article to similar goods of British manufacture; and also such further information as they may be able to give him, of the nature required by Mr. Chamberlain in the 4th paragraph of his despatch.

5. His Excellency will also, of course, be very glad to receive any observations your Society may desire to make, with regard to the general question discussed in the despatch.—I have the honour, &c.,

FRANCIS VILLIERS.

	1884.	1889.	1894.
United Kingdom ... ..	£182,545	£137,322	£63,538
United States of America ... ..	51	859	5,933
Holland ... ..	nil	nil	2,273
Other countries ... ..	nil	322	43

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**The Royal Agricultural & Commercial Society of British**


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## RECEIPTS.

To Society's funds, 31st Dec. '94...		\$	965	47
„ Subscriptions—				
Lady Members ...	...\$	131	25	
Ordinary „ ...	...	1,721	25	
Country „ ...	...	442	00	
Associates „ ...	...	1,191	25	
Arrears ...	...	30	50	
				3,516 25
„ Rents ...	...			2,717 00
„ Fines ...	...			4 56
„ Catalogues ...	...			15 84
„ Int. on Hand-in Hand Scrip to 30th June ...	...	60	00	
„ Profit on Insce., on Policies ...	...	167	70	227 70
				<u>6,481 35</u>
				<u>7,446 82</u>
„ Balance at credit Museum vote				
31.12.94 ...	...	533	94	
„ Govt. vote for the year ...	...	4,500	00	
„ Received for sale of orchids and bateau... ..	...	386	76	5,420 70
„ Govt. vote for Horticultural Exhibition ...	...	500	00	
„ Gate money ...	...	513	72	
„ Society's contribution ...	...	198	34	1,212 06
				<u>\$ 14,079 58</u>
				<u><u>750 00</u></u>
„ Imperial Institute vote from Govt. ... ..	...			\$ 750 00

**Gulana—Receipts and Expenditure for the Year 1895.**

EXPENDITURE.			
By Salaries ... ..		\$ 2,674	00
„ Periodicals, Magazines & Newspapers ... ..	\$ 809	00	
Less sales of waste papers	38	98	770 02
„ New Books added to Library...		661	33
„ Subscriptions to Eng. Societies		20	49
„ Advertising ... ..		141	50
„ Binding ... ..		127	40
„ Cost of <i>Timehri</i> ... ..	581	06	
Less sales by Pub. \$224 64			
Do. Stanford... 16 86	241	50	339 56
„ Repairs to Buildings ... ..		204	06
„ Cost of new furniture and repairs ... ..		67	90
„ Postages, Stationery, Petty and Reading Room expenses...		205	70
„ Insurance with Hand-in-Hand		875	00
„ Cost to Society of Horticultural Exhibition ... ..		198	34
Do. Photo Exhibit in London..		65	47
„ Society's funds as per Balance Sheet ... ..			1,096 05
			<u>7,446 82</u>
Paid for Maintenance of Museum per separate statement ...		5,386	09
Amount at credit per Balance Sheet		34	61
			<u>5,420 70</u>
Paid sundry accounts for Horticultural Show ... ..			1,212 06
			<u>\$ 14,079 58</u>
Paid for Woods for Imp. Inst. ...	\$	400	00
Freight and expenses ... ..		156	96
Amount at credit as per Balance Sheet ... ..		193	04
	\$		<u>750 00</u>

Mr. Geo. Garnett stated that the Chamber of Commerce had dealt with the matter. The President spoke of the reduction in imports of machinery from the United Kingdom, and Mr. Luke M. Hill said that this was on account of several estates not being in a position to import at present, while the machinery which came from the United States was for gold mining and electric lighting; he did not think they were going to the American market for their machinery.

The Secretary read the following communication from the Committee of Correspondence:—

The Museum, Georgetown, Feby. 13, 1896.

R. T. A. Daly, Esq.,

The Hon. Secretary, R. A. & C. Society.

Sir.—I have the honour to state that at a meeting of the Committee of Correspondence held yesterday (12th inst.), I was directed to report to the Society that:—

The Committee learn with much regret that the Government have not placed the grant to the Horticultural Show on the Estimates for 1896-97. The Committee cannot undertake a Show similar to those of previous years without a grant, and hope that the Society will respectfully beg the Combined Court to favourably consider the matter.

I have also to report that the question of cattle disease in the Mahaicony district, has engaged the attention of the Committee; and that the Committee have learnt, on communication with the Government, that His Excellency the Governor had already instructed the Government Veterinary Surgeon to investigate the matter.

I have the honour to be, &c.,

J. J. QUELCH,

Hon. Secy. Committee of Correspondence.

Mr. Kirke, as a member of the Committee, spoke of the desirability of putting down on the notices of members, the nature of the business to be transacted, as he, not having been able to attend, knew nothing of these matters referred to in the report.

In reply to Mr. Hargreaves' questions, of which notice had been given at the previous meeting, the Librarian gave the following answers :—

1. The books added to the Library during the year 1895 numbered 451 volumes.

2. Of these, 241 volumes were placed in the class Fiction, and 210 in other classes.

3. In regard to this question, I find a difficulty, as it is hard to say what should be considered as standard books of reference. If it is meant only those books which are not lent out, such as files of newspapers, local literature, dictionaries, Blue Books, &c., the number was about 40, besides such works as the London Directory, Lloyd's List, Army & Navy Lists, &c.

4. How far the additions have been of a *purely* ephemeral character it is hard to say. In the widest sense of such a term I consider that we have no works that could be safely classed in such a sweeping manner. Even the newspapers of the day have something more than a *purely* ephemeral character, and the fashionable novel, which has a run for a few months, is of interest to the student for the light it throws upon the manners and customs of the time when it was published. In building up a library for general use by future generations nothing is too paltry, for even the simplest pamphlet on some burning question becomes of very great importance; all the more so because of its ephemeral character and consequent rarity. During last year a number of local pamphlets were bound, and about twenty old Parliamentary papers bought, some of which are so scarce, that possibly but few copies are in existence, mainly because they were looked upon, when issued, as of an ephemeral nature. Whether the literature of to-day will survive or not, is a question that must be left to the future, but I do not think that any library can afford to ignore it, however distasteful it may be to the individual. For, we cannot even condemn it, unread.

Mr. Hargreaves said he had asked these questions with the object of mentioning that he had proposed that Lord Brassey's Naval Annual should be added to the library, which recommendation was rejected by the Book Committee. He thought a work of that sort of more importance than a lot of light literature.

The annexed Government communication was read :—

Government Secretary's Office.

Georgetown, Demerara, 24th January, 1896.

Sir,—I have the honour to acknowledge the receipt of your letter of the 31st of December last, asking that a sum of \$500 for grant-in-aid to the Horticultural Exhibition, be placed on the Estimates for the year 1896-97.

In reply I am desired by the Acting Governor to say that it is necessary that the Estimates should be cut down as much as possible, and whenever possible, and therefore the grant must, much to His Excellency's regret, be omitted therefrom.—I have the honour, &c.,

FRANCIS VILLIERS.

The Honorary Secretary

Royal Agricultural and Commercial Society.

The President said that the Government regretted their inability to put the grant on the Estimate in view of the great need for economy.

Capt. A. Duncan suggested that the amount might be raised by subscription, and Mr. Geo. Garnett thought it could be done by guarantee.

The Secretary read a letter from the President, offering to subscribe \$50 if nine others would do the same, or \$25 if 19 others gave equal amounts.

Mr. Luke M. Hill thought that the results of the Shows were so satisfactory that the vote should have been made an annual one. Similar grants were made in the Islands.

Mr. Kirke mentioned that the matter might be re-considered in the Combined Court, as one of the members had given notice to that effect.

Mr. Bellairs spoke of reducing the expenses by giving certificates instead of money prizes.

The President said that in any case he hoped that the Show would be continued,



A letter from Mr. W. Fawcett, Jamaica, was read, thanking the Society for electing him a Corresponding Member.

Mr. Abell's paper, read at the previous meeting, having been declared open to discussion :—

The Secretary read the following communication from Mr. Scard, who had gone to Trinidad and was therefore unable to be present :—

Before proceeding to the subject matter of Mr. Abell's paper, I must express my regret that absence from the colony has prevented my further acquaintance with it in print. I have, therefore, to rely on the memory of it as read, and plead this as an excuse for any error of omission or commission in discussing the points raised.

So far as I remember, the paper deals more with certain conditions arising in the life of a Multiple Effect than with the question adduced in my original paper on the subject of relation of temperatures, although in dealing with the one it touches somewhat on the other.

The points which Mr. Abell has given prominence to are: 1stly, corrosion of tubes of calandria by gases liberated from juice; and 2ndly, masking of heating surface by these gases.

The phenomenon which was chiefly dwelt upon and illustrated, the corrosion of the upper parts of tubes of calandrias, is one which has long been recognized as existing where yellow sugar is made, and, if I mistake not, the instances given were from Factories commonly making this variety. The corrosion results from volatile acids liberated from the juice by stronger acids added in the course of manufacture, and which become boiled out of the juice as heating and concentration goes on. The action on the galvanized roofing of clarifier lofts so commonly seen with the making of yellow sugar, and erroneously attributed to the sulphurous acid itself, is an illustration of this.

The greater part of these volatile acids, which appear to be given off mostly in the 1st and 2nd bodies of the Effect, are condensed with the calandria water. There is no doubt, however, but that a considerable proportion hovers about the top of the calandria, leading to the corrosion of tubes and stays noticed.

Mr. Abell alludes to the varying amount of the corrosion observed; being almost nothing in some instances. This is accounted for by the vary.

ing proportion of volatile acids met with in cane juice. It may be laid down that the proportion of acid—phosphoric or other—required to be added to the juice in the eliminators to produce the suitable yellow tint, is a measure of the volatile acids present in a state of combination in the original juice, and in proportion to this so will there be corrosion of the calandria tubes.

While on this subject I may point out that the scaling of the inner surface of the tubes from the use of phosphorus acid is due to the phosphate of lime becoming insoluble at the moment when its solvent acid is boiled off; and that such scaling is more manifest in some evaporators than in others, is simply due to the difference in the proportion of volatile acid in the original juice dealt with.

As to the ammonia, from the presence of which and its adiathermancy, Mr. Abell argues a retardation of condensation, with consequent effect on the temperature of the previous body, this in the manufacture of cane sugar, as commonly carried out, does not occur. In beet manufacture, with its processes involving excessive liming for the purpose of destroying albuminous matter, ammonia is produced from the nitrogen of the latter. But with cane juice treatment it is different. In fact, it is the absence of glucose in beet juice which renders the employment of large quantities of lime feasible, and conversely its presence in cane juice which precludes the mode of treatment, from the discolouration produced by the action of the alkali and the glucose.

As to the influence of bodies of uncondensed or uncondensable gases moving about the upper part of the calandria and thus veiling some of the heating surface from contact with the vapour proper, I do not consider that notable effect is thereby produced on the temperature of the vessels. I have not found that Multiple Effects fitted with gas (falsely by us termed "ammonia") connections with main pump have exhibited any difference in relation of temperature when compared with machines working without these connections.

Mr. Abell has done good service in laying down the necessary provisions for experiments with evaporators, and I trust that now the subject has been ventilated, experimental results from independent sources will follow.

In the matter of Prof. Harrison's "Standard method of Polarisation," the writer asked that it might be withdrawn, as so little interest seemed to have been taken in it,

The thanks of the Society were accorded for the following donation to the Library, from

Mr. J. Veecoek—Phileron and other poems.

Also, for the following donations to the Museum :—

Thirty-six enlarged photographs, views of British Guiana, taken on the Quelch and McConnell expedition, 1894, by F. V. McConnell, and presented by him.

Basket Gold Ore	...Johannesburg ...	...J. Murray.
Silver 3d. piece	...South African Rep. ...	..
A Grebe (water fowl)	...Pln. Ogle (rare)	...H. H. Humphrys.
Two Long Shanks	... " "	... "
Fifty specimens Conglomerate	... } Special Expedition	...C. W. Anderson.
Tobacco, grown & cured	Vryheid's Lust...	...John Junor.
Three very large Coconuts	... } Pomeroon ...	...B. B. Garraway.
Cocoa Beans	...Pln. Vryheid	...Hon. A. Weber.
" "	...Pln. Le Désir	... "
Creole Liberian Coffee	.. " " ...	... "
" Mocha	" " " ...	... "
" Liberian	" Pln. Vriedestein	...John Junor.
" Mocha	" " "	... "
" Guinea Corn	... " Cane Garden, Lgn.	N. Chee-a-Wong.
" Yellow Plantain's nest	... }	...Harry Bellaire.
Mahooka (bird)	... " Enmore ...	...J. Colley.
Poisonous Coral Snake	..Race Course...	...Jack & Bertie Waby.
Bat	... Botanic Gardens	... "
Blue Crane & Caraow	...West Coast ...	...N. Greenidge.
Pi-pi-toori's nest	...Georgetown ...	...S. A. Williams.
Nest of Cotton-bird	... " ...	...W. Sharp.
" grey Kiskadie	... " ...	... "
Tobacco	...grown at Cane Garden.	N. Chee-a-Wong.

A special vote was accorded to Mr. F. V. McConnell for the photographs of scenes in the interior taken by the McConnell-Quelch expedition in 1894.

The meeting then terminated.

*Meeting held March 19th, 1896.*—His Excellency Cavendish Boyle, C.M.G., President, in the chair.

Members present 16.

Elections.—*Members*: Hon. C. P. Gaskin, and Messrs. McD'Almeida, A. E. H. Swift, J. H. Bell, E. B. Simpson Gray, and W. C. Shankland.

*Associates*: Messrs. W. S. Wainwright, William Marsh, and Francis Mathias.

In connection with the minutes of the meeting held on the 11th of July last, Mr. Quelch said he wished to make a correction. In referring to a rather scarce bone he had said that so great was the resemblance, that it even had anterior teeth similar in shape to the fangs of poisonous snakes, and might be easily mistaken by those not familiar with the structure of poisonous snakes.

The President then said that the Directors of the Society had that afternoon decided to propose Mr. G. S. Jenman as an honorary member, for the reasons that it would be highly desirable to have his assistance as Government Botanist, and because such Societies as this in other colonies, usually elected such officials to honorary membership. In accordance with the Bye-Laws he would be balloted for at the next meeting.

The annexed communication from the Agricultural Committee was read.—

Georgetown, March 12th, 1896.

To the President and Members of the

R. A. & C. Society.

Gentlemen,—In accordance with the regulations of the Government, under which the Society obtains free analyses of articles of general interest, by the Government Chemist, I have the honour to lay over Four Reports by Professor Harrison, on Canes at different stages of growth, which the Committee consider to be of great importance in

connection with similar analyses which have been reported from time to time.

I have the honour, &c.,

S. BELLAIRS,

Secretary, Agricultural Committee,

Composition of Canes and Megass. Sample of Canes from *Ruinveld*,  
October 31st, 1895.

CANES NOT ARROWED.

	Canes.	Megass from canes 26 o/o.
Water ... ..	73'82	53'26
Sucrose ... ..	13'76	7'69
Glucose ... ..	1'25	'70
Albuminoids ... ..	'39	'67
Wax ... ..	'04	'17
Digestible fibre ... ..	3'96	15'22
Woody fibre ... ..	5'21	20'04
Mineral matters ... ..	'78	'76
Gums, etc... ..	'79	1'49
	<u>100'00</u>	<u>100'00</u>
Total fibre ... ..	9'17	35'26
Total sugars in canes ... ..	15'01	...
Factor to convert sugar in juice to sugar in canes ... ..	...	'8654

CANES WITH ARROWS JUST BURSTING.

	Canes.	Megass from canes 32 o/o.
Water ... ..	71'13	51'59
Sucrose ... ..	14'98	10'43
Glucose ... ..	1'06	'90
Albuminoids ... ..	'39	'59
Digestible fibre ... ..	5'18	16'31
Woody fibre ... ..	5'36	16'75
Wax ... ..	'09	'30
Mineral matter ... ..	'73	1'02
Gums, etc. ... ..	1'08	2'11
	<u>100'00</u>	<u>100'00</u>
Total fibre ... ..	10'54	33'06
Total sugars in canes ... ..	16'04	...
Factor to convert sugar in juice to sugar in canes ... ..	...	'8739

## CANES WITH ARROWS PROJECTED AND BLOWN.

	Canes.	Megass from canes 32'7 o/o.
Water ... ..	70'03	50'89
Sucrose ... ..	14'95	8'75
Glucose ... ..	1'27	'75
Albuminoids ... ..	'57	1'14
Wax ... ..	'06	'20
Digestible fibre ... ..	5'87	17'95
Woody fibre ... ..	5'71	17'48
Mineral Matter ... ..	'73	'82
Gums, etc. ... ..	'81	2'02
	<u>100'00</u>	<u>100'00</u>
Total Fibre ... ..	11'58	35'43
Total sugar in canes ... ..	16'22	
Factor to convert sugar in juice to sugar in canes... ..		'8318

## CANES WITH ARROWS DEAD IN SHEATH.

	Canes.	Megass from canes 31 o/o.
Water ... ..	72'06	55'30
Sucrose ... ..	15'15	9'24
Glucose ... ..	1'15	'70
Albuminoids ... ..	'37	'54
Wax ... ..	'10	'34
Digestible fibre ... ..	4'30	13'88
Woody fibre ... ..	5'42	17'48
Mineral matter ... ..	'71	'77
Gums, etc. ... ..	'74	1'75
	<u>100'00</u>	<u>100'00</u>
Total fibre ... ..	9'72	31'36
Total sugars in canes ... ..	16'30	
Factor to convert sugars in juice to sugar in canes... ..		'8506

The annexed letter to the President, from the same Committee, was laid over, it being a reply to certain



remarks in a letter of Mr. Thiselton-Dyer read at a late meeting of the Court of Policy :—

Georgetown, Demerara, British Guiana,  
5th March, 1896,

Sir,—The Agricultural Committee of the Royal Agricultural and Commerical Society of British Guiana have had under consideration the letter from Mr. Thiselton-Dyer to Mr. W. T. Wingfield, Colonial Office, dated 16th December, 1895, containing his observations on the report of the Commission for enquiring into “the best method of encouraging Banana and Fruit growing,” and also the wider question of Minor Industries in the Colony.

As reference has been made to this Society, the Committee think that it is not advisable that Mr. Thiselton-Dyer's letter should be allowed to pass without comment, as some of the statements contained in it might, if not protested against, mislead.

In paragraph 3 of his letter, Mr. Thiselton-Dyer, commenting on the comparative values of Beetroot and Sugar cane as plants cultivated for the extraction of sugar, states that while the saccharine richness of beet has been enormously increased within recent years, that of the cane has remained almost stationary, and he cannot doubt that “the saccharine contents of the sugar cane might be immensely increased.” Mr. Thiselton-Dyer appears to have overlooked the very important fact that while the cultivation of the beet for sugar extraction is a matter of only about one hundred years, that of the cane has existed from extreme antiquity, but has only in recent years received the attention of chemists and botanists.

The experience of later years tends to show that the improvement of the saccharine richness of the beet has almost reached its limit, and that it is not likely that there will be anything like the same improvement in the future that there has been in the past.

The planters of British Guiana have not been without interest, and very great interest, in this matter, although they have not had the incentive of a possibility of profiting by a system of bounties that are so levied that every increase of saccharine richness in the plant is rewarded by a Government gift, for the continental Governments levied taxes on the beets and gave drawbacks on the sugar exported, so that every atom of sugar extracted in excess of what had been considered possible when the tax was imposed, received from the Government a tax which had never been paid by the manufacturer.

Most valuable information has been gathered from the numerous experiments carried on in this Colony ; especially from those undertaken at the Botanical Gardens under the able supervision of Mr. Jenman, Government Botanist, and Professor Harrison, Government Analyst, and whilst, up to date, the experiments have not definitely disclosed any cane of more *practical* value than the familiar " Bourbon," the experiments have not been wasted, as they have conclusively shewn that canes can be produced from seed, canes far exceeding in saccharine strength any yet cultivated.

Steps are now being taken to test the agricultural value of these canes. In addition, the experiments have thrown most valuable side-lights on important matters connected with practical agriculture, such as the relative values of different manures, the effects of lime on the soil, &c., &c.

Nor has the method alluded to by Mr. Thiselton-Dyer as, in his opinion, promising to result in canes of increased richness, been ignored by planters. The matter when first mooted, was freely discussed by this Committee, and as the experiment of planting land here with canes imported from Barbados, the saccharine strength of which is well known to be from one and a half to two per cent. higher than the average of the same kind raised locally, had been repeatedly carried out, and the results carefully watched, and in no instance was the saccharine strength of canes raised from those thus introduced, greater than that from canes raised locally ; it was not considered to be a method of any marked promise.

Again Mr. Thiselton Dyer asserts :—" It is not the genius of the " English people to apply the resources of science to industrial pursuits " in the way it is done by other nations." This may or may not be true, but it has no bearing on the question, for after the word " nations," Mr. Thiselton-Dyer should have added " and Colonies."

In the first place, the Colonies that cultivate the sugar cane are far from being exclusively English, yet the application of the resources of science in British Guiana is certainly not less than in Cuba, Martinique, or any other Colony not under British rule, and it is worthy of note that constant applications are received in this British Colony, from foreign Countries and Colonies, for improved varieties of canes obtained by the application of the resources of science to industrial pursuits.

The majority of the planters in this Colony are quite capable of appreciating the value of soil analyses. In fact a great many have been

made, several years ago. The Commission did not propose the systematic examination of soils as a "panacea," but fully recognized that it could only act as a guard against the cultivation of soils of doubtful fertility; in our opinion a most important matter with relation to the successful attempts at minor agricultural industries. We would also point out that the question of expense raised by Mr. Thiselton-Dyer does not apply to this Colony, which possesses a fully equipped agricultural laboratory and a competent staff; the only additional expense might possibly be a slight increase in the amount paid for fuel.

Further on Mr. Thiselton-Dyer makes the trite remark, "Barbados is teeming with an industrious negro population. I have suggested to Mr. Nevile Lubbock that the attempt might be made to transfer respectable families to Demerara."

This suggestion of Mr. Thiselton-Dyer is really very good, and it is very kind of him to make it. Kew must know much more about the Barbados negro than British Guiana can be supposed to do; but it is a little late, as attempts have been made for the last thirty years at least, and they have been attended with some success. Out of seven negroes in this colony, one, at least, will be found to be a native of the West Indies, chiefly of Barbados. Numerous incentives have been held out over and over again, to induce families to immigrate from Barbados, but experience shews that the average respectable Barbadian does not like exiling himself from his beloved island, and even if he does visit British Guiana he hopes to save a little money and return to his native land. Still, some have come to stay, and more would be very welcome.

With regard to paragraph 6. The cultivation of coffee has received a great deal of attention from time to time, but in the past, as in the present, the question of the labour supply has interfered materially with the establishment of cultivation on a large scale, and it is not on account of sugar having crushed it out, that coffee estates have not been established.

With regard to paragraph 16, suggesting that the Government might scatter India Rubber seeds in suitable places; the question is to find such suitable places that are accessible. It is of no use to scatter seeds in the forest. The struggle for existence in a tropical forest is so keen, that out of fifty seeds scattered not one germinates; and out of five hundred that germinate scarce one attains any growth. As a proof of this, the well-known fact may be adduced, that when a clearing is made in the forest a "second growth" immediately springs up of itself

consisting of trees quite different to those cut down, and this second growth must spring from seeds that have been scattered many years ago and lain dormant for a very long time, waiting the chance of a ray of light to enable them to grow. Unless India-Rubber seeds possess wonderful vitality they would die before the chance arrived.

There is no *cleared* land in the interior that will grow trees. Whatever is suitable for trees is covered with forest.

The only chance for these India-Rubber seeds would be to plant them on some land that has already been cleared, and to look after the trees when saplings.

Hon. Cavendish Boyle. C.M.G.,

President, R. A. & C. Society, B.G.

Consideration was postponed until the next meeting.

A communication from the Government was read, informing the Society that the sum of \$500 asked for in aid of the Horticultural Show, had been provided for on the Estimates for 1896-7.

The Hon. Mr. Wolseley called attention to the desirability of a speedy publication of the new Catalogue of the Library, to which the Secretary, replied that it was in the hands of the printer and would be finished in about two months.

A letter was read from Mr. F. V. McConnell, thanking the Society for electing him a Corresponding Member.

A letter from the Secretary of the Guiana Rice Company was also read. As the idea of forming this Company originated with the Society, he hoped that they would do all in their power to further its formation.

The thanks of the Society were awarded for the following donations :—

To the Library—from Mr. Alexander Lamb ; International Guide to Merchants, &c.

From Mr. A. H. Thomson ; Photo of B. G. Gold Exhibit in London.

To the Museum—

Kola Samples...	...Land-of Canaan	...Chas. Ross.
Fragment of human skull ...	Nonpareil ...	Hon. Dr. Palmer Ross, C.M.G.
Nest of Thrush	...Georgetown ...	...W. Sharp.
„ Blackbird	„ „	„ „
„ Ground Dove...	„ „	...E. E. Winter.
„ Grass Bird	„ „	„ „
„ Wren ...	„ „	„ „
„ Old Witch	„ „	„ „
4 Butterflies	...Barima ...	...L. D'Oliveira.
2 Native Guinea Pigs	...Berbice ...	...Dr. Ireland.
Spiny Caterpillar	...Georgetown ...	...Dr. Anderson.
Quartz pebbles...	...Coast California	...Mrs. Boggs.
Branch, cut by Sawyer...	...Moruca ...	...J. L. Theobald.
Tobacco, native grown..	...Georgetown ...	...G. Stevenson.
Yellow-plaintain's nest...	...Buxton ...	...Rebecca Thomas.
Mygale Spider...	...Botanic Gardens	...Master Waby.
Wood-boring Bee	...Georgetown ...	...A. D. Ferguson.
Papilio asterias	...U.S.A. ...	...Dr. Frank Smith
Silver Spider	...Georgetown ...	...L. S. Hohenkerk.
Caligo Butterfly	...Supenaam Creek	...S. B. Warren.
Two nests of Birds, } with eggs of a Finch }	„ }	„ }
Papery nest of Marabunta ... }	„ }	„ }
One Polyporus fungus..	...Georgetown ...	...Mrs. Edghill.
30 Fossil Sharks' teeth.	Barbados ...	...Prof. J. B. Harrison.
Barbados half penny, 1792.	„ ...	...Miss Nellie Harrison.
Collection of Pottery and other remains, one handle in the form of a face	Indian Burial Mound and Settlement, Chateau Margot	His Excellency Cavendish Boyle.

The meeting then terminated.

*Meeting held April 9th.*—Hon. Cavendish Boyle, C.M.G., President, in the chair.

Members present 19.

Elections.—*Honorary Member* : Mr. G. S. Jenman.  
*Ordinary Member* : Mr. John Correia.  
*Associates* : Messrs. W. G. Lloyd and J. B.

Spooner.

The President said he had the greatest pleasure in announcing that His Excellency, Sir Augustus W. L. Hemming, had agreed to become Vice-Patron of the Society. He thought they might well proceed to elect His Excellency an Honorary Member at once. The proposal having been seconded by the Hon. E. C. Luard, it was carried unanimously.

The annexed communication from the Committee of Correspondence was read :—

The Museum, April 9, 1896.

R. T. A. Daly, Esq.,

Secretary, R. A. & C. Society.

Sir,—I have the honour to report for the information of the Society, that several meetings of the Committee of Correspondence have lately been held for the furtherance of the objects of the Horticultural Show, which has been fixed for the 20th August next. A very detailed Prize-List, amounting to nearly six hundred dollars, has been framed, and is now being printed for wholesale distribution throughout the Colony. A very marked departure from previous Shows is now found in the establishment of sections in the Classes of Plants, Flowers and Floral Decorations, Fruits, Vegetables, and Economic Products, respectively, open only to Artisans and Labourers, while they are at the same time entitled to exhibit in all the general sections open to amateur exhibitors, for money prizes. Certain sizes for pots and tubs have been recommended; and Public Institutions have been invited to exhibit for Certificates of Merit only. Posters for distribution are being also prepared, and all steps taken to make the Show a success.

I have the honour to be, Sir, &c.,

J. J. QUELCH,

Secretary.

On the matter of the Thiselton-Dyer letter being declared open to discussion :—



Mr. Vyle spoke of the desirability of having discussions when the papers were read, instead of leaving them over until the matter was forgotten.

The Hon. Mr. Jones spoke of the results of the experiments on Seedling Canes made at the Botanic Gardens, which went to disprove Mr. Thiselton-Dyer's assertion that nothing had been done by people in Demerara.

The President said that the impression conveyed by Mr. Thiselton-Dyer's letter was that they, as sugar growers, were behind the times. He was sure that if that gentleman had known of the work of Messrs. Jenman and Harrison he would have written differently.

The thanks of the Society were accorded for the following donations:—

To the Museum:—A rare Grebe from the East Coast, presented by Mr. J. P. Allt; a moth by Mr. Eugene Stewart; a stone concretion from Mahdiana Creek by Mr. C. W. Anderson; a moth by Mr. A. Gordon; *Urania leilus* by Mr. A. Lennox; A nest of the thrush from Botanic Garden by Mr. G. S. Jenman; a collection of beetles from Barima by Mr. A. A. Watson; three insects from the Conawarook by Mr. Seyler; a large toad, a large frog, and snake and fungus-covered moth from North-West District by Mr. G. S. Jenman, an abnormal egg of fowl by Mr. James Thomas, and a scissors-bill from Heeran.

To the Library:—From Dr. Macnamara, 2 Vols. Sanitary Institute Transactions.

Mr. Æneas D. Mackay gave notice of motion that the Directors be respectfully requested to nominate Messrs. R. T. A. Daly and F. A. Conyers, as Honorary Members.

The President then said they were all aware that it was the wish of a large portion of the community, that an Agricultural Board should be formed, but no decision of the authorities had been come to as yet. He had noticed that the Agricultural Society in Jamaica was doing very well, judging from the speech of Sir Henry Blake, its Chairman: He did not see why this colony should be behind Jamaica, and he thought it was the duty of the Society to consider what steps could be taken to establish a Model Farm. He was sure that it could be done, and if they helped themselves the authorities would grant assistance. Whatever might be the feeling as to the wisdom of maintaining such an institution by the colony, he had no doubt of its utility. He asked them to consider the matter and see if they could make any propositions at the next meeting.

Mr. Jacob Conrad spoke in favour of such an institution, and the matter was left over to the next meeting.

The Hon. Mr. Wolseley said he had received a communication on the inoculation of soils with such bacteria as were beneficial to plants, and promised to bring up the matter at the next meeting.

The meeting then terminated.



*Meeting held May 14th.*—Hon. E. C. Luard, Vice-President, in the chair.

Members present, 16,

Elections.—*Members*: Hon. Dr. D. Palmer Ross, Messrs. Ernest Simpson and J. C. de Mendonça, and Revds. T. Godson and S. R. Sales.

*Associates* : Messrs. J. Harold Glover and  
B. V. Abraham, jnr.

The Chairman read the annexed letter from the President :—

Georgetown, Demerara, 28th April, 1896.

Dear Mr. Luard,—I would beg you to express for me to the members of R. A. & C. Society the great regret I feel at being forced to leave the Colony during my year of office. It is only under compulsion that I have been induced to absent myself just now, as during the summer and autumn weather I had looked forward to a time of much useful work in the Society. I hope you will press on the project of the Model Farm. I trust, indeed, we may be able to carry it out ourselves, or, at any rate, start it. The Government, as you know, can do nothing now. Wishing you, the Society, and the Colony, every prosperity,

Believe me, Most faithfully yours,

CAVENDISH BOYLE.

Hon. E. C. Luard, M.C.P.,

Vice-Pres. R. A. & C. Society.

The following communication from the Agricultural Committee was taken for notification :—

To the President and Members  
of the R. A. & C. Society.

Gentlemen,—In accordance with the Government Regulations under which the Agricultural Committee of the Society are entitled to free analyses of articles of public interest by the Government Chemist, I have the honour to lay over five (5) reports on soils from Plns. Noitgedacht and Le Desir, No. 1 Canal, which the Committee consider of very great importance in connection with Coffee cultivation.

I have, &c.,

S. BELLAIRS,

Hony. Secretary Agricultural Committee.

P.S.—I have also the honour to lay over three samples of Ramie Fibre in different stages of manufacture.

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CERTIFICATE OF ANALYSIS

Of a sample of Soil marked "Noitgedacht," Canal No. 1. Good

Coffee soil; sent by the Agricultural Committee, R. A. & C. S.; received October 21st, 1895.

The air-dried soil retained 6·7 per cent. of hygroscopic moisture.

*Composition of the Dry Soil.*

* Organic matters and combined water	...	...	...	16'291
Phosphoric Anhydride	...	...	...	'028
Sulphuric Anhydride	...	...	...	'682
Chlorine	...	...	...	traces.
Iron Peroxide	...	...	...	2'915
Iron Protoxide	...	...	...	2'151
Alumina	...	...	...	4'662
Calcium Oxide...	...	...	...	'300
Calcium Carbonate	...	...	...	none.
Magnesium Oxide	...	...	...	'424
Potassium Oxide	...	...	...	'228
Sodium Oxide	...	...	...	'178
Insoluble Silica and Silicates	...	...	...	72'141
				<u>100'000</u>

CERTIFICATE OF ANALYSIS.

Of a sample of Soil marked "Noitgedacht," Canal No. 1; soil from place where Liberian Coffee had died; sent by the Agricultural Committee, R. A. & C. S.; received October 21st, 1895.

The air-dried soil retained 6·7 per cent. of hygroscopic moisture.

*Composition of the Dry Soil.*

† Organic matters and combined water	...	...	...	19'017
Phosphoric Anhydride	...	...	...	'040
Sulphuric Anhydride	...	...	...	'683
Chlorine	...	...	...	traces.
Iron Peroxide	...	...	...	2'229
Iron Protoxide	...	...	...	1'389
Alumina	...	...	...	11'913
Calcium Oxide	...	...	...	'300
Calcium Carbonate	...	...	...	traces.
Magnesium Oxide	...	...	...	'318
Potassium Oxide	...	...	...	'124
Sodium Oxide	...	...	...	'236
Insoluble Silica and Silicates	...	...	...	63'751
				<u>100'000</u>

\* Containing Nitrogen ... .. 1'42

† Containing Nitrogen ... .. '240

## CERTIFICATE OF ANALYSIS

Of a sample of Soil from Plantation Le Desir, Canal No. 1; marked Liberian Coffee soil (burnt Soil); sent by the Chairman of the Agricultural Committee, R. A. & C. S.; received August 24th, 1895.

The air-dried soil retained 12.7 per cent. of hygroscopic moisture.

*Composition of the Dry Soil.*

* Organic matter and combined water	...	...	...	...	14'810
Phosphoric Anhydride	...	...	...	...	'221
Sulphuric Anhydride	...	...	...	...	'389
Chlorine	...	...	...	...	traces.
Iron Peroxide	...	...	...	...	6'412
Alumina	...	...	...	...	18'585
Manganese Oxide	...	...	...	...	traces.
Calcium Oxide...	...	...	...	...	'765
Calcium Carbonate	...	...	...	...	'008
Magnesium Oxide	...	...	...	...	'515
Potassium Oxide	...	...	...	...	'378
Sodium Oxide ...	...	...	...	...	'358
Insoluble Silica and Silicates	...	...	...	...	57'559
					100'000

*Remarks:* - This is a soil of remarkable fertility, the fires which have formerly swept over it having altered its mechanical character, and at the same time set free or rendered available large proportions of the soil constituents. It is now too light for Cocoa cultivation, but admirably adapted for the growth of Liberian Coffee. The sample represents about 18 inches to two feet in depth of the soil.

## CERTIFICATE OF ANALYSIS

Of a sample of Soil from Plantation Le Desir, Canal No. 1. Marked Cacao Soil. Sent by the Agricultural Committee, R. A. & C. S. Received August 24th, 1895.

The air dried soil retained 6.5 per cent. of Hygroscopic Moisture.

* Containing Nitrogen	...	...	...	...	'327
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*Composition of the Dry Soil.*

* Organic Matters and combined water	...	...	...	9'031
Phosphoric Anhydride	...	...	...	'087
Sulphuric Anhydride	...	...	...	'018
Chlorine	...	...	...	trace.
Iron Peroxide	...	...	...	4'783
Alumina	...	...	...	9'217
Manganese Oxide	...	...	...	'347
Calcium Oxide	...	...	...	'596
Calcium Carbonate	...	...	...	'032
Magnesium Oxide	...	...	...	'404
Potassium Oxide	...	...	...	'291
Sodium Oxide	...	...	...	'208
Insoluble Silica and Silicates	...	...	...	74'986

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 100'00
 

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*Remarks* :—A soil of very great fertility, in its chemical composition well adapted for the successful and long continued cultivation of canes.

## CERTIFICATE OF ANALYSIS

Of a sample of Soil from Pln. Le Desir, Canal No. 1, marked Soil from Dam where Coffee tree had died; sent by the Agricultural Committee, R. A. & C. S.; received August 24th, 1895.

The air-dried sample retained 7'9 per cent. of hygroscopic moisture.

*Composition of the Dry Soil.*

† Organic matter and combined water	...	...	...	10'382
Phosphoric Anhydride	...	...	...	'012
Sulphuric Anhydride	...	...	...	'101
Chlorine	...	...	...	traces.
Iron Peroxide	...	...	...	9'567
Alumina	...	...	...	3'908
Manganese Oxide	...	...	...	traces.
Calcium Oxide...	...	...	...	'603
Calcium Carbonate	...	...	...	'010
Magnesium Oxide	...	...	...	'528
Potassium Oxide	..	...	...	'379
Sodium Oxide	...	...	...	'265
Insoluble Silica and Silicates	...	...	...	74'245

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 100'000
 

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\* Containing Nitrogen ... .. '262

† Containing Nitrogen ... .. '349



*Remarks* :—The figures obtained do not show any reason for the death of the coffee tree. With the exception of phosphoric acid, which the soil is very deficient in, the important constituents of plant food are present in high proportions, and the soil appears to be a very fertile one. Possibly the phosphates present were not sufficient for the healthy growth of the tree, but this is a very doubtful point.

The Honorary Treasurer laid over the list of unpaid subscriptions to date, in accordance with the By-Laws.

The following communication from the Committee of Correspondence was read :—

The Museum, May 14th, 1896.

R. T. A. Daly, Esq.,

Hon. Secy., R. A. & C. Socy.

Sir,—I have the honour to report, from the Committee of Correspondence, that all the preliminary arrangements have been made for the holding of the Annual Horticultural and Poultry Show, in the Promenade Gardens, on Thursday, August 20th next. Posters and Prize-lists have been distributed broadcast over the Colony, and the greater number of the public men in the country districts have been asked to assist, in every way possible, to further the objects of the Show. Such assistance is already being given, and it is to be hoped that the Show will be greatly benefited thereby,

I have the honour to be, Sir, &c.,

J. J. QUELCH,

Secretary, Committee of Correspondence.

Mr. Æneas D. Mackay asked that his motion, of which he had given notice at the previous meeting, be allowed to drop, as he found that under the By-Laws, by electing the Treasurer and Secretary Honorary Members, they would be prevented from holding office.

Mr. A. Duncan gave notice of motion as follows :—

“ That at the next meeting I shall ask an expression of opinion as to the desirability of establishing a branch of the Navy League in this Colony, for the purpose of giving moral support to the British Government in maintaining the supremacy of the British Navy; and take what further action may appear necessary.”

Letters from His Excellency the Governor and Mr. G. S. Jenman, were read, thanking the Society for electing them Honorary Members.

The following extracts from newspapers were forwarded by the Hon. W. A. Wolseley and read :—

FROM THE CORRESPONDENT OF THE "STANDARD."

At the last meeting of the German Agricultural Society, Dr. Thiel, of the Prussian Ministry of Agriculture, stated that the experiments that have been carried on for a long time past by Herren Hall, Riegel, Notbe, and others, with a view to ascertaining how the bacteria of the soil may be rendered useful, have been crowned with success, so far as the bacteria necessary for the assimilation of nitrogen and the successful cultivation of leguminous plants dependent upon it are concerned. Herr Notbe has succeeded in cultivating these bacteria on a large scale. He is convinced that the sowing of these bacteria will make soils which need them more productive in a cheaper and more convenient way than the method of inoculating suitable earth invented some years ago. The expense of treating a Prussian *morgen*, about four-eighths of an English acre, by the bacterial method, will be about half a-crown. If this method stands the test of practical experience, attempts to cultivate other kinds of nitrogen-producing bacteria will be made.

EXTRACT FROM THE GERMAN AGRICULTURAL PAPER, "THE PRESS,"

NO 16, 1896.

In the sitting of the 19th February, the President, Professor Dr. Orth, before opening the regular business, requested Dr. Thiel to give information respecting the latest experiments of the most interesting and practical nature. It was with regard to the important question, which had been prominently raised by the lately deceased Hellreger, Dr. Salfeld, Dr. Robbe and others, as to utilising the various soil bacteria for agricultural purposes.

With one kind, namely, with the bacteria necessary for the successful cultivation of the nitrogen collecting leguminosæ the experiments have so far prospered, that it has been found possible to cultivate this special species on a large scale. Dr. Robbe, thanks to whom this success has been attained, has entrusted the preparation of same to the Hoshster Factory who have the necessary appliances, and who prepare the well-known diphtheria-verum, and this Company will soon place in the market in bottles these leguminosæ-bacteria cultivations. In use, the

gelatine contents will simply have to be dissolved in water, and distributed in a rational manner in the soil. It might also be considered whether it would not be advantageous to steep the seed in such a solution in a similar way as seed is steeped or disinfected against rust. According to preliminary calculations the cost of this impregnation of the soil, in order to make it capable of growing leguminosæ would be about  $\frac{2}{6}$ , (the report does not say per acre or what), and therefore much cheaper than the vaccination with impregnated earth, as tried some years ago. Should the proposed system prove practicable, it would open up in other directions the widest and most valuable prospects, of which one need merely mention the cultivation of the nitrifying bacteria. It is now well known that this most important plant food in its various more or less valuable forms—free atmospheric nitrogen, ammonia, nitric acid and the intermediate forms—are produced by kinds of bacteria quite definite and distinct from one another. Should it prove possible to cultivate them artificially on a large scale, this would result in our being able to use the atmospheric nitrogen, to conserve farmyard manure, and to intensify the effect of artificials. However, in order to see what is possible, practical experiments with the first mentioned bacteria on a large scale must be made.

Professor Harrison thought that these suggestions were hardly applicable to this colony, and Mr. Quelch called attention to the fact that as yet the matter was only in the experimental stage.

On the suggestion of Mr. Jacob Conrad the papers were referred to the Agricultural Committee.

The following notes on the cultivation of tobacco were read, they having been forwarded to Mr. Æneas D. Mackay, by Mr. G. E. Tuckett, Hamilton, Canada:—

*Preparation of Seed Bed.*

Brushwood or cordwood is burnt on the spot intended to plant the seed bed. This is to destroy the weeds that may be present, and enrich the soil. Some burn several cords in 30 to 40 feet square. This seed bed is thoroughly pulverized, making the soil firm.

*Growing.*

After plants have grown large enough in this seed bed, they are transplanted. The soil for growing tobacco should be rich and well

cultivated. In transplanting, place the plants about 3 feet apart. As the plants grow, "suckers" appear, that is, growths from the stalk at the surface of the ground. These suckers or growths must be taken off as they interfere with the development of the leaf.

*Harvesting.*

When plant is ripe, harvest before the frost comes. Cut the plant near the ground and hang up the stalks on sticks about 4 feet long 1½ inches wide, triangular shape, and keep from rain.

Most growers have tobacco barns about 24 feet square. The tobacco is hung up in this barn. A fire place is arranged at a sufficient distance from the lower stalks so as not to injure them, and the heat from this fire-place aids in curing the tobacco. Fire is kept up for nearly a week until the tobacco is cured. Leaves are then stripped off the stalk, About 6 or 8 leaves are put together, called in tobacco language "a hand." One of the leaves is used to bind the others together at the butt end.

These hands are again hung up on sticks about 4 feet long, under shelter, until the sap is out of their stem, which is easily seen by the stem breaking when bent. The tobacco is now transferred to a pile or bulk, circular, about 12 feet in diameter and as high as a man can reach comfortably. The butt end or large part of the stem must be piled towards the outside. In the bulk, the tobacco remains 3 or 4 months, and goes through a natural sweat. If care has been taken to have the stem properly dried before it is put into the bulk, when put into hhd. or cases it will carry to any part of the world without moulding. Tobacco that once moulds is of no use for commerce.

Soon after tobacco has been growing a large worm will appear on it, which must be picked off.

The Orange Judd Publishing Company of New York have a pamphlet on tobacco growing, consisting of prize essays from the largest growers in the States. If you send for this you will have a full exposition of the growing and curing.

I have given you a brief outline which will enable you to start.

Mr. Mackay said that Mr. Tuckett was not only a tobacco manufacture but also the owner of several plantations in the Southern United States.

The Chairman said he believed that the cigars manufactured here were made up with imported tobacco, and

he stated that he was empowered to offer a prize of \$50, for the best essay on growing tobacco and the manufacture of cigars from the colonial product.

Mr. Hargreaves said he had seen cigars prepared from tobacco grown by Mr. Lobo, he believed in Leguan.

Mr. Julius Conrad mentioned that Mr. John Junor had shipped ten pounds of tobacco to London in March last, and that the report of the trial of this might shortly be expected.

The annexed communications on coffee growing in Southern India were read:—

Government Secretariat,

British Guiana, 14th April, 1896.

