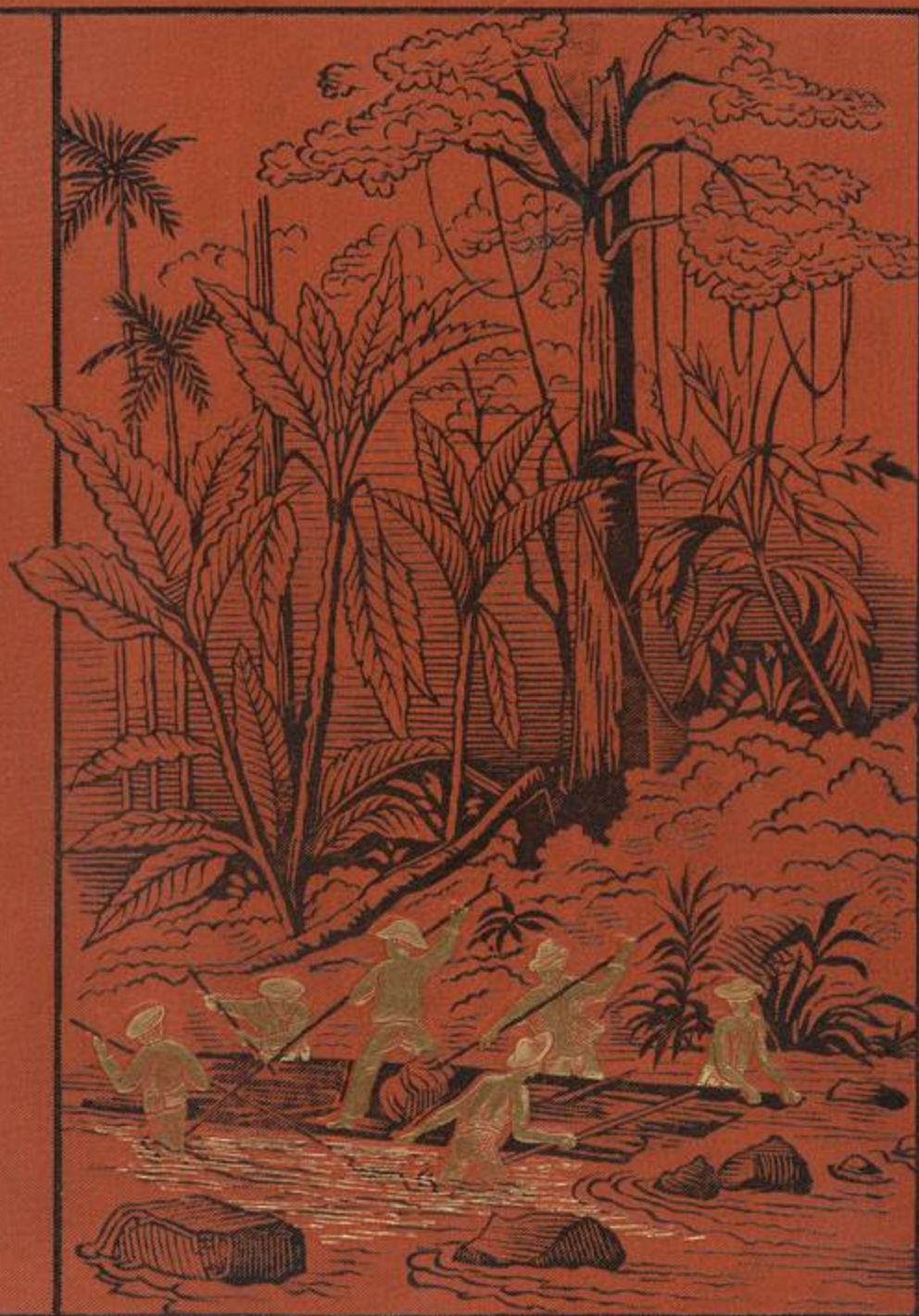
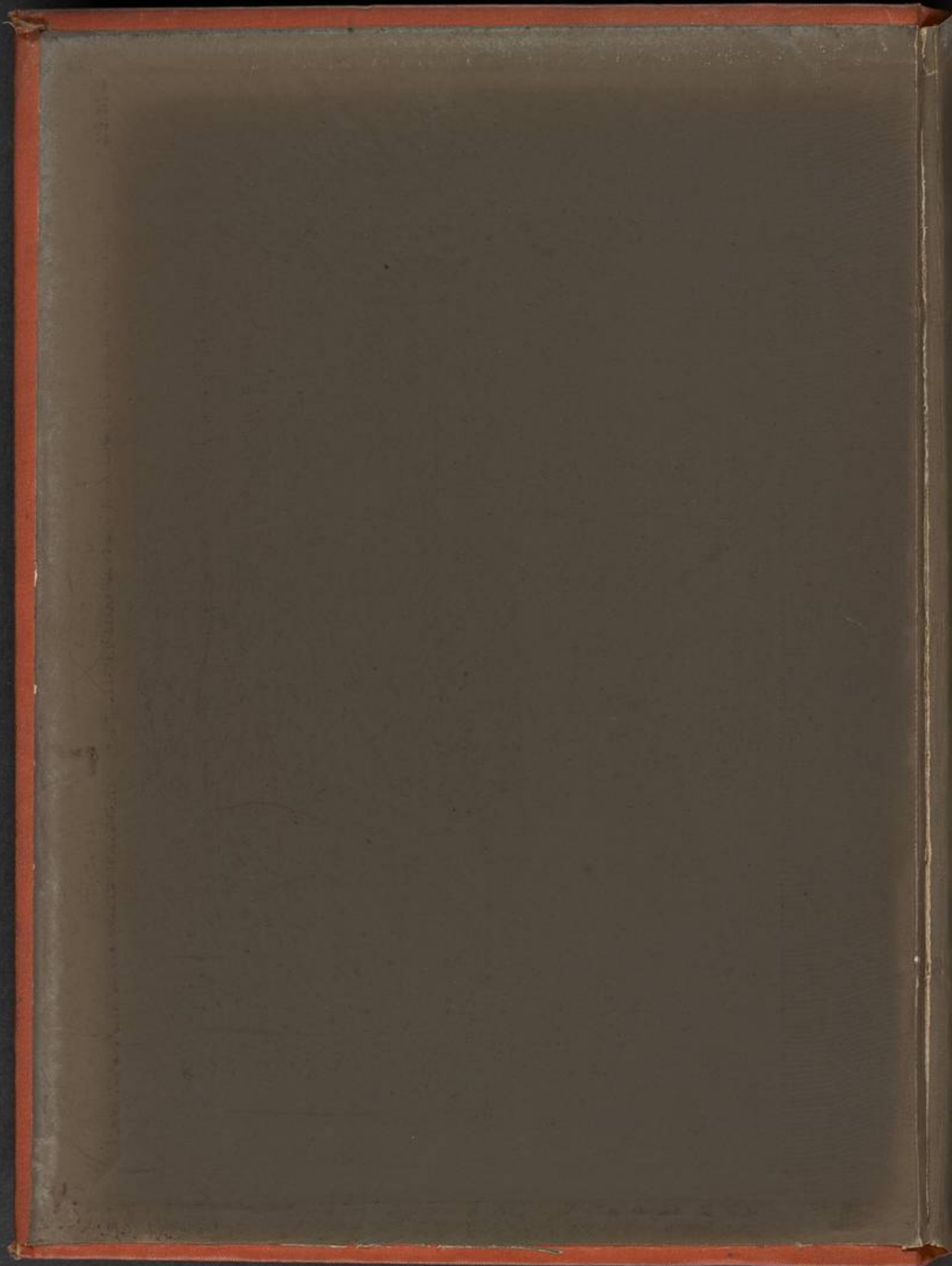
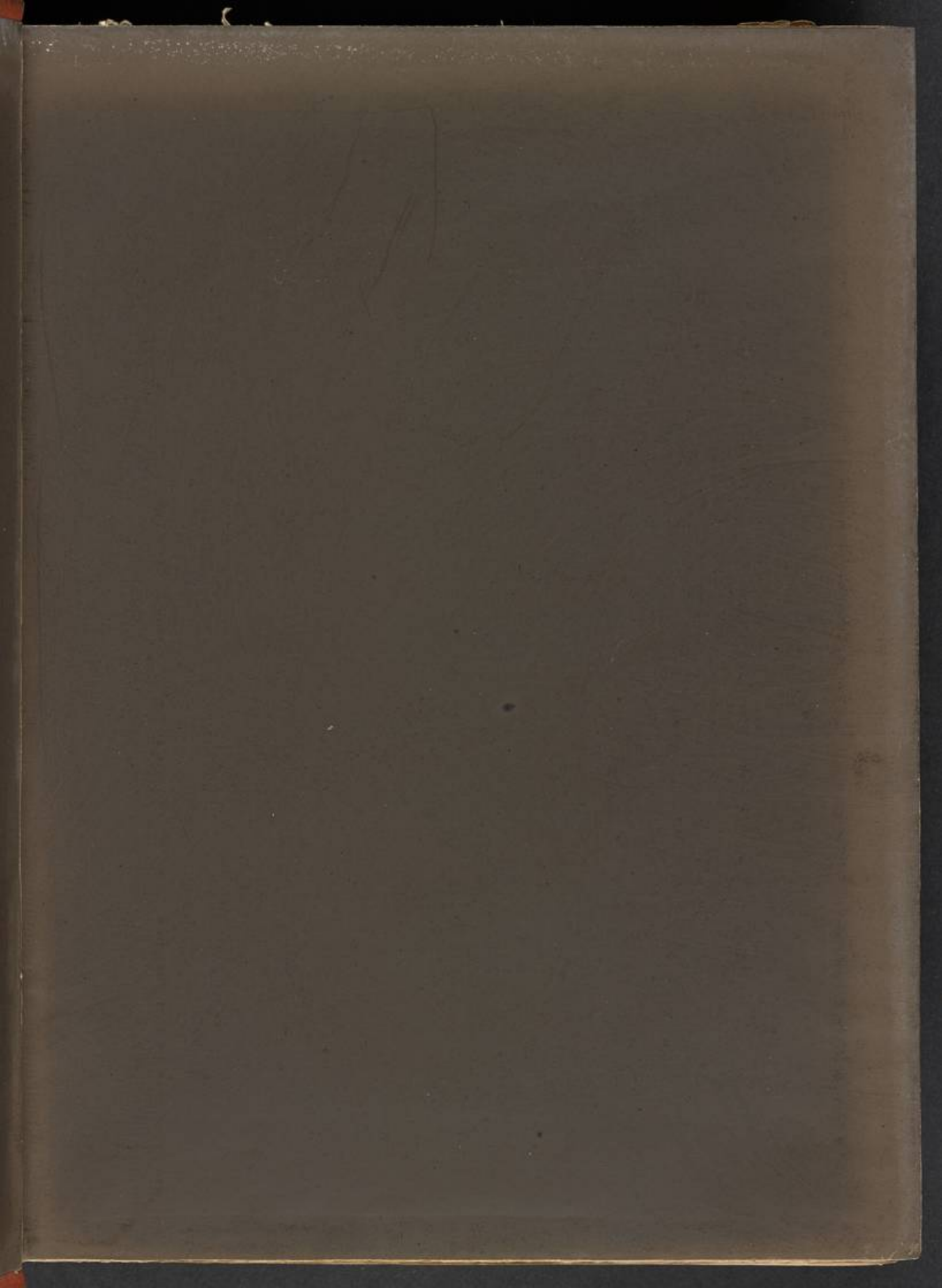


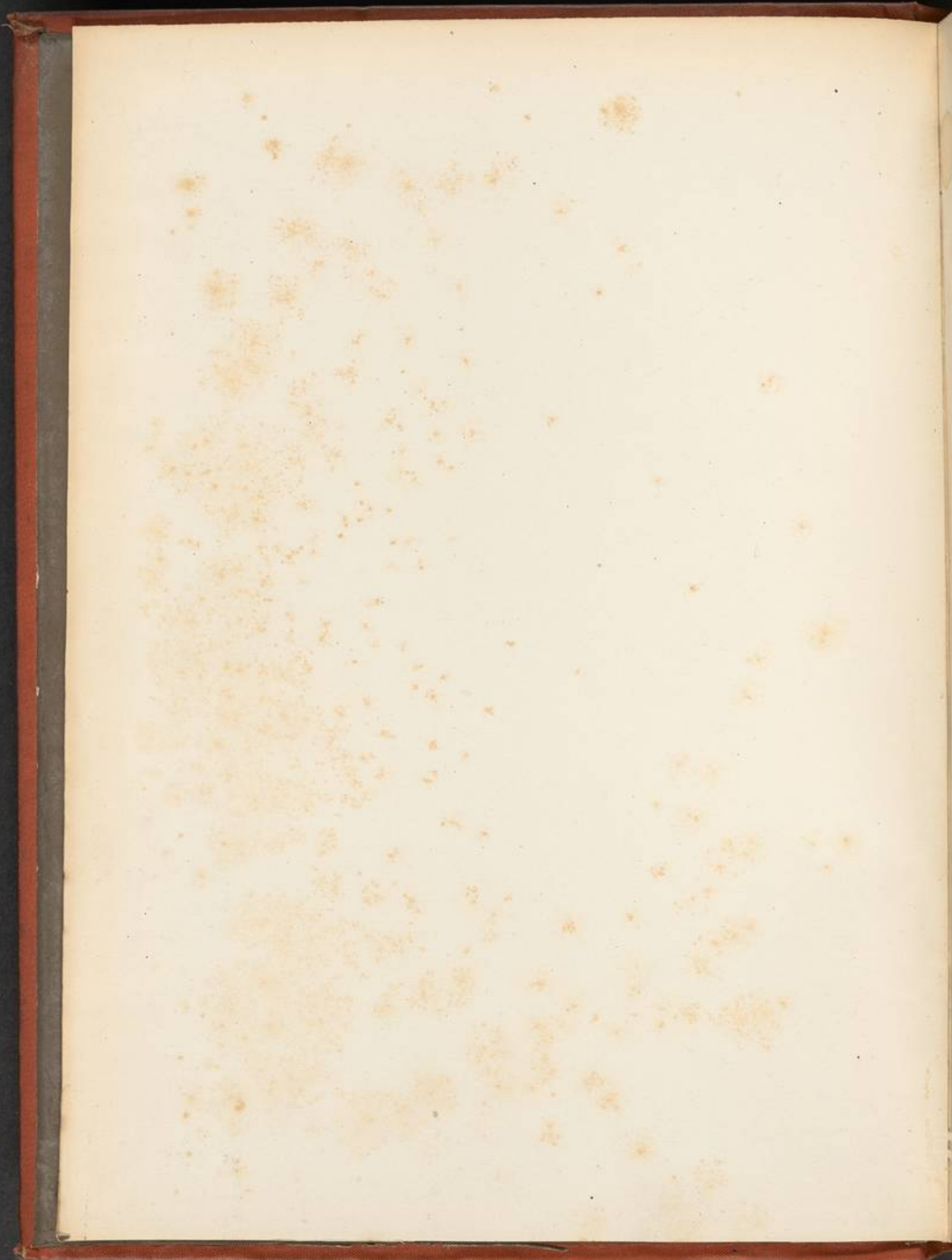
ON AND OFF DUTY



CAPT S. P. OLIVER







1881 .

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THE HOME OF THE CROCODILE.  
SCENE ON LAGOON, EAST COAST OF MADAGASCAR.

[Frontispiece.]

# ON AND OFF DUTY,

BEING LEAVES FROM AN OFFICER'S NOTE-BOOK.

BY

SAMUEL PASFIELD OLIVER

(CAPTAIN RESERVE LIST), LATE ROYAL ARTILLERY,

FELLOW OF THE SOCIETY OF ANTIQUARIES, FELLOW OF THE ROYAL GEOGRAPHICAL SOCIETY,  
CORRESPONDING MEMBER OF THE ANTHROPOLOGICAL INSTITUTE, MEMBER OF THE ROYAL UNITED SERVICE INSTITUTE,  
ETC.

---

"Miles resigno. Me nova buccina,  
Me non profanus militiæ labor  
Deposcit."

---

WITH ILLUSTRATIONS BY THE AUTHOR.

LONDON:  
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1881.

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## P R E F A C E .

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THE main contents of this volume are derived from the rough scribblings and jottings in note and sketch books made by the Author when a young subaltern of artillery.

Such notes as these have been supplemented by extracts from letters written to friends at home, whilst the more elaborated portions have appeared in the journals or proceedings of various societies, and as articles in periodicals.

To the "Gardeners' Chronicle," in particular, are mostly due the illustrations, which were accurately drawn and engraved by Mr. Worthington G. Smith from my original studies taken on the spot.

Two engravings by Mr. J. Greenaway, and two others by Mr. Worthington G. Smith, are reduced from larger drawings in the "Illustrated London News," made by Mr. Mason Jackson from my sketches.

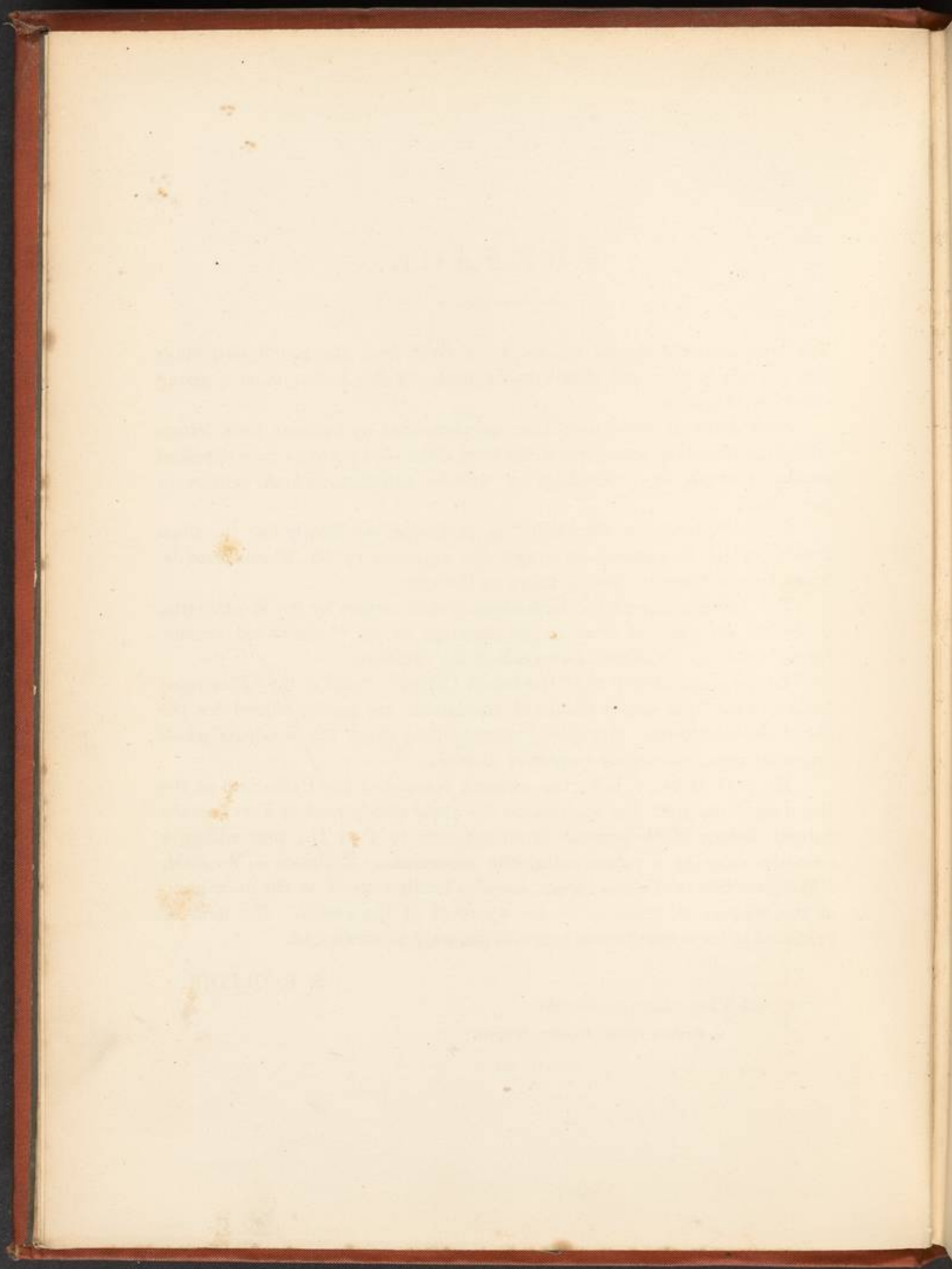
To the proprietors of the "Gardeners' Chronicle" and of the "Illustrated London News" the hearty thanks of the Author are hereby offered for the use of the electro-type blocks and reproductions from the woodcuts which originally appeared in their respective journals.

Mr. J. G. Baker, F.R.S., the eminent botanist of the Herbarium at the Royal Gardens, Kew, has contributed his paper (lately read at York) on the natural history of Madagascar as an appendix to Part II., thus adding a scientific value to a volume otherwise unscientific. Professor J. W. Judd, F.R.S., the first of Vulcanologists, has also kindly assisted in the description of the volcano of Réunion, by his approval of the proofs. The debt of gratitude to these scientists is herewith sincerely acknowledged.

S. P. OLIVER.

*St. Cecilia's Day, 22nd November 1881.*

*2, Eastern Villas, Anglesey, Gosport.*



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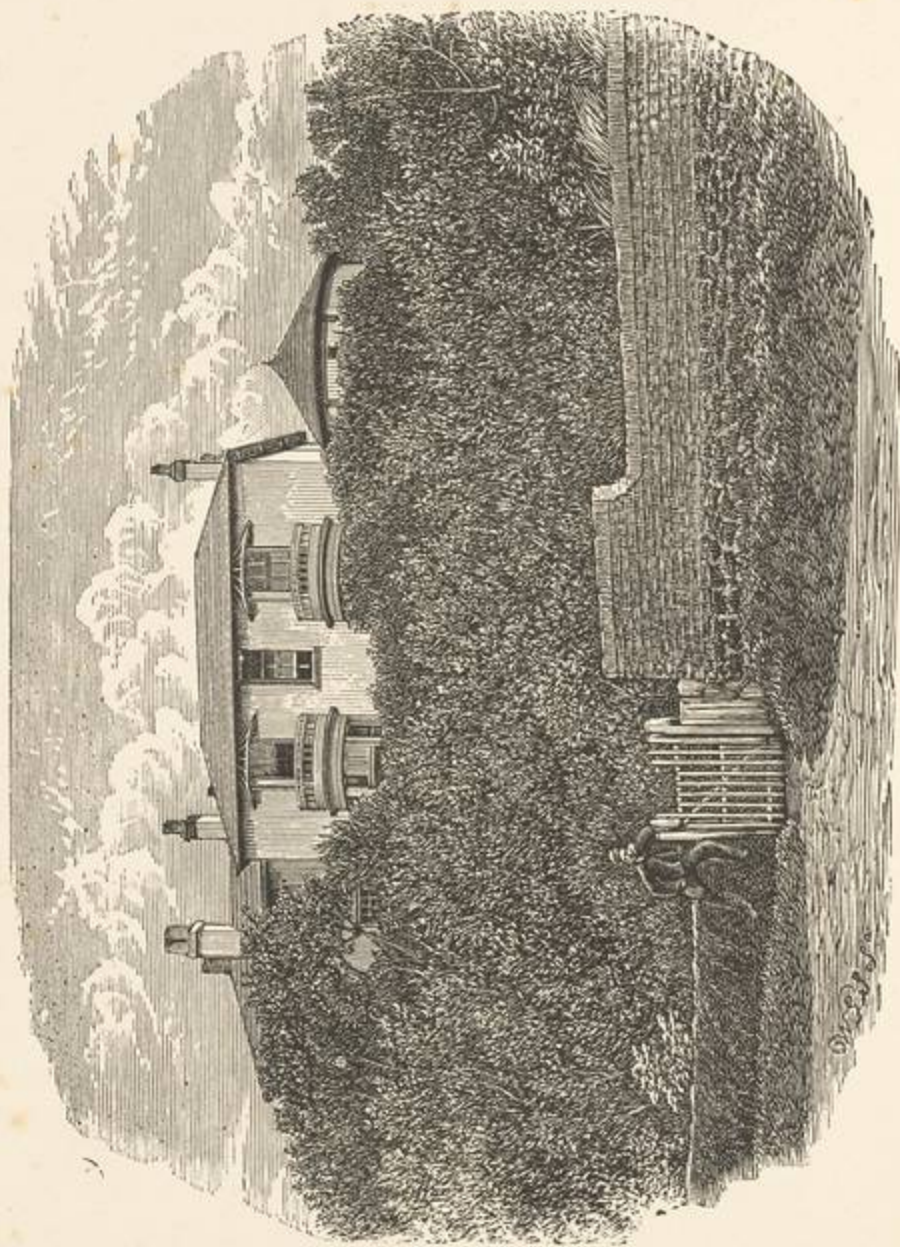
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EAGLE'S NEST, BOURNEMOUTH, IN 1860.

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ON AND OFF DUTY,  
BEING LEAVES FROM AN OFFICER'S NOTE-BOOK.

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PART I.—TURANIA.

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CHINA AND JAPAN.

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CHAPTER I.

Southampton to Galle.—Hong Kong.—No. 4 Battery, 12th Brigade, R.A.—Canton River.—The Garrison of Canton.—The Heights.—Pony Battery.—A Visit to the Pleasure Gardens.—Chinese Gardeners.—The Native City Prisons.—Torture of the Criminals.—Wholesale Executions.—The Temple of Horrors.—Changes of Regiments.—The Treaty of Tientsin.—An Excursion by Water.—A Fleet of Braves.—The Commercial Town of Sy-nam.—The Island of Kwang-li.—The Antelope Pass.—Chinese Superstition.—Arrival at Shao K'ing.—Reception by the Chief Magistrate.—The Marble Rocks of the Seven Stars.—Return of the Excursion.—Incidents on the Way.—Back at Canton.—A Wesleyan Mission Station.—The White Cloud Mountains.—Up the Pei-Kiang.—Preparing for an Official Visit.

ON the last day of June 1860 a letter from the Quartermaster-General's department reached me at Eagle's Nest, Bournemouth, by which I was informed that a passage to China had been provided for me on board the contract mail steamer leaving Southampton on the 4th of July. Accordingly the following Wednesday found me on board the *Pera*, one of the finest of the Peninsular and Oriental Company's comfortable packets, *en route* for the East. All readers are only too familiar with the hackneyed overland route, which may therefore be very briefly dismissed. Suffice it to say that we were a very jolly party on board. Amongst our own particular circle we had Cookesley, of the Commissariat, a brother school-fellow of mine at Eton (where in his day he was the sturdiest of football players at the Wall); Gully, of the Bengal (now Royal) Horse Artillery; Trydell, of the Ceylon Rifles; Leacock, of my own corps; and Lindley, afterwards a famous leader of the Tai-ping Wang rebels, besides numerous civilians and their families, amongst whom the most notable were Lady Maxwell, wife of Sir Peter Benson Maxwell, chief judge of

Penang, a Spanish admiral and suite bound for the Philippines, a Dutch family for Java, some French savans for Cochin and Saigon, our English Consul at Canton, Sir Brooke Robertson and his son, Russell Brooke Robertson, &c., which, with some student interpreters for Japan, formed altogether a most agreeable society. We had a glimpse of Gibraltar on the 9th, breakfasted at the Royal Artillery mess at Fort St. Elmo, Malta, on the 13th, and enjoyed an hour's swim under Fort Tigné before re-embarking, and reached Alexandria and Cairo by the 17th. The *Simla* having broken down with her main shaft broken, caused a fortunate delay to our party at Cairo, enabling us to see the pyramids, sphynx, petrified forest, the palace and gardens of the Viceroy at Shoubra, the citadel, mosques, tombs, and bazaars, which, although delightfully novel to young and enthusiastic subalterns on their first visit to the East, have been far too often described to be interesting to modern readers.

We were over-crowded on board the *Bombay* steamer, and consequently we made the acquaintance of prickly heat during the Egyptian dog-days whilst in the Red Sea, and fed principally on kabobs and mango-chutney during the same period. At Galle we were refreshed by the sight of the rich tropical vegetation, with a luxurious bath, and a subsequent Cingalese prawn curry at the Old Mansion House, and we looked with some interest at the wreck of the *Malabar*, the Peninsular and Oriental steam-vessel which went down when Lord Elgin was on board some time previously. Here our party was partially broken up, and we transferred ourselves and baggage on board the *Emeu*, a fast steamer, which carried us to Penang by the 10th of August. Here we followed the usual programme, viz. eating mangosteens and pine-apples and admiring the waterfall. The next day we spent in gazing at the wooded coasts of Sumatra and the distant Mount Ophir, or watching the water-snakes which seemed to abound in the straits, and on the 12th we anchored at Singapore. The moment we arrived some communication was made to a rakish-looking swift steam-yacht, one of the fastest vessels in the world, which instantly sped off at an enormous pace to carry the news of the rise or fall in price of opium, &c., in advance to Hong Kong and Shanghai. On the first receipt of any important fluctuation of prices immense sums of money depended, and what we should consider large fortunes in Europe were lost or won by the gigantic speculations carried on by the merchant princes of Shanghai and Hong Kong at a single stroke. This was twenty years ago, before the telegraph had superseded the news brought by steamer.

On Sunday, the 19th August, we were in sight of the "Asses' Ears" (as the first rocks outside Hong Kong are named), and Victoria Peak soon loomed in sight through rain and cloud. We had passed one or two junks outside, and now we steamed slowly to our anchorage amidst a crowd of shipping, mostly American and English, with crowds of Chinese floating craft of every description, whilst a cannon was fired from our deck to give the authorities notice of the arrival of the English mail-packet. Before anchoring, however, every moveable piece of metal—such as brass belaying-pins, gun-sights, marline-spikes, &c.—was removed, and stowed away in lockers, as the Chinese are such inveterate thieves that it is absolutely necessary to be on guard against their accomplished

manœuvres. The necessity of this precaution was soon evident, for the moment the anchor dropped we were surrounded by boats and sampans, from which we were boarded by numbers of Chinese, male and female, all jabbering "Pidjin" English (as the colloquial jargon is termed), the majority of whom appeared chiefly solicitous to obtain our linen for washing, in aid of which laudable object they flourished testimonials of ability and honesty, many of which were undoubted forgeries, whilst as many were ridiculous and testified to the fact that the bearer was an indubitable scoundrel, and utterly devoid of conscience, especially in money matters.

Under such pretext no part of the vessel was sacred to their intrusion, and I am sorry to add that the obvious object of a portion of these visitors was, to say the least of it, somewhat equivocal.

I had before made the acquaintance of the Mongolic type of feature at Penang and Singapore, which places have been thoroughly swamped by Chinese "cheap labour," and so the flat-faced, snub-nosed, skew-eyed natives of the Celestial Empire were no longer novelties to my eye, at least as regards the male portion. But it was new to see the fairer sex sculling the sampans with their children on their backs, and interesting to watch them vociferating and struggling in rival contest to reach the gangways. Leacock and myself soon landed, and amid pouring rain found our way to the Murray Barracks, where we reported ourselves to the adjutant, and I discovered to my great dismay that No. 4 Battery of the 12th Brigade, to which I was posted, was at Canton, and had not gone with the expeditionary force to the north, so that all my high-flown expectations of seeing the Taku forts taken and entering Peking were dashed to the ground. However, there was no help for it, and meantime both Leacock and myself were to remain and do duty at Hong Kong until instructions were received from Brigadier Crawford, commanding the Royal Artillery in the south of China, as to our destination. As the Brigadier was at Canton we should have to stay at Hong Kong for some days. Our cheery adjutant, R. C. Campbell, did the honours of the station well, and speedily initiated us into the local ways and customs of the garrison, and we soon made ourselves comfortable in the Murray Barracks, spacious handsome buildings, with lofty cool quarters. There was no Artillery mess open, it having been shut up *pro tem.* during the absence of the force, which had sailed to the Gulf of Pechili, so we messed with the Provisional Depot Battalion, made up of stray detachments of the regiments in the field. My recollections of this scratch mess are chiefly associated with Moselle-cup and American ice, with a capital set of agreeable companions. Life in Hong Kong was very pleasant for the short time I was there, although it would doubtless soon prove monotonous. We had the usual routine of regimental duty, commencing with parade at 5 A.M., now and then an occasional court-martial (which, followed as it was by a great tiffin, was rather an opportunity for a social meeting), and sometimes a funeral, which was not so lively. Besides our duties, which were not onerous, we had early morning visits to the racecourse to see the horses in training in the Happy Valley, rides in the evening to "Scandal Point," which forms the termination of the fashionable ride of Hong Kong, and sometimes, hot as it was, we used to

play at cricket and "tip and run," or listen to the band playing on the parade-ground near the church. We had the run of a luxurious club and any amount of open-handed entertainment, and every species of hospitality from the civilian, naval, and military community.

On the 30th August orders came down for me to join my battery at Canton, so the next day, in company with Colonel Murray, of the 87th Regiment, and another of his officers, I embarked on board the *White Cloud*, an American saloon river-steamer, with large paddles and steeple engines, which ran regularly between Hong Kong and Canton. It was noticeable that all the Chinese passengers, of whom there was no small quantity, were not allowed on the upper deck, but kept below and barred in. As Mr. F. B. Harte writes with truthful humour:—

" Which I wish to remark—  
And my language is plain—  
That for ways that are dark  
And for tricks that are vain,  
The heathen Chinese is peculiar,  
Which the same I would rise to explain."

The Europeans alone were allowed on the upper deck, where also were placed conveniently stands of loaded rifles, with bayonets and cutlasses handy, in case an attempt should be made by the passengers to take possession of the vessel. It was not so very long since this very steamer had actually been captured by the Chinese passengers rising simultaneously with a preconcerted attack from two piratical junks. The steamer was afterwards recovered, but much loss of property besides some bloodshed on the occasion made the above-named precautions necessary. Subsequently, whilst I was at Canton, an attempt was made to capture another river-steamer in a similar manner. Happily this was prevented, but not without loss of life.

Our track lay between numerous picturesque islands, and we had some pretty peeps of fishing villages sheltered under banyan trees and bamboo clumps with their attendant joss-houses; peaceful-looking retreats, but in reality the abodes of a thoroughly piratical race. About noon we reached the straits called Bocca Tigris, formerly defended by the famous Bogue forts, whose now dismantled remains make picturesque and conspicuous ruins. Colonel Murray had been present at the storming and capture of these forts, and he gave an interesting account of the operations, pointing out the spots attacked, the route of the English forces, and other details. I believe these forts have been taken by the British or Allied forces on at least three separate occasions.

The islands were of bold, rocky outline, but we now entered the alluvial plains of the delta formed at the outlet of the large river system which drains the two Qwangs and the neighbouring provinces. The fields on the sides of the river were swampy and below high water-mark, inundation being prevented by the large embankments, which were planted with plantain and other economical trees. The rice-crops looked green and were refreshing to the eye after the arid peaks of Hong Kong and the opposite mountains of Kowloon.

A tall pagoda\* on a slight elevation attracted my attention, as it was the first of its kind I had ever seen, and I realised for the first time that I was actually in China proper, for at Hong Kong the European element is conspicuous, in the architecture especially. We now reached Whampoa, off which uninviting port several merchant vessels were at anchor, and afterwards passed two more tall pagodas, about 120 feet in height, both on small hillocks, and one slightly inclined, but not sufficiently so as to rival the Pisa tower. These pagodas are so far useful to navigators, inasmuch as they warn them of the presence of two sand-bars across the river in their immediate vicinity. We could now descry in the distance the pagodas and walls of Canton, and the forest of masts belonging to the numerous junks lying off the city, whilst beyond the fortified height to our right rose the White Cloud Mountains, 1,200 feet above the river. The approaching visitor does not see much of the actual city from the deck of a passing steamer, as the buildings of the interior, being low, are concealed by the double walls on the river-front, whilst shabby suburbs, built principally on piles, intervene again between the outermost walls and river-side; besides on the river are innumerable floating craft, mostly *sampans*,† apparently in inextricable confusion, but in reality arranged in blocks with lanes left between them, thoroughfares for the moving boats. These sampans are the homes of that amphibious class of river-folk common to all towns in the south of China, but exceptionally multitudinous at Canton. In the daytime these boats are tenanted mostly by women and children, and a few old people of both sexes, the male portion of the floating population being engaged on board the junks, and in the building-yards at Honam, on the opposite side of the river, or in the boat-building establishments down the Fatee creek. Passing a small island on which were the remains of an old fort, called now the Dutch Folly, and numerous highly decorated river barges, regular Noah's Arks,‡ called flower-boats, the steamer finally came to anchor in a comparatively open space of water opposite the Custom-house—a Chinese establishment, but managed by English officers—and near the open space called the Shameen, set apart as the site for the English and French factories. I and my Chinese boy, with the baggage, were soon transferred to the shore, where I entered a chair carried by two stout coolies, whilst eight other half-naked coolies seized upon and divided my traps, and slinging them on bamboos followed in rear, and we went at a swinging-trot through the intricate narrow streets of the western suburbs. At first I was quite bewildered at the novelty, and especially at being alone and apparently unprotected in the crowded streets of a town never friendly to foreigners, and as yet I had not seen any sign of the foreign occupation; but I soon passed a patrol of mounted military police armed with cutlasses and revolvers, and on reaching the western gate, which leads into the city, noticed that it was occupied by English soldiers, and that the muzzles of some brass 24-pr. howitzers looked ominously down the principal thoroughfare. Beyond the gate we passed through the north-western quarter

\* The pagodas near Whampoa, *Pa-chow* and *Check-kong*, were erected A.D. 1573.

† *Shá-Teng* and *Ma-Leng-Teng* are the gondolas of Canton.

‡ *Wang-Lau* or *Fa-shun*, floating restaurants.

of the city, the Tartar quarter; this was nearly deserted, and in a ruined condition. Another ten minutes brought us across some open ground by the north gate, a picturesque edifice and occupied by French Marines, to a palisaded gate, with a sepoy guard at the foot of the Canton heights, from a battery on the summit of which waved side by side from two flagstaffs the Tricolour and Union Jack. Canton, as most of my readers will remember, was taken by the combined French and English military and naval forces on the 29th of December 1857; so when I arrived the city had been occupied by the Allies for nearly three years, and consequently the inhabitants had got quite accustomed to the presence of the white devils, and their sole idea appeared to consist in pillaging the Egyptians, in other words, to make as much money as possible out of their foreign invaders, in which they certainly succeeded, indeed so much so that the evacuation must have been looked upon as unwelcome by many of the principal tradesmen.

Colonel Fisher has given such a full and accurate account of the occupation of Canton in his interesting volume,\* that I may safely refer to it all those who wish to know about the government of the city by the Allied Commissioners during the time that the city was in our hands. I may, however, shortly describe our garrison at Canton, and its distribution such as I found it in September 1860, in order to give an idea of our small community. The enceinte of high wall and broad rampart which surrounds Canton, as is usual in most Chinese fortified towns, includes some rather high ground, forming portions of an outlying spur of the White Cloud range of hills. This plateau is broken up by several detached summits, on which batteries were planted commanding the town; but these heights are themselves commanded by higher ground, outside the walls, on which formerly some Chinese forts stood. These forts were destroyed by the Sappers after the capture of the town, but the site of the nearest was held by a picquet of our garrison, for whose accommodation a small block-house was erected.

On the highest summit within the walls, called Magazine Hill, and approached by numerous stone steps and narrow paths, stood some buildings occupied by the headquarters of the 87th Regiment, and here was situate their hospitable mess. Most of their men, however, occupied wooden huts, lower down on the same hill and close to the ramparts. The North Gate and the large five-storied pagoda† were occupied by French Marine corps. Half-way down the hill on the city side were the quarters of the Artillery in some large joss-houses, and lower down the Brigadier-General's quarters, in what had been apparently a collegiate or monastic establishment, the architecture being of superior and elegant workmanship, from which a succession of paved terraces, steps, and highly ornamental doorways led to the foot of the hill, close to which were the stables of our Artillery ponies. The western flanks and approaches were guarded by the battery on a hill

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\* "Personal Narrative of Three Years' Service in China," by Lieutenant-Colonel Fisher, C.B., Royal Engineers. Bentley. 1863.

† *Chan Hoi-lou*, or Ocean-ruling Tower, really a fortress or barrack, was erected in the 14th century, destroyed in the 15th, and rebuilt in the 17th. It is now called *Eng-T'sang Lou*.—See Archdeacon Gray's "China."

overlooking the North Gate, called Mud Fort, with the huts of the gun lascars close by, whilst to the east we had an entrenched battery of 32-pr. guns, which protected our other flank. The whole position was well palisaded, and on an emergency could be held out against very superior forces. Half a mile distant, at the north-east angle of the walls, were the cantonments of the 3rd Bengal Native Infantry, who had also palisaded and made the most of their position. It must be understood that around all the posts held by the European forces a zone of demolition had formed a clear space, in order to allow the sentries an unrestricted view around their beats. All the gates of the town, each a small fortress in itself, were held by detachments from the various corps, which were occasionally relieved; whilst the largest Yamuns in the body of the town, occupied by the Commissioners, were strongly guarded, and moreover a strong body of military police, consisting of picked men, patrolled the thoroughfares of the town at all hours. Our English police were under Captain Pym, of the Royal Marines. Besides the heavier guns, which were in position, we possessed a small mountain train battery of 3-pr. guns and 4 $\frac{3}{8}$ -inch howitzers, in the organising and working of which our Brigadier took the greatest interest. A French frigate, off the Shameen, and an English gun-boat, H.M.S. *Insolent*, off the Commissariat landing place, with a small detachment of sepoy at Macao Fort, a short way down the river, completed the European forces who occupied Canton. Most of the English and American merchants resided over at Honam, across the river, and a few missionaries resided with their families in the southern suburbs. Captain Blakiston was in command of the battery; and Tottenham, the only other Artillery officer when I joined, and we made a small but sociable mess of three members, joined occasionally by the officers of the Staff and Military Store Department.

The country surrounding Canton consists of a series of hills, culminating in the White Cloud Mountains, and valleys with plains. The level country is occupied with villages, tanks, bamboo groves, and rice fields, which in the summer are inundated and impassable. The roads, if they can be so called, are either narrow causeways composed of slabs of stone, four feet long by a foot wide, laid down side by side perpendicular to the direction of the road, or mere beaten foot-paths, winding round the base of the hills, the latter where they exist being generally wider and better than the paved causeways. All the land-traffic in China is performed by coolies in single file, who carry their burdens slung on bamboos, and the only wheeled vehicle in use in southern China consists of a species of wheel-barrow; carts are unknown, although they are used in the north of China. At the taking of Canton, and subsequently, the light guns and ammunition were for the most part carried by coolies, and Brigadier Crawford, anxious to improve the method of transporting the artillery, determined on the formation of a pony-battery. The Canton ponies are small, hardy, and delicately shaped, more like miniature horses than ponies, and are docile, sagacious, and sure-footed in the extreme, besides being accustomed to trot at speed along the narrow ill-paved causeways and streets without a blunder, and at first these ponies were used to *horse* the guns; subsequently some larger ponies from Manilla and Japan were obtained, and made use of. We had two ponies to each gun or howitzer, and no limbers, the trail of

the gun being hooked on to the detached pair of shafts. Three ponies to each gun carried the ammunition on pack-saddles, made after a pattern used in the West Indies; the framework consisting of two sets of tough, slightly-curved, wooden bars, crossing each other near their upper extremities, forming two X's two feet apart, which were kept together by a light iron bar, passing through the crossings, on which the frames could open or close, so as to adapt them to animals of different size. Hooks for lashing were fitted into the upper arms of the X above the crossings; the arms, called "horns," were very short. Each side of the saddle was kept together by a couple of iron rods passing between the wood-work; a projecting iron shoe, on which the burden rested, was fastened to the lower part of each leg of the frame; the load was further made fast to the hooks in the "horns" above. A stout pad kept the saddle from the ponies' backs. Two ammunition boxes, made to fit the saddle, carried ten rounds of cartridge and shot or shell, with small stores. Intrenching tools and spare sponges, &c. were lashed above the crossing, and a broad surcingle was made fast over all. The battery in order of march presented a very picturesque appearance, and could go anywhere. Two long bamboos were lashed to the block-trails of the guns, projecting over the axletree-boxes and well beyond the muzzle, so that the gunners could readily take the weight off the wheel-pony, or fist the gun bodily over any obstacle. As for miles around Canton the hill-sides are covered with graves, their profile consists of a series of drops, holes, and hillocks, and it was wonderful how safely the guns travelled. Our Brigadier was very often pleased to take us across country, and although I have often seen three or four ponies down at a time, altogether we never came to any serious grief. We, the officers, were all well mounted, the gun detachments of course on foot.

Whilst the weather was hot, hard work was out of the question; we had usually an early morning parade with the ponies in watering order, and a drill parade with the guns in the afternoon as the sun went down; before dusk we used usually to ride down to the Commissariat landing-place, where everybody met to catch a faint breath of air at the water's-edge and to hear the news. We had a four-oared boat, and the 87th had a six-oar, and we often pulled on the river, not very energetically, however, unless the rival boats found themselves together, when we used to put on the steam, and generally take a spurt homewards and ride back in the dark, admiring the fire-flies and serenaded by the bull-frogs from the tanks. We did not see much of the country as long as the paddy-fields were wet; but we had occasional shooting excursions and did not disdain shooting all sorts of small birds, of which Blakiston used to select specimens for his collection, now at the museum of the Royal Artillery Institution, Woolwich. Rambles through the streets buying "curios" to send to England, and visits to the pagodas, joss-houses, and sing-song entertainments varied our daily bill of fare. The Rev. John Henry Gray, whose knowledge of Canton during a long residence had made him intimately acquainted with the ancient city, and who acted as our chaplain, was never tired of acting as *cicerone* to us. Thanks to him, we became well acquainted with all the notable antiquities and most interesting localities in the neighbourhood.