Sir,—I have the honour by direction of the Governor to enclose herewith, for the information of the Royal Agricultural and Commercial Society, a communication which has been received from Mr. Robert S. Mitchell, C.M.G., Emigration Agent for British Guiana, Calcutta, on the subject of Coffee Growing in Southern India; together with a minute by Mr. Jenman thereon.—I have the honour to be, &c.,

CAVENDISH BOYLE.

Government Emigration Office,

21, Garden Reach, Calcutta,

14th February, 1896.

Sir,—I have the honour to submit for His Excellency's information, a Minute on coffee cultivation in Southern India which should prove of great value to those about to engage in the cultivation of this staple in the Colony.

It will be observed that high cultivation has produced almost fabulous pecuniary results on soils inferior to those of British Guiana, and with a smaller rainfall not nearly so well distributed, in the face too of such plagues as the leaf-disease and severe hail storms.

I have, &c.,

(Sgd) ROBERT W. MITCHELL, C.M.G.

Govt. Emign. Agent for Br. Guiana.

The Secretary

Royal Agricultural and Commercial Society.

*Note on Coffee Growing in Southern India.*

Coffee Growing in India has proved even more successful than tea

and owes its prosperity in certain districts to thorough tillage of the soil before planting, and subsequent heavy manuring when the first flowers appear, and continued yearly aeration of the land by trenching. Even after the trees are in full bearing, this deep tillage is continued, and trenches over a foot in depth, are dug between each row of coffee trees, and the earth thrown up close to the plants. One would imagine that deep tillage of the kind in a comparatively dry climate, would injure the young roots and retard the plants, if it did not destroy their fruitfulness entirely, but this is not the case. On the contrary, the trees seem to resist the periodical drought of two or three months duration much better than under the old system of dense shade and surface cultivation.

Under the more modern system of culture, which ensures a thorough aeration of the soil, a crop of  $2\frac{1}{2}$  cwt. to the acre may be expected on ordinary soils in  $2\frac{1}{2}$  years, if not under shade. The artificial manure in use, is a compost of nitrate of soda and oil seed refuse, applied at the rate of about a ton to the acre so soon as the coffee begins to bear.

The coffee is sown in the nurseries originally, and each plant set out afterwards in a small basket of highly manured soil, when about 9 inches.

The rainfall in the districts referred to, is about 60 inches annually, fairly distributed, although continuous dry weather for two or three months annually is experienced.

The elevation of the land is from three to four thousand feet. The plants are set out at distances ranging from six to eight feet, and even then under this system of high cultivation, the bushes frequently touch. The height is kept down by pruning to about five feet. Labour is cheap, ranging from four pence for men to three pence for women.

Shade trees are used as a protection from hail rather than as a sun shelter.

On soils less highly cultivated, shade trees, as such, are essential.

Well worked land highly manured and trenched yearly between the rows of trees, will yield as much as half a ton of coffee to the acre, when in full bearing. The profit on such returns is enormous at present prices, say 95 shillings per cwt., yielding about £3,000 net from a hundred acres in full bearing.

These splendid results are due mainly to perfect aeration of the soil, and the liberal use of fertilizers, for in much richer soils, where the old system of cultivation still obtains, not only is the yield much less, but the bushes usually suffer from blight, which is not the case where the land is highly cultivated.



To clear off moderate heavy forest and cultivate in the manner indicated, costs about a hundred rupees an acre for the first two years. In the 3rd year, when the coffee commences to bear, and heavy manuring and trenching take place, the expenses rise to Rs. 120/ per acre, but against this may be set the value of a crop of about  $2\frac{1}{2}$  cwts. to the acre, nearly double that of the expenditure.

After three years the expenses are the same, but the return per acre is nearly doubled, being 4 cwts. In the 4th the trees produce about 7 cwts. and about 10 cwts. in the 5th and following years.

(Sgd). ROBERT W. MITCHELL, C.M.G.

*Minute by Mr. G. S. Jenman.*

With regard to Mr. Mitchell's communication:—In forming an opinion as to the adoption of any particular system of cultivation, much depends naturally on the altitude, topography, chemical and physical character of the land, the amount and distribution through the year of rainfall, the adaption of the crop or crops to these conditions and circumstances, and of the manures employed (in kinds and quantities) to both. The system of cultivation and manuring, if applied in this colony as it is described in Mr. Mitchell's communication, would be alike ruinous to crops and cultivations. However, in regard to the important nature of the statement in the second paragraph of Mr. Mitchell's covering letter, I would respectfully suggest that both letter and note be communicated to the Royal Agricultural and Commercial Society, who will no doubt discuss, and thus, through the press, widely disseminate their contents.

(Sgd.) G. S. JENMAN.

7th April, 1896.

Mr. J. A. Coelho read the following paper on "India-Rubber collection at Para."\*

A vote of thanks was accorded to Mr. Coelho, and the discussion of his paper left over until the next meeting.

Mr. Jacob Conrad asked that a letter on this subject, read some time ago before the Society, be laid upon the table when the matter came up.

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\* See Page 87.

The thanks of the Society were accorded to the Agent-General of Natal for a copy of the Handbook of Natal, and to others for the following donations to the Museum :—

Collection of Pottery, and other Ancient Indian remains	}	Pln. Chateau Margot ...	Hon. E. C. Luard.
Two Dervish's War Dresses ...			
Rare Shell ...	... Barbados ...	... Miss M. Harrison.	
Rare Bulimus	... Demerara ...	... G. S. Jenman.	
Three specimens counterfeit and coins ...	14 mixed	} Inspector Baker.	
Abnormal egg	... Georgetown ...		... Jacob Conrad.
Prize Mug. ...	... Crystal Palace	... Felix Smith.	
Very large Toad	... Barima ...	... A. A. Watson.	
8 Rare Coins	...	... J. W. Dorman.	
Collection of Insects and Tree Snake	} Moruca ...	... J. L. Theobald.	
Sphinx Moth			... Georgetown ...
Rare Tree Boa	... Berbice ...	... J. E. Hewick.	
Skin of Savannah Deer.		... Hon. Cavendish Boyle.	
Brain Stones of Bashaw.	Amacura ...	... J. Graham.	
8 Bricks ...	... Pottery works, Dem.	R. Alex. Shanks.	
Tree Frog ...	... Wakenaam ...	... Dr. Delamere.	
Silver Spider	... Georgetown ...	... N. G. Hohenkerk.	
Mounted plants, fossils and slides	} Miscellaneous.	... Mrs. R. Havers.	
Tonka Beans in Shell...			... John Junor.
2 Very rare old Coins...	Spanish-American	... F. I. Scard.	
A Grison or South American Weasel	} Diamond ...	... G. E. Anderson.	
Rare Alligator			... Tapacooma Lake

Mr. A. J. Patterson, a copy of U. S. Correspondence on the Boundary Question.

Dr. E. Pinaud and Senor F. P. de Suarez, copies of Limites de Guayana.

The meeting then terminated.

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*Meeting held June 11th.*—Capt. A. Duncan, Director, in the chair.

Members present 14.

Elections.—*Member*: Hon. H. A. Bovell, LL.B., Q.C.

*Associates*: Messrs. H. B. Gainfort and W. E. Bellamy.

Captain A. Duncan brought forward his motion for an expression of opinion as to the desirability of establishing a branch of the Navy League in this colony. He said he had received a letter from the Secretary of the League, asking him as Mayor of Georgetown, to endeavour to establish such a branch. The object of the League was to influence public opinion on the matter of the Naval Defence of the British Empire, and to urge Britons everywhere to united action in favour of keeping the Navy in a constant state of efficiency, recognizing the fact that great ships cannot be built on an emergency. The existence of the Empire depended upon the command of the sea, and this was not only a matter of importance to the Mother Country but to the Colonies as well. The Markets for their produce were across the seas, and from other countries came the greater portion of their food supply. He thought that, both from the national standpoint as well as for local reasons, the Navy League should be supported, and he hoped that Members would give their assistance.

In reply to the Hon. N. D. Davis, the Chairman said that the proposed branch would not be connected with the Society. He did not think they were stretching the by-laws of the Society by considering the matter. If they thought it desirable to form a branch of the Navy League a provisional Committee might be appointed to

carry their wishes into effect. He then formally read his motion.

This having been seconded by the Hon. A. R. Gilzean,

Mr. Jacob Conrad objected, on the ground that the matter was political, and therefore strictly precluded from discussion under the Society's Ordinance.

Mr. Æneas D. Mackay and Mr. Hargreaves protested against such a matter being considered in that light. Mr. Quelch said that the defence of the Empire could hardly be political, as it really had nothing to do with forms of Government.

The Hon. N. D. Davis said he was sorry that the question of politics had arisen. The matter was certainly one which affected Agricultural and Commercial interests, as it did the whole community. He fully supported the motion, and was in favour of differences being made between British and Foreign vessels; the taxation of the latter to be applied to national defence.

The Hon. A. R. Gilzean having spoken in favour of the motion, it was put to the vote and carried, Mr. Conrad alone dissenting, and requesting that his protest be recorded on the Minutes on the ground that it was against the constitution of the Society.

The Chairman then moved that a provisional Committee be appointed, with power to add to their number, for the purpose of establishing a branch of the Navy League in this colony.

This having also been seconded by the Hon. Mr. Gilzean it was carried.

The following gentlemen were then nominated on the Provisional Committee :—

Hons. E. C. Luard, A. R. Gilzean, W. A. Wolseley, A. Weber and B. Howell Jones, Messrs. S. G. T. Bourke, R. T. Wright, Geo. Garnett, Luke M. Hill, Jacob Conrad and Capt. A. Duncan.

The Assistant Secretary read an advertisement of a Prize Essay on Tobacco cultivation and curing for which \$50 was offered. According to the advertisement the Society was to appoint two Judges, on the motion of the Chairman, seconded by Mr. L. M. Hill, Mr. G. S. Jenman was chosen, and on that of the Hon. A. R. Gilzean seconded by Mr. Jacob Conrad, Mr. Louis Paddenburg.

In the matter of Mr. Coelho's paper on India Rubber collection, the Assistant Secretary read a letter from Mr. J. A. Robinson, which had been brought before the Society at a General Meeting held September 13th, 1883, this being done at the request of Mr. Jacob Conrad.

The following donations were reported, for which the thanks of the Society were accorded :—

To the Library :—

Mr. F. V. McConnell—Boundary Question Blue Book.  
Gen. F. H. G. Gorsira—Venezuelan Yellow Book, 1896,  
and Ven. Hand-Book, 1893.

To the Museum :—

32 Enlarged Photographs—ethnological por- traits of Makushi Indians, e.c. ...	} Taken and given by F. V. McConnell.
17 Pieces, Rare Pottery, stone bowls, celts and dippers, from aback of Skeldon	
1 Specimen 'tiger's eye'..Mineral—S. Africa	...Mrs. Barratt.
1 Unique quartz celt ...Conawarook Creek	...James Leacock.
Tobacco & native rice...Vryheid's Lust	...John Junor
6 Surinam toads ...Surinam ...	...Dr. Odesnun.
Nest of swallow ...Leguan ...	} Per G. S. Jenman, H. L. Straker.
1 Large beetle ...Rupununi ...	
	...J. Bentley.

Abnormal egg of fowl...		...T. Molyneaux.
1 Alligator & 1 stone celt           ...	} Botanic Garden	} G. S. Jenman.
2 Moths       ...		
21 Coins & 2 Notes, various issues	}	} F. H. C. Gorsira.
1 Sawyer Beetle		
1 Cloth       ...	...Uitvlugt	...R. H. Black.
1 Moth       ...	...Georgetown ...	...F. Baptista.
1 Cocoanut root borer...	„       ...	...A. Gill.
1 Longicorn Beetle	...Bartica       ...	...Neil Menzies.

A special vote was accorded to Mr. F. V. McConnell for his valuable presents to the Museum.

The meeting then terminated.

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#### ERRATA.

On page 69, bottom line, for right bank read *left* bank.

„ „ 94, line 6 from top, 1860 should be 1780.







## *Other Times, other Manners.*

By the Editor.

**I**N looking through a file of old local papers we come upon interesting and amusing items, which throw side lights upon the manners and customs of the early part of this century, and go to shew what enormous strides have been made in less than a hundred years. Besides the great social revolution which resulted from the total abolition of slavery, there have been other changes, not perhaps so radical, but still noteworthy, some of which can be easily understood from the following extracts.

Taking up first the *Essequebo and Demerary Gazette* of the 16th of June 1804, we are struck by its general meanness as compared with a newspaper of to-day. About an inch larger each way than an ordinary foolscap sheet, it is printed on green tinted paper and contains nothing whatever in the shape of news. There are Government Publications, Vendue Notices, and General Advertisements, mostly duplicated in Dutch and English, and finally a letter which may or may not have been paid for. This last is curious enough for reproduction. It follows upon an advertisement of R. B. DALY, who gives notice that he is "receiving daily considerable damages by Mules, Horses and other Cattle on the Plantation *Flushing*, whose Proprietors are quite unknown to him, informs the Owners to send for them without delay, as he finds himself under the disagreeable necessity for the future to Order to *Shoot* the said Mules, Horses and other Cattle

as soon as they shall be found on said Plantation." The notice is published in the two languages, the name Flushing being used in the English and Vlissengen in the Dutch. The letter is intended as a reply, and runs as follows :—

" Pray Sir be not so quick to fire your Musket after a Jackass, before taking a proper aim at the object of your Revenge ; do Sir, do not give Orders to *Shoot* in-offensive Animals, who are entirely doubtful of your Orders on Plantation *Vlissengen*. If you or the Man miss the Object which you intend to kill for Eating your Grass in the Meadows, *pour passé le temps*, you may hit a Mulatto, a Mustee, a Costee, &c., what a misfortune will it then be if any one should lose his life, or return home with a broken leg, because a Mule or other Cattle have been missed by your Gunner :—I pray Sir to moderate your Resolution, and I advise you to put the Mule or Horse in the Stocks, or to keep a Watchman on your Bridge to drive them away with a Horse-whip, or any other inoffensive Weapon. .

#### THE PUBLIC.

N.B.—The Laws of this Country will allow a Hog to be killed, especially when he pays a Visit in a *Gentleman's Parlour*, but no other Working Domestic Animal."

In the same paper M. BARKER (was this a relation of the M. J. BARKER who wrote for *Bentley's Miscellany* under the *nom-de-plume* of " The Old Sailor"?) informs his Friends and the Public in general not to give any Credit to BENJAMIN JACOBS on his account, on which Mr. JACOBS makes known " that from the frequent applications made by me in several Stores in Town (at his request), his Credit was not good," several store-

keepers as well as himself having been obliged to sue him for their accounts.

Advertisements calling on debtors to pay their accounts were very common, and tenders were often asked for debts as per list. But, now and again there was also something like what we find in the *Guiana Chronicle* of Decr. 10th 1817, headed "Debts of Honour for sale at fifty per cent discount of H. M. BUNBURY, Esquire." Mr. BUNBURY lost 25 Joes on one bet at the dinner table of the Hon. CHAS. BEAN, and 8 Joes at the Whist Club, to SAMUEL PHIPPEN, who thus concludes his advertisement:—

"All the above Debts having been repeatedly demanded of Mr. H. M. B. since that period, and finally, in this last week, on the eve of the Subscriber's departure for Europe; when Mr. H. M. B. replied, that he would not pay them, and that the Subscriber was at liberty to do what he pleased with them. He therefore takes this method of publicly advertising them; altho' they may not produce a cash payment, they may be made a set-off against any debt due that Gentleman of the like nature."

From a letter in the *Guiana Chronicle* of April 23rd, 1819, we see the sort of thing that went on when men were ready to quarrel and fight duels on slight provocation. Mr. M. CAMPBELL stated that Mr. ANDREW MILLS of the Vendue Office called and handed him a letter, in which ROBERT PHIPPS demanded a categorical answer as to whether in a certain letter to the *Chronicle*, he alluded to him—"yes or no." Mr. CAMPBELL having replied in the affirmative, a second letter was handed him, and which read as follows:—

"Mr. CAMPBELL,—You are too great a scoundrel and

a blackguard to merit the honor of gentlemanly treatment ; but this shall not save you from the punishment you so justly deserve, and therefore you may prepare yourself for the consequences of your conduct.—ROBERT PHIPPS.

What followed may be understood from Mr. CAMPBELL'S description :—

“ I shall not ask what the feelings of any of your readers would be in receiving so gross an insult, through the hands too of a man he had known and respected for many years. Thought passes not the human mind sooner than my decision was made. I saw Mr. MILLS identifying himself with his principal, and becoming a party to one of the most unprecedented outrages which one man can offer to another in society. I asked Mr. M. if he was really serious in lending himself to an insult so infamous, and so far removed from the assumed participation of an honourable mind? He answered “yes,” and being desired to apologize and carry back the offensive paper to him who sent it, he refused—referring me to his address, which however I thought availed little, since seeing Mr. MILLS a party to the paper, whereby his principal meant to skulk from honourable reparation. The moment was critical! Self-duty required that the insult should be resented. Had he been a Goliath or a giant—had instant annihilation been the consequences—I would have had a blow at his body! I— —accordingly— he returned it—-an immediate set-to followed—and we were parted.

\* \* \* \* \*

“ In resenting an insult, which the lowest of mankind could scarcely brook, I allow myself to think I did no more than my duty. He who avails himself of a dis-



honourable subterfuge, and shrouds his offences under cover of scurrility, abuse and bodily strength, is, in my opinion, a base shuffling poltroon and coward, and such I consider Mr. ROBERT PHIPPS! Could any words stronger than contempt occur to my mind, I should not hesitate to apply it to his ruffian threat."

If any one was aspersed or scandalised in any way he seems to have rushed into print at once. Here is an example from the *Royal Gazette* of June 24th, 1819:—

"Whereas there are people in Demerary who report that I have advertised that I was robbed, with a view to cheat my creditors. The Undersigned therefore informs them that he wishes them no other harm than that they may pay their debts before I have mine.—J. THEVIN."

The language used in the papers was particularly strong, but the *Guiana Chronicle* went far beyond the *Gazette*. A correspondent in the latter on the 22nd of August, 1822, thus speaks of this venomous publication.

"The subscribers to the justly called "Obnoxious" *Chronicle* were kept waiting last night to nearly eight o'clock for their papers—and for the sake only of having time to insert three of the most scurrilous and abominable letters which ever stamped infamy on a public journal. In the face too of an editorial article developing the pernicious consequences of the licentiousness of the press in another part of the world. Waiting with painful anxiety as to how long the Public Prosecutor will suffer such things to be, I am, &c.—Q. C."

This is how the *Chronicle* spoke of the *Gazette* on the 30th of the same month:—

"The once white robed innocence (!) of the *Royal Gazette*, 'wasting its sweetness on the desert air,' and

blooming in humble obscurity 'alike unknowing and unknown,' has faded before the mercenary passions of a pander, and now presents to view a loathsome mass of disease, vice, and infamy: Like an accommodating woman of the town, it is at the service of every swaggerer who can look high and talk high. It seems quite resolved to outrage every feeling of decorum. Its profaneness, blasphemy, poor vituperation, and mean abuse are beginning to surpass even its dull ignorance and general stupidity."

The following is a curious production from the *Gazette* of Sept. 10th, 1822, which explains itself:—

"Sir—Having perused with equal pity and regret a certain deistical article in the *Guiana Chronicle* relative to *Swedenborg and the Fanatics*, from the *Quarterly Review*, I therefore as a person acting under *Sovereign Protection*, require that you immediately publish the following counter Review of the writings of the illustrious teacher of wisdom.—I am, &c.—HENRY WM. WELLS, Teacher and Lecturer of the Doctrines of the New Jerusalem Church, a faithful and loyal subject of His Britannic Majesty and Servant of the Lord in South America."

No wonder that the editor told him that his notes in future must be less *imperious* if he wished them to meet with attention.

In the *Gazette* of September 19th following, a correspondent calls attention to an advertisement in the rival paper charging a person with cruelty to Slaves, and the refusal of the paper to publish the reply and denial, asking if this was a free press, under no sinister influence or control? The writer of the reply said he had sent it

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twice to the *Chronicle* but it had been refused under pretence that it was too late, or that there was no room. It was published as an advertisement in the *Gazette*, and ran as follows :—

TO THE PUBLIC.

Having observed an Advertisement in the *Guiana Chronicle* of the 11th instant, and subsequent papers, signed ANDREW COCHRANE JOHNSTONE, and although from the well-known character of the writer, I doubt not but a candid and discerning Public is well aware what credit is to be placed on his allegations; yet, lest silence on the subject might be construed into an acknowledgement of its truth, I have deemed it necessary to contradict an assertion contained in that Paper. ANDREW COCHRANE JOHNSTONE, having found himself foiled (no doubt with great mortification to his feelings) in every attempt he has hitherto made to vent his spleen and malice upon me, has at last been put to the shift of having recourse to an advertisement in a public paper, charging me with having lately acted towards the Negroes of this Estate in a most cruel and unjust manner. In defence of my own character and reputation, also the duty I owe to the profession I follow, I beg leave now solemnly to assure the Public that COCHRANE JOHNSTONE'S assertion of me is palpably FALSE, and unfounded; and I have no doubt but the Sequestrators appointed by the Honourable Court will do me the justice to have the matter most strictly investigated; at the same time it is my intention to institute an Action against the said ANDREW COCHRANE JOHNSTONE to prove the Charges laid against me.

P. H. BAYNES.

Bel Air, 16th Sept., 1822.

Other advertisements from both parties were inserted in the two papers, and even the *Chronicle* printed Mr. BAYNES' refutation, as a correspondent stated, on account of the matter having been taken up by the *Gazette*. At this time the two papers were abusing each other through their correspondence columns until the disputes occupy quite large portions of the papers.

The following advertisement of a would-be estate's Manager from the *Gazette* of Novr. 7th, 1822, is at least curious :—

WANTED A GOOD MANAGEMENT.

The Subscriber unfortunately making a bad purchase at an unfavourable time during the war, and through other means, has lost all he was worth, and has now to begin the world after 39 years industry and hard labour in this Colony; but as it pleaseth the Almighty to spare him his health and strength he is still desirous of trying to labour for the support of himself and family, and to give his three little children in America a good education—therefore he begs leave to take this method of soliciting the particular favour of all his friends to assist in procuring him a comfortable management on a sugar, or a coffee and sugar plantation, or any other creditable situation, and he assures them who do him the honour to recommend him, and the gentleman whosoever may think fit to employ him, that his exertion shall not be wanting towards their interest.—RICHARD HARDING.

The national patron saint's days were kept up with a jollity now quite unknown. The *Gazette* of Decr. 3rd, 1822, said that

“ The Anniversary of St. Andrew was duly commemorated on Saturday last. There was a Party in almost

every section of the town—according to a person who no doubt *did it justice in every respect.*”

On the 7th a long serio-comic letter was published which contains the following:—

“ I, WILLIAM WASTLE, junior, declare that, on the anniversary of the St. Andrew’s Society, I drank *nothing* except three bottles of Champagne, a magnum bonum of Chateau Margo, and a *tappit hen* of *Glenlivet*:—that previously I laid in a foundation of round and two pounds of haggish, bag included:—that I sat no longer than to the very early hour to which our excellent President limited us, in honour of the known *temperance* of our country on such occasions—and I then went soberly and quietly to roost. I further certify that our Vice-President did creditably second the Chair, and that the Stewards emulated their Chiefs in doing heartfelt justice to the objects that united our Society—*charity and good-fellowship*. That our guests appeared happy, and that we did our utmost to make them so. That the Muses staid with us the entire night, and that CICERO himself could not have displayed greater fervency and sincerity than was exhibited by the speakers who gratified us on this national and social occasion. That when our appetites got appeased, our tastes got querulous, and that we admired the beef while we condemned the mutton, complimented the Guinea birds at the expense of the giblet pie, sneezed at the Madeira and embraced the Champagne, abused the malt and got rapturously in love with Hoffman. And that which pleased us most was the happiness which beamed from one to the other, a hearty participation in the festivities of the day—a desire to enjoy ourselves, and sincere mental expressions that we

might long meet and participate in the hilarity of our respective Anniversaries. That St. GEORGE, St. PATRICK, St. DAVID and St. ANDREW are equal to the world—in love, in war, and in festivity.”

St. George's Day, April 23rd, 1823, seems to have been kept with more enthusiasm than usual, possibly because it was the King's Birthday as well. Entertainments were held in every part of the town. At mid-day the Soldiers and Militia were assembled to celebrate the day with a grand *feu de joie* and cheers. There was a dinner by the Governor at Camp House, a Subscription Ball at Mrs. DOLLY THOMAS'S in Cumingsburg, a dinner at Miss REBECCA RITCHIE'S, a Subscription Ball at the Royal Hotel, Vlissingen, and several other parties in Stabroek, Werk-en-Rust and Charlestown. But, *the* event of the day was a Ball and Supper at Miss OSTREHAN'S Assembly Rooms, given by the “Sons of St. George.” The *Gazette* said:—

“The Sons indeed who gave it did ample honour to their filial affection and their glorious Patron's deserts; as well as proved, that though children of the “*Thrice Renowned Saint George*,” they highly respect and esteem those of every other Saint. In short, from the admirable mixture of British, Irish, Scotch, Welsh, and other painted devices pendant from the ceiling, it was evident the *Rose*, in compliment to her sister flowers (the *Shamrook*, the *Thistle* and the *Leek*) had so completely eradicated the *thorn* of national partiality, that on the intermingling of leaves the pleasure was totally unattended with pain.

\*             \*             \*             \*             \*

“Upon the whole, were we inclined to be romantic,



we should represent it as some eastern place of enchantment! For, as we entered, such was the flood of *diversified rays*, we thought the pillars of the fabric had been of glass, prismatically formed! We saw the votaries of Bacchus making pantomimic transits from Madeira to Oporto, from Champania to WHITBREAD'S Brewhouse!—while their attendants were playing at hide-and-seek in a forest of bottles; letting off signals of *whereabouts*, here with a cracker of ginger-beer, there with a rocket of spruce! In one corner we saw CUPID, under the direction of his mother, discharging his mischievous darts; in another, the somewhat more mortal HOYLE superintending and directing a rubber of Whist. Finally, we saw aerial forms move in celestial drapery; and as, in the “tripping on the light fantastic toe,” the daughters of the torrid met and left the sons of the temperate zone, the total effect was such—*that we staid longer than we intended.*”

There was a great deal of hard drinking in the colony, and when in 1834 temperance societies were advocated in the *Chronicle*, two correspondents in the *Gazette* of January 2nd, wrote as follows:—

“Sir,—I am at this moment one of FOUR *Englishmen* sitting over a comfortable glass of old Oôtober, at the hospitable residence of one of the party, and, strange to say, our united time in this supposed unhealthy climate amounts to *one hundred and forty one years!* One of us has never been to Europe since his first arrival, and two of us actually walked for pleasure eight miles before breakfast about a month ago, without feeling the least fatigue; and even now I engage that at a good piece of roast beef, a plum pudding, and a tankard of real

“Nappy,” we shall match any other four men in British Guiana, not excepting old Temperance of the *Chronicle*. I am, &c.,”

OLD STINGO.

“Sir,—I am at this moment *one of six* about to sit down to a comfortable breakfast at the hospitable residence of the owner of *Church Cottage*, and strange to say, our united time in this country amounts to *one hundred and seventy eight years*. The company are not *Scotchmen*, but are from different parts of the world—say one *Englishman*, one *Irishman*, one *Scotchman*, one *Dutchman*, one *Laplander*, and a *Son of Saint Quaco*.

“Those six veterans (tough as the British oak) beg to challenge *the six Scotchmen* to a drinking match either in champagne, brandy, wine, strong ale, or in their own favourite drink, *Peet Reek punch*; and JOHN BULL in particular will endeavour to out-do any one of them in eating plum pudding and roast beef, I am, &c.,

NEW TEMPERANCE.

Dr. BONYUN, in 1848, made out some tables of mortality of business and professional men, shewing that in the four previous years, one-third of the deaths had been caused by intemperance, beside which a large proportion of the remainder were no doubt accelerated by excessive drinking.

Freemasons also had their dinners, as may be seen from the following in the *Gazette* of June 26th, 1819:—

“The Grand Festival of St. JOHN the Baptist was celebrated here on Thursday evening in a manner strictly accordant with the designation of the Lodge “UNION,” indeed with the *compass* in one hand and *square* in the other, arranged everything it is said, with the skill of a *Master*; and HOSPITALITY suggesting the introduction

of "a friend," but few went single, and the visitors and visited did mutual honour. When the cloth was removed and the bumpered glasses sparkled on the board, MASONRY gave to PATRIOTISM and LOYALTY, JOKE, SENTIMENT and SONG the *fraternal grip*; and passing the signs of CONVIVIALITY and ENJOYMENT they progressed on, till morning whispered "*In the East there is Light!*" and added the Craft's well-known conclusion of *Silence and Peace*. They then departed. In short, though we have not been furnished with the details, it appears that few of such Festivals have been better celebrated; the company more respectable; or more harmony and gratification witnessed and enjoyed."

The description of the Demerary Exchange as it was started in 1819, reminds us somewhat of the Museum Buildings of to-day. The building selected was the then late Union Coffee House, and this is how it was laid out:—

"On the ground floor is to be the Coffee Room; but available on ball-nights, by the removal of partitions, &c., as a cool and convenient supper room. On ascending the first stair-case and crossing the gallery to the left, you enter the Public Room of this *Lloyd's in epitome*;—which is to be fitted up with the customary accommodation of such places; including the book for the insertion of arrivals and departures, of the prices of freight and produce, and of articles of commercial news. To the right on this floor, and leading to the Room for the Captains of Vessels, Supercargoes and others most immediately connected—is a smaller apartment, intended for the Post Office. The large room over the Public one

is to be the Library; and in the exclusive occupancy of the subscribers; the concern being to be disposed of in shares, we believe upon the principle of Tontines in general. This room is fitted up in a very superior stile of neatness and taste; and is to be furnished, on opening, with English, Scotch, Irish, French, Dutch, German, American, and West Indian papers, in a very considerable variety. To which will be added all the Reviews, Magazines, Prices Currents, &c., usual and applicable to such a scheme. The last we shall mention and as crowning all—both in expensive decoration and superiority of size—is the Ball or Assembly Room; with a gallery convertible to an Orchestra. This room will also be dedicated to Public Meetings, National and Masonic Festivities, Convivial Parties, Concerts and Exhibitions, as they may occasionally offer and occur. The building of Billiard rooms in the yard is also contemplated; as well as the very great accommodation of repeating the signals at the Fort. Here then, under one roof, the whole concerns of the colony, either of business or pleasure, may be carried on with the greatest convenience. The planter may dispose of his produce; the merchant, his imports; and the shipping interest form its engagements, both of freight and passage. Here all tenders may be lodged; all letter-bags placed; and all notices given. The appetite, the curiosity, and each peculiar inclination, gratified in a moment. Here, in short, without collision or jealousy, fear or favour, a public life may be led as privately as may be desired; and a private one maintained, even in the very centre of publicity.—We wish it every possible success.”

In dry weather water often became scarce. The

following from the *Gazette* of March 17th, 1825, will show what was sometimes done in such cases :—

“Notice is hereby given that another boat with FRESH WATER for the supply of the Poor (*gratis*) is expected to arrive in the course of Sunday next—that boat will remain for four hours at each of the undermentioned stellings, viz., the Charlestown Stelling, Robbs-Stelling and Cumingsburg-Stelling, adjoining the Premises of WALTER URQUHART, Esq.

“Tickets will be issued between this date and Sunday, on application to any of the members of the Board of Police.”

Negro festivities were kept up much as they are to-day. The *Guiana Chronicle* of April 5th, 1824, gives the following copy of an invitation, on which it discourses about the condition of the slave :—

“Miss DIANA’S compliments to Miss MIMBA ROBINSON, and requests the favour of her company, together with the Ladies and Gentlemen of her acquaintances, to a dance on Sunday evening, the 18th April. Terms £3 per couple.”

“To us who are acquainted with the country, there is nothing extraordinary in the affair—the refinement in the style of the invitation may, it is true, be thought a little above the ordinary usage in such cases; but this may be considered as the consequence of that superior polish which the vicinity of a capital never fails to communicate. But what would be the astonishment of an honest, plain-dealing, well-meaning Englishman, whose head (by the reiteration of falsehoods and exaggerations) had been stuffed with prejudices about West Indian cruelty, oppression, &c., &c., &c., when he was

informed that the writer, Miss DIANA, and the invited Miss MIMBA, with all the ladies and gentlemen of her acquaintance, who are bidden to this festive meeting by a card giving five weeks' notice, belong to that class of human beings who are described to his deluded countrymen as degraded to the level of the beasts of the field, over-toiled, ill clothed, half starved, badly lodged, kept in a state of constant fear and brutal ignorance—and finally subject to every kind of suffering, oppression, contumely and pollution which wanton cruelty, unrestrained caprice, or unbridled lust can suggest. Yet such is truly the case—the parties in this instance were field negroes, those who actually hoe the ground, cut the canes, make sugar, and pick and clean coffee, and who are supposed by many worthy people in the Island of Great Britain to be harnessed in couples and driven with a whip, as they do horses in the waggons in Yorkshire.”

Returning to the subject on the 7th of May following, the editor said that the balls, suppers and dinners were enjoyed by the Negroes with all that wild and somewhat unearthly glee which denoted the land from which they came.

The well-known tendency of the negro to imitate his master is beautifully shewn by the following report of “an affair of honour” in Berbice, in the *Chronicle* of May 31st, 1824. The matter came to the notice of the Magistrate, “who forthwith commanded the presence of JACOB BENSOR, Esq., one of the parties concerned. Upon this gentleman being examined and cross-questioned by the legal advisers of the Chief Magistrates as to the existence of any difference between himself and a Mr. JAMES ROSE, which was likely to lead to unpleasant results, he ten-



dered for perusal, the following challenge, which he stated he had received that very morning from the aforesaid Mr. JAMES ROSE, or JAMES ROSE, ESQ:—

To JACOB BENSER,

Berbice, 1824.

Dare Sir;—If you is a man to walk down to the back dam to-night at seven o'clock or to-morrow at eleven o'clock at the Colony town, then i will speak with you then with my hands.

JAMES ROSE.

20 May, 1824.

“Mr. BENSOR, we understand, then made a forcible appeal to the passions of his learned auditors, contending that no man of his rank in life could tamely put up with an insult, or remain inactive—even though his contempt for his antagonist was astonishingly great—after the receipt of such a taunting defiance as was contained in Mr. ROSE’S epistle. He asserted that his *honor* was dearer to him than his life, and that the one should not be sacrificed, but with the sacrifice of the other.”

BENSOR was bound over to keep the peace. The “Colony town” was the Berbice Winkel Department, where both parties were employed, *i.e.*, they were Colony slaves.

The advertisements of Runaways were often very curious. Of one man it was said that he played a good fiddle, and in a Barbados paper a mulatto boy named TOM was said to have had “his wool cut in the *fashionable cockatoo stile*,” whatever that might mean. The negro boy NEPTUNE “makes a bold pert reply—he is a little bow-legged, and was on his exit lame on his left foot. The Negro man ERNEST “is chiefly harboured by

his mother, a little cunning old woman of the Indian breed."

Here is a curiosity in advertising, from the *Chronicle* of August 30th, 1824, which obviously was never intended to be serious :—

TO BE SOLD BY PRIVATE CONTRACT.

The woman BETSY-ANN, a good washer of linen and domestic. Her morals, I lament to say, are not so pure as I would wish, but should any of the Saints who may be employed secretly in this colony, under their patrons WILBERFORCE or BUXTON, sincerely wish, or think by their hypocritical cant, they can convert or improve her, and though I doubt the practicability, as well as most of what that class of men profess, yet I will willingly, in order to put an end to contention, give twenty-five per cent off the original cost of said Woman, to promote or better her state, if that's their scheme; and I make no doubt many real proprietors of property in the West Indies will do the same. And, until I have WILBERFORCE, BUXTON, BROUGHAM, CROPPER, Sir JAS. MCINTOSH, with all those who compose the mighty phalanx, against us, come forward, and are ready to contribute twenty-five per cent of all their property to complete their pretended views, I shall, in my humble opinion, hold them as apostates in their professions towards God and Man.

WM. HEDGES.

30th August, 1824.

We sometimes read in novels of poor women making personal application to their Sovereign for redress of grievances; here is an instance in connection with Demerara which has quite an old-time flavour. Down to 1824, free coloured women had to pay head-taxes, but men

were exempted on the ground of their performing certain public duties. Mrs. DOROTHY or DOLLY THOMAS, wanted to get these taken off and she "went to London to see the King," her mission being such a success that the coloured ladies presented her with a testimonial and the following address:—

Georgetown, 9th October, 1824.

"Madam,—A few Coloured Ladies of Georgetown, desirous of presenting you with a pledge of their respect and esteem, and to express the high sense they entertain of your services, rendered them in removing an oppressive Tax,—request your acceptance of a Silver Cup and Waiter, value Fifty Guineas, as a lasting testimony of their gratitude for the eminent services rendered by you on that occasion. We feel great personal satisfaction in being charged with this communication of the sentiments of the Coloured Ladies and request to add our own sincere wishes for your future welfare and happiness.

We have the honour, &c.,

MARY OSTREHAN, E. A. ROSS, CHRISTIAN BLACKMAN,  
E. RICHARDS, MARY BRETT, REBECCA RITCHIE,  
SARAH ANN DELPH, DOROTHY E. COXALL."

To which Mrs. THOMAS replied:—

"Ladies,—The kind sentiments in which you have expressed the wishes of the Coloured Ladies of Georgetown, in your communication of this date, in relation to my humble exertions in obtaining the repeal of the Tax of Ten Guilders, levied annually on Free Women of Colour—are most gratifying to me, and which I shall always remember with great satisfaction.

"I accept with much pleasure the token offered me of their grateful feelings—though such a memorial were

unnecessary for those friends, in whose society I have spent the greater and most agreeable part of my life.

“ With most sincere wishes for your health and happiness, collectively and individually, I beg leave to subscribe myself, &c.

DOROTHY THOMAS.

Obituary notices were sometimes very full, especially if the deceased was a man of importance in the community. The following from the account of the funeral of Lieut.-Col. J. T. VAN WELL, who died on the 10th of February, 1825, will perhaps be interesting:—

“ We have been given to understand that the venerable deceased first came to this colony about the year 1794, as Captain in a detachment of Dutch Troops in the service of the then STADTHOLDER. He was however found by the British, when they came and took the colony under their protection in 1796, with the rank of Major, and in the Command of the Garrison—he having in the meantime by his loyalty and firmness, saved the colony from Revolution, and heroically maintained *Orange boven*. On, as we said before, the British taking the colony under their protection, we are further informed the Dutch troops were nevertheless still in service, under the appellation of the “ Loyal Orange Battalion,” and as Major-Commandant of which VAN WELL continued, till 1802, when it was finally disbanded. Subsequently, for a short time, he acted as Adjutant-General of the Militia, and was afterwards placed on our late Governor, Major-General MURRAY’S Colonial Staff as Aide-de-Camp with the rank of Lieutenant-Colonel. He was likewise for a time, Inspector-General of Georgetown—and when his advanced age dictated an honourable *retreat* from

public life, the Court of Policy, much to *their* honour, voted him a pension of 5,000 guilders. He died in the 72nd year of his age."

The following short notice of an old worthy shews the style of some of these:—

"Died on Plantation *Onderneeming*, Canal No. 1, on Friday last, (June 10th 1825), in the 46th year of his age, C. G. STORM VAN'S GRAVESANDE, Esq. By whose death this colony has lost a truly valuable man, whose merits perhaps were not sufficiently appreciated. Unassuming and modest even to excess—benevolent and kind to his dependents, almost to a fault—disinterested and firm in his friendship—always fair and strictly honourable in his dealings—he is deeply regretted by all who knew him; and many a tear is shed on his grave. The pen of truth will write on it—He was a just and good man."

There were many little difficulties in connection with the Militia, and sometimes there were undoubtedly cases of oppression. Dr. or Major MCTURK got into trouble in 1824, for imprisoning Private HUGHES in a fowl-house at Paradise, (which was characterised as small, dark and filthy), and was fined by the Court of Justice a thousand guilders. On HUGHES appealing to the Privy Council however, the fine was raised to ten thousand guilders. The ostensible reason for the confinement, which lasted eight days, was a suspicion of writing an anonymous letter to the *Chronicle* reflecting on Captain SPENCER. The number containing this is missing in our file, but probably it may have been something like that in the paper of August 25th 1824, of which the following is a sample:—

"Is it customary for an Adjutant to appear on parade

a little the worse for drink? Is it usual for an Adjutant to be accompanied by a black boy, dignified with the honourable appellation of *Orderly*, armed with a gin bottle? Is it the usual mode of drill to keep the whole Company at the present until the Adjutant gets his glass of grog? Is it the common practice for Adjutants to drink on a parade in front of the men—lamenting that a gallon of porter-cup is so small a quantity that he cannot invite the Company to partake? As all these things are put in practice sometimes, I should like to know if they are common in the army.

\*                    \*                    \*                    \*                    \*

“ It is true that you sometimes have the misfortune to find a man in a corps, who, from his superior abilities in the performance of certain dirty offices—carrying every species of scandal to his Commanding Officer, paying court to his mistress if he has one, waiting on her with respect, carrying her dog to church, scratching the poll of her parrot—has forced his way from a halbert to a commission, and became as insolent to his superiors as he was before the cringing sycophant. I have known one of these fellows, the first time he dined at a mess, damn the waiters and the dinner, and swear he never eat such a bad one before; he should have omitted the word *bad* and then he was right.”

The stilted magniloquent composition of the old-time schoolmaster is well-shewn by the following:—

C. MARTIN DUNBAR

Offers his most grateful thanks to the Parents of those children placed under his tuition, for the promised encouragement held out by the continuance of their confidence, notwithstanding the establishment of a system so



highly approved and patronised, and so successful a commencement made for the propagation of religion and virtue. His not having lost any of his pupils, but rather continuing to increase, which at once evinces that a general satisfaction prevails among the Parents of those Children in the progress of their learning; and trusts that he shall ever continue to merit their approbation, by using all diligence to continue the like; assuring them religion and virtue have ever been his aim, and glories in the delightful task, to pour instruction over the mind, to breathe the enlivening spirit, and fix the noble purpose; with all its imitable perfections as far as his own ability will admit of teaching good English reading, writing and arithmetic; promising particular satisfaction in writing, either round hand or Italian, whichever the child may be most inclined to. And to use his utmost endeavours for the promotion of religion and virtue; to study complaisance and keep good order among them. As virtuous instruction in a youth gradually produces flourishing manhood; complaisance renders a superior amiable; an equal, agreeable; and an inferior acceptable wherever he goes; virtue having rewards which shall outlive the grave. Wishing success to every promoter thereof, and for more advocates, say—*God speed the plough.*

Georgetown, April 27th, (1820).

The following is from the *Gazette* of April 10th, 1815:—

“Married at Gretna Green, Jan. 22nd, EDWARD BARNWELL of Demerara, to Miss MARTINI also of that colony.”

The forerunner of the bicycle is well-described in the following:—

## FASHIONABLE AND HEALTHFUL EXERCISES.

Received by the *Elizabeth* from Liverpool, and for Sale by the Subscriber.

THE VELOCIPEDA; or Swift Walker.—This truly original Machine is the invention of Baron CHARLES DE DRAIS, Master of the Woods and Forests of H.S.H., the Grand Duke of Baden; the account given by the inventor of its Nature and Properties is:

1. That on a well-maintained post road it will travel up hill as fast as an active man can walk.
2. On a plain even after a heavy rain, it will go six or seven miles an hour, which is as swift as a courier.
3. When roads are dry and firm, it runs on a plain at the rate of eight or nine miles an hour, which is equal to a horse's gallop.
4. On a descent it equals a horse at full speed.

Its theory is founded on the application of a wheel to the action of a man in walking. With respect to the economy of power, this invention may be compared to the very ancient one of carriages. As a horse draws, in a well constructed carriage, both the carriage and its load much easier than he could carry the load alone on his back; so a man conducts, by means of the Velocipede, his body easier than if he had its whole weight to support on his feet. It is equally incontestible, that the Velocipede, as it makes but one impression or rut, may always be directed on the best part of the road. On a hard road the rapidity of the Velocipede resembles that of an expert skater; as the principles of the two motions are the same. In truth, it runs a considerable distance while the rider is inactive, and with the same rapidity as when his feet, are in motion; and in a descent

it will beat the best horses in a great distance, without being exposed to the risks incidental to them, as it is guided by the mere gradual motion of the fingers, and may be instantly stopped by the feet.

Also a few Tierces Rice.

June 26th, (1819).

JOSEPH HADFIELD.

The following, which appeared as an advertisement in the *Gazette* of June 30th, 1825, refers to the introduction of steam-boats into the colony:—

“We felicitate the Public in general on the probability of the formation of a Joint Stock Company for the introduction of One or more Steam Vessels for the Demerary River and Coast of British Guiana generally, having been correctly informed that a Prospectus of the same is preparing, grounded on calculations of the probable revenue which may be derived from the plan, with an estimate of the cost of a vessel of the class referred to, of power and dimensions adequate to the services to be performed, and an account of the annual expenses.

“Of the many improvements of the age, in Arts and Sciences, there are none whose merits are more appreciated by society than those which have been effected in many ingenious ways by the agency of Steam, the application of which power to shipping in particular has been attended with such success, as that to judge from the great progress which it is making, we may infer, will, before long, subvert the present system of navigation. In fact, the use of Steam Vessels in countries where roads and water facilitate the movements of people in the ordinary way of travelling, has attracted so decided a preference, as that we may say this modern invention is become an appendage to most of such civil-

lized populations as nature has afforded the opening of migration by water.