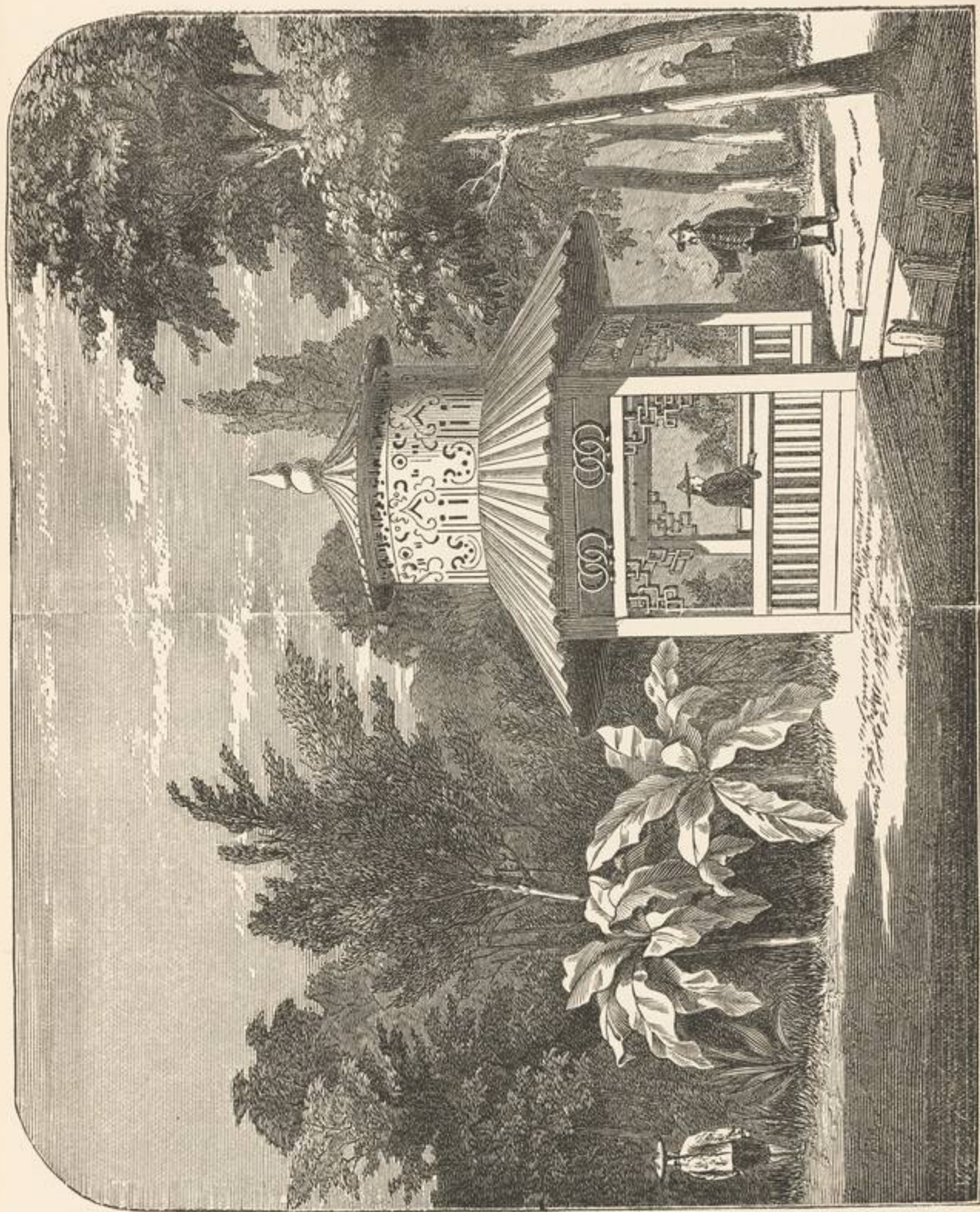


The principal show-places near Canton consist of the country residences and pleasure grounds of the native merchants, amongst whom Howqua's and Puntinqua's are most eminent. Accordingly on one Monday morning, 17th September, we joined a pre-arranged party to visit the gardens of the last-named gentleman. At an early hour, therefore, Tottenham and myself rode down from the heights, closely followed by a coolie carrying a carefully-packed luncheon, to the Commissariat quarters, where we were entertained at a substantial breakfast, washed down with plenty of iced claret-cup, by McClintock, R.N., in which we were joined by Strutt of the Bengal Native Infantry, and Gribbell of the *Highflyer*, then lying down at Whampoa. After breakfast we went off in a sampan to the raft on which our four-oared funny (a Chinese copy of an English-built funny) was kept sheltered under a bamboo and mat shed from the sun's rays, which would speedily warp and split the thin planking of the boat if not thus protected. Whilst engaged in getting the stretchers arranged, seats tied on, and other little preparations, we were much amused with watching the ablutions of the sampan girls, many of whom were taking their morning bath, their long black hair streaming behind them, giving them a strange appearance. The dress of these Naiads, consisting of loose trousers and jacket of dark blue cotton, is eminently adapted for a bathing costume, and they appeared perfectly at home in the water. They commenced splashing and chaffing us all the time in choice *pidjin* lingo; amidst which salutations we launched our boat and pulled into the stream, Gribbell being stroke, myself bow, Tottenham and Strutt being Nos. 2 and 3. We had calculated on a fair flood-tide which runs up with some strength, so we were not obliged to row too hard, which was just as well, considering that it was ten o'clock, and the glare and heat, although the sun was partly obscured by haze, could be plainly felt underneath our pith topees. The thermometer at this season seldom registered under 96° Fahr. in our shaded quarters on the heights; what the black bulb instruments indicated in the sun, Heaven knows!

When we reached the spot where the French frigate was lying we changed our direction, taking the northern branch, called on the chart Sulphur Creek, and after an hour's pull our coxswain guided our course up a canal to our right, through a long winding narrow piece of still water, deliciously overshadowed by some umbrageous description of water-pine, and thoroughly enjoyable after the hot sun and glare of the open river. We were soon in sight of the picturesque river-gate and landing-steps leading to the gardens we wished to visit, where we left our boat and provisions in charge of the coxswain and entered the grounds. No difficulty was made as to our entrance, and we were courteously received by a venerable, neatly-dressed porter, who led us into the entrance-lodge, which consisted of a rather spacious vestibule, paved with flat, large, red tiles, and heavy roof, supported by solid beams and ornamental wood-work. On one side was the gatekeeper's apartment, on the other a long corridor, through which we were directed. In this gallery several workmen were engaged in taking impressions on paper from memorial inscriptions on marble slabs. We did not succeed in finding out the exact meaning of these monumental slabs, which decorated the whole length of one side of the gallery, none of

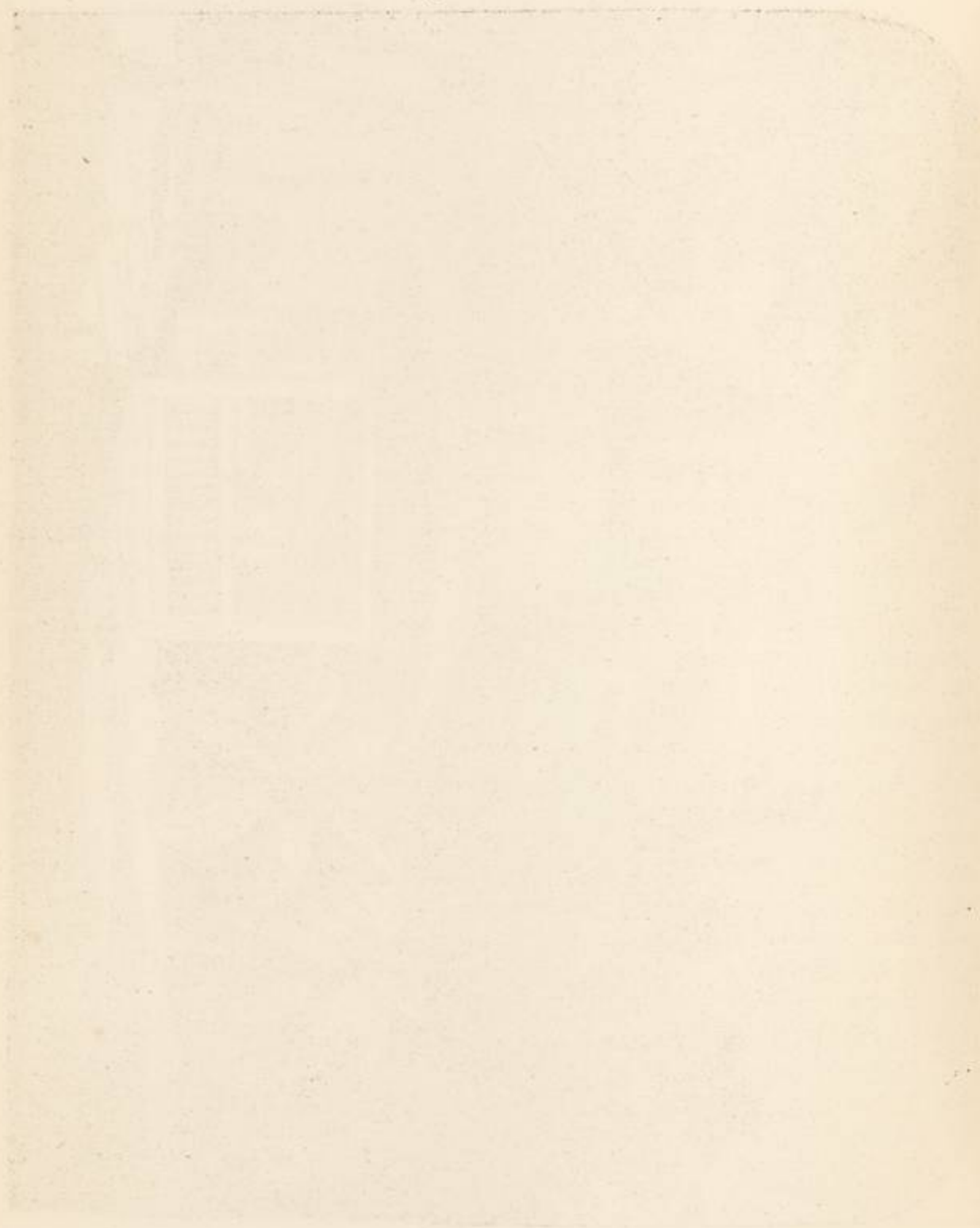
us being Chinese scholars, but I have since been told that they have some connection with the worship of ancestors, which forms such a marked feature in the doctrine of Confucianism, and which will be again alluded to further on. The side of the corridor which looked on the garden was of open lattice-work, the carved tracery of those bizarre patterns so peculiar to the Chinese, and over which flowering creepers were trained, but yet permitting glimpses of the parterres, ornamental shrubs, and artificial ponds beyond. This corridor led to the gardens, which I should imagine when in perfect order to be very stiff and formal, but in consequence of these unsettled times, with the neighbouring capital in the hands of the outer barbarians, and war going on in the north, the shrubs were untrimmed, many plants were allowed to run wild, and the banks of the ponds broken down. The stagnant waters, under the shade of the *Foo-lin* trees (whose fruit is eaten by the fish), were covered with weeds, water-lily, and lotus (*Nelumbium sp.*). At the same time the unchecked luxuriance of sub-tropical vegetable growth added much to the picturesqueness of the scenery. After the bustle of the city the cool shade and repose of this rural retreat must be most alluring to the jaded merchant in his leisure hours.

No one understands better than the Chinese gardener, as Robert Fortune tells us in his interesting works, the art of landscape-gardening, at least of the kind peculiar to the country. He is never weary of laying out the grounds with elaborate surprises of arbour and rockwork, and pleasant conceits of bower or grotto, each happily inscribed with apposite title or motto, such as "The grot of odorous delights!" "The seat of fragrance and purity!" "Repose with pleasant murmurs!"—and he is more particularly happy in the spots selected for fishing-temples and garden-benches, rustic Belvederes and quaint pagodas, bridges and summer-houses, trellis-work and arched gates. We wandered along the paved straight paths over narrow wooden bridges, both walks and bridges (from the lodge to the house) being covered in with wooden-roofed verandahs, or bamboo-trellis, covered with *Glycine sinensis* with its long blue racemes and broad-leaved climbing plants. On either side of the walks were low broad walls, supporting flower-pots and vases, with small ornamental plants, whilst beyond were larger shrubs and trees, bamboos and lychees, orange, *chang-hwa*, and cum-quat trees, figs and citrons, among which the queer "claw of Buddha" is most valued as a monstrosity, quinces and chayottes. Quantities of the famous scented *kwei-hwa* trees (*Olea fragrans*), whose blossoms are used to scent exquisite teas, are here growing luxuriantly, intermingled with thickets of the gardenias (*G. florida*), *pak-sema-hwa*, and *Chloranthus sp.*, *chu-lan* with daphne, *Magnolia fuscata*, and roses. Here was the jasmine (*J. sambac*), or *mo-le-hwa*, cheek by jowl with the odorous *Aglaia* (*yu-chu-hwa*) and the fruiting *yang-mæ* (*Myrica*); tree-pæonies, *mou-tan*, weigelas, and spiræas of all sorts interspersed with azalea and camellia bushes, besides magnolias and photinias. In the background, and shutting out the outer world from this paradise, were huge hedges of the graceful *mow-chok* bamboo and avenues of cypress, juniper, arbor vitæ, pines, and cryptomerias (*lew-san*), amongst whose darker foliages the carnation-flowering peach and the pink flowers of the Judas-tree shone out brightly, and the double



BELVEDERE AND FISH POND, PUNTINGUA'S GARDEN.

[To face p. 10.]



blossoms of the *moi-hwa* plum. Everywhere perfumes like the "esprits des rosées qui flottent dans l'air" :—

"Jasmin ! asphodèle !  
Encensoirs flottants,  
Branche vert et frêle,  
Où fait l'hirondelle  
Son nid au printemps."—V. H.

The villa consisted of a solidly-built, gaily-painted bungalow, entirely of timber, on piles in the centre of the waters, like a pre-historic lake-dwelling, the water beneath and around the house giving it a cool appearance by day, but very suggestive of malarious vapours at night. The villa itself was kept in good repair, and did not exhibit the air of late neglect so evident in a large part of the grounds. The tiled roof was brilliant with glazed fantastic finials at the twisted-up gable-ends, and the open Chinese-puzzle-like projecting eaves were highly carved and showed no signs of decay. A broad balcony with painted balustrades, and sheltered by verandahs, runs round the building, which is approached from the land by a long, narrow, covered platform a few feet above the surface of the water. The duck-weed was absent in this lake, and only a few plants of the elegant lotus suffered to grow; the circles in the water showed that there was plenty of fish, and gaily-plumaged kingfishers\* darted about the banks. The first objects that struck my fancy on entering the building were several wooden tripods, painted green, each supporting a large smooth stone—a Chinaman's beau idéal of a cool seat.† The reception-rooms of the interior were handsomely, but thinly, furnished, as befits a hot climate. Everything bespoke an atmosphere of shade and quiet. There were massive couches and chairs of polished dark wood, tastefully-carved tables inlaid with ivory and mother-of-pearl, curious carved screens, cabinets and chests, &c. In the panneling of the walls of one room were let in slabs of curiously-veined marble, chosen for the quaint conceits which chance concurrence of veins and marks had naturally formed in the stone; some of these represented dragons, houses, birds, and quadrupeds, &c. These are, if natural, certainly curious freaks of nature, but I half suspect that many of them have been "doctored" by shrewd Chinese experts, these ingenious people being adepts at forgery of every description. Carved jade‡ bowls and

\* *Alcedo Bengalensis*, Chinese *To-he-ang* (little fisher), the common little "king of the shrimps."

† *Puntinqua* evidently did not agree with the author of the old verse,—

"Super lapidem non sedi,  
Herbam crudam non comedi,  
Mulierem non cognovi,  
Et ecce morior."

‡ An admirable paper "On the Jade of the Kuenlan Mountains" has been communicated to the Academy of Sciences of Munich by Hermann von Schlagintweit, and published in the "Sitzungsberichte" of the Academy. The author visited the quarries on the Kara-kash river, which formerly supplied the Chinese with much of their jade. It may be remembered that these quarries were popularly described some time ago by Dr. Cayley. Although the title of Schlagintweit's paper refers only to the jade of Khotan, yet the author gives much information respecting the mineral from other localities, and discusses the source of the jade which is found in the pile-dwellings of the Swiss lakes. He also clearly points out the means of distinguishing true jade, or nephrite, from the closely-allied minerals known as jadeite and saussurite.

agate vases, green and turquoise and plum "crackle," and huge porcelain jars, besides massive bronze ornaments, distributed about the room gave us a good idea of the luxury and taste to be found in the private apartments of a Cantonese grandee. Besides the sitting-rooms there were retiring-rooms, with opium-smoking couches, with the bamboo pillows and apparatus on lacquered trays, lamp, &c., whilst elsewhere were bed-chambers and servants' apartments. After examining the house, we found another part of the garden better cared for and kept up in a style befitting the mansion. Here we saw several rare plants and shrubs, trained and in the course of being dwarfed into fantastic shapes.\* Passing through a fantastic gateway and bridge, we came to a small three-storied pagoda, painted white. It stood on a small promontory, well-wooded and with weeping, or rather, as the Chinese call them, sighing-willows, at the water's edge. We ascended to the top storey, which commanded a view of the river, and as a cool breeze was here obtainable, we despatched one of the gardeners, who had been showing us round the place, to our boat for the tiffin, for which we had a good appetite. Afterwards we strolled in the shade, sketched, &c., and tried to converse with the gardeners, or dozed on the moss and lycopodium under the trees, soothed by the short and sweetly-trilling, but never-varied, notes of the oriental reed-thrushes (*Arundinax canturians*), and watching the numerous willow-wrens (*Phyllopneste*) and the curious little *Sylvicultrix prinia* which creeps about the hedge-rows of all house-gardens. "Datur hora quieti."

" Sometimes beneath an old oak's shade,  
 Sometimes on the thick grass he lies,  
 And while the clink of the cascade  
 Joins with the grove's bird-melodies,  
 And tune by purling brooklets played,  
 Slumber lies gently on his eyes."—Hor. Epod. 2.

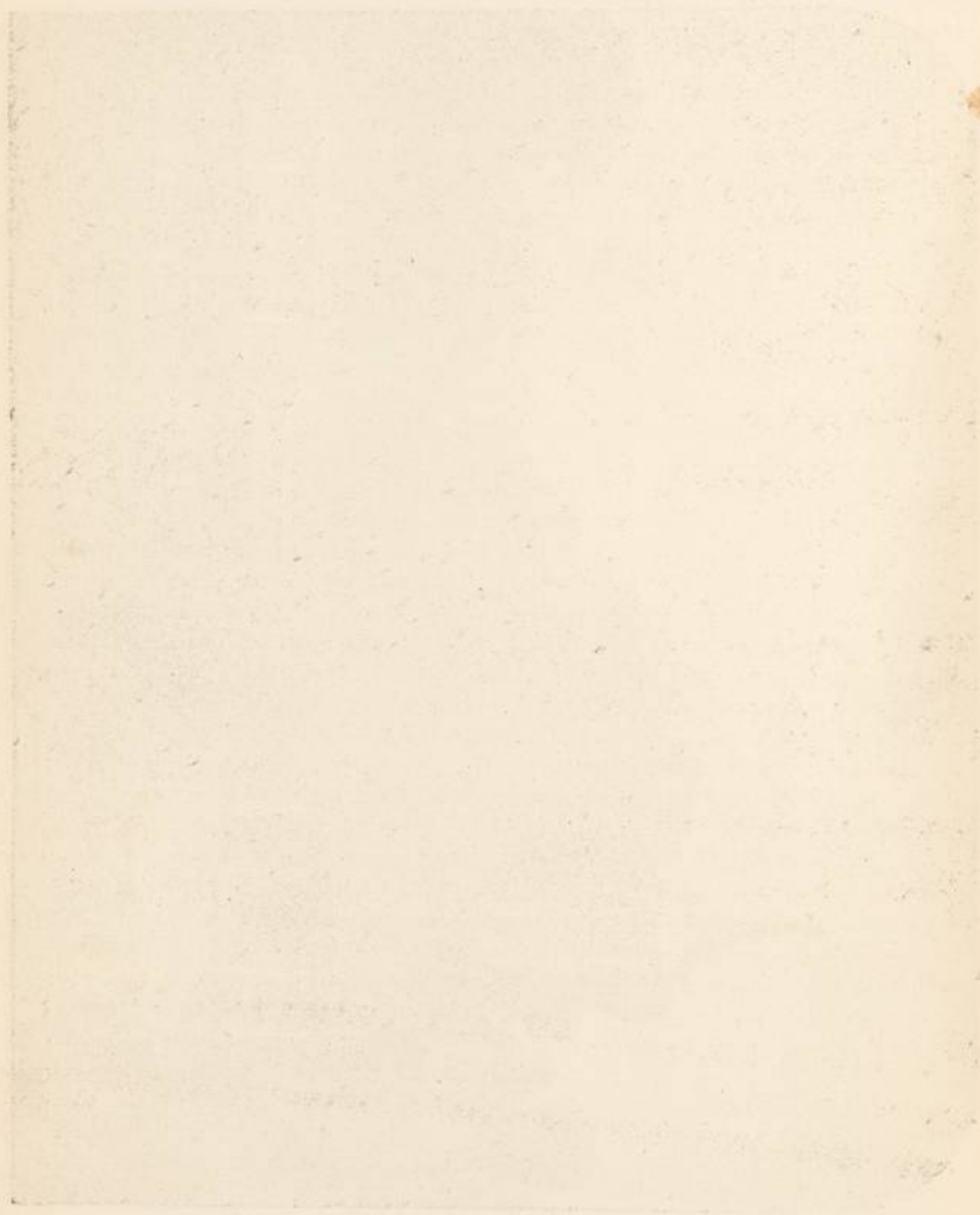
As the sun went down, after giving the civil attendants a liberal "cumshaw" (*i.e.* present of money) together with the remnants of the luncheon, we returned to our boat. When we reached the river we fastened our craft to a junk laden with oxen, which was sailing down the stream, and, a fresh breeze springing up, we were towed very quickly down as far as the Shameen, where parting company with the cattle-boat, we rowed down with the tide to the landing-place by dark, reaching the heights in time for a good bath before mess. We subsequently visited Howqua's gardens and the celebrated Fatee (flowery-land) nursery gardens, which are close to Canton. The show of flowers was good and

\* CHINESE METHOD OF RAISING WEEPING-TREES.—It is stated in Regel's "Gartenzeitung," on the authority of Dr. Bretschneider, physician to the Russian Embassy at Peking, that the Chinese raise weeping-trees by reversing their extremities. Dr. Bretschneider describes the operation, which he asserts he has himself repeatedly witnessed, as follows:—"To raise weeping-trees of *Sophora japonica pendula*, the *whi-mei*, they plant two young seedlings side by side. The tip of one of them is then bent downward and inarched on the base of the other, tip downward. As soon as the graft has properly taken, the tree that was doubled down is dug up, roots and all, and the roots, denuded of the soil, turned uppermost, and the stem attached to a stake in this reversed position. The stem of the tree, which serves as a stock, is then cut off at the point of union of the two, and the roots of the reversed tree form the crown of the artificial tree. In this novel position they require shading from the sun until they have formed some branches." In this manner, we are assured by Dr. Bretschneider, the Chinese obtain all their weeping-trees.—"Gardener's Chronicle."



SMALL PAGODA IN PUNTINGUA'S GARDEN.

[To face p. 12.]





(notably the trained plants) very well worth seeing, especially *Murraya exotica*, *Ixoras*, *Lagerstræmias*, &c. I bought a quantity of seeds, mostly chrysanthemums, which I sent to England, where, however, they failed to grow, the fact being that the Chinese seedsmen have a habit of supplying European customers with *boiled* seeds for the foreign market. The poorest Chinese cottager has a natural taste for flowers, and there is rarely a hut so squalid as not to have at least the flowering *mu-hsiang* (*Costus amarus*) or the red-blossomed *shui-mang* (*Ilicium religiosum*) shading the entrance.\*

Outside two-thirds of the houses at Fatee were huge jars full of fermenting, nauseous liquor. This stuff we were told was the preparation of soy, and I have never endured the sight or smell of soy since; the whole suburb reeked with the foul odour. The manufacture of shoyu, or soy, is thus conducted. Equal parts of beans (*Soja hispida*) and wheat are used; a small part of the wheat is mixed with koji, which is an alcoholic preparation from rice, and allowed to ferment; the remainder is roasted, and the beans are also roasted. The roasted beans and wheat are then mixed together with the fermenting wheat, placed in shallow wooden boxes and kept for some days at a fixed temperature in a warm chamber with thick walls until the whole mass is covered with fungus. It is very important that the temperature of this chamber should be kept at the proper point. By these processes part of the starch of the wheat is converted into dextrin and sugar, and lactic acid and acetic acid are formed. It is then mixed with salt lye. The mashings are removed to large vats, and kept there for at least twenty months, but more often for three or five years, the better qualities being those that are kept for the longer periods. The best soy is produced by mixing that kept for five years with that kept for three years. After it has been kept a sufficiently long time, it is strained through thick cotton bags, and the residue submitted to pressure. Before filtering honey is sometimes added. The residue after pressing is again mixed with salt and water and again pressed, the yield being soy of an inferior kind. Sometimes water is added to this second residue, and it is again pressed. The residue first obtained is occasionally used as food, and the last residue as manure.

I have before noticed how numerous the graves are throughout the country side; the most common kind of graves on the White Cloud Mountains are dug in the side of the hill, so as to leave a plateau of a horseshoe form, not seldom with terraces beneath. This plateau is paved and surrounded with a wall in the shape of an omega, furnished often with seats, and more or less decorated. In the centre of the wall is let in the inscription, merely name and date of decease, behind which, in the side of the hill itself, is the coffin containing the body. At the foot of the White Cloud Mountains, Captain Tottenham, St. George, the military chaplain, and myself once visited (September 14th 1860) an interesting group of tombs not far from Yin-tong village † Here there was a

\* See "Three Years' Wanderings in the Northern Provinces of China," by Robert Fortune, 1847 (Murray); also "A Residence Among the Chinese" (1857), same author; and "Two Visits to the Tea Countries of China," same author.

† See sketch. See also Gray's "China," vol. i. p. 309.

small hillock covered with the usual omega-shaped graves, one of which was particularly elaborate. In front of these were large upright tablets covered with inscriptions and protected with a stone canopy, and leading up to the tombs an elaborate avenue of stone-pillars, figures of men in official garments, horses caparisoned, Bactrian camels, dogs, and grotesque chimeras. These monuments are attributable to the Ming dynasty. Similar avenues of stone figures exist near Nanking and elsewhere in the north of China, some of a colossal size. I cannot help feeling that there may be some analogy between the mysterious stone avenues found in Europe and Asia, leading up in some cases to horseshoe and circular stone enclosures, and these more elaborately-carved sepulchral remains of the Turanian race. The practice of cremation still exists in China, side by side with inhumation; the ashes are collected in jars and urns, ticketed, and preserved by the relations. This course is also pursued towards inhumed remains after some prescribed period.\* It is far from unusual to see the banks of gardens, &c., about the cottages near Canton revetted by these jars containing human remains, in fact, potted ancestors. Close outside Canton is a locality called by the Europeans Lally-Lu Hill, a dismal Aeldama, where the bodies of criminals, outcasts, and paupers are thrown, and but partial attempts made even to cover the corpses. It is not unusual to see dogs feeding on human carrion. This ground is covered with conical heaps of earth thrown up over bodies interred; in some spots broken coffins are plentiful, showing their grisly contents, and quantities of urns and coarse pots containing like remains.

Another morning Pryor, of the 60th Rifles, and myself rode in chairs down to the Commissioners' yamun, where, by the kind offices of Douglas, one of the Consular Staff, we obtained an order and a guide from the native police to visit the native city prisons. Passing the Tartar General's yamun and through some crowded streets, we got out of our chairs at the gateway of apparently an inferior-looking yamun, which was the prison entrance. Outside in the streets were numerous gambling-tables, where several groups of the lower classes were eagerly playing at *Fan-tan*, "a popular game. It consists in staking on the remainder of an unknown number of cash, after the heap has been divided by four, namely whether it will be three, two, or one, or nothing; with other variations of a more complicated nature."—(Herbert A. Giles, H.M. Consular Service.) Entering the gates, we were accosted by several wretched-looking creatures asking for "cumshaw," and we distributed some cash. Some of these unfortunates in the outer court had a huge stone chained to the leg, a stone of perhaps nearly a hundredweight; some of them had a chain connecting one of their arms to one leg, others both arms to both legs, and a few with their legs chained into the bargain; in fact, they were all more or less hobbled to prevent their escape, otherwise they were allowed liberty about the prisons, and even sometimes to go out of the gates, as when they got the money they went to the shops and stalls outside to buy tobacco or opium, food, &c. We next entered a strongly-barricaded

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\* See at conclusion of this work, Part iv., on the exhumation of human remains and the ticketing of skulls practised still in the graveyards and charnel-houses in Brittany.

doorway, over which was painted an uncouth open-mouthed face of a tiger in coarse yellow and red paint, with claws, indicative, I suppose, of the merciless terrors of the law; it might well mean "Abandon hope all ye who enter here"; and I noticed that similar ferocious heads, with variations of grotesque horror, according to the taste of the artist, were painted over most of the doors throughout the establishment. Thence a long passage brought us to another massive door, which was opened for us by a man who was afflicted with a frightful and enormous wen, which from one side of his neck dropped down over one shoulder. This repulsive-looking porter held a large bunch of metal keys, which opened the gates of a series of palisaded yards, more like cages for wild beasts, in each of which were covered sheds, some open and others barred and closed. These were all more or less crowded with prisoners of all degrees of criminality, and, alas! not a few possibly who were innocent. Nearly all were manacled heavily, the iron rings and chains clanking as they moved, and in many instances the fetters had caused sores, and the poor wretches had wrapped the iron with rags to alleviate the torture; some were mere living skeletons, and all without exception masses of filth and dirt. It was sickening to behold so much suffering humanity; Dante himself could hardly imagine a greater scene of woe. The majority had little or no clothing, were unkempt and unshorn, and mostly blotched with skin diseases. Some were lying prostrate from disease, and on approaching one group, which was apparently highly amused at something, we found that they were actually laughing at the last dying agonies of a poor wretch who was at his death-gasp. Here were all kinds of criminals—murderers, pirates, kidnappers, thieves—and the prisons were crowded, as the periodical executions had not yet taken place. It appears that at certain seasons the prisons are cleared, or partly so, by executions on a large scale. There must have been at least three hundred prisoners when we made our visit, fifty-four of whom were pirates taken a few days before by H.M.S. *Grasshopper*, and who with other felons were awaiting execution. Another was an official who had murdered his servant boy by tying his heels to a stout bamboo and then sending him afloat head downwards in the river. The pirates scowled at us, others grinned, but most took no notice whatever of us, whilst several begged "cumshaw" of us, which we complied with to the extent of our cash. We passed through several of these yards, and the poor creatures, who looked up as the sound of the gates being unbarred was heard, dragged their ironed limbs away from the door, as if fearing the lash of the stout gaolers who escorted us. I fancy that a well-dressed man of whatever nation would fare but badly if he ventured or found himself without an escort in these infernal dens. Daniel's accusers fared better in the lion's den than he would in such a case. However, it is not pleasant to dwell on such unpleasant scenes; but it seemed to us a great pity that such torture should be prolonged more than necessary, especially in the case of those sentenced to death; they might suffer capital punishment at once instead of being forced to wait in misery for the large executions. Not long after my visit to these prisons there was an execution, but I did not hear how many suffered on the occasion. On the following 22nd and 23rd February there were two batches executed, sixty-eight and forty-four respectively. These executions take place outside the city walls, in the eastern

suburbs. In another part of the prison we saw those who were condemned to wear the wooden collar, termed the "cangue." I had so often seen pictures of this, from my childhood upwards, that I had rather fancied it to be a myth or a fanciful exaggeration, so that, although sorry to see men suffering, I was, I confess, glad to see the collar. Moreover, the men wearing it did not seem to suffer so much from it as one would imagine, and by practice had found several positions of ease in which the pressure of the collar on the neck was relieved. It must be intensely uncomfortable, anyhow. Pryor and myself, as a fitting sequel to this visit to the prisons, adjourned to a joss-house in the city, called by the English the "Temple of Horrors," that is the Ten Courts of the Taouist Purgatory at the bottom of the sea; for here, represented in plaster-casts and about a quarter the size of life, are the various bodily tortures to be suffered hereafter in the Buddhist future state by evil-doers. Here a man's head is being twisted off, there the culprit is being plunged into molten lead, others are represented as being sawn in two, some on the rack, others being flayed alive, &c. Take the following specimens: "In the first is that of His Infernal Majesty *Ch'in Kuang*, where upon a terrace the spirits behold themselves in a vast mirror which exposes their secret sins, whence the sinners enter the second court presided over by H.I.M. *Ch'u Ching*, where through dark cloud and storm, mud and filth, and over sharp spikes, they suffer hunger and thirst, are plunged in hot water and boiled living, pressed between iron plates, stretched on the rack, pecked by fowls, forced to drink slaked-lime, hacked to pieces with swords, and driven through thorny bushes, pursued by demon-foxes and savage wolves to a region of ice and snow. In the third court is H.I.M. *Sung-Ti*. Here those who deserve it eat salt; bound with cords, and weighted with cangues, they are pierced and scraped with knives, and their hearts squeezed with pincers; they suffer their eyes being gouged out, and are flayed, their nails are plucked out, and their feet cut off, their blood is sucked, they are hung head downwards, and their shoulder-bones split; they suffer torment by insects and reptiles, and are beaten." The other courts are more or less of a similar and horrifying nature. (See Giles and Gray on this subject.)

There is little doubt that the Greek and Latin classical authors derived their ideas of the infernal regions from these Oriental chambers of horror, and that *Ch'in-Kuang* and *Ch'u-Ching* were prototypes of the Minos and Rhadamanthus of Virgil. The ten courts are, perhaps, indicated by the *novies Styx*? (See Virgil, "*Æneidos*," lib. vi. 432.)

" Quesitor Minos urnam movet; ille silentam  
 Conciliumque vocat, vitasque et crimina discit.  
 Proxima deinde tenent mœsti loca, qui sibi letum  
 Insontes peperere manu, lucemque perosi  
 Projecere animas. Quam vellent æthere in alto  
 Nunc et pauperiem et duros perferre labores!  
 Fas obstat, tristisque palus inamabilis undâ  
 Alligat, et novies Styx interfusa coercet."

In the neighbouring temple I had the first opportunity of observing the devotions paid by the Buddhist devotees to their joss. The joss in this instance consisted of an enormous gilt

figure of Buddha sitting in an immense lotus blossom (the cast of countenance, curiously, enough, given to Buddhist idols is rather of a Negroid than Mongolian type), whilst before him on altars were flowers, chow-chow, joss-stick, and gaily-coloured lanterns and banners. All the worshippers were women, who, as they approached the figure and altar, knelt down and touched the ground with their foreheads, muttering prayers. Apparently this they repeated several times, and then, standing up, they bowed with clasped hands, still repeating a monotonous prayer. I believe the words they made use of consist of an endless repetition of "Om mani padmè hom," or a Chinese pronunciation of these Indian or Thibetan words, which mean, "Oh the jewel in the lotus.—Amen." After this preliminary incantation each woman took from the altar two queer-shaped pieces of wood curved like horns, one side of each being rounded, the other flat; these were held together, one in each hand, and after more chin-chin were thrown to the ground. If they fall in a correct position, *i.e.* one with flat side up and the other flat side down, the suppliant is satisfied, and replaces them on the altar, being satisfied that Buddha has heard her prayer. But if they do not fall in the proper fashion the ceremony is repeated until the good result is obtained. Another ceremony also seemed to be a favourite custom: one of the women would take a cylindrical carved wooden jar or joint of bamboo; this was tolerably full of different sized and shaped splinters of wood, like large spelicans, and each ticketed with a separate character or number. This was so shaken as to allow only one spelican to fall out on the floor; this one was then taken to a neighbouring counter, where a man presided over various printed slips of paper, and on producing the mysterious spelican for a small fee of copper cash it was exchanged for the corresponding slip of paper, on which the recipient could read her good or bad fortune. Towards the end of October the weather was cool enough to permit of our taking longer rides, and the paddy-fields were dry enough to admit of our crossing them, so we had frequent shooting excursions, bringing home quail, snipe, and rice-birds, the latter as good as ortolans. At the end of November the 87th Regiment left the garrison, and was replaced by the 99th from the north, and we instituted paper hunts, and got up races, theatricals, and picnics.

We had now become quite connoisseurs in tea tasting, and preferred the black tea perfumed or scented, which is done by mixing the leaves with the flowers of several different plants regularly cultivated for the purpose; notable among these is the *Jasminum sambac*, known in Canton as the "Mok-lei." The gardens where this plant is cultivated are principally in the Honam and Fatee suburbs of Canton. The plantations in the latter place were much damaged a year or two since by the flooding of the river caused by the giving way of the embankment at Ch'ing-yiin. This disaster caused the flowers, for a time, to realise a much higher price in the market—fetching, in fact, twice the ordinary value.

On December 15th, 1860, Baron Gros, the French plenipotentiary, arrived at Canton from the north, with the copy of the Treaty of Tientsin in his portmanteau, and the next morning peace was proclaimed to the city in all due form. How glad the European garrison on the heights were to learn the news need not be said, for they had long been

cooped up within a small compass, with few amusements and sickness rife in the cantonments; so that it was a great relief to everyone to hear that now all restriction to excursions into the country was removed; and shortly after a small party, of which I formed one, determined to pay a long-contemplated visit to Shao-K'ing-(Fu), the ancient capital of the two Kwangs, distant from Canton about eighty miles up the Si-Kiang or West River. Our party consisted of Lieutenant (now Lieut.-Col.) Malcolm, of the Royal Engineers, Captain Des Vœux, Sandwith, Adjutant of the Native Infantry, Lieutenants Hunt, Hunter, and myself. We obtained the services of an interpreter named Lee-Asheen, from the Consular Yamun, and were supplied with passports by Mr. Consul Robertson, and through the courtesy of the Commissioners letters of introduction to the chief magistrates of the Sam-Shui and Shao-K'ing districts, from Laou, the venerable Governor-General of the two Kwangs.

As this was to be an expedition by water, the first thing was to hire a boat in which we could travel comfortably, and we soon arranged for the hire of a *faitan*, or fast boat, for an eight days' journey to Shao-K'ing-(Fu) and back. As trade and communication are chiefly carried on throughout China by means of water, all sorts of travelling boats are built for the purpose. The one hired on this occasion was called the *Old Dragon* (an appropriate one as far as the adjective went), which was a fine flat-bottomed barge, seventy feet in length, and with great beam in proportion, with one mast stepped well forward, and the customary high stern, with its accompanying huge sweep used for both sculling and steering. All our preparations having been completed we were towed across the river, here called Starling Reach, to the Fatee creek, one of those numerous tidal streams that permeate the vast delta of Kwangtung (Canton), through which the local mariners know various short cuts, and our *faitan* slowly threaded its way through the narrow waterway barely left open between the innumerable crafts, junks, *faitans*, sampans, and rafts which frequent the populous suburbs on either bank. Here we were joined by Mr. Bonney, an American Wesleyan missionary, who, hearing of our projected trip, asked to be allowed to join. He proved a most useful ally, being an accomplished Chinese linguist. It was about noon, under a blazing sun, that we passed Houequa's garden on Gough Island, one of the noted show places about Canton. All about here is a waterside population, mostly occupied in junk-building and boat-making, and very good boats they can build, too—if they only have a copy they can equal it in every respect.

Passing the suburbs, the houses gradually became less numerous, and soon paddy-fields and lychee-trees (*Euphoria litchi*) intervened. A good towing-path led along the entire route on each side, and our crew, who had hitherto been poling the *faitan* along, now stripped naked, passed broad belts across their shoulders attached to a towing-rope of twisted rattan, which was made fast to our mast, and, jumping ashore, they pulled us at a considerable pace. The whole of the country is here quite flat, and at this time of the year, before the rice is planted, quite dry. Here and there were a few bushes at the water's edge, and a clump of bamboos. The rustic natives were mostly employed in ploughing up the ground, using the uncouth water-buffalo (*Bubalus buffelus*) for draught.

Here and there a sampan appeared, with its occupants fishing or collecting the spawn for sale in the Fatshan market. It was a hot lazy spring afternoon, and after the bustle and noise of the western suburbs the quiet rural scenery presented a pleasant contrast. In the distance were two or three little white villages, peeping from their overshadowing banyans, nearly all of them marked by small pagodas or towers. On turning a sudden corner to the south, we saw a collection of vessels at anchor between two villages, Ng-Kai-How and Yun-kin-Chung. The waving of numerous flaunting banners, and the show of gaily-painted wicker shields and long pikes or spears, together with the clanging of the brazen gongs and the rattle of the tom-toms gave sufficient notice to us that this was a fleet of braves on their way west to subdue the Tæpings, who were devastating the country above Shao-K'ing. On account of the presence of these noisy swashbucklers, our crew would not land as they had intended, but, afraid of "squeeze pigeon," if not of downright robbery, from the military mandarins, made all haste to pass by such unscrupulous neighbours. The Mongol soldiery appeared to be closely packed on board the junks, but if one judged rightly the amount of flags displayed was greatly in excess of the number of combatant warriors. There were twenty vessels in the fleet, each holding from sixty to seventy braves—in all there were about 1,200 men of all ranks, besides officers. They crowded the sides of their junks to see the foreign white-faced devils pass them, and saluted us with rough jests and remarks on our personal appearance, the reverse of complimentary. As the setting sun was nearing the horizon, a pleasant breeze sprang up, and it was most pleasant to sit on the deck watching the river-banks and looking out for fresh novelties as each bend of the river was turned, whilst, our sail being hoisted, we glided onward with easy and almost imperceptible motion. Some conspicuous red mandarin-poles soon denoted the neighbourhood of a populous town, and we then passed Upper and Lower Kup Kow, an aristocratic locality, at some distance from the south river-bank, whilst in front of us lay the great manufacturing commercial entrepôt, the city of Fatshan. Although the breeze was favourable, we did not reach the canal which traverses this busy town until after sunset. Business hours were over, and most of the upper and middle-class citizens were sitting enjoying the evening air with their wives and children in open summer-houses and verandahs overlooking the water. As long as it was light, the quays, windows, and terraces were crowded with eager spectators, who quickly assembled to see the unusual sight of European travellers passing through their town.

It soon grew dark, lights began to illumine the windows, glazed with their oyster-shells, and quaint lanterns were shown at the various hong. The clang of gongs and drums were heard from a neighbouring joss-house, and from the flower-boats resounded the high notes of the singing-girls, accompanied by lutes, clarionets, and other stringed and reed instruments; the universally popular "Jasmine Flower" melody being often distinguishable. At 7 p.m. we came to anchor in mid-stream, just beyond the city, the boatmen not being at all sure of what treatment we might receive at the hands of the patriotic citizens of Fatshan. Next morning we were on the move at 3 a.m., and we landed with our guns about 6 o'clock at a place called Tsz-Tong. Here was a fine broad

towing-path on an elevated solid bund, or dyke, running alongside the river as a defence against inundations. The course of the stream is very tortuous, and the country still flat and dry, with large patches of sugar-cane, dry paddy-fields, and acres for miles together of mulberry-bushes and cotton. A considerable quantity of silk is produced in this neighbourhood and further south. Several miles to the north of us were sandstone-hills of no great height, evidently friable, as they were much scarpred by water action. We were not idle with our guns, and bagged some common snipe (*Gallinago stenura*) and quail (*Coturnix communis*), with pigeons; by the water were plenty of egrets (*Ardea egrettoides*), divers (*Podiceps minor*), and various kingfishers (*Halcyon fuscus*, *H. pileata*, and *Ceryle rudis*). All this time our boat was rapidly going ahead of us, aided by light breezes, and we had to put on the steam in order to come up with her, especially as our morning walk suggested breakfast. We passed through the village of Kee-Shek, and saw nearly opposite another called Shay-ung-Kow, and a large island covered with wheat-fields. We did not catch the boat until it came into the shore at Seong-Tung, where we halted and bought fish and eggs for a ridiculously small amount of cash (small copper coin with a square hole in the centre). Food, indeed, is remarkably abundant throughout this part of China; our usual fare was chicken, curry, and rice, with fish. The rising tide warned us not to delay, and taking advantage of it we let the boat proceed, following ourselves on foot this time on the southern bank. The soil here is of a red and yellow tenacious clay, and numerous brick-kilns were conspicuous. Mulberry bushes still abounded. Across the river we could see a remarkable peak called the Lion's Head. Before noon we passed close to a village called Ma-shâ embosomed in bamboo, litchi, and banyan trees, with fields of mustard and sugar-cane. The villagers here turned out and seemed disposed to give us some trouble, but they did not proceed to take any active hostile measures beyond making use of menacing gestures and insulting cries, which fell harmless on our barbarian ears. On our way we visited some primitive sugar-mills, the roller being worked round a pivot in a wooden shallow saucer by the ubiquitous buffalo; the juice when cooked is turned out in flat cakes, with an appearance not unlike cakes of toffy. When the sun was at its highest we retreated from its glare into the shelter of our faitan, and were nearly all dozing when our approach to the large commercial town of Sy-nam was announced, and we went on deck to see this important mart, famed for its ironware and other manufactured goods. Its population is estimated at 20,000 inhabitants. On the west of the town, on some friable sandstone cliffs, undermined and caverned by the river, were some strong batteries with brass-guns in the embrasures commanding the river approach to the town. These same crumbling sand-cliffs were extensively honeycombed by numerous crowded burrows of sand-martins\* (*Cotyle sinensis*

\* *Cotyle sinensis*, or *Hirundo brevicaudata*, a small grey-breasted, small-tailed species, make rows of perforations in the steep sandy banks of the river; on examining these holes they are found to be long galleries about two feet deep and from two to three inches in diameter, with a slight inclination from the horizontal, turning slightly to the right and terminating in a cup-shaped cavity for the nest. They are so numerous as to form a characteristic feature in many localities.



and *C. riparia*), which seem to breed here. The river was covered with small ferry-boats and sampans, whilst numerous trading-junks were loading at the wharfs for the north river-trade, and large rafts were floating down stream from the upper districts about Wu-chu-fu, where timber is plentiful. On some of these large timber-rafts are whole villages of the lumbermen, and the rafts are so constructed as to be divisible, in order to pass narrow creeks or sharp bends on their passage.

We could see in front of us, about three miles distant, the tall white pagoda of Sam-shui, and within an hour and a half after leaving Sy-nam we reached the landing-place for Sam-shui, the town itself lying inland about two miles. Sam means "three" and shui "water," the name being caused by the junction of the north and west rivers, forming the Canton River, taking place here. Our distance from Canton was now forty-five miles. The town is walled, and is the chief town of the district.

On Wednesday, the 13th March, by 7 A.M., we were passing Tsing-Kee, with its large square tower, denoting a Government pawnbroking establishment. As soon as we had cleared this place, we had our usual matutinal swim, and then a walk along the paddy-fields. Far ahead were now to be seen distant ranges of hills and mountains, whilst the country about us grew more undulating, showing that we had reached the ancient coast-line, having left the rich alluvial districts which mark the Cantonese delta.

Villages are frequent on both banks, and thickly populated, nearly all having good schools attached to them, and every child above tender years was able to read, and most to write. Ni-Tawng and Poo-e-Shui were the next villages of importance; the latter remarkable for its large modern college, founded in the first year of the reign of the late Emperor Hien-Fung. On the north bank and opposite are large examination halls, marked by a forest of mandarin poles; also a large depôt for salt. In the background were the Nam-wan-Shan, or "hills of the southern bay," averaging some fifteen hundred feet elevation. On the shores here were noble specimens of the shady banyan tree (*Ficus Indicus*), and in the sun on the banks were numerous lizards, among them the *Tachydromus sexlineatus* and others.

We examined some large fish-tanks at Sha-Wan, in which were preserved the Li-in,\* a fish far superior to our carp, and growing over ten pounds weight. These fish have been imported to Mauritius with success, and rival even the carp in tameness, of which Professor Baird says:—"The fish that we are having the most special success with is the German carp. It is one of the most valuable food fishes known, and it is a domesticated fish. It bears the same relations to other fishes that ducks and barn-door fowls do to the birds of the woods. It has been kept in confinement for so many years that all its instincts of wildness have disappeared. It is now as tame and easily managed as poultry. These fish are easily taught to come at the sound of the bell or whistle, and to feed from the hand; they allow themselves to be lifted out of the

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\* The Li-in—the Gouramier (*Osphronemus olfax*).

water, and on being scratched on the head or tickled evince as much pleasure as a cat or dog would under similar caressing treatment."