“To valuable and well inhabited possessions like these, bounded on one side by an extensive sea coast, and watered by large navigable rivers, the introduction of vessels propelled by steam would be of immeasurable utility, namely, to persons moving from place to place within these colonies, who would enjoy, united to rapid progress and easy movement, the pleasures of a regularly supplied abundant table and comfortable beds, at moderate rates and reduced prices of passage; for the conveyance of troops on emergency, or to relieve garrisons at the different posts; and in particular to the shipping and agricultural interests, from the ability which the class of vessel in question possesses of giving to valuable cargoes a prompt departure homeward at any period of the tides, by towing them into deep water, notwithstanding the existing impediments in the river which obstruct their passages, too often to the great detriment of their owners. To which facility to trade, should that of pilotage be added, we are confident that the mercantile part of our community, in particular, would eagerly desire an early introduction here of so great an auxiliary to their exertions and concerns.

“With a view to place the suggested Company on a firm and respectable footing, it is intended to submit a Prospectus of the Scheme to His Excellency the Lieutenant Governor and the Honourable Court of Policy at their next meeting.”

In 1844 when RUIN was impending over the whole colony, it was proposed to have a ball, but a correspondent in the *Gazette* of June 15th said it was heartless

wickedness to rejoice at such a time ; he would suggest rather a general lachrymation in the shape of something like a funeral, as follows :—

Insolvent Debtors, angry, noisy, and vociferating loudly.

Creditors of Insolvent Debtors, wailing in a low tone.

Little boys and girls roaring out lustily, being severely flogged by numerous half-starved schoolmasters.

(These to be flanked on the right by Judges singing 'definitive sentences' in a low tone, and on the left by Marshals scattering large numbers of Writs of Execution).

Band of the 1st West India playing the Dead March, and catching their tears in their Albert caps.

The Governor and Combined Court cutting down the salaries,—the flag of the Court of Policy having for device the 'Unsold Scrip of the Immigration Loan.'

(Flanked on right and left by Public Officers screaming with agony.)

Eidolon or ghost of the 'Civil List.'

Any mournful looking Custom-house Officer to be found about the Buildings.

Colonial Receiver, with a large empty sack.

Receiver-General of Town Taxes, followed by houseless, windowless widows, crying bitterly.

(Flanked by holders of third Mortgages on the right, and Sequestered Planters on the left).

Broken implements of husbandry ; broken Cash-boxes, and a few tons of protested Bills, supported by two Peasants, two Merchants, and the Managers of the two Banks.

(Flanked by starved Overseers and discharged Managers).

Merchants of Water-street, preceded by their principal "Howler," who will lead *their* lamentations.

Large body of Creditors, headed by aged decayed Merchants.

Large body of Debtors, headed by dissipated junior Clerks.

The procession may be closed by the Editor of the *Times*, between the jailor and the hangman, all crying lustily, particularly the *Times*."

Readers of WATERTON'S "Wanderings" have no doubt been often puzzled by the illustration of the "Non-descript" and the genial traveller's guarded account of the animal. It is well-known now that the bust was that of a howling monkey, and that it had been moulded in such a way as to make the face appear decidedly human.

WATERTON tried to hoax the people of Georgetown by exhibiting it here in December, 1824, as a specimen of "the *real Wild Man of the Woods*—approaching to our own form infinitely nearer than the famed Ourang Outang of Borneo." The story of its capture is thus given in the *Chronicle* of December 24th:—

"A friend of ours, alike celebrated for his love of science, and his indefatigable researches into the *arcana* of nature, has added to the history of the latter a specimen of the most surprising description. How this phenomenon came into his possession will be best explained in his own words; and as the veracity of our friend has never been called in question, the subject will not admit of contradiction. He has further for the gratification of naturalists and professional gentlemen, deposited with us, at our particular request (previously to its being shipped to England) the head and shoulders



of this—animal we were going to say, but we know not with what propriety we could apply the epithet—the beholders will judge the case;—but for ourselves we were never so amazed in our lives as at the sight of such symmetry and perfection, far excelling in beauty of feature—however much our self-love may suffer in comparison—the inhabitants of a great part of the globe.

VERY INTERESTING TO NATURALISTS.

The Indians in the interior of Guiana will tell you that far to the north-west there is a nation of men with tails; they are a cruel and malicious race and inhabit the highest trees. Any person of common information in natural history would of course conclude that these men the Indians speak of are nothing but a large kind of monkey. I had often a wish to go and shoot one of these animals, but it was no easy matter to persuade an Indian to shew me the place where they were to be found. The Indians said that if they killed one its nation would take ample vengeance on them, by despatching him who had committed the crime, and by visiting the rest of his family with sickness, with the horrors, and with death. At last, for a considerable reward, I persuaded an Indian to be my guide to these terrible and curious animals. The weather was remarkably fine, and we set off through the gloomy wilds to the south-west. I carried an air-gun and a dagger, and the Indian had his bow and poisoned arrows, and was provided with provisions for two weeks. After a long and dreary march we came to a place where the trees were immensely high. There the Indian made a dead stop, and declared that he would go no further, for he was sure that the men with the tails were not far off; his countenance fell, and he kept saying every now

and then that he sorely repented he had ever been persuaded to undertake the journey—he begged hard that I would go back and not think of molesting them; for if I did it would be all over with both of us. I pushed him on with a stern look, chiding him for his cowardice.

“We had not advanced more than half a mile before he pointed out something very thick near the tops of the trees, resembling rooks’ nests, but vastly more bulky. ‘There,’ said he, in a mournful whisper—‘*there* is one of their settlements, and I can see smoke coming out of some of them!’ ‘If there be smoke,’ said I, it must be about their dinner-time, and I wish I was up at them, for I am confoundedly hungry.’ I could see this piece of false wit of mine vexed him; he said I had better be thinking of something else—and then staring wildly in my face, he lifted up his hands in despair and fled precipitately.


“Just as he left me I heard a rustling in one of the high tufted trees near me. I instantly took aim with the air-gun, and down dropped the animal, lifeless, at my feet. Here for the first time I saw the real wild man of the woods. I may say with the poet,—

‘*Obstupui, steteruntque comme et vox faucibus hæsit.*’

“I looked at him again and again, and was sorry I had ever gone in quest of him. There was no time to be lost. I did not know what sort of an enemy I had to deal with. The animal was too large to carry—so, taking out my knife, I cut off his head and shoulders, threw them on my back, and set off in the direction the Indian had gone—looking up every now and then in the trees behind me to see if I were not pursued by some of their police; for I strongly suspected I had unfortunately killed a man—nor have I yet made up my mind upon the

subject. I traced the Indian to about two miles off and there I found him in great perplexity. On looking at what I had brought on my shoulders, he became terrified and said I had killed a man of the bad and cruel nation—that I should soon fall sick and die, and that the murdered ghost would haunt him and his family, and punish them terribly in revenge for his having shown me the way to their territory.

“Without putting much faith in the prophecy, I dissected and stuffed the head and shoulders of the animal. Here then we have a specimen of the *real wild man of the woods*—approaching to our own form infinitely nearer than the famed ourang-outang of Borneo. The more it is inspected the more it will puzzle Naturalists; and to determine upon and settle its classification will require much more knowledge than I am master of. After all, it will probably baffle the united talents and information of the first Naturalists of the day.

 *In the course of the day several hundreds of our community have been gratified with a sight of the wild man—and several, recollecting the imposture of the Mermaid, have examined it with a nicety proportionate to their suspicions—which have by such examinations been entirely dissipated.*

This was followed by two letters in the *Gazette* of the 30th, both poking fun at the *Chronicle* and its “wild man,” one of which ran as follows:—

“Sir,—Being an enthusiast in curiosity-hunting, you must naturally imagine that I not only read with avidity and delight the editorial columns of Friday and Monday’s *Fumli*-paper, but that I also *dreamt* on the subject each following night. Thinking, indeed, just prior to going

to sleep, most intensely on that part of the last narrative, in which the Demerary BUFFON believes the second little man now exhibiting to belong to the *judicial* department, "Gads," said I, dreaming, who knows but what that which seemed to be a 'rook's nest' (*vide* first narrative) was in reality the Judge's *wig*! Fired with the thought, and mad to possess so rare an article, I resolved to set off in search of it. So, following BUFFON'S example, I called QUACO, the cook—ordered a *fortnight's* provisions, and with my boy QUAMMY (a shrewd Essequeboian negro) set off instantly for the south-west. We had not travelled more than *two hundred miles* before we fell in with the blood-marked track of the destroyer; and following that, we very soon came to his *theatre of anatomy*. There, true enough, still lay the mangled remains of the *Man of the Woods*! which, however, QUAMMY no sooner saw than he exclaimed, 'Ouw, Massa, Massa; no wonder this—no man at all—me see *too many* such t'ings—this nothing but a —'. 'Pshaw!' cried I, 'You're no Naturalist, QUAMMY; hold your tongue—'tis a *superior being*! depend upon it; you never saw such a thing in your life.' The negro, maintaining an obedient but full-of-meaning kind of silence, we pushed on rapidly for the important tree. We reached it—but only to be disappointed! Like the baseless fabric of a vision, it had left not a wreck behind! The WIG, even the wig was gone; and full of chagrin, I left the place, despairing of carrying anything home, when I recollected the *giblets, paws* and *trotters* of the murdered non-descript! Suffice it to say, they will be ready for exhibition in the market-place on Friday the *First of April*, 1825.—Yours, &c.,

GABRIEL GULL.

Here is another of the "skits" which was published in the *Gazette* of Jan. 1st, 1825:—

"When, Mr. Editor, will wonders cease?—I was taking last evening, my customary walk along the Main Street, ruminating on scenes of past happiness, and creating in perspective a little world for fancy to rove in unrestrained,—when all these airy visions were put to flight by a rapid footstep approaching me. I drew my "mind's eyes" from the ideal world I had just pictured, and beheld a man hurrying towards me, with his hands thrust deep into his breeches pockets, his mouth open to that enormous extent as at first to excite a dread that the poor fellow had cut his throat, and his eyes so completely out of their sockets as to render a very considerable olfactory protuberance but a slight obstacle to their mutual recognition.

"I unconsciously made way for him, and turning as he passed, my astonishment may be easily conceived at beholding him grasp the extended hand of another individual bearing similar marks of terror in his countenance. I halted in hopes of ascertaining the cause of these extraordinary symptoms, when one of them suddenly exclaimed in an alarmed but impressive tone, "Weel, DONALT, h'ae ye seen the Peast."—"Lord, mun," said the other, "be canny wi' your tongue; ca' ye yon crater a Peast?"—"Guid guide us DUGALT, *I thought it was the Laird!*" "And troth it's unca like her nain sel," added the first, "I got a fearfu' scare; I maist fell intil a trance." "But," continued he, "DONALT, that's no the Peast I'm specing aboot, it's anither ane wi' wungs—I never saw the like o' it.—It's a' that a body can di to take it in wi' his eyne, and for a'

that the chield that caught it wishes to gar folk believe that elka ane can *swallow* it—some folk mun ha'e strange stamacks."

"I waited no longer, but posted off to my friend the Naturalist, immortalized in the Chronicles of Guiana, in hopes of having some light thrown on the above mysterious conversation.—I found him in deep thought contemplating a bloody sword that lay on the table; he started on my advancing, and bent his brows in displeasure on me, but on my apologizing for my intrusion and explaining the cause of my visit, his countenance relaxed its austerity, and he courteously beckoned me to a chair—after a silence of a few minutes, with a deep-drawn sigh, he related the following circumstances, which I shall give in his own words:—

"After returning to the Mora tree with the second Arawatoyano I had murdered, I sat down with a gloomy presentiment of some evil; and was soon so deeply wrap'd in thought that the shadows of evening were fast descending before I began to reflect on the loneliness of my situation. I was roused by the low growlings of the Beasts of the Forest—the winds had risen to a hurricane, the clouds rolled in thick volumes over my head, and as the distant thunder gave awful note of an impending storm, the crashing of the trees strewed in all directions, convinced me it would be madness to proceed farther that night. The size of the Mora and the imperious thickness of its foliage banished all fear of its fall, or my suffering any inconvenience from the rain which now began to descend in torrents. Night had now spread his mantle over the Forest, and the lightening, which at intervals flashed on the scene merely tended to



make visible the pitchy blackness of its folds. I collected my burden, and placing it in a cleft of the Mora, kindled a fire to ensure me against the attacks of the Wild Beasts which were now prowling in all directions. I drew my cloak closely round me, but had scarce composed my limbs when I was roused by a confused buzzing noise, and starting up, beheld a creature descending with extended wing and flying round the fire, dart suddenly on the dead Arawatoyano; I grasped my sword, and aiming a deadly blow, it fell severed in two to the earth. So bright were its wings that I could scarcely persuade myself I had not killed an *Angel*, and so immense its size that in making my escape, (which I thought it prudent to do immediately), I could carry away only the upper half. I arrived, he continued, on the tenth day after this adventure, in Georgetown, and on reference to my books, am inclined to class it among the *Bug* species."

He here ceased—I immediately rose, thanked him for his information, and being something of a Naturalist myself, hurried to the *Guiana Chronicle Office*, where I now recognised this extraordinary animal to be nothing but a *Hum Bug!*—Your obedient servant, JEREMY COCKLOFT.

"JOHN SUCKLING," came out in the next paper with another "skit" in which he described an encounter with the "men whose heads do grow beneath their shoulders." Everybody appears to have taken the affair as a hoax, and no doubt the genial traveller enjoyed the whole thing immensely.

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## *Migratory Birds in British Guiana.*

*By F. F. Quelch, B.Sc., (Lond.), C.M.Z.S.*



UNDER the special heading here of migratory birds, are included those species that go through periodic migration to the tropics from the northern latitudes during the autumn and winter months. Locally there is a general migration of many very different forms, dependent chiefly on the dry and wet seasons, and the consequent scarcity or abundance of special kinds of food in different parts of the colony. Thus, on certain parts of the coast, pigeons and parrots, for example, are remarkably abundant at certain times (as during the fruiting season), and particularly scarce at others. The great storks, too, such as the Negrocop or Jabiru (*Mycteria*), the Heri (*Ciconia*), and others, which are during the wet seasons so common on the flooded low savannahs, where they feed chiefly either on the insects and reptiles driven out of the undergrowth and of the surface debris, or on the fish and other aquatic forms which have spread abroad from the rivers and creeks, are hardly to be found when the waters have drained off in the dry weather, except along the courses of the streams themselves, or where isolated ponds, or lakes occur. And the same may be said, too, of the Ducks in general; while birds such as the Rails, Crakes, Waterhens, etc., which are generally scattered among the low bushy vegetation along the banks of streams passing through permanently swampy districts, and on the margins of low-lying ponds, frequently wander far over the flooded savannahs among the rank and transient vege-

tation that springs up during the wet weather, more especially along the small depressions that are natural drainage channels to the main streams.

Among the resident birds which frequent the towns and settlements and the adjacent cleared lands, and which in general are markedly omnivorous, but little local migration is observable; and it is possible at all times to find specimens of the common tyrant-shrikes, the hangnests, the anis, the finches, the tanagers and such like forms, in the districts where they have once been observed. The same may be said, too, of birds of markedly special diet such as the Kingfishers, and of those forms which obtain their food on the mudflats, exposed at low tide, either by the sea, or along the estuaries and lower portions of the rivers.

The uniformity and permanence of food conditions generally, under the tropics, evidently lead to the regular presence of the greater number of species, whether the individuals are accustomed to a narrow range in place, due to their smallness of size and weakness of flight, as for instance in the tyrant-shrikes and finches, or whether they range over great distances, as in the generality of the hawks.

The most extreme case in the colony of this regularity of presence in any given place, may be found in the Hoatzin or Reptilian bird (*Opisthocomus cristatus*,) which, being most strictly phytophagous finds in the leaves or fruit of two or three plants, according to the season, the whole means of subsistence required. Weakness of flight prevents the birds from wandering far from their usual haunts, nor have they any incentive to do so when their food conditions are permanent and secure.

Special cases of local migration occur in many groups during the breeding season, as in the Scarlet Ibis and the Egrets, which, at such times, swarm in certain unfrequented parts of the coast, more especially in the swampy parts of the bush-covered alluvial islands, while they are usually widely distributed at other times. The great storks, too, seem to betake themselves to elevated points in the wilds of the interior, as do the brilliant Cotingas, which, however, though descending far from the high lands, never leave the high forest after the breeding season. On these birds, as on many others, observations are greatly needed on the life history, habits and habitats; but the difficulties to be contended with have hitherto almost precluded the possibility of obtaining exact knowledge.

Of the migratory birds proper, from the wintry districts of the northern regions, the United States and Canada, we have representatives of many different groups, through the great majority of forms belong to the families of the plover and the snipe, including such forms as the stilts, the curlews, the yellow-shanks and the sandpipers. It is worthy of special note that scanty as are the records of the path of migration of the species, the special problems of migration in the western hemisphere are not less interesting than those in the eastern. Not so many years ago, apparently sound ideas were held as to many of the problems of migration, on lines that seemed reasonable and intelligible, but recent extended observations, and more especially those of HERR GATKE on the island of Heligoland, carried out during a long course of years, have more or less discredited many past hypotheses, and we are to-day in face of problems as regards

migration that seem more removed from any satisfactory explanation than they have been for many long years.

Here in British Guiana, chances of adding materially to our knowledge of migration can scarcely be said to exist. Very many species of migrants do pass southwards along our coasts, while certain others are only known from the highlands of the interior; but the opportunities of making detailed and exact records are by no means satisfactory. Owing to the vast tracts of country that are entirely unexplored, undeveloped and unsettled, huge areas, along which migration may take place, are entirely unknown and unrecorded; while even where migratory birds may be noted in the interior, the want generally of sufficient knowledge on the part of the observers would lead rather to confusion than to the explanation of the problems to be solved.

Many of our resident species occur as migrants in the United States, ranging to Texas and Florida, and even further north; but it is at present impossible to say definitely how far south these migrants travel. The American Warblers are specially to be noted. In the case of one of these (*Dendroica æstiva*), the Summer Yellow-bird of the United States, locally passing under the general name of "Canary," the individuals are certainly much more numerous here during the times of migration, most probably indicating that birds from the northern districts had arrived. This species occurs commonly along the coast being very plentiful in Georgetown during the autumn and winter months, but it may well be that other species occur in the forest districts and on the open plains and mountains of the interior.

The Black Poll Warbler (*D. striata*) of the United

States certainly occurs on the highlands, having been obtained on the slopes around Roraima, but whether these specimens were migrants or not, there is nothing to show. So, too, in the case of the Small American Redstart or Flycatcher (*Setophaga rutacilla*), which was obtained in the same district.

Even as regards the birds obtained on or near the coast, belonging to species that are migrants in the north, it is not always possible to determine whether they are true migrant forms here or not. So little is known locally about many of our species, especially of the smaller kinds, that there is no comparison possible as to their relative abundance in the different parts of the year; and though it would seem that species occurring here in the summer are residents, yet where only one or two specimens have been noted, they may possibly be migrants that have remained behind. There is this difficulty in the case as regards the Water Thrush (*Sciurus naevius*) which is a common migrant in the northern regions.

The Purple Martin, on the other hand appears to be one of our true migrants. In the case of the swallows, all of them birds of great flight, and many of them preferring the haunts of man, the question becomes a simpler one. In the White-breasted Purple Martin (*Progne chalybea*), and the Common Martin (*P. tapera*), we know that the birds are constant residents, being abundant throughout the year, and nesting usually under the eaves or on the ledges and supports of the houses.

The Sand Martin and the Red-breasted or Barn Swallow, which are so common in the northern latitudes during the summer, appear to be true migrants here also,



in marked contrast with other forms, sometimes even of the same genus, which are constant residents.

More special examples of migrants are to be found in the Bob-o'link or small Rice-bird, in the Red-bird, and the American Cuckoo (*Coccygus americanus*), representatives of the three families of the Hangnests, the Tanagers and the Cuckoos, which may be called most distinctly tropical, since almost the whole number of species are constant residents in the tropics. It is noteworthy that in the case of the Red-birds (*Pyranga æstiva*) they seem to occur only on the high lands of the interior, having never been taken on the coast lands; while the Cuckoo appears commonly on the coast.

Another special example is to be found in the northern Kingfisher (*Ceryle alcyon*), of which two examples have been found on the coast. This migrant of the northern regions is known to descend to several parts of Central America and the West Indies, but the Guianas would seem to be its extreme range southwards. The King-bird, too, the most typical of the northern tyrant-shrikes, seems occasionally to descend as a straggler to winter with us.

The most interesting and the most noticeable cases of migration, however, occur among the members of the Grallæ. Towards the end of August, and the beginning of September, great flights of many species make their appearance, more especially on the open grassy lands and savannahs; and in fact, the first of September, the time of the arrival of these birds, has been fixed by the Legislature as the beginning of the open or shooting season for certain game birds, the five months previous being by law declared a close season for all

birds throughout the colony. True this protection was originally given on the idea that the summer months represented the breeding season of tropical species as well as of those of the colder latitudes, a conclusion that we know is by no means in accordance with all the facts of the case.

It is worth noting that while great numbers of these species of migrants are to be found on the coast districts during September and October, they gradually thin away—the plovers and yellow-shanks, etc., apparently passing on further south, leaving a few stragglers only behind, while a few forms only, such as the sandpipers and the curlews, remain during the winter months. It is remarkable, too, that those migrants that have passed south are not noticed on their return journey along the coast ; and, in fact, we are altogether ignorant of the path of their migration northwards. Possibly it may be along the mountainous tracks of the interior of the colony, or even further west, but we have no facts whatever on which to found an opinion, though the presumption may be made that, in a more direct northern flight towards their special breeding grounds, their course may lie across the open ocean.

It has been already stated that many of these birds are found in large flights, but to judge from the description given of migrants passing southwards over North-western Europe, where at times the sky is blackened by the density of birds in flight, or where the ground in certain parts is really covered by thick clusters, there is nothing here comparable to such sights. True some hundreds of birds are occasionally seen together on the open flats, but usually they are met with in small flocks. This,

no doubt, is largely due to the fact of the splitting up of the large numbers that are observed starting for the south, many resting on the West Indian Islands, and others on the different parts of the Central and South American Coast, while doubtless thousands upon thousands perish in their long and severe flight.

It is to be noticed that, so far, in the scanty collections made in the far interior, it has been a rare occurrence to find representatives of these birds, though exceptional forms do now and then occur; and as the greater numbers of such collections have been made during the months when the migrants are most common on the coasts on their southward journey, we may take it as an indication that these species do not occur on the highlands except as stragglers, but pass regularly along the maritime districts.

A very marked feature in these migratory birds is the occurrence of many of the same species in the Eastern Hemisphere, a condition quite exceptional among the American and Old World avifauna. Several of our species are recorded as stragglers, or exceptional forms, in the Handbooks of British Birds, while others are regular migrants passing southwards to winter in South Africa and Asia, and even in Australia and New Zealand. In a few cases, some of these birds breed plentifully in Greenland, and possibly this was the point from which some were originally diverted across to the other hemisphere, in numbers sufficient to establish themselves as regular visitors. In other cases, however, where the species breed regularly throughout the arctic and temperate districts of N. America, wintering constantly in the south, the stragglers to England and other parts of

Europe, must be considered as having accomplished the immense distance across the Atlantic. It is to be noted, by the way, that the best authorities consider that such adverse flights must be greatly assisted by occasional perching on the rigging of ships during the journey.

The most common of these migrants is certainly the American Golden Plover (*Charadrius virginicus*) known also as Black-breasts and Greenbacks. Arriving here sparsely in August, they increase in numbers in September and October, gradually disappearing in the latter month, until in November, with the exception of a few stragglers which may have been left behind, they pass southwards in their further migration. On the lowlands of the coast, on the grassy spaces, and on the sandbanks, they will be found in often quite large flights, though it is reported that the numbers recently noticed are markedly fewer than in former years, while at the same time they vary greatly from year to year.

On the interior savannahs, specimens have also been taken, but from their fewness they should no doubt be regarded as stragglers. RICHARD SCHOMBURGK, in his "Reisen in Britisch Guiana," records the nesting of this species on the sand-banks of the coast, the eggs being from 2 to 3 in number; but unless some mistake was made as to the species, the nesting can only have been quite occasional, and due to stragglers.

The flesh of the bird, as in the case of nearly all our migrants, is greatly in request for the table, and large numbers of them are shot in the season. This continuous slaughter, which they meet with along their entire course of migration, is no doubt chiefly responsible for the very large reduction in the numbers which are observed to

appear during the spring in the northern latitudes, as contrasted with those that left during the autumn. Though they are shy and timid, they seldom fly for any great distance before they settle again after being disturbed, and owing to the large numbers in a flight, it is not difficult to secure them in quantity.

The American Golden Plover was for a long time confounded with the European species, but the latter can readily be distinguished by its white axillary wing feathers as against the light brown feathers of the local forms, while it is also slightly larger—though the latter character would hardly be noticed except from a very close comparison.

Considerable differences of opinion, too, exist as regard this bird, as to its specific identity with, or difference from, the common smaller Asiatic plover, which is closely similar to it. Quite recently they have been included in one and the same species, under the name *dominicus*.

This plover can readily be recognised among the other migrants with which it is found. The beak is short, being slightly shorter than the head, straight, and curving slightly at the tip. The upper plumage is mottled with black and greenish-yellow, which gives a peculiar greenish tinge to the bird. The under surface is either mottled with black and white, the black being in large patches, or is whitish; while the young are much duller throughout. The toes are three in number, the hinder toe being absent. The length of the body is nearly 11 inches.

A very peculiar and interesting specimen which was obtained by the Hon. E. C. LUARD on the East Coast, Demerara, in October 1895, presented a nearly uniform

white colouring throughout, the greenish-yellow mottling being scarcely evident on the rump, and the brown of the quills of the wings very slightly indicated in small patches. Unfortunately, owing to the carelessness of the taxidermist to whom it was given by me for preservation, the specimen was lost.

The American Golden Plovers are known to breed high up in the Arctic regions of North America, from Alaska to Greenland, whither they pass in the early spring through the United States and Canada. At the end of summer, after breeding, they migrate in parties, the greater number of the young birds apparently passing southwards through the United States, by an overland route, during August and September, while the greater number of the older birds start out southwards by a sea route, past the Bermudas, thence to the West India Islands and South America, in which latter continent they are found as far south as Buenos Ayres. After their extremely long sea journey, it is said they are sometimes so exhausted and tame when they reach the West Indies that they can be knocked down with sticks and stones.

Closely allied to the Golden Plover, is the Turnstone (*Streptilas interpres*), locally known as the White-winged Plover. This bird varies so much in plumage that its different forms might often be held to be distinct by the uninitiated. The chief points by which it may be recognised are easy to note. The bill is slightly shorter than the head, black, straight, and like an attenuated blunt cone. The feet are reddish orange, and the toes four in number, the hind toe being present. Length of bird about  $9\frac{1}{2}$  inches.



The adult birds have the head white, more or less streaked or mottled with black. The upper surface is chestnut-red, mottled with black, except for white bars on the wings and tail. The breast is black, this colour often coming high up the neck—the rest of the under surface being white. In the young birds, the black and red of the adult plumage become more or less rufous and brown.

These birds arrive here at the same time as the Golden Plover, and being greatly appreciated for the table are shot whenever possible. The earliest arrivals seem distinctly to be young birds, in their duller plumage.

A special feature of this species lies in the fact of its being as common in the Old World as it is in the New—a feature already pointed out as quite exceptional in the avifauna of the two regions. In the Old World, it is known to nest in extreme N. W. Europe in the early summer, passing later to the south, extending from England to Siberia, and thence migrating to Southern Asia and Africa, Polynesia and New Zealand for the winter, and returning to its usual haunts for breeding in the spring.

In the New World, the Turnstone breeds in the Arctic regions generally, eastwards as far as Greenland, and passes through Canada and the United States southwards in the early spring in its migration.

These birds frequent the open flats by the sea, where they will be found turning over with their beaks the seaweeds and stones, under which they seek the crustaceans and molluscs which form the chief part of their food. From this habit, they have derived the common name by which they are chiefly known in both hemispheres. The local name "White-winged Plover" is given on

account of the white bar which crosses the inner part of the wing.

Allied to the two preceding species are three forms of the old genus *Ægialitis*, one of which seems to be a constant resident, while the others are true migrants. In these birds the bills are shorter and thicker in proportion than in the Golden Plover, and the body much smaller, their length being under  $7\frac{1}{2}$  inches. The toes are three, the hind toe being absent. These species will readily be distinguished by the marked black collar, or frontlet, on the white breast.

The resident species, the Small Ring Plover (*Æ. collaris*) is the smallest, its length being 6 inches; the collar does not surround the neck; the top of the head is black, with white front and sides; while the upper surface generally has a markedly rufous tint.

Somewhat larger than this is the common Ring Plover or Ring-neck (*Æ. semipalmata*). In this migrant the length is about 7 inches; a black collar entirely surrounds the neck, preceded by a white ring; the top of the head is black, this colour being continued under the eyes and over the ears; the feet and bill are orange-red, the latter being much shorter than the head, and black at the tip.

This bird is smaller than the European Ring Plover with which it is often confounded. Its habits, however, are quite similar. It arrives here in September, and during the later months, it appears to pass on further south, but representatives are met with throughout the winter. It is known to breed in the Arctic districts of N. America.

The second migrant of the genus, the Great-billed or

Wilson's Plover (*Æ. wilsonia*), is very similar in general colouring and markings to the Small Ring Plover, except that the rufous tints are barely represented. It is, however, easily distinguished from the two preceding by its greater size—length  $7\frac{1}{2}$  inches—and by its long and thick, black bill, which is as long as the head, and much swollen towards the tip. Several distinctive characters have caused its reference to a separate genus of its own, *Ochthodromus*, under which it will now-a-days be found.

This species does not appear to be a common migrant here, though no doubt it may have often been confounded with *Holopterus cayanus*, the Spur-wing Plover. This latter species is much more commonly met with on the coast in the winter months, though it remains with us throughout the year, being especially abundant along the interior streams. Its plumage is much more marked with black than the Ringed Plovers, its size is greater, and the wings are furnished with a sharp spur. The American Peewit or Lapwing which is closely allied to the preceding, is also a constant resident with us.

The greater number of our migrants, to which reference will now be briefly made, belong to the family of the snipes, though indeed our true snipes are constant residents. They will readily be recognised by their long and thin beaks, which are slightly obtuse at the tip.

Perhaps the commonest of these is the Big-yellow-shanks (*Totanus melanoleucus*), known locally as the Pica Plover. This species will readily be recognised by its large size (14 inches in length), its bright yellow legs, and its long, thin and black beak, which is more than two inches in length. The upper surface is a mottled brown, black and grey, and the under surface grey and white.

The Pica arrives here on the coast with the Golden Plover, and leaves at about the same time, but many stragglers remain throughout the marshy alluvial islands. They are also occasionally met with in the early part of March, though it is by no means certain whether these are returned migrants from the far south, or collected groups from our interior savannahs. They are known to breed high up in the northern latitudes.

Very similar in markings and colouring to the Pica is the small or common Yellow-shanks (*Totanus flavipes*) which comes as a migrant at the same time as the other species of snipes and plovers, and is occasionally a straggler even in England and on the Continent of Europe, where well authenticated records are known.

The little Yellow-shanks is easily distinguished from the preceding species by its size, its length being about 10 inches—often slightly more or less—while the black beak is about  $1\frac{1}{2}$  inches long. The legs are also bright yellow, and from their thinness, appear of great length—hence the term Yellow Long-shanks sometimes applied to them.

These birds are known to breed as far north as Arctic America, and to range south to Patagonia. Many stragglers remain with us throughout the winter.

Though the flesh of the two Yellow-shanks is not considered as a delicacy by many, and is far inferior to that of the plover and the snipe, yet the birds are shot in large numbers, and from the scarcity on the coast of the more relished game birds, these are regarded as welcome substitutes when they arrive.

Somewhat larger than the above, and about 12 inches in length, is BARTRAM'S Sandpiper (*Bartramia longicauda*),

which is known under a variety of common names in the different localities which it frequents, such as Grey Plover, Grass or Field Plover, and even Prairie Pigeon.

The colouring throughout is much brighter and more glossy than in the two preceding species, and partakes largely of yellowish and reddish brown, deeply banded, becoming of a marked arrow-headed shape on the lower breast and sides—a character by which the species will readily be recognised. The legs are of a deep yellowish green, and the beak is yellowish at the base, darkening to the tip, its length being somewhat less than in the small Yellow-shanks, though exceeding one inch.

The species occurs exceptionally as a wanderer to the British Isles, and on the continent of Europe, where authenticated specimens have been killed. Here in the colony, it is a common migrant with the other forms, though many more seem to frequent the interior highlands than in the other cases, and remain as stragglers throughout the winter months. It is known to breed as far north as the Arctic circle, and to range southward in its migration as far as Buenos Ayres.

A very curious and distinct form, which is certainly a migrant in the United States, and one that is by no means a common resident, or an obtrusive migrant here is the Black-necked Stilt, familiarly known also as Red-legs or Longshanks (*Himantopus nigricollis*). This bird is to be found here at all times of the year, but more especially at the beginning of the drying off of the water of the heavy wet season, when they may occasionally be met with in pairs on the grassy lands of the coast or on the mudflats.

The species will readily be recognised by the very

long and thin black beak and pink legs—the former being nearly three inches in length, and the latter 7 inches. The legs are so peculiarly long and thin, in comparison with the size of the body, that they appear more like stilts than the legs of an ordinary bird. In fact, when the bird is seen standing, it is hard to realise that the two long spindle-like legs, which seem to be entirely artificially attached, are not merely stuck in by some badly trained taxidermist, since they stand straight out from the body and nearly at right angles with it.

It is a remarkable thing that, when the bird stands upon one leg, and the other is drawn up near the body, in spite of the great length of the limb, it is hidden entirely in the feathers of the breast and abdomen, so that not a vestige of it is exposed. To the closest observation, the bird appears then to be decidedly one-legged. Its perfect balance, too, is noteworthy, more especially considering the absence of the hind-toe.

It was curious to note, in the case of a bird which was kept in confinement for some weeks, that whenever worms were given to it, it invariably dropped them in the little tank of water in its cage before eating them.

The general upper surface of this species is of a deep greenish glossy black, the prevailing under colour being white.

Another migrant which will at once be recognised by its thin, long and flexible beak, and its long, slender, light blue legs, with four toes, is the Red-breasted Godwit or Marlin (*Limosa hudsonica*). This bird is but seldom obtained on the coast in the colony, though considering its range, they must pass through equatorial America in considerable numbers on their way south.



The length of the bird is about from 14 to 16 inches, the beak being about  $3\frac{1}{2}$  inches. The upper surface is black or greyish brown, with more or less mottling or edging of white and rufous. Beneath, the colour varies from a deep chestnut with dusky bars to a grey or streaked brownish tint, according to the season.

The species is known to breed as far north as the Arctic regions of North America, and ranges in the winter to the extreme south of South America.

Easily distinguished from all the preceding by its long and slender *curved* beak, is the Jack Curlew or American Whimbrel (*Numenius hudsonicus*).

This species is one of the commonest of our migrants, being found plentifully during the winter months along the mudflats and sandy banks of the coast, as well as on the shores of the alluvial islands and along the estuaries of the rivers. At all times of the day, but more especially in the early morning and late evening, they will be found feeding on the small fish, crustacea, worms, etc., which occur so plentifully on the flats. At such times they are by no means shy, and can be shot with but little difficulty.

This Curlew is larger than any of the other migrants described, being about 16 inches in length. Its prevailing colour above is brown with paler markings, and the under surface white, with streaks and bars of brown. The axillaries of the wings are reddish.

This American species is very closely related to its European representative, the Common Whimbrel, and in fact it is distinguished by but slight characters. It is known to breed in the extreme north of North America, and extends its southward range over the whole of South America. It has even once been recorded from Spain.

In the grassy pastures of the coast, but more usually on the flats, will be found the Willet or Stone Snipe or Curlew (*Symphemia semipalmata*), generally known here as the White-winged Curlew from the white bars and edgings of the wings.

This species is larger than most of the common migrants, being about 15 inches in length, with a strong and thick, straight beak, of about two inches in length. The bill and feet are of a deep bluish tint, and the toes are united at the base by a membrane. The upper surface is blackish-brown, mottled with rufous, grey and white, or with wavy brown bars with reddish blotches on the sides.

This bird is known to range as far north as the United States and Canada, where it breeds, descending to the Equatorial districts of South America in its migration. Specimens of this species are obtainable in the colony at all times of the year as stragglers, though during the season of migration, and during the winter months, they are much more numerous. Occasional stragglers have even been recorded from Europe.

It has already been mentioned that the true snipes of the colony are resident species, and this is certainly the case with regard to our two species of *Gallinago* proper. The Red-breasted snipe (*Macrorhamphus griseus*), however, which breeds in the extreme north, migrating for the winter to Central and South America and the West Indies, certainly visits us, though the birds seem to be but rarely obtained.

This species is about the size of the common snipes being from 10 to 11 inches in length. The beak and legs are olive-coloured, the former being slender and

about 2 inches in length. The upper and under parts are markedly rufous, blotched and barred with a dark tint, though the winter plumage is more or less brownish grey and white.

Stragglers have at times been taken in Great Britain and on the continent of Europe.

Of the various sandpipers, perhaps the commonest visitor is the Solitary Sandpiper or the Wood Tatler (*Rhyncophilus solitarius*), which will be met with singly by the waterside in nearly all parts of the colony. Many of these small sandpipers certainly remain with us all the year round.

This bird is about 8 inches in length, with a beak of  $1\frac{1}{4}$  inches. The general colour is brown above, with small white spots on the feathers, and greyish below, with darker striations on the front.

These little birds are known to range in the breeding season even as far north as the Arctic regions, migrating to the West Indies, Central and South America, even to Buenos Ayres in the winter. They have been obtained as stragglers in the British Isles.

Of almost the same size as the foregoing is the common Sanderling (*Calidris arenaria*), which will readily be distinguished by the absence of the hind-toe.

This species, like the turnstone, is remarkable for its great range. It is known to breed throughout almost the whole Arctic district, migrating to S. Africa, Asia and some of the Pacific Islands, in the Old World, and to Chili and Buenos Ayres in the New.

The bird is readily recognisable not only by the absence of the hind toe, but by its prevailing white plumage, the upper surface being, however, marked by a rufous

tint, mixed with black and white in the summer. In the winter plumage, this is replaced by ashy grey.

The Sanderling does not appear to be a common bird here, as it is but rarely met with.

Much larger than the Sanderling is the Knot or Red-breasted Sandpiper (*Tringa canutus*) which attains a length of 10 inches, the slender bill being  $1\frac{1}{2}$  inch. The bill and feet are black. The upper surface is ashy, marked with blotches of white, black and rufous. The under surface is of a bright chestnut. In the winter dress, the birds are ashy above and white below.

As will have been gathered from the description, these birds are of very variable plumage according to the season. In the colony they are of rare occurrence. They are much more common in the Old World, where they are known to migrate as far south as Australia and New Zealand. They are known to breed in the extreme Arctic regions.

Of about the same size (8 inches) as the Sanderling, is the Common Spotted Sandlark, Sandpiper or "Nit" (*Tringoides macularius*), which will be met with by the waterside throughout almost the whole colony, more especially on the mud-flats and sand-banks. They are migrants from the North, whither they resort for the breeding season, but many remain throughout the year with us. The beak of this species is thin and slender, a little longer than the head, and, like the feet, of a greenish yellow colour. The upper surface is of a dark brown with faint greenish tints; the under parts are white, thickly marked with small brown spots. The spots are fewer on the hinder parts.

Much smaller than all the others of its group is the

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little Peep, or WILSON'S Sandpiper (*Ereunetes pusillus*), which in general plumage is much like the preceding species. Its length, however, is only about 5 inches, and this will easily serve to separate the two. The beak is slightly more than  $\frac{1}{2}$  inch in length, while the under surface is much less spotted than in the common Nit.

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The preceding may be said to include all the common migrants that are likely to be met with. Although no detailed descriptions are given of them, sufficient of their characters are stated for their ready identification; and it is to be hoped that incomplete as is the account, it will lead to a better knowledge locally of these interesting forms. Series of specimens of many of the species are greatly needed for the local Museum; and accurate records of migration and detailed observations would thoroughly repay the time and trouble entailed.

Except where stated, the classification and nomenclature are based on SALVIN'S List of the Birds of British Guiana.

## *A Literary Half-Hour.*

*By W. Alleyne Ireland.*

Come, and take a choice of all my library ;  
And so beguile thy sorrow.

TITUS ANDRONICUS.



AT the present time when life possesses so much that is irksome and irritating and when, day by day, the struggle for existence becomes sharper and more fierce, it is of the highest importance that we should know how to relieve our minds from the unhealthy tension of over application to business, and to forget, if only for a short time, the worries and cares of our daily lot.

There is no more certain way of achieving this than by cultivating a taste for reading. To spend an hour or two each day in the congenial companionship of books—those gentle friends that do not argue or contradict—is as potent a charm to drive away sorrow as a draught of magic nepenthe.

Here is a fragment from BRYAN WALLER PROCTER that expresses in the most delicate way the joys of the book-lover :—

All round the room my silent servants wait—  
My friends in every season, bright and dim  
Angels and seraphim  
Come down and murmur to me, sweet and low,  
And spirits of the skies all come and go  
Early and late ;  
From the old world's divine and distant date,  
From the sublimer few,  
Down to the poet who but yester-eve  
Sang sweet and made us grieve.

There is a fine suggestiveness in the last line. The grief that the poet inspires us with is the grief that drives out



our sorrow when we are too sad to be moved by aught else than a sympathy for others.

There is a passage from the Prologue to CHAUCER'S 'Legende of Goode Women' that is as cooling as a draught of iced water, and which seems to carry with it the sweet caressing breath of a spring day at home when winter has been finally routed and the rich smell of the new-born verdure is in the air:—

On bokes for to rede I me delyte,

\* \* \* \* \*

So hertely, that ther is game noon  
That from my bokes maketh me to goon,  
But yt be seldome on the holy day,  
Save, ceteynly, whan that the monethe of May  
Is comen, and that I here the foules syng,  
And that the floures gynnen for to sprynge,  
Farwel my boke and my devocion!

What we want here in the tropics is to read something, on very hot days, that will make us feel cool. There is a charming sketch in JAMES RUSSELL LOWELL'S 'My Study Windows' called 'A good Word for Winter' which calls to the mind the rich, luxurious silence of falling snow, the brisk sharp ring of skates on the ice, and all the pleasant comforts of Christmas.

Who has not felt the sensation described by WORDSWORTH?—

How touching, when at midnight, sweep  
Snow muffled winds, and all is dark,  
To hear,—and sink again to sleep!

I sometimes feel inclined to endorse the sentiment expressed in the well-known lines of CHAUCER:—

For out of old fieldes as men saithe,  
Cometh al this new corne fro yere to yere  
And out of old bookes, in good faithe,  
Cometh al this new science that men lere.

When the modern novel palls on us and the reading of modern philosophy seems to land us in a sea of doubts and uncertainties, we find it infinitely refreshing to turn to older works and enjoy here and there a page of past wisdom. Among the older writers MONTAIGNE is a great favourite of mine. There is a delightful egotism in his writing that is in fine contrast to the repulsive egotism of ROUSSEAU.

I open my MONTAIGNE at random to seek confirmation of my good opinion of him, and at the first glance I find this naïve passage :—

“If in reading I fortune to meet with any difficult points, I fret not myself about them, but after I have given them a charge or two, I leave them as I found them, I should loose both time and myself, for I have a skipping wit.”

There is a quaintness about MONTAIGNE that is most entertaining. One day he went out for a ride and on his return was met by some of his servants. He thus describes an accident that occurred owing to the rashness of one of his men :—

“One of my men, (a strong sturdy fellow), mounted upon a young strong-headed horse, and that had a desperate hard mouth, fresh, lusty and in breath, to show his courage, and to out-goe his fellowes, fortunèd with might and maine to set spurres unto him and giving him the bridle, to come right into the path where I was, and as a COLOSSUS with his weight riding over me and my nag, that were both very little, he overthrew us both, and made us fall with our heeles upward: so that the nag lay astonied in one place, and I in a trance groveling on the ground ten or twelve paces wide of him.”

How well we all know the nag 'with the desperate hard mouth'!

I have been much amused by a passage in the introduction to a collection of BRET HARTE'S Works, in which the writer, the Rev. J. MONTESQUIEU BELLEW speaks in the most contemptuous terms of BURTON'S 'Anatomy of Melancholy.' He says that he hopes those who read such funereal stuff are only those blighted beings who are the victims of love or indigestion.

Although I cannot say, as Dr. JOHNSON did, that BURTON'S Anatomy of Melancholy is the only book that ever took me out of bed two hours sooner than I wished to rise, yet I have found it an excellent companion for odd half-hours. To take an example. In his long discourse on Love-Melancholy, BURTON speaks of the artificial allurements used by maids to win the heart of a swain.

"Many allurements there are, nods, jests, winks, smiles, wrestlings, tokens, favours, symbols, letters, valentines, etc. For which cause belike, GODEFRIDUS would not have women learn to write. Many such provocations are used when they come in presence, they will and they will not,

"Yet as she went full often looked behind,  
And many poor excuses did she find  
To linger by the way.""

Surely nothing very dismal in this! However, as the Rev. BELLEW himself says, 'Certes, these things are matters of taste.'

The English essayists constitute in themselves a wide field for profitable enjoyment. In HAZLITT'S works you can find matter to suit your every mood.