In the middle of the river here is the large flat island of Kwang-li, forming a triangle, with its two sides to the north. The channel on the south side is the shallowest, but gave three and a half fathoms. The mountains now frowned close above us, and in vain the eye sought for a gap through which the broad volume of the Si-Kiang could pass. However, the river narrowed rapidly as we ascended it, and when we had left the white fort sixteen miles behind us we could perceive a magnificent but narrow gorge gradually opening to our admiring gaze. The river here narrowed suddenly from 1,000 to 200 or 300 yards, winds swiftly through a vast rent in the mountain-chain, whose dark precipices rise perpendicularly on either side several hundred feet above us. The wooded summits culminate on the south side in a peak of 2,800 feet elevation, and on the north in one of 1,800 feet. We entered this pass at 1.45 p.m., barely able to stem the current, whilst above us hovered some large kites (*Milvus melanotis*) that frequent this locality. The mountain-pass is called the Antelope Pass or Hibiscus Gap, sometimes the Shiu-Hing-Hup. At its eastern entrance is the village and custom-house of How-li. In the pass itself we sounded, and repeatedly found no bottom at twelve and a half fathoms, even close to the edge of the beetling rocks. The naked sides of the cliffs were caverned and hollowed by the waters many feet above us, testifying to the effects of the furious summer freshets, known and dreaded even at Canton under the name of the "Western floods."

There are narrow paths cut along ledges on the face of the cliffs to enable the crews to tow their vessels against the strong eddies and currents in the pass. Along them are here and there little shrines placed to record the loss by wreck or flood of some hapless mariner. The place is romantic in the extreme, and naturally the imaginative Chinese people fit with fabulous monsters, as well as with piratical bandits, who are, perhaps, not so fabulous. It took us two hours to pass through this rocky chasm, four miles in length. The western extremity is here marked by a small pagoda, on a conical peak 300 feet above the sea.

The sun seemed to shine brighter when we had left this dismal pass of Shiu-Hing-Hup, and at our exit was disclosed a cheerful view of the extensive valley of Shao-K'ing, bounded by a fine amphitheatre of mountains, with no less than seven pagodas of various sizes in sight at once. What the origin or meaning of these many-storied monuments may be no one seems to know. They are sometimes accounted for by the Chinese as symbolical of the all-pervading Fung-Shuei, a superstitious genius which animates the cardinal points, hills, water, and weather, including the general prosperity of the neighbourhood. A lofty pagoda on a high hill is supposed to bring good luck and advancement to all who dwell within its sight and influence. Although Shao-K'ing boasts of so many of them, I am afraid their influence has greatly diminished. When a merchant has completed a great speculation with success, or when his argosies have returned laden with wealth, he sometimes erects one of these follies to commemorate the event.

At the entrance of the pass is a custom-house, where our *faitan* was searched, nominally for opium and contraband goods, in reality to obtain *cumshaw* and cups of *samshu* or *kiu-tsee*, of which we kept a small store on board for the purpose of bribery. The *kiu-tsee* made at Canton is considered the best, and is in request all over the empire. It is prepared as follows:—They take 75 lbs. of good rice (that of the summer crop by preference), 27 lb. of dolichos soja, 4 oz. of old *kiu-tsee*, and 14 lbs. of the powdered leaves of *Glycosmis citrifolia*. *Kiu-tsee* is not considered good without the leaves of this plant. They are partially dried in the open air, and finished over a stove, care being taken to cover them up to prevent the evaporation of their essential oil. The dolichos beans are boiled in fresh water for twenty-four hours in a cast-iron cauldron. The rice is also boiled in a large cauldron. When the water boils the rice is thrown in and taken out again in about ten or twelve minutes. The ingredients are worked up together into a paste, and then stowed away for a time to ferment. Afterwards they are dried, and this operation properly performed they will retain their virtue for two or three years. With this ferment the Marquis of Villeneuve thinks he could with his acid replace the wines of France should the phylloxera destroy all the vines. But as Dabry de Thiersant, the writer of the article from which we are quoting, says, it is to be hoped that things will not come to this pass, for the best Chinese wines and spirits are not equal to the worst French. Great improvement will be necessary before they can ever be tolerable. Their brandies at Canton are made from rice, but in the north they employ instead the grain of sorghum. A kind of wine is manufactured from pulled millet, and several different varieties from different kinds of rice. The savages of Formosa prepare a beverage by chewing the sorghum, afterwards drying the crushed grain in the sun, and then on putting it into vessels filled with water, fermentation takes place naturally.

Below the suburbs of Shao-K'ing extensive fisheries were passed, with large dip-nets, bag and stake-nets. These nets are in the river close to the banks. Beyond these, about six miles above the Antelope Pass, begin the suburbs of the town, which we reached at five in the evening. These suburbs are built on tall piles similar to those at Sy-nam, and boast of two remarkably handsome and ancient pagodas, both of which have numerous shrubs and creepers growing out of them, and are generally moss and grass-grown. The town itself lies at a little distance back, and is protected by a high solid embankment against all fear of inundation. Irrigation is provided for by means of well-constructed culverts and sluices. Like all district towns, Shao-K'ing is tolerably defended by stout brick walls and bastioned gates, now in a slightly ruinous condition. It was six o'clock or more before we made fast to the shore; but the sun had set, and the town-gates were closed, so that entrance to the town was denied. However, we were permitted to send in our cards and letters of introduction to the Mandarin.

The extremity of our journey by water was now attained, and we had travelled seventy-five geographical miles in all from Canton. Of course, we could have come

up much quicker, but we preferred seeing the country by daylight, and walking along the shore for observation and sporting, to travelling by night. The regular passage boats take only from thirty to forty hours to do this distance in, according as the wind and tide are favourable or not.

Thursday, the 14th March, whilst dressing for a State visit to the chief magistrate of Shao-K'ing, we sent to hire some palanquins and bearers, who arrived when we were at breakfast; their price having been suddenly raised, we learnt on inquiry, that some officials had been extorting "squeeze money" from them. We had pre-arranged the hour for our reception, and started at half-past nine in eight palanquins, along the bund, and through the suburbs, entering the city-walls by the south gate. The city seemed in a ruinous condition, but there were remains of ancient grandeur in the moss-covered ruins of many antique yamuns, temples, and ancestral halls, the finest being those on the site of the Viceroy's palace in olden days, all well shaded by long-lived banyans. The principal streets alone seemed to be thickly populated, and in them crowds of curious citizens assembled to see us pass by, being kept back from pressing on us by an escort of Mongol braves, sent to meet us for that purpose. Besides numerous silk shops, chow-chow houses, and opium divans, were armourers and bow-makers. The yamun which we entered was similar to most of the third-rate yamuns of Canton. Various retainers ushered us through detached open halls, where official business is transacted, into a more comfortably-furnished apartment, where we were most courteously received by the venerable magistrate, who after the endless chin-chinning, an indispensable preliminary, begged us to be seated, and regaled us with tea, accompanied by melon-pips, whilst a tray, not unlike a large Pope Joan board, was brought, the various partitions being filled with sweet-meats and preserves. He had heard that peace had been proclaimed, but it had not been published publicly yet to the townspeople. On hearing that some of his subordinates had been squeezing our bearers, he assured us that they should be bastinadoed with split-bamboos. He begged us to excuse any impertinent conduct from the ignorant townspeople, and warned us that we might be pelted or maltreated unless he sent an escort of soldiers to guard us. He insisted very kindly on our accepting the guard, who would also act as guides to us about the vicinity, and we found them very useful in carrying our sketch-books, shot belts, &c.

On leaving the yamun we made our exit from the city by the north gate, and crossing a stone bridge over the moat found the narrow path leading into the country, bordered by some smaller suburban villas and cottages, with well-cared-for gardens around them, with clusters of lychees, plantains, papayes (*Carica papays*), plum and guavas (*Psidium sinense*), water-melons (*Cucumis citrullus*), &c. Beyond, in the open country, were fields of cotton, the ground-nut (*Arachis hypogea*), from which they extract a valuable oil, with indigo, cassia, castor-oil, and various peas, as dhol (*Cajanus florus*), gram (*Cicer arietum*), yams, and sweet potatoes, cocos, and a large portion preparing for rice-planting—the whole of this extensive plain around Shao-K'ing being as highly cultivated as a

market-garden. The villagers were employed in harrowing, the harrows being drawn by the ubiquitous buffalo, and mostly tended by women. The plain is bounded by a high range of mountains, mostly wooded, and any slight undulating eminences are covered with innumerable horseshoe or omega-shaped graves, the cemeteries of departed generations. In the midst of this alluvial deposit, at about three miles from Shao-K'ing, rise seven abrupt and detached rocks of red-veined marble, with remarkable peaked summits averaging about 200 feet above the level of the plain, their distant outline reminding one irresistibly of the Needle Rocks intensely exaggerated. They present features of more than ordinary interest, not only to the geologist, but also to the antiquarian, and are famous throughout the two Kwangs for their wonderful caverns, whilst the monastic retreats, perched in seemingly inaccessible hollows and ledges on their precipitous sides, are objects of pilgrimage and veneration to the countryfolk for many miles away; and various superstitious legends are related in connection with the far-famed Marble Rocks of the Seven Stars (Sam-Seen-Koon).

We ascended by a laborious climb up narrow paths to the summit of the easternmost rock, which is the highest and largest of them all, and obtained an extensive view for our trouble, the fantastic peaks of the neighbouring rocks forming a picturesque foreground. There are two Buddhist chapels on this rock, besides some residences for the monks. In the lowest chapel was an elaborate image of Buddha, representing that deity with forty-eight arms. The faces of the rocks are overgrown with bushes and small trees with creepers and ferns growing in the crevices. Every here and there are seats and benches, with colossal inscriptions cut in the solid stone, dating from the dynasties of Yong-Ching, Kang-Kee, and Keen-lung. The trees and rocks were full of the feathered tribes, such as titmice (*Parus minor*), plenty of the Chinese starlings (*Acridotheres siamensis*), chattering with great noise, rollers (*Eurystomus orientalis*), and others. We now descended and walked along the foot of the rocks, where are some large ponds in which the art of pisciculture is carried on by the Buddhist monks with great economy and success. They buy the fish spawn in jars at the market, and hatch the ova in the shallow paddy-fields, which are arranged in terraces connecting one with another, so that the young fry can be shifted as may seem necessary. They fatten up their fish in stews, producing magnificent specimens of carp. Throughout the whole of China fish is remarkably cheap. These monks accuse the *chun-shau-cdp* (pangolin or scaly ant-eater, *Manis sinensis*) of eating fish.

We now examined the great cave and temple of Kon-Yum-Ngam. This cave has evidently been formed by the action of a subterranean river, which has thoroughly undermined the whole rock. There are two entrances, one through a low fissure on the south side, and the principal one on the north side, leading through an upper grotto in which the stalactites have been tastefully left to form a natural canopy, whilst the stalagmites have been carved into quaint figures of warriors, altars, figures of Buddha, immense candelabra, and vases forming a crystal joss-house, ornamented with the customary banners, votive tablets, burning joss-stick, and other accessories.

From the grotto, at the entrance, a descent of forty well-paved steps brought us into the great cavern, which was but dimly illuminated by our torches of twisted bamboo, and the vast vaulted roof remained in mysterious darkness until we fired some Chinese rockets up vertically, which lighted up the lofty roofs and crystallised stalactites 120 feet above our heads. In every direction were branching caverns, one of which we explored, but were stopped soon by deep pools in the bed of a former torrent. Most of the others were quite full of water. By lighting bonfires of dried grass behind some of the screens of transparent rock, where pillars of stalagmite and stalactite were joined in one, marvellously charming effects were produced.

The whole rock seemed hollow; when we discharged our guns with some blank ammunition the reports reverberated like thunder, the echoes dying away in hoarse murmurs in the distant bowels of the mountain. Very grand certainly, and heightened by some crystals from above becoming detached from the vibration, and tumbling about our ears, scattering, as they struck any rocky projections, with a myriad of scintillations. Our attention was now drawn to a hollow rock, forming a natural stone drum.\* In shape it was something like a mushroom. On being struck smartly, it vibrated with a hollow sound—a very Chinese Memnon, and to which superstition has attached many supernatural abilities. We put a large bundle of Chinese crackers underneath it, which, being ignited, gave us a startling volley of cracks and bangs, which severely tested the vibratory powers of the marble drum. The noise was indeed deafening, frightening numerous bats from their hidden retreats. The figures of the monks in their long robes, our half-naked coolies, and the braves in their picturesque attire, lighted up by the glare of the torchlight, with the savage depths of the cavern as a background, formed a subject for the brush of a Rembrandt.

In the cool of the evening we retraced our steps to Shao-K'ing, and by sunset left the landing-place of Shao-K'ing on our homeward voyage, reaching the Pass of Shin-Hing-Hup at dusk. The entrance to the gorge looked most dismal and uninviting, so that our boatmen were anxious to anchor outside the narrow passage until daylight, but we insisted on their proceeding in spite of their hideous tales of Lally Lus and other horrors. So we went on through the dreary pass, all being still and quiet as the grave, only disturbed by the occasional flight of the night-herons (*Nycticorax griseus*) and the distant cry of the short-eared owls (*Otus brachyotus*) which frequent these rocks. We were soon fast asleep, and were about half-way through the defile, when we were suddenly awakened by a collision with another boat, and the cry of "Lally Lus" from our boatmen, who came tumbling below in extreme terror. We jumped on deck, and soon saw that the crew of the other boat, against which we had bumped, was as frightened of us as our men were of them, and had also rushed below, and were busy getting out their long pikes, so we had only to shove the boats apart and retire to our slumbers, after a

\* See Williamson, on a stone drum at the Yih Mountain, near Tsiu-hien, in Shantung.—"Journeys in North China," vol. i. p. 217.

hearty laugh at our disturbance. By midnight we had arrived at the Custom-house of How-li and made fast to some salt-junks lying close to the shore here.

On the 15th of March, on arising in the morning, we found ourselves the objects of interest to all the crews of the various craft lying off the Custom-house (established for levying the war tax). The vessels bound up the river formed a convoy loaded with salt, and those from the upper waters bound downwards with indigo, oil, paddy, firewood, silk and tea. There is only a small village at How-li, where necessaries can be procured for victualling passage boats, and we here hired a guide to take a few of our party up to the wooded mountains of Ting-Hu-Shan to visit the famous monastery which reposes under its shadows. The remainder of our party crossed over to To-Ki to shoot snipe, which abound in that locality. Our guide, by name Teen-Tuk, with two boys, Ayow and Asam, led us inland to the north-west, about five miles across flat open fields, in which the skylarks (*Alauda caelivox*) were carolling under the sunshine. The country is diversified by small hamlets, ponds, and marshes, full of water-fowl, gallinules, &c. We followed the course of a shallow stream tumbling over its rocky bed, tracing it up a long valley, on each side of which arose lofty hills, here and there scarped perpendicularly, with huge boulders and moraines lying scattered on the slopes at their base. Above were dense woods rising high among the mists that hung about the summits. The atmosphere turned chilly, and we soon lost sight of the sun, the Scotch mist turning into rain as we ascended, and we entered a ravine in which a well-repaired paved pathway of rather steep gradient led through "the groves of the pleasant mists" on "the mountain of the golden lake," the said lake being a mysteriously deep tarn among these hills. The blending of the sub-tropical vegetation with the foliage of trees, due to increased elevation, presented us with varied yet exquisite forest scenery. Among the trees flitted the *ying-ko*, or ring parroquets (*Palaornis rosa*), the sole Chinese representative of this tribe, and little striped squirrels (*Sciurus tristriatus*) leapt nimbly from bough to bough, whilst the call of the pheasant and the tapping of the woodpecker (*Picus chloris*) would frequently be heard mingled with the song of the *hwa-mei*\* (*Leucodioptron sinense*), which the Chinamen are so fond of domesticating for fighting purposes as well as song. The timber-trees were loaded and entangled with numerous vines, bauhinias, and other lianas, whilst various orchids, ferns, lycopodiums, and pendant lichens ornamented the stems of fallen timber.

Through occasional breaks in the dense foliage of the trees we could see hanging woods and rocks towering far above us, with here and there a summer-house or shrine, to which neat zig-zag paths led in various directions. After reaching a level of about 1,200 feet above the river, we found the monastery of Tek-Chine, with its fine new

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\* The *hwa-mei* or *hoe-be* (flowered eyebrow), or song-thrush (*Garrulax sinensis*), the *Turdus sinensis* of Linnæus, is the bird best known to all Chinamen, and universally met with as a cage-bird throughout the Celestial Empire, although its *habitat* is confined to the hilly country of Southern China, where it is often to be seen in the bamboo-thickets hopping with curved back and rounded tail, and fluttering its short distances from tree to tree, and singing out lustily its variety of loud notes, many of which resemble those of our English thrush and blackbird. It feeds on insects, but will suck the eggs of small birds like our jays.

temple and hospitable brotherhood. The superior of the establishment received us with flowery Chinese compliments, and played the part of host most graciously. It appears that the old temple had been burnt down by the rebels in 1859, so that they had been obliged to build a new one, the Hing-Wun-Tz, and now they heard that the rebels were again approaching. They showed us an immense bell, just new from the foundry, of some 2,000 catties weight; they must have had great trouble to convey it up these heights. The monks here are not allowed to eat flesh, but are restricted to fish and vegetable food; they gave us some capital rice and mushrooms, the latter being novelties to us. They had many handsome and rare plants, cultivated with great care, roses and chrysanthemums, of which the owners were very proud, besides dwarfed trees, fantastically trained shrubs, with odd sports and grafts, which Chinese amateurs take such pleasure in; the sight of which inspired me to attempt window-gardening on a small scale when I returned to Canton.

We returned to our boat in the afternoon, and later in the evening pulled across the river to examine the mines on the southern side of the Shiu-Hing-Hup. These mines or quarries consist of pits 800 feet deep, from which a valuable black stone (cannel coal?) is produced. It is a black stone almost like jet, takes a considerable polish, and is used for inkstands and palettes; the surrounding rock appeared to be coarse grit rock overlying beds of solid dark slate. The echoes here were very amusing, high notes being repeated distinctly several times in succession. The quarries were not being worked, as the Mandarins had demanded an excessive royalty on the produce. Late in the evening we dropped down stream with the tide to Lo-un-Chun, a village opposite to Kwangli Island, and nearer to the Teng-fu mountain than How-li.

On Saturday, 16th March, we started at 7 A.M., and took the same route to the Tek-Chine monastery, reaching it in two hours and a half. Here we provided ourselves with some stout poles to climb the upper heights, and procured a guide. After three hours' hard climbing, during which the woods became gradually thinner, and finally, disappeared, we halted at a spot beyond which our guide declared that he had never been. However, we pushed on until we reached the summit; but the thick clouds breaking for a few minutes disclosed a much higher peak than that on which we were (4,000 feet), and separated from us by a vast chasm, at the bottom of which lay far below us the Enchanted Golden Lake. We were much disappointed at not having reached the highest summit, but there was nothing for it but to descend *vid* the charming deep tarn, the spare waters of which were carried off by a series of cascades and waterfalls,\* by following which we arrived in due time at the foot of the mountain, under torrents of rain, and were heartily glad to regain the shelter of

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\* These ravines are haunted by numerous cave-birds (*Myiophonus caeruleus*) with blue wing-coverts, which ran over the slippery and dripping boulders of the mountain torrents, screaming harshly as we approached them near enough to startle their seldom-visited retreats. We obtained some good specimens of these and other cascade-loving thrushes (*Henicurus*, *Petrocincla sinensis*, *Pitta nympha*, &c.).



our boat.\* The next day (Sunday) we passed Sy-nam and reached Fatshan, where we spent all Monday morning, returning to the monotonous duty at Canton the same evening.

Next to sketching, gardening occupied my attention, and by the help of my servant was able to decorate both the mess and my quarters with flowering plants in pots; we were most successful with the handsome well-known *moutans* or arborescent pæonies.

"This tree pæony† is found wild on the mountains of the central provinces of China, and is cultivated as a garden-plant in all parts of the empire. It was first seen by Europeans in the gardens about Canton, but it is not indigenous to that part of China. The Canton gardeners carry on a large trade with the moutan growers, who bring the plants yearly in-boats from the provinces of Hoo-nan and the western parts of Kiang-nan, a distance of at least 1000 miles. This takes place in winter when the plants are leafless and in a state of rest; the roots are packed in baskets, open at the top, with scarcely any soil adhering to them: in this simple manner they are distributed over all the empire without suffering any injury. On their arrival in the south they are immediately potted by the purchasers, and owing to the difference in the temperature soon come into bloom. As soon as the flower-buds are fairly formed the plants are eagerly bought up by the natives to ornament their balconies, halls, and gardens. The price of each plant depends, not upon its size or strength, but upon the number of flower-buds it has upon it. This is reasonable enough when the circumstances of the case are considered. The moutan, when brought into the hot climate of the south, will not thrive for any length of time. As it is strong and vigorous when received, it blooms well the first year, but, being deprived of its natural period of rest—that is, a cold winter—it soon gets out of health, and although it may continue to exist, is ever afterwards quite worthless as an ornamental flower. The southern Chinese rarely attempt to preserve it after it has once bloomed. This circumstance keeps up the constant yearly trade between the moutan country and Canton. This, then, is the first lesson in moutan cultivation—that is, we may give it as much heat as we like in summer, but it must have a period of perfect rest in winter."—Mr. Fortune, in the "Gardeners' Chronicle."

Having made the acquaintance of Mr. Bonney, the American missionary, Sandwith, Chapman, and myself took the earliest opportunity of visiting the small community of Wesleyan missionaries who have established themselves in the southern suburbs, and on Sunday, the 24th of March, we went to their weekly meeting, then held alternately

\* A day or two after our return a party of French officers, civilians, and missionaries followed our route, but landing at Sy-nam, they were mobbed, pelted, and chased to their boats, whilst a Mandarin who had given them shelter had his house razed to the ground by the populace.

† According to Loudon, the first plant of the tree pæony reached Europe in 1787. In the "Arboretum et Fruticetum Britannicum" we find the following notice of it:—"From Chinese drawings, and from the extravagant praises bestowed upon this plant in the 'Mémoires sur la Chine,' published by the missionaries, an ardent desire was excited in Sir Joseph Banks and others to import plants into England; and previously to 1786 Sir Joseph Banks engaged Mr. Duncan, a medical gentleman attached to the East India Company's service, to procure a plant for the Royal Garden at Kew, where it was first seen, through Mr. Duncan's exertions, in 1787."

in the residence of each missionary until the completion of their chapel, which is in building. We were introduced to several missionaries and their wives, and were treated with the greatest cordiality. Mr. Bonney keeps a school in the city, where he educates from forty to fifty boys free of all charge. Mrs. Bonney, his wife, has also a class of a dozen or more little girls, who live in her house, and whom she feeds, clothes, and tends entirely. These children are not taught one word of English, as from experience it has been found that those who become Anglicised are sure to go to the bad. And it is a certain fact that the greatest proficient in English are generally the biggest scoundrels.\* We visited these classes, and were much pleased to hear the children sing hymns rendered into Chinese from English words, preserving the same airs. Amongst other little songs they sang a Chinese version of "Twinkle, twinkle, little star," and "There is a happy land, far, far away," &c. We subsequently spent considerable time in the society of these missionaries and their families, amongst whom I should not omit to mention Mr. and Mrs. Piercey and Mr. and Mrs. Vrooman, these latter residing in the western suburbs, some distance from their compatriots. There is no doubt that however unsuccessful Christian proselytism may have proved in China, the simple unostentatious mode of life and devotion to good works practised by these missionaries contribute in no small degree to the growing friendship between the Cantonese and Europeans.

The Chinese language contains no word that can express religion, except in the most restricted sense. It is true there is a common phrase—*san kiau*—used in China for the teaching of the schools of Confucius, Buddha, and Laou-tsze, and that the same word is applied to the teaching of some Christian schools; yet it is only so used for want of a better word, and in the absence of any adequate knowledge of the meaning of the word itself. The Buddhists, therefore, have adopted the term *fā* to denote a "religious system," and as this is confessedly a translation of the Sanscrit *dharma*, which has the sense of a "revealed code of religious instruction," the word is the best that can be used for the purpose.

Soon after, on Saturday, 30th March, Sandwith, Chapman, and myself arranged a little picnic to the White Cloud Mountains, with Mr. and Mrs. Bonney, in honour of Mrs. Matheson, a Scotch lady, on a visit from Hong Kong. It was a lovely day, and the pleasant groves and shade around the Buddhist monastery in a valley not far from the summit made a delightful spot for luncheon, not unaccompanied by music, for, to our delight, we were serenaded during the noontide heat and hour of siesta by mysteriously pleasing melody which rose and fell in varying cadence from the sombre shades of the

\* Dr. Rennie aptly remarks:—"It is a melancholy and somewhat humiliating fact to have to state, but one nevertheless true, that in proportion as Orientals of a certain class become Christianised and associated with the white man, in like proportion they become dishonest. It is difficult to account for it otherwise than by the supposition that their cupidity is excited by the sight of articles to which they have been hitherto strangers, and of which, in the course of their employment by foreigners, opportunities are frequently afforded of possessing themselves. So strongly has this impression taken root, that there are many people in the East who, on no account, will have native Christians in their employment."

wooded hill-side opposite to us. To strangers this indescribable minstrelsy is most puzzling, and at first we wondered whether the unseen minstrels were feathered, human, or insect, but we soon found the liquid series of notes to be produced by a collection of thrushes (*Pomatorhinus musicus*) who amuse their leisure after feeding upon the equally loud but less pleasing *cicadae*. These mountains have often been described, and are in reality mere hills, having bare summits and sides with wooded ravines and valleys between. The hill-sides are covered with graves and shrines, with various monastic retreats and temples, all with high-sounding and romantic names, for instance, "The Well of the Nine Dragons." The principal monasteries are approached by long flights of stone steps up the mountain side, whilst at intervals there are resting-places where pilgrims halt and expend cash in tea and joss-pidjin. There is generally one of the Buddhist brotherhood in attendance at these places ready to give the ponies water, &c. It is wonderful how confidently the Canton ponies go up and down these stone steps, where a single stumble would prove most disastrous. At the monastery we were not very favourably impressed with the Buddhist fraternity, who are harmless and amiable enough, however, but rather useless now, and a degenerate lot. Throughout China it is the same, for it is not the *literati*\* who have accepted Buddhism, for they are to a man disciples of Confucius and Lao-Tsze; on the contrary, Buddhism finds acceptance by those of inferior culture, and consequently we find the bonzes of the various monastic orders who form a species of sacerdotal aristocracy to be constantly recruited from the democratic laity, lower classes; and the countenances of these shorn brethren are mostly of a low type. These priests wield a considerable influence over the poor labouring people (especially the women), amongst whom they doubtless do good, in relieving poverty, whereas, the intelligent citizens of the provincial towns, mostly sceptics, and the educated gentry have a profound contempt for the celibate priesthood. It is impossible to refrain from admiring the lovely spots chosen for the tombs of the deceased. They are in the majority of cases chosen by their future occupants prior to their decease, and large sums are often given for a favourable site. Others are chosen on account of their luck, and coffins are often kept above ground until a lucky spot can be found. Close outside the north gate of Canton, and near to a pond in which we used to catch some capital carp, there was a species of cemetery, where the coffins are kept on trestles in different rooms of the building; at most of them joss-stick was burning in front of the memorial tablets which accompanied them. The Chinese appear to take a very philosophic view of death, a coffin being looked upon as an appropriate present for an aged relative, especially if he is in bad health. The presentation coffin under such circumstances is not hidden away, but forms a prominent ornament; just as Nelson used to keep the coffin, made of the mainmast of the *L'Orient*, and presented to him by Collingwood, in his cabin.†

\* "Anthropological Review."

† At Canton, as in all large Chinese cities, there is a Mahomedan congregation; they, in contradistinction to the elaborate funeral rites of the other Chinese, practice most simple ones. They are buried without coffins. The shell in which the deceased is carried to the tomb has a false bottom, which draws out

In the meantime Captain Blakiston had left, and, with Lieutenant-Colonel Sarel, of the 17th Lancers, and Dr. Barton had proceeded up the Yangtse-Kiang, for the accurate survey of which river as far as Pingshan, 1,800 miles from the mouth, Captain Blakiston subsequently received the Patron's gold medal of the Royal Geographical Society. Captain Twiss now commanded the battery, and we were also joined by George Hannen. Both of these officers knew China well, and had returned from duty in the north. We now had some grand doings. The Garrison challenged the Hong Kong Cricket Club, and some races were projected. The various messes all kept open house, and half the *élite* of Hong Kong came up as guests. Our small mess was crowded, and we had to invest in a new dinner-service for the occasion. Amongst the Royal Artillery guests were Campbell, our Adjutant; Annesley, the Governor's Aide-de-Camp; Captain Ingham, of the 44th Regiment; Coxon, of the Oriental Bank; Dr. Rutherford, of the Staff, and his wife and some others. On Wednesday and Thursday, the 3rd and 4th of April, the cricket-match took place, with great success, and on the evening of the 3rd we had an immense riding-party. We mounted everyone who had brought or who could borrow a saddle, on the battery ponies, and had a grand scamper across country, there being over twenty of us. On our return, as we were all racing back to stables across the parade-ground, we met the Brigadier, whose eyes opened when he saw our large party in full career, and he looked still more horrified when he recognised the battery ponies. We all thought that we should be called to order, but the dear old gentleman was as amiable as he was a good soldier, and took no further notice of our escapade. On the night of the 4th a tremendous thunderstorm swamped the race-ground, which next morning presented the appearance of a lake. However, we got 300 sepoys to work cutting drains, and with the help of the fire-engine managed to get rid of most of the water. The races came off satisfactorily on the 5th and 6th, but, like all garrison races, presented no features interesting to general readers. There were the usual tumbles, crosses, claims, &c., a great amount of horsey talk and an immense quantity of champagne and ice expended.

On Sunday, 7th April, I was sent for to see the new Commissioner, Major Dowbiggin, of the 99th, who intended to make an official visit through the neighbouring district for the purpose of seeing whether the treaties have been properly carried out. Accordingly I went down to the Commissioner's *yamun* where I was entertained at breakfast, and the proposed trip talked over. Of course I was delighted at the prospect of forming one of the party; our destination in the first instance being Tsing-Yuen, situated at some distance up the Pei-Kiang or North River.

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and lets the corpse fall into the grave. If it fall with its face towards heaven they regard the circumstance as an omen of future felicity, if the corpse turn with its face to the earth it is an unhappy sign.—See Lockhart's Notes, "Proceedings of Royal Geographical Society."

## CHAPTER II.

Visit to Tsing Yuen.—Impeded by Floods.—A Heavy Storm.—Picturesque Scene in a Temple.—An Uncomfortable Journey.—A Chinese Guide.—Loss of a Pony and Provisions.—The Walled City of Tsing Yuen.—Ravages of Tigers.—The Maoutsze Aborigines.—An Army of Braves.—A Crystal Button Mandarin.—Deserters from the Garrison.—Chinese Criminal Garotted Publicly.—Floods.—Piratical Attack.—Leave Canton.—*In Memoriam* W. F. Mayers.—H.M.S. *Vulcan*.—Nearly Ashore.—Shantung and Chefoo.—Up the Peiho in the *Drake*, gunboat.—Tientsin.—Gymkana.—Death of Lieut. Bond.—By Boat to Tung-chow.—Ride to Peking.—The Great Marble Road.—Reception at the Embassy.

WE started for Tsing-Yuen on Monday, April 8th. Our party consisted of Major Dowbiggin in command, Commander Howarth, R.N., Dr. Orton, 44th Regiment, Lieutenant Malcolm, R.E., Lieutenant Walker, 99th Regiment, Mr. Mayers, interpreter to the Consulate, a Chinese native interpreter, with a military escort of six men and a corporal under Lieutenant Smith, 44th Regiment, making with myself sixteen men; we were all mounted, and, besides, had two spare led ponies, and one with panniers. Our heavier impedimenta were sent on in front, on slung bamboos carried by thirty-six coolies, accompanied by our Chinese cook and two Chinese servants in chairs. So we formed a tolerably strong party.

We left Canton by the north gate, skirted Sam-Yune, and passed through the (to us) well-known country north of the city, past Ha-Mow and Mong-Kong with its woods and military station, Kum-Kiu, Shekma (new and old), to the Kongtsun river, which we reached at 5 10. Crossed to Kongtsun in large ferry-boats, and halted for the night. We found our baggage ready laid out, table spread for dinner, &c. in the ancestral hall of the family of Koug, a large building, behind which was a school-house where thirty scholars received instruction.

Soon after our arrival the local Mandarin Chén paid us a visit of State. He seemed a pleasant old man, had been long acquainted with foreigners, and answered all questions readily and courteously as to the best route to be taken. Kongtsun is about ten miles from Canton, and had several times been visited by Europeans previously. A military mandarin, with a force of 200 braves, was stationed here, and were quartered in the temple dedicated to the local Bacchus, situated outside of the town, close to the river. (It appears that every village has its guardian spirit, and necessarily an appropriate temple in its honour.) After dinner, we strolled down to this temple and

visited the officer and men; the braves were all asleep, and it was almost dark. Outside the temple, on a gibbet, were thirty-eight human heads, hung in baskets in two rows, a ghastly sight; so it appeared that these braves had had some business to do in this neighbourhood.

The family of Kong had chosen a most mosquito-haunted locality for the site of their ancestral hall, which was a veritable "mosquito-house." Nor were we comforted much by the assurance of the Chinese that mosquito-pidjin was good for the health, although there is certainly some truth in their assertion that this annoying pest takes bad blood out of the over-heated body and prevents fever. Drs. Manson and Cobbold have discovered that the female mosquito extracts the *filariæ* from the human blood: a drop of blood taken from a gorged insect having been found to contain 120 *filariæ sanguinis hominis*.

Tuesday, April 9th.—Formed our order of march at 6.15 A.M., leaving the town by a northerly road. The country, at first flat, soon became more undulating as we proceeded, and diversified with clumps of pine and other trees; at 7.15 we reached Tai-shek-Kong, lying on the southern slope of a rocky ridge, running to the north-east. Crossing this ridge we found an important and flourishing village, Shek-lung-hü beneath; whilst beyond we could observe a large extent of country, most of it under water from the late rains, and in front of us by the Ap-Kai-ling, a considerable hill, some 1,800 feet high, with two sharp peaks on its summit. Here we were rather inconvenienced by large crowds of villagers, who manifested a lively but good-natured curiosity. Marching on along a narrow-paved bund, and over some substantial stone bridges, we reached a small isolated temple at 8.40, lying at a little distance from the village of Shen-Shan, where all further progress was arrested by the floods of the River Mas-y-tow, which here had extended its waters, ordinarily not more than seventy yards across, to more than three miles in extent, over fields, farms, plantations, &c. We had some difficulty in obtaining boats, and could only be ferried over in detachments of two or three at a time, so that it was noon before the whole party got across, and the sun being very hot some of us felt rather knocked up, so we called a halt at a salt custom-house, had some tiffin, and started off by two o'clock, when we rode under the Ap-kai-ling, passed Po-wum-kok, and crossed the river again at Tam-poo. We now kept along the bank of the river, and noticing a prominent pagoda on our left, arrived at Chik-nei, where passage-boats of some size were moored, and there appeared to be a considerable trade in timber. We halted at the base of a hill covered with tombs; upon this hill apparently a monster picnic was going on, some two or three hundred Chinese families were encamped, and the tombs were all decorated. It was a tribe or clan celebrating one of their periodical festivals, and especially devoted to repairing and decorating the tombs, burning gilt paper and joss-stick, &c. in memory of their ancestors. The graves are, I believe, illuminated at night, which must form a striking scene. These people were very civil, and gave us tea, which was very acceptable. The country beyond appeared well cultivated, the crops being principally ground-nuts, sweet potatoes,

and yams. At 5.15 we struck into the high road between Fayuen\* and Pak-nei, and soon reached the latter town, situated at the fork of the river, which here is about fifty yards broad. Ferry-boats were requisitioned, and our halting-place for the night was in the Communal Hall of the Lien-Ping Kwang-tung, one of the finest buildings of its kind that we had seen. All due preparations had been made by the local authorities, who had been forewarned of our coming, whilst a present of fowls, fruit, and eggs was also awaiting us, a formal attention from the magistrate of the Fayuen district. The Communal Hall was also occupied by a guard of braves, under the direction of the Lien-ping Committee.

April 10th.—As we had a long day's journey before us, and uncertainty prevailed as to the extent of the floods, we turned out at 3.45 A.M., and forwarded our baggage to the front; following ourselves at 5.30, with two guides furnished by the committee, we hoped to reach Tsing-Yuen by 4 or 5 P.M. The country beyond Pak-nei appeared of a different character from that of the preceding day's journey, more thinly populated, and the soil untilled; the weather, too, hitherto fine, became cloudy and stormy. At 6 A.M. we passed by the large village of Moh-Kwong-Tong, and twenty minutes after, whilst skirting the river, came in sight of the boundary of the district of Tsing-Yuen, riding subsequently through the villages of Kwok-tai and Teen-Pum. The road was here bad, and drops of rain commenced to fall, whilst distant thunder and hurrying clouds betokened the approach of a tropical storm. Indeed we had crossed the actual tropic of Cancer, 23° 28' north latitude since leaving Pak-nei close to the district boundary. The scenery was bolder, and on our right we passed a remarkable sandstone rock some 800 feet high. The country here is desolate, apparently without houses or inhabitants; but there were numerous magpies (*Pica caudata*), and the crows (*Corvus torquatus*), which are revered by the Chinese, also abounded. At the top of a long rise we found a bamboo-mat shed, a species of rest-house, which, however, barely kept out the rain. Here we took shelter from the storm, which now raged violently, a deluge of rain and lightning vivid, with peals of thunder. However, time was precious, and in spite of the storm continuing we pushed on, waterproofed up to our eyes, and at last came in sight of the great North River, and from the hill we were descending could see inundations spread far and wide. In the lulls of the storm even we could scarcely see the opposite side of the river, whilst during the gusts of wind and rain it was scarcely possible to keep one's eyes open. We now kept along the embankment of the river, which, swollen and turbid, rushed along at our left, carrying the remains of buildings, crops, bodies of animals, &c. along with it. Half an hour's ride brought us to Sheh-kok-hü; a small and inconvenient temple, the only available public building, was appropriated to our use by the local mandarin of the sub-district, Hwei-chi. He

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\* Celebrated as the head-quarters of the famous "Fayuen Committee," who organised the disturbances against the English occupation of Canton in 1858.—See "Lieut.-Col. Fisher's Personal Narrative of Three Years' Service in China," pp. 84, *et seq.* (Bentley. 1863.)

came personally to receive us, and the military mandarin sent some braves to keep off the great crowds. We lighted fires and dried our clothes as well as we could. It was a rare and picturesque scene; the interior of the temple was almost dark on account of the tempest which howled without, but prettily illuminated by the glare of several fires which the coolies made of straw and dried grass, behind the flames and smoke of which could be dimly discerned a hideous monster Buddha. The coolies stripped naked, drying their clothes and warming themselves, whilst the military uniforms of our party and escort contrasted with the more quaint costume of the braves and mandarins. At the same time a wondering mass of townfolk crowded the doors and windows to look at the white devils. We were informed that Tsing-Yuen was only thirty-three to thirty-five *li* (*i.e.* about twelve miles) distant, with a good road the whole way; but that at the same time it would be better to go by water. The magistrate of Tsing-Yuen had announced his intention of sending five large boats to convey our party, but these had not arrived; so after some tiffin, the weather moderating, we again started, and again followed the bank of the river. Opposite to us on the other side of the river was a pagoda on a conical hill called Wei-ke-skan-ta. Here we found our baggage-party halted, and heard that the dykes were broken on ahead, and the floods spreading desolation everywhere. The main body halted, whilst some of us rode forward to reconnoitre; we found the bank washed away, but by making a detour succeeded in getting on some distance further, when finding further advance by land impossible, we returned, and found that the Tsing-Yuen boats had arrived, so we embarked the whole party in them, huge flat-bottomed barges, in which we made but slow progress with oars, and the usual huge sweep astern. We proceeded some three or four miles in this fashion. As we should never have reached Tsing-Yuen by night at this rate, it was determined to land as soon as we had passed the broken dykes and ride on, but as it proved we had much better have stayed and slept on board the boats. However, fortunately we left our baggage, cook, and coolies to proceed in the barges; so at half-past five we landed on a slippery embankment, the rain still continuing, and at one time we thought of halting at a poor village for the night; but the proposed quarters looked so uninviting that we hankered after the comforts of a district town, and pushed on. The path was extremely bad, with inundations on either side; in some places the dykes only just remained, and we had several dangerous bits of road to cross. At one moment we would go splashing through mulberry plantations, only able to perceive where the actual bank of the river was by perceiving where the lines of the tops of the mulberry bushes ended. It soon grew darker, the path worse, and the waters rose rapidly, and now we came to several places where we had to make long circuits to regain the broken track through mud and water. We passed a small hamlet standing barely out of the flood, and here I noticed two carts, the first I had ever seen in China. Here we got another guide, but on our proceeding, he took the first opportunity of bolting when it got dusk. We were now in a pretty predicament. Pitch dark, pouring rain, and no guide, in an unknown country. We knew we must be near Tsing-Yuen,



but the question was how to get there. However, on we went, and passing a wretched collection of hovels, got hold of a lantern, and a countryman to lead the way. The banks of the river were now higher, but undermined and broken, so very soon a treacherous portion of the bank gave way under my animal, and we rolled over, at first I thought into the river. Luckily there was a shallow bank underneath, and I was able to extricate myself, but we had some difficulty in getting the pony up again. We were no sooner *en route* again when a splash and a struggle in rear and a shout informed us that another pony was over. This proved to be the led pony laden with panniers. Less fortunate than my animal, he was washed away, and he and his panniers of provisions lost to us. Shortly before midnight we saw the lights of Tsing-Yuen across the river, and halted on a piece of elevated ground, whilst we sent across a notice of our arrival by a small boat which we found. Hungry, wet, and weary, we at length discovered a small joss-house, into which we crept for shelter.

April 11th, 1861.—By break of day the storm of rain ceased, and the city of Tsing-Yuen looked bright and cheerful, across the rapidly flowing river, as we waited for the ferry-boats. We lost no time in crossing over as soon as we could embark ourselves and ponies, anxious to be able to change our clothes and make ourselves comfortable after such a night's unrest. Tsing-Yuen is a city with walls and gates very similar to those of Canton, although on a smaller scale, with some extensive suburbs to the south. To the west of the town a range of mountains, apparently some 3,000 feet high, extended north-east and south-west; this range terminated towards the north-east in two pyramidal detached peaks. By the time we got across we caught sight of the barges containing our baggage, which was landed soon after us, and conveyed to our quarters. We presented a very mud-stained, bedraggled appearance as our small procession entered the town, and we were closely pressed upon by the mob of townsfolk, who were rather inclined to jeer at us, but at the same time good-humouredly. The streets were crowded, and the shops appeared to be as good as those in Canton, and a considerable amount of trade doing. Everywhere were signs of a prosperous mercantile community. The Confucian College, an extensive establishment, was put at our disposal, and as it contained good stabling was most convenient for our party. Large tubs of water were soon procured, and after an enjoyable bath and change of clothes, we were ready to receive the civil and military authorities, who as usual came on an official visit. The military mandarin it appeared had been at Canton formerly, when he accompanied Mr. Parkes and General Straubenzie to Fatshan. After breakfast we took a walk on the walls of the city, and took a small escort of braves to prevent the crowd from mobbing us. We examined the gates of the city to see if the Treaty of Peace was posted up as required, and found that it was so, but evidently most recently, and only on our approach to the town. We entered various shops and kongs to make inquiries about the trade and statistics, &c., and were struck by the numerous silversmiths' establishments for making silver clasps, combs, and bodkins for the hair. These silver ornaments appear to be the *specialité* of Tsing-Yuen manufacture. As usual in the walled cities, we found that the walls of Tsing-Yuen included a considerable

portion of land not built over, but there were no signs of former magnificence in ruined pagodas, yamuns, and temples, as at Shao-K'ing. We next took chairs provided by the mandarins and proceeding out of the east gate, visited a conspicuous grove and joss-house on an eminence at some distance from the city, from whence a general view of the town was sketched. We were told by the rustics that they had lately been troubled by the ravages of some tigers, and certainly the jungle at the foot of the mountains in the neighbourhood would afford remarkably good cover for such beasts. It is possible, therefore, that good tiger-shooting might be obtained in this district. We also noticed more snakes than usual during our ramble. I imagine that after the rains they were enjoying the warm sun to bask in.\* Here every mountain and hill, as usual in the southern and central provinces of China, are covered with beautiful azaleas. They are like our own heaths, and quite as abundant. "By far the finest are cultivated in gardens, indeed it was only in gardens that I could find any worthy of introduction into England. *A. amæna* and *A. narcissiflora* are beautiful species, and I believe are more hardy than the common *A. indica*. *A. obtusa* is the most brilliant of all the reds, and seems to set itself and all things around it in a glow. Then there are some early-flowered variegated kinds, such as *A. vittata* and *variegata*, which prove very useful."—  
FORTUNE.

After tiffin we paid a State visit to the official authorities at the two principal yamuns, and were graciously received with the usual tedious ceremonies both at our reception and departure. On returning to the Confucian College, we found our animals ready saddled, and, mounting, rode out of the town at a brisk pace, intending to reach the mountains to the north. We found by inquiry that there were two good passes across them; and noted their position, but, owing to the intricacies of the route, were unable to examine them personally, as we had to return by nightfall.

We also heard numerous stories of the *Maoutsze*, wild aboriginal tribes which inhabit the wilder parts of the mountainous region of the interior of China; they occasionally visit the towns in the plains to exchange baskets, peltry, &c. for cotton goods, and at Tsing-Yuen we had the good fortune to see one of these wild men of the mountains. He seemed of enormous stature, and was sitting on the ground in one of the streets near the college, half-naked, and with a long flowing uncut head of hair, and long hair about his face untrimmed; a crowd of street-children were gazing at him and muttering "*Maoutsze*." Williamson has since described some tumuli in Shantung as being ascribed to these *Maoutsze*; their curious habits, especially their marriage customs, have been described, and appear not to differ much from those of the Australian and Tasmanian aborigines. We returned to the College and rested for the night in sumptuous collegiate apartments.

From our verandah and trellised doorways we had access to a charmingly disordered

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\* It may be interesting to herpetologists to know that snakes' flesh is not rarely eaten from choice by the Chinese; indeed, boiled snake-soup is a favourite febrifuge for invalids.—See Archdeacon Gray's "China," vol. ii. p. 28.

garden, planted with the usual orchard trees of tasty fruit, such as your Chinese gentleman loves, notably the "dragon's eye," or *lung-ngan* (*Euphoria longana*), and the *wam-pee* (*Cookia punctata*), and dreadfully neglected averrhoas, round whose trunks heaps of earth were piled to restore their pristine vigour, and from whose topmost twigs sounded the provoking "swee-swee-swee" of the long-winged *pay-tow-kok* (*Ixos sinensis*), flocks of which birds, secure from molestation, were assembled, ruffling their crests and making their wing-tips meet over their heads in the cheekiest manner possible; whilst preparations for nesting were most evident from the numerous scraps of miscellaneous waifs which they were busily collecting, as noisy in their chattering as starlings at home.