If your neighbour is cantankerous and you have no one to whom you can tell the tale of his contentiousness, which you have no doubt, 'learn'd and conn'd by rote' turn up HAZLITT'S essay 'On Disagreeable People' and you will find sympathy, and then read his letter to WILLIAM GIFFORD, Esq., and you will feel as though you could annihilate your enemy with a stroke of your pen. All HAZLITT'S essays bearing on subjects connected with our daily life are of surpassing interest, and pregnant with clear good sense and acute judgment. Among my favourites are 'The Conduct of Life,' 'The Spirit of Obligations,' 'Effeminacy of Character,' 'People with One Idea,' 'Vulgarity and Affectation' and 'Living to One's Self.'

The last of these is one of the most beautiful essays that English literature can boast of.

LAMB and LEIGH HUNT are both writers that one can welcome as intimate companions of solitude.

Of DE QUINCEY, whose strange life so wonderfully told in his *English Opium Eater* is known to all lovers of books, I can only say, that he has furnished me with some of the greatest intellectual treats that I have known.

What a picture of Oriental solemnity is painted in these few words taken from 'The Daughter of Lebanon'!

"Damascus, first-born of cities, *Om el Denia*, mother of generations, that wast before ABRAHAM, that wast before the Pyramids! what sounds are those that, from a postern gate, looking eastwards over secret paths that wind away to the far distant desert, break the solemn silence of an oriental night?"

As one reads he feels the heavy starlit silence of the

Great Eastern City—he sees the thick white walls that cast a deeper shadow in the deserted streets and which hide from the gaze of strangers the dark-eyed beauties of Syria. In a few hours the streets will be full of the passionate life of a passionate race and the loud cry of the traffickers will hang echoless in the stifling heat, but now the city is dead and all the tragedy and comedy of to-morrow is lying unborn in the embrace of ‘Sleep, silence’ child, sweet father of soft rest.’

There are many drawbacks in this Colony to the complete enjoyment of literary pursuits. The houses being all windows and doors there is no such thing as perfect seclusion.

There is no shutting one’s self up in a snug library and closing the door against all noise and intrusion. Yet, indeed, this is not always attainable even in the Old Country. We all remember reading of the awful sufferings of CARLYLE at Cheyne Row owing to painters, carpenters and the ‘accursed pianoforte next door.’

I think everyone should have *one* book as a constant pocket companion. Whenever I go for a day from my abode, I carry a copy of OLIVER WENDELL HOLMES’S “Autocrat” or of his “Professor.” They are the most companionable of all books. Open them where you will there is sure to be some quaint thought on the page, some line that will appeal to you and awaken responsive echoes in your mind.

My small copy of “The Autocrat” always opens in my hand at the same page, through long use. It is at the poem called “Latter-day Warnings,” where the writer expresses his ideas of the time when the Millennium will come :—

When legislators keep the law,  
 When banks dispense with bolts and locks,  
 When berries, whortle—rasp—and straw—  
 Grow bigger *downwards* in the box—

\* \* \* \* \*

When lawyers take what they would give,  
 And doctors give what they would take,—  
 When city fathers eat to live,  
 Save when they fast for conscience sake,—

\* \* \* \* \*

When Cuba's weeds have quite forgot  
 The power of suction to resist,  
 And claret-bottles harbour not  
 Such dimples as would hold your fist

\* \* \* \* \*

*Till* then let Cumming blaze away,  
 And Miller's saints blow up the globe;  
 But when you see that blessed day,  
*Then* order your ascension robe!

I believe that very little Poetry is read in the Colony. It is a great pity that this should be so. Prose writing, however fine, cannot always give the mind the feeling of relaxation that is so grateful after a day's toil.

Fiction excites; Biography is apt to become wearisome; History requires concentration; but Poetry will furnish you with just the necessary amount of interest to enable you to go on reading or to give yourself up to sweet fancies—as you may feel inclined. You do not feel bound to finish a poem nor even a verse; one phrase, nay, one line, may furnish you with an excuse to lay down your book for a few minutes and enjoy a pleasant picture called to life from the great stores of memory by some thought aptly put or some scene briefly sketched.

Without undervaluing other forms of Poetry, I must confess a preference for the Sonnet.



It embodies only one idea or central thought, and consists of only fourteen lines. But what a wealth of grace and sweetness is sometimes found in so small a compass!—

RICHARD WATSON GILDER has written a Sonnet on a Sonnet:—

What is a Sonnet? 'Tis the pearly shell  
That murmurs of the far-off murmuring sea;  
A precious jewel carved most curiously:  
It is a little picture painted well."

Nearly all the great poets have written Sonnets, and at the present day WILLIAM WATSON stands at the head of all writers of this form of verse.

I quote here a favourite Sonnet of mine written by SPENSER:—

Mark when she smiles with amiable cheer,  
And tell me whereto can you liken it,  
When on each eyelid sweetly do appear  
An hundred Graces as in shade to sit.  
Likest it seemeth, in my simple wit,  
Unto the fair sunshine in a summer's day,  
That when a dreadful storm away is flit,  
Through the broad world doth spread his goodly ray;  
At sight whereof, each bird that sits on spray,  
And every beast that to his den was fled,  
Comes forth afresh out of their late dismay,  
And to the light lift up their drooping head.  
So my storm-beaten heart likewise is cheered  
With that sunshine, when cloudy looks are cleared,

*A propos* of the subject of these hasty notes, written in odd moments from day to day, could we not form a Literary Society here?

There are amongst us men of wide reading who would be quite able to give the necessary impetus to such a movement.

What an advantage such an Institution would be !

Will any of our well-known literary friends come forward with a suggestion ?

JOHN LYLE wrote in the sixteenth century “. . . . far more seemely were it for thee to have thy Studie full of Bookes, than thy Purses full of Money.”

Seeing how few of us can have our ‘Purses full of Money’ let us at least try and have our ‘Studies full of Bookes.’

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## Tobacco Cultivation and Manufacture.

PRIZE ESSAY.

By H. B. Van Ree.



AMONG the several products which might tend to increase the resources of this Colony and materially add to its financial welfare, tobacco may claim special attention.

Its production being accomplished by a comparatively small outlay and *resulting in large profits*, every farmer or small capitalist is in a position to undertake its growth; in fact a couple of acres in tobacco will prove an interesting experiment, if cultivated on a Sugar, Cocoa, or Coffee estate.

It has always been held that the successful cultivation of tobacco is hampered by the difficulty or impossibility of curing it satisfactorily. This is an erroneous opinion. The writer has in his possession a certificate as evidence of tobacco of his own growing and curing having fetched the first prize at the Surinam Exhibition, held from 27 October up to 14 November, 1876.

With the continual increasing taste for smoking, and the high prices paid for tobacco and its preparations, the grower will find a ready market for his produce.

This Essay is intended to explain in a concise manner, the successful growing and curing of this most useful plant.

### *Soil for the growth of Tobacco.*

This should be a dry, light, rich soil, brown grey in colour, or, a dry rich sandy loam. The land must be

well protected from high winds, well drained, and well manured, *i.e.*, land on which the manure is mixed in such a manner with the soil, as to make the whole one homogeneous mass, leaving no visible trace of the manure. Care should be taken not to use stable manure ; this manure however old and well rotted it may be, will still give a disagreeable scent and taste to the tobacco, making it totally unfit for the market.

The following will be found a suitable manure for the purpose, viz. :—

Sulph. Ammonia	...	...	...	...	2 parts.
Nitr. of Potassium	...	...	...	...	1 "
Sugar	...	...	...	...	$\frac{1}{2}$ "

Well mixed together ; dissolve fifty grains in one gallon of water, and water the plants thrice, or at least twice weekly.

March and November are the months for making nursery and sowing.

#### *Nursery.*

Bush must be cut down and burned after being well dried, and the soil cleared of all roots and well harrowed, so as to receive the seed properly ; further, lay bushes (fagots) round the nursery for protection of plants against high winds.

Two tablespoonfuls of seed, mixed with half a gallon of ashes or fine sand, and sown on four square roods of land will give a sufficient number of plants for ten acres.

The place sown must be covered with light bush or straw until the seeds spring which will take place in from ten to fifteen days. Plants will start soon after, and

in from four to five weeks be ready for transplanting. Keep the weeds out and water the nursery occasionally if necessary. When the largest leaves are from 3-4 in. long, it is time for transplanting to the field, if the weather is warm.

It is sometimes necessary to sow seed at intervals of fifteen days in order to have young plants ready for supplying the field when required.

Approximate estimate of expenditure on ten acres of land planted in tobacco up to its shipment.

*Nature of Work.*

Underbrushing and cutting down bush ... ..	\$ 76 80
Burning, clearing, removing stumps and forking ... ..	112 00
Digging of 4 feet drains 3 shovels ... ..	14 40
Digging small drains 2 shovels ... ..	60 00
Making nursery and sowing seed ... ..	2 40
Attending nursery for 30 days ... ..	14 40
Making of 36,000 heaps ... ..	144 40
Transport of plants to spot and planting same ... ..	85 00
Collecting of bushes (fagots) and conveying to protect plants against high winds ... ..	15 00
Priming and topping plants ... ..	8 00
Weeding, moulding, suckering, ridding plants of caterpillars during 85—90 days ... ..	499 20
(Which last expense can be made much less by raising a good stock of turkeys; these fowls feed upon and carefully pick off the caterpillars with no injury to the leaves of the tobacco)	
Reaping of tobacco ... ..	16 00
Transport of crop to barn and attending for 30 days ... ..	72 00
Assorting tobacco, making up in heads (maniques) and fermenting same ... ..	88 00
Contingencies and unforeseen expenses ... ..	50 00
	\$1,257 60

60 to 65 days after 1st crop—2nd crop:—

*Nature of Work.*

Weeding, moulding, suckering and ridding plants of caterpillars ... ..	360 54
Reaping tobacco ... ..	12 00
To transport of crop to Barn, as previously ... ..	48 00
„ assorting Tobacco, making up in heads (manouques), and fermenting same ... ..	60 00
„ Contingencies and unforeseen expenditure ... ..	35 00
	<u>\$ 515 54</u>

60 to 65 days after 2nd Crop.—3rd Crop:—

*Nature of Work.*

Weeding, moulding, suckering, and ridding plants of caterpillars... ..	\$ 360 54
Reaping tobacco ... ..	7 50
Transport of crop to Barn, as previously ... ..	25 00
Assorting tobacco, making up in heads (manouques), and fermenting same ... ..	40 00
Contingencies and unforeseen expences ... ..	25 00
	<u>\$ 458 04</u>

Cost of eighteen casks to contain one thousand pounds each, with cost of packing and conveyance to the market...\$ 90 00

*General Expenditure on Ten Acres of Land grown in Tobacco.*

1st Crop ... ..	\$ 1,257 60
2nd do. ... ..	515 54
3rd do. ... ..	458 04
Packages, &c. ... ..	90 00
	<u>\$ 2,321 18</u>

*Return of Ten Acres of Land grown in Tobacco.*

1st Crop.

3,600 plants topped nine leaves to each plant, at

36 leaves to a pound, yield ... .. 9,000 lbs.

2nd Crop.

3,600 plants topped six leaves, as previously ... 6,000 lbs.

3rd Crop.

3,600 plants topped three leaves, as previously... 3,000 lbs.

Total Return... .. 18,000 lbs. of Tobacco,



At 25 cents per lb. this would give a profit on estimated expenditure of \$2,178 82.

N.B.—No drainage, kokers, tobacco house, nor Manager's salary included.

*Planting of the Tobacco.*

The most suitable distance for the making of heaps, for transplanting the growing plants, is three feet apart.

After the Tobacco is transplanted in the field, as often as it is weeded, the heaps must be loosened and plants moulded.

Priming is pulling off the leaves from the bottom of the plants. These bottom leaves, up to four or five in number, can be made into common leaf tobacco, or oil (*oleum nicotiana*) can be extracted from them.

Priming should be carried out to the height of five leaves in moderately rich soil, and topping to save nine leaves. In very rich soil (*virgin land*) six leaves may be taken from below and twelve left.

White Burley Tobacco requires the removal of only 3 to 4 leaves.

Priming, topping and suckering or removing side shoots, should be carried on when the weather is fine and when no dew is on the leaves, or rust invariably results, with injury to the crop.

Topping or pinching the bud must be done as soon as the plants are grown to the full height of 3 to 3½ feet.

Removing of side shoots or suckering must be attended to as early as possible, and not left till they are grown out, as they will injure the tobacco in its growth as well as in its quality.

The tobacco will be ready to cut when the leaves become wrinkled and have changed colour, showing little

spots or stains (marble-like) and when they will break off short and clean if bent.

Drought also causes spots and stains on the tobacco leaves; these leaves must be removed at once and carried to the scaffold or barn to be prepared for common leaf tobacco.

#### *Cutting or Reaping of Tobacco.*

This must be undertaken on a fair day and when no dew is on the leaves.

When cut, lay the stalks smoothly on the ground where cut and leave them in the sun to wilt for two hours, now and then turning them, until they can be handled without tearing or breaking, then transport to the tobacco house.

Before taking the tobacco to the scaffold re-examine plants and cleanse all plants of tobacco cut from eggs and caterpillars, which if not removed, hatch, feed upon and destroy the tobacco while drying.

#### *The Scaffold or Drogerie.*

Pegging is the best method of curing tobacco and can safely be recommended; its construction is as follows:

Laths of 2 x 3 inches are fixed together (similar to a screen) with wooden pins one foot apart, sharpened at the end and thrust through the stems of the tobacco at a short distance from the end; the leaves hanging downward; this assists the drying of the stem with the result that it is accomplished much sooner.

No fire is admissable in curing any sort of tobacco except wrappers and fillers for the making of cigars, and then only by flues.

When the plants are sufficiently dried, judging by the stems becoming hard, the leaves may be stripped from

the stalk ; a damp day is the best for this operation, as the moisture in the air prevents the leaves from crumbling.

They must be assorted in the following classes :—

- 1st. The best quality and colour.
- 2nd. That which is inferior.
- 3rd. The ground leaves.

Each kind by itself is made into heads (manoques) and is now ready for fermentation.

*Fermenting of Tobacco.*

For this purpose is required an airy house or barn. Make a bank in the barn as long as desired, and to the width of two leaves. Lay them point to point or head to head to the height of three feet from the floor.

As soon as they are put one upon another and covered, they become hot, sweating in the meanwhile ; this is called putting the leaves under press. As only a certain moderate heat for the tobacco in press is required, care should be taken not to have it too hot, lest the Tobacco be burned, in consequence whereof as soon as a strong heat is observed, which can be ascertained by putting the hand between the tobacco, allow them to have air for two hours, thereafter continue just as before, until the heat or sweating is over. They sweat more in damp than in fair weather.

When rain is falling the windows should be opened on the east-south-east side, closing those on the west-north-west side, taking care when the east-south-east wind is too strong not to open the windows on that side, lest the leaves dry up and interfere with the fermenting process.

The tobacco lying near the top undergoes a natural

process of fermentation, while that lying near the ground needs assistance. The top and sides must be covered with boards, thereby increasing the pressure and accelerating fermentation.

If the weather is fair the process of sweating is completed in from ten to fifteen days, otherwise it requires perhaps twice as long. This can be ascertained by putting the hand amongst the tobacco, when it will be found dry and cold. It is preferable however to keep it a few days longer in the press until entirely and well done.

During fermentation, any portion on being turned and found to be very damp or burned, should be removed from the lot.

Tobacco loses 10 o/o in weight by fermentation, but this process preserves the tobacco and improves its quality.

#### *Curing by Flues.*

Let the tobacco be placed in the barn as soon as cut, and raise the heat in the barn to 85° F. Kindle the fire in the flues every morning, raising the heat the second day to 90° F., and continue this for 3, 4, to 5 days or more until the tobacco has become thoroughly yellow. If the tobacco has been cultivated on very rich land, it is certain to have much sap; in such a case, it is important to take care not to raise the heat too suddenly, which by forcing the tobacco, will cause sweating and spoil the colour. This sweat, however, can be driven off, but the tobacco will not be as good as if it went through the process without it. When the leaves have assumed a mottled, piebald appearance, raise the heat to 95° or 96° and let it remain at that point for two hours, then raise it to 100°

for 2 or 3 hours, increase to 105° for 2 hours, then to 110° for an hour, after which continue with 2° increasing per hour until 120° is reached. Keep the heat at this point until the leaves are cured and then raise gradually 165°, which will be quite sufficient to cure stalk and stem without risk.

If cured properly, many of the leaves will be of a mahogany colour or a little paler, while the remainder will run from the bright colour of cedar to a cherry red.

Dark shipping tobacco may be cured with flues better than in any other way. No wood fire but heat with flues is all that is wanted to cure without prejudice to the quality of the tobacco.

The first step in curing is called the steaming or yellowing process. Tobacco grown in medium or not very rich land will require from 30 to 48 hours' steaming at about 90° F. to yellow it sufficiently, but tobacco from a richer soil, having more sap, takes a longer time; here the experience of the curer must be his guide.

The next step is called fixing the colour. When the tobacco is sufficiently yellow, increase the heat to 95°, this will not force the tobacco and will prevent sweating, which might redden and spoil the crop. In case of any sweating, however, which should be carefully looked for, open the doors and windows and let these remain open, allowing free ventilation through the barn until all appearance of sweating has disappeared. The thermometer will indicate a fall of 10° more or less, but only a little cooling is advisable. After the disappearance of sweat, close up the openings and raise the heat to 100° F, for 2 or 3 hours. Then advance to 105° F. for 2 hours, next raise the heat to 110° for one hour, after which con-

tinue with 2° gradually increasing, watching it carefully until 120° F. is reached. This is the curing process; the condition of the tobacco often indicates to a skilful eye the necessity for a lower or higher temperature. It is safe at the stage of 110° F. to advance 2° every hour up to 120° for medium tobacco; if the tobacco is cured, advance 5° per hour up to 160°, even to 170°, which will be sufficient to cure stalks and stem, without risk. Anything exceeding 170° may cause scorching and spoil the crop.

If the tobacco is cured and the weather is too dry to remove it, place green bushes over the floor and sprinkle water over them; if the weather is damp, there will be no necessity for this. It is however of importance to have ready some means beforehand so that the tobacco may be removed next morning.

*How to raise strong and healthy Tobacco seed for extending Cultivation.*

Before topping the tobacco, select some strong and healthy plants out of the many in cultivation, which are not subject to high winds; take care not to top these, but remove the greater number of leaves from the stem so as to allow them free growth. Leave only three branches on the stem, according to its growth; pick off all leaves, especially those growing between the capsules, and when these are brown cut the tops off, hang them in the house until well dried, with the top downward. This gives strong and healthy seed.

*Packing of Tobacco.*

White oak or our colony's Dahly and "Long John" (having no odour whatever) are suitable for the packing of tobacco.



There are also many other sorts of wood, having no scent, suitable for this purpose. Whatever kind of wood is used, it must be worked into staves at least three months before, and well dried. Young white oak will do very well for hoops.

A cask of 4 ft. high and 32 in. diameter, will contain, when trampled down by the feet, 700 lbs., and on being further pressed, up to 1,000 lbs. nett.

#### *Cigar Making.*

According to the size of the cigars from  $\frac{3}{4}$  lb. up to 2 lbs. of tobacco is required per hundred.

The tobacco having arrived at the factory is first tried by an adept in order to test its quality. Being proved suitable for cigars, it is next assorted according to its colour and its suitability for the different parts of the cigar.

The inner part is made of one kind and the inner covering of another; ultimately a third kind completes the outer covering.

#### *The Factory.*

Particles of twine, shreds of wood, etc., and grease and fatty matters must be carefully kept out of the factory.

#### *Rolling Cigars.*

The inner part of the cigar is made of fillers and wrappers by a less experienced hand than that of the finisher, and put in a mould (which mould is made to suit the cigar form as desired) the outer or last covering of the cigar is put on by a more skilful hand and tested in the mould again; thence it is taken to the

#### *Finishing Room.*

This operation is performed by rolling with a piece of smooth board (made for the purpose) over the cigars.

*Assorting the Cigars.*

An experienced eye arranges the cigars according to each colour, into Light Brown, Brown, and Dark Brown.

*Boxing the Cigars.*

As soon as the cigars are assorted they are boxed, labelled and sent to

*The Drying Room.*

This is a room of about 12 ft. square, by 10 ft. or more in height, in which the boxes of cigars are packed up, one upon another round about, with a stove in the centre. No wood fire, or fire of any mineral coal, but only a charcoal fire (which last gives no smoke) can be allowed for the drying. Kindle the fire every morning, raise the heat to 80° F., keep it at this point for a fortnight or three weeks, until the cigars are sufficiently dried; this can be ascertained by opening a box of cigars in the Drying room, for which purpose one box only out of the lot can be loosely tacked.

Return of ten acres of land grown in tobacco:—

1st Crop	...	...	...	... 9,000 lbs.
2nd do.	...	...	...	... 6,000 "
3rd do.	...	...	...	... 3,000 "
			Total ...	... 18,000 lbs.

Suitable for Cigar making, 40 o/o...	...	...	...	... 7,200 lbs.
Balance for Snuff, Chewing and Smoking Tobacco	...	...	...	... 10,800 "
				... 18,000 lbs.

For making Cigars	...	...	...	... 7,200 lbs.
10 o/o off for Ribs	...	...	...	... 720 "
			Balance ...	... 6,480 lbs.

This gives in Cigars:—

The 100 Cigars weighing	$\frac{3}{4}$ lbs. yield	864,000 Cigars.
„ 100 do. do.	1 „ do.	648,000 „
„ 100 do. do.	1½ „ do.	432,000 „
„ 100 do. do.	2 „ do.	324,000 „

*Workmanship.*

According to sizes made, 36 c. to 40 c. per hundred.

Return of ten acres of land grown in tobacco, 1st, 2nd, and 3rd crop, 18,000 lbs. of tobacco :—

For Cigar making 30 o/o...	...	...	6,480 lbs.
„ Snuff do. $\frac{1}{10}$ o/o	...	...	200 lbs.
Do. Ribs of Tobacco	...	720 „	920 „
„ Chewing Tobacco $\frac{1}{30}$ o/o	...	...	600 „
„ Smoking do. $59\frac{4}{5}$ o/o	...	...	10,000 „
			<u>18,000 lbs. of tobacco.</u>

All tobacco for smoking and snuff making should be moistened previous to cutting or grinding.

*Imparting of Scent of Flowers to Tobacco.*

The scent of Orange flowers, Roses, Jasmin, Tuberose, Muscat Roses, &c., can all be easily transferred to tobacco in this way :—Provide a small case with dry papers at the bottom and sides, put in a layer of tobacco leaves  $\frac{3}{4}$  in. thick, upon which place a layer of Roses, Orange flowers or any other ; go on in this manner until all are well packed, let them remain for twenty-four hours, then separate the tobacco from the flowers, after which repeat the process in a like manner 4 or 5 times, more or less, according to the way the tobacco has taken up the scent.

If there are plenty of flowers the change can be made every twelve hours instead of twenty-four hours.

To preserve tobacco keep it in closed boxes and in a dry place.

*Flavouring of Tobacco.*

This is done by a mixture of Lemon peel, Orange peel, Figs, Coriander seed and Sassafras, equal parts. Elder flowers, Elder berries and Cinnamon,  $\frac{1}{2}$  part each. Saltpetre 2 parts, Salt 3 parts, and Sugar 4 parts. These

must be steeped in 50 parts of boiling water for twelve hours, and before applying, flavoured with an alcoholic solution of Gum benzoin, mastic and myrrh, equal parts. This gives a flavour to common leaves resembling that of Porto Rico tobacco.

N.B.—But to this end the leaves of tobacco must be well dried.

*How to make Tobacco Oil.*

Eight to ten lbs. of tobacco juice from leaves growing next to the ground, mixed with two ounces of Olive oil and boiled together until the juice is entirely boiled away, will give five to six ounces oil of astonishing strength, greenish of colour.

Tobacco is also distilled in chemical retorts to Ol. Nicotiana for which purpose no Olive oil is required.

*Essence of Tobacco.*


Ol Nicotiana can also be distilled, and is useful to arrest bleeding, for fresh wounds, scrofula, tetter, ring-worm, itches, bruises, tumours, bites of mad-dogs, &c., and for removing warts, sciatica and lameness from horses.

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## Some Notes upon Fly Fishing in British Guiana.

By "Oxon."

 HE Editor of *Timehri* has been worrying me for some time to write him a paper for his Magazine. He complains, and not without cause, that it becomes increasingly difficult to obtain suitable articles for its pages. Subjects of interest in a small colony like this must naturally be restricted in number. There seems too to be some difference of opinion amongst members of the Society as to what are suitable articles. I once wrote a paper which was published in *Timehri* and which excited some attention; one critic described it as "splendidly written," and of course I thought he was a man of sense and taste; another authority said that it was not suitable for the pages of the journal. Some people seem to think that *Timehri* should only contain solemn articles upon Multitubular boilers or Evaporating processes; but if one may judge from the engraving which adorns the front of the Journal, the original writings of *Timehri* were of a more attractive character, as monkeys, lizards, mummies and grotesque figures are there depicted: associated more with natural history than with Sugar-making. Encouraged by the original writers of *Timehri*, and braving the wrath of the sugar planters, I am going to venture upon another article, this time a very short one.

There have been some interesting papers in the Journal lately dealing with bats, insects and other inhabitants of our colony, so I propose to write upon Fishes and how to catch them, All of us are aware how largely fishing

enters into the occupation of our people ; wherever you go you see hundreds of people fishing. On the East Coast you may see thirty people fishing in one place ; and as you travel by the Mail to Berbice, at every trench, every overflow, wherever the bush water is making its way to the sea, there you find men, women and children fishing. All our waters swarm with fish which can be caught with the rudest appliances ; but it is not of fishes as food that I wish to write about, but of fish that afford sport to the Angler.

I cannot remember in what book, or newspaper I saw it, but before I came to the colony, I saw some mention of fly fishing in Demerara, so amongst my outfit I brought a dozen of FARLOW'S best Salmon Flies. This was nearly a quarter of a century ago, but I have still two of those flies left, and with the other ten I have killed hundreds of fish. It was some time after I arrived before I made the acquaintance of any practical Angler, but since that time I have known many gentlemen in the country who were expert fishermen, and I have also heard many yarns from others as to their prowess with the rod ; we have many " Mining Experts" in our midst, but even they are not in it with the fishermen.

In my official travels up the Demerara River I used to whip its upper waters with indifferent success ; a few dog fish and an occasional—very occasional—lukananni were all I got, and it was not until the Lama stop-off became a *fait accompli*, that anything like satisfactory sport was obtained. Twenty-five years ago fly fishing was virtually unknown in the colony. It is true that the native Indian used to lure out of the waters the golden lukananni, by skimming over the surface a hook to which



a small bright feather had been attached ; but this apparently had not suggested fly fishing to any one. Mr. NICHOLSON of Pln. Farm was the first person to introduce me to the cuffum in the Mahaica Creek, when he was successful in landing some fine fish. The next enthusiastic and successful Angler was the late Mr. EXLEY PERCIVAL, who injured his health by exposing himself to the most malarious influences whilst in pursuit of his favourite pastime. I am indebted to him for some interesting notes upon fish which afford sport to the Angler.

It is a curious fact, noticed by all fishermen in the colony, that the fish are gradually becoming educated, and are now much more difficult to catch than aforesaid. All readers of "The Field" are aware how continuously this complaint is made of the over-fished rivers in England. Fine tackle, dry flies, and the absolute concealment of the Angler's person, are now requisite if you would kill a dish of trout in the clean English streams ; the fish have become so suspicious of anything like a lure. Here the lukananni and cuffum are acquiring similar suspicions, and are much more difficult to capture than they were twenty years ago. Most people think that you have only to throw in your fly and pull out a fish, but this is not so ; you must cast as carefully and work as patiently as the English Anglers if you wish to be successful. Let any one who disbelieves this compare the bag made on a fishing excursion by a scientific Angler like Mr. GEORGE BAGOT, with that of one of our city bunglers.

The finest fish in the colony for sporting purposes is the cuffum, a large fish of the herring family. My old

friend B. J. GODFREY always asserted that it is the same fish as the tarpon which affords such splendid sport in the lagoons of Florida, and I believe he was right. It is a handsome fish, silvery like a salmon, with large scales, and the gamest fish I ever hooked. He has been caught in our rivers and creeks up to twenty pounds in weight, and when hooked he makes some determined rushes; when he finds that he cannot free himself, he makes tremendous leaps into the air, coming down with a splash that makes you tremble for your tackle. The cuffum has a boney palate and the sides of his mouth are like parchment, so that it is very difficult to hook him securely; a dozen fish may be touched for one that is landed. He is generally caught with a red and white mackerel or gaudy salmon fly; but the largest fish are caught with live bait, fishing as you would for pike. As I have said, I have never seen cuffum caught with a rod, more than twenty pounds in weight; but I once saw a fish five feet in length which was caught in a net off the mouth of the Mahaica Creek.

The *Lukananni* is a beautiful fish something like our English perch, and is a most excellent fish for the table when fresh caught, unlike the cuffum which is rather poor and boney. *Lukananni* are very plentiful in the creeks when the water is running off the Savannahs and the fish are making their way into the rivers. They are caught with a large trout or small salmon fly, and are very game so long as they are running under water or leaping out of it; if however after a few minutes' play, you can get their heads above water, they open their large mouths and seem to get helpless for a time, and may then be caught in the landing net, so long as the line is not slackened for an

instant. They are caught from  $\frac{1}{2}$  lb. to six pounds in weight. They are a bold fish, and bite freely, generally taking the fly under water; their mouths are large, so the flies used should not be small, and as the waters of the colony are all dark, it is desirable to work with bright-hued flies. Lukananni bite best from 7 to 10 a.m., and from 4 to 6 p.m.; the cuffum prefers the very early morning and late evening, and may be caught on moonlight nights with an artificial white moth. The best rod for both fish is a short salmon rod with a long tapering salmon line, There are some other kinds of fish which are sometimes caught when you are trying for nobler game. The *Warraw*, which is a very fair table fish and almost as game as a trout, which it resembles in shape, though its blackish colour compares unfavourably with the speckled beauties of our home streams and lakes. This fish rises freely at a red mackerel fly with most of the white wings cut off, which I imagine they take for the scarlet dragon fly of the colony, and it was after seeing several of these risen at, that I tried this lure. They run very evenly just over  $\frac{1}{2}$  lb. each, and rise freely in the early morning in perfectly still water, where no lukananni would stir, if the fly is thrown so as to drop lightly under and close to the sedges on the further bank.

The *Wabri* is an inferior fish of a deep flat shape. It is tolerably game although it does not leap like the three first named fish. It is generally caught with bait but it will take a fly. They are seldom caught over half a pound. The *Sun fish* will take a rather bright coloured fly in shallow water; a fair fish for the table and handsome, but not very game when hooked; weighs from  $\frac{1}{2}$  to  $\frac{3}{4}$  lb.

The *Dog fish* is a savage looking pike-like fish, beautifully shot with changing colours when fresh out of the water. I have caught a few when fishing for lukananni, and they made a good fight for their size which is rarely  $\frac{1}{2}$  lb.

When upon a fishing excursion, as fish in the tropics will not keep more than three or four hours, we erect a barbacote, and smoke all the fish we cannot eat at the time. These smoked fish will keep for some weeks, and make excellent soup, or if soaked in water for a short time are good fried in butter. There are some excellent fish caught in the rivers of the interior by the Indians with night lines and spring lines, and by poisoning the water, such as the haimara, the pacu and the low-low; the last named a huge fish, is sometimes caught from fifty to seventy pounds in weight, but these fish are of no use for sporting purposes. A low-low was caught at Christianburg, on the Demerara River in March 1886, which was 9 ft. long, 4 ft. in girth, fins 13 x 10 inches and width of mouth 18 inches. *Cartaback* may be caught with a rod and line, if you bait with kneaded bread or paste, and let your bait float on the surface of the water. These fish abound in the Essequibo and Massaruni Rivers and sometimes scale five to six pounds.

It is difficult to say when is the best season for fly fishing. In the middle of the dry season when the Savannahs have drained into the creeks, I have always found to be a good time to fish; when there is too much water the people say "The fish wa'ak in the Savan." Cuffum and lukananni can only be caught in running water, it is no use fishing for them when the water is stagnant. Warraw, Sun fish and Wabri on the other hand seem to prefer the still water.

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A day's fishing in Demerara would surprise old ISAAC WALTON and his friend COTTON. No walking by pellucid streams ruffled by the cool March wind ; the Angler tossing in his hammock is awakened by the roaring of the red howling baboons just as the break of dawn reddens the Eastern skies. After a hasty toilet and a cup of steaming coffee, as soon as there is light enough to see his flies, our fisherman sallies out with his rod to cast his line in the brown waters of the Lama or Maduni. Clad in the lightest garments, his head protected from the sun by a wide felt wideawake, he is a prey to innumerable sand flies and mosquitoes which bite and sting at their pleasure. Before 8 a.m., the fierce horizontal rays of the sun burn his back, arms and hands, so that they become swollen and scarlet, and, reflected from the water, take the skin off his nose. Still the undaunted sportsman feels indifferent to all these disagreeables, if he hooks a cuffum of ten pounds, and sees the sun sparkling on his silvery scales as he leaps madly in the air, trying to rid himself of the cruel hook embedded in his jaw ; or hears the scream of his reel, and feels with a thrill of excitement the mad rush of a 5 lb. lukunnani boring its way through the brown water. As in England, fish are capricious ; some days they allow themselves to be caught with ease, at other times they are sulky or off their feed and refuse the more tempting lure. An expert Angler at a favourable season may easily catch in a day from fifty to eighty fish averaging over 2 lbs. each ; at other times with all his efforts he will catch little or nothing. Patience and perseverance is the motto for the Angler here as elsewhere.

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## *Up the Cuyuni in 1837.*

*By William Hilhouse.*

[The following, from MSS. in the Colonial Records, will be found interesting from the light they throw on the work of Mr. HILHOUSE. The account of the expedition up the Cuyuni appears to have been published in the *Guiana Chronicle* of May 12th, 1837, but as we cannot find a copy of that paper we are unable to discover whether what was published was the same as that given here. The first portion is an extract from an introduction to a more finished account than that of the "Journal," but this MS. does not appear to have been completed. The letters indicate that Mr. HILHOUSE was engaged by Mr. JOSEPH PAXTON to collect orchids and other plants for Chatsworth, and shew that the former was on friendly terms with Sir ROBERT SCHOMBURGK.—ED.]

### EXCURSION UP THE CUYUNI RIVER BY WM. HILHOUSE, MARCH, 1837.



HIS river not having been hitherto explored from the Coast, and Mr. SCHOMBURGK having selected the Courantyne and Berbice Rivers on his last expedition, I believe contrary to his own judgment, I, though in a very weak state of health, chose the Cuyuni, the course of which was only known by hearsay. I was well aware that the mountains of the interior could only be approached by the rivers issuing from the primary and central ridge, and having before ascertained from Indian domestics who had for many years resided in the Courantyne and Berbice that this was not the case with either of those streams, which had been repeatedly explored by Europeans as far as navigable, I had not thought them worthy of attention. I believe the French have explored to the eastward of these rivers, but the result of their attempt has not yet reached us.



My first object became therefore the filling up of that blank on the Map which exists between the mouth of the Cuyuny and the Missions of the Carony river, so as to give an actual and tangible idea of that part of the course filled up hitherto in all the maps by an imaginary line, with localities not in existence. My second to furnish the Conservatory at Chatsworth with Orchidea of the elevated savannahs of the interior, the noble proprietor having munificently furnished the pecuniary means required.

The Cuyuny river is peopled from the mouth to the first falls on the south bank with straggling Caribisce Indians, for the most part refugees from the Missions of the interior. Lazy, drunken and faithless, they are nevertheless the only crew to be got for exploring the upper river. I found them and the coloured people generally in a state of starvation, subsisting solely on the green papaya boiled; not a cake of cassada to be purchased at any rate (price)—they were mere animated skeletons, and on enquiring the cause of all this squalid misery, I found it, strange to say, the result of the Protestant Mission established at the confluence of the Massaroony with the Essequibo, whose first essay at conversion had this melancholy effect. They had taught religion but not industrious habits, supplying the wants of the Indians without an equivalent return of labour, and by the abolition of feasts and dances, abolishing also that provision of cultivation requisite for the supply of Piworry, their native drink, consumed enormously on such occasions, but the stock of cassada planted for which was always a security from famine. I visited some of the Indian fields and found their cultivation limited to less than a half of

the usual extent, and on my upbraiding them for this neglect I was uniformly answered :—" We are Christians and God will feed both us and our children." I am happy to say that latterly the Mission at Bartika has improved in its system under the clergyman recently appointed, but its former ill success should be a lesson to those sending out Missionaries, who however pure in intention have not mind enough to perceive the paramount necessity of establishing in settlements of any description, a good commissariat.

JOURNAL OF AN EXPEDITION UP THE CUYUNI RIVER IN  
MARCH, 1837, BY WILLIAM HILHOUSE.

Having long laboured under the most distressing biliary symptoms, which had reduced me to a state of great debility, I resolved this month to try what the air of the mountains would do towards the restoration of my health. This journal may therefore be termed the diary of an invalid, as I made no observations, and took no instruments but a watch and Schmalaalde. I divested myself of every scientific pretension but the collection of such granitic orchids as might fall in my way.

I reached the Calicoon Creek in Massaroony River on the first of March, and had to return to town for craft and supplies, as I found, notwithstanding the establishment of a Protestant Mission at Bartika, the whole population literally without bread, and it was necessary to proceed loaded with rice, a dilemma to which I had never before been reduced. My illness had now assumed the decided character of dysentry, with which, however, I started on Tuesday, taking up only two hands and a woman, and at Timmerman's, about two hours up the Cuyuny, engaged five others. On starting next day I found that Timmer-

man had stowed away two women and two children in addition to my already overloaded craft, and I must either take them or stay. I had no resource so submitted. My crew now consisted of seven men, three women, two children, myself and boy, the women all Caribisce; I caution all future travellers against a similar one. The Caribisce are at the best proud, filthy and unsteady workmen, but these were half-starved and weakly, and their headman was a member of the Mission who drank his grog stiff in the day and bellowed out prayers and hymns all night to my great annoyance. I found also that the eighth commandment was not a part of his original decalogue nor of his ladies', especially with regard to the item of rum.

#### JOURNAL COMMENCES

1st day. Wednesday, 16th March. Started at 9, Course W. by N. At 10 the First Acayu, rapid or fall. At 11 at Sarejataara, the 2nd Fall and a portage. At 12 Twarung. At 1 Ematubboh, called below the Great Fall. At 3 Arcaboora. At 6 Camareea, slept. The dryness of this detail must be very uninteresting, but it is absolutely necessary to give some idea of the course of the river. The epithet Ematubboh signifies a portage or fall that cannot be passed without unloading and hauling up the craft over the rocks. There are two in this river, one in Courantin and one in Barama. I had this day the assistance of a free man as a labourer, to my great relief, as the Caribisce were weak from hunger and had little idea of facing a fall in so large a craft as mine. We ascended this day fully (1) + 10 + (2 and 3) 15 + (4) 20 + (5) 12 + (6) 20 = 77 feet, a day's work which I conceive at the outset to have deterred former explorers,

for I found to my great surprise that from this to the 18th day's journey is a virgin river as to its ascent, though I am assured that refugees from the Spanish Missions have descended it—a Mr. or Dr. BURTON, I recollect as one.

At Camareea I found four or five of the Orchidæ common in Hobabba Creek, 12 miles from Georgetown.

2nd day. Thursday 17th. Dried cargo wetted in the falls and started at 11, Course W. by N. Wokoh or the Posiro mountain right ahead.  $1\frac{1}{4}$  Wokoh Creek S. shore; Oerabisce Creek, N. shore. At  $4\frac{1}{2}$  having crossed to the N. bank slept at the foot of the Suwarima Fall. We made this detour to the right to avoid the second Ematubbah by a string of rapids in another channel, one hour's course N. by W. from this. At the foot of Suwareima I formed some conception of the rapidity with which the Pacou swims; one was in a basin with two aperatures, the lower one too small for it to escape by, the upper stream rushing down nearly 3 feet perpendicular hardly broader than the fish. I reached this whilst calling for an arrow; the fish sprung up the opening and was 50 feet up the stream in less than half a second; its flight was barely visible.

3rd day. Friday 19th. Started at 8. Fall very difficult, about 30 feet but in ledges. Veered again southward and slept at 4 at the Acareema fall; fine Pacou shooting at this fall.

4th day. Saturday 19th. Started at  $7\frac{1}{2}$ . At  $\frac{1}{4}2$  reached the Tonomoh and at  $\frac{1}{4}5$  the Payouca and slept there. Passed numerous small rapids this day and had much sport with the fish.

5th day. Left Payouca at 8. Heavy rain in the night; Scotch mist in the morning. A few rapids above, after which a large opening—oars and sails—course W. by N. From Camareea to Payouca is a semi-circle by which two large falls in the direct course are avoided, and one large and several small falls and rapids substituted for them. I assumed the direction of all the ascents as I found the Indians little acquainted with the power of purchases, and experience had taught me how little they were to be depended on with anything but one of their own bark canoes or woodskins, which two men can carry on their heads with great ease. Former excursions had made me at home in the falls, and I noticed the ease with which they surmounted difficulties that appeared impracticable, under my direction; assumed courage and faced the falls nobly whilst I was at the bow of the craft. If I left it everything stood still, and if I took a ramble on the rocks in search of plants I was sure on my return to find the corial in *statu quo*, and the crew gorging themselves with anything at hand in the eating way. All Indians are gluttons, but the Caribisce will out-eat all the other tribes.

I must observe that though mechanical knowledge is of great assistance in *ascending* it is quite useless in *descending* the Falls. Then the quick eye, dexterous hand and unshaken nerve of the Indian are inimitable by any exertion of European science—he who interferes with them in *shooting* a fall does so to his own destruction. Payouca is 200 feet above the level and 47 miles West from our departure. Several blocks of stone were found here of a bluish tinge and of so fine a grain that we sharpened our cutlasses, axes, knives, &c., upon them, but

so exceedingly hard that they gave out sparks on the slightest blow with iron.

Halted and slept on an island opposite the Sarãmu Creek, N. shore. Here the path sets off to Pomeroun and Wayeena Rivers, and is the same traversed by GULLIFER and SMITH in 1820. It is computed at 5 days journey to the Wayeena by the Indians—equal to 7 or 8 of an European's.

6th day. Started at 8, caught a loulou of 50 lbs., course W. by N., still water. At 9 Warara rapid; at 2 Watoopery rapid, small, but very long. Totonow Creek N. bank at  $9\frac{1}{2}$ . We spoke this day two woodskins loaded with turtle for the coast, and bought 3 days cassada—oars  $\frac{1}{2}$  the day; slept at Watoopery at 3.

7th day. Started at  $\frac{1}{4}$  7, course S. by W., dense fog. At 9 Copary Creek N. bank, at  $\frac{1}{2}$  10 Bayuma Creek S. bank. Here the river clear of islands and 150 yards across. At 2  $\frac{1}{2}$  Waycory fall, long and difficult, rocks like the slope of a glass-house— $\frac{1}{2}$  this day course W. oars, sails—and a good breeze right aft.

8th day. Started at 7; course W. by S., clear of islands. Halted at  $\frac{1}{2}$  past 9 at the foot of the fall Acoreywaught where we unloaded for the 6th time, and halted for the day and night to fish, hunt and dry cargo. The water is here quite black and transparent; hitherto it had been alternately dark and clear and white and muddy, as it passed through rocky or clayey banks, so that the epithet of a *white* river to the Cuyuni is inapplicable from this point upward, all being a dark water. I reckoned this fall 124 miles west of our departure and 220 feet above the level of the sea.

9th day. Started at  $\frac{1}{4}$  8—course W. by N. At 9.10



Toropaaru Creek from which is the communication with the Puroony Creek in the Massaroony, SMITH and GULLIPER'S route in 1820. At 10 N. by W., at 11 N. by E., at 12 Acha rapid, at one course N. by W., at 3.20 W. by N., at 3  $\frac{1}{2}$  Maya creek N. shore,  $\frac{1}{4}$  4 course N, 4  $\frac{1}{4}$  course W. by N.,; 5 o'clock halted for the night at lower Arapeera.

10th day. Started at 8  $\frac{1}{2}$ —course W.—river spotted with rocks—250 yards broad, very shallow—here and there islands, and full of small rapids. At 11.10 Toco Island, where a white man, most likely a smuggler, is reported to have resided some years since. Halted at Waseema Island at 4.

11th day. Started from Waseema at 7  $\frac{1}{2}$ —course W. by N. Caught in the night 2 large Parwareema and a very large Pyara. At 10 Soomeyrey fall and rapids, again unloaded. Heavy rapids from hence to Wohmaypongh or the "canoe wrecker" which is the highest fall in the river, 30 feet. Here we unloaded and transported the corial with great difficulty over a portage 300 yards across. I reckon the head of this fall 500 feet above the level and 176 miles (W.) distant from our departure. I must here premise that most of the large falls in this river are preceded and followed by a string of rapids which are all included by the Indians in the appellation of the great fall, to which they are attached. They are of greater altitude often than the fall itself, as in the present instance, where though I allow only 30 feet for the great fall its rapids make at least 50 feet more; in all 80 feet.

The channel of the river from Soomeyrey lies through black granite with detached upright masses with round

tops, on which grow stunted bushes and in many instances an *Onoidium*, which is the only Orchideous plant that I have found exclusively attached to the granitic region. Our stages from this point present little variety, being for the most part through still water.

13th day. Started at 6, course W.—8, course N. W.—at 11 Otamungh fall—at 4 Wataweyha—sails and oars.