In some ruinous, weedy tanks there still meandered lazily some spotted pearly carp under the leaves and stalks of the *mai-tai*, or water-chesnut. These pearl-scaled *cyprini*, called *chan-chu-tun*, are highly valued by connoisseurs, in preference to the ordinary *tsak-yu-chu*, or gold-fish with dorsal fins, the possessors of these last-named appendages being looked upon as in bad form. These fish, like everything else, showed signs of ruin and decay, their lice-covered scales and the slimy stagnant pools (in which they languished for want of the *foong* bark and white willow-strips, which, like Jacob's wands, are used as a preventive to disease) alike betokened decadence of former grandeur.

Friday, 12th April.—Ready for a start at sunrise, and rode down to the landing-place with a Chinese escort. Here we found seven large flat-bottomed boats ready for our party; they were salt-boats proceeding up the river with their cargoes, but were requisitioned by the mandarin for our service. We loosed from the shore at 9.20 A.M. with fine sunny weather and a strong current in our favour, as we were to return down stream. We calculated that we travelled at the rate of about five miles an hour. At this rate we soon came in sight of Shekok Pagoda in the distance, where our troubles commenced the day before, but it was some time before we reached it. At 10.15 we passed Shan-Tang on the right bank of the river, at 10.30 Ching-Kong-How, at 11.8 Sun-Tong-Hü, and an island, Tai-Kok-Chow, with a village on it. We next passed Kiu-Pau-Ti on the left bank, Tai-Yeen-How, reaching Sheh-Kok at 12.20. Soon after 2 o'clock we passed the boundary of the districts, marked by a solitary tree on the left bank and a battery between two hills on the right; whilst the left bank was flat or undulating, steep hills, rising in some places almost into mountains, gave us some rather wild scenery. The village of Maow-Fa-Chün especially stands at the foot of a rocky gorge between the rocks, and, embosomed in woods, presents an inviting appearance. Tai-Tong is an important place, with two large pawn-towers, but we did not halt to examine the town, as we wished to reach Lou-pow, where we arrived soon after 5 o'clock, and landing were lodged in the Communal Hall, where the sub-magistrate, Mr. Li, came forward and did the honours of the place very civilly. There appeared to be a good deal of shipping and some traffic. There were numerous pawn-towers, a sure sign of large population, and a great many gambling booths. We walked through the town and visited two custom-houses, and were not at all troubled with the mob, most of whom, being river-side folk, had probably seen foreigners at Canton.

April 13th.—We decided to send on our baggage by boats to Sam-shui, whilst we proceeded by shore. Directly to the south of the town is a tributary stream, which has to be crossed in ferry-boats. Here we were detained, as a detachment of the brave army of the North River was crossing in the opposite direction, so we had leisure to examine this body of troops, which was falling back on Tsing-Yuen from the victorious rebels on the Si-Kiang. They were a picturesque but ragged lot, and were mostly armed with matchlocks, spears, and swords, whilst every other man had a flag or banner; there were also a number of jingalls, each carried by two men, several mounted officers, whilst the principal mandarin in command was carried in a palanquin. They marched on as soon as they landed in irregular fashion, evidently in a hurry to reach the town of Lou-pow, where they were not very welcome visitors. As soon as we had watched the passage of the braves, who took no notice of our small mounted party, we crossed over in some rickety boats and left the river bank. The country here was very barren, with red gravelly soil and hardly a blade of grass. It has evidently at no very distant period been under water; we observed plenty of egrets.

At 1.57 P.M. we reached the walled town of Samshui, which we entered by the north gate. The magistrate here was very civil and put us up in most comfortable apartments in his own yamun. At the gate of his yamun were several prisoners wearing the wooden collar or cangue, and others chained to stone similar to those in the Canton prison. Overshadowing the courtyard of the yamun was a magnificent banyan tree; it was thickly inhabited by some herons, and we asked leave to shoot one as a specimen, but we were not allowed to, as they were sacred to the god or genius of the tree, and it was alleged that it would bring misfortune to the locality if he were displeased. We paid a visit to a new college, which was just finished near the east gate; the courts were bright with paint and gilt, and carved wood, everything brand new. We thought that it would make a good example for a Chinese court in the Crystal Palace. On our return to the yamun we were introduced to our host's family. His brother was particularly curious about our sextants, the artificial horizon and box-chronometer, &c., and watched the operation of taking sights for latitude and longitude with great interest. We were particularly charmed with the magistrate's two little sons, and his daughter. They made great friends with us, and we persuaded the two boys to dine with us; they were greatly astonished at our English mode of eating, but preserved a gentlemanlike gravity as they attempted to use knives and forks. The whole family was most friendly, and they examined our sketch-books and exclaimed as they recognised the various localities in the neighbourhood. I presented the children with a few pencils and a pocket-knife, which delighted them exceedingly. Next day (Sunday) we hoped to reach Canton overland, but some of the ponies had sore backs—mine amongst the number—so only five of our party rode off for Synam, the rest of us embarking on board the boats. The mandarin came to see us off in very gorgeous array, having a magnificent pearl on the front of his hat. Although only thirty-two years of age, he had attained high rank, being a "Crystal Button,"\* whatever that may be. *En route* we

\* A red coral button is the highest rank.

examined a fine modern nine-storied pagoda, erected in 1827, but it was a mere shell, the interior wood-work, staircases, and fittings having been burnt by those destroying Taipings, and arrived at Synam in time to take observations at noon, being moored alongside the bank at a convenient place for embarking the ponies of those who were to come overland. We were just below the town, only separated from it by a broad stream, over which was a narrow wooden bridge but two or three planks broad. By the town was a large temporary theatre, in which a sing-song was going on, and crowds of people about it. Whilst waiting for our party we heard an unusual clamour, and soon saw our party riding at speed, pursued by a mob of Synamese shouting and pelting them; fortunately they were able to cross the bridge, but the last pony fell with its legs through the planking of the middle arch, and so we removed the planks and let him fall through just as the mob came up. We threw down some more planks, making a broad gap in the bridge, which prevented the people following us and gave us time to embark ourselves and ponies and cast off, the disappointed mob howling at us from the opposite bank until the magistrate sent troops to disperse them. This was the same town where Europeans had been mobbed before, but it was explained subsequently that the feeling originally arose from bad conduct on the part of these foreign visitors, I believe French officers. As a rule, the Chinese civil and agricultural population are far from inimical to strangers. We got down as far as Fatshan by night, and reached Canton the next day in time to receive Sir John Michel who was now commanding the British forces in China, and by whom we were reviewed the next morning. I regret that the whole series of sketches which I made during this military promenade has been lost in company with many others of later dates.

A few days afterwards, on April 27th, the small steamer *Melée*, which plies between Canton and Hong Kong, was captured by pirates, who were said to hail from a place called Nam-Tow, which was before captured by the English under General Straubenzie in August, 1858.\* We were exasperated to learn that all the Europeans, including Captain Ricaby, who commanded on board, had been murdered. The steamer, after being plundered, was abandoned, and run ashore. I never heard the sequel, or whether the pirates were ever afterwards captured and identified. To show the boldness of some of the desperate Chinese *lally-lus*, the following incident may be related. On Sunday, 5th May, I happened to be down at the cantonments of the Native Infantry talking to Sandwich, the Adjutant, and Chapman, of the same corps, on the parade-ground of which there were plenty of sepoy, a parade having just been broken off. At some distance in front of the parade-ground were broken tanks, ruins of burnt houses, and broken overgrown ground. From beyond this a shout was raised for help, and we saw a havildar attacked by three *lally-lus* with short swords. The havildar struggled bravely, and knocked one down, but not before he received some desperate wounds. Everyone started in chase of the Chinamen, who now fled, and two escaped amongst the intricate ruins, but a police patrol fortunately cut down the third, and brought him in to be tried and disposed of.

\* "Three Years' Service in China," by Lieut.-Col. Fisher, R.E., p. 99.

Sandwith and I went to attend the havildar, whom we found cut severely in the arm, back, and neck, but worst of all he had been stabbed in the belly, and there was no hope for him, and he died shortly afterwards.

At this time of year the weather of Canton is very hot, and there was a great deal of sickness in the cantonments, and all of us suffered from constant attacks of fever. The epidemic and dullness contributed to produce some signs of discontent in the European garrison, and these were not allayed by some injudicious communications which appeared in the Hong Kong papers relative to the alleged neglect and indecency with which soldiers' funerals were carried out at Canton. Exciting stories also were rumoured as to the success of the rebels, who were said to offer high commands and good pay to any European soldiers or sailors who joined their ranks. Accordingly we were not very startled on one fine morning (Monday, May 6th) to find that during the night eight men of the 99th Regiment had deserted in a body, taking with them their kits, accoutrements, rifles, ammunition, and provision, and expressing their determination not to be retaken alive. It was said that they intended to join the rebel forces, and on joining them to let their comrades at Canton know, when a large proportion of the regiment would follow their example. The mounted police were instantly sent to scour the environs of Canton, whilst a gunboat went down to search the shipping at Whampoa for the absentees. Shortly afterwards the General, hearing that it was supposed that the deserters were making for the approaching rebels, who were reported near Shao-K'ing, at Lo-ting-Chow, determined to send Dowbiggin and myself to that town for the purpose of having the men given up. Mayers was also to accompany our party. The Governor-General supplied us with a fast-sailing boat and a civilian mandarin, Mr. Tsi, to assist in the negotiations, whilst we were also afforded an escort of a war-junk, a long, narrow vessel carrying three guns, with a large sail, and propelled by fifty oars when needed. The name of the military mandarin in command was Mr. Heng. We left the allied landing-place in the afternoon, and followed the same route up the Fatee Creek, *vid* Fatshan, before described. We sat on deck watching the summer lightning till 10 P.M., when we attempted to sleep in the cabin, out of which, however, the mosquitos drove us. We found ourselves at daylight closely followed by our consort at Sun-Wong-Ting, and anchored at the mouth of the Antelope Pass that evening.

Early the next morning we passed through the rocky gorge, and reached Shao-K'ing, the vicinity of the rebels being evident from the numerous dead bodies of both men and women\* which floated past with the stream or lay stranded on the banks. All was excitement at Shao-K'ing, off which a large fleet of braves was lying, previous to an expedition against Lo-ting-Chow. There was a tremendous clanging of gongs, beating of tom-toms, firing of guns and crackers, &c., usual on such occasions, whilst the troops were embarking. These troops, it appeared, had previously been rebels, but were amnestied on condition

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\* The body of a man floats face upwards, whilst that of a woman floats face downwards; the majority of these bodies which we passed were decapitated, but nevertheless conformed to the above rule.



SHRINE AND GRAVE, NEAR CANTON.

[To face p. 42.]





that they joined the Imperialist forces, and they still wore their long hair and red sashes round their waists. A more ruffianly-looking set I never came across. The citizens of Shao-K'ing were as afraid of them as of the rebels, and were heartily glad to get rid of them, the gates of the city being closed against them during their stay in the vicinity. The day before our arrival these ruffians had plundered some shops in the suburbs, and two of their officers, who had attempted to stop the plundering, were slain, their heads being stuck on spears, and paraded round outside the walls of the town, in defiance of all discipline or order. Our crew and our escort were greatly alarmed at the presence of these swashbucklers, and everybody was uncommonly glad to see the last vessel of the fleet depart. Major Dowbiggin and Mayers transacted their official business at the yamun, and made arrangements to have the deserters sent back should they attempt to join the rebels at Lo-ting-Chow; and after this business we walked to re-examine the caves of the Seven Stars, which have already been described. We left Shao-K'ing in the evening, and dropped down with the tide to Kwang-li Island, where we anchored for the night. We now sent back the civil mandarin to Canton by the direct route, and followed the main river in order to examine the Hok-shan great silk districts. In the course of the day we passed the Ko-lo-shan Hills, where we landed to walk through the tea-plantations on the slopes. The flat plains around were covered with mulberry-bushes, and every village full of silk-worms. We entered some of the cottages and found the rooms arranged with sets of bamboo-trays, in which the worms were feeding on the leaves, which are changed eight times in the twenty-four hours. Kau-Kong appears to be the head-quarters of this silk-rearing population. We next reached Kum-Chok, twenty-five miles below the Samshui junction; here we left the river and entered a creek leading to Luck-low. We had to pass over some dangerous rapids, which require some skill to pass. With the help of beating of gongs and burning gilt paper, our boatmen succeeded in getting our craft over, not without shipping a lot of water however. The next morning, April 14th, we traversed several intricate creeks till we reached Shun-tuk or Tai-long, a large walled district city, the river-approaches to which are well defended by modern batteries well armed, and with booms and barricades across the stream. We returned to Canton up the Chun-Chune Channel to Atalanta Point, below Gough Island, and so *via* Macao Fort into the Canton River.

Meantime a party of the garrison, under a captain, whose name need not be mentioned, had come up with the deserters and surrounded them at night in a house indicated by the neighbouring villagers, who had suffered from their depredations. Of what followed it is difficult to ascertain the exact truth. A pistol was discharged, accidentally or not, is not said, killing one of the deserters asleep in his bed; the rest started up and commenced firing, when a panic or something worse seems to have seized the officer's company; at all events they refused to capture their comrades, and came back to Canton without their prisoners. The deserters left another of their number wounded in the hands of the Chinese, and after wandering about a day or two finally gave themselves up. They were ultimately tried by court-martial and sentenced to penal servitude.

On April 15th the Chinaman who had been caught red-handed in the murderous attack on the havildar already mentioned, was executed. The Provost-Marshal had provided a proper drop and accessories for hanging the unfortunate wretch in a European style, but it was unhappily thought better for the Chinese authorities to execute him after their own ideas, and as he had been sentenced to be hung on the spot where the crime was committed it was carried out in the following fashion. A tall post was driven into the ground, at the foot of which was a large stone; on this stone the murderer was placed with his back to the pole, and a cord being then passed round his neck, the pole was drawn tight with a piece of wood inserted, tourniquet fashion, so as to garrot the man, the stone being also kicked away from beneath the feet. On this occasion the executioner was clumsy, and the cord broke before the man was dead. The Chinese would have gone on, tied up the man, and begun again, when the officer in command of the military police ordered one of his men to shoot him through the head to put him out of his agony, which he did with his revolver, but not until he had snapped off three barrels unsuccessfully. There was a large crowd of Chinese present.

Malcolm, of the Engineers, Mayers, who was our constant companion, and myself set off to examine Fatshan and its neighbourhood about a month after the last-mentioned occurrences. We could not obtain a *faitan* this time, on account of a grand festival\* that was being celebrated by the Cantonese on the river, so we had to content ourselves with a *tsz-tong*, a larger and more cumbersome style of barge. We started at night in order to witness the illuminations of the river, which were very pretty; the processions of boats were continuous, all covered with gaily-coloured lamps, with frequent displays of fireworks. Unfortunately we again encountered floods, and we traversed the streets of Fatshan in sampans, as there was at least four feet of water everywhere. We waded about and reached some high ground near Kup-Kow, from whence we could see the neighbouring country. All the population was busy on the dykes, which were damaged by the floods; but they (the dykes) were washed away piecemeal under our eyes. We were glad to have a boat to take refuge in during a terrible tornado that ensued, and gave up all thoughts of continuing our trip, as the whole country seemed under water. Immense damage must have been done, and the loss of life something terrible to think of. In a country like this, where much of it is below the level of high-water mark, these storms and floods are the scourges to be dreaded. We could neither advance nor retreat during the height of the storm, but towards evening when the weather moderated we returned by Blenheim Reach to the Macao Passage, and got into Canton early the next day.

We heard of several piratical attacks at this time. The British ship *North Star* was captured near Hong Kong, and the *Sir Jamtsee*, steamer, was attacked also in the Canton River, but gave her visitors such a warm reception that they sheered off in quick time. During the hot weather in June the doctor advised me to go north, in order to try

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\* The Dragon-boat Festival on the fifth day of the fifth month, 18th of June, held in memory of Wat-Yuen, a Minister of State, who flourished 500 years before Christ.—See Gray's "China," vol. i. p. 258.

and shake off the attacks of fever to which I was subject; so on the 11th I proceeded to Hong Kong in the gunboat *Insolent*, which was carrying the indemnity money, and which was ordered north to Chefoo. Our kind Brigadier gave me a note to Sir John Michel, commanding the forces in China, who was about to proceed to the north of China in the *Vulcan*, troop-ship, and on my arrival at Hong Kong, after seeing Elkington, the military secretary, it was arranged that I should accompany the General and his staff up to Peking, as acting Aide-de-camp. I never saw my friend Mayers again, although I corresponded with him for some years. The following brief notice appeared after his death:—

“By the death of Mr. Mayers, Her Majesty’s Chinese Secretary of Legation, which occurred at Shanghai on the 24th of March 1878, the diplomatic service in China has sustained a severe loss. Appointed a student-interpreter to China in 1859, Mr. Mayers brought the experiences of a wide linguistic knowledge to bear on the difficulties of the Chinese language, and with wonderful ease and rapidity he mastered the rudiments of the tongue within a few weeks of his landing. So marked was his early progress in the study that at the end of his first year he was appointed interpreter to the Allied Commission which was charged with the government of Canton. At this time Sir Harry Parkes was arranging with the Chinese for the acquisition of the new factory-site at that city, and, with characteristic energy, Mr. Mayers ably seconded his chief in the constant and arduous negotiations which this important undertaking entailed. The services he thus rendered were so conspicuous, that on the evacuation of the city by the Allies in 1861, he was appointed interpreter to the Consulate at Canton, a post which is generally considered a full reward for ten or twelve years’ good service. In 1863 he was transferred to Shanghai, but soon afterwards was sent back to Canton as Acting Vice-Consul. In 1870 he was again sent northward, and after performing the duties of Consul at Chefoo for two years, he received the appointment of Chinese Secretary of Legation at Peking. No more troublous diplomatic years have occurred in China than those which followed on his appointment, and it is probably not hazardous to surmise that the enormous amount of work, of which he took his full share, entailed on the Legation staff by the negotiations connected with the audience question, and lately with the Margary murder, produced a weakness which added a new danger to the attack of typhus fever to which he succumbed last week.

Amidst all the more than usually active engagements of his official career, Mr. Mayers found time to publish many valuable contributions to literature on China and Chinese. His “Chinese Reader’s Manual” will for years hold the first place as a work of reference on Chinese biography; “The Treaty Ports of China,” which he edited with Mr. Dennys, “The Anglo-Chinese Calendar Manual,” his recent volume on the foreign treaties with China, and a work which is now issuing from the press on the Government of China,\* all bear testimony to the accuracy of his research and to his untiring diligence. In a recent

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\* “The Chinese Government: a Manual of Chinese Titles, Categorically Arranged and Explained,” with an Appendix. By William Frederick Mayers, Chinese Secretary to Her Britannic Majesty’s Legation at Peking.

letter to the writer he spoke hopefully of being able soon to complete a grammar of the Korean language, on which he has been engaged for some time, and within the last few days his able and instructive report on the Chinese Famine has been issued as a parliamentary paper. But besides his separate works, Mr. Mayers was a large contributor to periodical literature both in England and in China, and a few months since he conferred a lasting benefit on students of Chinese in this country by securing for the Trustees of the British Museum one of the few existing copies of the celebrated "Imperial Compendium of Chinese Literature," in 5,020 volumes. It is unnecessary here to refer to his social as well as his more abiding qualities as a friend. To all who had the privilege of his acquaintance, these were too well known to need mention."—ROBERT K. DOUGLAS.\*

On Thursday, the 26th June, the troops embarked on board H.M.S. *Vulcan*, and as soon as the General came on board we weighed anchor and started northwards. The troops on board consisted of a large detachment of the 60th Rifles, under Lieutenant-Colonel Muter, who was accompanied by his wife† and a few gunners, under Lieutenant Bond. Yateman, Harrison, and Bainbridge, of our regiment, were also on their way to join their batteries at Tien-tsin. We had a prosperous voyage, towing the *Insolent* astern of us, until the 5th July, when we were enveloped in a dense fog; the engines were stowed, and the lead kept going until we reached five fathoms, and at the same time breakers were reported ahead. The fog slightly lifted, and showed rocks and land at a few cables' length, and the *Vulcan* turned astern as soon as possible, and the fog settling down again thicker than ever we came to anchor, and remained so all night. The next morning, as soon as the fog cleared away, we found ourselves in a small bay not far from the Shantung Promontory, and close in to the rocky shore, which rose into hills of some size. It appears that a current had drifted us during the fog some miles out of our proper course. We were soon steaming out of the bay and round the Shantung Promontory, passed Alceste Island before sunset, and as soon as the sun went down we had a fine view of the immense broad fan-like tail of a comet which streamed from the horizon in the north-west to the zenith, the nucleus being below the horizon. It is a great thing to have something to talk about on board ship, and the appearance of this comet gave us plenty of food for speculation as to where comets come from and go to, and whether they have elliptical, parabolical, or hyperbolical orbits, &c. A great deal of nonsense was talked on this occasion. This comet, we afterwards learnt, was regarded by the lower classes of the Chinese as connected with the progress of the rebellion which was now spreading through the Empire—

"Like the strange waif, that comes to run  
A few days flaming near the sun,  
And carries back through boundless night  
Its lessening memory of light."

\* "Athenæum," April 6, 1878.

† See "Travels and Adventures of an Officer's Wife in India, China, and New Zealand," by Mrs. Muter, wife of Lieut.-Col. D. D. Muter, 13th Light Infantry, vol. ii. (Hurst & Blackett. 1864.)

This comet has been observed before by the Chinese astronomers within historic periods, at intervals of 415·4 years, viz. A.D. 617, before the Heptarchy, it was observed by Ma-tu-o-an-lin near  $\beta$  Leonis; again in A.D. 1032, time of William the Conqueror; and also in A.D. 1444, in Edward IV.'s reign. During our detention at Chefoo we had leisure to examine the surrounding country of Shantung and get some idea of its products.

Of all the exports of the country that of straw-braid is in the most flourishing condition; being grown in the Lai-chow department, Chefoo is the natural port of its exportation. Increasing steadily every year, it will probably soon be the mainstay of the export trade of this port. The export of straw-braid, which in 1873 was only 1,363,054 lbs., had increased in 1877 to 2,730,606 lbs., and in 1878 to 3,736,268 lbs.—value, £231,181; besides which 42,296 straw-hats, the so-called Zulu hats, of the value of £1,057, were exported. Vermicelli is made in large quantities, and its production has increased, *pari passu*, with that of straw-braid. In the immediate neighbourhood of Chefoo an extensive manufacture is carried on; masses of it glistening white in the sun (as it hangs up to dry) form a marked and not unpleasing feature in the autumn.

In a report on the products of Shantung it is stated that besides the fruits usually cultivated in China, strawberries have been introduced by Europeans, and are found to thrive well, though the natives have not taken to their cultivation. Raspberries grow wild all over the hills, but have not been admitted into the orchards, owing, it is stated, to the native ignorance of horticulture generally, and of grafting in particular. The only fruits of good quality are walnuts, grapes, plums, and melons. Millet is grown on a large scale, and is of two kinds. Siao-Ku millet is entirely consumed locally; its stalks, now that the wheat-straw is manufactured into braid, is the winter mainstay for feeding beasts of burden and plough-oxen. The larger millet, Kaoling, being largely composed of heat-giving oil, affords a cheap diet to the poor population; it is also distilled into an inexpensive spirit containing a large proportion of alcohol. Its stalks are of the highest value, and supply the place that bamboos fill in the south. They form the fences of gardens and fields; they are universally used as laths in the roofs of buildings, both native and foreign, and of the rude but effective native hot-houses for rearing winter-cabbages and preserving delicate plants. They are likewise the principal fuel used for cooking, and for warming the brick-couches on which, as well as in the east of Russia, natives live and sleep during the cold months; consequently, no millet is exported.

The Shantung cabbage forms an important item in the food of the population. The stunted grass of the hills does not even suffice for fodder for the beasts of burden and the few plough-oxen, consequently there is but little pasture for sheep and cattle. The eating of beef is forbidden by the Buddhist religion, is denounced by tracts spread abroad by benevolent societies, and is in times of distress vigorously punished by the secular arm; mutton and goats' flesh are luxuries that few can afford to indulge in, and though pigs and poultry are reared to a great extent by the peasantry, they are only eaten during festivals. To supply the place of meat the natives indulge in highly-flavoured fish and sea-weed, in small quantities, and in dried Shantung cabbage; the stalks, containing more nourish-

ment than the leaves, are preferred. These vegetables are reared in winter in rude hot-houses; each cabbage has a small hut over it, the roof of which, made of the invaluable "kaoling," or millet-stalks, is covered by about six inches of earth; each hut has a doorway to the south, made of paper, which is carefully opened on warm and closed on cold days. No spot on earth is more bountifully supplied by Nature with all that renders a country rich and prosperous than Shantung; the soil, naturally fertile, instead of being, as is the case, periodically parched by droughts, would be regularly visited by rains and snows were it not that the hills, which might be covered with moisture-producing trees, are bare and barren, every atom of wood, except that in the neighbourhood of temples and a few orchard trees, being ruthlessly cut for fuel as soon as it grows.

We remained at Chefoo, landing stores at the naval depôt established there, and visiting Yentai, the native town and neighbourhood, till the 8th July, when we proceeded in the *Vulcan* past Quoin Island, *vid* Miatow Straits and Hope Sound, till we anchored at 2 P.M. on the 9th about seven miles from the Taku Forts, which were barely visible. Not far from us lay the *Arcona*, a Prussian frigate, which had brought Count Eulenberg and members of the Prussian Embassy to Peking. The next day the gunboats *Drake*, *Clown*, and *Watchful*, came out of the river and towed some large tanks alongside, which were soon laden with troops and baggage. The General and Staff, Faussett, of the 44th, and myself, with the small detachment of the Royal Artillery, went on board the *Drake*, and crossed the bar at the mouth of the Peiho with the first of the flood-tide, and passed the celebrated Taku Forts about three o'clock. The Great South and Lower South Ports appeared formidable works with huge cavaliers in the bastions, and long rows of embrasures and bomb-proof casemates. The position of these forts in connection with that of the Great North Fort is admirably adapted for the defence of the narrow mouth of the Peiho river. The South Fort was garrisoned by English, and the North held by our French allies. On either side of us the great salt flats stretched away, diversified only with swamps, canals, and the narrow causeways leading to the forts, whilst numerous conical tumuli presented a curious appearance. The Upper South Fort was next passed on our left, but our interest centred on the remains of the Upper North Fort, which had been captured by assault of the allies on the 21st August of the previous year. Elkington, who had been present at the operations, pointed out as well as possible the position of the English batteries, and the site of the Tartar camp. We swept up the river swiftly by the tide, and the tortuous bends of the river brought us again almost in rear of the Great South Forts. The large village of Taku extends some two miles or more round this first bend of the river, and a quantity of junks were collected, leaving but a narrow passage. We next had Tangku and its entrenchments pointed out to us, and farther on saw the remains of some junks burnt by the sailors during the operations at Taliang-tze. We found it excessively hot as we left the sea-breezes behind us, the thermometer showing 102° Fahr. We passed successively Sinho, Koku, Sien-chui-ku, and Siang-chwang-chi, and at nightfall came in sight of the forts near Tientsin. I observed a great difference between the villagers who came to look at the gun-boat

on the banks of the Peiho and those who inhabited the south of China. The men seemed much darker; some, indeed, nearly black, whilst all the women have the artificially-formed small feet, which are only found amongst the upper and middle classes at Canton. Most of the villages are built on embankments, and at some places, as at Koku, the number of trading junks was immense. Some large thatched mounds on the borders of the river at first puzzled me as to their use; but on inquiry I found them to be large ice-stores or stacks. As we approached Tientsin we observed the large mounds of salt, of which immense quantities are stored on the left bank of the Peiho outside the suburbs.

At ten o'clock we anchored below the bridge of boats at Tientsin, and, landing, proceeded to Brigadier Stavely's head-quarters, guided by Brooke, the Brigade-Major, who came to meet us. Captain Wortham, the Adjutant of the Royal Artillery, kindly put me up in his quarters. It was unusually hot, even for Tientsin, and a long-continued drought left the whole country parched and burnt up, so we kept as much as possible under cover during the heat of the day, playing bagatelle, &c. The mess-room was partially cooled by large lumps of ice suspended from the ceiling by wire, with a basin underneath to catch the drip, whilst we also indulged in having great masses of ice placed in our baths for tubbing. The quantity of flies was enormous, and everything edible had to be kept under gauze covers. The heat at Tientsin was the greatest I had encountered, and was, if anything, worse than the climate of the Red Sea, indeed the glass tumblers would crack if ice was put into them. When I arrived at Tientsin the English garrison consisted of two batteries of Artillery, Nos. 3 and 4 of the 13th Brigade, under command of Major Govan; the 60th Rifles, the 31st and 67th Regiments of Line, and Fane's Horse, irregular Sikh cavalry. There were also some French soldiers, but few in number compared to our forces. In the evenings as soon as it was cool enough we rode in the neighbourhood of the town, the country surrounding which is a plain as level as a billiard-table, broken only by villages, funereal tumuli, orchards and vineyards, and crops of maize and millet, &c. The town itself, which is walled, has its principal streets running north and south and east and west, the central intersection being marked by a bell-tower. Outside the town to the south is the joss-house, where the Treaty of 1858 was signed, and beyond is the line of earthworks called Sang-ko-lin-sin's Folly. Outside these earthworks the English garrison had established a convenient race-course both for flat-racing and steeple-chasing. Every Saturday there was a weekly meeting on the course, termed by the Indian name Gym-khana. They were very amusing, and there were always plenty of starters, the selling lotteries lending a slight additional zest in the absence of a betting-ring. In consequence of the departure of Probyn's Horse and the King's Dragoon Guards, which embarked dismounted, all the troop-horses being sold, everybody possessed at least two or three horses, some being really valuable animals, which had been picked up at the sale by the knowing ones for a few dollars or even shillings.

On Sunday and Monday, 14th and 15th, I was again attacked by fever, and Bond

was also prostrated by the same cause. Some idea of the prevalence of the sickness in the garrison from intense heat\* and noisome stinks, and the bad drainage of the filthy town, may be formed when it is recorded that at this period the number of English soldiers sick in hospital averaged over 300, exclusive of those who were treated in barracks. The mortality from heat apoplexy also was considerable. On the 16th I was well enough to go to head-quarters, and to play a game of chess with Lord John Hay, of the *Odin*. We found the tea in use here far different to that in the south, being made up in bricks. There are three kinds of brick-tea made. The first or largest kind is a cake of coarse green tea which weighs when thoroughly dried about 3½ lb., and is about 1 foot long by 7 inches wide. These cakes are made in a wooden mould while wet, and compressed by means of a lever press, and afterwards dried. This is all done by hand labour, and affords employment to a large number of coolies. When dried each cake is wrapped in paper, and packed in strong baskets; each basket of this coarse tea contains thirty-six cakes. The cost of this tea per basket is about £1 7s. sterling, and the annual exportation amounts to from 15,000 to 20,000 baskets. The tea is sent from Kiu Kiang to Tientsin, from whence it goes overland through Mongolia for consumption among the inhabitants of west and north-west Siberia, in the province of Kazan, on the Volga, and by the Kirgis and other Seutas tribes.

I took this opportunity of examining Brigadier Stavely's fine collection of bronzes, enamels, porcelain, and articles of vertu, collectively known in China as "curios," a great portion of which had been purchased at the sale of the loot taken after the destruction of the Emperor's summer palace. As the doctor recommended me to go down to the sea-coast for a day or two for a breath of sea air, on Wednesday, the 17th, I went down the river on board the *Watchful*, gun-boat, commanded by Inglefield. Poor Bond was also brought on board in a dhoolie, as he was unable to walk, and attended by his servant. Inglefield did his utmost to make him comfortable, a bed was arranged on one of the hatches for him, mosquito curtains and an awning placed to shade him from the sun and insects, and plenty of ice supplied to cool his lips and brow. The Taku Forts were of great use as a sanatorium station for convalescents; the pure sea air blows cool and fresh there, whilst at Tientsin the winds are heated by passing over the sandy plains, and the air is heavy with dust. We reached the Taku Forts at six in the evening, and landed at the great South Fort, and took up such quarters as the Tartar mud-huts afforded. The next day I got up at sunrise and mounted one of the large cavaliers to inhale the delicious sea breeze. From this height is obtained an extensive command of the adjacent country. To the north, eight miles distant across the great salt plain, which is cut up in every direction by series of canals, swamps, and salt works, could be seen the masts of the shipping in the Pehtang River; nearly as far distant to the east was the English shipping, almost on the horizon, consisting of the

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\* 112° Fahr. in the shade.



*Vulcan* and gun-boats, whilst slightly nearer lay the *Arcona*. The tide was out, and the narrow entrance of the river and approach from the bar to the forts well marked out; and I surveyed with much interest the scene of the repulse of the English gun-boats on the 25th June, 1859, of which Colonel Fisher has given such a graphic account. Seawards the mud extended so far and met the shallow water so gradually that it was hard to make out where the mud ended and the sea commenced. I marked with appreciation the numerous ditches, pits, sharp-pointed stakes or fraises, scientifically planted by the Chinese outside their fortifications between high-water mark and the broad ditch beneath me, and which were calculated to make the approach in this direction anything but pleasant. The *Atalante* coming in with the European mail from Shanghai, Captain Strode and Lieutenant Hesketh, of the *Vulcan*, came ashore with the passengers, and stayed to dinner at the mess. The accompanying sketch will serve to show the peculiar mud-huts constructed by the late occupants of the forts, the Tartar soldiery. The object of their bulging out at the sides is doubtful; I never met with any similarly-constructed huts elsewhere, and should be curious to know if they are only regulation patterns for the troops, or ever constructed and used by civilians in Mongolia. By the mail we learnt of the failure of Captain Blakiston's expedition, which had left Shanghai on the 11th February, with the intention of penetrating, *vid* the Yangtze river, through the province of Sz-Chun, to Lassa, and thence to cross the Himalaya Mountains to the plains of India. Captain Blakiston's party consisted of Colonel Sarel, 17th Lancers, Dr. Barton, Rev. Schereshewsky, four Sikhs of the 11th Punjaubees, and four Chinese servants. This party reached Pingshan, 900 miles beyond the farthest point ever reached by Englishmen, for the survey of which route Captain Blakiston afterwards received deservedly the Patron's gold medal of the Royal Geographical Society. At Pingshan, in consequence of the troubles in which the country was involved, the Upper Yangtze expedition was forced to retrace its steps, returning to Hankow by the 28th June.

Friday, the 19th July.- My short trip to the sea-side had set me up, and hearing that General Sir John Michel would leave Tientsin on the 21st for Peking,\* determined to take advantage of the gun-boat *Drake*, Commander Blane, proceeding to Tientsin, and accordingly went to bid farewell to Bond before embarkation. Poor Bond, who had rapidly grown worse, was asleep or insensible, and so I did not attempt to arouse him, and it was not until my return from Peking, some time afterwards, that I heard that he died on Monday, 22nd July, and his remains lie interred with only too many others outside the fort. Embarking at 6 A.M. we took the flood tide up with us and found the coolie emigration commissioner from Demerara, Mr. Austen, a passenger on board, bound for business with Mr. Bruce at Peking. Arrived in good time at Tientsin, and after mess we all went to hear a much-talked-of amateur burlesque at the Garrison Theatre, entitled

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\* *Vide* "How We got to Peking," a narrative of the campaign in China of 1860, by the Rev. R. J. L. McGhee. (Bentley. 1862.)

"Othello," written and arranged principally by Fonblanque, of the Commissariat, the scenery capitally designed and got up by Fane, who is as good an artist as he is a horseman. There had been as much strife and contention with regard to the production of this piece in Tientsin (in a small way) as attended the production of "Ernani" in Paris. The ban of the Brigadier's censorship had been laid on its representation, and consequently its revival on the arrival of the Major-General caused a certain sensation. The great objection was alleged to be the appearance of Desdemona in a real night-shirt, but I fancy that some slightly equivocal *doubles-entendres* were more offending, and probably on this occasion expunged. Considering the heat, crowd, and attendant difficulties, the success, to judge by the rounds of applause, was perfect. The next day being Saturday, was celebrated by the usual gym-khana, with its attendant gambling, after which we watched some picked men of Fane's Horse, officers and amateurs, practice "tent-pegging," a well-known pastime in India, but which I had never had an opportunity of witnessing previously. It was a fine sight to see a wild-looking sowar dash along full speed, whirl his lance round his head, and uttering a yell, bend in his saddle as he approaches the tent-peg, either splitting it or carrying it away on the point of his lance. Fane himself is not to be surpassed at this tilting by any under his command.

Sunday, 21st July.—Having made all preparations for our start, we dined with the General at half-past four, and afterwards Mansergh, Irving, the Brigadier's Aide-de-Camp, and myself went down to the landing-place and arranged the luggage on board four good-sized covered barges, long and narrow, and not nearly so accommodating as those in which I had been accustomed to travel in the south of China. We arranged one boat for the General, the second for Mansergh with mess traps, in the third Faussett and myself took up our abode, and the fourth held the servants and the cooking apparatus; an attendant mandarin occupied the fifth, and like most of his class was more obstructive than useful. We left Tientsin at 6 P.M., leaving the Grand Canal on our left, went through the upper bridge of boats, and were towed up against the stream of the River Peiho, which does not wind in quite such a tortuous manner as lower down. We were, however, able to use sails as a motive power up the reaches to the north-west. The water was warm and muddy, and of the consistency and colour of pea-soup. The greatest difficulty was experienced in obtaining clear water on board, and cool water almost impossible. The muddy water is allowed to settle in large porous earthen vases, the precipitation of the earthy matter being assisted by the addition of a slight pinch or two of powdered alum; by this means a tolerably clear fluid is obtained fit for drinking and cooking. Fortunately ice is a cheap commodity in these parts, and may be considered a necessity of life. Faussett and myself had a late evening bath by jumping overboard and towing ourselves astern, so as not to stop the boat, but on emersion were of course covered with mud. At about 10 P.M. we anchored for the night. Monday we passed the villages of Yang-tsun and Nan-tsai, walking on the banks in the morning and evening, but seeking the shelter of the boats during the heat of the day, reading and playing chess. Extreme undress was the order of the day, and no one could have suspected that the individual in shirt-sleeves

with torn pyjamas striding along the embankment was the Commander-in-Chief of the British Forces in China. The country seemed flat and uninteresting, covered with tall crops of millet (*kow leang*) which grows to a height of fifteen feet and upwards, maize, hemp, with few clumps of trees about the villages. Everyone remarks the similarity between the scenery about here and that portion of Egypt the overland passenger sees between Alexandria and Cairo, barring the date-trees. The mud-houses and soil all of the same colour, and general sun-baked appearance of everything, including the natives. It is wonderful how black the skins of the fishermen and boatmen in these parts are, showing that latitude has nothing at all events to do with the colour of human skin. Everywhere appeared sepulchral tumuli and conical heaps of roots, I believe.

Tuesday, 23rd.—Arrived at Ho-se-woo and went on shore there to obtain eggs and supplies and more ice. Unfortunately, we were unable to obtain this last commodity and we did not halt long enough to examine the town. About here the country is not quite so flat and is more wooded, but sand still prevails. According to our calculations, we should have arrived at Tungchow on Wednesday morning, but whether the stream was stronger than usual, which I doubt, or whether, what is more probable, the coolies were more than usually idle, we made but little way, and on Wednesday evening only reached Chang-kiawan. Here, however, the banks of the river are steeper, and more diversified. Groves and woods abounded,\* and we could see in the distance the summits of the mountains beyond Peking glowing in the sunset. Thursday morning saw us safely at Tungchow, at the landing-place, some way below the town, where carts and horses were in waiting to convey our baggage to Peking. After long delays, occasioned by the stupidity of our servants, we packed off the baggage in advance and waited ourselves until the heat of the day subsided. Only two horses had been sent for the General and Mansergh; so Faussett and myself were obliged to obtain two hired broken-kneed ponies, with Tartar saddles and bridles, composed of an indiscriminate lot of old rope and ragged leather, with any amount of trap-studs. The striking feature of Tungchow is its quaint thirteen-storied pagoda, which was of a totally different type to the southern pagodas, such as I had seen on the Pearl River, the storeys of these northern pagodas being much lower and flatter than the latter. This one was erected by certain spinsters of Tungchow and Peking in honour of Buddha.

We skirted the walled city, which is defended by a broad wet ditch and brick rampart partly ruined, and after passing through some scattered suburbs came upon the great road leading to Peking. About three miles beyond the town we reached the Pah-li-chiao Bridge, which had a mournful interest for us, inasmuch as it was from the parapet of this bridge that poor Brabazon and the Abbé de Luc were beheaded on the previous 18th September by order of the Mandarin General Shing-Paou, who commanded the division of the Chinese army which defended this position on that day, in revenge for defeat and his

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\* Chiefly weeping willows, elms, and *Sophora Japonica*, the latter yielding a yellow dye called by the Chinese *Whi-cha*.

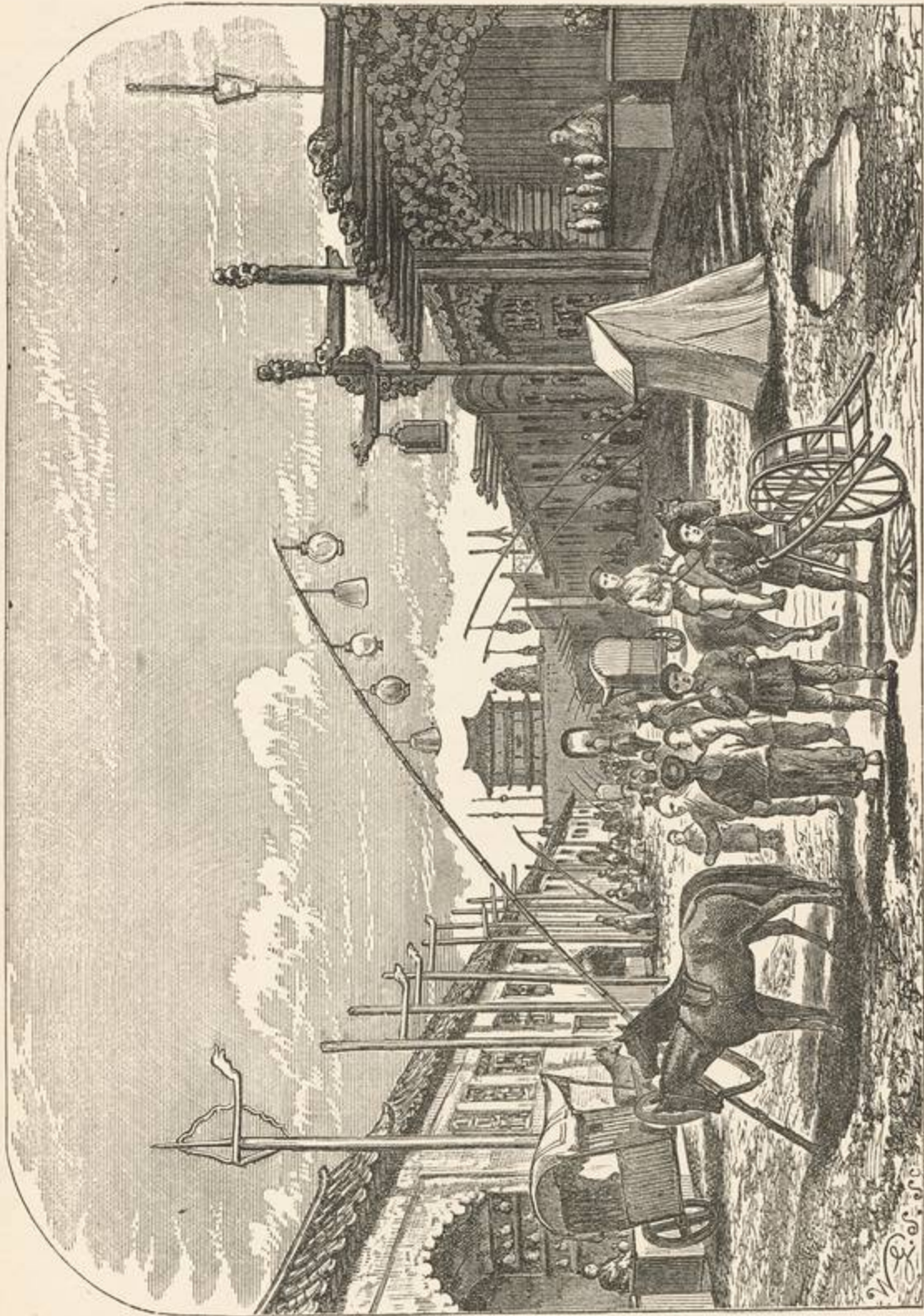
wounds, previous to retreating.\* The bridge is a handsome stone structure with only one arch and an ornamental balustrade. We now reached the great paved road, composed of large squared blocks of limestone, forming a raised causeway with an open space on each side. On the right hand as we approached the city is a narrow canal, crossed at short intervals by ornamental bridges. The sides of the road are well wooded, and there are numerous picturesque but ruinous monumental structures, in most of which the Llama cognisance of a huge stone memorial slab on a colossal tortoise was conspicuous, protected generally by small pagoda-shaped canopies with open sides. This grand trunk road, unfortunately, like everything else throughout China, is in a most ruinous condition, and filled with holes where the blocks had sunk. We passed several villages, the houses of which seemed mostly hostleries, about which were numerous trains of beasts of burden, camels, mules, horses, &c. The first sight of a caravan of Bactrian camels, with their rude attendants, made me realise our actual presence in Mongolia. Plenty of carts without springs, and their tilts covered with the universal blue cotton-stuff, and sometimes accompanied by an escort of mounted officials, with straw hats and horse-hair flowing plumes, added to the effect of the scene.

The distance from Tungchow to Peking is about twelve miles, and about six o'clock we reached the small eastern suburbs of Dnn-io-miao, and passed under the first pai-low† I had yet seen; whilst the Tchjao-ji-tan, or temple of the morning sun, lay to our left, and in front of us towered the huge eastern gate of the city, called appropriately Chi-hua-mên, or gate of the rising sun, whilst to right and left of us stretched the outer wall of the Tartar city, due north and south (total length  $3\frac{2}{3}$  miles), broken at intervals by projecting bastions (these walls are 36 feet high, with a parapet of 6 feet on both sides, with a breadth at the top of from 40 to 50 feet). The walls rather disappointed me as to their height at first sight; at the same time one could not help being amazed at their bulk, solidity, and extent. A ditch of some depth and breadth, suitable to such a rampart, extends itself at a short distance from the wall. The huge outer fort, with its four tiers of embrasures surmounting the wall, was worthy of the name. The gate itself consists of a semi-circular court, surrounded by the main wall, presenting a convex trace outside, on the side of which is a narrow full-vaulted archway. Besides the outer fort mentioned is another large building or pagoda, with wood-work and balconies not unlike the gates of Canton, only on a colossal scale. The gates are closed at sunset, so that we were not much too early in the time of our arrival. I confess to some feeling of emotion on entering the ancient Cambalu, the city of the Khan, of Marco Polo.

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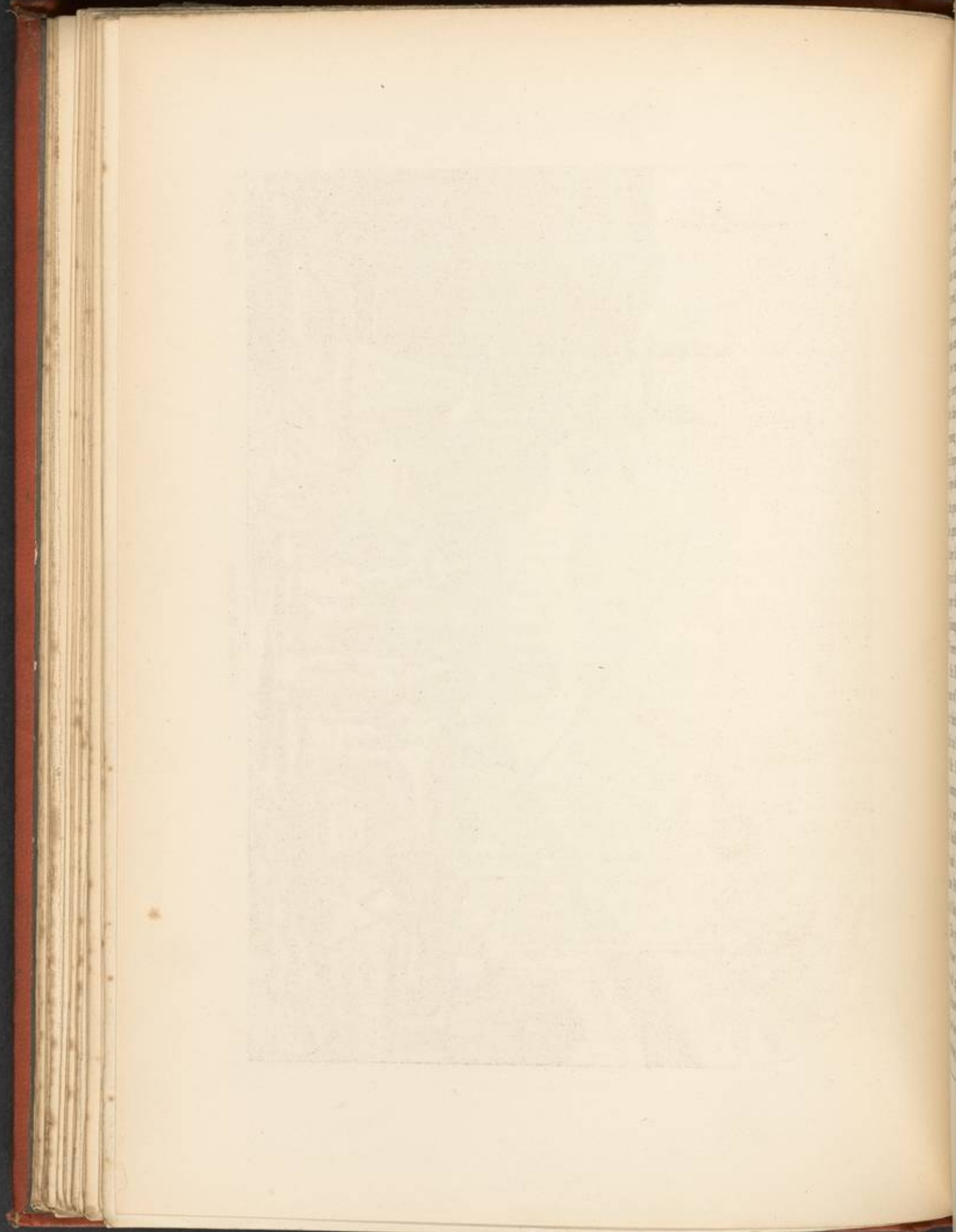
\* See "Narrative of Events in China," by H. B. Loch. (Murray. 1869.) General Shing Paou was subsequently tried by the Hing-pu, or Board of Punishment, and sentenced to death, being hung in his prison-room.—See Lockhart's "Notes on Peking."

† The "pai-low" is a triumphal monument of stone, the survival of an obsolete wooden "doran," which is still in vogue in Japan. It is erected in honour of some esteemed citizen or patriot, and not unfrequently to a widow who has committed suicide—an act of high morality in China.



STREET IN PEKIN.

[To face p. 54.]



We entered now the Tartar city, and before us stretched the great eastern thoroughfare, straight, and apparently interminable. There is a broad highway in the centre for horses, camels, and cart traffic, and at some distance on either side raised pathways, beyond which are the buildings, with dwelling-houses, shops with various quaint devices rich in paint and gilding. On the space between the raised highway in the centre were also booths and stands for carts, whilst in many of them were pools of water. The road was not paved, and the mud in wet weather, and dust in dry weather, is something surpassing all expression. In front of us in the distance was the picturesque hill crowned with pagodas and Llama monuments, inside the palace grounds. We followed the main street until we reached the walls of the Imperial city, also called Hwang-Ching, from the walls being covered with yellow tiles, yellow being the Imperial colour. Turning south we skirted this wall until we reached the south-eastern angle; here our guide misled us, for on crossing a bridge over a small stream, he took us straight on to the principal gateway of the Imperial city, called Ta-Tsing Men, where we were followed by a crowd of dirty little boys shouting "Dollar gieya." Our guide was proceeding to take us further on away from the goal we sought, viz. the British Legation, when fortunately we met two mounted English gentlemen, who proved to be Douglas and Wyndham returning from a trip which they had made to the Western mountains. They told us that we were going out of our way in the direction of the Board of Punishments; so we turned our horses' heads in the proper direction, and in a few minutes rode with them into the court-yard of the Leang-Koong-Foo, or palace of the Duke of Leang, the British Legation.

We were received in the kindest and most hospitable manner by Mr. Bruce and his suite. Mr. Bruce walked off the General to show him his apartments, and handed us over to the care of Wyndham and St. Clair, his *attachés*. "Wash them," said he; "feed them and put them to bed;" orders which were fulfilled in the strictest manner. It was delightful to breathe a civilised atmosphere again, and it did one good to see the beaming face of Mr. Bruce's buxom housekeeper, Mrs. Reynolds, with her bunch of keys and English costume. The Legation is an old *yamun*, the residence of the Duke of Leang, but let in perpetuity to the British Government. It consists of the usual courts and detached buildings, with a heavy roof with green glazed tiles, supported on massive columns, and was still at the time of our visit being repaired and highly decorated in appropriate Pekingese fashion under the superintendence of Mr. Bruce's Secretary of Legation, Colonel Neale, whilst Clements, of the Royal Engineers, was in charge of the works. The *yamun* is situated in a quiet and aristocratic neighbourhood, the street at the entrance close to a canal; whilst opposite are princely dwellings surrounded with private grounds and gardens. We travellers, after copious bathing, were not sorry to hear the gong for dinner, and we sat down to the number of nine or ten, viz. those gentlemen whose names have been already mentioned, together with Dr. Rennie (who has since given such an interesting account of the Imperial city in his "Peking and the Pekingese"\*) . The

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\* "Peking and the Pekingese," by Dr. Rennie, vol. i. p. 310.

drawing-room was richly decorated with carved wood-work, gilt and paint, with plenty of comfortable lounges and settees and tables, on which were choice specimens of old china and porcelain ware, including "beautiful examples of Ming\* porcelain," everything *à la Chinois*, except a large full-length portrait of our Majesty, which, however, doubtless impressed the Chinese officials.

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\* "Yedo and Peking: a Narrative of a Journey to the Capitals of China and Japan," by R. Fortune, p. 365. (1863.)



## CHAPTER III.

Lama Monastery.—Buddhist Temple.—The Summer Palace.—Fane's Horse.—Squadron ordered to Japan.—Join the *Odin*.—Nagasaki.—Desima.—Salamanders.—Pappenburg.—Jon-noki.—Assistant-Engineer Murdered.—Hirado.—Spex Straits.—Aground.—A Japanese Hero.—An Inland Sea, Islets, and Volcanic Mountains.—A Flogging Parade.—Yokohama and the surrounding district.—Japanese Coinage, Fruit, &c.

“He that but once too nearly hears  
The music of forefended spheres  
Is thenceforth lonely, and for all  
His days like one who treads the wall  
Of China, and on this hand sees  
Cities and their civilities  
And on the other lions.”\*

FRIDAY, 26th.—Went out early with Mansergh to sketch the Meridian Gate and other objects of interest in the neighbourhood. Unfortunately exposure to the sun brought back an attack of fever, which laid me up a couple of days, whilst Mansergh also was ill. On Sunday evening, although far from well, I ventured out with Mansergh in a Pekin cab to the Anting Gate, of which we made a sketch from the exterior, and afterwards re-entering the city visited the large series of temples and buildings which form the Lama monastery. This, the most extensive of all the numerous Lamaseries in or about Peking, is said to contain, according to Lockhart, 2,000 Lama priests. I made a sketch of a monster sacrificial urn of bronze, which caught our attention. One of the priests also stood for his portrait; there were numerous courts tastefully planted with avenues, temples, corridors, galleries, &c., statues, and other vestiges of the Buddhistic worship. We were unable to obtain access to the Imperial library of China, which, besides numberless valuable books, contains 15,000 works on the cultivation of flowers and botany, whereof about 500 are devoted to the rose alone. Such quantities of roses are grown in the Emperor's gardens that the sale of the essence prepared therefrom annually brings £5,000 into the treasury.

Monday, July 29th, 1861.—Up at 4.30 A.M. Major Fausset and myself accompanied the Commander-in-Chief for a ride. We first rode through the Imperial city, and admired the open parks and grounds, lakes, terraces, temples, and had a close view of the artificial hill with its quaint monuments and pavilions interspersed among the trees upon it. Leaving the Imperial city we rode close to the famous drum-tower and bell-tower. For what the former is used I cannot say, probably for alarm in case of fire or riot; but on a

\* “*Florilegium Amantis*,” by Coventry Patmore, edited by Richard Garnet. (Bell & Sons.)

large bronze bell in the latter the hours of the day and night watches are sounded. The bell is antique, dating from 1410, when it was cast by Yung Lo, of the Ming dynasty. Another turn to the east brought us into the great North-street, which leads straight up to the Anting Gate, through which we rode, and went splashing through the muddy road, beyond which was terribly poached up by traffic, and then reached a level plain of good turf, over which we enjoyed a hearty gallop, the animal which Wyndham had kindly lent me going capitally.

We next visited a Lamaserie. On our way thither Sir John Michel pointed out to us the Temple of the Earth, close outside the Anting Gate, where siege-guns and mortars of our Artillery were placed in position ready for breaching the walls at noon on the 13th October, 1860, should the Chinese authorities have failed to surrender the Anting Gate at that date. At the Lama temple we dismounted and examined the buildings and monuments. One monument, in fine preservation, and of beautifully-carved white marble, especially attracted our admiration. Its base is on terraces ascended by steps, surrounded by balustrades and "pai-lows," the latter much of the same type as the "steles" which surround the "dagobas" in Ceylon, or which compose the circles of Stonehenge, the monument itself following the dagoba or "stupa" type, viz. a dome, surmounted with a peculiar pinnacle. Mr. S. Beal traces these structures to their origin in Scythia, viz. the tombs of the Wheel Kings, or Chakravartins, that is, monarchs who rule all within the chakra of rocks which were supposed to surround the world. Hence, as the symbol of universal authority, the tombs of these kings, after their cremation and certain recognised ceremonies, were surrounded by a circular range of rocks or stones, to signify as much that they were kings of the earth. Sakya Buddha requested that he should be buried according to the rules of the Chakravartins, that is, that his remains, after undergoing certain prescribed ceremonies, should be burned and his tomb erected in the method known among the Sakas (Scythian race), viz. by raising over his ashes a vast mound of earth, and surrounding it by the usual emblem of authority, the circle of stones. How fully this rule was attended to in the erection of topes or stupas is too well known to need illustration. These topes or stupas were at first only mounds of earth included within a circular wooden rail or a ring of steles. But when the munificence of Asoka was brought to bear on the subject, these old and barbarous mounds were destroyed, and topes faced with stones, in many instances magnificently wrought and ornamented, came into date. But in these the original idea was never lost sight of, they were all designed to indicate the authority of a universal monarch; not a monarch only of the world, but, according to the expanded creed of Buddhism at the time of Asoka, lord of "the three worlds," viz. the world of men, signified by the square plinth on which the stupa or dagoba rests, surrounded by the circular rail; the world of *dévas*, signified by the dome, or vault of heaven; and the world of space, signified by the *kchétra* above *kchétra* that rises from the Tee, ending in the symbol of the boundless empyrean, the three-forked flame or trisul.—"Catena of Buddhist Scriptures." The base of the monument is exquisitely carved in relief, with a representation of the ocean waves and fish; above are sculptured the rewards of the good and the punishments of the evil livers, &c. Leaving the Lamaserie

we rode to look at the quarters occupied by Sir John Michel and Sir Hope Grant's head-quarter staff the previous year. We then reached a bund or embankment, the remains of the ancient earthen rampart of the Mongol capital of the famous Tartar, Gengis Khan. We rode for some distance on the summit of this bund, from whence we obtained a distant view of the lakes, islands, hills, parks, and ruins of the Yuen-Ming-Yuen, or summer palace. Only one pagoda of any size remains standing, the numerous temples, pavilions, and official residences having been destroyed by the Allies in revenge for the treacherous murder of the European prisoners, whose graves we next proceeded to visit at the Russian cemetery on our way back. They consist of the tombs of Anderson of Fane's Horse, Phipps of the 1st Dragoon Guards, Bowlby, the *Times* correspondent, and Dr. Thomson. At the head of the graves is a pedestal, and a memorial inscription in honour of the victims. By this time it was necessary to return, and we retraced our steps to the British Legation.

In the afternoon a party of us strolled out to the Chinese city, through the Great Meridian Gate, to examine the curiosity shops. The narrow streets or hutungs in this quarter reminded me of Canton. I invested in an elegant pilgrim-shaped enamel vase on a carved stand, which I was assured was of great antiquity, and had come from the summer palace; whether I was taken in or not, at all events I have never repented of my bargain. We were now to leave Peking, and although I regretted my short sojourn in the great city, still I was anxious to see Japan, whilst I looked forward to the sea-voyage to re-invigorate my delicate health. In looking back to my visit and impressions of Peking, next to the vastness and extent of its walls, streets, and palaces, I was struck most with the various triumphal (?) arches of wood, or elaborately-sculptured stone, called "Pai-lows"; these are often, if not mostly, inscribed "to the honourable memory of a virtuous woman,"\* or with other moral sentiments. I never met with these pai-lows anywhere else; they are so picturesque, and some so handsome and characteristic that they took my fancy exceedingly.

On the afternoon of the 30th July we left Peking, leaving it by the Tung-Pien-Men, or East Convenience Gate, to reach which we rode through the Meridian Gate and under the walls of the Tartar city, between it and the moat, which separates the ramparts from the Chinese city. This space is left clear, and consists of rough ground, without a blade of grass. We had a rather pretty ride along the south side of the Tungchow canal, and on reaching the city of Tungchow, entering by the west gate, we rode through the entire town, which at least appeared to have claims to greater neatness and cleanliness than was prevalent at Peking. We embarked again at Tungchow, and touching at Ho-si-woo the next day, reached Tientsin on Thursday afternoon, where the first news which met us was the death of my late comrade Bond. I naturally felt his loss more than his other brother officers, as I had been with him at the same tutor's at Eton when a boy, and known him subsequently as a cadet at Woolwich. We spent the time very happily at Tientsin, Gym-Khanas being the order of the day, and galloping over the neighbouring country.

On Monday, August 5th, the General paraded all the available troops in the garrison,

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\* Williamson, vol. i. p. 321.

and we had a grand field-day. I was greatly pleased with a dashing charge made by Fane's Horse. The General, Elkington, and myself had to put our horses to full speed to keep up alongside of them. It was really well worth seeing the troops of wild-looking Sikhs half-obscured by clouds of dust, rushing headlong over the plain, all order lost, then rally, wheel round, and form up ready for a charge back again; the horses, excited by the wild cries and gestures of their riders, galloping with loosed reins. The crimson turbans, white burnous, and long lances, with minute pennons, together with the dark accoutrements, pistols, and scimeter, well set off the handsome Sikh troopers, who are the beau ideal of what irregular cavalry should be, at least in the East—tropical Uhlans. Notwithstanding their horsemanship, in the wild career of the charge several of them came to grief, and not a few riderless horses were in the ranks at the completion of the manœuvre, a cart being chartered to carry off the luckless ones. We spent a good deal of our leisure time in ransacking the bazaars and shops for curios, and besides furs and silks, we were able to purchase quaint swords, daggers, and knives of native steel.

A considerable steel-making industry exists in the present day in China, on the Upper Yangtze, whence the steel is sent to Tient-sin for shipment and distribution. It fetches much higher prices than the Swedish steel imported into the country. The Chinese metallurgists recognise three kinds of steel—namely, that which is produced by adding unwrought to wrought iron while the mass is subject to the action of fire; pure iron many times subjected to fire; and native steel, which is produced in the south-west. The different names for steel are *twan kang*, or ball steel, from its rounded form; *kwan kang*, or sprinkled steel; *wei tee*, or false steel. The Chinese, apparently, have known how to manufacture steel from the very earliest ages, and in the time of the Han dynasty iron-masters were appointed in several districts of the old Leangchou to superintend the iron-works. Our Indian troops fully appreciated the quality of the spear-heads.

We now heard of the attempted assassination of Rutherford Alcock at Yeddo, and that a squadron of the available men-of-war was to proceed immediately to Japan, to undertake any reprisals or measures which might be necessary. In case troops might be required, Sir John Michel and his staff were to meet the Admiral and to consult with him as to future operations.

Accordingly, on Friday, 9th August, we left Tientsin in Blane's gun-boat, the *Drake*, proceeding rapidly down the Peiho to Taku, where we found it blowing hard and a strong tide against us. Nevertheless we steamed out over the bar of the river, and managed to get on board H.M.S. *Odin*, a paddle-frigate, commanded by Lord John Hay, and on the 11th August we put into Cheefoo Harbour to complete coaling, putting to sea again the same evening. Monday, passed Shantung Promontory.

Before sunset on Wednesday, the 14th, we passed the beautiful Gotto Islands, celebrated in Japanese verse, covered with verdure, in the midst of which some basaltic rocks arose boldly like feudal castle towers.

Thursday, the 15th, at daylight, came in sight of Kiusiu, our first view of *Dai Nippon*, Great Japan! The first of the numerous outlying islets which guard the approach to

Nagasaki is Iwoo-sima, which is armed with heavy European-like batteries, behind which appear wooded declivities with neat wooden buildings and snug cottages, as superior to the Chinese miserable huts on the Peiho as English model-farm buildings are to Irish shanties. After the flat shores of the Gulf of Petcheli and the dreary bare hills of the Shantung province, the woods and fields, gardens and plantations of Kiusiu were most refreshing to gaze upon, and raised the same feeling of relief that the outward-bound passenger experiences in approaching the tropical vegetation of Ceylon after leaving the arid volcano of Aden. It was most enjoyable as we steamed slowly along in the *Odin*, between the islands in the cool of an early summer morning, watching eagerly each point and cape and island; more especially noting the position of the various batteries with a professional eye, as we knew not whether we should not have to test their strength practically at short ranges. Beyond Iwoo-sima is Kojak, and we next have to pass through a channel 1,500 yards broad between the islands of Kamino-sima and Kagen. From the south-west extremity of Kamino-sima there extends a spit (artificial), which connects a rock named Siro-sima with the main island; this spit and rock is heavily armed, the embrasures being cut in European fashion, each gun being protected by a wooden shed. The point of Kabuto-saki is also well armed, as well as the opposite island, so that a vessel is subjected to a tremendous cross-fire at the outer entrance to the harbour as well as to the direct fire from Pappenburg Island in front. Here the passage is as intricate as Scylla and Charybdis, the pilot having to avoid Beacon Rock on the left, and outlying rocks near Pappenburg and the Naginate, or Hungry Rock, on the right. We are now in the outer roadstead, of great extent, and perfectly land-locked and capable of sheltering a large fleet under cover of numerous heavy land-batteries in every direction. Steering a north-east course we view the long reach of the inner harbour and the town of Nagasaki at the end of it. The entrance to this inner reach is narrow, between the precipitous points of Kosaki and Megami, the hills rising some hundreds of feet on either hand and densely wooded. On the eastern side at Megami Point are large batteries in tier above tier; and on Ogami, the next point to Kosaki on the western side, are similar tiers of batteries. The passage at this entrance is barely 500 yards across, and no vessel except an iron-clad could run the gauntlet of these judiciously-placed batteries. To the east the hills culminate in Kawarajama, 1,949 feet high. The rocks, steep valleys, and overhanging woods on either side, with the calm waters, the quaint boats with strange devices on their broad white sails, and the outlandish buildings on the shore, contributed to form a *coup d'œil* not to be surpassed by anything I had previously seen. Close to the water's edge in front of us lay Desima, the quaint appearance of which had remained unaltered from what it was in the days of old Engelbertus Kœmpfer, the observant and shrewd physician to the Dutch settlement, at the end of the seventeenth century, author of the "Amœnitates Exoticæ" and "History of Japan."

"There goes a long firch of the sea, made haven by an isle,  
 Against whose sides thrust out abroad each wave the main doth send  
 Is broken, and must cleave itself through hollow lights to wend

Huge rocks on this hand and on that, twin horns of cliff, cast dread  
 On very heaven; and far and wide beneath each mighty head  
 Hushed are the harmless waters; lo, the flickering wood above  
 And wavering shadow cast adown by darksome hanging grove:  
 In face whereof a cliff there is of rocks o'erhung, made meet  
 With benches of the living stone, and springs of water sweet,  
 The house of nymphs: a-riding there may way-worn ships be bold  
 To lie without the hawser's strain or anchor's hooked hold."

Virgil's "Æneid," Morris' Translation.

My most sanguine expectations were fully realised, and one and all of our party on board were equally enthusiastic in their open admiration. We dropped anchor about a thousand yards from Desima, the famous Dutch settlement, with its trim white-walled buildings and green verandahs, the fan-shaped island which for so many years was the only foot-hold allowed to Holland throughout the Japanese Empire. As soon as leave could be obtained some of us younger folk got the dingy and were put ashore, not on the town-side, but on the strand under the woods on the opposite side of the bay, at the edge of the bay, where we were soon collecting, examining, and wondering at all the strange shells, ferns, plants, beetles, butterflies, &c., and enjoyed ourselves like so many school-boys out to play, until the heat of the sun drove us under cover of the umbrageous pine-trees, when we threw ourselves on the soft turf and gave ourselves up to a most beautiful siesta previous to returning on board. As soon as it was cool enough we landed at Desima, and strolled about the town. After the filth, poverty, and desolation of China it was with astonishment that we beheld the civilised progressive state of the Japanese town; the streets kept in good order, clean, and well paved, no dirt, no cabs or carts, but hand-barrows; instead of chairs or palanquins, norimons and kangos,\* and a few equestrians on ponies with straw-shoes on. Everywhere we were saluted by the polite salutation, "Ohio donesan," equivalent to "How d'ye do?" or "Good morning, sir." We entered several shops, and perfectly revelled amidst lacquer-ware, cabinets, and glove-boxes from Miako, toys from Yeddo, eggshell-china from Osaca, delicately-painted porcelain, some with fine bamboo-work outside, bowls, basins, teapots, vases, ornaments of tortoise-shell and gold, or ivory with devices thereon, of differently-arranged metals, buckles, buttons, clasps, elaborate bronze mirrors with silvered polished faces, lamps, fans, umbrellas, swords of delicate temper and with quaint hilts; in other warehouses, chequered silks, embroidered scarfs, crape of exquisite texture, and numberless other rarities, which were enough to drive a collector of curios wild with covetousness, were exhibited. In other shops again were live fowl of elegant plumage, aquaria, with gold and silver, and other curious fish, with tubs of salamanders (*Sieboldia maxima*), huge bloated Batrachians, one of which Dr. Adams, of the *Actæon*, subsequently brought home, and which was exhibited at the Zoological Gardens in the Regent's Park.

The next morning Mansergh and myself went the round of all the principal Buddhist temples and shrines, which occupy the sides of the hills just outside the town; beyond these again, and higher up on the sides of the hills, are the cemeteries, the tombs of which are mostly simple pedestals with memorial inscriptions. In the evening again we strolled about

\* *Norimons* are private palanquins, and *kangos* are public sedan-chairs or litters.

the streets and shops, and at a bird-fancier's establishment were struck with the show of gold and silver and painted and copper pheasants, the latter of which are peculiar to Japan. The houses all appear to be built of unpainted wood, which is kept bright; the floors are all raised and covered with fine matting, and it is the correct thing to take off one's shoes on entering, so as not to soil the floor-matting, on which indeed they take their meals. Most of the shops and private houses had prettily-arranged gardens; and many of the citizens are accomplished florists, and, like the Chinese, seem to admire sports and artificially-dwarfed plants. They all seemed remarkably cleanly, and morning and evening the majority of the population may be seen tubbing in full view of the open streets, without the slightest discomposure, whole family parties, men, women, and children bathing together, and talking to their acquaintances in the streets at the same time, or transacting shop business. Fancy entering the Burlington Arcade before sunset and finding the young women who ordinarily serve you with gloves, &c., tubbing in warm water without a particle of clothing on. The lower classes are not much given to clothing in the hot weather, and show a great deal of bare skin, often elaborately tattooed in various colours, with just a cloth round their loins. The women wear a long loose dressing-gown of light material, which reaches to their ancles, long sleeves, show a good deal of breast, and this gown is confined round their waist by a sash with several folds behind, so as to form a species of cushion or bustle. On their feet they wear light wooden sandals, with a fastening passing between the great and the other toes, their hair being gathered up in a knot at the top of their heads. The men have the crown of the head shaved, leaving the hair from the ears to the back of the poll, this is gathered tightly into a small stiff queue, and then bent forward over the shaven crown. There were plenty of children about, the small ones carried in the folds of the garment at their mother's or nurse's back; also plenty of beggars, some of whom, in a peculiar dress, are disgraced noblemen doomed to pass a mendicant existence. Then again were plenty of *Samourai*, two-sworded gentry, who come swaggering down the street as if the whole place belonged to them, and ready to draw blade at the slightest imaginative insult. It is as well to keep clear both of these and the roystering *Yaconins*; they are the retainers of neighbouring daimios, lead an idle life, and are generally intoxicated with saki by nightfall. To see them after dark, masked, rousing the streets in tipsy jollity, takes one's thoughts back to the days when the festive companions of Prince Hal played pranks in the streets of London. We found it so hot between decks at night that Pitman, R.M.A., and myself used to hire a shore-boat, a species of gondola, awkward and picturesque but not elegant, in which we arranged our beds, and got the boatman to anchor where there was a draught of breeze. On awakening we were sculled near the shore, where we swam about in the sea-water, and then rambled ashore in our shirt-sleeves, until time for early breakfast on board the *Odin*. Those open-air toilettes were delightful, the climate at 5 A.M. on an August morning at Nagasaki being most exhilarating and appetising.

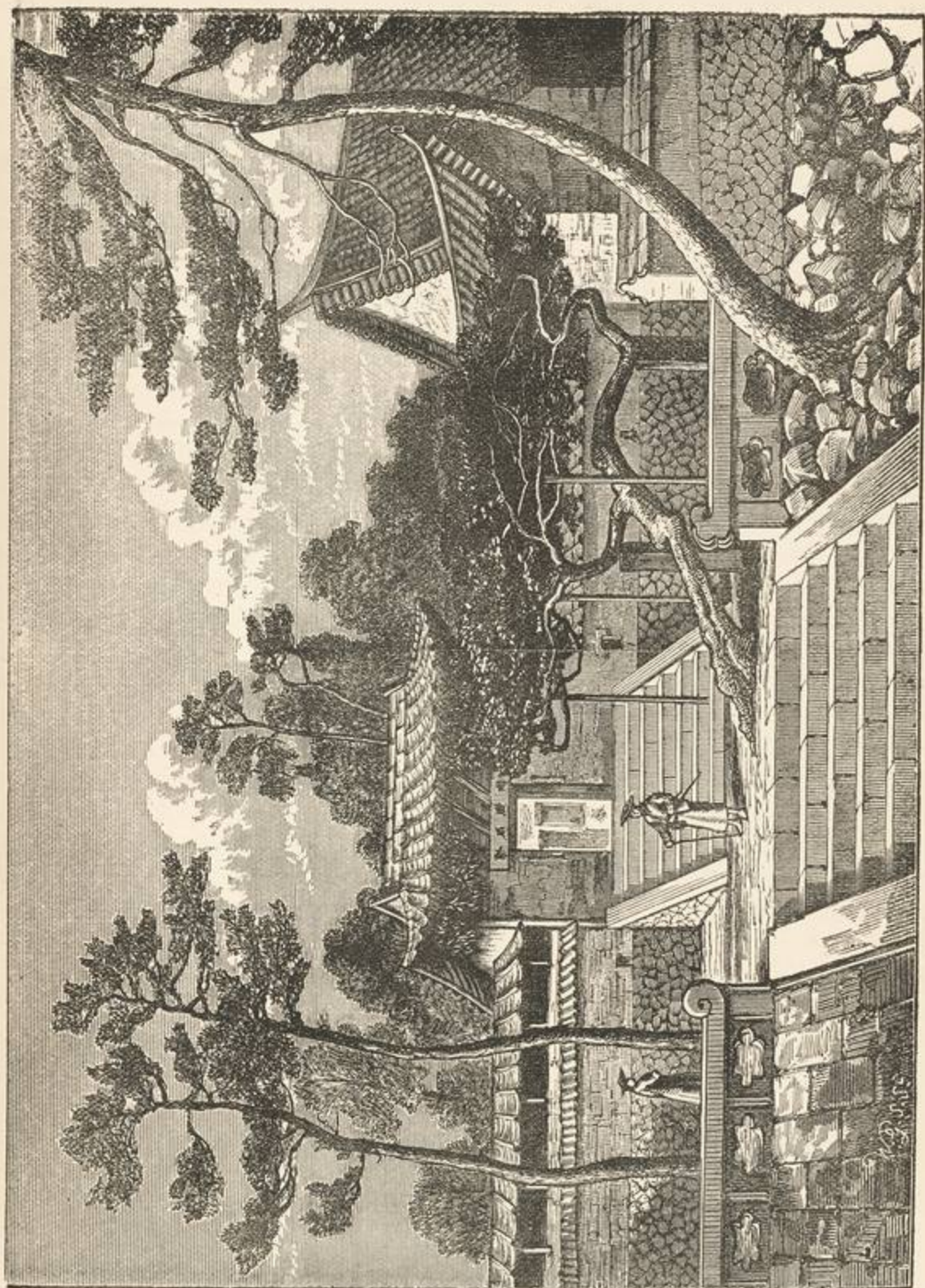
On the 17th, Mansergh and myself visited Pappenburg, and had a swim from the rocks off Kabu-tosaki, and had a good morning's sketching. Pappenburg is said to be the

spot where many thousands (?) of Japanese native converts to Christianity were murdered, and all of whom have since been canonised as saints *en masse* by the Romish Church. I am afraid to say that our thoughts did not run on martyrdom during our visit, and the localities of screened batteries were more the objects of our special notice. Every evening we went shopping in the town, always finding something new and interesting. One evening we made a large party to one of the notorious tea-houses, where an entertainment had been arranged for the purpose of showing us more intimately Japanese life at home. Like the French, the Japanese seems to spend their evenings at these tea-houses, where all sorts of games and amusements are provided, something between Cremorne and Mabilly on a small scale. The waitresses, or *mousmis*, are all chosen for their beauty, and are well got up, and sing, to my mind, much better than the Chinese beauties of the Cantonese flower-boats. But the characteristic feature of the evening, next to the supper, was the peculiar game of *Jon-noki*. The musicians played a peculiar sing-song air and several *mousmis* sat down or knelt down in pairs, one opposite to the other, and commenced the game, which consisted in guessing how many fingers the other player held up singing all the time, the commencing words sounding like "Jon-noki, jon-noki-jon-jon-noki," &c. Whoever failed to guess the correct number of fingers forfeited an ornament or some trifle, and at last various portions of dress, and the game was kept up until one or other of the players lost every article of clothing. As there were several parties playing in various parts of the large apartment the scene towards the end was more curious than improving, there being as many nude as draped female figures in the assembly. The incongruity of the dress and undress was, to say the least of it, remarkable. The uniforms of the English officers contrasted somewhat absurdly with the elegant and seductive forms of the unclad damsels, who, accomplished actresses in exhibiting their unveiled charms, never neglected to arrange their attitudes most effectively; here a bright-brown maid, who has lost all but her red under-robe, knelt opposite an olive-tinted girl devoid of every vestige of clothing but a glittering scarf of some cunning purple tissue; there a rosy *mousmi* of sumptuous beauty and exuberant type has just won the game from the graceful nymph whose wealth of contour and length of limb would serve as a model for a sculptor. Look at that little girl, apparently so demure when she entered in full evening panoply, her pannier, or *obi*, and most of her other clothing has now disappeared, her naked flesh is radiant under the golden light of the lamps, and she looks at her military or naval admirer with a most charming air of mischievous *espièglerie*, as he gradually unbends his shy, haughty demeanour, whilst ever the monotonous voices of the singers and the musicians stringed accompaniment keep up the everlasting "jon-noki, jon-jon-jon-noki," &c.

Supper was served on the floor, and consisted of various fish and crustaceæ, with rice and numerous nondescript dishes, besides saki and champagne provided for our especial benefit.

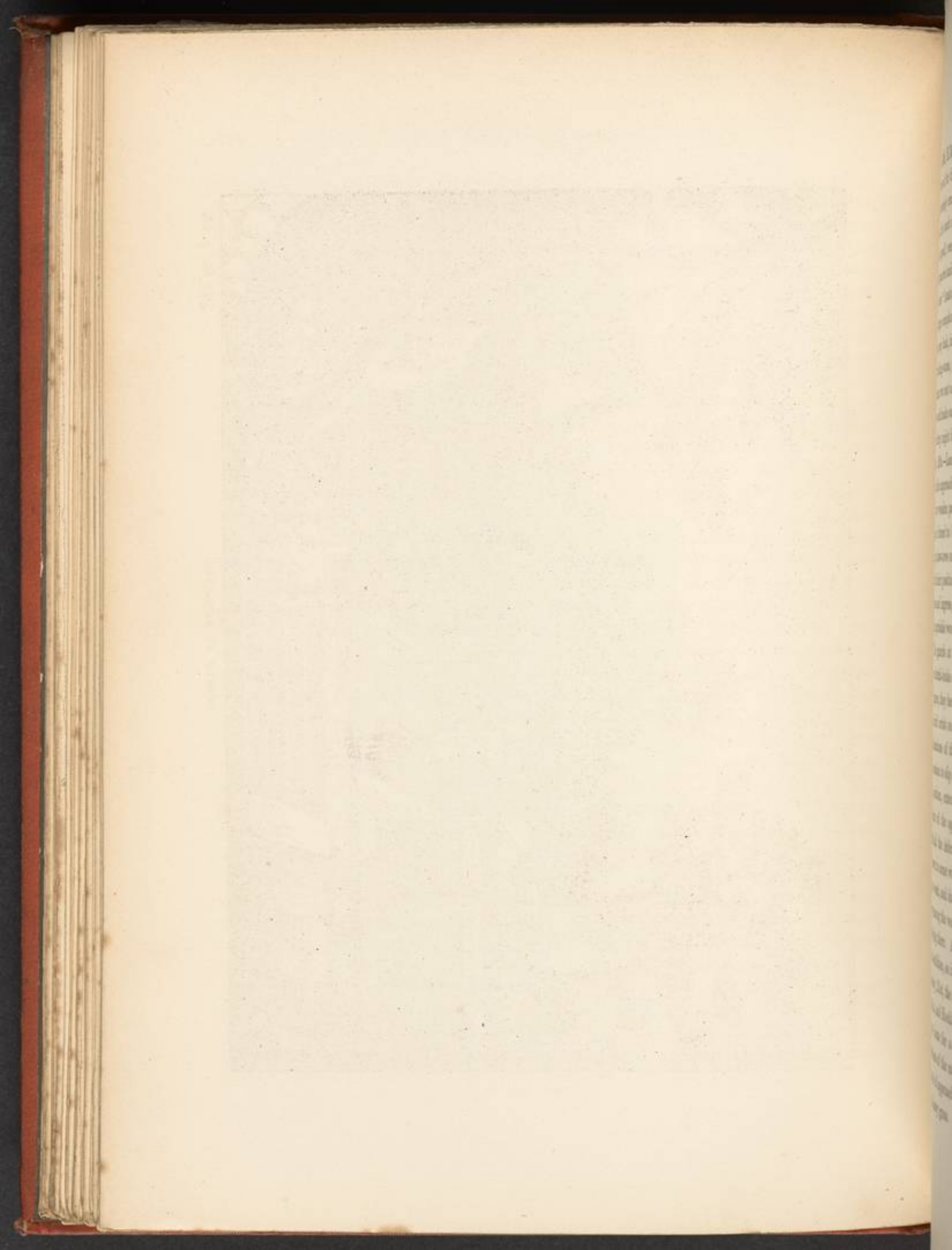
" Des pâtés fort bons  
Des poulets, langues et jambons,  
Salades, fruits et confitures,  
Avec de belles créatures."





TEMPLE AT NAGASAKI.

[To face p. 64.



On the 19th, H.M.S. *Encounter*, Captain Roderick Dew, arrived at our rendezvous at Nagasaki, to wait for the arrival of the Admiral, Sir James Hope. Captain Dew's state-cabin was profusely ornamented with Chinese loot, a valuable collection, which, however, did not cost him much money. The same day we made a riding party, Fitzroy, Hockley, Pitman, and myself, over to Umura Bay. We were struck with the well-kept roads, good fences, well repaired and comfortable cottages and smiling cottagers, all of whom were ready with their "Anato ohio" in reply to our "Good morning." Lovely cryptomerias, pines, and large camphor-trees gave a peculiar air to the scenery. We made a picnic lunch on our way back, in a secluded shady spot not far from a peculiar boulder not unlike a logan or rocking-stone, on a projecting basaltic cliff overlooking the well-wooded valley. On this occasion we met a procession of villagers dressed out in fantastic costumes, dancing. As far as we could make out, it was a religious fête in honour of some local genius. Another idea was that they might be praying for rain after the long drought.

Tuesday, 20th.—Landed near Ogami Point, and under pretence of visiting some sacred shrine (the approach to which is cleverly contrived by the intricate pathway leading under many low wooden pailows, so that the visitor, be he believer or not in the sanctity of the shrine, is forced to bend his head or body in order to pass under them, and thereby makes so many kow-tows on approach to the sacred spot) we entered various batteries, and carefully noted their position, size of guns, position of magazines and guard-rooms, and means of access and ingress, &c., and various other details only interesting to us whose duty it seemed probable would shortly be to storm these same masked positions so well defended. The guards at the various batteries soon became suspicious; however, on examining our sketch-books and finding only landscape water-colour drawings and studies of Japanese figures, they became very friendly and were pleased to have their portraits taken. I, as chief artist on the occasion, generally drew their attention to my drawing and to my delineations of the officer in command and their comrades, whilst my companions took occasion to slip into the battery, take mental note of the number of guns and their calibre, position, extent of lateral range, &c. On the previous Sunday we had examined the site of the opposite batteries at Megami, so we were gradually getting acquainted with all the defences of Nagasaki. As our vessels lay at anchor we were too near into the town to come within the radius of fire from either Megami or Ogami, so the Japanese set to work, and during one night excavated, formed rampart embrasures, and armed a battery among the woods above Misitomari, on purpose to command our anchorage whilst we were lying there. Affairs at this moment were critical, and any slight cause might bring on hostilities, so it was as well to be prepared.

On Wednesday, 21st, the *Encounter* sailed to meet the Admiral with despatches and news of events, &c., and Hockley, Master of the *Odin*, Pitman, R.M.A., and myself took one of the ship's boats for a day's cruise, to complete the survey of the batteries, to discover the positions of the masked ones, and those lately erected, as well as find out if some other channel of approach or retreat could be found without running the gauntlet of the Siro-Sima heavy guns. We were most successful, for we sailed between Iwoosima

and Kojak with the ostensible view of visiting the coal-mines on the latter-named island, which really we were anxious to examine, although secondary in importance to the object of our cruise. Accordingly we landed on the south side of Kojak and soon found a foreman of works, or ganger, to conduct us through the principal parts of the mines. We entered the mine by adits on a gentle incline, from which branching galleries in various directions ramified. The timber supports of the descending galleries were very neatly and strongly put together of rough timber not squared; the work seemed slack, in consequence, I suppose, of the unsettled state of affairs. None of our party were qualified to give an opinion on the coal, but we afterwards had practical experience of the amount of ash that it leaves after combustion, which used to block up the flues in the boilers to a great degree. We circumnavigated Kojak and Kajen and returned sounding all the way eastward of Hungry Rock, thereby discovering that there was a channel for vessels of a certain size which was not defended by heavy batteries.

Thursday, 22nd, Hockley and myself completed our survey of the defences of Nagasaki, and were employed all the afternoon in correcting the charts and making out a map of the positions of the batteries in time for the Admiral's inspection, as Admiral Sir James Hope arrived in the *Ringdove*, accompanied by the *Encounter* which had met him. It was fortunate that we had taken time by the forelock and examined and planned the batteries, for whilst on board the *Ringdove* explaining the positions to Colonel Mann, commanding Royal Engineer, who accompanied the Admiral, a complaint was brought by the Japanese authorities on shore about our prowling about their batteries, and a request made that no one should approach them except at the risk of fatal consequences; accordingly an order was issued throughout the squadron to that effect. Meantime we had details of all of them, and the Admiral was not displeased at obtaining them. This evening one of the assistant engineers of the *Odin*, Charles Collins, was found brutally murdered and mutilated in the streets of Nagasaki. It seemed probable that he had unintentionally insulted some of the two-sworded gentry, and been hacked to pieces in consequence; he was buried the following morning with due ceremony. On the 26th we were to leave for Yeddo, and as the 25th was a Sunday the *Odins* gave a farewell dinner to the European residents, Consul, merchants, &c., who had shown so much civility to the officers of the ship.

Monday, 26th August, Fane went with the Admiral in the *Encounter*, and, accompanied by the *Ringdove*, proceeded to Tsusima, where it appears the Russians had established themselves, and, under pretence of beaching one of their vessels of war for urgent repair, had established a regular dockyard; and our vigilant Admiral went to give them notice "to move on," intending to go round by Hakodadi and meet us again off Yeddo. The *Odin* moved off also, and the anchor was up at 4 A.M. It was a dark morning, blowing hard, and raining cats and dogs. It was evident that the prayers for rain which had been extensively prevalent throughout Kiusiu had been heard at last, and we had the questionable benefit of them. It soon blew so hard that Lord John Hay would not attempt the passage of Spex Straits, where the navigation is dangerous; accordingly

we brought up in a sheltered bay at 11.35 A.M. under the lee of the island of Hirado-Sima. As time was no object, on the wind moderating we did not proceed, and, the afternoon proving fine, Hockley and myself went in the dingy and made a sketch of the bay, with soundings, &c. We were instructed not to land where it might give offence to the people, but we landed on some detached rocks at some distance from the shore, where we found many novel sea-weeds and marine curiosities to amuse us.

Tuesday, 27th August.—At 4.40 A.M. weighed anchor and steamed slowly through Spex Straits, a very narrow passage; however, the Japanese pilot (for all his unsailor-like garments which fluttered in the breeze as he stood on the bridge) took us through well. On either side of the straits are rocky islets prettily wooded, and embowered in trees and surrounded with the turf slopes of a fortified enciente rose the towers of a Daimio's palace. Soon after eight bells we passed close to an abrupt bare basaltic rock with contorted columns rising to some height sheer out of deep water.

In the evening the *Odin* got aground on soft mud, opposite Coqura, close to the entrance of the Simona Straits, the western entrance to the Suwonada Sea. With the aid of the tide we soon got afloat without any damage, and as no vessel of the size of the *Odin* had ever previously traversed or attempted to enter the Suwonada, no blame attached to the pilot. Anchored for the night opposite the town of Simona, where the relics of the great Japanese hero Taiko-Sama\* are preserved; the orders were for no one to land, and we could only employ ourselves in sketching. This was our first introduction to Nipon, the largest of the Japanese group of islands, which said islands stand almost in the same relative importance to the great Pacific Ocean as the British Isles do to the Atlantic. On the morning of the 28th we entered the Suwonada, or Inland Sea, so long unknown to Europeans, except through fabulous stories of its whirlpools, quicksands, and mermaids brought by the Dutch sailors from Desima. The numerous islets and high mountains on the large islands show how land-locked the channel is, and we were obliged to steam slowly by day and anchor at night on account of the intricate navigation. Passing south of Moloyama and Emisima and other numerous islets, we anchored close to a town with a European-looking battery, a Daimio's palace on a conical hill, surrounded with park-like grounds, harbour, and massive stone pier called Matinyama. Southward were high volcanic mountains some 5,000 feet high, shining pink in the light of the setting

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\* Taiko-Sama died A.D. 1590. "The great Taiko-Sama obtained the highest rank and title granted to a subject in the sixteenth century for services rendered to the Mikado in consolidating and bringing peace to his dominions. Previous to that period Japan was in a state of anarchy, through the weakness of the Imperial rule allowing the stronger landed proprietors to seize the lands of their weaker neighbours, and raising armed bands of followers to maintain their possessions. Thus in time powerful clans arose, among which continued warfare prevailed, like that which existed among the Scottish Highland clans in olden times. The chiefs of these clans were induced by Taiko-Sama and his successors, Iyeyasu, to abandon these personal feuds with each other, and form themselves into a united body rendering allegiance to the Mikado, who transferred the chief power over them to the descendants of these great men, strengthening their position by conferring the rank of generalissimo of the forces, or Shōgun, upon the person chosen by the chiefs, or daimios, from these hereditary families."—Samuel Mossman's "New Japan."

sun, nearer dark pine woods, and cultivated fields over the lower slopes. A party of officers, Brooke, Fitzroy, Buchanan, Stopford, Wagstaff the Paymaster, Hockley, young Sutton, and ourselves, a merry lot, went off in the second cutter for an evening cruise and swim, pulling round a detached rock which had a remarkable hole through it, a natural tolmen. It was dark when we pulled back, and the crew sang some capital songs, "The Bay of Biscay" and "The Minute Gun at Sea"; the best chorus, however, and evidently the favourite, was the well-known "Free and Easy":—

"So let the world jog along as it will,  
We'll be free and easy still;  
Free and easy, free and easy,  
We'll be free and easy still."

Meantime the oars dashed up liquid flame from their blades as they were pulled in unison with the chorus. Throughout this cruise in the *Suwonada* we were not allowed any communication with the shore, except to exchange greetings with any boats which came off, and buy their fruit and fish, &c.

On the 29th the *Odin* touched a rock, but no damage was done. We also passed some whirlpools off Mittary, and a nearly perfect volcanic cone forming an island. There seems plenty of trade through the inland sea, judging from the quantity of junks with large cross-yards and white sails, generally with two black patches on them. We passed Osaca Bay and Hiogo, and on the 31st passed through the Kino Channel, past Cape Arova, into the open Pacific Ocean again, where we experienced a heavy swell. We were to have run into Simoda Bay on Sunday, but as night set in we lay-to off Cape Idsu, and ran into the bay early in the morning to see if H.M.S. *Actæon*, the surveying-ship, commanded by Captain Ward, was there. Not finding her, we proceeded, passing the Volcano Islands. To the north-west the volcano Fusi-yama was visible 14,000 feet high, one small bright patch of snow shining close by the summit.