14th day. Started at 6, course W.—8½ course N. W. Kanaima hills ahead—8.10 S. W.—8.20 S. by W.—at 9 the Accaway settlement Lorenzo, being the first habitation we have seen since starting, at the foot of the Kanaima fall. Finding here no bread we left at 12. At 2½ had passed the Kanaima falls. S. at ¼4, halted at the island of Upper Arapeera, which, with the neighbouring islands was full of *Quassia amara*, being almost the only under-wood. Caught 3 very fine *Silures* this night, viz.; a low-low and 2 marepayhas.

15th day. Started at 6—course W.—at 10.7 open river ¼ mile broad—at 9 Comang Creek S. bank, course N. W.—at ¼ 10 Carapoury Creek, N. shore, where we halted till 3, being the first Caribisce settlement, which is 5 miles inland. Here I procured our first supply of food, viz., cassada, yams and plantains of the finest description. Started at 3.10, course W., and at 5 slept at the foot of the Macabbah rapids.

16th day. Started at 6. At 7½ passed the rapids and hoisted sail—course W. At 9 10, course S. W.—at 9½ Eyrecooney Creek, S. bank, where the Spaniards penetrated in the Patriot war—course W. by S. open river 150 yds. across. At 10.11 course S. by W.—at 1¼ course S. W.—at 4 reached Mauricio's, the second Caribisce settlement on the S. shore, where we slept. It is called

Unawarooka from a small creek just above. In this day's progress we had two views of the mountains of Tippoo-rah and Monarocara; the ridges appear to run S. E. and N. W., and their northern faces seem about 2,000 feet high, the half of which is in an angle of  $75^{\circ}$  and the lower or debris  $45^{\circ}$ . They differ in this from the mountains of the Massaroon which are perfectly precipitous on their N. faces, though the rock appears similar, and they are covered with stunted trees to their summits and along them. They terminate at the South bank of the river, nor have I seen any indication of hills worthy the name of Mountains on the North side. At this place I found a prismatic cactus, parasitical, with long flower stalks shooting from the base of the new joints; I looked in vain for a duplicate.

17th day. Started at  $6\frac{1}{4}$ , course S. W. At  $7\frac{1}{2}$  course S. by W.—at 25 min. to 9, Coopeyre Creek, N. shore— at 10 the great sand of Maypuribaud, course S. W.—at 20 m. to 12, course W. by N.—At one reached the Accaway settlement of Awara-pooty and slept there—river black—sailed all day. Level 400 feet—distance 268 miles.

We found here a bell from one of the deserted missions—a cooloo and a red rumped powis, both common in the Wayeena and Barema rivers.

The people of this settlement, except 2 or 3 women, were all up the river at a Piworry feast, we procured however fresh bread and a few yams.

18th day. Started at 6.20, course W. by N.—at 12 m. to 8, course S. W.—at  $8\frac{1}{2}$  N. W.—at 9 Cateyu, a Spanish Military post in the Royalist time— $9\frac{1}{2}$  Corooma Creek, N. shore. The water of this creek is as muddy as that of

the Demerary at Georgetown. Being the lowest direct communication with the Spanish Provinces it was the old route of smugglers, and the Company of soldiers at Cateyu were as much for the prevention of smuggling as for the protection of the Missions, as it cut off all communication with the lower river, which I find from the old Indians was prohibited. I have no doubt that from this point upwards the Spanish have good authorities, but there is every reason to believe that the lower part is yet undelineated and as I took no observations must remain so for the present. The course is however undoubtedly W. by N. on the average, and my distances are far from overrated, oars and sails being frequently used and the descent occupying nearly as much time as the ascent.

The Corooma Creek is also famous or infamous as being the scene of the cool blooded murder of the Missionaries of the Caroonay who were hunted down and shot by the ruffians employed in this service with relentless cruelty. All the older inhabitants, both Accaway and Caribisce, above this, were converts of these Missions, and they all agree as to the fact of the Missionaries being shot in their attempt to escape through the Corooma to Demerary. Such is civil war!

The creek was dry and stagnant, the communication being only open during the rains. At 10½ Amacaynia where was a great Accaway dance of about 300 people. This being the second day (of the feast) the Piworry was beginning to operate, and when our large square sail—the first seen on these waters—rode right up to the landing, they gave a yell of astonishment. As soon as they found however that we were not Spaniards everything in

the house was lavished on us, and it was not until my crew had imbibed at least a gallon a head that I could get them away, scarcely able to breathe from repletion. These dances are an undoubted symptom of reversion to barbarity. But, it is a substantial proof, even at this date, of the merits of the Missionaries, that they are spoken of universally with feelings of the most affectionate respect and regret, whilst their persecutors are held in the utmost abhorrence, and every possible epithet of detestation is coupled with the name of *Spaniard*, in comparison with whom his Satanic Majesty is held as a Saint, as an Indian very gravely told me:—"We never knew hunger under the Padres, for though we worked for them our children's mouths were ever filled with bread and beef." Indeed, though I found this country comparatively a land of plenty, there is no doubt that animal food is of very precarious supply and that the flocks of cattle in the savannahs, which were regularly killed and served out as rations, made the life of an Indian of the Missions one without care or privation. They endeavour in some measure to supply the loss of beef by raising common fowls, which were plentiful in every settlement at about eighteen pence a couple.

At 10½ to 1 our course was S. W., when we halted on the N. shore to fish and hunt, being out of meat, but without success, the dancers having swept the bush of game for miles round, for their feast.

19th day. Started at 6½, course S. by W.—at 7½ S. by E.—at 5 m. to 9, W. by S.—at 10 m. to 10, after ½ an hour's halt, W. ½ S.—5 m. to 11 S. W.—11½ W. by S. At 12 reached the mouth of the Coora-Coora Creek, the settlement of the Accaway Provincio, and pitched the

tent on a large sand at the base of the hill on which his house stands.

When I found in the course of my progress that health and means were sufficient for a more prolonged excursion than I originally projected, I fixed on this creek as the limit, having heard of the high savannah at the head in which I expected to Botanize advantageously. Though I went a day further up the river, this creek therefore may be deemed the limit of my excursion, and I made two trips up the creek and over the falls to the savannah in question. It is situated in the range of two branches of the Ekruyekuh mountains, between which the Coora-Coora Creek runs in a succession of unnavigable rapids for at least 20 miles. I consider the savannah 1,500, and the mountains on each side 2,500 feet above the sea, and I was beyond measure astonished to find at this elevation the plants, with two or three exceptions, exactly the same as those common to the Demerary sand hills and the alluvial creeks within the influence of the tides and a few miles from the sea. The only peculiarity worthy of remark was that plants below purely parasitical (*epiphytes*) were here growing in whole acres on the bare sands and covering boulders and cliffs of granite without a particle of soil attached. *Oncidium* and the commonest *Orchidia* of the creeks below were thus situated, but the more choice specimens were either very scarce or wanting. One *Oncidium* alone I characterise as exclusively granitic, with a long pear-shaped bulb, and a very elegant flower-stem 6 feet high, much resembling *O. altissimum*, with which it is intermingled in great clumps. This and the cactus I have before described are the only Botanical novelties I have seen



in the granitic region, greatly to my disappointment. Even the forest trees were similar, only that about here a tree unknown below, with a black heart, called the "Taou" supersedes the Mora, which was till now the undisputed lord of the forest.

After five days' halt and exploring the creek and the upper settlements I therefore returned. The river had fallen fully four feet and the falls were becoming more and more dangerous. The rains were evidently setting in and I determined on returning. Little interest can be excited by a description of the difficulties attending my return with a crew reduced by desertion to only four hands. It is even infinitely more hazardous than the progress up, but I was prepared for it, and after a descent of 15 days I arrived safe at Calicoon without any material accident.

The Cuyuni river is by no means so picturesque as the Massarony. The land is nevertheless superior in quality to that of any other river I have yet explored. Hills of a very fertile red sandy clay here and there occur, and these the Indians cultivate to great advantage. None however can compete with the alluvion of the coast. Two crops of ground provisions, and three or four of plantains are the extent of production, but the crops for these two years are enormous, and they are soon restored. Native cottons I found of the finest quality. The race of Indians are, in stature, appearance and conduct, far superior to any I have seen on the coast. This is solely attributable to the labours of the Missionaries, under whom polygamy was forbidden and those premature sexual connections common on the coast also prohibited. The effect is evident in an

improved race both morally and physically. Humanity must mourn the extinction of that system of instruction which had gone so far in rescuing these children of the forest from natural vice and its consequences. It must indeed have been a noble system when its effects, after 20 years of abandonment, are still enduring, for I make no scruple in asserting that the refugee Indians of the Upper Cuyuny are, as were the same class in the Morocco Creek till the heartless neglect of Government ruined the latter, the most moral industrious, good mannered and trustworthy of any free labourers in the Colony, without respect of country or colour.

Of a far different description are those who, preferring the rum of the plantations to the fruits of honest industry, have come down the falls and settled in the vicinity of civilization. A total disregard to honour in their dealings, beastly intemperance, with a spice of cant and fanaticism acquired from casual visits to the Mission at Bartika and a few casual visits of the Missionary to them—this is the class of people that the protestant mission has to convert and I need not say that the attempt is a hopeless one. I have every wish to see the work of conversion carried on to the utmost, I care not by what sect of Christians so they be such. But as an Indian Mission the Bartika one is a total failure. The Indians of the vicinity are much more depraved than they were before the Mission was established. Famine has driven numbers from their homes to seek a mendicant subsistence on the coast, and Georgetown swarms with Indian women living by prostitution. I make no charge against the founders or the acting agent but I insist on it that the first duty of the Missionary amongst the Indians is to promote agricul-

ture. There will be no religion where there is no bread, and if famine be a natural consequence of the introduction of a Mission it will be a greater curse to the Indians than an Indian Post—a nuisance which I did not believe it possible to surpass. On my arrival in March in Massaroony I saw no fields burning, and what cultivation I saw or heard of was far below the adequate scale. This was not so of old. In February the Indian cut down the bush for his field—in March he burnt the wood on the ground—in April he planted his cassada for the next year's supply. Not merely the Indians but the free people of colour were in the same predicament—not a cake of cassada bread could be bought for any money in either of the three rivers. The Indians and free people in the vicinity of the Protestant Mission were starving—the Indians beyond its reach were revelling in plenty. This fact speaks volumes. I bought in Coora-Coora 50 pounds of hard dried cassada bread for a three bit knife. It cost me 6 shillings a day to feed my crew with rice from Georgetown to the Harapeery Creek—2s. 4½d. *per diem* afterwards with cassada. It would be unfair to infer that because the beginning has been unfortunate the end must necessarily be so also, and common report gives the clergyman now in charge of the Mission a character of great zeal and worthiness. But it is a melancholy prospect for the colony to see such a result as the present from freedom, civilization and religious instruction, after so many years of experimental progress.

I have added little in this excursion to Geographical or Botanical science. The Yuruary river and its savannahs were still five days journey off when I turned back just in time to encounter incessant rain in the Massa-

roony. But I think the point is determined that the Granitic Region is not the region of Orchideous or indeed any other plants, which only grow there in much less vigour, variety and plenty than in the immediate vicinity of the Coast.

It is evident that colonization can never be attempted in this river—the first day's journey determined that. The only outlet for produce is the Yuruary, Corony and Oro-noque. But, the cottons are of a staple and quality unequalled, though not unknown to me. They would be a most valuable article of commerce, but alas! Dr. HANCOCK himself could never get them down these tremendous falls. The Cuyuny river is therefore a treasure that never can be opened—its resources are closed for ever.

My expedition it will be seen occupied 20 days in ascending and 14 in descending. In the Massaroonny one day of descent equalled three of ascent. But I had the breeze right aft in the still waters, and with a very large sail made as much way for several days against the current as I did in returning with it. My longitude of 300 miles West will be found rather under than over the mark, and my computed elevation, corrected by observations in the more direct course of the descent, will be found not excessive. The altitude of the mountains is a matter of pure conjecture; but it is founded on their character and appearance, which in all these rivers is so similar, that the debris, the sloping, and the perpendicular formation seem to embrace one general law of altitude and are the same in all places after passing the ridges of secondary hills.

The wind was always either E. or S.E. though the

upper current of clouds was N.E., like the sea breeze. I found no peculiarities in the Zoological department. The channel up is circuitous in order to substitute numerous small rapids for single great falls. There are three portages for the corial itself and six more for the baggage alone, whereas in Massaroony to a similar elevation there is only one portage, viz., at the mouth of the Caboory Creek. I should suppose that a line drawn W. by N. would intersect the average course of the river to the Yuruary, beyond which the Spanish authorities give it a semicircular detour to the South.

I can find no traces of any one having preceded me in the survey of the lower part of the river; the truth is few corials are equal to it, and the woodskins or bark canoes of the Indians are so inconvenient to sit in, and carry so small a cargo that few would attempt the ascent in them. The coloured people below are ignorant of the passages after the first day, and the Indians themselves do not know how to manage a large craft. My former habits gave me an advantage that succeeding adventurers will appreciate, to whom I would state that beyond all other rivers the Cuyuny is the most difficult and dangerous in the ascent, and should only be attempted with a corial like mine of the very finest description, and with a crew of the native Accaway Indians of the river itself from the upper part, for I would not wish my greatest enemy such a crew as I was obliged to put up with, the Caribisce below the falls.

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Chatsworth, Feb. 2nd, 1838.

Sir,—I had much pleasure in receiving your interesting letter of December, 1837, and was sorry to learn by

it of your protracted indisposition. I hope this will find you perfectly restored; I had fully intended to have written to you early in last month, but from numerous pressing engagements I was unable to do so, but being however at length a little relieved I shall proceed to answer your letter in the best manner in my power. The cargo forwarded from the Cuyuni River reached us in good condition. A few species only were damaged, I presume from the splashing of the sea water, this however did not signify much, as most of the kinds had been sent before, except an *Oncidium* with flattish, ovate, sharp-edged bulbs; this I think will probably turn out new and handsome, but there is no appearance of flowers at present; some of the others I consider valuable, but as they have not yet flowered I cannot say more about them. I have told His Grace the Duke of DEVONSHIRE of your intention to collect for the New Store this season; he is willing for you to draw to the amount of (*blank.*)

The following is a list of the named kinds that have been sent here from Demerara, but there is a few others that have not yet flowered which may prove good: *Acropera Loddigesii*, *Batemanian Colleyi*, *Bifrenaria aurantiaca*, *Gongora*, many good varieties, *Coryanthes speciosa*, *Epidendrum nocturnum*, *Ep. nocturnum var. latifolium*, *Ep. hymetrophyllum (imatophyllum)*, *Ep. fragrans*, *Isochilus lineare*, *Maxillaria cristata*, *Myanthis barbatus*, *Ornithidium album*, *Oncidium Lanceanum*, *Rodriguezia secunda*, *Stanhopea grandiflora*, *Trigonidium obtusum*. All named above have flowered here except *O. Lanceanum*; those written in red ink\* are the most showy and handsome, any quantity of the

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\* Those in italics,



latter will be highly valuable at Chatsworth, particularly of *Oncidium Lanceanum*, *Maxillaria cristata*, and *Coryanthes speciosa*, and the species I before mentioned to you with long drooping rush-like leaves ; it has flowered with Mr. LODDIGES and is called *Maxillaria Steelii* ; the flowers are large and handsome. We possess two varieties of *Oncidium Lanceanum*, one from Demerara and the other from Surinam, but I am informed that the flowers of the former are much superior to those of the latter both as respects size and colour. I am sorry it is so scarce with you.

Our method of treating *Cryptopodiums* is to plant them in broken sandy fibrous peat and pieces of pots, keeping them moderately wet in summer and partially dry in winter ; this system we prefer to any other ; although I believe rotten wood to be very good for them, yet I consider fibrous sandy peat and pots better. There is such a similarity between decaying oak bark and wallaba wood that I think it would not be advantageous or even advisable to send any, still I am much obliged by your promise to do so. The *Cactææ* you sent reached me safe, and from your description, they will form a new species nearly allied to *C. triangularis*. We pay great attention to the plants and I am glad to say they are thriving well, so that I hope to have flowers soon. I am much surprised that the long-bulbed *Oncidium* should grow so fine and produce such long flower scapes on the sterile surface of a granite rock ; this is a new feature in *Orchidææ* culture and will probably assist much in treating this one. I have no doubt we shall succeed well with it, for from its appearance, no plant can be in a more prosperous state. I have not had an opportunity

of seeing SCHOMBERG'S drawings, but perhaps may do so in a little time. I fancy the Epidendrum you describe with 20 large scarlet blossoms will prove a new Oncidium, from what I can see of it at present ; of the particulars of this I shall inform you hereafter. I am sorry to say your suspicions respecting Coryanthes by the *Sandbach* were too well founded. for when the plants reached Chatsworth there was scarcely a living bulb. This I much regret as they are so very valuable. Catasetums we have an infinitude of most of the described kinds, so that it is unnecessary to trouble you for more this time. Your remarks respecting the *Monaçanthus* are very interesting ; I shall correct the error respecting the bulbs the first opportunity. The idea of sending out garden pots is very good, but I do not think the advantage of doing so will equal the expense and trouble ; still I will more maturely think the matter over and act accordingly. We have a plant here of *Brassia elongata* ; could you procure any of it for us ? I had the pleasure of forwarding you by Liverpool two cases, one filled with figs and the other with vines, of the best sorts we could spare ; I hope they have reached you safe before this. I don't know what vessel they went by as I entrusted them to a friend of mine in Liverpool, but I feel no doubt of their being shipped correctly. Respecting your account for Mathematical Instruments with Mr. SCHMALDADO of London, I will settle it the first opportunity. You request to know all the Botanical news in England and really I feel at a loss to tell how to answer you. The Botanical, or rather I might say the Horticultural World seems occupied chiefly in the cultivation of Orchideæ, indeed such is the rage for them among the

few who have collections that no price is thought too great to attain them. Next to Orchideæ stand the Pineæ or Fir Tribe; these plants are so scarce and so much sought for in England that I have deemed it expedient, and have at this time in agitation, an expedition, to the Western Coast of America, to go out in November for the purpose of introducing a large quantity of this family, the finest kinds being chiefly from there. In this expedition I have decided to send out two competent young men as collectors; this I think will be of infinite advantage, and secure such an introduction of valuable seeds as have not been seen in England for many years. Upon the whole I think a taste for Horticulture is on the increase in England for all seem anxious to possess a collection of plants.

Some plants you sent were so damaged that we could not save one. With the large stove I am progressing as fast as can be expected considering the many hindrances that always arise in jobs of such magnitude. In fact the whole affair appears in such confusion that I cannot attempt to give you any idea of the appearance it will represent when finished, which I hope however to be able to do in about two years. The palms will come safe if planted in tight boxes in sandy soil with sticks of wood nailed across the box to keep the soil about the roots. The box must be glazed on one or two sides like the roof of a hothouse, and while on the passage be exposed to the light as much as possible, but secured from sea water and intense cold. I am much pleased with and thankful for your remark on *Musa*, and shall dry the fruit in the way you describe. I have eaten some of it (Writing undecipherable here.)

The roots you sent of a species of Passion flower I think will prove quite new, I like them much on account of the interesting foliage ; are the flowers large and handsome ? I am glad to inform you that His Grace the Duke of DEVONSHIRE enjoys good health ; he has been some time at Chatsworth and takes an increasing delight in his Garden and Plants. Are there any variety of Succulent Plants, *Caeteæ*, &c., &c., about yours ; if so would you send me some ? With best wishes for your health, I remain, your very humble servant,

JOSEPH PAXTON.

P.S.—There is a good deal of dishonesty practised in the Liverpool Docks by Florists and others with newly imported plants of every description. I would suggest that all plants sent here in future be carefully packed in a close secure nailed box. In this manner I am sure the plants would come safe and reach Chatsworth without being subject to the pilfering tricks of the above classes. However, to prevent their damaging from want of light, the box or packing-case might have a roof as before described ; two or three panes of glass 6 x 4, let into the roof on one or both sides would admit sufficient light for them during the yoyage. The case sent with vines and figs I should like to have returned filled with such plants, whether Palms, *Orchideæ* or Succulents, that you think will be acceptable here. J. P.

WILLIAM HILHOUSE, Esq., Demerara.

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London, 3 Waterloo Place,

Novr. 30th, 1839.

My dear Sir,—Mr. STUTCHBURY, I have no doubt will have communicated to you my safe arrival in London.

Although we had a stormy passage we had a quick one and landed 35 days after we had left Demerara, in London. I was unfortunately more or less unwell during the whole passage and was really thankful that we made such a quick journey.

London was comparatively speaking empty at my arrival; I was rather glad that thus an opportunity was offered to me to pass the first month undisturbed, and only bent to restore my health.

Before I had an opportunity to deliver the letters which you were good enough to give to me for the Duke and Mr. PAXTON, he had heard of my arrival and was good enough to invite me to Chatsworth, where I had the pleasure to deliver your letter. He inquired very kindly after you, and put several times the question whether it was not likely you were to return, which I certainly could not answer. The Duke was very condescending, much more than I ever could have expected, and showed me himself his princely palace, and those famed collections of tropical plants. I was more than surprised when I visited that gigantic conservatory, which occupies an acre of ground, and is in its highest part sixty five feet. The Duke observed that when once ready he intended to drive with his carriage in it. He hopes to have his plants in the course of six months in it. I remained three days in Chatsworth.

Mr. PAXTON was very kind and really anxious to hear of you. He appears to stand very high with the Duke and well deserves it, being such an intelligent man. His Orchideæ are in most excellent order and in many instances as vigorous as in their native places. I need not tell you that all the Guiana species had come from you.

I have just made arrangements to publish twelve views taken from sketches in the interior during the late expeditions. The Duke of Devonshire, who was pleased with the Sketches and the scenery which they represented, has kindly given permission to have them dedicated to him.

Mr. STUTCHBURY will give you a Prospectus. The sketches are all to be drawn over for displaying every effect, and ACKERMAN has undertaken to publish them. As it is to be done on my expense I would not commence the work until I am secured by the numbers of subscribers, and I beg therefore your kind co-operation with my other friends to procure subscribers.

I have found in Captain WASHINGTON a most excellent man and very kind friend. It appears to me that no person would be more fit for the situation which he occupies.

I should be very glad to hear from you and what tour you have sketched out for the next dry season.

Believe me, very truly yours,

ROBERT H. SCHOMBURGK.

The three Indians who came over with me are in excellent health, and not a little astonished at the sights of London—although their faces do not betray it. It is evident, if we consider them endowed with reason, that it must make impressions upon them.

WILLIAM HILHOUSE, Esq., Demerara.


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## *On the Potaro.*

By *C. A. Lloyd.*

BOUT the middle of last May, I left Georgetown on a trip to the Potaro River and was detained for several days at Bartica Grove, awaiting the chance of a passage in the first Gold Digging boat bound in that direction.

While staying at Bartica I was agreeably surprised to observe the change that had taken place in the little township during the last few years. Several new buildings, private as well as public, had been erected, the streets were in better repair and in a more cleanly condition, the people I met, orderly and well behaved, and the whole settlement bore altogether a more cheerful mien than it did when I visited it three years ago.

It would be hard for anyone to prophesy what the future may have in store for Bartica; the present tiny collection of houses may be but the nucleus of a large and flourishing town in years to come. Certain it is that no better men could have been chosen to look after its welfare than its present Board of Commissioners, and the people of Bartica may feel assured that every effort will be made to secure its advancement. The whole thing however seems to depend on the progress of the Gold Industry—if that fails Bartica is inevitably doomed. On the other hand the opening up of a payable quartz mine on any of the rivers in its neighbourhood would mean sure and certain prosperity.

After waiting patiently for about five days, at last

through the kindness of Mr. H. H. GRANT, I was offered a passage in the *Iona*, a boat he was taking up to the Potaro Landing with provisions and material for Mr. V. R. CARTER, the officer superintending the making of the new road between the Potaro and Konawarook rivers. Bidding adieu to Bartica, I set out on what proved to be the most uncomfortable trip I ever experienced.

The time usually allowed for laden boats to make the voyage from Bartica to the Potaro is from seven to eight days, though it has been done in five, but this latter was an exceptionally quick passage. In our case it took the whole of the allotted time (eight days) to accomplish the journey.

Our crew was as motley and lazy a crowd as could be picked up anywhere, and consisted of the regulation Boviander Captain and Bowman, five Partamona Indians, a Russian sailor, several black and three coloured men, one of whom was an ex-tailor from Georgetown and mortally afraid of the falls.

Although we had made an early start from Bartica, we camped that night much below Bethany Island, and on spreading our tarpaulin it was found so perforated with holes, as to be hardly of any use should rain fall; the prospect of a fair night however induced me to sling my hammock under the trees. This promise was however deceitful, for no sooner had I settled down comfortably and dropped off to sleep, than the rain began to fall heavily, and unfortunately for me, a couple of the men who had tied their hammock ropes over mine had contrived to get well under shelter of the tarpaulin, and were so sound asleep, that finding it impossible to awaken them in time to untie the ropes, I was compelled to leave my

hammock to get soaked and seek shelter with the rest under the leaky tent. The consequence was that the remainder of the trip being performed for the most part through rain, I slept in a wet hammock until it was eventually dried by the heat of my body.

On the third night out we ran into camp very late at a place infested with winged termites on their "marriage flight," the air being so clouded with them, that we could hardly open our mouths to speak, but kept moving up and down, brushing them away, as far as possible, with branches, to prevent their getting into our eyes and noses. Besides these annoying pests the ground was alive with swarms of hunting ants, which chasing in their march numbers of cockroaches, crickets and other insects, made us take to our hammocks rather hurriedly, and there remain until morning, never daring to place our feet on the ground.

From this point nothing further occurred worth recording (except continual rain) until we arrived at the Ahara cataracts, where through the bad management of the crew our boat narrowly escaped being swamped.

On a large rock on the right hand side of the inner "haul over" at this fall, there are to be seen three deep boat-shaped grooves, evidently the work of human hands. Some few feet away from these marks, a small portion of the rock has been worn smooth, indicating that it was once resorted to by the Indians for polishing their stone implements.

Early on the eighth morning we came in sight of Tumatumari, the first of a series of beautiful cataracts which culminate in the Kaitaur.

The Potaro is without exception the most picturesque

of all the rivers I have seen in British Guiana, but it has been so often described in the pages of this Journal, that I can add nothing new to the picture.

I am informed that small emeralds have been found in the sand that collects in the hollows of the rocks at Tumatumari.

Over and against the fall, and perched on a hill, is the Government Gold Station. The Officer in charge received me most kindly on our arrival, inviting me up to his house for breakfast, and I left the captain to look after the transporting of the load across the portage at the top of the fall, where it was put into another boat. After spending a short time with Mr. SPENCE, I went down to the water-side to embark and found that our newly acquired boat had a rotten gunwale and that the load was too heavy to admit of the party sitting on top of the tarpaulins. Mr. SPENCE kindly helped us out of the difficulty by lending one of his small boats, also placing at my disposal the services of his captain.

Everything being at length arranged, I started from Tumatumari at about one o'clock and reached the Potaro Landing at 7.30 p.m., worn out and tired, having paddled a distance of nine miles against a strong current, and through a soaking rain accompanied by heavy thunder and lightning.

The large boat with my baggage came up to the landing about half an hour later, and feeling my way in the dark down a slippery path to see after my traps, I discovered that my prospecting bag, containing hammock and blanket, had been foolishly left behind at Tumatumari, so that I was forced to make a bed for the night on some biscuit boxes at the "Inflexible" Gold Mining

Company's Magazine. The next morning as luck would have it the bag turned up in another boat. It had been found on the rocks, where my men had left it, by Mr. SPENCE'S boat hands, and promptly forwarded on. I never expected to see it again, for there were any number of labourers from the Gold-fields about the Station at Tumatamari looking for a passage to Grove, and who would certainly have annexed it, had it fallen into their hands.

There are about seventy-five houses, or rather sheds, at the Potaro Landing, the red Neponset covered roofs of which stand picturesquely amidst the tall trees. These sheds are mostly used as Magazines for storing the provisions belonging to the different placers aback, and the filthiness of their surroundings is absolutely disgraceful, one's sense of smell being offended by abominable odours wherever he turns. It is a pity that the placer-holders should not compel the men in charge of these Magazines to keep them a little more cleanly.

One unpretentious shed is known as the "Garnett Syndicate Store," and the man in charge holds the Office of Post Master, for which I am told he receives the large sum of five dollars, monthly. He has caused the following sign to be nailed to a tree :—

Potaro Post Office.

GARNETT & CO.

Potaro Gold Mining Agency.

All kinds of ordinary Provisions.

Here follows a list of Gold Diggers' requisites, amongst other things mentioned being spoons, slippers, drawers, shirts, &c.

A little removed from the Magazines stands the Church,

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on a hill having a very steep approach from the river. The Revd. F. W. B. DORSET is the resident parson, and he deserves all praise for the energetic manner in which he has laboured to get the Church built and in trying to bring the Indians together. It seems to us a great shame that he and his young wife should be forced to exile themselves in such an out of the way place in the vain endeavour of civilising the Indians.\* The hope of teaching a Guiana Indian to be of any use to himself and his fellow brothers of the forest, through the present regime adopted by the Church, is about as baseless as anything can be. As far as my observations lead me, the only benefit the Indian has as yet derived from the effort to christianize him, is that he has learnt to steal, indulge in strong drink and wear ill-fitting clothes, which last, if of any use at all, certainly render him a most ridiculous object to behold; in fact the poor fellow is simply spoiled. Truly the breath of civilization is poison to the Aborigine! If some one must be sent among the Indians to civilize them—but I almost think they are better left to themselves—what they require is a practical man accustomed to roughing it, who would first of all teach them to live in settled communities, to build proper houses and to cultivate their provision fields systematically, so that they may grow more cassava, &c. than they can consume, and be able to dispose of the surplus profitably. Let him teach them some trade, such as boat-building, carpenter's or joiner's work, and then find them employment. Such a man would do more good

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\* I have since learnt that the Revd. Dorset has accepted an appointment in the Grenadines,



for the Indians than hundreds of Missionaries and religious tracts.

The need of a medical man in the Potaro is sorely felt and it occurs to me that the Government have been very remiss in not appointing one. There are between three and four thousand men engaged in the gold fields on the Potaro and Konawarook Rivers, and the amount of human suffering there is something shocking. Several instances have come under my notice of men dying from sheer ignorance of the nature of their complaints, and the exposure and delay at the waterside while seeking a passage to the Hospital at Bartica. The following two instances of intense suffering may be quoted, which go far towards proving the dire necessity for a Doctor and a Hospital in the District.

A labourer employed on a placer in the Konawarook dislocated his jaw in vomiting, and although he applied for relief to two competent sick nurses, one at the "Hope" placer and the other at "Iron Sides," they were both afraid of breaking the jaw in attempting to replace it and fully two days elapsed before the poor fellow succeeded in obtaining a passage to Bartica. Whether he reached there safely I am unable to say. Again, one of three Indians engaged in droghing provisions to a placer was taken sick with fever. His companions came to our camp and asked for a dose of fever mixture. Not having any I gave instead 5 grs. of quinine wrapped up in a cigarette paper. For several consecutive mornings they kept coming for quinine until our slender stock of the drug was finished. We did not see them again for about a week, when suddenly one morning they re-appeared and asked us to send a couple of our men

with them to assist in digging a grave for their friend. Taking two of my men with me, I followed the Indians to their hut and found on arriving there, that the poor fellow was not dead, but had only fainted from pure exhaustion. I did all I could in the way of sending him a small supply of provisions, but as he was so weakened through the lack of proper care and treatment, I have not the slightest doubt that long ere this he must have died.

Such are the troubles borne almost daily in the search for "Potaro gold."

The Potaro and Konawarook Road, which has just been completed, extends along the line of the principal placers for a distance of fifteen and a half miles, and Mr. V. R. CARTER deserves great credit for the very skilful manner in which he conducted the work. It appears that a few of the placer holders are somewhat dissatisfied with the windings of the road, but they forget that these windings were necessary for the purpose of avoiding swamps. I do not see what anyone can find to grumble about, and feel perfectly satisfied that private enterprise would never have accomplished it.

About two miles in from the water-side the road passes through a portion of the forest that has been burnt. The conflagration seems to have been very recent, and its course can easily be traced by the charred and blackened tree trunks. The fire is said to have originated with some gold diggers who halted here to rest one night and left a fire burning, which ignited the forest around for a considerable distance. The place is known as the "Fire Burn," and extends over two to three acres.

Along its whole length the road is intersected by numerous small creeks, over which substantial trestle

bridges are thrown, and in places where the ground is low and swampy wooden culverts have been put down, the hollow trunks of old mora trees answering the purpose admirably and supplying lasting and ready-made material. It is thought that donkey and mule carts will soon be employed in drawing stores to the placers, but it would be far better if the Spanish mode of transporting goods either in "Argenes" or "Banusters" were adopted.

The Potaro is separated from the Konawarook by a fine range of mountains, the highest of which, about one thousand five hundred feet, has been named by the Gold-diggers "Eagle" mountain, from an Indian legend that it was once the home of a great Eagle which preyed upon women and children.

Most of the placers, or at least the principal ones, are situated on the "Mahdia" Creek and its tributaries. "Mahdia" is an Indian corruption of the English name MARIAH, and was so called from the wife of an old Chief who for years resided near by. The gold diggers have further improved upon this word by adding the affix "ana," and named a smaller branch of the Mahdia, "Mahdiana."

Very many of the larger placers are now being worked over for the second time, but it is doubtful whether they will be able to hold out much longer. In my opinion Potaro is now seeing its best days, and, should no new paying claims be found, or a mine opened up, I venture to predict that in the next five years Potaro will, like the Puruni, be practically abandoned.

There are at present fully a hundred small companies in the Potaro and they are regarded with suspicion by

the larger ones, who designate them "Pork knocking" Companies—a very unpoetic name, seemingly derived from their habit of wandering or "poking and knocking" about the bush for the purpose of working other people's claims on the sly. There is no doubt that a lot of this sort of thing is carried on, and that gold is frequently stolen or smuggled from one placer and sold to another.

In the early days of the Gold Industry the "tom" was the only instrument used for washing gold in the colony, but now, since the working of a sluice is thoroughly understood, it is seldom seen except in the possession of some small Company.

A sluice consists of a series of long narrow trough-like boxes, fitting into each other telescope-fashion. These boxes are generally from twelve to fourteen feet long by sixteen inches wide, and tapering to fourteen at the ends. In the bottom of each box or "dol" as they are usually called, two riffles (narrow sticks nailed on brackets so as to form a rough grating) are placed about a foot apart and in the spaces between them or "checks" the quicksilver that catches the gold is distributed. The first and last boxes respectively are known as the water and waste (or mother) "dols," the former being a sort of aqueduct, and the latter passing off the worked sand and gravel into a long canal or tail-race.

The number of men required to work a sluice depends upon the number of boxes of which it is composed, each box requiring two men to spade, thus if a sluice consists of four boxes there are eight men, and if of five boxes, ten, and so on, with the addition of one and sometimes two men at the tail-race, to keep it from becoming blocked with sand. These, with a foreman and two boys on the

top of the sluice, whose duty is to pick out large stones and soften the sand in the "riffles" with hay forks, complete the crew.

There is nothing very scientific about the working of a sluice in this country, the most difficult part lying in the setting of the boxes at a proper grade or angle, but after a few weeks of practice anyone with a little tact can become proficient in the art.

It is very amusing to hear some gold-digging managers brag about the setting of a sluice. Each one thinks his style is the best and is sure to find fault with the way in which those of other men are fixed. They consider it a great feat of engineering skill to set a sluice properly, and are very proud to hear any one say that they are good hands at it.

The gold digging labourer on the whole would have a happy time of it were it not for the tyranny of those in authority. The name of "Manager" applied to some of these men is a misnomer. A good many of them can neither read nor write, and never lose an opportunity of venting their petty spite on their poor labouring brethren.

It is a common saying that the white man hates the black, but the bitterest hatred of all exists between black and black, and the gold fields is the place where it is most conspicuous.

Something should be done to check the system (or rather want of system) of fines that these "Managers" impose.

Not long ago a Manager on his departure for town left a hen and eight newly-hatched chickens in charge of a boy, who besides other duties, had to cook for a gang of a hundred men. A day or two after the lad took over

his charge, a heavy rain fell, and the chickens were drowned in a small drain. On the Manager's return the poor boy was fined one dollar each for the chickens, which were not a week old, and when his order was made up he was paid at the very lowest wage. This is only one of many instances,

Like all Guiana forests, that clothing the banks of the Potaro is singularly devoid of showy flowers, nearly all the forest trees having small ones borne at the very summits far out of sight. Those trees belonging to the Natural Orders *Lecythaceæ* and *Bignoniaceæ* are, however, exceptions to the rule, some of them having fairly large and brightly coloured blossoms, but these are only to be seen after they have fallen to the ground in a disorganised condition.

Now and again one comes across the large white flowers of the "Coopa" (*Clusia* sp.) strewn along his path, with their curious sticky discs invariably turned upwards. The gold diggers believe that they are sure to contract the "ground itch" should they happen to tread on one of these faded flowers.

During its younger days the Coopa lives as an epiphyte, but later it becomes the secret assassin of many a noble Mora, to which tree it appears to have a great liking. The "Bull Tata" or bush Carrion Crow, *Ibycter Americana*, is very partial to its small seeds, and, with the parrots, seems to be the chief agent in disseminating the species.

In the more shaded places where the sunlight faintly struggles through the thick foliage overhead, a curious *Calathea* with broad oval leaves, marked along their centres with dark spots, as if they had been touched with



smutty fingers, and a singular looking grass, *Pariana* sp., attract attention.

High up the tree trunks the Zebra wild pine, *Billbergia Zebrina*, puts forth its hard stiff leaves, variegated at intervals with wavy bands of purple, having a curious effect when seen from below. Strange broad-leaved epiphytal aroids and polypodiums deck the larger branches, and growing amongst them here and there the singular cactus, *Rhipsalis pachytera*, dangles its flat, curiously scalloped phyllodes, which often become reddened in places from the effect of strong light.

In swampy hollows where the soil is always reeking with moisture, the long sword-shaped leaves of *Spathanthus unilateralis* bend in graceful curves across the narrow track, and the bifid-leaved *Carludovica Plumieri* as it clings fondly to the trunk of some hoary giant, gives the traveller the idea that he gazes on a wonderful climbing member of the palm tribe, but which really belongs to a different order, viz: the *Cyclanthaceæ*.

The vegetation that springs up on the heaps of "back sand" in creeks that have been worked for gold, is of a very interesting character, being usually quite different from that of the surrounding forest. Here one sees many familiar coast plants, the common though pretty Silver Fern, *Gymnogramma calomelanos*, the Watchman plant, *Achyranthes aspera*, several species of *Desmodium*, and *Bidens bipinnatus*. One can easily imagine their seeds sticking to the flannel of a labourer or the pyjamas of some gold digging manager, who thus unwittingly transported them from their homes so far away. Several species of *Fussiaea*, *Lycopodium cernuum* and a pretty little *Sipanea* which is seen nowhere else in the forest,

grow profusely on the sand heaps, and it is by no means an uncommon thing to meet with a few shrubs of the pleasantly flavoured "Marivirrie" pepper. Wonderful downy-leaved *Melastomaceæ*, prickly *Solanums*, and the Guana's tail, or "Wait-a-bit" bush *Mimosa myriandena*, form the bulk of the vegetation, making it almost impossible to walk in some places without tearing one's clothes.

In the clearings around the gold-diggers' camps, a species of *Sida* very like *S. rhombifolia*, the sweet broom, *Scoparia dulcis*, the leaf-of-life, *Bryophyllum Calycinum* and the "half-a-bit" or "himara scales" *Beyrichia scutellaroides*—a tiny *Scrophularia*—are all common plants; this last is said to be a powerful emetic. Side by side with this wild vegetation, pumpkins, sweet potatoes, plantains, peppers (capsicums), guinea-pepper, (*Amomum Granum-paradisi*), yams, pine apples, sugar canes and limes are cultivated, giving an air of homeliness and comfort to many camps which they really do not possess.

The principal forest trees of Potaro are mora, dackama, kakarally, monkey-pot and wallaba, but crabwood, purple heart, silverbally and greenheart, are also to be found in several places.

There seem to be two sorts of crabwood and silverbally. Of the former, one kind is called "bull-forehead" crabwood and is generally avoided by axemen and sawyers, as being very much harder than the common kind. The wood is very difficult to saw into planks, dulling the cross-cut saws and often breaking the axes, when felling. It is distinguished from the common crabwood, *Carapa Guianensis*, by large protruding excrescences on the trunk.

Besides the silverbally proper, there is another kind known as "wallaba gale" silverbally, which we are told literally means wallaba barked silverbally—the word "gale" signifying bark or skin. The wood of this tree is very hard and pretty, being of a light straw colour, with silvery streaks (the medullary rays) running through it. The leaves of the two trees differ considerably, and one of them (we forget which) exhales a very pleasant odour when freshly cut.

Towering above every other tree, even over the stately mora of WATERTON, the purple heart (*Copaifera pubiflora*) spreads its crown of finely divided leaves to the scorching sun. From the bark of the purple heart the Indian fashions his frail wood-skin canoe, in which he and his family travel from one part of the Colony to the other, safely and apparently in comfort. The wood is exceedingly hard and tough.

Had the ancients been acquainted with this tree, its straight cylindrical stems would have furnished them with excellent beams for their battering-rams and other engines of war.

In temperate countries the gorgeousness of the woods in autumn is due to the hectic flush of death, in Guiana on the contrary it is the freshness and vigour of health that decks the leafy landscape in gay attire, and our forests throughout the year can present patches of colour unsurpassed by anything out of the tropics. To say nothing of the various shades of pink and red with which the young leaves of some of our trees are dyed, we do not think that nature has ever painted in any part of the world a more brilliant object than a tree I saw near the Ouruwa cataracts on the Rupununi river. It was about

60 feet high, a perfect pyramid in shape and one dense mass of golden flowers from top to bottom. In the background were some palms (*Attalea* sp.) whose gracefully arching fronds, illuminated by the setting sun, completed a picture we shall always remember. The tree was of the *Bignonia* family but to what genus it belonged I am unable to say.

A mora just bursting into leaf, and some of the Pachiras, whose young leaves hang in lambent tresses from the extremities of the branches, like bunches of fly-paper are as unique and pretty studies in foliage as one can desire.

In comparison to the other rivers, the Potaro is very poor in game; except the labba (*Cælogenys paca*) and the ubiquitous acourie, which seem to be particularly common, one seldom meets with or sees traces of any other wild animal.

A remarkable fact connected with the distribution of the acourie and its near relative the adourie (*Dasyprocta acuchy*) is that while the former is found on both banks of the Essequibo River, the latter is only to be obtained on the right bank.

The large maam, *Tinamus subcristatus*, which is so commonly found in other parts of the Colony, is rather scarce in Potaro, and only on rare occasions does its mournful cry come wafted on the evening breeze. Trumpet birds or "warracabbas" (*Psophia crepitans*) are often met with, and one day I came across a very large flock while rambling in the bush, but not having a gun with me they went by unmolested. There is a second distinct species, or a well-marked variety, of this bird occurring in the Potaro. Unfortunately the one I saw had been shot by an Indian, who brought it to me partly

plucked and eviscerated, so that I was unable to note the sex. It differs from the common species in having stout green, instead of slender dark slate-coloured legs, and is a trifle larger in the body than the type.

The common warracabba lays its eggs in holes in the trunks of trees at a height of from 15 to 20 feet from the ground. One nest I took in the savannah contained seven dirty-white eggs somewhat smaller than those of a fowl. The Indians assert that when the young birds are hatched, the mother takes them one by one in her beak and flies with them down to the ground.

Warracabbas, a few maams, and one powise (*Crax alector*) were the only game birds observed during the whole time of my stay in the Potaro, but I was told that when the balamally tree is in bearing a marudie (*Pene-lope* species) can be obtained in tolerable numbers as they come to feed on its fruit. The balamally is a soft-wooded tree, the bark of which is often used as a flooring for houses.

I met with examples of many of our bright-plumaged birds, the *Cotingidæ* and *Pipridæ* being well represented. Both the white and yellow headed manikins (*Pipra leucocilla* and *auricapilla*) were very common, and on one occasion a fine specimen of *Pipra suavissima* flew by within a few feet of where I sat and caught some insects that were crawling on a log.

The purple-throated and purple-breasted cotingas are fairly common, and examples of either bird could generally be seen on a morning's walk along the shaded trails of the gold digger.

Ant thrushes are numerous, although seldom seen, owing to their sombre colours and shy habits. Here I saw

for the first time *Myrmotherula pygmaea*, one of the smallest of the *Formicariidæ*, he was contentedly hopping about some creeping vines, but flew away immediately as he caught sight of me. The curious cry "Bull! bull! bull!" of *Myrmeciza cinnamomea*, another of the ant thrushes, was constantly heard in the evenings, but I never could get to see the bird, although I tried several times to do so. In the distance the call of this bird sounds very much like the noise a man makes by blowing into his cutlass handle when he is lost in the bush, and some of our men declared that they had frequently been led astray by it.

Various species of the *Dendrocolaptidæ*, the entire family of which is composed of brown birds, were often seen running up the trees in quest of insects and their larvæ, on which they feed, and all through the sultry days the shrill reveille of the green-heart bird, *Lathria cinerea*, resounded through the dark recesses of the forest with untiring persistence, until one was almost distracted by the echoes.

Both species of our large red-crested woodpeckers are very common, and the noise they make when testing the stability of a tree is a characteristic forest sound.