This morning, 2nd September, there was a flogging-parade, which was no uncommon occurrence on board the *Odin*, the gratings being rigged at least two or three days in the week for punishment. On this occasion, whilst the prisoner was awaiting the summons on deck, guarded by two marine sentries, a little midddy, on his way up to quarters, grinned, or made a grimace at the unfortunate wretch, who, goaded by the insult, dashed at him, and taking the midddy's dirk made as though he would have stabbed him, but was fortunately prevented by his guards, not that he could really have intended doing so. On hearing this the Captain ordered the prisoner below, heavily ironed, and the flogging was postponed. The same evening we anchored off Yokohama Bay, and as it blew fresh the sea was very rough. When night came, the unfortunate prisoner, having got rid of his irons by some friendly hand, jumped overboard in a mad attempt to get to the land, two miles distant, and was drowned in the attempt; at least he was never heard of again. For a considerable time it was supposed that he was concealed on board. The next morning we met the *Imperieuse*, frigate, the Admiral's flag-ship, and in accordance with instructions received from Sir James Hope went on to Yeddo Bay, and

anchored two miles from the detached forts which guard Yeddo from attack seawards. Directly the anchor was down the General went on shore to have an interview with Mr. Rutherford Alcock, our Minister Plenipotentiary, and we were most anxious on board to learn the result of his interview. The forts outside Yeddo were five in number, and are built on artificial islands, in fact regular "cranoges," as the Irish call them, in the shallow bay, about a quarter of a mile from the shore. They seem solidly built, the revetments well put together, and are judiciously disposed about 1,000 yards from centre to centre. The turf on the exterior slopes is neatly kept, and the guns, under wooden sheds in Japanese fashion (a fashion which the English have only lately adopted at the heavy mortar battery at Puckpool, Isle of Wight, 1869-70), to protect them from the weather. There are two guns to each large embrasure. From the anchorage one cannot see much of Yeddo, on account of the flatness of its site. Its extent can be judged by its stretching at least eight miles round the end of the bay, whilst the Tycoon's palace and grounds occupy the most prominent situation in the city. It was rather tantalising to just get a glimpse of Yeddo and then to leave it without setting foot within its precincts; nevertheless such was our fate, and after landing the official despatches for Sir Rutherford Alcock and some Wardian cases with European plants, we steamed back to Yokohama Bay, taking with us Robertson\* (son of the Consul at Canton), who had accompanied me as fellow-passenger out from England, and Wurgmann (the clever artist of the *Illustrated London News*), whose characteristic drawings of Japanese figures and customs, &c., are well known to the public.

Wednesday, September 4th.—Spent the morning in pulling about the bay with Hockley, the master, who never loses an opportunity of sounding, taking observations on shore to correct the chronometers, &c. Later we went ashore at Yokohama, which is quite a city of modern mushroom-like growth, which has sprung up entirely since European commerce has been introduced. It therefore exhibits the very latest style of Japanese architecture, with many European improvements to suit the tastes of the foreign traders. A fine deep canal runs right round the town, and helps to drain the flat site on which the town is built. The streets are straight and broad, and at each extremity of the principal ones are barriers and fire-stations with engines, alarm-bell, water-buckets, ladders, and other paraphernalia. There are two substantial piers at the landing-place, close to which is a large Customs establishment. The lacquer-ware, porcelain, and toy shops were the most enticing perhaps, and the booksellers, with the gaily-coloured wood-engraving, most interesting. It was easy to spend plenty of money, and all one's available cash was very soon disposed of. It never does to ask the price of any object, as double its price at least is asked, and the only way to make a bargain is to bid something beneath its value. Of course one stands no chance with them, and is fortunate not to be cheated immoderately. As the Japanese traders were not allowed to take foreign coin, it was necessary to obtain

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\* Russell Brooke Robertson, now Consul-General at Yokohama.

Japanese coin, and only a certain amount was procurable. The amount was limited to the daily pay of the officers and men, and so those who were fortunate enough to have any spare money to spend found not much difficulty in getting that amount of Japanese coin in exchange. The itzibous, oblong silver coins, were then exchanged at the rate of eighteen pence each in English money, or three to the Mexican dollar. According to the treaty which had been made by Mr. (now Sir) Rutherford Alcock it was stipulated that the exchange was to be weight for weight, and the previous year the Japanese had tried a very ingenious method of evading the treaty. On the first occasion the itzibous offered in exchange for the dollars were exactly half the weight of the latter, but the mint-mark upon them was *ni-shi*, i.e. half an itzibou, by which the dollar was lowered in value to eighteen pence. It was the same as if a half-sovereign was marked seven and sixpence.

The gold kobang\* of the Japanese was a handsome oval coin worth eighteen shillings, but at the then Japanese rate it was only valued at four itzibous, or six shillings; and although of course very soon the value of silver depreciated in proportion as that of gold rose, nevertheless many European traders managed to do a very good stroke of business by obtaining kobangs for their merchandise, and exchanging them into itzibous. So also the copper coinage of "tempos," which was very pure, was depreciated in Japan, until the Government was forced to withdraw it and substitute iron tokens.

It is said that although the iron coins were only worth about the hundredth part of a farthing apiece, some small articles were to be purchased with them, but they were chiefly used for the giving of alms and as offerings to the gods.

When the Yankees visited Yokohama in 1854, seven years before, the site was merely a poor fishing village standing in the midst of a salt-marsh surrounded by brackish water; and in 1859, when Mr. Alcock first hoisted his flag at Yeddo, the Japanese with great astuteness had extemporised a town in the midst of this marsh, and connected it with a narrow causeway across the brackish lagoon, connecting it with the great highway, or tokaido, near Kanagawa, by this means thoroughly isolating the newly-made European settlement. Now the fishing village had become a thriving town of 18,000 or 20,000 inhabitants, within two years from the first visit of Mr. Alcock possessed solidly-built granite-quays, piers, landing-places, and customs establishments, warehouses, and dwellings for the foreigners, and a separate town for the native traders. In spite of remonstrance, this place was forced upon the foreigners as the trading-port, it being evidently designed to become a second, but more cosmopolitan, Desima.

There were now 126 foreigners resident in Yokohama, made up of the following proportion of nationalities, which also serves to show the distribution of foreign trade:—

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\* Now, long since, the modern Japanese Government has adopted the British gold currency and the American dollar silver currency as the standard. The picturesque oblong and oval coins have been supplanted by circular coin of European type, struck at a mint whose machinery comes from London, and under an English mint-master.



British, 55; American, 38; Dutch, 20; French, 11; Portuguese, 2. The import trade was valued this year (1861) at £300,000, and the exports £600,000.\*

Right round the settlement is a broad canal, which serves to drain and also isolate the entire community; there are guard-houses and barriers at each bridge of exit, and the whole place is like the bonded warehouses at docks in Europe. Everything and everybody is more or less contraband and in bond. We were zealously watched whenever we went beyond the precincts of the town, but owing to the danger of assassination we were not tempted to go far without an escort. The place had a peculiar air of freshness, everything spic-and-span, clean and really brand-new. The bungalows are mostly one-storied, built almost entirely of Chunam cement and wood neatly carpentered, the Japanese excelling in cabinet-work and joinery. The frameworks of the houses are securely pegged and dove-tailed, so that the timbers are as secure as those of a ship, and the structure thereby enabled to withstand the frequent earthquakes.

Round and about the town the country is pretty and tame, although after ship-board life all rural scenery appeared to us quite beautiful; and after the dusty dried-up plains of the north of China in the hot summer, the autumnal tints seemed verdant to our eyes. Undulating country with marshy valleys and low round-topped hills of volcanic formation, their gently-sloping sides covered with trees, such as pines, evergreen-oaks, chesnut, bamboo, and shrubby brushwood, composed of thickets of azalea, weigelas, olives, and ancubas, interspersed with sweet-scented osmanthus and other flowering bushes. Where sufficiently level, the summits and higher ground is all under cultivation, from which the crops, principally of wheat and barley, had long been gathered. In the marshy, moist grounds beneath are rice and paddy-fields of dark, almost black, vegetable soil, resembling peat over gravel and red-earth, not unlike laterite overlying clay. Where sections of this clay are exposed on the low cliffs at the sea-margin, layers of marine deposit, such as oyster and other shells, charred wood and pumice are visible, evidently upheaved by earthquake convulsions from submarine position. But ever above all, the one object which never failed to attract attention was the distant peak of Fusi-yama, the "Matchless" Mountain of Nipon, whose summit is distant forty-five miles, nearly due west from Yokohama. The steep cone of this volcano, 14,000 feet in altitude, has an indescribable charm about it, which the Japanese have fully given themselves up to. Situate to the west of Yokohama, the landscape would be incomplete without it, whether one beholds it glowing pink under a turquoise sky at early morning, or apparently nearer, as its purple pyramidal mass looms at sunset, it is the predominating and characteristic feature within a radius of sixty or seventy miles of its culminating point, from whence thin clouds of steamy vapour betoken its fiery origin, although it has been extinct as an active volcano for nearly two centuries. This mountain is an object to the Japanese of great

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\* I have not seen the latest returns of imports and exports, but in 1872 the total exports, 14,000,000 dols., and imports, 20,000,000 dols., amounted to a total of £7,350,000 sterling alone. Since that the increase must be in even larger proportion. Such growth of trade is, I suppose, unprecedented even in the gold-digging cities of California and Australia.

veneration and frequent pilgrimage. It is reported by their chroniclers to have been first formed by a fierce eruption during a single night, in the year 286 B.C. Its historically-known eruptions took place in 799, 863, 937, 1032, and 1707, since when it has been in repose.

We used to have many pleasant strolls outside the city of an evening. Away from the busy hum of the commerce and trade, across the moats, one soon found oneself among rural scenery of pleasant thatched cottages, and gardens with neatly-clipped hedges; and from the tops of some of these woody knolls, overlooking the bay, I have brought home many a sketch which calls to mind the scenery. In one direction, to the right, the calm waters of the bay, the men-of-war at anchor, and the merchant shipping; and beyond, through a haze of vaporous hot air over the summer sea, the distant spires and antique towers of Yeddo, the Venetian-like fishing-boats, and the boatmen and nets on the shore, with its fringe of rocks beneath us. To the left gleaming pools of water, reflecting clumps of iris, rounded slopes of heather-grown moorland, and masses of autumnal foliage, maple, sumach, and laurel; next blue woods of evergreen shade beyond, and far away the pale golden peak piercing the blue-green sky of a resplendent evening, glow. Over us spreads a huge cryptomeria pine, and good-humoured peasants are decorating a shrine beneath us with branches of shining ilicium\* and sweet mokusei (*Olea fragrans*). The Japanese have already adopted the botanical nomenclature recognised in Europe and other countries, and their illustrations of the flora of Japan to which the Latin names are attached are exceedingly good.

Whilst out on these country rambles we got plenty of fruit; although we had been warned of the very primitive state of fruit culture, we learnt by experience that the slight was undeserved. The essentially Japanese fruits, such as the kaki (varieties of *Diospyros kaki*), and several kinds of Citrus are exceedingly good, and are evidently the result of careful cultivation and Darwinian selection. The grapes, too, although not indigenous, but probably of American origin, are very fair, and are brought to market in large quantities. We found, however, as we have found in all sub-tropical countries, that the natives prefer unripe fruit. At least, in Japan the peaches and pears are picked too soon; when they are properly ripened they are delicious. We always slept on board, and took our meals there, as at the one hotel which was open on shore everything was charged at a most extravagant rate.

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\* *Ilicium anisatum*, a favourite shrub for decorations, called by the Japanese "Skimmi."

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## CHAPTER IV.

Japanese Menageries and Aquaria.—Circular Hand-Mirrors.—The Pleasure Quarter of Yokohama.—A Japanese Tragedy.—Visit to the British Consul.—H.M.'s Surveying Ship, *Actæon*.—The Baths, Public and Private.—H.M.S. *Impérieuse*.—Sunday Morning Afloat, with Choral Service.—An Afternoon on Shore.—Visit to a Hippodrome.—Japanese Circus Feats.—Earthquake, and its Effects.—Leave Yokohama for Yeddo.—Typhoon.—Landing at Yeddo.—Legation in a State of Siege.—Objets d'art.—Devices explained.—Vestiges of the Night Attack.—Funeral in Yeddo Bay.—A Ride through Yeddo.—The Palace Grounds.—Arrival of the *Encounter*.—Adieu to Japan.—On Board H.M.S. *Impérieuse*.—Return to Tientsin.—The *Coromandel* in Collision.—Embarkation of Troops.—Shanghai.—Kowloon.—Singapore.—Madras.—Trincomalee Harbour.—Kottiar.—The *Urgent* sails Southwards.

ONE day, Thursday, 5th September, we visited a menagerie, where we noticed some peculiar monkeys,\* clothed with long hair, a small bear,† and a handsome eagle (*Aquila heliaca*), and other falcons, *Haliatus*, *Pandion*, *Poliornis*, and *Buteo*, and the common kestrel. The most attractive portion of the show, however, was the fine collection of all descriptions of fancy fowl; especially the gold, silver, painted, and copper (Swinhoe's) pheasants, and the resplendent fire-back. There were also splendid samples of Lady Amherst's pheasant (so called from the first examples seen in Europe, being those specimens presented by the King of Ava to Sir Archibald Campbell, who gave them to Lady Amherst); Reeves' barred-tailed pheasant, and the *Thaumalea picta*, all imported from China, besides the *Phasianus versicolor*, *Euplocamus nycthemerus*, and Sæmmering's pheasant, both of which are native and plentiful near Yokohama, although we could not venture to go out shooting in the neighbourhood to verify the fact. We also noticed some fine storks, herons, egrets, and ibis, &c. Nor did we forget to admire the song of the rare ogoyezu, which only sings in the dark, with a fine, full, clearly-ringing note, surprising in so small a bird. The dogs and long-haired monkeys were numerous, especially the Chinese pug and the King Charles spaniel, which was originally brought from Japan, as least so it is supposed.‡ Here also were some large aquaria, in the care of

\* *Rhinopithecus roxellana*.

† *Eluopus*, a large bear-like animal, clad in snow-white fur, said to be a vegetarian.

‡ Dr. W. Lockhart sends the following to the Zoological Society:—"The pug-nosed dog, the skull of which I sent you, probably originated in Pekin and North China, and was taken thence to Japan, whence it was brought to Europe; and thus this breed is called Japanese. I do not know whether you will agree with this idea; I merely state what I think is the fact of the case. There are two kinds of pug in China: one,

which the Japanese are very great adepts, although they do not carry the art of pisciculture to the extent that they do in China. In some of the tanks of sea-water were monstrously gigantic crabs, their bodies comparatively small, triangular in shape, and very convex, but as for their claws and pincers, oh, gemini! I should hardly like to be accused of drawing the long-bow, but few people hear of these Japanese crabs without scepticism, and, however polite, are scarcely able to veil the evident incredulousness with which they hear me speak of these creatures, but I believe I am within the mark when I say that the claws of these crustaceans measured at least five feet. Old Kampfer had described them as long ago as 1763, and the species is named after him *Macrochira Kampferi*. They are said to be good eating, and now, when Nordenskjöld's route *vid* the Barent's Sea and Behring's Straits is opened, we shall doubtless become acquainted with the sight of these monsters in our fishmongers' shops, and no dinner at Greenwich will be complete without them. There was also a delightful show of minute bantams, which would have obtained the best prizes if exhibited at the Crystal Palace, besides canaries, woodpeckers, and finches of sorts, in cages not unlike what one sees in Leadenhall Market or Soho Bazaar.

After visiting this raree-show bazaar we did a little sight-seeing in some of the shops, where the novelties for sale were a fund of endless amusement to us. We were solicited to purchase a veritable mermaid, similar to that which had been or was then being exhibited in America by the notorious Barnum. This was a shrunken atomy of monkey head, shoulders, arms, and bust ingeniously grafted on to the body and tail of a dog-fish. The clever hermaphrodite figure was too repulsive to buy, even as a *curio*, but having attracted the notice of foreigners they were being manufactured by the gross; the demand for mermaids, however, rapidly grew flat.

But, after all, it was in the furniture, cabinet, and upholstery warehouses that we most revelled, and first the lacquer-work demands notice. What this lacquer is composed of is one of the problems at present unsolved, but it is said to be obtained from some vegetable-wax tree, a species of *rhus*.\* This lacquer, or varnish, we were told, is obtained by making

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a small black-and-white, long-legged, pug-nosed, prominent-eyed dog; the other, long-backed, short-legged, long-haired, tawny-coloured, with pug nose and prominent eyes. Sometimes in these dogs the eyes are so prominent that I have known a dog have one of his eyes snapped off by another dog in play. The preference for vegetable food is a fact; but I think it is a result of education, as most of them will take animal food; this is usually kept from them, so that their growth and organisation may be kept down. The sleeve-dog is a degenerated long-legged variety of pug rigidly kept on low diet, and never allowed to run about on the ground; they are kept very much on the top of a kang or stove bed-place, and not allowed to run about on the ground, as it is supposed that if they run on the ground, they will derive strength from the ground and be able to grow large. Their food is much restricted, and consists chiefly of boiled rice. They are very subject to corneitis and ulceration of the cornea from deficient nutrition. They exhibit very little personal attachment to the person who feeds them.

"From Mongolia a noble black dog, as large as a full-sized Newfoundland, is brought to Pekin; he is used as a sheep-dog. From Shantung is brought a beautiful black, long-haired, long-backed, long-legged terrier, very much like a black Skye."

\* The most important wax-producing species of the genus *Rhus* in Japan are *R. Succodanea*, and the bulk of the varnish lacquer is obtained from *R. Vernicifera*. There are several other species, which yield more or less of both, and which are in cultivation through China and Japan.

incisions in the bark of the tree whilst young, the result of which is the death of the tree before arriving at maturity, and hence in the wax-producing districts lacquer extraction is prohibited, and where lacquer is produced it is of course impossible to grow the wax, which is only produced by mature trees, being obtainable from their small fruit. It is said that the modern workers in this peculiar Daimio-lacquer throughout Japan have themselves lost the art of its preparation after the ancient receipts of the manufacturers of the antique lacquer-ware. The Japanese are as great humbugs in the fashion of admiring ancient *curios* as we are ourselves at home in England. This famous lacquer-ware used to reach us in England through the Dutch traders, and my earliest reminiscences are connected with old Japanese lacquered cabinets of the seventeenth century; but I am sorry to say that the canny Lowlanders are able to reproduce and imitate successfully the true Japanese article in Holland. The pseudo-lacquer is prepared from Zanzibar copal, coloured black with Indian ink. The articles are painted with several coats of this varnish, in which the pieces of mother-o'-pearl or other substances used for ornamentation, such as gold-leaf, are placed before it becomes hard. The lacquer is then dried by placing the articles in a heated oven or hot-air furnace, after which more coats of lacquer-varnish are applied; the whole when dry being smoothed by pumice and emery. This operation is repeated until all cracks are filled up and the surface rendered perfectly smooth, when the whole is burnished bright by means of tripoli.

After this I went to luncheon with Wurgmann, and spent some time examining with great interest his sketch-books. He had been overland through Nipon with Mr. Rutherford Alcock, and his studies of figures, costumes, groups, and single portraits were highly characteristic of the people. I envied his facility for hitting off the peculiarities of race with apparently little trouble. Wurgmann presented me with a drawing-block of good paper and some pencils, and no one except a draughtsman can understand the value of such a gift in a far-off locality, when one's own stock of sketching material has all but disappeared.

Wurgmann did not go in for landscape or scenic views, but it is needless to comment on his drawings, for they are well known wherever the *Illustrated London News* finds its way, and that is pretty nearly everywhere where English people have penetrated. Wurgmann, having been with Mr. Alcock at the Legation during the murderous attack, gave us a very graphic description of the night's eventful story, and our minister seems to have had a most narrow escape. Wurgmann scorned to claim any distinction for extraordinary courage during the onslaught, and did the wisest thing under the circumstances for an unarmed man in a midnight scuffle against desperate men in armour, with naked weapons with which they are expert. He crept under a bed and remained there till the alarm was over, and he deserves credit for not being ashamed to confess it. It reads unheroic, but it was decidedly practical. On some occasions it is better to have a prosaic view of safety in preference to a poetical defiance of danger. Wurgmann was a most amusing companion, full of jokes and fun, and a capital cicerone among the Japanese, being quite *au fait* to all their customs, ways, and ideas, so he kindly guided us to see all the sights and

interesting shops in Yokohama. The things which have long become hackneyed to all Europe were then new and perfectly unknown to foreigners.

Among other favourite novelties to us we were much amused with the small circular hand-mirrors which the Japanese coquettes are particularly fanciful in. They are very quaint, and remind one of the old specula of the Greeks and Romans. They are from one-twelfth to one-eighth of an inch in thickness, and made of various kinds of bronze metal, brightly polished and coated with mercury, with the handle covered with bamboo. At the back there are diversified characters, badges and designs heraldic, botanical, or picturesque, with mottoes, epigrams, and the like, according to the taste of the purchaser. These designs are generally in relief and polished, the interstices being stencilled and frosted, or otherwise roughened, the whole concurring to give an artistic finish to the article of toilet. The vendors of these mirrors used to amuse us by flashing the sun's rays upon a screen from these reflectors, and somehow showed on the screen the devices of the back of them, and pretend that these were magical reflections.\* We were told that the first mirror ever made possessed extraordinary powers, and that the primæval relic was yet in existence in the Divine palace of Ise, where it is regarded as the Caaba in Mecca by the orthodox Sintoos. There is an ancient tradition that the Sun-goddess was first "drawn" from her subterranean cavern† by means of the other deities manufacturing this magic mirror, which was henceforth the most sacred of the regalia of the Spiritual Mikado of all the Japanese.

Whilst at luncheon it was proposed that we should dine on shore and spend the evening examining the gay and festive quarter of the town; for the methodical Japanese divide the business quarters of their cities from a certain quarter which is devoted to the votaries of pleasure. Here are congregated all the theatres, tea-houses, restaurants, and other al-fresco places of amusement, much as if Cremorne and Rosherville were crowded

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\* According to Professor W. E. Ayrton, this so-called magical power of the mirrors is occasioned "from the natural property possessed by certain thin bronze of buckling under a bending stress, so as to remain strained in the opposite directions after the stress is removed. And this stress is applied partly by the distorting rod and partly by the subsequent polishing, which, in an exactly similar way, tends to make the thinner parts more convex than the thicker.

Dr. Geerts gives the following metal mixture for mirrors of the first quality, as manufactured at Kioto, viz. :—Lead, five parts; tin, fifteen; copper, eighty. This metal is polished with to-no-ki, which consists of the levigated powder of a soft kind of whetstone to-ishi. Secondly, the mirrors are polished with the charcoal of ho-no-ki (*Magnolia pypoteuca*). They are then covered with mercury amalgam of quicksilver, tin, and lead, and then polished with leather.

A mirror of the same kind was shown at the Physical Section of the British Association at Glasgow, when Dr. Kerr, with beautiful simplicity, announced briefly his remarkable observation that the light reflected from a mirror of iron is changed in its nature when the iron is made magnetic.

† The "Medusa!"—

"'Tis the tempestuous loveliness of terror;  
For from the serpents gleam a brazen glare,  
Kindled by that inexplicable error,  
Which makes a thrilling vapour of the air  
Become a reflex and ever-shifting mirror  
Of all the beauty and the terror there."—SHELLEY.

up with the Alhambra, Evans', and the Argyll; add in the Aquarium and the Gaiety and the Chateau des Fleurs, and put this *mélange* in the grounds of the Crystal Palace; this would be about the equivalent proportion in London. So we sent on in advance to order dinner *à la mode*, and to secure places at the best theatre specially adapted for foreigners, called the Gan-ke-ro.

Meantime Wurgmann and myself went to see a Japanese artist employed by Von Siebold, the great Dutch naturalist, almost a naturalised Japanese, so long has he resided in the country, and whose name will ever be associated with the Japanese fauna and flora, which he has worked out so exhaustively, the Linnæus of Japan. This artist was engaged in painting fish from nature, and the drawings were exquisite, not inferior indeed to the best productions of a similar kind in western Europe, although being especially painted as specimens of natural history they were not grouped artistically, but some of this gentleman's productions were wonderfully faithful transcripts of nature, and the exquisite rendering of the vivid fleeting colours of these living marine animals was marvellous. One drawing, a masterpiece, reminded me of W. Hunt's exquisite workmanship. The modelling and foreshortening of the contours and the reproduction with microscopic fidelity of the varying aerial effects, and almost the moist saline atmosphere (if it may be so termed) which encloses some sea-shells\* would challenge competition anywhere. To European artists this method of rendering would appear to be a technical miracle, and an inexhaustible source of wonder for those who can appreciate the finish it exhibits, finish which is the reverse of mechanical, and the outcome of consummate knowledge, directed by wisdom of hand, as Ruskin would say, or has said. Neither Vroomans, the serpent-painter, nor Van Kessell, nor our own Turner, who knew so well how to paint mackerel, could come near this man, this consummate artist, whose name even I have forgotten to write down.

Subsequently we visited the booksellers' shops, and I made large purchases of the illustrated chromographic books, so quaint, artistic, and yet so conventional. But alas, they were all modern; in vain we inquired for copies of the "Ko-ji-ki," the sacred scripture of the Japanese, first recorded in writing in the seventh century, from the lips of a woman, who was rightly supposed to be most learned in the oral traditions of old Japan.

Next we came to the fan-shops, and as it is the favourite method of paying a pretty compliment to draw a device and scribble a pretty epigram or moral aphorism on a fan, the art of the *improvisatore* in such classical refinement is highly appreciated. If you invite a friend to dinner, he presents you a palm-leaf fan, on which he, with a few strokes of the brush-pen, depicts a stork and a tortoise, or a bamboo-spray and a lily, &c., with a greeting and wishes for long life and health to you, a very graceful and gentlemanly act of courtesy. My companion Wurgmann, as well as another artist friend of mine, who was some time in Japan, became greatly popular from their skill in this respect.

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\* *Haliotis*, *sp.* *Pinna*, *sp.* *Pecten*, *sp.*

With the Japanese, as with the ancient Greeks and Romans, the performance of a dramatic play is a matter of a whole day or even days, like the passion play at Ober-Ammergau, and in many places, like that famous performance, acted in the open air. The Japanese buildings, at least those about Yokohama, have a very temporary appearance, and the theatres seemed yet more frail, devoid of architectural pretension. The Gan-ke-ro, which I believe had already been once burnt down, and was a reconstruction (it has been burnt more than once since 1861), was a broad squat-looking building of wooden construction, with a wide roof of flattish pitch. Together with all the neighbouring buildings in this quarter of the town, it was decorated with numbers of brightly-coloured flags and streamers, with brilliant representations of dramatic performances by way of large posters, not dissimilar to and more artistic than the immense flaming advertisements in our own English towns.

The appearance of the whole inside of the building was plain and simple, the only embellishments being the hangings about the stage and scenery of the proscenium, although the side boxes and benches were neatly draped. The audience was almost wholly composed of foreigners and the Japanese officials, and privileged traders connected with the foreign commerce.

The representations are said to be correct as regards dress, accessories, &c., and the Japanese dramatic art may be said to hold the same comparison with our modern European drama as mediæval decorative painting does with the highly naturalistic picture of to-day. The story is told forcibly; the action of body and feature is what we should call exaggerated.

We should strongly suspect that the *motif* of the play we saw represented was adapted for foreigners from some old Dutch tragi-comedy. The scene of the play was supposed to be in the vicinity of Kioto, the western capital, with Fusiyama in extreme distance. A procession of warriors in armour enters, a boat lies in the foreground, the floor of the stage being covered with painted canvas representing a sandy beach in front, and water touching the prow of a (practicable) boat, and extending behind to the back of the stage, whilst by way of prelude the orchestra strikes up an overture *allegro tranquillo*. A mediæval prince in entire panoply of war, a Daimio of *Koon-gay*, noble or just family, *pur sang*, in lacquered cuirass and helmet, harangues his retainers, and with them enters the boat, which is moved off the stage; the water and sand at the same time moves off, and the whole stage represents the sea, behind which are the gorgeous rays of a setting sun. Then gradually along the sides of the stage strips of canvas are drawn, until the fortifications of a feudal castle and town are visible. Thus a vivid reality is suggested to the audience. Meantime the theme of the opening prelude is reproduced, as indeed it continues to be used as the *motif* for the *réprises* throughout the drama.

We next have a faithful retainer, one of the Shiomio or privileged class, in a love scene with a mousmé young and lovely, the heroine of the plot; *andante* and *allegro* accompaniment. It may be here noticed that two impersonalities frequently appear on the scene with queer black caps (signifying that they are invisible), who officiate as a kind



of Greek chorus, and philosophise (for the benefit of the audience) on the current events passing on the stage.

Next is a farcical interlude, a clown, a priest, and peasant girls, giving occasion to a pastoral chorus; and a conjuror or magician, a Japanese Mephistophiles, with incantations, appropriately diabolical, brews impending evil.

The second act is the Daimio marching up and down in agitation, apostrophising the mousmé, who, simple and apparently innocent, is sitting at her window behind her chrysanthemums, winding silk. He has fallen violently in love with her, but does not know how to gain access to her. The spell of the demon enchanter is working, as he surveys his victims from where he sits aloft on a cloud of surging smoke, "instinct with fire and nitre." Ambition and avaricious lust inflame the damsel's breast, who, plucking a flower, coyly throws it down to her lover.

Next we have an interior scene, the kitchen utensils, &c., of homely description. The mousmé and an old woman sitting talking over their embroidery, and the young minx soon takes an opportunity of despatching the old crone to a neighbour's house to borrow some particular shade of material, but in reality to get an opportunity of a love scene with the Shiomio, with whom she purposely quarrels and bids leave her; music *agitato assai*. Meantime the Daimio bribes the old crone and obtains her connivance and sends a *billet-doux* to the maiden, whose susceptibility is shocked, but of course the original modesty of the girl is overcome by the old harridan's unscrupulous use of jewels and gold; the old, old, story. The rich lover is taken into favour, and the old one discarded.

Another scene is the betrothal and marriage of the Daimio, a kaleidoscopic scene of drapery and colour.

Next we have a pathetic scene. The Daimio's former favourite wife. She is now apparently deserted in her *boudoir en deshabelle*. She reclines on a sumptuous couch or divan, with one arm extended (can she be thinking of the forthcoming supper after the play?), looking to us rather cat-like from her amorous eyes, deep set in a brow which is wreathed with flowers, showing off a complexion which is like strawberries and cream, in spite of the veil of gold and silver tissue which envelopes her bust. A bevy of houris give an incidental ballet, of which but a dim recollection exists in my mind, as of a glittering parterre of superbly-clad female forms, with waving arms and twining of scarves and wreaths; in fact, much such a *divertissement* of Bayaderes as may be seen in London, only with less display of legs. More soliloquy, and after some bye-play, the old nurse introduces the former lover, who upbraids her, and after a long contest induces her to make an assignation; at least, so far as we can judge from the context.

Then comes a moonlit scene. A meeting of the lovers and the stolen embraces are witnessed by the Daimio.

"O misery, O rage, what see I with mine eyes?  
The stars are falling fast out of the blotted skies!  
Diana hides her face, and can no longer view  
The inhuman villainy these twain before me do."

Ha! knaves, but ye shall die, and in this very place  
 Receive the due reward of villainy apace!  
 Alas! what do I say, and has my tongue not sworn  
 Shiomio should not bleed for wrongs that I have borne?  
 And shall I slay myself for a fair woman's sake,  
 Who honour, virtue, yea! and chastity can break?"\*

He is restrained from attacking his rival and slaying him on the spot by his retainers, and the drop-scene falls.

The curtain now rises, disclosing a vast sumptuously-gilded and magnificent bed-chamber, lined with screens of blue and gold, with scrolls of embroidered silk in rich tint and elaborate devices. It seems to be dawn without, for a narrow streak of sunlight (real) falls through on the matting of the floor, and a dim lustre oozes in through the pierced fretwork of the lattices high in the tapestried walls, and through the half-open door through which from behind a curtain enter two stalwart swashbucklers, Samourai, with their Daimio's crest embroidered conspicuously on their tunics; they are clad in inlaid baldricks and morions, but without their helmets. They are guided by a lean and ugly woman, shuffling in yellow slippers, who beckons with her hands like flappers to the assassins, not to awake the two attendant maids, who, evidently narcotised, lie motionless on the mats at the foot of the splendid couch on which the faithless princess is extended asleep. The traitress beldame draws aside the curtain, and we see the slumbering beauty's voluptuous proportions. We recognise the black eyebrows and long dishevelled hair trailing over her shoulders, the white and crimson carnations of the semi-nude actress are sensuously disposed so as to be set off by the rich green and gold, scarlet, purple, and blue draperies of the bed, for she is naked to the hips, whilst the lower part of the body is wrapped in cœrulean blue gauze, starred with gold broidery, and even in her well-simulated sleep the artful Circe has coquettishly protruded her pink-toed feet and ankles with a liberal display of natural charms. Meantime the orchestral music keeps up an instrumental undercurrent of picturesque, weird, never-ceasing melody, which realises vivid emotions by its peculiar resources of *sa-mi-sen* and other stringed instruments, accompanied by the monotoned chorus. We are wound up to the highest pitch of expectation, and it is with a feeling of relief that the curtain hides the hideous *dénouement*, and that the actual *étrangement* does not take place before our eyes. The treatment of the subject, however meretricious, was undoubtedly high art; and whilst we admire the *coup d'œil* and accessories, we cannot resist the enchantment of the sentiment.

The tragedy is now nearly over, and what follows is meagre and tame after the culmination of the preceding scene. We have a wild scene of confusion and fighting, and the full ceremony of the Hara-kari, before which the great Daimio soliloquises and makes his apology in proper form, for it appears (how we cannot make out) that this lady gay was neither false nor fickle, but only unfortunate, and that he was deceived. Accordingly, the heroine receives appropriate honours after death.

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\* From Starter's Blyeyndich-Truyrspel "Van Timbre de Cardone," translated by E. W. Gosse.

"Should any ask who here is buried, say  
 'Tis a fair maid, the wonder of her day;  
 She was the phoenix of this land of ours,  
 This picture shows her in her living hours;  
     A prince of fame and might  
     Took sometime his delight  
 In wooing her to be his lady gay;  
     But ah! one bitter night  
     Fell envy in despite  
 Withered this bud of love that passed away."

We are not sorry when the concluding chords announce the *finale* of the piece; for are not we to meet the fair strangled one at supper, after the play? and we all are endeavouring to get hold of an interpreter to learn by rote a few complimentary expressions, wherewith to greet her. Of this supper we need not give a description; suffice it to say that the heroine duly appeared, not unaccompanied by several as fair and (theatrically at least) as frail, but duly chaperoned by a most respectable *okamisan* (married lady), that is if blackened stained teeth and shorn eyebrows are proof of respectability, as they are supposed to be.

*Saionara! Saionara!* I wonder whether the fair moosmies yet remember that gay evening with the festive Tojins.

The last song of the syren, the refrain of which long after rang in my ears, translated, ran somewhat as follows:—

"There need be no despair for you  
     Whilst evening stars are burning;  
 While dark night pours its silent dew,  
     Till sunshine gilds the morning."

Wurgmann's improvised entertainment was a success; at least we all voted it as such on board the *Odin* the next day; for day certainly dawned before some of the party reached home. But then it is quite the correct thing for rising artists to be up early to study sunrise effects. We were all young, all artistic, and did what artists should do under the circumstances.

The following morning a party of us went over by water to pay our Consul, Howard Vyse (who had formerly been in the Cavalry), a visit, at his consular residence in Kanagawa, which is an old-fashioned town, situated at the head of the bay and right on the Tokaido, or great highway to Yeddo. On our way thither we passed across the bay, close by a new fort in process of construction, connected by a causeway with the mainland. It appeared very much like the forts outside Yeddo. At Kanagawa we had an opportunity of seeing Japanese suburban life unadulterated, as the Tokaido passes right through the town of Kanagawa, which is the last stage or resting-place outside Yeddo, which is twenty-four miles distant. The shops are not grand, but there are many small Bhuddist temples and monasteries and Sinto establishments, which, in nearly all instances, are surrounded with well-kept gardens full of flowers and foliage plants. Captain Howard Vyse occupied one of the prettiest of the temple-dwellings near the landing-place, and seemed in comfortable quarters. To us the various travellers and passers-by on the Tokaido were, of course,

most interesting, troops of pack-ponies with straw-cased hoofs, norimons or palanquins, monks and mendicant priests, blind beggars, ordinary mechanics and husbandmen, retainers of haughty Daimios, messengers and coolies carrying lacquered boxes slung on bamboos, mounted yeomen or *fudai*, and yakoneens, soldiers, and all the varied crowds of passers-by to be seen in the vicinity of a large capital of two million inhabitants. Tea-houses and restaurants of fanciful denomination were numerous, and the attendant waitresses as buxom as the average English barmaids, and (if their sly looks belied them not) not averse to innocent flirtation. Kanagawa is quite the place in which to spend a happy day in the true Rosherville acceptance of the term. Halls by the sea and hotels of "endless delight" are numerous to tempt the swell *Samourai*, who fill the position our Life Guardsmen do at home in the way of swagger and deportment. We recrossed the bay to Yokohama, and most of us busied ourselves in packing up *curios* and our purchase for shipment to England in a vessel, the *Naval Brigade*, consigned to Messrs. Aspinall.

H.M.S. *Actæon*, surveying-ship, commanded by Captain Ward, R.N., had meantime arrived, and on Saturday, the 7th September, I accompanied Hockley on board by invitation, to see Bedwell's drawings. The *Actæon* had just returned from Tsusima, the coast of the Corea, and been in many hitherto unvisited spots. Tsusima is about thirty miles west of Simonaski, and the views of the water-labyrinth of fiords in Tsusima Sound by all accounts must be striking. Everywhere massive foliage droops into the water. Here whole navies of the world might be concealed, without an anchor down, for every ship might be moored in deep water to the trees on the banks. Tsusima produces wild cats and deer of a species differing from that found in Japan; its pheasants also are said to be different to those of Nippon. The deck of the *Actæon* was filled with Wardian cases of plants and cages of rare animals, two monkeys, bears, &c., amongst which were the small fox-like *tanuki* (*Musina*), said only to be found on Fusi-yama, also a tiny otter, *itatsi* or *itutz*, a species of *vison*, one of the *Mustelidæ*.\* Altogether she looked as unlike a man-of-war as possible; she was especially a vessel of peace and science.

Nor must it be forgotten that here Robert Fortune first had the great delight of discovering the male aucuba.

"Novi canamus regna Cupidinis  
Novos amores gaudia non prius,  
Audita plantarum latentis  
Igniculos, Veneremque miram."

"De sexu Plantarum," Camerarius, A.D. 1694.

Here is the late veteran botanist's account of the auspicious event:—"When I set out for Japan I was aware that all the aucubas which form such an ornament to our gardens, particularly to our town gardens, were female kinds, and probably had all been raised from one plant. Need I say how anxiously I looked out for the male plant; how I cut the flower-buds open with my penknife before they opened, and how

\* See "Travels of a Naturalist in Japan and Manchuria," by Staff-Surgeon Arthur Adams, R.N. (Hurst and Blackett. 1872.)

pleased I was to find stamens inside. It was in Dr. Hall's garden at Yokohama that I made the welcome discovery. The Doctor was good enough to let me dig up his plant, and this was the first male that reached England."

I have before alluded to the custom of frequent bathing, so universally prevalent throughout Japan; and here at Yokohama we had frequent opportunities of beholding the national habit on a large scale. For, as in ancient Rome and the Italian watering-places, such as Baiæ and Pompeii, the larger cities in Japan are well supplied with public bath-houses, answering in many respects to the *thermae* and *balnea*, the *lavatrinae* and *balneæ publicæ*, whose remains are universally found wherever Roman ruins are preserved. But the Japanese bathing establishments are far less luxurious than their Roman predecessors in the simplicity of their appointments. This love of bathing of all descriptions, in cold and hot water, and in vapours of natural or artificial steam, in fresh or salt, mineral or chemical fountains, is predominant amongst all classes, from the highest to the lowest, without exception.\*

As formerly was the custom among the Romans, so here the women visit the public baths as well as the men; but in Rome the *balneum virile* and the *balneum muliebre* were separate rooms, although in later times Juvenal and Martial refer to the gross immorality of men and women bathing together; but the women were *impudicæ muliebres* who did so, and Quintilian speaks of one of the signs of the times, "*Signum est adulteræ lavari cum viris*," and Hadrian, "*Lavacra pro sexibus separavit*," whilst Heliogabalus actually encouraged the promiscuous bathing of both sexes.

In Japan, however, without impropriety or immorality, both men and women bathe in public without the least covering to their nakedness; and it was one of the sights of Yokohama to see these public baths when open of an evening about sunset. Quite visible to the public and passers-by, these bathing establishments are the favourite evening resort of the citizens, and only separated by a line of pillars, or open wooden railing, are numbers of women and children on one side, with as many men and boys on the other side, soaping and douching or drying themselves in utter unconsciousness of any feeling of shame.

Here it is manifest that any shamelessness or feeling of the sort is utterly out of place, and the definition of "*impudicitia*,"† given by Sydney Dobell, occurs to one as apposite, that the pure downright nakedness of body has no taint of immorality, no more than the spouse of the "*Grand old gardener*" of Eden (who has been represented in full-length

\* Witness "*Les Baigneuses*" of the late painter, Mons. Courbet, in the Salon of 1853, the same painter who overthrew the column in the Place Vendôme.

† "*Impudicitia*" in the body is unnecessarily to uncover those portions of it whereof the mere act of uncovering produces either in the uncoverer or the uncovered a form or phase of those sensations which would result from utter divestment; mental *impudicitia* is the analogue of the physical; and immodesty, physical or mental, while the same everywhere in principle, differs in practice with individuals, nations, eras, &c. It may be immodest in a nun to show her eyes, and he who makes her do so is therefore immodest. It may be immodest in a recluse to let a stranger look him in the face. So of mental nuns and hermits. An Abyssinian woman is not immodest in her exposure: an Abyssinian man might say to her many things intolerable to a European woman or from a European man. That the sculptor has exhibited his *Venus* is not *per se* criminal; the question for the Court is whether criminal in such and such a community."—Sydney Dobell.

figure, "en pleine toilette de rien du tout," by M. Hennee, in the "L'Art de la Mode," 1st No., August 1880), such as is conceivable in the half-clothed forms too often visible in our virtuous (?) assemblies in Europe. Everyone knows the old story of a description of the toilets to be worn by two Parisian actresses on their visit to the fancy ball, where they would appear respectively "en hiver prématuré" and "en printemps qui s'avance." In the one case, the costume was "Un peu de feuillage, très peu, parce que l'automne est fini . . . et de la neige . . . pas beaucoup, parce que l'hiver commence à peine." In the other it consisted of "De la neige, pas beaucoup . . . parce que l'hiver est fini . . . un peu de feuillage . . . très peu . . . parce que le printemps est à peine commencé." Take another instance from "Les Pattes de Mouche" of M. Sardou. One of the characters, a traveller, holds up a string of beads, which is said to have belonged to a Polynesian lady. "Un bracelet?" demands a lady who inspects it. "Non," answers the exhibitor, "une robe." Here the lubricité is intentional, and the suggestion designed to be immodest. It would be difficult to find a modern Madeleine in Japan:—

"Quand ton sein, ô Madeleine!  
Sort du corset de baleine,  
Libre enfin du velours noir;  
Quand, de peur de te voir nue,  
Tu jettes, fille ingénue,  
Ta robe sur ton miroir!"—"Odes et Ballades."

The Japanese code of morality,\* although well defined, is not strait-laced, like our common-place and traditional type.

Napoleon the Great showed his contempt for the prudish affectation prevalent in France when he remarked, "Quand Madame Genlis veut définir la vertu, elle en parle toujours comme d'une découverte."

In the baths at Yokohama the male and female bathers have that air of habitual nakedness which banishes from the spectator's mind all sense of their being so.

In Yokohama there only exist traders and officials, as it is entirely a foreign trading-port, and consequently none of the Japanese upper ten thousand are to be found in these establishments. In fact, I should imagine that the public baths are only for the middle and lower classes of society, and that the richer people have private baths on a more luxurious scale, although, amongst even the richest of this primitive people, simplicity and plain-living are regarded as necessary virtues of correct life.

H.M.S. *Actæon*,† the surveying-ship under Captain Ward, had arrived from Tsusima, and was anchored not far from us, so I went on board of her on the 7th, and lunched in the ward-room, and had the gratification of examining leisurely the first-rate drawings

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\* Professor Edward Dowden has been lately lecturing the ladies of the Alexandra College at Dublin, to the effect that "the development of the whole of manhood is a far higher object than the adherence to commonplace and traditional morality."

† Hulk now lying up the harbour at Portsmouth for torpedo service.

made by Bedwell, those sketches being more especially interesting which delineated the hitherto undescribed shores of the Corea and Quelpart. The Admiral, Sir James Hope, was daily expected, as he was still away in the *Encounter* with Captain Dew, stirring up the Russians, and hurrying them out of Tsusima; but the flag-ship, H.M.S. *Impérieuse*, was next to us in Yokohama Bay, and on Sundays we used to go on board for divine service. The service was very effective, as there was a very fairly trained choir.

On the 9th, Dr. Hunter, of the *Odin*, and myself went on shore to a Japanese hippodrome, established near the Gan-Ke-ro. Some of the feats of horsemanship were novel, such as riding up a bamboo-ladder at a considerable angle (nearly 45°). The riders were on shaggy ponies, and to see a lot of them clattering up the ladder to a platform and down again was exciting; of course the ladder was a species of broad, inclined, open-work platform. A tragic interlude was performed, in which the abduction of distressed princesses, elopement and capture of the fair heroine, and her slaughter, all on horseback, and with a due amount of melo-dramatic combat, were successfully represented in a spirited manner. The real dresses and costumes of the mediæval days, and the mixture of fabulous with realistic treatment was artistic in finish throughout. The acting of the *prima donna*, or rather *première equestrienne*, was most pathetic.

The play was not improbably adapted from an old Portuguese epic of old Don Luis de Camoens, and we could picture to ourselves Donna Ignez de Castro lifting to the clear heaven her ardent eyes, overflowing with piteous tears, before the ruthless bravo, who ties her soft arms previous to execution.

“Para o ceó crystallino alevantando  
Com lagrimas os olhos piedosos,  
Os olhos, porque as mãos lhe estava atando  
Um dos seus ministros rigorosos.”

“Ignez de Castro,” canto iii. p. 125.

“All overflowing with most piteous tears,  
Towards the clear heaven she lifts her ardent eyes;  
Her eyes, for now a ruthless guard appears,  
And her soft hands for execution ties.”

The greater part of the audience were in the pit, the seats of which consist of a number of low square pews, or loose boxes, and contain room for five or six people, who are seated on mats. There was a large muster of the fair sex in these pit-boxes, as well as in the gallery. They were all demure and correct in their demeanour, and the beauties were all accompanied by chaperones or companions, whilst active flirtations were carried on between the scenes with the samourai, and various flaneurs and idlers of the diplomatic corps, who danced assiduous attendance on their fair enslavers. The galleries in which we sat were apparently frequented by the more exclusive and respectable inhabitants of the sea-port.