In spiders the Potaro seems to be very rich, and I saw some "fearfully and wonderfully made" members of the class. One fellow had a jet-black head and legs, his abdomen being adorned on the back with eight spines disposed as follows: two short ones on either side a little below the point of articulation with the head, two a trifle shorter in the middle, two about a quarter inch long at the end of the abdomen, and two immediately below these a short distance from the very prominent



spinning apparatus. A broad yellow streak extended the whole length of the abdomen, and the texture of the whole body was of a rather hard nature.

Some very singular spidery-looking creatures with enormously long legs, one pair extremely attenuated and hair-like, were often seen crawling over the bushes and even in our tent. Their bodies were either brown or yellow, almost round and very small. Specimens that I collected and forwarded to the British Museum for identification, were pronounced by the Arachnologist of that famous institution, not to be true spiders, but to belong to the family *Phalangidæ* or Harvestmen. Very little is known of their habits, and their head quarters seem to be in South America.

One evening my men killed a large "Ting-Ting, *Heterophrynus chirocanthus*, but I never afterwards saw another specimen. Butterflies, beetles, and a host of other insects were common. The magnificent bright blue *Morpho menelaus* often glided noiselessly along our trail, dazzling our eyes with its splendour. Low down to the ground, transparent-winged *Hæteræ* were observed flitting among the brush-wood and appearing in the subdued gloom of the forest more like the shades of departed butterflies than real living things.

The flame of our lamp at night attracted a strange looking Neuropterous insect having very long antennæ, which terminated in a club-shaped end with a yellow spot in the middle of the club. Its wings were like those of a dragon-fly with smoky brown reflections, and black spots on the outer margins, a little below the tips, which were more darkly shaded than the other parts. The insect belongs to the genus *Ascalaphus* and looks

as if some one had fastened a dragon-fly's wings to the head and body of a butterfly. A species of *Evania* exactly like the form found on the Coast, but having whitish bases to its antennæ, a green cockroach, and a fire-fly with brown elytra also visited our midnight lamp regularly. The fire-fly, when held in the dark, emitted a pale bluish light which gave to the part of the hand on which it fell the same ghastly appearance that the electric arc light gives to any one standing under it.

Of beetles, *Euchroma (Buprestis) gigantea*, the large "sawman," (*Prionus cervicornis*) and the steel blue *Phanæus lancifer* were by far the most common. The latter could always be obtained in places where there was any putrid or stercoraceous matter.

In every nook and corner of the sandy floor of our camp the larvæ of the ant lion, *Myrmeleon*, constructed their small funnel-shaped pits, which we often obliterated in order to see the little creatures excavate new ones. Although the larvæ is common both here and on the Puruni river we have seen but few specimens of it in the *imago* or perfect state.

A handsome brown and green terrestrial lizard (*Ameiva* sp.) is common all over the Potaro district, and in some places is so tame that it can almost be captured with the hand. I dug up several of their nests in an old tail-race at the Rhodius Syndicate's placer on Turtle Creek. Each nest contained from five to six eggs, about an inch long and covered with a tough leathery skin stretched tightly over the contents. Like its cousin the salempenta (*Tupinambis nigropunctatus*), large specimens will sometimes attack young poultry, and one day while we were at breakfast one of them deliberately

stalked into the kitchen where some young guinea fowls were being fed and made an attempt to carry one off, but on being pursued by the cook and his assistant, he was made to drop his prey which was picked up gasping its last breath

The Gama (*Polychrus marmoratus*) and another dark brown lizard, marked and spotted with black, and having a greenish stripe down its back, were often observed. The latter would sometimes come into the camp and climb about the thatch on the roof in search of crickets and cockroaches.

I saw and killed two venomous snakes during the trip, both labarrias (*Trigonocephalus atrox*). Several fine specimens of the aboma, (*Epicrates cenchria*) and one or two large anacondas, or water camoodies (*Euneetes murinus*) were met with, and our men reported several others, so that snakes may be said to be fairly numerous.

No very great variety of fish inhabit the tributary streams of Potaro. The himara (*Macrodon trahira*), "hoorie" and "yarrow" being the only kinds we saw, but in the river itself pacu (*Myletes asterias*) cartaback (*Tetragonopterus* sp.) the low-low (*Piratinga reticulata*) and several others are however to be obtained.

As the dry season sets in, swarms of cow-flies (*Tabanidæ*) make their appearance, and with them their hereditary foes the green and black banded sand wasps. An ugly brown earthworm nearly three feet in length, then leaves its burrow in the parched earth and crawls slowly over the pathways in search of moisture. The small creeks dry up almost entirely, or dwindle to tiny streams, the tree fogs utter their hoarse cries less often at nightfall and the wood-ants (*Termites*) when crossing

any open space construct tunnels of earthy and vegetable particles to protect their soft bodies from the heat, which becomes so oppressive as to be hardly bearable even under shelter.

After roughing it for about six months in the Potaro Gold-fields, I at last one Sunday bid good bye to the district. I never recollect feeling so much pleasure on leaving a place. Nothing can be said against the district itself; it may be a little unhealthy, but it is very picturesque and extremely interesting from a Naturalist's point of view, in fact it is a place where it may truly be said that "every prospect pleases and only man is vile."

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## Early English Colonies in Trinidad.

By N. Darnell Davis.



ON the 18th of February 1797, Trinidad was taken from Spain by a British Force under Admiral Sir HENRY HARVEY and General Sir RALPH ABERCROMBY.\* When the news reached England that the noble Island had been added to the Empire, the guns at the Tower of London were fired off in honour of the event.

2. An account of the early history of Trinidad, in the *Sloane MS. No. 3,662*, which is preserved in the British Museum, is herewith printed. It shows that early in the Seventeenth Century, three attempts were made to establish an English colony in that island, but without success. Before taking up that manuscript, it may be well to glance at the Spanish connection with the island, and to observe how the place was frequented by English sailors in Elizabethan and Stuart times.

3. After its discovery by COLUMBUS in 1498 Trinidad was left very much to itself by the Spaniards. In 1499, that turbulent Cavalier ALONZO DE OJEDA, with JUAN DE LA COSA and AMERIGO VESPUCCI in his com-

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\* Some account of the taking of Trinidad will be found in the 24th Volume (pp. 181 to 182) of the *Naval Chronicle*, and in Joseph's *History of Trinidad* (pp. 189 to 199). Don Joseph Chacon, the Spanish Governor, was a high minded and brave man. Apodaca, the Spanish Admiral, was a poor creature. Although the story may not be true, that, on Chacon's saying, "All is lost!" Apodaca, exclaimed, "Not all, I saved the image of St. James of Compostello the Patron of my ship, and my own!" it seems to indicate the estimation in which Apodaca was held,

pany, landed at three different places in the island. According to NAVARRETE the natives were Caribs, or cannibals, of fine presence and stature, of great vigour, and very expert in the use of bows and arrows, and shields, which were their proper arms. After becoming satisfied that the Spaniards were friendly, the Indians bartered with them. OJEDA found traces of COLUMBUS'S visit, near the Dragon's mouth. OJEDA may have met Caribs in Trinidad, or he may have said in his haste that the natives were Caribs; but the evidence seems to favour the view that the Arrawacks were the aboriginal tribe, who were subsequently invaded by Caribs. RODRIGO DE FIGUEROA had a special commission in 1520 to ascertain which were the places inhabited by Caribs, who might be warred against and enslaved. He reported that the islanders of Trinidad were not cannibals, but very quiet people. All the same, these poor Indians were from time to time brutally raided by Spaniards, and were carried off into slavery in other colonies.\*

4. In 1541, a sorry sort of craft entered the Gulf of Paria, by the Serpent's mouth, and, after labouring for several days off the island, at last got out by the Dragon's mouth. Its ropes were made of grass, and its sails of blankets. On board of it was FRANCISCO ORELLANA, who, after deserting GONZALO PIZARRO, had made a voyage of 2,500 miles down the Amazon to the sea. The brigantine had brought him from the mouth of that great river. He subsequently fetched the island of Cubagua, where, with gold and emeralds picked up

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\* See the French edition of the Works of Bartholemew de las Casas; Paris 1882. In Vol. 1, Article XIII. treats *De l'île de la Trinité et des côtes de Paria et de las Perlas.*



on his descent of the Amazon, he bought a vessel and sailed away to Spain. With him went the news of his great discovery. He at the same time spread the tale of the warrior women, for whom he revived the name of Amazons.

5. In 1592, DON ANTONIO DE BERREO Y ORUNA removed from Margarita and settled at Trinidad, the better to carry out his project of exploring Guiana. In quest of the rich Empire, he had spent 300,000 ducats. Of him RALEIGH wrote :—“ This BERREO is a gent. well descended, and had long served the Spanish King in *Millain, Naples*, the low Countries and elsewhere, very valiant and liberal, and, a gent. of great assuredness, and of a great heart.” It was BERREO who founded the town of Saint Joseph, the early capital of the island. His wife was a niece of the celebrated GONZALES XIMENES DE QUESADA, who founded the New Kingdom of Granada. According to Spanish views, BERREO ‘conquered’ Trinidad from the Indians.

6. BERREO was not long left in undisturbed enjoyment of his island Kingdom. The English sailors who, in the spacious times of good Queen BESS, did much to break up the Naval Power of Spain, had, even before the failure of the *Invincible Armada*, taken their pleasure in the West Indies: smiting the Don with swashing blows. Some of these sea-dogs looked in at Trinidad. As far as possible, in their own words, let us get their impressions of what they saw there, as they have been preserved for us by HAKLUYT of honoured memory.

7. Master ANDREW BARKER, of Bristol, had a score to pay off against the Spaniards, for injuries done at Teneriffe. He determined to himself redress those wrongs.

On Whit Sunday, in June 1576, he set out from Plymouth with two Barkes. One of these was the *Ragged Staffe*, of which BARKER was Captain. The other was the *Bear*, with WILLIAM COXE, of Limehouse, as Captain. After touching at the Cape Verde Islands, the freebooters shaped their course 'over the maine ocean,' for the West Indies, and arrived 'happily' at Trinidad. They had 'conference with certaine Indian inhabitants thereof, who gave them very friendly and 'courteous entertainment.' During the six days that BARKER'S expedition spent at Trinidad, a pinnace was set up that had been brought out in the *Ragged Staffe*, and traffic for victuals was held with the Indians. From Trinidad BARKER'S vessels went on to Margarita, where they began the serious business of their voyage by taking a Spanish ship, which had in her 'certaine pitch 'and 30 tuns of Canarie Wines.' Of the wine, they 'reserved 4 or 5 tunnes to themselves, dismissing them 'without any further damage.' The voyage was fatal to BARKER, who was killed by the Spaniards in the Bay of Honduras. His men did not return to England until they had done much injury to some of the Spanish settlements.

8. In 1593, or 1594, Captain JACOB WHIDDON was sent out by Sir WALTER RALEIGH to gather information about Guiana. WHIDDON, who was esteemed by his master as 'a man most honest and valiant,' visited Trinidad. He was observed by BERREO, with whom he 'had speech,' to be inquisitive as to BERREO'S proceedings, and as to the country of Guiana. During WHIDDON'S stay at the island, a ship called the *Edward Bonaventure*, commanded by Captain LANCASTER, and on her

way from the East Indies, was driven into the Gulf of Paria; WHIDDON went 'to seeke' her.\* In his absence 'BERREO sent a *canoa* aboard the pinnace onely with *Indians* and dogs, inviting the company to goe with them into the wods to kil a deare, who like wise men in the absence of their Captaine followed the *Indians*, but were no sooner one harquebush shot from the shore, *Berreos* souldiers lying in ambush had them all, notwithstanding that he had given his worde to Captaine *Whiddon* that they should take water and wood safelie.'

9. Sir JOHN BURROUGHS is said to have 'surprised' a town in Trinidad, in 1594. Sir WILLIAM MONSON, who is the authority for the statement, gives no details.

10. Sir ROBERT DUDLEY†; being of a bold, adventu-

\* In 1593, the *Edward Bonaventure*, on her return from the East Indies, called at Trinidad. Henry May, whose account of Captain James Lancaster's voyage is preserved by Hakluyt, says:—

In the moneth of June we arrived at the island of Trinidad in the West Indies, hoping there to find refreshing; but we could not get any, by reason that the Spaniards had taken it. Here we were imbayed between the island and the maine; and for want of victuals the company would have forsaken the ship; whereupon the Captaine was inforced to swear every man not to forsake the ship until we should see farther occasion. Out of this bay called *Boca de Dragone*, it pleased God to deliver us; from whence we directed our course for the Isle of S. Juan de Puerto Rico.

† Sir Robert Dudley was Knighted at Cadiz in 1596, by the Earl of Essex. He was a son of Queen Elizabeth's favourite, the Earl of Leicester, and of Lady Sheffield, then a widow. Dudley appears to have proved that his parents had been married before his birth: but after his birth, they married others, as if their own marriage had never taken place. By Leicester's will, Dudley became, in 1589, the owner of Kenilworth, and other places. He married a sister of Thomas Cavendish, the circumnavigator. Of the singular career of Sir Robert, a very interesting account is given in the XVIth Volume of the *Dictionary of National Biography*.

rous spirit, and having large means at his disposal ; prepared to set out for the West Indies, 'without hope there to do anything woorth note.' He wanted 'to see some practise and experience, then any wonders or profite.' On the 6th of November 1594, he sailed from Southampton. His vessels consisted of the *Bear*, of 200 tons and 140 men, his Admiral ; the *Beare's Whelpe*, Vice-Admiral ; and two pinnaces, the *Frisking* and the *Earewig*. After touching at Plymouth, they proceeded on their voyage. Stormy weather deprived Sir ROBERT of his three consorts ; but, he went on his course. He made many chases of vessels, off the Coast of Spain, only to find that they were English. He spent twelve days at the Canaries, to some purpose, taking two very fine carvels under the calms of Teneriffe and Palma. These, 'both refreshed and amended his company,' and increased his fleet to three vessels. Continuing his voyage to the West Indies, he touched at Cape Blanco, and thence shaped his course for Trinidad, where, on the 1st of February 1595, 'he came to an anker under a point ' thereof called Curiapan, in a bay which was very full of ' pelicans, and he called it *Pelicans' Bay*.' Curiapan, called by COLUMBUS *Punta del Arenul*, is now called Hicacos, or Icacos.

11. The *Bear* afterwards fell down lower, to a place called Paracoa, now known as Cedar Point : which was a convenient place to water, ballast, ground, and grave the carvels. A sponce, like a half-moon, was thrown up on shore, for protection against the Spaniards, of whom nothing definite could at first be gathered. All the men were then sent ashore.

On the 17th of February, the two carvels were sent off

‘to try their fortunes in the Indies:’ they being able to ‘do more good’ in the Indies than greater ships.

12. After the carvels had been sent away, only 50 men remained with DUDLEY. Then, he learned that BERREO, the Spanish Governor, had sent off to Margaritta, and had got thence 300 soldiers. Thus re-inforced, BERREO sent messengers to DUDLEY ‘in kindnesse.’ The latter, on his part, had no reason to assault the Spaniards, ‘because they were both poor and strong.’ For ‘his experience and pleasure,’ he marched four long marches upon the island: the last being from one side of the island to the other, which was a march of about 50 miles. He and his men went and came through ‘a most monstrous thicke wood (for so is most part of the yland), and lodging in Indian townes.’ DUDLEY gives the following description of Trinidad:—“The country is fertile, and ful of fruits, strange beasts, and foules, whereof munkeis, babions and parats were in great abundance.” About 3 leagues to the eastward of Pelicans’ Bay, a mine of Marcazites was found. The stones ‘glistened like gold (but all is not gold that glistereth), for so they found the same nothing worth, though the Indians did assure them, it was *Caluori*, which signifieth gold with them.’

13. The natives of the island, who were Arrawacks, DUDLEY described as, ‘a fine-shaped and a gentle people, al naked and painted red. their commanders wearing crownes of feathers. These people did often resort unto my ship, and brought us hennes, hogs, plantans, potatoes, pinos, tobacco, and many other pretie commodities, which they exchanged with us for hatchets, knives, hookes, belles and glasse-buttons.’ The Caribs,

DUDLEY learned here, were ‘man-eaters or canibals, and great enemies to the islanders of Trinidad.’ He made a note of some of the words used by the islanders, with their English meanings: and these are preserved in HAKLUYT.

14. During his stay of thirty-nine days at the island, DUDLEY collected information from the ‘Savages’ about Guiana, and especially of those parts of the ‘Maine over against Trinidad.’ He sent off his ship’s boat with fourteen men to the Orinoco, to discover a Mine of Gold, of which he was told. After sixteen days’ absence, ‘making but one night’s aboad anywhere,’ the exploring party returned to Trinidad. They brought news, among other things, of a rich nation, that sprinkled their bodies with the ‘poulder of golde, and seemed to be guilt, and farre beyond them a great towne called *El Dorado*, with many things.’ DUDLEY wished to go to Guiana, and see for himself: but his men had suffered such hardships in their journey of 250 miles, in a rowing boat, that not one man would go with him, albeit, as he says, he had a commision to hang or kill them.

15. While the party were gone to the Orinoco, those who remained at Trinidad were rejoiced at being joined by Captain POPHAM, in ‘a pinnasse of Plymouth.’ If DUDLEY had not lost his own pinnaces, he says, he and POPHAM would have ‘discovered further the secrets of those places.’ As it was, they stayed on some six or eight days longer for Sir WALTER RALEIGH, who, as they surmised, ‘had some purpose for this discovery; to the ende, that by their intelligence and his boates, they might have done some good.’ Sir WALTER did not arrive at Trinidad for some weeks afterwards, so DUDLEY



and POPHAM re-watered their ships at Paracoa, and set sail from Trinidad, on the 12th of March, 'to see further of the Indies.' On the 13th, when 25 leagues to the northward of *Granata*, they took a small prize of 'Sackes,' which 'refreshed them well.' DUDLEY arrived at St. Ives, in Cornwall, at the end of May. In his voyage, he tooke, sunk and burnt nine Spanish ships, 'which was losse to them, though I got nothing.'

16. On the 22nd of March 1595, Sir WALTER RALEIGH, the Founder of England's Colonial Empire, arrived at Trinidad. With his own ship, came a small vessel commanded by Captain CROSSE. They cast anchor at Point Curiapan, 'which the Spanyards call *Punto de Gallo*.' It is now called Hicacos or Icacos; and, with Punta Foletto, forms the Serpent's mouth.\* On the coast they saw a fire, as they sailed from Point Carao, now called Negra Point, to Curiapan. For fear of the Spaniards, no Indian dared to come to speak with the Englishmen. Before anchoring at Curiapan, RALEIGH had got out his barge, and in it coasted the Island 'close aboard the shore and landed in every cove, the better to know the island, while the ships kept the channell.' At Curiapan they stayed four or five days; but, in all that time, they 'came not to the speach of anie Indian or Spaniard.' From Curiapan they 'turned up north-east to recover that place which the Spaniards cal *Puerto de los Hispanioles*, and the inhabitants *Conquerabia*.' As before, Sir WALTER left the ships, got into his barge, and

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\* The Topographical notes of Sir Robert Schomburgk, to Raleigh's *Discoverie* of Guiana, are used here to elucidate Sir Walter's account of his itinerary.

kept by the shore, 'the better to come to speach with some of the inhabitantes, and also to understand the rivers, watering places and portes of the island.' He refers to a chart of Trinidad upon which he was engaged. One can only wonder what has become of that 'plot and description of the island.' Of the island, its inhabitants, (the 'naturals') and its productions, RALEIGH gives the following general description:—

"This iland of *Trinidado* hath the forme of a sheep-hook, and is but narrow; the north part is very mounteynous, the soile is very excellent and wil beare sugar, ginger, or any other commodity that the Indies yeeld. It hath store of deare, wyld porks, fruits, fish and fowle. It hath also for bread sufficient *Mais*, *Cassau*\*, and of those roots and fruits which are common euery where in the West *Indies*. It hath diuers beasts, which the *Indies* haue not: the Spaniards confessed that they found grains of gold in some of the riuers, but they hauing a purpose to enter *Guiana* (the *Magazin* of all rich mettels) cared not to spend time in the search thereof any farther. The iland is called by the people thereof *Cairi*,† and in it are diuers nations: those about *Parico* are called *Iaio*; those at *Punto Carao* are of the *Arwacas* and betweene *Carao* and *Curiapan* they are called

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\* These two plants supply the most useful food of the Indian tribes they form their staff of life. The grains of the first (*Zea Mays*, Linn.) furnish the Indian corn or maize, and from the roots of the second (*Manihot utilissima*, Pohl), although itself a strong poison in its natural state, the Indians prepare a nutritious substitute for bread.

† Sometimes given as *Iere*, the Indian word for humming bird. Trinidad abounds with that beautiful bird.

*Saluaios*; betweene *Carao* and *Punta Galera*\* are the *Nepoios*, and those about the Spanish Citie tearme themselves *Carinepagotos*.† Of the rest of the nations, and of other portes and riuers I leaue to speak heere, beeing impertinent to my purpose, and meane to describe them as they are situate in the particular plot and description of the island, three partes whereof I coasted with my barge, that I might the better discribe it.”

17. Of his voyage along shore, in his barge, which had been re-victualled for the service, RALEIGH says:—

“From *Curiapan* I came to a port and seat of Indians called *Parico*, where we found a fresh-water riuer‡, but sawe no people. From thence I rowed to another port, called by the naturals *Piche*, and by the Spaniardes *Tierra de Brea*.§ In the way betweene both were

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\* The north-eastern point of Trinidad is called at present *Punta de la Galera*; but Columbus designated the south-eastern point of the island under that name, on account of a rock which has the appearance of a vessel under sail. It is now known as *Punta Galeota*.—*Schomburgk's Note*.

† The number of Indians, the remnant of those numerous tribes who inhabited Trinidad at the period when Raleigh visited it, amounted in 1831 to seven hundred and sixty-two.—*Schomburgk's Note*.

‡ *Punta del Cedro*, or Cedar Point, forms the northern point of this bay. It is no longer known by the name of *Parico*.—*Schomburgk's Note*.

§ The celebrated pitch-lake of Trinidad near *Punta la Brea* is situated on the leeward side of the island on a small peninsula; it is nearly circular, and about a mile and a half in diameter. The usual appearance of the pitch or asphaltum is that of pit coal, but in hot weather it is liquid. When mixed with grease, oil, or common pitch, to acquire fluidity, it is well-adapted for preserving the bottoms of ships against the destructive worm, the *Teredo navalis*. Admiral Cochrane made several experiments to use it for nautical purposes, which failed, as it was requisite to mix such a large quantity of oil with it to render it pliable, that it far surpassed the price of common pitch.—*Schomburgk's Note*.

diuers little brooks of fresh water, and one salt riuier that had store of oysters vpon the branches of the trees,\* and were very salt and wel tasted. Al their oysters grow vpon those boughs and spraiies, and not on the ground: the like is commonlie seene in the West Indies and else where. This tree is described by *Andrewe Theuet* in his French *Antartique*, and the forme figured in his booke as a plante verve straunge, and by *Plinie*

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Writing in 1837, Joseph says, 'At this day the Arawacks call La Brea, Piché, as they call the river opposite Guarapiche. *History of Trinidad* p. 117.

\* The first accounts brought to Europe of oysters growing on trees raised as great astonishment as the relation of El Dorade itself; and to those who were unacquainted with the fact that these molluscous animals select the branches of the tree, on which they fix themselves during high water, when they are immersed, it may certainly sound strange and wonderful that shells, which as we know live in Europe on banks in the depths of the sea, should be found in the West Indies on the branches of trees. They attach themselves chiefly to the mangrove tree (*Rhizophora Mangle*, Linn.), which grows along the shore of the sea and rivers with brackish water, and covers immense tracts of coast, rooting and vegetating in a manner very peculiar to that tree, even as far as low water mark. Sir Walter Raleigh, in his *History of the World* (book i. chap. iv. section 2), compares it erroneously with the Indian fig-tree (*Ficus indica*), which Becanus considered to be the tree of knowledge, or of life. Raleigh observes in his description that he had seen five hundred oysters hanging on one of the branches (which he calls cords) of a mangrove tree. The water flowing off during ebb leaves the branches with the oysters attached to them high and dry. Three species of mollusca are chiefly found on the mangrove trees, namely *Ostrea Rhizophoræ* (Auct. ?), *O. folium*, and a species of *Mytilus*. The *O. Rhizophoræ* is eaten, and in Porto Rico the price of a barrel of these mangrove oysters is a piaster. We differ with Raleigh respecting their superior taste; they are at the best mere substitutes for an European oyster, very small, and not so delicate.—*Schomburgk's Note*.

in his XII. booke of his naturall historie. But in this ilande, as also in *Guiana*, there are verie manie of them.

“At this point called *Tierra de Brea* or *Piche* there is that abundance of stone pitch, that all the ships of the world may be therewith loden from thence, and wee made triall of it in trimming our ships to be most excellent good, and melteth not with the sunne as the pitch of *Norway*, and therefore for ships trading the south partes very profitable. From thence we went to the mountaine foote called *Anaperima*,\* and so passing the riuer *Carone*, on which the Spanish Citie was seated, we met with our ships at *Puerto de los Hispanioles* or *Conquerabia*.”

18. Arrived at Port of Spain, RALEIGH gives details that inform us of the ruthless errand he had set himself, when with grim purpose he steered for that Port. He tells his story as follows:—

“Meeting with the ships at *Puerto de los Hispanioles*, we found at the landing place a company of Spanyardes who kept a guard at the descent, and they offering a signe of peace I sent Captaine WHIDDON to speake with them, whome afterward to my great grieffe I left buried in the said iland after my returne from *Guiana*, being a man most honest and valiant. The Spanyards seemed to be desirous to trade with vs, and to enter into tearms of peace, more for doubt of their own strength then for ought else, and in the end vpon pledge, some of them came aboard: the same euening there stale also aboard vs in a small *Canoa* two Indians, the one of them being a

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\* This hill, in the neighbourhood of San Fernando, is now called Naparima, and has given its name to the whole district.—*Schomburgk's Note.*

*Casique* or Lord of people called *Cantyman*, who had the yeare before beene with Captaine WHIDDON, and was of his acquaintance. By this *Cantyman* wee vnderstood what strength the Spaniardes had, how farre it was to their Citie, and of *Don Anthonio de Berreo*\* the gouernour, who was said to be slaine in his second attempt of *Guiana*, but was not.

“ While we remained at *Puerto de los Hispanioles* some Spaniardes came aboard vs to buy lynnens of the company, and such other thinges as they wanted, and also to view our shippes and company, all which I entertained kindly and feasted after our manner: by meanes whereof I learned of one and another as much of the estate of *Guiana* as I could, or as they knew, for those poore souldiers hauing beene many yeares without wine, a fewe draughtes made them merry, in which moode they vaunted of *Guiana* and of the riches therof, and all what they knew of the waies and passages, my selfe seeming to purpose nothing lesse then the enterance or discouerie thereof, but bred in them an opinion that I was bound onely for the reliefe of those english, which, I had planted in *Virginia*†, whereof the brute was come among them, which I had performed in my returne if extremity of weather had not forst me from the said coast.

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\* Don Antonio de Berreo y Oruña, who figures so conspicuously in Raleigh's voyage, was governor of Trinidad.

† The conduct of Raleigh, who was charged with a callous abandonment of the poor settlers in Virginia, has been much censured. This passage is one proof among many which we possess, that although he had given up his patent to a company of merchants, he continued to take a strong interest in the fate of the first adventurers in Virginia.—*Schomburgk's Note.*



“I found occasions of staying in this place for two causes: the one was to be reuenged of *Berre*, who the yeare before betraied 8 of Captaine WHIDDONS men and toke them while he departed from them to seeke the *E. Bonaventure*, which arriued at *Trinidad* the day before from the *East Indies*: in whose absence *Berre* sent a *Canoe* aboard the pinnace onely with *Indians* and dogs inuiting the company to goe with them into the wods to kil a deare, who like wise men in the absence of their Captaine followed the *Indians*, but were no sooner one harquebush shot from the shore, but *Berres* souldiers lying in ambush had thom all, notwithstanding that he had giuen his worde to Captaine WHIDDON that they should take water and wood safelie: the other cause of my stay was, for that by discourse with the *Spaniards* I daily learned more and more of *Guiana*, of the riuers and passages, and of the enterprize of *Berre*, by what meanes or fault he failed, and how he meant to prosecute the same.

“While we thus spent the time I was assured by another *Casique* of the north side of the iland, that *Berre* had sent to *Marguerita* and to *Cumana* for souldiers, meaning to have giuen me a *Cassado* at parting, if it had bin possible. For although he had giuen order through all the iland that no *Indian* should come aborde to trade with me vpon paine of hanging and quartering, (hauing executed two of them for the same which I afterwarde founde) yet euery night there came some with most lamentable complaints of his cruelty, how he had deuided the iland and giuen to euery soldier a part, that he made the ancient *Casiqui* which were Lordes of the country to be their slaues, that he kept them in chains, and

dropped their naked bodies with burning bacon, and such other torments, which I found afterwards to be true: for in the city after I entred the same, there were 5 of the Lords or litle kings (which they cal *Casiqui* in the west Indies) in one chaine almost dead of famine and wasted with torments: these are called in their own language *Acarewana*\*, and now of late since English, French, and Spanish are come among them, they cal themselves *Capitaynes*, because they perceiue that the chiefest of euery ship is called by that name. Those five *Capitaynes* in the chaine were called *Wannawannare*, *Carroaori*, *Maquarima*, *Tarroopanama*, and *Aterima*. So as both to be reuenged of the former

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\* Humboldt considers that *Acarewana* signifies, in one of the different Carib or Caribisi dialects, a chief or any person in command. This supposition is correct; more accurately it refers to the commander or head of the tribe to which he who speaks and makes use of the word belongs. The name of a chief or commander in the general sense of the word is *Tepotori* in the Macusi language, but if the speaker alludes to the chief of his own tribe or horde, he would say *Epotoriwana*; that is, our headman or chieftain. As Raleigh observes, these petty chieftains call themselves now *capitan* or *captain*. *Esakamapung* in the Caribisi, or *Tepotorokung* in the Macusi dialect, signifies a great captain or chief who had command over a number of inferior chiefs; it is perhaps analogous to 'king' in the English language.

The metaphorical application of the word *tepotori* in the Macusi language deserves a passing observation, as it affords an instance of the similarity of the metaphors employed in the infancy of languages in general. The largest of a number of apples, oranges or any other objects would be called by a Macusi *tepotori*, the chieftain or captain. This application reminds us of our own expression in childhood for the largest apple or orange among a number, which playfully would be called "the captain;" and if we follow the idea suggested by this application it will lead us to the most striking qualifications required for a leader.—*Schomburgk's Note*.

wrong, as also considering that to enter *Guiana* by small boats, to depart 400 or 500 miles from my ships, and to leaue a garison in my backe interested in the same enterprise, who also daily expected supplies out of Spaine, I should haue sauoured very much of the Asse: and therefore taking a time of most aduantage, I set vpon the *Corp du guard* in the euening, and hauing put them to the sword, sente Captaine CALFEILD on wards with 60 soldiers, and my self followed with 40 more and so toke their new city which they called *S. Ioseph\**, by breake of day: they abode not any fight after a few shot, and al being dismissed but onely BERREO and his companion, I brought them with me aboard, and at the instance of the Indians I set their new city of *S. Iosephs* on fire."

19. On the same day that the Spaniards were fallen upon, and BERREO was taken prisoner, RALEIGH was re-inforced by the arrival of Captain GEORGE GIFFORD, in the *Lion's Whelpe*, and Captain LAWRENCE KEYMIS, in the *Gallego*. With them came 'divers Gent. and others, which to our little army was a great comfort and supply.'

20. Having paid off his score against the Spaniards of Trinidad, Sir WALTER and his companions made haste

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\* Among the Indian tribes of the Upper Orinoco and its northern tributaries, the Ventuari, Padamo, &c., the descendants of the Spaniards are still called Castilanos. When the Macusis speak of the Spanish inhabitants of the Lower Orinoco about Angostura, they call them sometimes Carrakinio (perhaps from Caracas?), but more frequently Españolos. The descendants of the Portuguese or Brazilians are called in the Carib dialects and by the Guianians in general Caraiwa; those of the Teutonic races, as the English, Dutch, Parana-ghiri, signifying Sea-people. Caraiwa is a foreign word, and has been introduced from the Tapuyas; it signifies 'white man.'—*Schomburgk's Note.*

to return to Curiapan: thence to make their way, up the Orinoco, in quest of Guiana. Before quitting Port of Spain, the Captain of the Guard to Queen ELIZABETH, called together a number of the Indian Captains of the Island, and informed them of the Power of the Sovereign of England. In the subjoined statement of this transaction, RALEIGH'S account of the effect of his showing the Virgin Queen's picture to the simple islanders, is simply delicious;—

“We then hastened away towards our purposed discovery, and, first I called all the Captaines of the island together that were enemies to the Spaniardes, for there were some which BERREO had brought out of other countries, and planted there to eat out and wast those that were natural of the place, and by my Indian Interpreter, which I carried out of England, I made them vnderstand that I was the seruant of a Queene who was the great *Casique* of the north, and a virgin, and had more *Casiqui* vnder her then there were trees in their island: that she was an enemy to the *Castellani*\* in respect of their tyrannie and oppression, and that she delivered all such nations about her as were by them oppressed, and hauing freed all the coast of the northern world from the seruitude had sent me to free them also, and withal, to defend the country of *Guiana* from their inuasion and conquest. I shewed them her maiesties picture which they so admired and honoured, as it had beene easie to have brought them idolatrous thereof.†

\* St. Joseph is now almost abandoned since Port of Spain became the capital. The number of inhabitants amounted in 1837 to six hundred and four.

† Raleigh possessed the indispensable accomplishment of a courtier of Queen Elizabeth's reign, namely the art of flattery, in a high degree.

“ The like and a more large discourse I made to the rest of the nations both in my passing to *Guiana*, and to those of the borders, so as in that part of the world her maiesty is very famous and admirable, whom they now call *Ezrabeta Cassipuna Aquerewana*, which is as much as *Elizabeth*, the great princesse or greatest commaunder. This done wee left *Puerto de los Hispanoles*, and returned to *Curiapan*, and hauing BERREO my prisonour I gathered from him as much of *Guiana* as he knewe.”

21. Leaving their ships and some of their Companiqns at *Curiapan*, Sir WALTER and about 100 officers and men, in wherries, one little barge, a small cock-boat, and a galley; carrying nine or ten men a-piece, with

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We refer to his poetry and his letters of adulation written to the Queen during the period he was for the first time confined in the Tower; nay even the romantic incident of the cloak, which, as Fuller tells us, led to his favour with the Queen, proves him the accomplished courtier. The adulation which pervades the account of his discovery, from the commencement to the end, does not astonish us therefore; but we venture to say, from the knowledge we possess of the character and taste of the Indian, that a representation of Zuccaro's portrait of her Majesty, now at Hampton Court, in which she is presented in a fantastic dress, and, which we must confess, does not convey to our imagination the idea of beauty, would have had many more attractions for the assembled multitude of admiring Indians than the portrait which Raleigh showed to them.—*Schomburgk's Note.*

At the meeting of the British Association at Ipswich in 1895, Mr. im Thurn. C.M.G., the author of *Among the Indians of Guiana*, made a statement, in the Anthropological section, that shows the Indians of Guiana as still prone to the admiration of pictures. Mr. im Thurn said:

“ In one instance a savage tribe in Guiana, as the result of a fortnight's teaching, were baptised, and they then abandoned their hunting and erected a church, but instead of a religious painting such as the one in the building they were imitating they put up a portrait of Mr. Gladstone from the *Illustrated London News.*”

their victuals and arms; set off on their journey up the Orinoco. They promised to return in fifteen days, but were away a month. Of that admirable piece of exploration, a delightful description will be found in RALEIGH'S charming account of *The Discoverie of the Large, Rich, and Beautiful Empire of Guiana*. When the explorers returned to Curiapan, after passing through severe hardships, they found their ships at anchor: 'then which,' says RALEIGH, 'there was never to us a more joyfull sight.' After burying Captain WHIDDON at Trinidad, the little Fleet sailed away for England.

22. In 1596, Captain LAURENCE KEYMIS in the *Darling*, returning from a voyage of exploration to Guiana, stopped at Trinidad, after touching at Tobago. His own account of his visits to those places is very short. They fell in with the *Punta de Galera*, "the North-Eastermost part of Trinidad. But having Tobaco in sight we first went thither. This isle is plentiful of all things, and a very good soil. It is not now inhabited, because the Charibes of Dominica are evil neighbours unto it. They of Trinidad have a meaning and purpose to fly thither, when no longer they can keep Trinidad. Their only doubt is, that when they are seated there the Spaniard will seek to possess it also. The Governor of Margarita went lately in a pinnace to view this island. GILBERT, my pilot, who sometime lived there, noteth it for the best and fruitfulest ground that he knoweth.

"Thence we returned to Punta de Galera, and anchored in ten fathom under the North side of the Island, some five or six miles from the said point. The flood-tide striketh along the coast to the Eastward very strongly. We discharged a piece of Ordnance, and afterward went



to the shore in our boat; but no Indian came unto us. I would have sent JOHN of Trinidad to procure some of them to speak with us; but he was altogether unwilling alleging that their dwellings were far within the mountains, and that he knew no part of that side of the Island. From this place we set sail for Santa Lucia, but fell with Granata, which we found not inhabited!"

23. When Sir WALTER RALEIGH was on his way down the Orinoco, in 1595, he left two young Englishmen with Topiawari, the chief Cacique of Arroimaia, to learn the language of the Indians in that part of the country. One of these was FRANCIS SPARREY, 'a servant' of Captain GIFFORD, and the other HUGH GOODWIN, a 'boy' of Sir WALTER'S. GOODWIN was eaten by a jaguar. In 1596, SPARREY was taken from the Orinoco, to Cumana, by Captain PHILIPPE DE SANTIAGO, who had been sent to fetch the two Englishmen, by DON ROQUE DE MONTES, the Royal Treasurer of Cumana. SPARREY was sent prisoner to Spain. He published, in 1602, a description of Trinidad, which will be found in Chapter II, Volume IV, of PURCHAS'S *Pilgrims*.\*

24. Master JOHN WILSON, on his return from the Wiapoco, or Oyapok, in 1606, in a Dutch ship, put in at Trinidad. The 'Spaniards entertained him and his company very kindly for they gave them Tobacco for all such commodities as they had, and suffered them to lade Pitch which goeth out of the ground there, for that our Master durst not goe to the Point de Ree to lade sault there as he determined, because he heard that the Spaniard did lye there with their men of warre, and had taken cer-

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\* See Reports from Santiago and de Montes, in 1596, in the Parliamentary Blue Book: *Venezuela No. 1*, (1896), pp.49 to 51.

taine Holland Shippes, and had flung over boord all the men that were with them.'

25. In connection with the first attempt to found an English colony in the Island of Grenada, a glimpse is given of Trinidad, in 1609, in the following statement extracted from the *Sloane MSS.*, 3662, folios 52, 53:—

“ This Island (Grenada) was first attempted to be settled by some Merchants of London, Anno. 1608. The chiefe undertakers were Mr. GODFREY, Mr. HALL, Mr. LULL, Mr. QUARLES and Mr. ROBINSON in behalfe of themselves and Company. They equipped and sett to sea the good ships named the *Diana*, *Penelope*, and *Endeavour*; who arrived in the Great Bay of this Granada the first of Aprill 1609, and soone after landed 208 men who were often disturbed by the Indians, nor indeed were they persons fitt for the settling of plantaçons, being the greater part the people of London, noe way inured to hardship and soe not capeable of encountering the difficulty that attends new plantacions in the West Indies, these ships having landed their passengers in pursuance of their orders sayled thence to the river Carooone, in Trinidada, to settle some trade w<sup>th</sup>. the Spaniards, in w<sup>ch</sup>. they did not onely faile but were delayed, DON SANCHES DE MENDOZA, the Governor of Trinidada, untill he found a way to distroy the English Colonie begun at that Island Granadas: the Spaniard never likeing the English neighbourhood. By his heightning the jealousies of the Indians, which did by some Fryers that spake the Indian language sent thither from Trinidada, while they were treateing w<sup>th</sup> the English about a trade. At lenth Capt. MENDOSA advised the English merchants aboard the ships to take care of their new Collonie in

that he believed they were in distresses, assured them that he had found upon mature consideration, that he could not maintain a trade without apparent hazard of his life and fortune, upon which those ships sailed from Trinidad back for the Granadas where they found their colony, the greatest part destroyed: those few that remained they took with them for England, and the 15th day of December, 1609, they arrived in England to ye great dissatisfaction of their employers, who would (not?) embark any more, on so advantageous a designe wherein they had once miscarried, which are the reasons rendered by Mr. GODFREY in his own writing, (one of the undertakers) which he hath left unto posterity."

26. ROBERT HARCOURT, of Stanton Harcourt in Oxfordshire, an English gentleman, had a Patent from King JAMES I, to establish a Plantation in Guiana.\* In 1609, this descendant of 'noble, nay Royal ancestors,' called at Trinidad, on his return to England. In his

\* In the Bodleian Library, Oxford, is preserved the letter of which the following is a copy (*Tanner MS., LXXI. 154.*)

To his honoured friend Sir Henry Spelman, Knt., These.

Worthy Sir,—It will much concern my brother Sr. Simon Harcourt at a trial wh. he shall have shortly at Stafford Sizes, to make good proof of my father's death in Guiana. We have already to that purpose Captain King his oath, who was there at ye time of his death, but to strengthen that proof, our request to you is that you would be pleased, to certifie under your hands to this bearer, Mr. Astley, what yourself and the Companie have heard and verily believe, concerning his death; and for this favour I shall ever be ready to acknowledge, and to my power to expresse myself,—Your Servant at your Commande.

FR. HARCOURT.

Mid. Temple, Feb. 27, 1632.

The deceased was probably Michael Harcourt, younger brother of Simon. Michael was a fellow-colonist with his elder brother in 1609, in Guiana. In 1618, he was a Captain in Sir W. Raleigh's Expedition.

*Relation*, which was published in 1613, and is reprinted in Volume III, of the *Harleian Miscellany*, HARCOURT says :—

“When I came a-board, we weighed anchor, and steered away from (for?) the island of Trinidad; and, upon the eighteenth day in the morning, we arrived at Punta de Galea, where we found three English ships at anchor which was no small comfort unto us, considering our great defects and wants. One of these ships was called the *Diana*, belonging to Mr. LUL, a Dutch merchant, dwelling in London: the other two, the *Penelope*, and *Endeavour*, belonging to Mr. HALL, a merchant also of London. We staid at this place six days to mend our bad casks, and to take fresh water, during which time I was kindly treated and feasted by the merchants, and had supply of all such things as I stood in need of, which courtesy I requited in the best manner I could for the present.

Upon Sunday the twenty-fourth of September we weighed anchor; so likewise did the *Diana*, the other two ships being gone two or three days before us; but the wind shifting to the north-east, forced us back again almost to the same place from whence we departed. The twenty-fifth we weighed again, and plied along the shore towards Cape Brea, about three leagues. The Cape is so called of the pitch which is there gotten in the earth, whereof there is such abundance, that all places on this side of the world may be stored therewith.

It is a most excellent pitch for trimming of ships that pass into these regions and hot countries, for it melteth not with the sun as other pitch doth.

The twenty-sixth day we stood long again, the wind

being still contrary and variable, intermixed with many calms, and so continued until the second of October, when we arrived at Porte de Hispania.

Within two days after our arrival there, DON SANCHES DE MENDOSO, the teniente for that year, with certain other Spaniards, came aboard us: we gave them the best entertainment that our means, the time, and place would afford, and had much friendly conference together. They told me, that they lately had a conflict with the Caribbees, wherein they had lost seven or eight of their men, and had many others hurt and wounded, whereof some came to my surgeon to have their wounds dressed during our abode there; and they plainly confessed, that they are very much molested by the Caribbees, and knew not how by any means to suppress them.

We staid at Porte de Hispania until the seventh day, in hopes to get some good tobacco amongst the Spaniards, who daily fed us with delays and fair words; but, in truth, they had none good at that present for us, which we perceiving, departed thence upon the seventh day, about one o'clock in the morning, leaving the other ships to attend their trade, and stood away for the passages called Les sciot boccas de Drago, and disembogued about eight o'clock the same morning."

27. Sir THOMAS ROE was sent 'upon a discovery to the West Indies', by Prince HENRY, the eldest son of King JAMES I. Writing to the Earl of Salisbury, from *Port d' Espagne*, Trinidad, on the 29th of February 1611, Sir THOMAS said, he had seen more of the Coast, from the Amazon to the Orinoco, than any Englishman alive, having passed the *Wild Coast* and arrived at *Port d' Espagne*. The Spaniards there were proud and

insolent, yet needy and weak. Their force was reputation: their safety, opinion. The Spaniards treated the English worse than they did the Moors. There was news that the King of Spain intended 'to plant Orinoco.' Men, cattle, and horses, were arriving daily, to be employed in fortifying Trinidad, raising a new City, and in the 'Conquest' of Guiana. ROWE'S own opinion was that 'all will be turned to smoke.' The Government was lazy: and had more skill in planting and selling Tobacco, than in erecting Colonies or marching Armies.\*

28. In November 1617, Sir WALTER RALEIGH arrived in the West Indies, for the second time, in search of *El Dorado*. On the 11th of November he made the North Cape of Wiapoco, in Guiana. There he rode sufficiently long for his skiff to go to the shore, to enquire for his "sarvant, LEONARD, the Indien who bine with me in England 3 or 4 yeers, the same man that tooke Mr. HARCORT'S brother and 50 of his men when they came upon that Coast and were in extreme distress, having neither meat to carry them home nor meanes to live there, but by the help of this Indien whom they made believe that they were my men: but I could not here of him by my boat that I sent in, for he was removed 30 mile into the country, and because I had an ill rode and 5 leages of, I durst not stay his standing for.' From the Wiapoco, RALEIGH stood for Caliana, which we now know as Cayenne, 'where the CASIQUE was also my sarvant, and had lived with mee in the Tower 2 yeers.' He left in port at Wiapoco, two Hollanders, that were loading with 'Onotto, gums, and spekeld wood.† On

\* *Calendar of State Papers: Colonial Series, 1574 to 1660, p. 11.*

† Letter-wood.



the 14th RALEIGH arrived at Cayenne. He sent his barge ashore, to enquire for his servant HARRY, the Indian. When HARRY came, a day or two after, he 'had almost forgotten his English,' but not his friendship for his old Chief. He brought great store of food, to the refreshing of Sir WALTER'S Company. At Cayenne was Captain JANSEN, of Flushing, 'who had traded that place a dussen yeares.' On the 17th of November, with the help of Captain JANSEN, Sir WALTER'S ship, the *Destiny*, got over the bar and went into the river. Here the sick were set ashore, and here they all recovered. Here also the barges were set up; the ships were cleaned; the casks were trimmed and filled with water; and the smith's forge was set up, and such iron work was made as the Fleet needed. At Cayenne they remained until the 10th of December, when the Fleet assembled at the isles *du Salut*. Here 400 soldiers and sailors were embarked in the *Encounter*, the *Confidence*, the *Supply*, and another vessel, for the Expedition up the Orinoco. They sailed on the 10th, Sir WALTER RALEIGH himself leaving for Trinidad, two or three days after. Besides his ship, the *Destiny*, there went with him, the *Jason* (Captain JOHN PENNINGTON), the *Thunder*, (Sir WARHAM ST. LEGER), the *Flying Hart* (Sir JOHN FERNE), the *Chudley*, and two or three others. In that most valuable edition of the *Discoverie* of Guiana, published by the HAKLUYT Society, and edited by Sir ROBERT SCHOMBURGK, there is printed the Journal which Sir WALTER kept, in his own hand, of his second voyage. From that record the following entries relating to Trinidad are extracted\* :—

“ The 15 of December we made the land neere Pvncto

\* Cotton MSS., Titus, B. VIII., fol. 153.

Annegada at the mouth of Orenoke,\* and that night we saw the northest part of Trinidad, and came to ancor in 30 fathom 6. L. of the shore, from thence we coasted the Iland neere the south syde in 15 fathom and neere the shore in 10 and 11 fathom and coming close aboard the poynt of the rode att the west end of the Iland which poynt they naturally call Curiapan, and the Spaniards Punçto de gallo we had 5. fathom. It floweth on this south coast E.N.E. and W.S.W. it is needfull to saile neere the poynt of Gallo which you may do boldly because ther lyeth a dangerous legg of rock so half a mile of the rode to the westward, a most forcible current that setts of the poynt, a greater current can no wher be found the currant of Bahama excepted.

The 17 we came to Ancor at Punçto Gallo where wee stayd (taking water, fish and some Armadellias, refreshing our men with palmeto, Guiavas,† piniorellas and

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\* In a manuscript map of the world, to which we have had opportunity to allude on a former occasion, the right bank of the Cañoa Manamo near its embouchure is called Anegada (from *anegar* in Spanish, to immerse or cover with water). From Sir Walter Raleigh's account it is evident that he alludes to a more eastern point, probably the present Point Barima, which is called Terra basse in the old manuscript map. This conclusion is rendered more probable by some observations in his Apology. (See Cayley, vol. ii. p. 124).—*Schomburgk's Note.*

† The Guiavas, or rather Guavas, are the fruits of *Psidium pomiferum* and *P. pyriferum* Linn, trees about eighteen feet high. They are as large as a middle sized apple, which they resemble in shape, of a bright yellow outside, and the pulp of a reddish colour, intermixed with very small hard seeds. The second kind (*P. pyriferum*) is considered by many to be merely a variety of the first, improved by cultivation. They have a pleasant sub acid and aromatic taste, and, prepared with sugar and milk, may be compared to strawberries. A rich jelly or marmalade is likewise made of them. We do not know what fruit Raleigh calls Piniorellas.—*Schomburgk's Note.*

other frute of the country) till the last of December. In sayling by the south coast of Trinidad I say (saw?) in one day to witt the 16 of December 15 rainebowes, and 2 wind galls, and one of the rainebowes brought both ends together att the sterne of the shipp making a perfait cirkell which I never saw before nor any man in my shipp had seene the like.\*

The last of December we wayed ancor and turned up northest towards Conquerabo, otherwise called the port of Spayne being new yeers eve, and wee came to Ancor at Terra de Bri, short of the Spanish port some 10 leagues. This Terra de Bri is a peece of land of some 2 leagues longe and a league brode, all of ston pich or bitymen which riseth out of the ground in little springs or fountaynes and so running a little way, it hardneth in the aire, and covereth all the playne; ther are also many springs of water and in and among them fresh water fishe. Here rode att ancor, and trymd our boates, we had here some fishe, and many of the country fesants somewhat bigger then ours†, and many of the henns exceeding fatt and delicate meat,

The 19 of Januarie we sent vp Sir J. FERNS shipp to the Spanish port, to try if they would trade for Tobacco

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\* In the spray of the sea or a cascade a circular rainbow is often seen, and if it were not for the interruption of the earth a circular spectrum would be seen at all times when the conditions are favourable for forming a rainbow.—*Schomburgk's Note.*

† Several species of birds from Guiana and other parts of South America have been compared with the pheasants of the Old World, but chiefly *Penelope cristatus* Gmel., *P. pipile* Jacq. and *Phasianus Mamot* Gmel., the Catraca of Buffon. The first is the most common, and is called Marudi in British Guiana; the flesh is tasteful, though sometimes (as we know by experience) very tough.—*Schomburgk's Note.*

and other things, but when her boate was neere the shore while they on the land were in parle with Cap: GILES who had charge of the boat, the Spaniards gave them a volley of some 20 musketts at 40 paces distant, and yet hurt never a man, as our bote putt of they called our men theeves and traytors with all manner of opprobrious speeches.\*

The† of Januarie we sent back the Viceadmirall Cap: PENINGTON to puncto Gallo to attend the returne of our companies in Orenoke.

The 29 of Jan: we lost one of Sir JO: FERN'S men who being ashore boyling of the country pich, was shot by a Spaniard who lay in the woods all night with five other Spaniards, our shipp taking the alarm we waied out our boates, I tooke my barge with six shott, Capt: CHUDLEY tooke his skiff, and Sir W. SENTLEGER his, wee pursued them with all hast possible and forst them to forsacke their canoas and run into the thick woods, leaving behinde them their cloakes, and all other their implements but their arms. Ther were of Sir J: FERN'S men three, and one boy, one of them was slayne, one swam aboard, and third hidd himself in the woods till my barge came ashore, the boy we suppose was carried with them alive.

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\* Fray Simon; in his 'Noticias historiales,' asserts that Raleigh intended to disembark his men for the purpose of assaulting St. Joseph. Lieutenant Benito de Baena, informed of his project, posted his people so advantageously at Port of Spain, that the attack of the English was repulsed with the loss of several men, one being taken prisoner, who informed De Baena of the departure of a part of the fleet for the Orinoco. Raleigh's simple account of this affair is more probable; the prisoner of whom Be Baena speaks was doubtless the boy lost during the affair of the 29th of January.—*Schomburgk's Note.*

† A similar blank in the original.—*Schomburgk's Note.*

The last of Jan: we returned from the pich land to Punçto Gallo, hoping to meet our men which we sent into Orenoke.

The first of Februarie the sentenell which we had layd to the eastward of Punçto Gallo to discover if any shippes or boates cam from the east amongst the coast, for we could not discover any thing wher we rode till they were within a mile of vs by that the poync̃t lay out so farr; these of the sentenell discovered 7 Indiens and brought them vnto vs. They had a village some 16 mile from vs to the eastward, and as it proued afterward came but as spies to discover our forces, they were two dayes, aboard and would be acknown, that they could speake any word of Spanish, but by signes they made vs knōw that they dwelt but one dayes jurney towards the east. I kept 3 of them aboard and sent 12 of my men with the other 4 to see their towne and to trade with them, but in ther way thitherward one of the Viceadmiralls men espied an Indien, one of the 4 who two yeere before he had seene in Orenoke, and taking him by the arme told him that he knew him, and that he could speake Spanish, in the end after many threatates, he spake, and confest, that one of the three aboard my shipp could also speake Spanishe; whervppon the Viceadmiralls man returning aboard mee, and I threating the cheif of these which I had kept, one of them spake Spanish, and told mee that certayne Indiens of the dround lands inhabited by a nation called Tibitivas ariving in a Canoa att his port, told him that the Inglish in Orenoke had taken St. Thome, slaine DIEGO DE PALMITA\* the Governour, slayne Cap: ERENETTA, and Cap: JOHN RUES, and that the rest of the Spanierds

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\* Diego Palomeque de Acuna,

(their Captaynes slayne) fledd into the mountaynes and that two English Captaynes were also slayne. This tale was also confirmed by another Indien which my men brought from the Indien towne with divers other particularities, which I forbear to sett downe till I know the trewth, for the 6 of this moneth I sent the viceadmirall skiff from Puncto Gallo towards Orenoke man'd with 10 musketiers to understand what my men had don their, and the cause of their longe stay, having received no newse from them since they entred Orencke but by these Indiens since the 10 of December., other then that they were att the rivers mouth, which newse Cap: CHUDLEY (who accompanied them so farr) brought mee.

The 3 of January\* my men returned from the Indien town and brought with them some Cassivi bread with other frutes, and very faire Oreniges.

The forth of January\* a boat that I had sent over to the south syde wher I saw a great fier returned not finding any people ther.

The 6, day I sent a skiff over toward Orenoke man'd with 10 musketiers, to here what was become of my men their. The same day came into this port Cap: GINER of the Ile of Waight and his pinnes.

The 8 day I sent 16 musketiers by land to the Indien towne to bring away some of the Indiens which spake Spanish and to separate them from those two which I kepte abord mee because I found them so divers in their

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\* We have copied the date literally from the original manuscript, though it is evident that Raleigh meant the month of February. The great suspense about the fate of the Orinoco expedition, which at that period must have been much increased by the reports brought to him by the Indians, doubtless caused an error, which gives us a picture of the anxiety of his mind.—*Schomburgk's Note.*



reports as towching Orenoke, and because one of them in the Indien towne, were in St. Thome when it was taken by the English. I was desirus by taking 2 or 3 of the rest to know the trewth but so careless were the mariners I sent as they suffered all to go loose and to escape: but I had yet 2 Indiens aboard mee, and a third went pilot for Orenoke, one of these I sent away with knives to trade with a nation inhabiting the est part of Trinidado called the Nepoyios, with this charge that if he came not agayne after 4 dayes (which was the time by him required) that I would then hange his brother which was the pilot as aforesayd, and this other Indien aboard, to which the Indien aboard condiscented.

But the 12. of Februarie, I went ashore and tooke the Indien with mee fastned and well bound to one of my men, so caried him with me to shew me the trees which yeild balsemum of which I had recouered a nuttfull of that kinde which smells like Angolica and is very rare and pretious\*, and after it was 10 a clock and very hott, the wood also being full of musketos, I returned and left my Indien in charge with one of my masters mates and 3 others, but I was no sooner gonn but they untyde him and he att the instant tooke the wood and escaped, notwithstanding that I had told them that if the Indien gatt

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\* Raleigh's observation, that the balsam resembled Angolica, by which he alludes to the violet-scented Orris root (*Iris florentina*), causes us to conjecture that it is the balsam of Tolu, which is yielded by a tree called *Myrospermum toluiferum*, Rich. We have found that useful tree near the Saerere mountains, between the rivers Rupununi and Takutu, and the natives of these regions wear the seeds, which are equally fragrant with the resin, as ornaments round their body. If we are correct in our supposition, this tree is no longer to be met with in Trinidad.—*Schomburgk's Note*.

but a tree betweene him and them and were loose that all the English in the fleet could not fetch him agayne. I had now none left but the pilott sent to Orenoke and I feare me that he also will slipp away by the negligence of the mariners who (I meane the common sort) are dilligent in nothing but pillaging and stealing.

The 13 day Cap: GINER and I made an agrement that he shoulde follow me with his small shipp and pinnes for 6 moneths after this 13 day.

The same Evening I sent Sir W. SENTLEGER Cap: CHUDLEY and Cap: GILES with 60 men to the Indien towne to try if I could recover any of them."

Before parting from KEYMIS, at Cayenne, Sir WALTER RALEIGH had given the latter written instructions for his guidance. Among these, KEYMIS was directed as follows: "Let me hear from you as soon as I can. You shall find me at *Puncto Gallo*, dead or alive. And if you find not my ships there, you shall find their ashes. For I will fire, with the galleons, if it come to extremity; but run will I never." When, therefore, RALEIGH'S journal stops short, with an entry up to the evening of the 13th of February, made at *Puncto Gallo*, it is reasonable to conclude, that, on the 14th of February, at that place, RALEIGH received the letter written on the 8th of January, in which KEYMIS reported progress to him. With his letter, KEYMIS also sent 'a parcel of scattered papers,' reserving a 'cart-load.' On the 2nd of March, KEYMIS, GEORGE RALEIGH, and others rejoined Sir WALTER at *Puncto Gallo*. It was some days after this that KEYMIS put an end to himself. He had in vain appealed to RALEIGH to allow him to send a defence of his conduct, which he had written to the Earl of Arundel. "I

know not then, Sir, what course to take," were, the last words of KEYMIS to RALEIGH, in the latter's cabin in the *Destiny*. Going then to the *Couvertine*, KEYMIS entered his own cabin. A pistol shot was soon heard. RALEIGH sent to ask who had fired it. KEYMIS himself answered, that he had shot off the pistol, because it had been long charged. Half an hour afterwards; KEYMIS was found lying dead in his cabin, "having a long knife thrust, under his left pap, through his heart, and his pistol lying by him, with which it appeared that he had shot himself; but the bullet lighting upon a rib, had but broken the rib, and went no further." The coming dramatist of Trinidad will find ample materials for a Tragedy in the events of 1618, as they transpired at *Puncto de Gallo*, now called *Hicacos*.

Little did RALEIGH'S contemporaries reckon, how near to San Thomas, abundance of Gold would, in after times, be found by Englishmen at the *Old Callao* Mine in Venezuela; and, in the neighbouring English colony of British Guiana. RALEIGH, the Founder of our Colonial Empire, returned to England, only to be butchered to make a Spanish Holiday. The GREAT ELIZABETHAN was, by order of King JAMES I, executed in Old Palace Yard, Westminster, on the 29th of October, 1618, under a sentence passed in 1603, for alleged offences of conspiring with Spain against England!\*

29. The English were not the only Heretics who made free with His Catholic Majesty's island of Trinidad.

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\* *Justice may forgive*

*Kingdoms betrayed, and Worlds resigned to Spain,  
But never can forgive a Raleigh slain.*

—Churchill's *Gotham*. Book I.

The ubiquitous Dutchmen, not content with settling themselves in Guiana, resorted to Trinidad at their pleasure. Their visits annoyed the Spanish authorities, who seem to have found some relief to their feelings by stigmatising the Dutch as 'Lutherans.' On the 16th of June 1614, DON JUAN TOSTATE, who, in the absence of SANCHO DE ALEUISA, governed the island, reported that he had, in the previous year 'hanged several 'Flemish,' whom he had captured in a small vessel. One of the captives had been given to DON GERONIMO DE PORTUGAL. The DON stated, further, that he had persecuted, and given such ill-welcome, to those that had attempted to reconnoitre the place, that they had never returned. But twenty days, however, before he wrote, some natives had brought word that they had seen a number of Carib canoes on the Southern side of the island, in company with some Flemish vessels. Apparently the DON was merely boasting, when he said he had freed Trinidad from the unwelcome visits of the Dutch. The King's Council in Spain, found it to be proved, that the island was generally surrounded by the Flemish and Caribs, both by sea and land: so that the inhabitants lived in constant want of many things, which they could not go and fetch for fear of the enemy. The Caribs even came as far as 'the City,' to rob and ill-treat the Spaniards. This came of their strong alliance with the Flemish. They always moved together: as they did when they attacked Arrawacks: when they took many of these prisoners, and carried off their wives.\*

30. In 1615, the King of Spain appointed DON DIEGO PALOMEQUE DE ACUNA, to be Governor and

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\* *Parliamentary Blue Book, Venezuela, No. 3, pp. 204, 205.*

Captain General of Trinidad. He then ordered the Governor of Porto Rico to send 70 to 80 soldiers to Trinidad, that with them, and the men of the country that DON DIEGO might be able to bring together, he might extirpate the Dutch from every point of the island on which they had taken footing.\*

31. On the 14th of October, 1637, while DON DIEGO ESCOBAR, the Governor, was in Guiana, the Dutch : with great numbers of Arrawacks, Caribs, Tivitivas, and Nepongos : came to Trinidad in 20 vessels. Entering by the Caroni, they took prisoner the watchman stationed at its mouth. Three quarters of an hour before day-break, the invaders attacked the town of San José de Oruña. They burnt and plundered the principal houses. They burnt the Church. The 28 or 30 Spaniards at the settlement made the best resistance they could, without success. One Spaniard, JUAN GALLARDO, was killed ; Captain SANTIAGO and others were wounded. The Dutch threatened to return. As they were going away, an Indian was captured from them by the Spaniards. This man, named ANDRES, had formerly served Captain CHRISTOBAL DE VERA of Guiana. ANDRES told the Trinidad Spaniards that the Dutch were in great numbers "in the three Colonies" of *Amacuro*, *Essequibo* and *Berbice*, where they were in league with the Caribs and Arrawacks. Every year, two, three and four ships

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\* *Blue Book, Venezuela No. 3.* (1896). p. 210. Don Diego was a relative of Count Gondomar, the Spanish Ambassador. When the latter learned of the attack upon San Thomé, he waited upon King James. Exclaiming *Pirates ! Pirates ! Pirates !* and saying nought else, Count Gondomar quitted the Royal presence.

came from Holland, bringing assistance and taking away annatto, cotton, hammocks and tobacco.\*

32. Not long after their invasion of Trinidad, in the time of DON MARTIN DE MENDOZA'S government, the Dutch built a fort at Point Galera, and founded settlements. The latter were destroyed for want of ships. From the former the Spaniards were continually harassed by skirmishes.† For their security, the Dutch had allied themselves with the Caribs.

*(To be concluded.)*

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\* See pp. 212 to 214, of the British Parliamentary Blue Book, *Venezuela, No. 3 (1896.)*

† Blue Book, *Venezuela, No. 3, p. 217.*

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## *Report of Meetings of the Society.*

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*Meeting held July 9th.*—Hon. E. C. Luard, Vice-President in the Chair.

Members present 14.

Elections.—*Members*: Revd. Jas. Williams and Dr. W. A. Dickson.

*Associates*: Messrs. R. F. Rose, C. F. Braithwaite, G. R. Harrison, A. R. Webber, J. F. Webber and F. M. Carbin.

The Chairman reported on behalf of the Directors that the Government had offered the Society the loan on deposit of a copy of the Scientific results of the Challenger Expedition, which they had agreed to accept, with the request that the volumes be allowed to come under the rule as to Reference Books.

The Chairman also called attention to copies of the new Catalogue lying on the table which could be obtained from the Librarian at 60c. each.

Letters from Messrs. G. S. Jenman and Louis J. W. Paddenburg were read, these gentlemen agreeing to act as Judges in the Tobacco Essay Competition.

The Chairman said he was sorry to say that only one Essay had been received as yet, and he was also sorry to see that so little interest appeared to be taken in the matter.

A letter from Mr F. V. McConnell was also read. Referring to the stone mortars, &c., exhibited at the previous meeting as having been presented by him to the Museum, he stated that they belonged to the proprie-

tors of Skeldon, and although therefore he could not present them, he had asked the owners to do so.

The following donations were accorded the thanks of the Society :—

To the Library—from Mr. A Pinaud ; Official History of the Boundary Discussion and 6 pamphlets on the Boundary Question.

From the Commercial Agent of Canada through Mr. Wm. Smith ; Statistical Year-Book of Canada.

To the Museum—

1 Dutch Coin ...	...	...A. Baptiste.
2 Nests of Birds ...	...Demerara ...	...A. H. V. Straker.
Very Rare Native Comb...	...Woyaway Indians	...J. Bentley.
1 Locust and 1 Water Beetle ...	} Georgetown ...	...A. Gordon.
Child in Spirits...	...Wakenaam ...	...A. W. Ord.
1 Beetle ...	...Barima ...	...R. M. H. Spence.
Shells ...	...Barbados ...	...Bertie Parnell.
Nests and Eggs of Birds	...Supenaam Creek	...S. B. Warren.
1 Coral ...	...Barbados ...	...Miss Rickford.
1 Copper Coin ...	...French Guiana	...Mr. Veacock,
Cut Tobacco ...	...Native ...	...G. Stevenson.
Collection of Shells	...England ...	...A. G. Stubbs.
1 Seed—"Bisari"	...Native ...	...B. S. Conrad.
1 Palm caterpillar	...Georgetown ...	...C. P. Barnes.
1 Hairy Caterpillar	... " ...	...A. P. Mackey.
Natural History Collection.	Antigua ...	...Mrs. Oliver Smith.
1 Zoophyte ...	...Fire-steamer...	...F. A. Conyers.
1 Larva ...	...Georgetown ...	...G. A. Fraser.
1 Water Beetle ...	... " ...	...R. Wright.
1 Land Shell ...	...	...G. S. Jenman.
1 Moth...	...Georgetown ...	...F. V. McConnell.
1 Stone Implement	...Potaro ...	...F. W. Hutson.
1 Water Beetle ...	...Georgetown ...	...A. B. Anderson,

Mr. Hawtayne exhibited a Gold Medal which had been presented to Mr. W. H. Arnold of Le Repentir on

the 30th of January, 1838. It was one of twelve which were given to doctors and managers for their care of the apprenticed labourers in the four years preceding emancipation. It had come into his hands as Administrator General, and he thought that if the legal owner would sell it, it might be an interesting relic for the Museum.

In reply to a question from Mr. Kirke, the Chairman said that up to the present nothing had been heard of the Columbian Exposition Medals and Diplomas; he would suggest that the American Consul be asked to enquire about them.

Mr. Æneas D. Mackay said that he had seen from a Canadian newspaper of May last, that the awards to the Dominion had arrived at Ottawa. He thought those for British Guiana might be on the way.

It was agreed that the American Consul be asked to enquire into the matter.

The meeting then terminated.

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*Meeting held August 13th.*—Hon. E. C. Luard, Vice-President in the Chair.

Members present 16.

Elections.—*Members*: Drs. E. H. Gewand and P. E. W. McAdam.

*Associates*: Messrs. E. W. Walcott, R. Appin, W. F. Cameron, J. G. Cruickshank, E. H. Hooten, Wm. Greig and Hubert C. Weber.

The following communication from the Committee of Correspondence was read:—

The Museum, Aug. 13th, 1896.

R. T. A. Daly, Esq.,

Hon. Secy. R. A. & C. Society.

Sir,—I have the honour to report that His Excellency the Governor

has kindly consented to open the Annual Horticultural and Poultry Show on Thursday next (20th); and that final arrangements for the Show are now being made.

The Directors of the Railway, and the Steamer Contractors have also most generously encouraged the Show by promising to carry exhibits, free of charge, to and from the Show along their various routes.

Some suggestions have been made as to the keeping of the Show open for a second night if the Mayor and Town Council would kindly grant permission, but the Committee are somewhat doubtful of the results, unless the Society endorses the proposal.

I have, &c.,

J. J. QUELCH,  
Hon. Secretary.

The Chairman said that there were some doubts as to the advisability of keeping open the Show for a second evening; he thought it could be better decided on the day of the Show.

The Honorary Secretary called attention to the fact that the Directors of the Society had rendered the Society liable for a certain sum and that they could scarcely be called upon to a greater extent, if the second opening did not pay expenses.

On the motion of the Hon. N. Davis, seconded by Mr. C. H. Legge, it was agreed to leave the matter in the hands of the Committee, permission for the use of the Gardens being obtained in case they should be required.

The Chairman, in reference to the Prize offered for an Essay on Tobacco cultivation and curing, said he was glad to say that eleven essays had been received. He regretted however that notwithstanding the clear conditions of the competition as advertised two competitors had attached their names and addresses instead of *noms-de-plume*. These were unfortunately disqualified, but perhaps might be published with the others if the writers

consented and if the Judges thought them of sufficient merit. The essays were now under consideration, and as they were of some length, several weeks would elapse before the decision could be published and the prize awarded.

In connection with the Columbian Exposition awards, the Secretary stated that he had written to Mr. A. J. Patterson, Consul for U.S., who had replied that he would look after the matter at once.

Communications from the Government in reference to the "Challenger" reports and from the Institute of Jamaica thanking the Society for loan exhibits were read.

In reference to the loan exhibits to Jamaica, Mr. Quelch said they had been safely returned. He was glad to say that he had made some exchanges of pottery for specimens of the remains found in caves in Jamaica.

The following donations were recorded:—

To the Library—from Mr. J. A. P. Bowhill; Proceedings in Jamaica in regard to the Maroons, 1796.

Do. from Capt. Young; Guppy's Foraminifera of Trinidad.

To the Museum—

Phosphate	...	...Cayenne	...	...S. S. Nonpareil.
2 Minerals and 3 Natural History Specimens	}	Barbados	...	...Miss Cullingford.
1 Moth	...	...Georgetown	...	...A. Gill.
5 Alligator's Eggs	...	...Haag's Bosche	...	...F. B. Greig.
1 Elephant Beetle	...	...Demerara R.	...	...David Spence.
2 Chrysalids	...	...Georgetown	...	...Dr. Anderson.
1 Serpentine Lizard	...	...Suddie	...	...J. Brumell.
1 Tarantula and Nest	...	...Georgetown	...	...Bertie Waby.
1 River Tortoise	...	... „	...	...Dr. Deane
2 Stone Implements	...	...Potaro District	...	...J. A. Wilson.

6 Surinam Toads	...Surinam	...	...Dr. Aalsmeer.
Bones of Bashaw Skull	...British Guiana		...A. Baptiste.
Nest of Check bird	... „	...	...W. Sharp,
Young Deer and two Alligators...	... „	...	...G. S. Jenman.
Rose $\frac{1}{2}$ Crown	...		...Sholto Barnes.
Two Spiders	...		...N. G. Hohenkerk.
1 10 Cent Coin	...French Guiana		...D. W. Chae.
Calcite Model Cannon	...		...Chas. Smith.
1 Nest of Humming-bird made of seeds of bird-vine and eggs of Sawyer-Beetle	... } ... } ... } British Guiana		...F. Harvey
Slab of Bermuda Cedar	...		...Capt. Young.
A Moth...	...Georgetown	...	...Mrs. A. H. Thomson.
A Gecko	...West Coast	...	...J. Moir.

On the motion of Mr. H. Kirke a vote of thanks was accorded.

Mr. Æneas D. Mackay laid over a sample of grass seed from Canada, called "Brown tip" which he understood was suitable for lawns, &c. The matter was laid over until the next meeting, when further information might be obtained.

The meeting then terminated.

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*Meeting held September 17th.*—Hon. E. C. Luard, Vice-President in the Chair.

Members present 15.

*Elections.*—*Members:* Drs. S. A. Francisco and J. M. de Freitas, Mr. Wm. J. de Freitas.

*Associates:* Messrs. Van Cameron, N. Cannon and L. R. Chase.

The following report of the Committee of Correspondence was read:—



The Museum, Sept. 17th, 1896.

R. T. A. Daly, Esq.,

Hon. Secy. R. A. & C. Society.

Sir,—Pending a detailed report on the Horticultural and Poultry Show, which was held on the 20th ult.. I have the honour, by direction of the Committee of Correspondence, to bring before the notice of the Society for their consideration, the following special recommendation of the Committee:—

That illuminated certificates of merit be presented by the Society to:—

- 1st. The Botanic Gardens.
- 2nd. Messrs. Gaskin & Co.
- 3rd. Messrs. Paddenburg.

For the special excellence and importance of the Exhibits made by them at that Exhibition ;

And that the Committee be authorized to give effect to the same.

I have, &c.,

J. J. QUELCH,

Hon. Secretary.

Mr. Æneas D. Mackay moved, seconded by Mr. S. M. Bellairs, that the report be adopted.

In reference to the proposed illuminated certificates, the Chairman said he thought that as the Botanic Garden was a Government Institution, it was hardly necessary to give such a certificate in that case.

Mr. Quelch called attention to the fact that the Rules of the Show provided that Public Institutions should have certificates of merit, where deserving.

The report was adopted.

The Honorary Treasurer laid over the accounts of the Horticultural Show.

Mr. Quelch said the Committee were much indebted to the gentlemen who had assisted in making the Show a success and he would specially name the Committee in general, and Professor Harrison, Messrs. Quelch, Jenman

and Conyers in particular, to whom he proposed a hearty vote of thanks. This having been seconded by the Hon. A. R. Gilzean it was unanimously carried.

The Hon. N. D. Davis suggested that the Show should be opened for two days next year, and Mr. Bellairs stated that the Committee intended to do this if possible, it was also recommended that the price of admission be a shilling the first day and sixpence the second.

The Rev. D. J. Reynolds spoke of the services of Professor Harrison and Mr. Quelch and also mentioned Messrs. Vyle and Hargreaves.

On the motion of Mr. Æneas D. Mackay seconded by Mr. Conyers, a vote of thanks was accorded to the Vice President for his exertions in the Combined Court to procure the Government Grant, without which the Committee would have been much hampered.

The Chairman thanked the meeting.

The following communication from the Agricultural Committee was read :—

Georgetown, Sept., 17th, 1896.

To the President and Members of the  
R. A. & C. Society.

Gentlemen,—In accordance with the regulations under which the Agricultural Committee of the Society is permitted to have free analyses of articles of public interest, by the Government Chemist, I have the honour to forward four (4) analysis of soils from the Pomeroon River and one of scale from a Yaryan pan at Pln. Houston.

I have, &c.,

S. BELLAIRS,

Secretary, Agricultural Committee

CERTIFICATE OF ANALYSIS.

Of a sample of soil from the Pomeroon River ; marked No. 1, Pomeroon Provision Company's Grant, 250 roods from river ; 100 roods from creek land drained ; sent by the Agricultural Committee, R. A. & C. S. ; received May, 1896.

The air dried soil retained 9·25 per cent of hygroscopic moisture.

*Composition of Dry Soil.*

* Organic matters and combined water	...	...	24'473
† Phosphoric Anhydride	...	...	'332
Sulphuric Anhydride	...	...	'027
Iron Peroxide	...	...	3'526
Alumina ...	...	...	11'845
Manganese Oxide...	...	...	traces.
Calcium Carbonate	...	...	none.
Calcium Oxide	...	...	'493
Magnesium Oxide	...	...	'536
‡ Potassium Oxide	...	...	'417
Sodium Oxide	...	...	'379
Insoluble Silica and Silicates	...	...	57'972
			<u>100'000</u>

*Remark* :—An excellent soil of high potential fertility.

* Containing Nitrogen	...	...	'524
† Soluble in 1 o/o Citric Acid Solution	...	...	'013
‡ " " " " "	...	...	'026

CERTIFICATE OF ANALYSIS.

Of a sample of soil from the Pomeroun River; marked No. 2, Pomeroun Provision Company's Grant; 75 roods from River; 100 roods from creek; sent by the Agricultural Committee, R. A. & C. S.; received May, 1890.

The air dried soil retained 7 per cent of hygroscopic mixture.

*Composition of Dry Soil.*

* Organic matters and combined water	...	...	89'419
† Phosphoric Anhydride	...	...	'095
Sulphuric Anhydride	...	...	'347
Iron Peroxide	...	...	'787
Alumina ...	...	...	1'573
Manganese Oxide	...	...	trace.
Calcium Carbonate	...	...	none.
Calcium Oxide	...	...	'361
Magnesium Oxide...	...	...	'193
‡ Potassium Oxide	...	...	'323
Sodium Oxide	...	...	'163
Insoluble Silica and Silicates	...	...	6'739
			<u>100'000</u>

*Remark* :—A sample of an exceptionally rich vegetable mould.

* Containing Nitrogen	...	...	1'927
† Soluble in 1 o/o Citric Acid Solution	...	...	'040
‡ " " " " "	...	...	'002

## CERTIFICATE OF ANALYSIS.

Of a sample of soil from the Pomeroon river ; marked No. 3, Provision Company's Grant ; 200 roods from river ; 100 roods from creek, land not drained ; sent by the Agricultural Committee, R. A. & C. S. ; received May, 1896.

The air dried soil retained 13'6 per cent of hygroscopic moisture.

*Composition of the Dry Soil.*

* Organic matters and combined water	...	...	89'191
† Phosphoric Anhydride	...	...	'041
Sulphuric Anhydride	...	...	'275
Iron Peroxide	...	...	'518
Alumina	...	...	'710
Manganese Oxide	...	...	none.
Calcium Carbonate	...	...	none.
Calcium Oxide	...	...	'292
Magnesium Oxide	...	...	'347
† Potassium Oxide	...	...	'336
Sodium Oxide	...	...	'177
Insoluble Silica and Silicates	...	...	8.113
			<u>100'000</u>

*Remark* :—A sample of an exceptionally rich vegetable mould,

* Containing Nitrogen	...	...	1'474
† Soluble in 1 o/o Citric Acid Solution	...	...	'034
‡ " " " "	...	...	'037

## CERTIFICATE OF ANALYSIS,

Of a sample of soil from the Pomeroon river ; marked No. 4, Pomeroon Provision Company's Grant ; 180 roods from river ; 8 roods from creek ; sent by the Agricultural Committee, R. A. & C. S. ; received May, 1896.

The air dried soil retained 3'5 per cent of hygroscopic moisture,

*Composition of the Dry Soil.*

* Organic matters and combined water	...	...	8'808
† Phosphoric Anhydride	...	...	'037
Sulphuric Anhydride	...	...	'606
Iron peroxide	...	...	2'653
Alumina	...	...	6'947
Manganese Oxide	...	...	none.
Calcium Carbonate	...	...	none.
Calcium Oxide	...	...	'329
Magnesium Oxide	...	...	'373
† Potassium Oxide	...	...	'230
Sodium Oxide	...	...	trace.
Insoluble Silica and Silicates	...	...	80'017
			<u>100'000</u>

*Remark* : A very poor clay soil.

* Containing Nitrogen	...	...	'145
† Soluble in 1 o/o Citric Acid Solution	...	...	'001
‡ " " " "	...	...	'002

## CERTIFICATE OF ANALYSIS.

Of a sample of scale from Quadruple Yaryan tube ; marked Houston ; sent by the Agricultural Committee, R. A. & C. S ; received April, 1896.

Moisture	...	...	...	...	...	4'75
Albuminoids	...	...	...	...	...	1'05
Organic matter, etc.	...	...	...	...	...	37'50
Silica	...	...	...	...	...	9'90
Iron Peroxide	...	...	...	...	...	1'01
Calcium Oxide	...	...	...	...	...	21'61
Magnesium Oxide	...	...	...	...	...	3'38
Sulphuric Anhydride	...	...	...	...	...	1'04
Phosphoric Anhydride	...	...	...	...	...	19'76

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 100'00
 

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*Probable proximate Composition.*

Moisture	...	...	...	...	...	4'75
Calcium Sulphate (hydrated)	...	...	...	...	...	2'24
Magnesium Phosphate	...	...	...	...	...	7'38
Calcium Phosphate...	...	...	...	...	...	32'41
Iron Phosphate	...	...	...	...	...	1'90
Silica	...	...	...	...	...	9'90
Albuminoids	..	...	...	...	...	1'05
Organic Matter and organic salts of Lime	...	...	...	...	...	40'37

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 100'00
 

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Professor Harrison spoke of the extreme fertility of some of the soils analysed, for which the meeting thanked him.

Mr. Æneas Mackay said he had been requested by several persons to ask the Chairman if he could give them another evening lecture, to which Mr. Luard replied that he would give the matter his consideration.

A communication from the U.S. Consul was read informing the Society that the Columbian awards had been forwarded through the British Foreign Office, London.

The Secretary stated that he had forwarded a copy to

the Government Secretary, asking that enquiries might be made.

The thanks of the Society were accorded for the following donations to the Museum :—

Alligators, Salempenta, } Rough Fox, Luffahs }	...G. S. Jenman.
Atlantic Soundings off E. } Demerara ... }	...Capt. Young.
Silver Coin ... ..Venezuela ...	...Ag. Consul Pinaud.
Bat ... ..	...John Junor.
Leaf-Insect ... ..	...P. Waddell.
Rare Swift ... ..	...H. L. Straker.

The meeting then terminated.

*Meeting held October 22nd.*—His Excellency Cavendish Boyle, C.M.G., President in the Chair.

Members present 19.

*Elections.*—*Members*: Messrs. W. A. Sawtell, Jack Morpurgo and C. A. Parrett and Dr. Emile E. Lungwitz.

*Associates*: Messrs. C. Neaves, Jas. Fitzgerald, Chas. W. Todd, H. H. Schram, George Jamieson. J. Atkinson and Frank P. Comber.

The following report of the Committee of Correspondence was laid over and directed to be printed and distributed among the members so that it might be discussed at the next meeting :—

The Museum, Oct. 14th, 1896.

To the Directors: Royal Agricultural  
and Commercial Society.

Sir,—In addition to the short report on the recent Horticultural Show, laid before the last meeting of the Society, I have the honour by



direction of the Committee of Correspondence to forward the following which has been unavoidably delayed.

I have, &c.,

J. J. QUELCH,

Hon. Secretary.

#### REPORT ON THE HORTICULTURAL SHOW, 1896.

The Committee are glad to report that the Horticultural and Poultry Show, 1896, was more successful than any previous one, and tends to prove that the efforts of the Society have been productive of good among the very class aimed at. The new departure of reserving special classes for competition solely among the artisans and labourers, and at the same time giving them the chance of competing in all other sections, has been a very popular one,—the artisan sections being largely patronised, while a keen competition from the same classes took place throughout the whole exhibition.

The special efforts, by means of addresses, that had been made by certain members of the Committee, and more especially by the Chairman and Secretary, to make known and to popularise the objects and advantages of the Show, chiefly in the country districts, resulted in a considerable addition to the list of exhibitors; but perhaps the most beneficial result has been the permanent interest aroused in many of the more influential persons in the various districts, who, by the formation of local Committees, did much to secure the success of the Show.

The special exhibits from the village districts thus formed a distinctive feature of the Exhibition of 1896; and the villages of Golden Grove, Victoria, Ann's Grove, Buxton, Friendship, and Canals No. 1 and No. 2 are particularly worthy of mention in this connection. Exhibitors from many of the country districts were greatly assisted through the kindness of the Directors of the Railway, and of the Sproston Dock and Foundry Company, who gave free passes for exhibits to and from Georgetown, while the Committee undertook the necessary cartage and portorage.

A comparison of the number of exhibits under the various classes in the Exhibitions 1893-1896, illustrates very clearly the enormous advance made in the Show of 1896, as may be seen from the following table:—

	1893	1894	1895	1896
Class A. Plants ... ..	37	108	135	390
„ B. Flowers and Floral Decoration ... ..	39	47	45	69
„ C. Fruits ... ..	74	168	105	271
„ D. Vegetables ... ..	80	172	125	271
„ E. Economic products (introduced 1894). ...		84	71	298
„ F. Miscellaneous ... ..	5	17	12	30
„ G. Poultry and Bees ... (introduced 1896) ... .			42	96
<b>Total ... ..</b>	<b>235</b>	<b>596</b>	<b>535</b>	<b>1,425</b>

It will thus be seen that the exhibits this year were nearly three times as many as those of last year, and that the competition for prizes was therefore necessarily keen. As a fact, although nearly \$500 were given in prizes, the number of prizes was out of all proportion below what the competitions deserved. In certain sections there were 20, 30, 40, and in one extreme case even 60, entries for two prizes, and many of the exhibits were often of a quality fairly entitled to award. It would seem advisable that, instead of one or two fairly large prizes being offered, four or more should be given for the more common products, even though the prizes be not of any considerable value. This would certainly lead to greater satisfaction among the general body of exhibitors, and would indeed be more equitable, since many of the exhibits are often but slightly different in quality.

The exhibition itself was very largely attended, and but for the threatening weather in the afternoon no doubt larger numbers would have been present. The mowing competition which was initiated by His Lordship Bishop Swaby, proved to be of great interest, and the special thanks of the Committee are due to His Excellency, the Governor, for allowing the competition to take place in the Government House grounds.

The special thanks of the Committee are due to the various gentlemen who acted as Judges in the various sections: In Class A. Mr. G. S. Jenman, and Mr. R. Ward; in Class B. Mr. James Rodway and Mr. John Junor; in Classes C. and D. Mr. J. F. Waby and Mr. W. T. Binnie; in Classes E. and F. Hon. B. Howell Jones and Prof. Harrison; in Class G. Hon. A. R. Gilzean, Mr. H. Garnett and Mr. G. Bagot

Steele; in the special exhibit of the Botanic Gardens Dr. Anderson and Mr. John Junor; and in the mowing competition, Mr. A. M. Gilchrist, Mr. L. M. Hill and S. M. Bellairs.

The thanks of the Committee are also due to His Lordship Bishop Swaby and Mr G. S. Jenman for the prizes for the mowing competition (\$10 00 and \$5 00 respectively), and to Mr. F. V. McConnell for a contribution (\$10), towards the expenses of the Show; to Mr. H. J. Gladwin, the Rev. R. Gibson Fisher, the Rev. Father Purcell, the Rev. Father Messini, the Rev. F. C. Glasgow and Mr. S. Ogle, for the the special help given by them in the country districts; and to the Rev. Canon Josa for the kind loan of school benches on the day of the exhibition.

The Committee would like to make acknowledgment of the special work of many of its members, as for instance, the Chairman who undertook all the onerous duties in connection with the admission of visitors (selling and taking of tickets, etc.,) and refreshments and lighting—all of which were entirely satisfactory.

Special recognition must here be made of the excellent exhibition, by the Botanic Gardens, of selected plants, flowering, foliage and economic, designed as an object lesson to illustrate the sizes of pots and plants, and their proper staging, for exhibition purposes—an object lesson that was sadly needed by the general body of exhibitors in the Colony. This exhibit was made by special request from the Committee, not for competition for money prizes, but for a certificate of merit—the exhibit being deserving.

The present Committee, while deprecating any idea of dictating to the Committee of 1897, would beg to make the following recommendations which they believe would further the success of the Annual Show, and add to its greater effectiveness:—

1. That the Show be opened for two days, first day, entrance one shilling; second day sixpence.

2. That no entries be allowed on the day of the Show.

3. That in the case especially, of the more common products, instead of two prizes of higher value being given, several smaller prizes be given, even ranging down to twenty five cents.

4. That over and above the sum given as per prize list of the Show, a certain small sum be set apart, to be awarded by the Judges, for other exhibits of merit in each section.

5. That the Society instead of giving merely a guarantee against loss,

should contribute a definite sum to the funds of the Committee, part of which might be devoted to extending the prize-list.

6. That the Committee provide coops for the exhibition of poultry, such coops being of uniform size, made of skeleton frame and wire netting.

7. That in consideration of the pronounced success of these Shows, and the desirability of beginning arrangements in good time, early application be made to the Government for the usual grant of five hundred dollars (\$500) towards the prize-list of the Show.

The Committee have further to bring to the notice of the Society the appended special reports on the exhibits of classes E. & F. made by the Judges of those classes; and, in view of the importance of many of the remarks thereon, and the possible trade and development in many industrial pursuits of the Colony, the Committee recommend that the report be published for general information.

J. B. HARRISON, Chairman.

J. J. QUELCH Secretary.

Appended is the report referred to above;—

Report of the Judges in Classes E. and F. of the Horticultural and Poultry Show, held in the Promenade Gardens, Georgetown, on August 20th, 1896:—

It was very evident to us at first sight that a very great increase in the number of the exhibits in these classes had taken place as compared with those shewn in the two preceding years. The following briefly indicates the various points which struck us during our examination of the exhibit.

#### CLASS E. ECONOMIC PRODUCTS.

##### *Section I.—Open to Amateur Exhibitors.*

1. *Coffee (cleaned).*—The sample to which we awarded first prize was an excellent sample of creole coffee of almost perfect colour and very well cleaned, its only defect being in some irregularity of the sizes of the beans. That to which the second prize was awarded was distinctly inferior to the former, but still was a sample of high class coffee of not such perfect colour, and not quite so well cleaned.

The other samples exhibited were of inferior colour, and in many cases the beans were very imperfectly cleaned. We would impress upon cultivators that if ever this Colony is to again attain eminence in coffee production, it is essential for every care to be exercised so as to

obtain coffee of good colour, perfectly cleaned and even in size of bean, especially avoiding the presence of broken beans.

2. *Coffee, Liberian (cleaned)*.—We cannot accord to this the same praise as to the exhibit of creole coffee. The sample to which the first prize was given was distinctly the best shown, but all were inferior to samples we have previously examined of this product.

8. *Cocoa Beans, (cured)*.—This class of exhibits was distinctly inferior to the similar exhibits in the Show of 1895. In that Show the first prize was given to an exhibit of fairly cleaned regular sized beans, having a fair break, but somewhat dark in colour. The second prize-sample closely approached the first in quality and we had some little difficulty in making an award between them. We are inclined to ascribe the falling off in general quality of this class of exhibits to weather conditions, unfavourable for the production of fine full sized beans.