On the night of Monday, the 9th September, a curious incident occurred to us whilst at anchor. The south-east wind died away, and it was a perfect calm, and I was fast asleep in my hammock, when I was awoke by all hands being piped on deck, and found the

vessel tossing and pitching in a heavy sea. I rushed up on deck in my shirt and pyjamas, and beheld a curious sight. There was not a breath of wind, but yet at the same time the sea was violently agitated and we had got adrift, or at least our anchors dragged; and not only our ship, but all the ships in the roads, were likewise drifting here, there, and every way, with the confused chopping sea. No one seemed to know what it was, and some time elapsed before I comprehended that the phenomenon was that of an earthquake, or rather sea-quake. When I realised the idea it was not reassuring, as the fate of the Russian frigate *Diane*, wrecked in 1855, was present to remembrance. It was a weird scene. We were nearly in collision with one, if not two, of the merchantmen, several of which were hopelessly tossing as if in the Maelstrom, and as there was no wind there was no chance of getting even steerage-way on her under sail. Luckily we had been preparing to proceed under steam at 4.30 A.M. for Yeddo, and consequently the fires were alight, although banked, and in a short time we had steam up. Curiously enough, as the sea subsided the wind got up, and the barometer fell so rapidly, and the morning broke so ominously, inky-black clouds scudding past over the white-topped discoloured waves, that we momentarily expected a typhoon after the earthquake.

The *Odin* had successfully escaped the quick-sand of Simona Saki, the rocks of the Suwonada, and the whirlpools of Mittary, and was not to be deterred by dread of sea-quake or typhoon.

"Absumptæ in Teucros vires cœlique marisque  
Quid Syrtes, aut Scylla mihi, quid vasta Charybdis  
Profuit?" \*

Virgil, "*Æneid*," vii. p. 300.

We left our anchorage and proceeded to Yeddo Bay, but kept as far off as possible from the shallows, as the weather was so threatening. In these bays the water soon gets up an ugly lop. All this day and the following we were unable to communicate with the shore, and the rolling of the vessel at anchor rendered the situation most unpleasant. A rather sad accident occurred to one of the engineers, who got a fall by the slipping of a ladder in the engine-room, whereby he ruptured his intestines fatally. At last, the weather moderating, we were able to land on the 12th. A visit to the little-known town of Yeddo had been looked forward to with eagerness, and it was with delightful anticipations that we got into the cutter and pulled between the outlying island sea-forts and landed at a small rude wooden jetty, on whose slippery piles and planks it was rather difficult to climb out of the boat. This landing-place was close opposite the temple occupied by our Minister, Mr. Rutherford Alcock, and his suite in the suburbs. From the landing-place we had to cross the main street, or Tokaido highway, and all traffic was suspended as we crossed between two rows of yakoneens, who guarded jealously all access to the gates of the stockaded enclosure around the Legation, which were shut on our entry into the fine avenue by which the approach to the Legation buildings is adorned.

\* "Against these Teucrians sea and sky have spent their strength for nought:  
Was Syrtes aught, or Scylla aught, or huge Charybdis aught?"—MORRIS.



We passed under several ornamental torans and gateways which traverse the slightly ascending drive, which is planted on either side with the Massonian pine-tree, so dear and indispensable to all true Japanese, and ever to be found in his gardens and about his temples and tombs; not forgetting the ubiquitous cryptomerias, thujas, as well as the handsome maiden-hair tree and dark-leaved podocarp, with shrubs of camellia and azalea bushes intermixed.

As we passed up we observed picquets of armed yakoneens, their horses ready saddled and bridled, and an air of watchful activity and nervous *alerte* everywhere evident, frequent sentries, whose short beats of but a few yards were arranged all round, and small *tentes d'abri* for the night-guard were posted both within and without the enciente of the grounds. The prevailing state of siege not ill-represented the then reign of terror, for assassination was the order of the day, and it was a question of *Quis custodiet custodes* at that time. On one side of the temple-grounds was one of the cemeteries such as we had seen before at Nagasaki, with the usual crowds of stone-shrines and votive-tablets.

We were introduced to Mr. Rutherford Alcock, and kindly received by him and his staff, who had been having a rather rough time of it lately, according to all accounts. Lord John Hay was still in bed when we went into his room, and, with his sword and four revolvers placed handy on a chair at his bedside, looked prepared to meet any amount of yakoneens. He jokingly remarked that a night at the Legation of Yeddo was not dissimilar to a day's duty in the trenches before Sebastopol.

The Marines from on board the *Impérieuse* were all quartered in the residency, and the defensive force, including 500 of the Tycoon's body-guard on foot round the rear of the enclosure, and 300 mounted and dismounted Japanese in front, made a force nearly 1,000 strong; but this was in a city containing then a population of over a million and a half of inhabitants (according to a census of 1857 the population was 1,554,840\*), out of which there were 432,000 armed retainers, Samourai, and blood-thirsty fanatics: so that in the event of any real attack the chance of escape was small for Mr. Alcock and his party. The other foreign legations of course were in a similar precarious position, and every credit should be given for the firm aspect and unyielding position they maintained in these trying circumstances.

Several traders were at the Embassy who had obtained permission to show their wares, and agents from the most celebrated firms had brought *objets d'art*, picked specimens of native faience, including Kioto jars, vivid-red Kaga plates, Kioto-ware, of all Japanese ceramics the most interesting; dishes from Owari, remarkable for the depth and richness of their

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\* M. Léon Metchnikoff, in the "Revue de Géographie" (1879), publishes interesting notes on the population statistics of Japan, based upon the census returns and two school geographies issued by authority of the Japanese Minister of Education. There are, according to him, only 566 towns or villages of over 1,000 inhabitants, and five amongst these have over 100,000 inhabitants, viz. Tokio or Yedo (595,905), Ohosaka (271,292), Kioto (238,603), Nagava (125,195), and Kanazava (109,850). Of towns between 20,000 and 50,000 inhabitants there are forty-one, best known amongst which are Yokohama (64,602), Nagassaki (29,660), and Hakodate (28,800). The author states that his list may not be quite complete, but it shows, at all events, that Japan is not so rich in populous towns as was formerly supposed.

blue colouring and splendid enamelling; costly faience of Oiron and Ise, with finikin-work of Owagi; *netsukés* from Awata, carvings in rock crystal and jade;\* vases from Hizen in crimson and gold, the famous lacquer made for Daimios† at Satsuma, and the exquisite bowls of Kaga; fans and embroidery from Miako and Osaca, bamboo carvings from Sikok, bronzes and *cloissonné* enamels of Yeddo, ivories from Kagosima, and cutlery from Kaga. Here, too, we had an opportunity of learning a great deal about the various devices which are such favourites among the Japanese of all classes, and which have only quite recently been explained in England.‡ The silk from the rich province of Echizen

\* "Ceramic Art of Japan," by G. A. Audsley and J. L. Bowes. (Liverpool: published by the Authors. London: Sotheran & Co.)

† There were three classes of Daimios, viz. the *Kokushiu*, *Tozama*, and *Fudai*: a lower caste and tributary were the *Huto-moto* or *Hate-moto*, *Gokenin*, and the *Samurai*. The Shôgun's own retainers and vassals were the *Fudai*, and there was an independent class of *Tozama*.

‡ The following explanation of some of these designs has recently been given by M. C. Pfoundes to the Society of Arts:—

"The following combinations are most frequently met with in Japanese designs.

"Phoenix and Paulownia imperialis.—This design is to be seen embroidered on the imperial robes, and on them only, but is frequently depicted on fans, screens, and hanging scrolls ("kakemono").

"Pine-tree and Stork.—Both emblems of longevity. A common design, and most frequently used in the embroidery of robes presented to new-born babes, and on other articles, lacquer ware, &c., for festive occasions.

"Pæony and Chinese Lion.—The pæony is a design usually sketched on large articles, such as screens at the entrance of temples ("tsui-tate"), or on panels, ceilings, &c.

"Bamboo and Sparrow, both being of a mild and gentle nature. A design to be seen in embroidery, fans, screens, and household furniture.

"Equisetum (Scouring Rush) and Rabbit.—It is supposed that there is an 'usagi' (hare or rabbit) in the moon, which scours it with the dried 'Tokusa.' A design found on a variety of articles.

"Willow and Marten (or Swallow).—The willow waves in the breeze, the swallow flits to and fro. A favourite design for fans.

"Stag and Maple.—Maple leaves turn red in autumn, and the stag in autumn calls the doe. There is a play in the idea of the colour ('iro') of the leaf changing, and the love ('iro') of the deer. Generally sketched in screens, &c.

"Lespedeza and Sleeping Wild Boar.—The wild boar generally makes its bed in clusters of 'hagi.'

"Cherry and Pheasant.—The *Prunus pseudo-cerasus*, cultivated solely for its bloom, is associated with the gorgeously-plumed pheasant. Generally used in embroidery and coloured designs.

"Plum and Nightingale.—The plum-tree, called 'the poets' favourite tree,' in allusion to the verse composed in honour of Naniwa no Oji (afterwards Nin toku Ten O) by Oni (or Wani). The nightingale is fond of song or verse. One of the most frequent designs.

"Moon and Cuckoo.—In allusion to Yorimasa and his verse when he slew Nuye. The design is usually a bird flying across the crescent moon.

"Rushes and Geese.—Geese flying long journeys carry rushes in their beaks, and, before resting on the water, drop the rush and then alight upon it. An allusion to the care to be taken in choosing a resting-place.

"Chrysanthemum and Fox.—Hanzoku Tai-shi, prince royal, was bewitched by the nine-tailed fox, in the form of a lovely damsel. He made her his mistress. One day she fell asleep in a bed of chrysanthemums, resuming the normal shape of a fox. He shot at it with a bow, and hit it in the forehead. Noticing his mistress afterwards to have a wound on her temple, this led to the discovery of her being a fox.

"Bamboo and Tiger.—Tigers feared the elephants, and therefore hid in the bamboo jungle. This design is often seen on screens.

"Peach-trees and Oxen.—There is an old Chinese saying, 'Turn the horse loose on the flower-covered mountain, and the ox into the peach orchard.'

"A Dragon crossing the Summit of Fusi-Yama on the Clouds.—Small snakes become dragons, and an

was especially rich in texture and colour. Some of the works were masterpieces of art, but enormous prices were asked for blades of exquisite temper. They were as sharp as razors.

In no part of the world can we trace the footsteps of a more thoroughly original art history. By methods not only unknown to, but hardly comprehensible by, the European artist, the Japanese produces effects of the most startling force. At one time he will imitate nature so closely (as in the case of the representation of the fur of a tiger, in a painting on silk, now exhibited at South Kensington), as to deceive even the magnifying glass, and to compel the observer to have resort to the aid of some other sense than that of sight to discover the admirable forgery. At another time, by fine, broad, straight strokes, he will throw the force of the rainstorm over a landscape that is defined only by what we may call splotches—but they are splotches as full of genius as the rough scratches of Gainsborough's pencil. The small reliefs in inlaid and coloured metal which are occasionally to be procured in this country from Japan are marked by a delicacy of creation, a quaint force, and a power of transmutation—like that of alchemy itself—which no European artist can hope to rival. Even to men familiar with the processes of

subject mortal often becomes an exalted person, rising to a great height, and easily surmounting the greatest obstacles. An emblem of success in life.

"Long-armed Ape and the Moon.—It sees the reflection of the moon in the water, and endeavours in vain to grasp it.

"The Mulberry and the Goat.—Goats are fond of this plant, and its product paper.

"No mistakes are permitted as to seasons and the appropriate objects. Conventionalised ideas appear in the accepted form in many common designs and groupings, but the artists of old Japan are above being led by any canon that does not permit of an appeal to Nature's handbook of art, with the glory and charms of which they are ever surrounded. Theoretical to a fault, and systematic even in their love of variety, colour, and form, the Japanese artists, nevertheless, are no mere servile copyists of Nature, like their neighbours the Chinese. They clothe Nature with the full wealth of their ideal conceptions, and so confer upon it their own mental individuality.

" . . . A combined triplet emblem of bamboo, pine, or plum-tree is held to be especially suitable for festivals or auspicious occasions, such as marriage. A little bird perched on a blooming plum-tree is an allusion to a well-known poem.

"Floral forms have a high importance, and widely affect the minor details of decorative art. The arrangement of flowers is also reduced to a system, taught in progressive lessons. The natural forms of the various plants are altered, but with an art that conceals the effort. Daily accustomed to these floral arrangements, backed with hanging scrolls of a Chinese poem, or with an artist's sketch in the hallowed nook that exists in every Japanese sitting-room, the mind grows accustomed to these objects. Every house has a little bit of garden; if without room for more, a box is found, containing a miniature garden in the area of a few superficial inches.

"It is thus seen that there was, and is, as a deep current, a strong love of Nature flowing through this people's art instinct. Periodical holidays furnish but an excuse to dress up and have a day's outing. Even a visit to a shrine or a temple is ever attractive. Going to church is no mere dull prosaic routine of duty. The flowers of the season, from spring to autumn, furnish periodical excuse for these festive picnics. Pilgrimages to distant shrines give opportunities to visit beautiful or grand scenery and celebrated places.

"Delighting to look at scenery from a high point, the popular pictorial art may have been influenced by this peculiarity. Thus we see that their love of nature, of flowers, and poetry was so intermingled with their domestic life and their art, their literature, and poetry, that it is difficult to draw the line where art begins and ends."

our goldsmiths and bronzists, the method by which the Japanese produced such results is entirely unknown. In the lacquer peculiar to Japan, or, rather, the lacquers—for ten distinct sorts are distinguished—from the gold lacquer of various hues, laid on either in a flat wash or in embossed figures, to the red, which can be cut like wood, almost every precious material is simulated or adorned by these preparations. Lacquer coats metal; like the enamel of Limoges, it is spread on porcelain and on wood. In wicker, in paper, in earthenware, in textile fabrics, the art of Japan is as advanced and as original as it is in works of metal and of lacquer.

Behind the Legation there was a pretty garden, a good example of Japanese horticulture. In spite of the confined space and vicinity of the town, it was so arranged that a perfect *rus in urbe* was secured. Rockeries of jagged limestone and slag, planted with ferns, mosses, and primulas, and overrun with clematis, were arranged over a picturesque pond under drooping plum-trees, whose blossoms are so pleasing to the Japanese. A good screen was formed by shrubberies of camellias, over which appeared retinosporas and cephalotaxi, with various abies and cypress, the double cherry and the double-flowered peach, both introduced into England by Robert Fortune, who had just left Japan a week previous to our visit, much to my disappointment, as I greatly wished to have met him; whilst overshadowing all were larger trees, such as maple, ilex, and the Massonian pine. A turf lawn, almost English-looking in its neatness, completed the tasty garden-retreat. Sparrows, wrens, and chattering made the grove lively with their chirruping, whilst in grim contrast the clattering of armour and jingling of swords and muskets, and the hoarse frequent challenge of the sentries, showed that this apparently peaceful spot was in the vicinity of imminent bloodshed and covert assassination.

In-doors the furniture, hacked by swords, and the panels and screens pierced by bullet-marks, still bore evidence of the recent bloody struggle during the midnight attack, and we did not know from hour to hour when this attack might not be renewed. The suspense must have been most trying to those whose duty it was to remain on the spot.

On Friday, the 13th, two launches from the *Impérieuse*, at Yokohama, came alongside to take the *Odin's* marines on shore, under Lieutenant Pitman, Royal Marine Artillery, in order to relieve the marines under Holland, at the Legation, who returned to the *Impérieuse*, so I took the opportunity of again going on shore, but it turned out wet, and we could not venture beyond the precincts of the Legation, but Lord John Hay obtained permission for a party to be formed the next day to visit the city under escort, with proper precautions.

On returning on board we found that the poor engineer who had been injured on the Tuesday was dead, and the funeral was ordered the next morning. Accordingly at sunrise a small procession of boats was formed, and the body committed to the deep at about half a mile distant from the ship, in Yeddo Bay. After all, a funeral at sea is more impressive, and jars less on the feelings than burial on shore. Cremation is preferable to inhumation, both on sanitary and other grounds; amongst others it assists to destroy a

degrading superstition, but submersion is in all respects a better form of disposing of our human dead.

The sun's first rosy beams, as they shone above the low shores of Simosa to the east, caused the numerous roofs of the towers and battlements of the Tycoon's fortified palace northward of us to glitter, and lit up the Hakoni range of mountains and the distant peak of Fusijama, as three volleys from the carbines of the sailors rang in succession over the still waters of the bay, whilst the ensign at the peak and the long pendant at the main of the paddle-frigate, fell listlessly, undisturbed by a breath of air. A few Japanese fishermen stopped sculling their boats to gaze at the novel ceremony, whilst the jealous Tycoon's officers, in the official row-boat, with its customs guard, ever on the watch in the vicinity of foreign vessels, took notes of the proceedings with careful scrutiny. The shoals of fish were jumping in the bay, and the large black-capped gulls, with the terns and noddies screaming and splashing over them, in their eager attempts to seize their prey, as we took headers from the gangway to enjoy our regular morning bath.

After breakfast a select few (including Lieutenant Buchanan, Hockley, and the Doctor) of us pulled on shore to take advantage of the opportunity afforded of seeing the interior of Yeddo, and on our arrival at the Legation we found horses and mounted escort awaiting us. We had to make the best use we could of Japanese saddles and horse-gear, as the animals were caparisoned exactly according to Yakoneen regulation, the stirrups of the saddle being most different to English ones, and more adapted for the sandalled feet than for those in boots. Three mounted Yakoneens formed an advance-guard to clear the way, with outriders in advance, and fifteen under an officer enclosed our flanks and rear. In this order we rode at a gentle pace along the Tokaido and past the cemetery of the Tycoon, a well-wooded and extensive part, and next reached the official quarters of the town, the Japanese Downing Street and Whitehall, where the public offices and principal Government departments are located.

One of the show places always visited by strangers was next reached; this is the A-tang-yama, a curious mixture of monastic worship and secular recreation-ground, for in Japan religion is far from ascetic, and is generally hand-in-hand with pleasure and enjoyment. The A-tang-yama is a hill sacred to Atang, the ascent to whose temple is reached by a straight steep flight of ninety steps, on either side of which are monuments and shrines, not forgetting the torans and erections like small light-houses. On the top of the hill were tea-houses and restaurants, with attendant mousmés with bright eyes and languishing smiles, clattering in their wooden clogs and serving us with hot tea and sweetmeats and fruit, which were far from unacceptable. The cool breeze was delightful up here, whence a most extensive view is obtainable over the city, suburbs, and neighbouring country and bay. A fine panorama stretched before us, and I took the opportunity of securing a sketch of the view over the bay, including the island forts and the *Odin* in the distance, with the Tycoon's palace and park-like grounds in the foreground.

The Bishop of Victoria's work put the extent of the city at 120 squares miles in area, but it could not be that. Less than half, under fifty square miles, is composed of streets

and houses and river, including the palace grounds and the parks and cemeteries of the Daimios; beyond that, although well and even densely populated, it is more or less the suburban neighbourhood, and the numerous monasteries, gardens, plantations, parks, and temple-grounds give quite a rural aspect to the surroundings.

At the foot of the main staircase and balustrades was a small shrine in honour, I suppose, of the god Atango, containing shoes and sandals of straw and other material, of every size and description,\* some minute models fit for Japanese dolls, and of every gradation of scale up to sandals of Cyclopean dimensions, fit for heroes of fabulous days and the pre-historic Titans of Nipon. Our interpreter was not sufficiently fluent to explain the metaphorical allusions, but we supposed that the cult of Atango was more or less efficacious for chilblains, cramp, or even gout perhaps.

Having remunerated the lively mousmés, and complimented them on their rouged complexions and cherry lips and merry eyes, we descended by a different set of steps, more winding and zigzag, with frequent platforms and landings, the straight steps of ascent being too steep for easy descent without a sense of giddiness. The steps are well cut and broad, the masonry being artistic and the material a fine limestone. The hill is partly artificial, the terraces being supported by timber-shores. From the summit, which faces more directly the north-east, we noticed the River Todogawa, which traverses the city, spanned by several bridges, but more especially by the famous bridge from which all the distances in Japan are measured.

Remounting our ponies at the base of the hill, we entered the outer enclosure of the royal grounds. The roads are justly to be admired, well macadamised, with well-paved sidewalks, level, rolled, and free from weeds and mud or dust. Crossing a fortified bridge and passing stockade and rampart, we noticed the outer moat, a wet ditch, the sides of which were well revetted with polygonal masonry of large blocks of stone, without cement, and our route kept along a broad boulevard tolerably free from people till we turned to our right, and entered a double-barrier gate and a strongly-guarded post. The sentries barred ingress until proper pass-words were given by our escort, and soldier-like was the appearance of the guard, and picturesque with their brightly-kept rifled muskets and boyonets, spears and halberds, and horse-hair standards in their racks, and the whole display betokening rigid discipline, the bright points of the spear and halberds all having neat fish-skin covers. We now rode along a broad parade-ground on the exterior of the second broad moat which encircles the palace fortress. This moat is of vast dimensions, deep and broad, a monument of good engineering skill, and patient careful labour. We were here afforded an opportunity of seeing a procession of one of the great feudal princes, and had to halt at some distance to avoid crossing the line of march, and prevent giving

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\* Suggests a companion picture to the "Shoes of the Faithful," painted by C. Robertson, and exhibited in the Royal Academy, 1879 (No. 954), representing a quaint bright drawing of empty shoes and slippers on the steps at the entrance of a mosque, the owners in the distance at prayers. Also the same painter's sequel to the same, "Meum et Tuum," in the Academy, 1880, No. 284, illustrative of the effect of temptation.

cause of offence to any fiery ultra-conservative Daimio, for some of these Samourai are veritable "Jingoes," as we should term them now, and in fact they were good examples of what modern Jingoism would have us to be. A gay and mediaeval procession it appeared, numbering several hundreds. First came a number of two-sworded retainers, then a number of servants, all with heraldic devices on their backs, carrying lacquer-boxes and trunks slung on bamboos; then kangos and norimons; then mounted cavalry, each with two swords, followed by Yakoneens in full armour, with black-tufted spears, halberds, and standards of quaint emblazonment; and next some state norimons with robed officials and umbrella-bearers, with more two-sworded guards, and led horses. Altogether the aspect of the cortége was martial in the extreme, and picturesque besides. We proceeded now close to the great moat.

Oliver Wendell Holmes, speaking of this moat, says: "That Japanese one at Jeddo, which you could put Park Street Church on the bottom of, and look over the vane from its sides, and try to stretch another such spire across it without spanning the chasm."

The inner sides of this moat are much higher than the outer, and are surmounted with the enclosure wall of the palace grounds, with guard-houses at intervals where there are bridges to the various entrances. Over the walls are the tops of fine timber-trees, and the grounds within must be well worth seeing. The bright green turf slopes, as smoothly kept as an English lawn, incline at an angle of nearly fifty degrees to the water's edge. The water appeared clear, although stagnant, and in some places, where trees grew outside the enclosure, reflected the graceful weeping foliage which almost touched the surface. Water-weed and lilies floated in some corners, the favourite resting-place of various elegant white herons and egrets, with various gallinules safely preserved from molestation in the midst of the city.

Within the walls of the palace there were said to be 80,000 armed retainers—a formidable garrison.

We rode round the citadel, the highest and best defended portion of the palace. Here were inner moats, outworks, and a species of keep of imposing dimensions, with well constructed draw-bridges all carefully guarded. It was here that the Goteiro, or Regent of the Empire, was murdered some few months previous to our visit.

When I had finished my drawing it came on to rain, and our guards put on their water-proofed cloaks,\* whilst we were glad to scamper home as fast as the legs of our ponies would permit. It was almost dark as we returned, and the citizens were traversing the wet streets with lanterns, each with its peculiar device on its sides. We got back in safety, but wet through, to our original starting-point, and were glad to regain shelter from the weather and enjoy our dinner in the ward-room of the *Odin*.

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\* Made of oiled paper, the basil which yields hemp-seed oil is *Perilla ocimoides*. It is called by the Japanese "Ye-goma," and the oil obtained from it is used by them in the manufacture of oiled paper, whether for decoration or for useful purposes, as waterproof coats, &c. The paper itself is made from *Broussonetia*.

The following day we were joined by Major Fawcett and Taylor, of Fane's Horse, who came over from Yokohama, and we again formed a riding-party on Monday, the 16th, to revisit Yeddo, and see more of the novelties of the Japanese capital. On this occasion, as before, we were well armed ourselves, and accompanied by a similar retinue of guards, but, like prisoners on parole, were under the strictest of injunctions to act entirely under the instructions of our escort, and not to separate under any pretext whatever from our party. Nor, indeed, had we much inclination to do so, for the numerous recent murders of Europeans made the hazard of traversing the streets of Yeddo alone sufficiently obvious.

This time we traversed another portion of the town, and examined the fashionable Tyburnian and Belgravian quarters of the Daimio aristocracy. We were fairly bewildered with the succession of the sights by the way. Temples, streets, shops, bath-houses, gymnasia and fencing-houses, bridges, gardens with clipped yew-tree hedges, flower nurseries, parks, and monuments, fire-brigade establishments, and look-out houses, torans, priests and nuns, monks and warriors, children, travellers, norimons and kanjos, fishing and pleasure-boats, tea-gardens, beggars, itinerant costermongers. These have all been now described a thousand times. We were fortunate enough to have this glimpse of old Yeddo as it then existed, as if it had been the same town some 500 years ago, days never to return, for the Eastern capital is now no longer the exclusive city of yore. The Tycoon, or Siogoon, has disappeared, and all the mediæval accessories of the old Japan have become more or less Europeanised.\*

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\* The contrast between Yeddo in 1861 and Yeddo in 1873 may be judged from the following extracts from the Royal Geographical Society's "Journal," 1874:—

"As is well known, it has during many centuries been the custom that Japanese nobles and gentlemen should, whilst beyond the precincts of their houses, carry on their persons the two swords which were the badge of their rank. This custom, indeed, on the part of these privileged classes, had become so engrained in the ideas of the entire inhabitants, that the Government, at a very recent period, expressed themselves as believing that were any order to be issued which should prohibit the carrying of the swords, such an order might cause a revolution. Accordingly, no order on the subject was issued, but the compromise was subsequently tried of issuing a Government notification to the effect that for the future the nobles and the Samurai need not, unless by their own preference, continue to wear their swords. The result was that in an incredibly short time the usage of wearing swords was abandoned, and it is now almost as unusual to meet in Yeddo a Japanese wearing the old two swords as it is to meet in London a gentleman attired in the old Highland costume. Indeed, last year (1873), when the senior Prince of Satsuma, who is at the head of the small anti-foreign party in Japan, visited Yeddo with a large retinue of followers, their now almost obsolete custom of carrying swords afforded so constant a source of ridicule as these Satsuma men passed through the streets that they soon found it convenient to keep within doors."

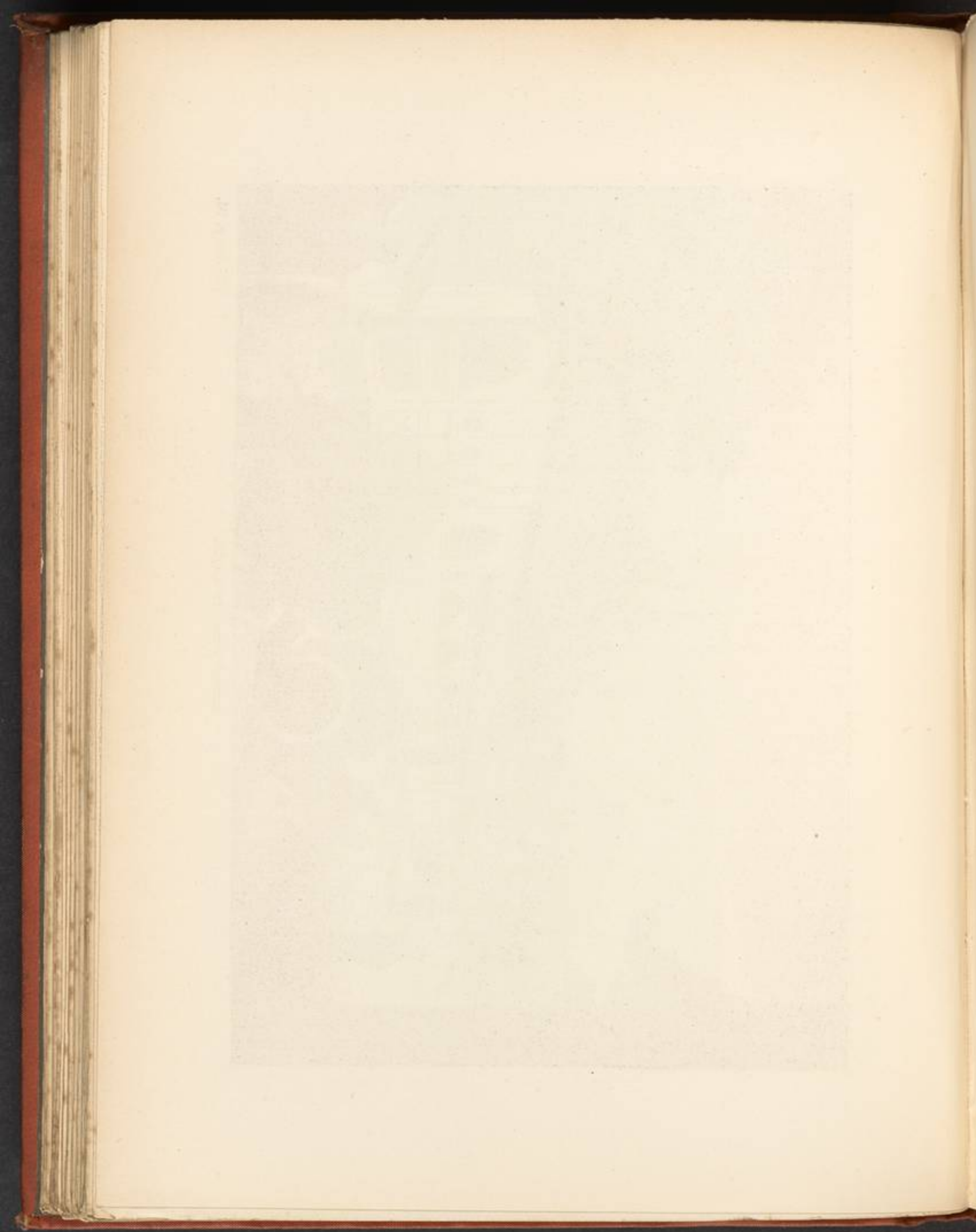
R. G. Watson, Chargé d'Affaires:—"When I arrived at Yeddo in May 1872, I found at Her Majesty's Legation a Japanese mounted escort for our protection of forty-three men, and wherever any of us went on foot or on horseback in the city of Yeddo, or within a distance of many miles around it, we could never, unless when indoors, escape the surveillance of these guards, whose lives, had anything happened to us, would have been forfeit for ours. Being convinced that the anti-foreign feeling which had caused such measures of precaution in the case of the members of a foreign legation had almost entirely passed away, I readily met the Japanese Government in a proposal that these guards should be withdrawn, and within two months of my arrival at Yeddo they were so from that time onwards. I was in the habit of going about Yeddo in all directions at any time from dawn to midnight, having no person whatsoever with me excepting a groom to hold my horse, or to carry my lantern if at night. I slept in summer in a room with windows and doors open. I never carried a stick or whip for defence, and never once had my revolver loaded."





STREET SCENE IN YEDDO.

[To face p. 94.



The unsophisticated scenes made a deep impression on us, so different to anything we had imagined or read of.

As we pulled back we met Admiral Hope, who had arrived in H.M.S. *Encounter* from Hakodadi, and I was very glad to meet Fane, who accompanied him, and hear all about their cruise. They had met Blakiston at Hakodadi on his return from the unsuccessful expedition up the Yangtse, and a letter came from him by the *Encounter*, asking the General for an extension of leave of absence. As the battery was ordered away from China to Mauritius, Blakiston was ordered to join forthwith.

During the cruise of the *Encounter* great annoyance had been caused by a series of robberies from the ward-room mess, until finally Fane's native servant was detected, and severely flogged, as he well deserved, and the plunder was disgorged from where the thief had secreted it in his cummerbund.

On Wednesday, the 18th, leaving the marines under Pitman at Yeddo, the *Odin* returned to the anchorage off Yokohama, and I busied myself with packing up all the curios which I had purchased in Yeddo to ship on board a ship named the *Naval Brigade*, about to start for England.

My battery at Canton had now received orders to leave China altogether, for Canton was to be evacuated by the Allies, and as the battery was going out of the China command I was obliged to rejoin it. Meantime I was ordered to be attached to Desborough's battery at Tientsin, and proceed south with it, and for the purpose the General kindly spoke to Admiral Hope, whose Flag-Lieutenant, Douglas, came to me with a message from the Admiral, wishing me to become his guest on the *Impérieuse*, which was to start shortly for the Gulf of Petcheli, which hospitality was most welcome to me in every respect.

We had now just heard that the Emperor of China was dead, and as this might complicate matters, the Admiral determined to confer with Mr. Bruce at Peking, whilst the General went down to head-quarters at Hong Kong as soon as possible, to be on the spot in case hostilities were to be renewed.

Our last few days at Yokohama were spent in various walks, rides, expeditions in the vicinity, and on the 20th Lord John Hay hoisted his broad pendant, having been made Commodore, and on the 21st I shipped myself on board the flag-ship, H.M.S. *Impérieuse*, fifty-one guns, and said good-bye to Japan.

Our party had now broken up, the General, with Elkington and Mansergh, departing in the *Ringdove* to Shanghai, where the rebels were giving some trouble, and thence to Hong Kong by mail steamer; Hockley also to Shanghai, to take command of H.M.S. *Acorn*, the sister brig to the unfortunate *Camilla*, which was capsized during a typhoon the previous year, and also to be harbour-master, a good appointment; Fane, Farquharson, Carnac, and Taylor, with myself, all returning to duty with our respective corps in the *Impérieuse*.

We had a great feed at Kanagawa in honour of the departing Commanders-in-Chief, naval and military, and on Saturday, the 21st, the anchor was up at day-light, and we steamed out of the bay in a drizzling thick rain, which became worse as we passed under

the volcano of Vries and got out to sea, where we had no end of rolling and pitching, the old frigate riding like a duck, as lively as a porpoise.

We had a musical set on board, and a piano in the ward-room. Colby, the chaplain, was a good singer, and Fane an accomplished pianist; Lieutenant Richardson also played well.

The 23rd and 24th were both very rough days and nights, and on the evening of the 25th, when we reached Van Dieman's Straits, the weather was so dirty and thick that we put back into the open Pacific, preferably to passing between the Prince of Satsuma's territory and the Loochoo archipelago, as the navigation is intricate, and the ground had not yet been properly surveyed, so it was just as well not to attempt the passage by night when it was blowing a gale of wind at the time of the equinox. On the 26th it moderated, and we passed the Pumice Stone rocks and Cape Chickakoff, being off Quelpart Island on the 27th.

On the morning of Monday, the 30th, we sighted Shangtung Promontory, and the same evening entered the harbour of Chefoo, too late to catch the *Atalante*, which had gone off with the mails. We found the old *Vulcan* in the harbour, and the *Coromandel*. The next morning we took the *Coromandel* in tow, but before we had left the harbour far astern cast her off to anchor under the lee of one of the Miatou Islands, as a gale sprang up; but the storm having passed, she followed us and passed in front of us.

On October the 2nd, a fine long-eared owl flew on board and was easily caught, and in the course of the day several small land birds, and species of wheat-ears and stone-chats were taking refuge in the rigging, these fierce squalls having blown them off shore. Off the Peiho Forts we found the *Urgent* with a portion of the Artillery on board, and the *Simoom* with the Rifles embarked. We anchored at sun-set, and the *Vulcan* came in shortly after. The *Ancona*, a Prussian frigate, was also near us.

On October 3rd, at 1 P.M., the Commander-in-Chief, with his staff, Captain Wills, Paymaster Ashby, Commander Gibson, the band, and last, but certainly not least, his cook, transhipped on board the *Coromandel*, commanded by Douglas, and I and Ryder, a young midshipman, accompanied them. The *Coromandel* had formerly been a Peninsular and Oriental packet, and was purchased for the Government by Admiral Seymour during the operations against Canton. She had been fitted up most comfortably as a yacht and despatch-vessel for river service as tender to the flag-ship, for which she was eminently adapted. As we passed the Prussian we exchanged salutes, the bands playing, colours dipping, &c., whilst the respective commanding officers salaamed, and we soon crossed the bar at the mouth of the river. The forts looked just the same as they did when I last passed them, perhaps a trifle more dusty and sunburnt, if that was possible, and the remembrance of poor Bond, whose remains lay under the South Fort, tinged my recollections with melancholy. The *Coromandel* was rather too long a vessel to pass easily round the sharp twisty turns of the Peiho, and as the tide was running out strong it was often difficult. We managed all right till we reached Koku; there the river is crowded at this time of the year by the larger junks, which lay up here for the

winter, after discharging their huge cargoes of salt from Fokhien, Siam, and the Yangtze. There were several tiers of these huge Noah's arks, with their large quarter-galleries over the stern, which are used by the Chinese sailors for the same purpose that the fore-peak is in our own service. The bows of a junk are looked upon as sacred by the Chinese, the all-seeing eye being depicted on either side, and it is a profanation to throw any refuse over forward. The ponderous timber rudders, perforated to move more easily through the water, are lifted up whilst at anchor, their cumbrous tillers projecting at a considerable height, both sterns and prows being high above the low waist. The junks are all painted with distinguishing colours, according to their nationality and district, some black with green stripe from Fokhien, those from Canton black and red. The stern-boards are whimsically decorated with gorgeous devices and high-sounding titles, such as "Happy-go-Lucky," or the "Willing Mind"; and the bird of good omen, the mighty Foong, is often represented stretching its wings and screaming, the antitype of the American eagle. Some of these vessels have four or even five masts, some of them huge solid spars, and others built up of separate pieces. The sides are nearly always painted with ports, as if for guns, and not seldom painted with the muzzles of guns. Over the taffrail is an abundant display of bunting, fluttering pennons and triangular burgees, whilst a broad banner flies from the top-mast with the sign "Yin and Yang." The cables are of twisted rattan, the rigging of Manilla hemp, the stiff sails of cocoa-nut mat, and flattened by bamboo battens and laced to bamboo rings on the masts. These tremendous edifices have a measurement of some 2,000 tons capacity, and are unwieldy to all appearance, but in reality before the regular monsoons make capital sea-boats.

Here at Koku we cannoned against two junks, and smashed well into a third, and were brought up with a round turn, staving in the port paddle-box, and the Admiral's gig was splintered into matchwood. The Chinamen, impassive as they generally are, were aroused into activity, and after a great deal of yelling and burning of gilt-paper and joss-stick, we got underweigh again, and progressed slowly till nightfall, when we anchored below the nine forts, and went below to dinner, whilst the band discoursed sweet music on the quarter-deck.

The autumn mornings were now chilly, and the grey, misty, cool air at daybreak was most enjoyable as we slowly made our way up the tortuous track, followed closely by the *Clown*, who, however, soon had to go ahead of us and pull our head round some of the sharper corners of the river. On reaching the lower suburbs of Tientsin we had some more collisions with junks, and finally ended by running down the bridge of boats. I landed about noon and made my way up to the gunners' mess in time for tiffin, remarking the comparative dearth of European uniforms in the streets, where, however, more Europeans in civilian costume were noticeable. Desborough's battery had left, having passed us *en route* in the *Woodcock* gun-boat, and the last detachment of the Rifles had taken their departure in the *Watchful*. I found Captain W. French, Lieutenants P. Harrison, and C. E. B. Leacock with Dr. Gulland only remaining, and they were about transferring the Royal Artillery mess from the Taouist Temple to the Confucian Temple.

During the next few days I had several rides about Tientsin, visited the great salt depôt, and the vineyards, &c., and enjoyed the bracing weather exceedingly.

On Sunday, the 6th, whilst we were away visiting a Mahomedan mosque, a couple of lally-lus broke into our quarters, but fortunately were captured by Gulland's servant, and duly handed over to the Provost-Marshal.

On Monday, the 7th, Fane's Horse were embarked in the *Drake* and the *Slaney*, both towing-barges, which were filled with camp equipage. I got my passage in the *Slaney*, and Upperton, Fane's lieutenant, commanded the troops on board. Both gun-boats got aground below Tientsin for an hour or more, but we got off before the *Drake*, and steamed gaily down the muddy river, and without halting at the forts went right out across the bar and alongside the *Vulcan*, into which the Sikh troops were soon embarked. Captain Strode invited me to dine with him, promising to put me on board the *Urgent*, where my battery was, the next morning. But next morning it blew great guns, and all communication between the ships was impossible till the weather moderated after luncheon, when Captain Strode took me off in the cutter; but there was too heavy a sea on to approach the gangway, and I had to climb up a rope-ladder from the spanker-boom, with my helmet in my teeth, a very undignified first appearance on board. The *Urgent* was commanded by Captain Hire, and Major G——, of the Military Train, was in command of the troops. It is not often that a Military Train man gets a chance of commanding other branches of the service, and when he does he loses no opportunity of making the most of the little authority he is briefly invested with. The irate Military Train Commanding Officer on this occasion thought this was a good opportunity of snubbing a gunner, and so I had barely got down below ere I received a "reasons in writing" for delaying the ship. An obviously absurd query. Of course I had merely to refer to the Captain, but it showed which way the wind blew, and at all events warned me to be on my guard against the sanctimonious Pecksniff.

This was the first time I had had to do regimental duty on a troop-ship, and the duties were not onerous for the officer of the day. Our routine was then as follows: 7 A.M., commence tour of duty by relieving the predecessor, and parade the non-commissioned officers and see the watch relieved, go round the men's breakfasts; 7.30, see rations served out; 8.0, mount the guard; 9.30, go round the troop-decks with the First Lieutenant (Robinson); 10.0, general parade; 12.0, dinners, visit sentries and muster the watch and turn out the guard at uncertain intervals during the day; 8 P.M., watch-setting; after this visit the sentries every hour, turn out the guard and muster the watch at least once; not allowed off deck during the night except when visiting sentries; at 6.0 A.M. see biscuit and flour issued, receive the reports, and relieved at 7.0 A.M. As there were a fair number of officers on board, the duty fell very lightly on us.

We entered the Woosung River, at the mouth of the Yangtze-Kiang, on the 12th of October, where we anchored, it being Saturday night, off the old Chinese battery opposite the bar. On the following day we moved up opposite the coal depôt and commenced coaling, and I got leave and went up in the contractor's boat to Shanghai. Hockley put

me up on board the *Acorn*, and the next two days were occupied in visiting the European settlement, the Chinese walled city, and the race-course. I went out to the stone-bridge, where the right half of Pennycuick's battery was stationed with some infantry. The approaches to the settlement had all been put into a state of defence, for the rebels were within a few miles, devastating the whole district.

We returned to Woosung on the 17th, and having shipped some invalids and details of various corps, including some badly-wounded men, left our anchorage and proceeded south.

We had no sooner got outside the Saddle Islands than we encountered the most boisterous weather we had yet met, being on the edge of a cyclone. Fortunately we avoided the centre of the typhoon, which created tremendous havoc at this time throughout these coasts and waters. A pair of Albatrosses (*Diomedea*) paid us a visit off Formosa, very far north for them to have come. All the way to Hong Kong we had stormy weather, and rolled heavily. Several of the wounded men died, and we buried five men before we reached port, and entered the Lyee-moon Passage on the 21st, just in time to meet the *Cooper* steamer, which arrived on the 22nd with the No. 4 Battery on board. I joined my battery on board the *Cooper*, and we disembarked on the 22nd at Kowloon, where we went into camp on the mainland opposite Hong Kong. The Sappers and Military Train disembarked from the *Urgent* on the 23rd, and camped next to us; the 99th, also from Canton, being in wooden huts beyond. The whole of the Canton division was now broken up and dispersed, and the whole of the army from the north had also been likewise scattered.

On Tuesday, the 12th November, we struck our tents, handed them over to the Commissariat, and were conveyed by three cargo-junks alongside the *Urgent*, which sailed on the 13th for Singapore. Strong currents or some such variation took us out of our course and reckoning, so that we got too much to the south of Singapore, delaying us slightly. However, I was well repaid by meeting, for the first time, with several fine water-spouts,\* one of which we watched for some time, till it burst about half a mile off.

"A thing of fear is brooding in the sky,  
With a metallic gleam, like fields of lead,

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\* Victor Hugo, in his chapter entitled "Les Vents du Large," liv. iii. "Les Travailleurs de la Mer," well describes *les trombes* :—

"Au fond de l'obscurité inaccessible, de grandes gerbes d'ombres frissonnent. Par moments, il y a paroxysme. La rumeur devient tumulte, de même que la vague devient houle. L'horizon, superposition confuse de lames, oscillation sans fin, murmure en basse continue; les jets de fracas y éclatent bizarrement, on croit entendre éternuer des hydras. Des souffles froids surviennent, puis des souffles chauds. La trépidation de la mer annonce une épouvante qui s'attend à tout. Inquiétude. Angoisse. Terreur profonde des eaux. Subitement, l'ouragan, comme une bête, vient boire à l'océan : succion inouïe; l'eau monte vers la bouche invisible, une ventouse se forme, la tumeur enfle, c'est la trombe, le *Prester* des anciens, stalactite en haut, stalagmite en bas, double cône inverse tournant, une pointe en équilibre sur l'autre, baiser de deux montagnes, une montagne d'écume qui s'élève, une montagne de nuée qui descend. La trombe, comme la colonne de la Bible, est ténébreuse le jour et lumineuse la nuit. Devant la trombe le tonnerre se tait. Il semble qu'il ait peur."

The sluggish waters slowly heave and die.  
 Now hurriedly the sails are gathered  
 To wait the birth of blackness overhead,  
 Where spars and cordage stand all ghostly pale;  
 Around, thin shapes, fantastical and dread,  
 Are linking clouds and sea; unbroke by gale,  
 The seething waterspouts through the far darkness sail." \*

We entered the new harbour, and were lashed alongside the coal-wharf, remaining till the 24th, having been four days in port, having taken this opportunity to try some men by court-martial at the mess bungalow, in the lines of the 40th Madras Native Infantry.

"At Singapore are some of the most beautiful of tropical plants. Ferns are represented by one or two species of gleichenia to be found in every ditch. Several kinds of dendrobes are common; eulophias, a pretty arundina, and other terrestrial orchids, are not uncommon. *Vanda Hookeri* grows up stakes (like sweet peas at home) in every garden, and common enough are the *Amherstia nobilis* and *Nelumbium speciosum*. Even the great Victoria water-lily luxuriates in the open air, in pools and canals specially cut for it in Singapore gardens. Pretty little yellow and blue utricularias blossom in every muddy swamp. Rare palms, including the bloody-stemmed 'Malawarin' (? *Areca malayensis*), and scrambling nepenthes, including *N. rafflesiana*, help to shelter the tigers which migrate hither from the mainland of Johore, with the object of making a dinner off live Chinese coolies, or wild porkers, which abound in the less populous districts of the island, for which banquet the tigers—Leander-like—venture to swim across the "old strait" which separates Singapore from the mainland of Johore—say a distance of half to three-quarters of a mile. Native and European vegetables and pot-herbs are grown in the gardens for such comestibles, and in the fruit market we note pumelows (*Citrus decumana*), plantains (*Musa sapientum*), oranges, pine-apples, mangosteens (*Garcinia mangostana*), rambutans (*Nephelium lappaceum*), and durians (*Durio zibethinus*)."