4. *Kola*.—Three exhibitors only competed. Two which received prizes, sent samples of good colour, well dried, and of fair size. The third, although undoubtedly the finest sample as regards size of the nut, unfortunately had been spoilt in colour during curing.

5. *Rice*.—No difficulty arose in adjudicating the first prize in this class. The highest award went to an excellent sample of cleaned rice, good in colour, large, and even in grain, and containing but few broken grains. There was more difficulty in awarding the second prize, which was finally given to a sample of rice large and fairly even in grain, but of slightly inferior colour. Several good samples sent were disqualified from insufficiency of amount exhibited. In future exhibitions, we trust that more prizes than two will be offered for this very important product. We noticed several preparations of rice which were exhibited and regretted that it was not in our power to give small awards for the same.

6. *Cornmeal*.—A most difficult class to judge. The exhibits as a rule were of high merit, and we awarded the prizes to the exhibits of bright coloured well prepared meal, the relative merit of the two being practically determined by brightness of colour.

7. *Plantain Meal*.—An almost bewildering mass of exhibits were shown under this head, the majority of which showed the objectionable greyness so common in samples of this product. The prizes were awarded to two samples of almost equal merit, on both of which the greyness was conspicuous by its absence, the meals being of an inviting pale cream colour. Both were of good flavour, the one receiving the first prize being somewhat more regular in texture. If meals of such

high quality could be produced in quantity we are assured that an important future may be before this product.

8. *Cassava Meal Farine*.—Again an excellent show of exhibits. Many competitors seemed to be in doubt as to what farine was and sent in samples of cassava starch instead, while others were in doubt as to how little weighed five pounds and in consequence were disqualified. We awarded the first prize to a sample of excellent colour and flavour and uniform in its grain.

9. *Arrowroot*.—The samples to which the prizes were awarded showed conclusively that arrowroot of excellent quality and of irreproachable colour can be produced in British Guiana. We have seen few samples which have excelled in quality that to which we awarded the first prize.

10. *Tapioca*.—An excellent sample was exhibited, clear in colour and regular in grain, to which we awarded the first prize.

11. *Tous-les Mois*.—Never a taking looking starch, the samples exhibited did not add to its reputation.

12. *Other Starches*.—A large number of exhibits, many of very fair quality. The prizes were awarded to some fine samples of apparently cassava starch whilst others were of so near equality that we highly commended them.

13. *Vanilla*.—Two samples exhibited, unfortunately the finer of the two was spoiled by the oil with which it had been dressed having turned rancid.

14. *Honey*.—An unsatisfactory exhibit, the samples were either flavourless, sour, or bitter.

15. *Tobacco*.—This class of exhibits showed us that as last year the curing of tobacco is not understood in this Colony. A faint odour of ammonia, the origin of which is open to conjecture, is not an improvement to leaf tobacco; a mouldy condition again is not usually considered to be typical of merit in tobacco, and these two appeared to be the points at which the majority of the exhibitors aimed. The first prize only was awarded and to a sample in which these points were not present.

16. *Cayenne Pepper*.—A sample of very fair quality was awarded the prize.

17. *Guinea Pepper*.—Several excellent samples were shown, and we had much difficulty in making our award.

18. *Black Pepper*.—One exhibit only, of fine quality.

19. *Essence of Pepper*.—No exhibit.



20. *Pimento*.—Several samples, all of very inferior merit.

21. *Dried Ginger*.—No exhibit.

22. *Pickles*. } Here we had difficulty in making our award, not on  
23. *Hot Sauce*. } account of merit. The exhibit on the whole was  
most disappointing.

24. *Chutnee*.—Another unsatisfactory class of exhibits; we did not taste a sample approaching in quality the chutnee often sold here by coolies.

25. *Curry Powder*.—The prize was awarded to a very fair sample of good flavour and colour.

26. *Guava Jelly*.—An unsatisfactory show, the jellies exhibited, with the exception of that awarded the prize, were cloudy and dark in colour. The prize sample was clear and bright, of good flavour and colour.

27. *Other Jellies*. } Practically no competition. We missed the ex-  
28. *Jams*. } cellent jellies that can be prepared from some  
of our local fruits.

29. *Marmalade*.—Not a very satisfactory exhibit, the best sample containing too much sugar, and too little orange.

30. *Stewed Guava*.—An unsatisfactory exhibit.

31. *Cassareep*.—A large exhibit of dark coloured preparations in bottles, (some of which were fermenting), but a very small one of cassareep. Apparently any dark coloured saccharine liquid, even the molasses from second sugars, was considered by many of the exhibitors to be worthy of the name of cassareep.

32. *Prepared Chocolate*.—Two of the samples for competition were of excellent flavour, but the one to which the second prize was awarded contained an excess of sugar. A sample of creole chocolate, (without sugar), was exhibited, but unfortunately, the beans from which it had been prepared had been scorched during roasting.

33. *Bees' Wax*.—No exhibit.

34. *Crushed Feed*.—In last year's Show an excellent exhibit was made of cattle, horse, and poultry feed, prepared from Colony products only. This year only a vile wet fermenting mass was shown, better calculated for cattle poison than cattle feed.

We are desirous in connection with this class to draw attention to the very excellent exhibits of Messrs. Gaskin & Co., and of the Mercurius Cigar Co. The exhibits of various preparations of cocoa and chocolate by the former were worthy of the highest commendation, and remembering that the flavour of cocoa and chocolate, skilfully prepared in the

country where the cocoa is grown, is far superior to that of the same preparations made from beans which have run the risk of mouldiness, fermentation, etc., during transit on board ship, we desire to draw the Committee's special attention to the exhibit and recommend that a special award of an honorary nature be conferred on the exhibitors.

We were struck with the excellent exhibit of Colony-made cigars shown by the Mercurius Cigar Company, and in view of the importance of the venture to the Colony at large and of the encouragement which the establishment of such an industry in our midst offers to the careful growth and curing of tobacco in the Colony we recommend that a special award of an honorary nature be conferred on the exhibitors.

*Section II. Open to Artizans and Labourers only.*

35. *Preserves.*—A fair exhibit, superior to anything of a similar nature shown in the amateur section, was awarded a first prize.

36. *Jellies.*—No award. Same defects as noticed in the amateur section.

37. *Pickles or Hot Sauce.*—The samples exhibited were not of such good quality as we expected to find they would be.

38. *Coffee (cleaned).*—The cleaning of all the samples shown was defective and the colour anything but good. A fine looking sample of pea-berry coffee was exhibited of very good colour, but upon examination by the Judges, the lower layers in the box were found to be of very inferior quality to the upper, and as in addition it did not weigh as much as five pounds, it did not receive the award which its surface appearance would have entitled it to.

39. *Liberian Coffee.*—No exhibit.

40. *Cocoa.*—The first prize was awarded to an exhibit from the Berbice river. The beans were large and full but somewhat imperfectly cured. The exhibitor had apparently attempted, with but little success, to improve the quality of his exhibit by colouring the beans. If these beans had been better cured, their size and regularity would have made them the best exhibited in the show. As it was, we considered them as inferior in merit only to the beans which were prized in the Amateur section. The sample to which the second prize was awarded, although of fair beans, was unsatisfactorily cleaned.

41. *Rice.*—Some excellent samples were exhibited, the one to which the first prize was adjudicated being surpassed only by the one which received the first prize in the Amateur class. Most of the exhibits were somewhat marred by the presence of broken grains.

42. *Corn*.—The samples shown were of fine quality.

43. *Starch*.—Samples prized were of excellent colour and general quality.

44. *Leaf Tobacco*.—No exhibit.

45. *Raw Cotton (cleaned)*.—The prizes were awarded to two samples of excellent quality, of long staple, good colour, and very cleanly picked. A sample shown in the carded state was disqualified as it weighed much less than 3 lbs.

*Class V.—Miscellaneous.*

1. *Flower Pots*.—A second prize only awarded to pots made of concrete. We considered that the desire of the Committee in offering the prize was to encourage the manufacture of clay flower pots.

2. *Orchid Baskets*.—An exhibit in this class much inferior to that of last year.

3. *Plant Baskets*.—One exhibit only could be considered as fairly coming under this heading.

4. *Plant Tubs or Boxes*.—A very inferior exhibit.

5. *Piece of Bamboo or Rustic Furniture*.—The first prize was awarded to a very excellent exhibit of rustic furniture, the second to a meritorious exhibit of bamboo work.

6. *Hive for Bees*.—No exhibit.

Several specimens of perverted ingenuity and patience were exhibited in this section such as elaborate places of confinement (and torture) for birds, elaborate arrangements of articles in narrow necked bottles, etc. When we see these we can only regret that the very evident abilities and great patience of their makers have not been directed into more useful channels.

On the whole we must congratulate the Royal Agricultural and Commercial Society on the very evident success of their endeavours in the encouragement of the exhibition of Economic products. We consider the articles shown in this class with few exceptions to have been superior in quality to those exhibited in former years, and the manner in which the prizes were competed for in many of the classes of exhibits point to there being several Minor Industries in the Colony to which attention has been given. While the quality of the articles exhibited, as far as regards those due to conditions of cultivation, was in most cases satisfactory, we consider that in the majority of cases far better

results will be obtained when more care is devoted to their production in a state fit to meet the somewhat critical demands of foreign markets.

B. HOWELL JONES,  
Chairman of the Agricultural Committee,  
Royal Agricultural and Commercial Society.

J. B. HARRISON,  
Government Analyst.

Georgetown, October, 1896.

The Secretary read the following report in reference to the Tobacco Prize Essay :—

Georgetown, Oct. 21st, 1896.

To the President and Members of the  
R. A. & C. Society.

Gentlemen,—On behalf of the Hon. E. C. Luard and Messrs. G. S. Jenman and L. J. Paddenburg, the Judges appointed to examine the Essays on the Cultivation and Manufacture of Tobacco, I have the honour to report as follows :—

After careful consideration they have decided to award the Prize to the Essay by Mr. H. D. Van Ree ("Axiom") and they would like to mention that Mr. Chas. A. Farrant ("Tobacco Smoker") ran the prize-winner very close. Of the eleven Essays received, two by Messrs. R. K. Shiells and C. Linden Burnham were disqualified from non-compliance with the conditions, their names being written upon the Essays instead of a nom-de-plume.

The Judges regret that none of the Essays came up to expectation, and none really satisfied the conditions of competition.

I have, &c.,

J. RODWAY,  
Asst. Secretary,

A Government communication in reference to the Columbian awards was read.

Specimens of the Diploma and Medal were laid upon the table and the President stated that those entitled to them might obtain them on application.

A further Government communication in reference to the Paris Exhibition of 1900 was read.

The President suggested that the matter might be referred to the Committee of Correspondence.

Mr. Luke M. Hill pointed out that it would be desirable for that Committee to have some idea of the views of the Government as to the necessary funds.

The President said that what was now wanted was an expression of opinion as to the desirability or otherwise of the colony being represented at Paris.

The matter was referred to the Committee of Correspondence.

A similar communication in reference to an Exhibition in Tennessee in 1897 was referred to the same Committee.

The thanks of the Society was accorded for the following donations:—

To the Library—from Dr. E. Pinaud; 4 pamphlets on the Boundary Question.

To the Museum—

Piece of Bullet Wood shewing healed bark after bleeding	} ...G. S. Jenman.
Yaromanni Seeds— said to be poisonous	} ...E. Seon.
Assortment of Insects...	...G. S. Simms.
Mongoose ... ..	...Capt. Davis.
Rose, Thistle & Sham- rock Shilling	} ...Æ. D. Mackay.
Stiver ... ..	...S. M. Bellairs.
White winged plover and Bush-shrikes	} ...F. V. McConnell.
Galls (2) ... ..	...R. Cozier.
Giant Toad from Barima	...R. Allan.
Godwit or Marlin ...	...H. L. Humphrys.
Cornmeal from Chas.- town Factory	} ...J. J. da Silva.

Mimosa seeds	...	...	...Master Simpson.
Matamata Tortoise	...Potaro	...	...J. M. London.
Encrusted Fish-hook from stomach of Red Snapper	} }		...Capt. Simmons.
Alligator	... ..		...G. S. Jenman.
White-winged Plover	...		...Rev. C. R. S. Pike.
Minerals	...Cornwall	...	...H. A. L. Rowe.
Young Labba	...		...Hon. B. H. Jones.
Branches cut by Saw- yer beetle. Stone Im- plements and Iron con- cretion	} }		...D. H. Hay.
Small moths	... ..		...A. Gordon.
Fragments of Human Bones from old settle- ment.	} Nonpareil	...	...A. C. Ross.

The Assistant Secretary called attention to some specimens of Ramie lying on the table, which had been grown by the Hon. B. Howell Jones, and mentioned that the plant would only grow well on a very rich soil.

The President stated that just before leaving England he had received through the Colonial Company, the following notes on Cane-farming in Demerara by Mr. F. I. Scard. It was agreed that the paper should be published and brought up for discussion at the next meeting:—

There are many conditions associated with Demerara which place cane farming on quite a different footing to this industry as it exists in other cane-growing countries. Want of natural drainage, rendering absolutely necessary an artificial system which is not in the power, if in the will, of the peasant farmer to carry out individually, and the means of transport whereby carriage to the outside of each "empolder" becomes tedious and laborious, are the principal of these, requiring co-operation for their remedy, a serious drawback when the disposition of the class it is hoped to utilise for the purpose is considered.

It would seem, therefore, that the only way out of the difficulty would



be for the existing estates to give out plots for farming, maintaining the drainage and transport, and contracting with the farmers for the subsequent purchase of the canes thus grown.

There are, however, many objections to a system of this kind. The utter unreliability of the average labourer where a contract of this sort is concerned, the difficulty in securing proper cultivation, leading to deterioration of the soil, the impossibility of weighing or dealing separately with small quantities of canes with the present estates' mode of transport, coupled with the general disturbance of the discipline of the estate from the coming and going of uncontrolled outside labour (for the employment of inside labour to this end is not to be considered), are points which present most serious obstacles to the development of a satisfactory system of estates' cane-farming.

I do not think, therefore, that much can be hoped for in this direction, but I do consider that much may be done to utilise the back lands of the incorporated villages for the purpose.

Recent legislation has effected something in the direction of the self-government of these communities, and the present machinery, with pressure and some help from the Government authorities, should be quite sufficient to provide the drainage and transport facilities necessary. The advantages of the villager growing canes on his own land would be great. There would be complete independence of both farmer and manufacturer, the former carrying his canes when and to whom he liked, with no contract to lead to inevitable trouble and probable tedious litigation. In fact, the only question between buyer and seller would be the mutual arrangement of price, easily settled on some recognised basis.

In this scheme the transport difficulty comes in. No network of roads, making carriage in any direction easy, exists, and the produce of any one "empolder" must pass through to the front before it can be transported to another.

At present the villagers bring such provisions as are grown to the public road in "bateaux," using the waterways of the village. Of course, canes could be transported in this way; but it would be far better for each village to have a very light tram-line along its "middle-walk," the cost of which would be small. Every villager could thus convey his load of canes to the public road for transference to his donkey or mule cart, and thence to the factory for sale.

On the part of the purchasing estate all that would have to be provi-

ded would be a scale, large enough to weigh a mule cart and load, placed at an easy distance from, and accessible to, the public road, and sufficiently near the estate's transport trench to allow of the bought canes being loaded in punts by the estate's labour. The above forms an outline of the shape I consider cane-farming should first take in Demerara. Speaking roughly the village area is probably about one-fifth of the estates' cultivation, and there is no reason why one-half of this should not be in cane cultivation.

There is at present no inducement to grow provisions to any extent, the market being already overstocked, and the growing of canes would soon be recognized as a profitable industry by the villagers, provided the scheme be properly organised and worked. At the outset, of course, difficulties would have to be overcome, not the least of which being distrust of the purchasing planter, and the demoralization of the villagers induced by the gold industry. If, however, the industry is to be established at all I feel that hope of success will only be on the lines I have laid down.

A scheme of this description cannot be started by the planters alone. All that these could do would be, to express their willingness to buy the canes. In fact, it is the Government who should take prominent action in the matter, and to this end, the Royal Agricultural Society would be the proper body to approach it with a carefully conceived scheme; which, I imagine, that there would be every disposition on the part of the Government to assist in carrying out.

Even were only canes sufficient for 10,000 tons sugar annually grown the addition to the value of the colony's exports would amount to \$500,000, more than half of which would go into the hands of the peasantry. Great, however, as would be the direct advantage derived from the distribution of such a sum among the villagers, a far more important result would be obtained in the habit of honest labour which would be gradually acquired by them. A class that will not work for others will frequently do so for themselves, especially when the fruits of their labour are so quickly and practically apparent as they would be under a properly conducted cane-farming system.

The President also said that from his taking some small specimens of woods which had been kindly supplied to him by Mr. Quelch before his departure, he had come into communication with a firm of timber merchants who

were desirous of obtaining sample logs of some of the woods of the colony. He had brought the matter before the meeting thinking that perhaps the Society might be able to do something to advertise the colony timber.

Mr. Cunningham said he had done a little business in several woods, but his experience was not favourable to consignments. In the case of greenheart, where a vessel was chartered to carry nothing else, and where the freight was low, there was not the same difficulty as with a few logs of other kinds. Then, there was the difficulty of splitting; he thought that possibly the timber would arrive in better condition if first sawn into two-inch planks.

The Secretary suggested that it might be possible to get one of the shippers of timber to include a few specimen logs, and that in this way the freight would be much reduced.

Mr. Luke M. Hill spoke in favour of the Society risking a little money to advertise the colony woods, and mentioned the panels which had been sent to Chicago and afterwards to the Imperial Institute.

The Hon. N. D. Davis suggested that tables of colony wood suitable for smoking rooms, &c., might be made, and Mr. Cunningham promised to prepare specimens.

The President stated that when in England he had received a communication in reference to the supply of Mora timber for pavements, and to the possibility of the colony being able to supply that wood to compete with other kinds from Australia.

It was finally agreed on the suggestion of Mr. Hargreaves to postpone the matter until the next meeting with a view to obtaining further information.

The meeting then terminated,

*Meeting held November 19th.*—Hon. Cavendish Boyle, C.M.G., President, in the Chair.

Members present 17.

Election.—*Associates*: Messrs. Thomas K. Rowe, Arthur C. Adams, and G. R. Macfarlane.

The Secretary reported on behalf of the Directors that in accordance with the resolutions of the previous meeting, efforts had been made to arrange for a trial shipment of furniture woods. He had written to two firms in reference to such a shipment, and had also enquired as to the price at which the logs could be delivered in Georgetown, the lowest offer being 24 cents per cubic foot.

The President said he understood that the freight per Direct Steamer would be about 32 cents per foot, and that therefore if the wood realized 3s. 6d. it would pay. By covering the ends with concrete, splitting might be prevented.

It was finally agreed that 20 logs of Ducaliballi, 10 of Purpleheart, and 4 each of Hoobooballi and Locust be procured, the Directors being requested to arrange the matter.

The following report of the Committee of Correspondence was read:—

The Museum, Nov. 19th, 1896.

R T. A. Daly, Esq.,

Hon. Secty. R. A. & C. Society.

Sir,—I have the honour to state that, at a meeting of the Committee of Correspondence held on the 18th inst., the two communications which had been received from the Government with reference to the representation of the colony at foreign exhibitions, and which had been referred to the Committee at the last meeting of the Society, were considered, and I was instructed to report—

1st. That, with reference to the Tennessee Centennial International

Exhibition, to be opened at Nashville, May 1st, 1897, there would not be sufficient time for an official representation; but that public notification of the exhibition should be given for the benefit of private firms and individuals, who might desire to participate

2nd. That, with regard to the Universal International Exhibition, to be held in Paris 1900, at which the Home Government are already pledged to be represented, it was desirable that the colony should take part, and that a space of 5,000 sq. ft. be asked for, for the purpose.

I have, &c.,

J. J. QUELCH,

Hon. Secretary.

Mr. Luke M. Hill moved, and Mr. Æneas D. Mackay seconded, that the report be adopted.

Mr. Jacob Conrad spoke of the question of funds, on which the President stated that all they had to do at present was to give an opinion as to the desirability or otherwise of the colony being represented.

The Hon. N. D. Davis asked whether the colony would be likely to derive any benefit from the Paris Exhibition. They had been represented at several, but he doubted whether the results were commensurate with the expenditure.

Mr. Kirke agreed with Mr. Davis; he himself had represented the colony at the Calcutta Exhibition, but he could not say that any material advantage had been derived.

The Hon. B. Howell Jones said the sugar and other products of the colony were excluded from France, and he could therefore see no reason for exhibiting them there.

The President having asked for a vote on the adoption of the Report, it was rejected by a majority of one (7 for and 8 against.)

The Secretary laid upon the table three illuminated

Certificates which had been prepared by Mrs. L. M. Hill, to be presented to the Mercurius Cigar Factory, Messrs. Gaskin & Co. and the Botanic Gardens. He said they were very much indebted to Mrs. Hill for her kindness in preparing such beautiful works of art.

The President then presented the Certificate for the Mercurius Factory to Mr. L. J. Paddenburg. A vote of thanks was accorded to Mrs. Luke M. Hill for preparing the Certificates, on behalf of whom Mr. Hill thanked the members for their kind appreciation.

Copies of the report on the recent Horticultural Show were laid on the table and the recommendations of the Committee were read.

Professor J. B. Harrison gave notice of motion that effect should be given to sections 5, 6, and 7 of the recommendations, to be brought up at the next meeting.

In connection with Mr. Scard's notes on Cane Farming, the President read a letter from Mr. Scard expressing his regret that he could not attend the meeting.

Mr. Jacob Conrad moved and Mr. Kirke seconded, that the paper be referred to the Agricultural Committee.

Mr. Kirke spoke of the difficulties the villagers had to contend with on account of floods,

The Hon. B. Howell Jones said that some of the estates on the East Coast were willing to buy canes, and he himself could always take as many as might be brought to his plantation. The difficulty here was the want of connection between the canals of the villages and those of the plantations, and few of them would be willing to pay for such connections from the rates. The difficulty with the late Mr. Russell's scheme at La



Bonne Intention was the polariscope estimation of the juice in the villagers' canes ; he thought a uniform price per ton of the canes would be better. As for the draining of the villages, the difficulties were not greater than on the estates. The back lands of the villages were charged too high a rent—\$1·00 an acre per month ; this was too much for cane land, for it would swallow up the profit. He then went on to speak of cotton farming, which was once such an important industry in the colony. He did not see why, if it could be grown in the Southern States at the present low prices, the people on the East Coast could not grow it.

The Hon. Mr. Gilzean spoke in favour of the paper being referred to the Agricultural Committee. He had had a great deal to do with the buying of canes at La Bonne Intention and thought that evidence should be taken from planters and villagers before anything were done.

After Mr. W. Cunningham had spoken of the wire trolley system as a means of getting over the difficulty of transferring the canes, it was agreed to refer the matter to the Agricultural Committee.

The Hon. Mr. Jones called attention to some specimens of canes lying on the table, which had been destroyed by leaf fungus.

Professor Harrison said that cane-fields when affected produced less sugar, but the disease was not very destructive.

Mr. Jones also gave an account of his experience in the cultivation of Ramie.

The annexed letter to the chairman, on jute cultivation, was referred to the Agricultural Committee :—

Trevelyan Buildings, Corporation Street,  
Manchester, England,

3rd November, 1896.

Sir,—It being my intention to endeavour to introduce the cultivation of jute into British Guiana, I venture to ask that your Society give me all the help towards this end that lies in their power.

Together with this I send you a little sheet that fully describes the growing of jute as it is practised in India, and by Parcel Post a small package of jute seed which I beg you to have planted, and if practicable, treated according to instructions herewith and report the results to me.

I also propose to apply to the Government of British Guiana for a concession of land suitable for jute growing, and in the event of this being given me, I will at once proceed to prepare the land for planting, and as soon as possible cultivate it.

As there can be no doubt that the jute industry, once established on a firm basis, will be a substantial benefit to the colony, I trust the Government on their part will see their way to treat me liberally in the matter, and that your Society on their part will render me whatever assistance they consistently can.

I will be deeply indebted if you will let me know to whom I shall apply in respect to the above mentioned grant of land.

Hoping to have your consideration, and tendering you my thanks in advance,

I am, etc.,

NORMAN FORSTER.

The Chairman, the R. A. and C. Society.

Georgetown, Demerara.

The thanks of the Society were accorded for the following donations:—

To the Library—5 Files of the *Guiana Chronicle* 1820, 1821, 1822, 1833-4 and 1840; 1 file *Guiana Herald* 1842-3 from Mr. Jas. Thomson; Year-book of U.S. Department of Agriculture, 1895; from Mr. A. J. Patterson; Surinam Almanac 1897, from Editor *Suriname*; Pamphlet on Tobacco Culture from Mr. G. E. Tuckett.

To the Museum—A moth from Mrs. A. H. Thomson; Guinea corn (red) from Hon. B. H. Jones; a blue crane

from Mr. H. L. Humphrys; a stone implement from Bahia; a mottled Buzzard from Mr. G. S. Jenman; a Quaak from Mr. G. S. Jenman; a rare Makushi waist belt from Mrs. F. L. Quick; piece of a beam from H.M.S. *Victory* from Mr. F. A. Conyers; antique mask of Negro face; seeds, insects and sticks, from Mr. F. R. Paulie; insects, pottery and stone implement from Mr. J. L. Theobald; ball from stomach of cow from Mr. G. A. Fraser; collection of insects from Mr. T. S. Hargreaves; abnormal egg of fowl from Mr. R. Case; insects of various species from Mr. A. Watson.

Mr. Quelch gave a short account of some of the migratory birds of the colony, specimens of which were laid upon the table.

The Secretary called the attention of the members to the fact that the next meeting was the Anniversary meeting for the election of Office-bearers for the ensuing year.

The meeting then terminated.

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*Meeting held December 10th.*—Hon. Cavendish Boyle, C.M.G., President, in the Chair.

Members present 32.

Elections—*Member*: Dr. F. T. Wills.

*Associate*: Mr. J. S. E. Brookfield.

In connection with the trial shipment of furniture woods the Hon. Secretary reported that he had ordered 20 logs Ducaliballi, 2 logs Wamara, 10 logs Purpleheart, 4 logs Hoobooballi, and 2 logs Locust. He had written to Messrs. Foy, Morgan & Co., informing them of the proposed shipment, and had received a quotation for freight from the agents of the London steamers.

The annexed communication from Messrs. Park & Cunningham was read, the specimen table being open to inspection:—

Georgetown, Demerara,  
December 9th, 1896.

Thomas Daly, Esqr., Honorary Secretary.

Royal Agricultural and Commercial Society.

Dear Sir,—In accordance with the request of the above Society, we have much pleasure in submitting for inspection the sample "Table" made of Colonial woods, suitable for a Club or Smoking Room.

This table consists of the following woods: Hooboballi, Simarupa, Crabwood, Letter-wood, Dukala-balli, Bania, Purple heart, Cedar, and Itikibooroballi.

The woods at right and left of table are inlaid so as to represent the Union Jack, the idea of construction is that for export, the legs and uprights can be packed in top, forming small package.

The price polished and finished as sample ... .. \$ 35 00

„ „ Unpolished and packed for shipment ... .. 32 00

For orders of half a dozen or more, discount of 10 per cent. would be allowed off the above prices.

You will please note the table contains in a finished condition the woods the Society intend exporting on trial.

We are, etc.,

PARK & CUNNINGHAM.

Captain Duncan spoke in praise of the table, and thought it desirable that it should be forwarded with the timbers to show their appearance when worked up.

The President thought the great question was where could it be sent so that it might be seen to advantage.

Several places, including the Hotel Metropole, having been suggested, Mr. F. A. Winter said that Captain Duncan's suggestion might be taken as a notice of motion, and be considered at the next meeting.

The Hon. N. D. Davis thought that several such tables should be sent to Clubs, Hotels, and the Colonial Institute, also that one might be kept in the Reading Room,

and another in the Museum to be shewn to visitors to the colony.

The Hon. B. Howell Jones said that the members appeared to forget that a very fine collection of the woods of the colony was on show at the Kew Museum, where persons interested might always inspect them. Yet, he had never heard that this exhibit had done any good to the colony. He had no doubt that if the Society presented a number of such tables as that exhibited, they would be accepted with great pleasure, but he doubted whether the colony would derive any benefit. Mr. Cunningham would be able to tell them that our woods laboured under the objection of being difficult to work on account of their hardness.

Mr. Cunningham expressed his high opinion of the excellence of the woods of the colony, and said that although difficult to work they lasted so much longer than many of those used for furniture, that the advantage in the long run was obvious.

Mr. Quelch having spoken of the hardness of some of the woods taken to Chicago, the President said that they might take Captain Duncan's suggestion as a notice of motion, meanwhile the Society might take the one table and consider the advisability of getting others to send away. Captain Duncan agreed to bring up the matter at the next meeting.

Professor Harrison asked that his motion in regard to Sections 5 to 7 of the recommendations in the report of the Horticultural Show be altered by leaving Nos. 5 to 6 until another meeting as they might take time to discuss. He therefore moved that Section 7 be adopted, which having been seconded by Mr. Bellairs, was carried unanimously.

The Secretary read the annexed communication from the Chamber of Commerce :—

The Chamber of Commerce of the City of Geoegetown,  
Georgetown, Demerara, 5th December, 1896.

Sir,—I have the honour by direction of the Council of the Chamber of Commerce, to transmit to you copy of a letter dated 18th November, from the Hon. Secretary of the Antigua Branch of the Leeward Islands Agricultural and Commercial Society, also the copy of the *Antigua Standard* therein referred to.

2. The Council views with favour the proposal to hold a Conference on the subject of the Sugar Bounties, but it is of opinion that the matter could be better dealt with by your Society, embracing as it does both the Commercial and Agricultural interests.

3. I am writing to Mr. Watts to inform him of the action taken by the Council in this matter.

I have, &c.,

G. WYATT,  
Secretary.

R. T. A. Daly, Esq.,

Hon. Sec. Royal Agricultural and Commercial Society.

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Antigua Branch, Leeward Islands,  
Agricultural and Commercial Society.

Antigua, 18th Novr. 96.

Dear Sir,—I beg to forward herewith a copy of the "Antigua Standard," and to direct your attention to the report of a public meeting, and to a resolution relating to a Conference on the Bounty Question.

To put the matter in a definite form :—

Do you think that it is possible, and desirable, to send delegates from your Colony to a Conference to be held in Barbados on, say January 11th, or January 25th 1897? If so, much time will be saved, if steps be taken to arrange preliminaries, such as the selection of delegates and preparing their instructions, without delay.

It is desired that you should make this proposal as widely known as possible, in order that the Conference, if held, should be thoroughly representative, and we shall feel obliged if you will kindly bring the



question to the notice of any other public bodies or influential individuals, whose assistance you think will further the proposal.

I am, etc.,

(Sgd.) FRANCIS WATTS,

Hon. Sec.

The Secretary, Chamber of Commerce, British Guiana.

He said that the letter, with one of the same tenor to the Society, had been brought before the Directors, but as it was thought that a Sugar Commission would be coming out from England at an early date, the matter of sending delegates might be postponed. It was for the meeting to give their opinion,

Captain Duncan thought if any action was taken it should be done at once; as for the Commission they were not quite sure what had been arranged.

The Hon. E. C. Luard thought further information necessary before sending delegates.

Mr. R. G. Duncan said that it was almost certain that the Sugar Commission would arrive in the West Indies some time in January; the question of a Conference might be therefore very well postponed meanwhile. If the Commission did not come here first it would probably arrive in February; then would be the time for a Conference of West Indian Planters and perhaps their representations would be stronger. At the same time he did not think a Conference would be of much use, as the position of Barbados and the other islands was different from British Guiana. Here they would have to fight the battle on their own lines.

The Hon. Mr. Davis thought the place for a Conference was London.

On the motion of Mr. Luke M. Hill, it was agreed

that the Secretary be instructed to reply expressing the views of Mr. R. G. Duncan.

A Government Communication was read informing the Society that it had been decided that the Colony should not be officially represented at the Paris Exhibition of 1900.

The President then gave the following valedictory address :—

Gentlemen,—It seems to me hardly possible that a year can have passed or nearly passed since your then President, my honourable friend, Mr. Luard, paid me the great honour of nominating me for your approval as his successor in the Chair of this important Society ; and full of incident as that year has been, it has proved too short for the accomplishment of the many wishes, the many aspirations and desires with which I most diffidently accepted this high office at your hands. At the end of April last circumstances over which I had no control necessitated my absence from the Colony for some four months, but knowing that in Mr. Luard, your Vice-President, you had a gentleman whose active interest in the Society's affairs and in its welfare, whose great experience and knowledge had long been fully proved, I felt that my absence could not be counted as detrimental in any way, but as of advantage rather to the Society. The year now so shortly coming to a close has, as I have observed, been full, unusually full, of incident for our Colony, and there has been much to cause grave apprehensions to those whose life interests are centered within its borders. Many of us at this year's opening viewed the general situation, I think, as more hopeful—as fraught with brighter possibilities than the immediately preceding periods ; and the surrounding circumstances in January last would seem, in my humble opinion, to have justified that view. There was a better prospect for the market of our staple produce ; there was the certain knowledge that this great possession of Her Majesty, the only one in South America, was attracting wider interest—was becoming more generally known than in all the years during which it has rejoiced in being an integral portion of our Queen's great Empire—on the political horizon, there was a strong feeling of security and an unquestioning confidence in those to whom the affairs of our Sovereign's realm were intrusted, and that such feeling and such confidence were in no way misplaced has, I think, been

abundantly proved by subsequent events. But both within our own borders, and from the outside in connection with your agricultural and commercial undertakings, there came, as the months sped by, changes in the situation unforeseen at the commencement of the year. The heavy strain of past years began to tell on the community, and a more or less serious financial crisis seemed imminent—and then, out of the comparative calm of foreign skies, if not out of their blue, there was added a bolt in the shape of a yet heavier handicap on your chief product, an additional weight of advantage to foreign growers, and of disadvantage to those here, against which you are yet manfully but, as I believe not hopelessly, struggling. And, gentlemen, whilst it may be said that there is a limit to all such uphill battles, I do not think that despondency need now take hold of you, for the news which we have recently received would seem to point clearly to this fact, namely, that your wants if not your woes have been lately attracting the attention of English Statesmen and English Pressmen, and we have been led to understand that under the auspices of the government of the Mother Country an enquiry is to be held into this important subject by specially appointed Commissioners who are preparing to start upon their voyage to these parts. May their advent, may their labours, find a solution of your difficulties; find the means of saving an important industry and a large amount of invested capital from ruin and destruction, and secure to many thousands of Her Majesty's loyal subjects their means of honest and legitimate livelihood. That, gentlemen, is my most earnest hope and, within limitations, my sanguine expectation. It is my most earnest hope, for I could not but grieve, deeply grieve, to see so important an industry fail. It has been said that the sugar grower has been selfish, has resisted and retarded development, has lived for himself, and has taken the life blood of the Colony's wealth and disbursed it or stored it away from the Colony's shores. I do not hold entirely with that view. The sugar grower for years and years has been the mainstay of this community. His energy and his enterprise has brought hither every modern improvement in the way of machinery and has found the means, assisted albeit by the community as a whole, to supply the meagreness of local labour, by a system of immigration from outside. And I venture to say incidentally here that the course pursued in that connection entitles him, entitles our Colony to consideration, for are we not thereby the means of finding employment under regulations and a system of beneficent care and fostering control for thousands of the

Empire's subjects who might, perchance, at this very moment be starving and destitute, or if not, at least a cause of grave apprehension to the Government of their native land. And before passing from the subject of labour, bear with me one moment. Your history shows me that after a certain event generally known by the name of the Emancipation—the labour supply in the then sugar growing colonies became short and required extending, replenishing. Now this is no place, nor is it for me to go into the why and the wherefore of that effect—it was an effect, and it had to be met and dealt with just as the effect of the system which now presses on you so heavily will be, I hope, met and dealt with. But to those who without looking very deeply may question what has gone before in connection with labour—nay, might now question present arrangements—I would mention some words which I recently read and which are to the effect that whilst the idea of men being bound to work for work's sake may be without foundation, yet all men must contribute to the support of the State within the confines of which they reside, and which gives them the benefit of protection in peaceful idleness. I believe, gentlemen, that without any assisted labour introduction we should have had no Planters, without any Planters we should have had but few sea and river defences—without sea and river defences we should have had towns and communities settled into the depths of mud flats, and when that undesirable condition had obtained, we should have found the peaceful remnant driven aback, and yet aback into unconserved and unirrigated regions where even the semi-idleness of provision growing would not have kept the wolf of hunger from their benabs, or the overwhelming flood of waters, and the evil effects of periodic drought from their unprotected acres. But I would not wish to be thought as crystal-lising on our crystal industry only. We have wide fields for adventure and development, and we have possibilities of success apart from that industry. The tyre man is crying out to us to send him Guiana-grown rubber. The Bovril man will, in the no far distant future, clamber over the Beef Extractors in his desire to purchase the herds which one can foresee will roam and fatten on our upland Savannahs. The timber broker will be here and there at the inland depôts which will spring up round railways making and to be made, eager to buy the hardwood wealth of our forests, and the adventurer who seeks for the precious metal our lands have held long before Raleigh's days, will become amongst the well-to-do men of the earth. This is no day dream, gentlemen—it is all within the bounds of our Colony's

possibilities; it is all here for us as the outcome of peace within well defined borders, the result of the influx of capital which must follow on the attainment of that looked for, long deferred, and most desirable end. The influx of capital: we all desire it—the community would welcome it, but permit me one little thought thereon. And that is, when it arrives, as assuredly it must—let not those who now have at their hands undeveloped forest and savannah wealth, above and below the soil, be astonished or disheartened if the capitalist who ventures his cash should seek to take its usufruct or a fair proportion of it to his home beyond the sea. In plain words, though we want men and we want money, the man who finds the money, if he be from the outside, will stay there and we must not be surprised if in the success of his adventures in the development of our Colony's resources, an appreciable modicum of his gain should leave our shores. But after all that is but a small matter, for in the golden future we all hope to be in store for the land, there surely would remain a sufficiency—a satisfying sufficiency—for those who own or are native of the soil which has such bright possibilities upon and beneath it. A few words as to the year's work, a word in which *vale* has its full meaning, and I have done. The Society has held twelve meetings during the year. Several papers have been read and discussed. The annual Show, in spite of certain governmental reluctance, happily for the Society timely turned to the following of precedent, passed off most successfully, and that success was due, as we all gratefully recognise, to the untiring energy and devotion of Messrs. Quelch and Harrison and Hargreaves. We have not found out, gentlemen, how to kill down fungus, bounties, rind-rust, beet or other enemies of honest cane. We have not discovered the method of always being able to turn a deficit into a credit balance. We have not succeeded in persuading outside markets that Guiana Sugar, Coffee, Cocoa, Plantains, Rum, Rice, and such like fruitful results of labour, are the best in the world, the only ones in fact to be purchased if the consumer would live long and happy. We have not erected numbers of many-stamp mills in the El Dorado regions of our Province, but I venture to think that your work has not been entirely useless, and if we cannot attain all the ends I have foreshadowed above, it is at least my hope and my most heartfelt wish that the future may not be without a very general development of the wealth and the possibilities which are the Colony's possession—the gifts of Nature's bountiful hand. And now, before I close, let me express here my grateful thanks not only to you



who as members of this Society have given me your confidence and support with an ever readiness to pardon many shortcomings, but also to those who have been office-bearers with me during the past year, and to those employed permanently by the Society—to our Vice-President to whom I have already gratefully alluded, to Mr. Daly, whose devotion to its interests needs no mention from me, to Mr. Conyers, to Mr. Rodway and to the whole staff, honorary or paid, who have made my duties both very easy and very pleasant. I bid you farewell, gentlemen, as your President, and I assure you that the interests and the welfare of this Society, as of the whole colony, will always occupy a foremost place in the thoughts and endeavours which are and will be the outcome of a genuinely grateful memory.

Mr. Luard said: Gentlemen, I am sure that you have all listened to the valedictory address which our President, the Hon. Cavendish Boyle, has just delivered, with the greatest possible interest. But I am also sure that that interest has been tinged with a certain amount of sadness when you consider that this is the last occasion when we shall see our President in the presidential chair of this Society. But we shall see him in the Vice-President's chair during the ensuing year. It is a matter for gratification to see the very great interest that our President takes in all the different matters connected with this Colony. The address which he has just delivered to us will prove this. He has touched on a great many important subjects, and I think I may say that no previous President, other than a planter, has ever taken such an interest in agriculture, generally, as Mr. Boyle has. I have been very much struck, over and over again, at the great interest Mr. Boyle has always taken in the Society's welfare. I am sure we thank Mr. Boyle very much for the very interesting valedictory address which he has given us.

On the motion of the President, seconded by Mr. Luke M. Hill, Professor J. B. Harrison was unanimously elected President for the ensuing year, after which the other elections were made as per annexed list:—



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*Office-Bearers for 1897.*

**Patroness:**

*THE QUEEN.*

**Vice-Patron :**

HIS EXCELLENCY SIR AUGUSTUS WILLIAM LAWSON HEMMING,  
K.C.M.G., GOVERNOR AND COMMANDER-IN-CHIEF, &c., &c., &c.

*President :*

PROF. J. B. HARRISON, M.A., F.G.S., F.I.C.

*Vice-President :*

HON. CAVENDISH BOYLE, C.M.G.

*Hon. Secretary :*

THOMAS DALY.

*Hon. Treasurer :*

F. A. CONYERS.

*Ordinary Directors :*

R. G. DUNCAN, F.R.

HON. B. H. JONES.

H. KIRKE, M.A., B.C.L.

HON. E. C. LUARD.

REV. W. B. RITCHIE, M.A.

HON. A. WEBER.

*Managing Directors :*

A. DUNCAN.

GEO. GARNETT, F.R.

LUKE M. HILL, C.E., A.M.I.C.E.

*Exchange Room Directors :*

F. H. ANDERSON, M.D.

A. SUMMERSON.

C. WIETING.

### Agricultural Committee :

*Chairman :*

*Vice-Chairman :*

*Hon. Secretary :*

ROBT. ALLAN  
GEO. BAGOT  
S. M. BELLAIRS  
G. M. BETHUNE  
W. T. BINNIE  
JACOB CONRAD  
R. DUNCAN, F.R.  
J. M. FLEMING, M.A.  
H. GARNETT  
J. GILLESPIE

HON. A. R. GILZEAN  
PROF. J. B. HARRISON, M.A.  
F.G.S., F.I.C.  
HON. B. H. JONES  
J. B. LAING  
HON. E. C. LUARD  
J. B. MAYERS  
F. I. SCARD  
W. R. SPENCE  
HON. W. A. WOLSELEY

H. VON ZIEGEZAR

### Commercial Committee.

*Chairman :*

*Vice-Chairman :*

*Hon. Secretary :*

J. Y. BALDWIN  
W. W. BIRCH  
JACOB CONRAD  
W. CUNNINGHAM  
S. A. H. CULPEPER  
J. WOOD DAVIS

J. H. DE JONGE  
A. P. MACKEY  
G. H. RITCHIE  
A. SUMMERSON  
JAS. STUART  
C. G. A. WYATT

and the Exchange Room Directors.

### Committee of Correspondence :

*Chairman :*

*Vice-Chairman :*

*Hon. Secretary :* J. J. QUELCH, B.Sc.

*Treasurer :* F. A. CONYERS.

GEO. BAGOT	L. M. HILL, C.E., A.M.I.C.E.
G. M. BETHUNE	HON. D. M. HUTSON
S. M. BELLAIRS	HON. B. H. JONES
VERY REV. DEAN CASWELL	G. S. JENMAN, F.L.S.
H. H. CUNNINGHAM	H. KIRKE, M.A., B.C.L.
DR. H. B. FORD	ÆNEAS D. MACKAY
HON. A. R. GILZEAN	DR. A. MATTHEY
T S. HARGREAVES, F.G.S.	REV. D. J. REYNOLDS
PROF. J. B. HARRISON, M.A.,	REV. W. B. RITCHIE, M.A.
F.G.S., F.I.C.	F. I. SCARD
H. L. HUMPHRYS	J. B. WOOLFORD

W H WOODROFFE.

### Book Committee ;

*Chairman :*

*Vice-Chairman :*

F. H. ANDERSON, M.D.	H. KIRKE, M.A., B.C.L.
S. M. BELLAIRS	C. H. G. LEGGE
HON. H. A. BOVELL, Q.C.	ÆNEAS D. MACKAY
VERY REV. DEAN CASWELL	REV. E. POCKNELL
HON. N. D. DAVIS, C.M.G.	J. A. POTBURY, M.A.
G. F. FRANKS, M.A., F.G.S.	REV. D. J. REYNOLDS
DR. C. J. GOMES	REV. W. B. RITCHIE, M.A.
JAS. GILLESPIE	F. I. SCARD
PROF. J. B. HARRISON, M.A.,	G. B. STEELE
F.G.S., F.I.C.	H. W. SCONCE, B.A.
T. S. HARGREAVES, F.G.S.	F. G. THORNE, B.A.

*Local Secretaries (Berbice)* DR. E. D. ROWLAND.

*(Essequibo)* DR. C. F. CASTOR.

*Curator of Museum :* J. J. QUELCH, B.Sc.

*Assistant Secretary & Librarian :* J. RODWAY, F.L.S.

*Resident Director in London :* NEVILLE LUBBOCK.

A vote of thanks to the Honorary Secretary and Honorary Treasurer for their services during the year was heartily accorded.

The thanks of the Society were given to Dr. E. Pinaud for two pamphlets on the Boundary Question.

The meeting then terminated.

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