"Market-gardening in Singapore is in the hands of Chinese, who are most thrifty workers, and save every scrap of manure for their little vegetable gardens. Every morning, if out just at daybreak (5.30 A.M.), they may be met singly or in groups trudging into town with two large baskets of vegetables or fruits swinging on a long pole, their only clothing a rag round their loins and a pig-tail! A large rattan hat is sometimes added later in the day, as a protection from the vertical sun. Green oranges, *Durian*, 'the fruit with the fragrant stink,' as Dampier calls it; purple mangosteens, strawberry-like litchees, great clusters of golden or green bananas, green cocoa-nuts, for their milk, or ripe for curries, form their loads. The vegetables are cucumbers (*Luffa* and *momordica*) in a green state, fresh onions, lettuce, and radishes, smallish tomatos of exquisite flavour, edible bamboo, long beans of Chinese origin, and various roots, leaves, and fruits used in native cookery, and for the most part quite unfamiliar to European eyes. The bullock carts contain native plantation products, such as tapioca-roots, roots of arrowroot, of ginger,

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\* "The Tropic Bird; his Flights, and his Notes." (Smith, Elder & Co.)



and of turmeric, ripe cocoa-nuts, betel-nuts, and nutmegs, samples of pepper, cloves, prepared tapioca, Arabian and Liberian coffee, and sugar-cane, and last of all fruits of *theobroma cacao*."—"Gardener's Chronicle."

Our next stoppage was at Madras, where we anchored within a mile of the shore, and were much amused by the catamarans, which came off through the surf to us. Captain Hire signalled to the authorities on shore to say that he was ready to disembark Law's battery as soon as they liked; but Sir W. Denison, the Governor, telegraphed that the battery was to proceed to Mauritius in the *Urgent*, with the exception of such men as cared to volunteer to remain in India, and Major Booth came on board to take off the volunteers, to the number of 108. Of course, all of us who could, got ashore, and as Elkington had given me a letter to Glover, of the 43rd, aide-de-camp to the Governor, I was made welcome at the 43rd mess in Fort St. George. We were in time for a grand ball in the banquet-hall, which was brilliantly illuminated.

Leaving Madras on the evening of the 6th December, the *Urgent* arrived outside Trincomalee harbour before breakfast on the 8th, steaming past Foul Point lighthouse, and we were alongside the naval yard under Fort Ostenburg by 10 A.M. The entrance from the sea into the land-locked spacious harbour, one of the most commodious in the world, is most impressive. As soon as the corner is turned it is like being in an inland lake. Hardly as picturesque as Nagasaki, it is richer in tropical vegetation, with jungle down to the water's-edge—

"Balancés par les vents, de bois aigrent son front ;  
A ses pieds le flot dort dans un calme profonde ;  
Et des arbres touffus l'amphithéâtre sombre  
Prolonge sur les flots la noirceur de son ombre."

Virgil, "*Æneid*," book I, v. 163-65, Delille's Translation.

Unfortunately, however, the reputation of Trincomalee is not on a par with its beauty, for its unhealthiness is notorious, and it has been named the "white man's grave." Its accommodation as a naval harbour is its only attraction, and there is no trade, and not a merchantman enters its waters, consequently there is no town, so to speak, but only a straggling village, wholly dependent on the Admiralty station and depôt of stores, and on the small garrison. The Dutch, who appreciated the importance of Trincomalee as a naval station, left behind them some well placed strong forts, which protect the harbour. The *Urgent* was moored alongside the quay of the naval yard, close under a ridge of wooded hills, some 250 feet high, on the extremity of which is Fort Ostenburg, in which a small detachment of gunners was quartered, and a Sapper officer. From the yard a good road runs close to the margin of the harbour, nearly two miles to the village, where the cantonments of the Ceylon Rifles were, and across an open plain to Fort Frederick, a large bastioned fort situate on a rocky and picturesque headland jutting out into the open sea. Inside the fort are cool, comfortable bungalows, well protected by fine Suriya\* trees with umbrageous leaves and delicate yellow flower-blossoms, planted by the old Dutch settlers.

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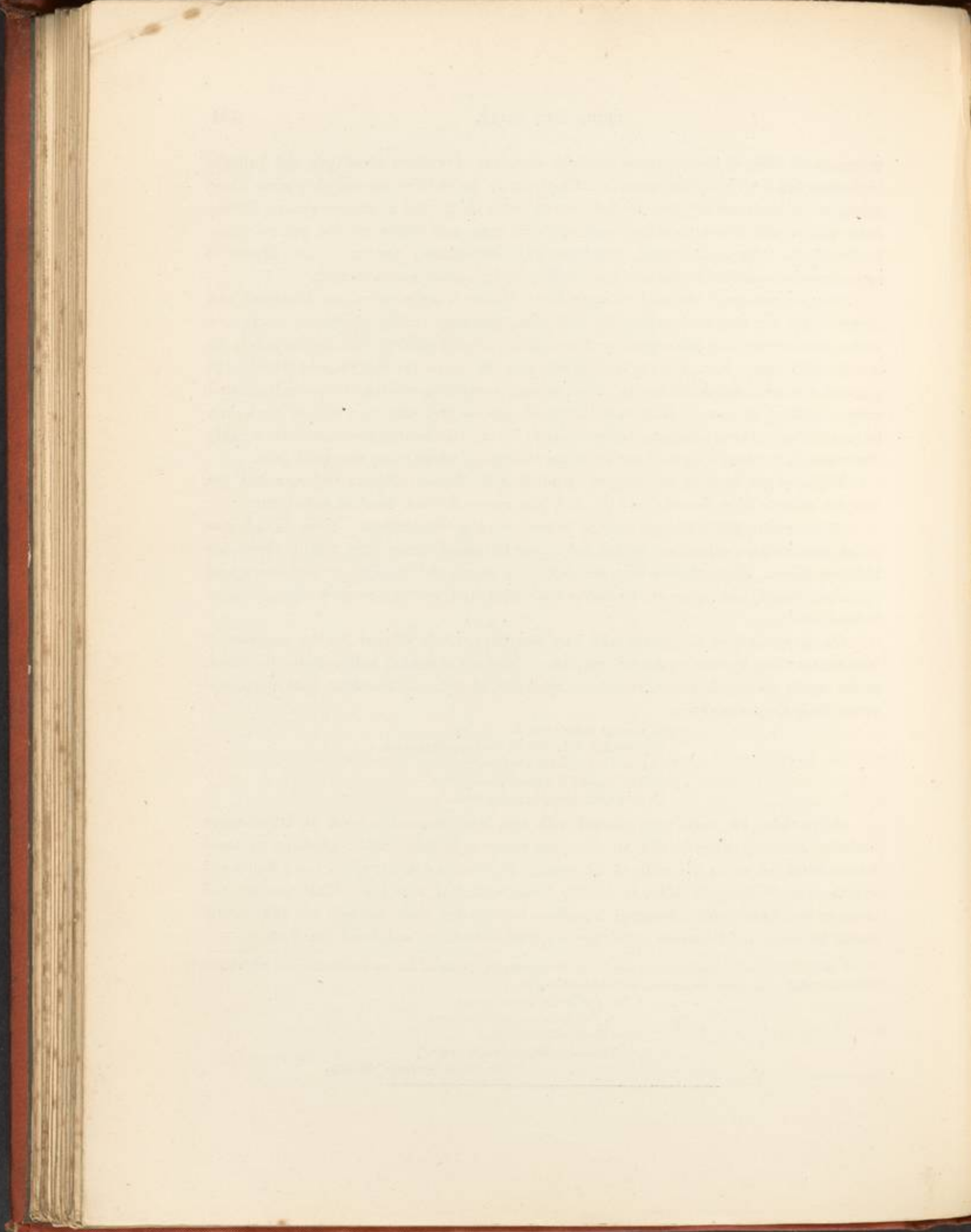
\* *Hibiscus populneus*.

All the rest of the country round the harbour is dense jungle and forest, but not the forest primæval, as all this country was formerly inhabited, and has become desolate within the historic period and quickly overgrown; the ruins of enormous tanks prove the former existence of a numerous population, where now alligators and wild beasts alone roam.

The first day of our arrival we did not get further than Fort Ostenburg, up to which some of us climbed, and from whence an extensive view over the harbour and the Tamblegam Lake is obtainable. We had an enjoyable ramble in the evening, and were interested in seeing plenty of monkeys (*Wanderoos, presbytes priamus*), and gathering ferns, collecting various beetles, moths, &c. We descended in the dusk, the fire-flies being abundant, and the loud noise of the *cicadæ* incessant. We were disappointed at not being permitted to swim in the deep water off the ships, but sharks are known to abound, and beside this the water close to us was at times a mass of floating *acalephæ* stinging jelly fish. Some of these *medusæ* are of great size and of brilliant hues. Of course all Trincomalee came to call upon us, and open-house, or rather open-ship, was the order of the day, and we were also entertained at the fort by Lieutenant-Colonel Hamley and officers of the 50th Regiment.

On the 10th we made up a shooting-party of as many as could get away, and went across the harbour and up a long creek to a place called Kottiar, where there is a bungalow used for shooting-parties. We sailed in two out-rigger canoes, and as it blew fresh the natives climbed out on the out-riggers to windward, which was not re-assuring, especially as the dorsal fin of a shark, or sword-fish, continually appeared and disappeared, only to re-appear again in our close vicinity, the whole way across the harbour's mouth. On leaving the sea-breeze it became oppressively hot in the estuary, densely clothed with mangrove bushes in the waters. We took hammocks with us and slung them in the verandah of the rest-house during the heat of the day, enjoying a siesta after tiffin, soothed by the cooing of the *neela-cobeya*, or season-pigeon, numbers of which inhabited an enormous india-rubber tree close to us. As the sun went down we sallied out with our guns in different directions; we were told that there were deer in the neighbourhood, and so we refrained from shooting the numerous birds of all descriptions—pelicans, tall flamingoes, egrets—with which the jungle literally teemed. The ground in places was tremendously poached up by buffalo and elephant tracks, and we struggled through mud and slush and marshy ground in vain hopes of seeing some of the spotted axis deer; but our toil was in vain, and we had to retrace our steps. On our way back we fired away at everything we came across, and bagged some jungle-fowl, and other smaller fry. However, we all met at dinner, after a good douche at the well, where we got the water poured over us from rude buckets constructed of woven matting. At night the fish-owls (*Ketupa ceylonensis*) sallied out in search of their prey, and the bull-frogs kicked up a great row of croaking from the neighbouring marshes; nevertheless we slept well after the fatigues of the day, in spite of the myriads of the mosquitoes, till the notes of the jungle-thrush, and the crowing of the peacocks, sounded *reveillé* in the early morning.

The next day we spent in a similar manner, separating in two or three parties, and



giving up all idea of larger game, confined ourselves to what we could get, and brought back some pea-fowl and jungle-cocks. This evening we paddled up the river some three miles, as the whole country was flooded, consequently there were numerous snakes, *Trimerurus viridis* and others, on the branches of the trees and bushes at the water's edge; besides huge *talla-goya* lizards, monitors, and hydrosaurs, bearing a not dissimilar appearance in miniature to the marsh-crocodiles in the turbid waters beneath.

In trying to reach the land through these bushes a large cobra was disturbed and dropped into our canoe when shot by Campbell, who very shortly afterwards nearly met with a similar fate; for when pushing through the tangled undergrowth in the jungle he unexpectedly came upon a party of *Urgents*, who had come up with Captain Hire in the gig, and who had landed further up; they, hearing something moving in the bushes, blazed away, thinking it was a deer, and Campbell was saluted with a volley of buck-shot, fortunately without receiving any bodily damage; his mental feelings were somewhat roughly discomposed, nor much soothed at the sailors taking the whole thing as a good joke.

When we got back to the ship we found H.M.S. *Hornet*, Captain Dayman, had put into the harbour from Bombay and the Red Sea, where she had been on survey duty.

Of course we did not omit visiting Sober Island in the harbour. Sober Island is so called because here sailors are landed for a run on shore, where they cannot obtain any toddy or arrack. Nevertheless they generally find means of obtaining it in places agreed upon beforehand with some of the native tradesmen, and become properly uproarious on Sober Island.

On the summit of the pretty islet is a bungalow, much affected for the purposes of honeymoon visits by newly-married couples. There are charming walks about the island, paths among champak-trees,\* frequented by flocks of green Alexandrine parroquets, and pretty little cinnamon doves.

"Que, visitant parfois une île solitaire  
Et des bords ombragés de feuillages mouvants,  
Tu puisses, savourant ton exil volontaire,  
En silence épier s'il est quelque mystère  
Dans le bruit des eaux et des vents."

Altogether, we were very pleased with our brief stay of a week in Trincomalee harbour, and were sorry to cast off from the wharf and steam south. Routine on board was:—Breakfast at 9 A.M.; tiffin at 12, noon; dinner at 4 P.M.; tea at 7 P.M.; lights out in saloon at 10 P.M.; in cabins at 10.30; decks washed at 4.30 A.M. Christmas-day, and crossing the Line, were celebrated together; but by this time we had left the Asiatic coasts far away, and therefore must leave my further rambles, and finish the chapter.

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\* *Michelia champaca*, a well-known forest tree of the magnolia species, with sweet-scented yellow blossoms which are used to decorate the shrines of Buddhist temples.

"The wandering airs they faint  
On the dark, the silent stream;  
The Champak odours fail  
Like sweet thoughts in a dream."

"The Indian Serenade," Shelley.



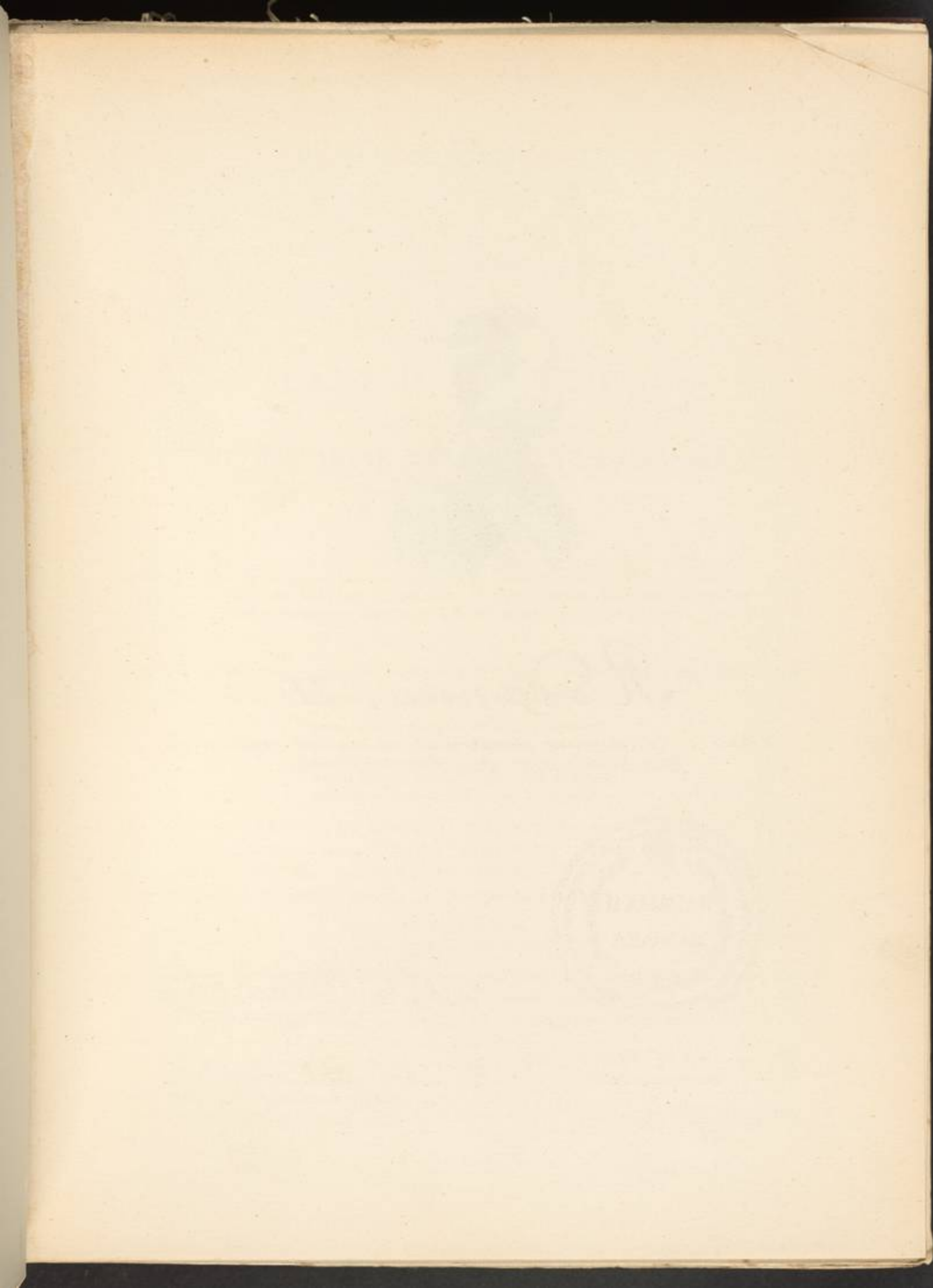
## Radama, II.

*Likeness and Facsimile of autograph of the late sovereign  
Born 1830, — died 12<sup>th</sup> May 1863.*



*Grand Seal of Madagascar,  
1861 — 1863*

*Autograph facsimile of  
Signature of Foreign Minister,  
who died Nov<sup>r</sup> 1862.*



## PART II.—LEMURIA.

### THE MASCARENE ISLANDS AND MADAGASCAR.

#### CHAPTER I.

Crossing the Line.—Skylarking.—Cholera.—Disembarkation.—Smuggling.—The Citadel.—Black River Post.—La Chasse.—Ellis, the Missionary Apostle.—The Carriole.—Governor Stevenson.—Arrival of General Johnstone.—Mission despatched to Madagascar in H.M.S. *Gorgon*.—Arrival at Tamatave.—Visit from Hova Officials.

LEAVING far astern the fragrant zephyrs of the Island of Spices, the good ship *Urgent* tranquilly ploughed the ocean-deep, placid and almost unruffled:—

“Those trackless deeps, where many a weary sail  
Has seen above the illimitable plain  
Morning on night, and night on morning, rise,  
Whilst still no land to greet the wanderer spreads  
Its shadowy mountains on the sun-bright sea.”

The last we saw of land was the light on the treacherous Basses, the rocks which are, by Oriental legend, supposed to mark the last vestiges of the wondrous submerged Island of Giri. The sunken “Monkey-land” of the Ramayan—the seat of the terrestrial pre-historic Paradise, and perhaps the home of the missing-link, now

“Many a fathom under the sea,  
To the south of sun-bright Araby.”

Indeed, it is not improbable that the northern limits of the submerged “Lemurian Continent,” which, according to Dr. Sclater,\* once occupied a large portion of the present area of the Indian Ocean, extended as far north and east as Ceylon and Sumatra.

\* See British Association, Bristol Meeting, 1875.—Lemuria was first named by Dr. P. L. Sclater in the “Quarterly Journal of Science,” 1864, p. 213, and the name has been adopted for a sub-region of the Ethiopian fauna, of which it forms an aberrant appendage.

Speaking of the genus *Lemur*, Professor W. H. Flower says:—“The history of a name is often not a

However, we did not much trouble our heads about hidden continents or abyssal ocean-depths. We were full of high spirits and fun and frolic, which culminated on Christmas Day, when we crossed the line. Several of us who had come out overland had never been south of the Equator, and accordingly we went through the ordeal of the shaving, &c., in due form. There were two lady passengers from Ceylon with their husbands, and as the ladies were desirous of witnessing the performances, the customs were modified, and a good deal of the rougher horse-play omitted on the occasion. I know we had a very lively ducking by Neptune's attendant bears. These said bears had been propitiated beforehand with stiff glasses of grog, and consequently we were let off pretty easily. The fun was fast and furious in the evening, punch was brewed in the silver soup-tureen, borrowed from the wardroom mess for the purpose, and the second bowl-full was set alight to when the *silver* punch-bowl collapsed in melting white metal, and the fiery punch blazed over the table and saloon floor, necessitating the free use of the fire-hose.

We had the usual succession of calms, squalls, and heavy rain in the equatorial regions of perpetual precipitation. Among other ways of keeping off *ennui*, we had started a newspaper on board, styled "The Urgent Advertiser," to which periodical manuscript we had numerous subscribers, and we managed to make some fun out of very scanty materials. Our run of twenty days from Trincomalee was uneventful, the only casualties being one man who fell from aloft, and one or two cases of choleraic or dysenteric death, of which more hereafter.

On the 4th of January 1862 we sighted Serpent Island and Round Island, the outliers of Mauritius and the breeding resort of the red-tailed tropic bird. Made our number off Flat Island. Passed the Gunner's Quoin, and scanned with curiosity our future island home, as we neared the lighthouse on Cannonier's Point. Certainly the approach to Mauritius from the northward during the summer months, after rain, is most refreshing, the waving cane-fields and tropical verdure, with the fantastic outlines of the volcanic mountains, as a background, give rise to most pleasurable sensations of beauty. Off the Bell Buoy outside the harbour of Port Louis we hove-to, to communicate with the harbour authorities and health officer, and some demur was made as to our obtaining *pratique*. But the qualms of all suspicion having been lulled, we were permitted to enter the harbour, and shortly anchored inside the harbour near Tonnelier's or Cowper's Island, under the guns of the lately-constructed Fort St. George, not yet out of the hands of the engineers, and with its armament still incomplete.

Orders came from Major-General Breton for us to disembark at 4 P.M., and our battery was to proceed to the Citadel or Fort Adelaide, situated in the town, whilst

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little curious. Linnæus applied the term *Lemures*, *i.e.* the departed spirits of men, to these animals on account of their nocturnal habits and ghost-like aspect. The hypothetical continent in the Indian Ocean supposed to have connected Madagascar with the Malayan Archipelago, is called by Mr. Sclater, Lemuria, as the presumed original homes of the lemur-like animals. Although the steps are not numerous, it might puzzle a classical scholar, ignorant of zoology, to explain the connection between this continent and the Roman festival of the same name."—Address to Section D. at Dublin, 1878.



Captain Law's battery was to proceed to the head-quarters, Artillery Barracks, later in the day. The band of the 2nd Battalion, 24th Regiment, came to play us up. We had three dogs with us, which we had been informed would on no account be permitted to disembark. One, a small Chinese Shantung terrier, rough-haired, who was easily smuggled in a haversack. Another black-tongued Cantonese Chow-dog managed to elude the vigilance of the Customs officials by keeping in the centre of the sections of fours, but a large half-bred greyhound and lurcher was detected and sent on board, and so he was landed in a boat at Fort William at night and sent down to a detachment at a distant post, Black River, where he proved very useful until he was shot when suffering from rabies three years subsequently. They have a great dread of hydrophobia in the Isle of France, and rightly too, for at times it becomes almost epidemic. In most, if not in nearly all tropical climates hydrophobia is unknown, nor was it heard of in Mauritius until the death of the Colonel Commanding the Royal Engineers, who died of it from the effects of the bite of a small pet dog. Since that event many cases of the disease and such deaths have occurred, so that the rule is most strict against the importation of any dogs except well-bred sporting dogs from England or France, and these are heavily taxed.

The 24th Regiment, who were then under the command of Major Bazalgette, gave us a grand dinner in the evening, and a good many of the 5th Fusiliers, who were quartered at Mahebourg, across the island, were there to meet us, and all the staff. In those days regimental entertainments meant entertainment in the largest acceptation of the word, and I can still call to mind the uncommonly good feed. From being a French Creole colony, the claret has always been first-class, and the glorious vintage of champagne was of the finest. Besides the usual band accompaniment to the dinner, there was a musical entertainment of songs, &c., so that we did not rise from table till I do not know what hour. It was a Saturday night, and who went to church-parade at 6 A.M. the following morning I cannot say. The very jovial chaplain was with us, and I rather suspect that it rained too hard for parade—who can tell?

Our advent at Mauritius was not altogether so gay, however, as we had expected. The day after our arrival there was a case or two of sporadic cholera, and within a few days the dread plague broke out in a virulent form, almost decimating the inhabitants. Of course H.M.S. *Urgent* was accused of bringing the cholera, and there is no doubt that cholera was at Madras and Trincomalee when we were there, but the troops had not been allowed to land there or hold communication, and as to the deaths on board, the doctors declared they were not from cholera. However, there it was in the island, and the community suffered terribly. Curiously enough, of the two batteries from China we lost comparatively few men up at the citadel, whilst Law's battery, down in Artillery Place, was badly cut up. The number of deaths was so large that pits were dug outside Fort William, and all regular funerals put a stop to in the churchyards and cemeteries. We were not even allowed to bury our own dead from the Military Hospital, but the bodies were collected by the civilian sanitary authorities in carts and buried at night in the large pits around which large fires were lighted, a ghastly sight from the ramparts of Fort

William. The cholera raged severely throughout January and February, but declined in intensity in March, and thoroughly disappeared by April.

Our ephemeral publication, the "Urgent Advertiser," had been so much admired on shore that we determined to start a weekly manuscript paper to amuse the garrison. The title chosen was "The Carriole," the characteristic vehicle of the Ile Maurice. Some idea may be formed of the trash which actually found favour in its pages from the following random specimen, which is an example of what little amuses one on a foreign station:—

"MRS. GAMP IN MAURITIUS."

"I'm not a going to grumble, mind,  
At this 'ere island of Mauritius;  
But if a fault or two I find,  
It's with them midges—they're so vicious.

They pounces on your naked skin,  
And plunges in their sharp proboscious;  
The while they pum like anything,  
And the way they suck is most astrocious.

A dreadful eat perwades the hair,  
I allers feels quite moist and sopping;  
This very moment, I declare,  
My handkerchief's all wet with mopping.

The people here 's all sorts of hues,  
From marking ink to mouldy taller;  
There 's Medes and Prussians, Turks and Jews,  
And Creoles likewise, which are yaller.

The Ingins every day I see  
A hunting varmin for diversion;  
It can't be hard to catch a flea  
With scarce a rag to clothe your person.

They chews a nasty filthy nut,  
To clean their teeth, as I supposes;  
They have not got a shoe to fut,  
And wears great ear-rings in their noses.

To see them makes this widdy blush,  
And puts to shame each decent matron;  
The p'leece don't seem to care a rush  
How much they shows their bodies—drat 'em.

The merchants here talks lots of trash  
About their sugar and their riches;  
If they've got such a lot of cash,  
Why don't they clothe the blacks in breeches?

The langwidge, too, is very odd—  
P'raps you'll think it rather rummy—  
No matter if I speak or nod,  
All they can say is—'Nar par conny.'



THE POUCE MOUNTAIN, MAURITIUS, FROM THE OLD CEMETERY, PORT LOUIS.

[To face p. 105.]

For vehicles—Lor' bless your soul!—  
 They haven't got no omnibuses ;  
 They calls a cab a' 'carry-hole,'  
 And makes you empty soon your pusses.

But now my hands has got quite wet,  
 I'm sure the climate's most pernicious ;  
 Whate'er I does I allus sweat  
 In this here island of Mauritius."

Life in garrison at Port Louis was slow and monotonous during the hot season whilst on duty ; but off duty, whenever one could obtain leave, the excursions into the country were delightful. The out-stations, wherever officers' detachments were posted, made capital *points d'appui* for exploring the island. These were at Cannoniers' Point, where there is a large quarantine establishment, necessitating a guard. At Petite Rivière, on the coast south of Port Louis was a camp for musketry, and also another at outside Mahebourg ; then we had the best station of all, Rivière Noire to the south-west, the hottest part of the island twenty miles from town ; another at Flacq, due east from Port Louis and Grande Rivière, south-east, between Flacq and Grand Port. Besides this, various sugar-planters were most hospitable to us officers.

Old Monsieur Genève, of La Rivière Noir, was an especial favourite with all English officers. He was one of the old Royalist *émigrés*, whose father had been banished from the Court of Louis for some *faux pas* when a page. On several occasions I went to join one of the grand hunting-parties on the mountains, where the Sambur deer, introduced from India since the days of Lord Minto's administration, have bred and increased considerably. Leaving the *poste* with our smooth-bores (for rifles were not permitted) on one of these occasions, we sallied forth before daylight down a long avenue of mango-trees to the old French planter's residence, which is the most charmingly situated of all the residences in the island, situated at the mouth of a series of wild ravines and gorges, between the highest mountain summits in the island, none of which, however, exceed 3,000 feet in elevation. It was yet dark as we approached, but there was a noise and bustle of preparation, and lights in the salon and in the neighbouring pavilions, whilst snatches of old hunting songs resounded, one of which, descended from the middle ages, ran as follows:—

" A la forest m'en voys chasser  
 Avecques cinq chiens à trasser ;\*  
 Ce que je prens je pers et tiens  
 Ce qui s'enfuyt ay je retiens."†

The *tout ensemble*, in fact, formed an effective tableau, fit for the boards of the Opéra National Lyrique in Paris during a performance of M. Victor Massy's idyllic drama of " Paul et Virginie." Indeed, part of the *locale* of Bernardin de St. Pierre's original story is actually laid at this plantation. But instead of a *berceuse* by M<sup>me</sup>. Engally, we are

\* " Les motz dorez du grant et sage Cathon."—Pierre Grognet.

† " Devinettes ; ou, Enigmes Populaires de la France." Par Eugène Rolland. (Paris, Vieweg.)

treated to a veritable Creole *chanson du negrillon*, not by slaves, but by the free children of freed slaves. It ran somewhat as follows:—

“ Mo passé la rivière Tanné ;  
 Mo quetté là une grandmamam  
 Mo causé li qui li fait là ;  
 Li causé mo li pécé poisson.  
 Oi ! Oi ! mes enfants,  
 Faut travaillé pour avoir son pain.”

And in the *cour* we come upon Messieurs Monneron, Truchet, Lucas, and Feuilleherard, surrounded by a host of *picqueurs* and their picturesque *équipage de louteterie*, and a pack of *braques, épagnéuls, barbets, lymers, bassets, and griffons*, and other *chiens de chasse*. *Le sport Mauricien* is thoroughly dramatic, and not the less interesting, but in apposite accordance with the surrounding scenery. We traverse the depths of the orangerie, a paradise of acclimatisation, under pamplemousses\* trees laden with golden fruit, the spicy canelle† and aromatic muscades,‡ coffee, and cocoa-bushes, mingled with citron, bread-fruit trees, and the avocas,§ veritable gardens of Hesperides, and pass the sugar-mill with its boilers in full work, and the Malabars heaping up the bagasse (refuse of the cane), to feed the furnaces, and at length plunge into lanes, past deeper thickets, up the sides of the gorge, following the track of an icy-cold stream, and arousing the monkeys, gradually ascend the neck of land which joins the outlying Tamarin Mountain to the main plateau. Here we are assigned each his post and enjoined to keep profoundly quiet nor stir from our station.

It was a glorious morning, and from my position among the tree-ferns I could see away over the bay the coral reef of Isle Bénitier glittering in sunlight, and the mountain promontory Le Morne Brabant, with its huge cliff-walls, jutting out into the sea to the south-west, with the emerald waters of the Baie de Cas Noyale lapping in delicate white crescents the pale sands at its base. Presently the cry of hounds, and the sound of horns, and the shouts of the *piqueurs* resound on the opposite side of the valley as they begin beating towards us under the red volcanic barrier which rises bare out of the wooded depths below. Beneath us the gorges are still in deep purple shadow, broken by fleecy masses of mist, which are dissolving as soon as they catch the rosy tints from the rising sun, whilst all the lowlands are of dazzling verdure.

“ Contemplez du matin la pureté divine,  
 Quand la brume en flocons inonde la ravine,  
 Quand le soleil, qui cache à demi la forêt,  
 Montrant sur l'horizon sa rondeur échancrée,  
 Grandit comme ferait la coupole dorée  
 D'un palais d'Orient dont on approcherait ! ”

Les Feuilles d'Automne, “ Pan,” 1831.

As the noise of the chase draws nearer, the pintads whirl past at random. Shots are

\* Shaddock or Pumelo.

† Cinnamon.

‡ Nutmeg.

§ *Persea gratissima*.

heard and shouts as the quarry is marked, and presently cries directing attention to the track a deer is taking. I am all on the *qui vive*, and presently to my delight am able to get a shot at a buck, closely pursued by a couple of hounds at about fifty yards; almost simultaneously he receives the contents of the second barrel, and he crashes over a precipice through the rushes with the hounds scrambling after him, whilst a note of victory sounds. Now the shots follow in quick succession, and presently a loud halloaing shows that a "Cochon Marron" is on foot. He, too, succumbs, and as the beaters close in we leave our station and join forces at the rendezvous to recount our respective share of the day's sport. Of course marvellous stories of individual prowess are retailed in vivid colours. Three bucks and two wild pigs are borne in by the *piqueurs* in procession, and we return to a noble *déjeuner* in *la forchette* at Monsieur Genève's with ardour and extensive appetite, to do justice to the dishes of *Camarons*, *aspic de gouramier*, *salmi d'alouette*, *pintads*, and last but not least, fresh pork steaks of the prime Cochon Marron, washed down by sauterne and medoc. These cochons marrons\* are now veritable wild-boars, but their progenitors were originally domestic hogs run wild, which, in the course of generations, have reverted to their primæval savage habit, and whose tusks, shoulder-shields, and bristles have developed accordingly. They do considerable damage to the sugar crops, and are in consequence kept under as much as possible.

After the *tasse de café*, and the unfailing *gloria*, we wander with the ladies and children in the orangerie, and visit the aviary of the jolly old Flamand Abbé, an amusing character, and reach the *poste* in time for a refreshing swim in the river before it is time for dinner.

The Rev. William Ellis, the foreign secretary of the London Missionary Society, had arrived in Mauritius a few days before us, and the veteran, then in his sixty-eighth year, was preparing for his revisit to Madagascar, under the new auspices of the changed Government of that island. During his stay in Mauritius I had frequent opportunities of meeting him in Port Louis previous to his departure in the *Jessie Byrne*, on the 17th of May, and obtained a great deal of valuable information from him.

The officer commanding the Royal Artillery, Colonel Middleton,† had been despatched shortly before by the Governor, Sir William Stevenson, to the capital of Madagascar, in company with Marindin,‡ of the Engineers, aide-de-camp, Dr. Roch, of the Artillery, and Mr. Newton,§ which party had returned with glowing accounts of that hitherto but little-known island; and in June orders arrived from Downing-street instructing the Governor

\* Our Assistant-Surgeon, whose skill as a sportsman was superior to his linguistic attainments, mistaking the sequence of the adjective and substantive, took it for granted that *cochon* signified wild, and used to speak of *cochon pintad* and *cochon perdris*, greatly to the amusement of his French allies, who were delighted to retail his unconscious *calembours*; it is needless to add that Sampson Roch was a thorough Paddy.

† Colonel Middleton was subsequently Deputy Adjutant-General, Royal Artillery, at the Horse Guards till his death.

‡ Major F. A. Marindin, Royal Engineers, now Inspector of Railways, Board of Trade.

§ His Excellency the Hon. Edward Newton, G.M.G., Lieutenant-Governor of Jamaica.

to despatch a mission of congratulation to be present at the coronation of the young king; whilst H.M.S. *Gorgon*, lately employed in connection with Dr. Livingstone's Shire expedition, was ordered from the Cape to convey the party.

Major-General Johnstone, who had recently replaced General Breton in command of the troops, was appointed to take the Queen's autograph letter, and Captain Anson, R.A.,\* chief of the police, was nominated to accompany him in charge of the presents. The General appointed me to accompany him as aide-de-camp, and we proceeded to prepare for the expedition with all despatch, against the arrival of the *Gorgon*. Bishop Ryan was also to accompany the party, and we were all ready when H.M. paddle-frigate *Gorgon*, under Captain Wilson, entered the harbour of Port Louis on the 6th of July.†

We embarked on the 12th of July, and had beautiful weather and good companions during the short run before the trade-winds, and daylight on Tuesday, 15th of July 1862, found the *Gorgon* in sight of Madagascar, and as soon as the sun was well up the coast lay before us stretching into the distance to the north and south, with the ranges of lofty mountains in the interior to the west of us, partially concealed by the mists and clouds marking the barriers opposed to the prevailing trade-winds.

By the time we had anchored in the roadstead, after a slight bumping against the coral-reef, it was nearly noon, and everything was bright, clear, and glittering under the blaze of the tropical sky.

We were prepared to undervalue Tamatave from the gloomy accounts of its unhealthy climate, but our first impressions were decidedly favourable. We looked upon a line of yellow sand, behind which were groves of pandanus and coco-palms, backed by umbrageous gum-trees, over which frowned the celebrated impregnable ramparts of Fort Tomasina, with its stout flagstaff, from which floated the long white banner of Radama II. Nearer to us in the other direction were the lines of neat buildings with thatched roofs, extending on to Hastie Point, which runs out into the sea. On one side of us Prune Island, with a French frigate at anchor under its lee, and on the other a partly bare coral-reef, on the outer barrier of which lay the skeletons of two luckless coasters, against which the spray from the incoming rollers dashed as high as their ancient masts. One or two "bullockers" were at anchor near us, from Réunion, engaged in landing their goods, and several canoes were around them, but no notice was taken of our arrival.

As no port-officer with health-permit arrived, the cutter was lowered and sent on shore, under Lieutenant L. Keppel, R.N., to announce our arrival at the Custom-house, and to arrange that our salute should be returned. Accordingly the *Gorgon's* guns roared out their twenty-one reports, in reply to which the carronades of the fort replied with feeble voice and uncertain interval. Immediately afterwards off came a boat filled with Hova officials in a quasi-European style of fancy costume. Uniform it could hardly be called, for there was an utter want of uniformity, for the gala dress of these officers was a *mélange* of

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\* Now Major-General Anson, late Lieutenant-Governor of Penang.

† Vide "A Cruise in the *Gorgon*," by W. Cope Devereux, Assistant-Paymaster, R.N. (1869).

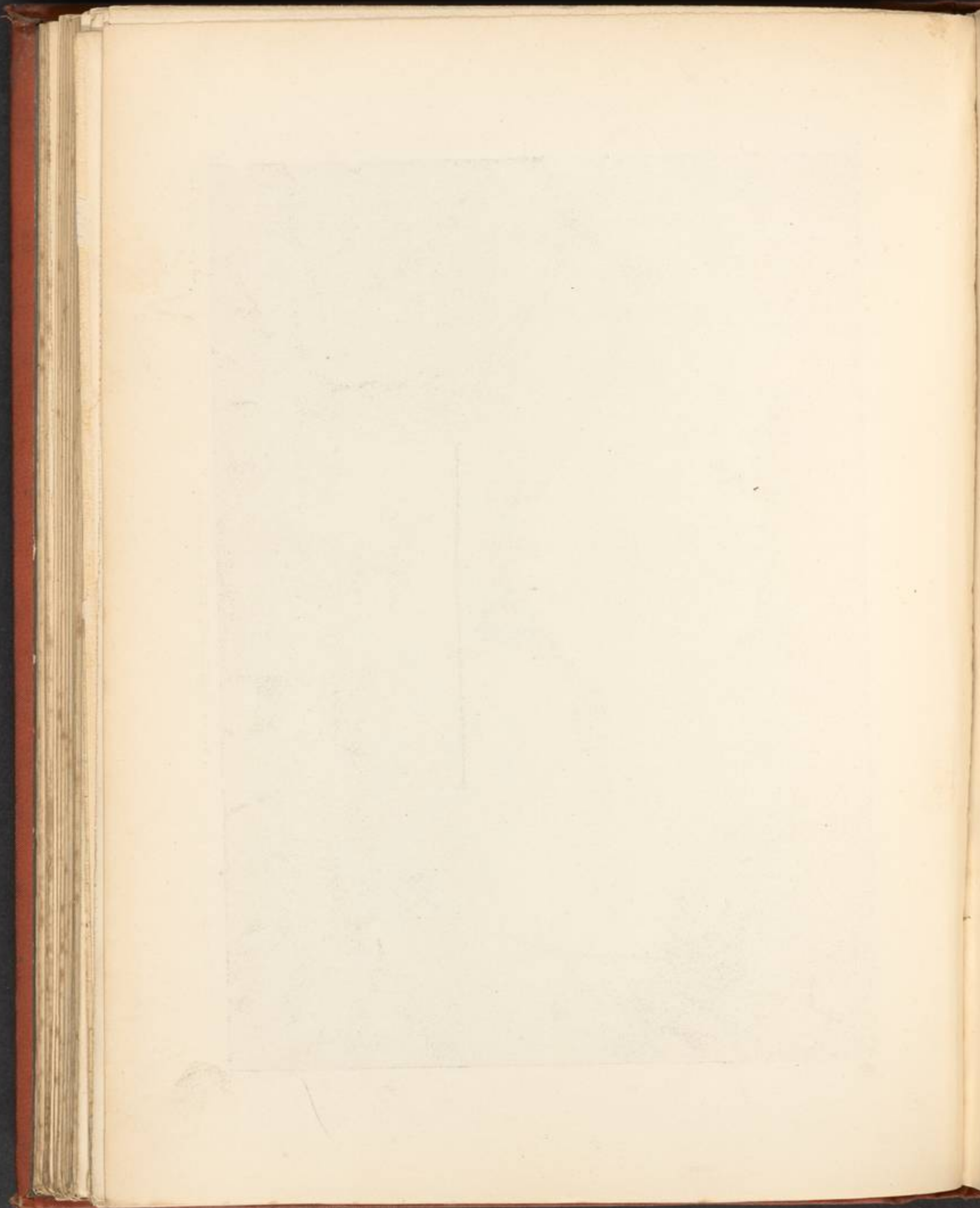


SUGAR PLANTATION, MOKA, MAURITIUS.

[To face page 112.]

WES





diverse dress-clothes of every imaginable nationality, like the miscellaneous properties of a Continental opera-house. We had difficult work to preserve an equable temperament and conceal the scarcely repressible tendency to laugh which the grotesque display provoked, as they came up the ladder and were received in due form by the Captain, who answered their formal queries with proper gravity, most creditable to him under the circumstances, but the middies and Jack were all on the broad grin. This was our first introduction to the Hovas, the dominant tribe among the Malagasy peoples.

## CHAPTER II.

Classification of the Malagasy tribes.—Their estimated number and extent.—Physiognomy of the Hovas.—Their superiority to the other races.—Parallel analogies in the Pacific.—Their linguistics.—The Betsimisaraka and Betanimena.—The Sakalavas.—The Bezanozano.—The Ikongos.—Firenenanas.—The Vazimba or Kimos.—Religion.—Mosaic observances.—Barbarous punishments in vogue.—Caste.—Polygamy.—Sepulture.—Habits of life.—Arrival at Madagascar.—Reception by the Governor.—The Chief Judge's house.—A unique dinner-party.—The Marmites.—On the line of march.—Desertion of baggage-bearers.—Strike of the Marmites for mere wages.—A compromise.—Encamping under difficulties.—The General and the Bishop.—Collapse of a hammock.—A journey up the Iharoka.—Exploring the country.—Native burials.—A traveller's troubles.—Hot springs.—Varieties of vegetation.—A fever-village.—Continuation of the journey.—Different travelling.—Forest solitude.—Beautiful scenery.—Sunday's halt and rest.—Objects of interest.—Shooting lemurs.—A horse attacked by a crocodile and a slave destroyed.—End of the fifteenth day's journey.—A native suburb.—Crowded Sunday services.—Passion for music and oratory.—Official reception at the Silver Palace.—Presenting a Bible from Queen Victoria.—An execution-ground.—Another native Palace.—Exploring the neighbourhood.

It must be always a subject of great interest to men of science that the great island of Madagascar,\* separated from Africa by a short distance of 400 miles only, should present such a marked difference to that continent in its organic productions.

The marked peculiarity of the mammal fauna, in the absence of so many African families and orders, and the existence of numerous genera and species common only to the island, is well known to all naturalists. Dr. Hartlaub, the ornithologist, has found the bird-population in the highest degree peculiar, and Mr. Bates, the entomologist, in his analysis of the insect fauna, found a still greater proportion of species of insects peculiar to this island; whilst the endemic character of its flora has been shown by Petit Thours, Bojer, and other botanists.

The conclusion forced upon us by the above facts is that, although so near to Africa, Madagascar has never had any close connection with that continent, but that the Mozambique Channel has existed as a watery barrier for a long geological period.† Some have

\* Madagascar is the name given to the island by foreigners, and is not used by the natives, with the exception of those who have learnt the name from the Europeans; the Hova authorities, however, have now adopted it as the official name.

The native name is "Nosindambo" (island of wild hogs), and they sometimes term it "Ny, anivony ny riaka" ("the, in the midst of the flood"): "Hiéra-Bé" (the great land) is another synonym.

So, also, Malagasy is an adjective applied to the inhabitants and language of the country, and only partially used by a few of them on the eastern coast. Malgache, Madegasse, Malagassi, are synonymous.

† Mr. H. W. Bates (the talented entomologist) explains the peculiar organic features of Madagascar by the following ingenious hypothesis, viz.: "That the island (whether previously stocked with anti-African forms or

supposed that Madagascar and the Mascarene islands, with other numerous atolls and coral-reefs, have formed the site of an ancient tract of land in the Indian Ocean similar to the Great Pacific continent, whose former existence and subsequent subsidence was indicated by Darwin some time ago.

How deep an interest is excited when we find Madagascar, the third largest island in the world (whose area is inferior only to that of Borneo and New Guinea), peopled by races of human being as peculiar to their country as its fauna and flora, and in every respect totally dissimilar to those numerous tribes inhabiting the immense neighbouring continent of Africa. Ethnographically speaking, they are Oceanic rather than African. To these races the name of Malagasy has been generally applied by foreigners, although they are only known to themselves by the names of the particular tribe to which they severally belong. From time immemorial these Malagasy have managed to preserve their native independence, owing probably to the courage and jealousy of the people; to the impassable forests, bad roads; and not least to the insalubrity of the country, especially on the coast, and to other accidents; and although for many years their island has lain in the very highway of commercial traffic between England and the East Indian Empire, they have remained until lately cut off entirely from settled intercourse with Europeans, and unimproved by foreign civilisation.

It is evident that the Malagasy have never degenerated from any original condition of civilisation, for there are no relics of primeval civilisation to be met with in the country; yet the Malagasy seem to have considerably advanced themselves in the art of building houses and originating elaborate fortifications, which they have themselves modified to suit their offensive and defensive weapons previously to any known intercourse with civilised people. They had domesticated oxen\* and pigs, and made advances in the cultivation of rice, yams, &c., but whether by their own unaided intellect or by external example we cannot say. Originally they seem to have been totally ignorant of any religion; what they possess now has been borrowed from others or invented but lately

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not) was at one time much more closely connected with Africa than it now is, and that the time of connection was anterior to the date when the continent became peopled by Simiidae and the bulk of its present mammalia, but posterior to the introduction of the Lemurs. Subsequently to this epoch we may suppose it to have become isolated, as we now find it; the lapse of time since the severance having been sufficient to cause the present divergence of the faunas—a divergence caused, however, as much by the extinction of old forms on the continent, once common to both lands through the introduction or immigration of so many new ones, as by the origination of new species and genera in Madagascar allied to prototypes once common to island and continent.” —“Proceedings of Zoological Society,” 1863, part iii., p. 472.

\* During the last century “It is said of Rabiby that whilst he and his people were busy planting rice, one of them killed an animal called the *jamoka* (bullock), and ate a part of it. Pleased with his discovery, he continued to kill and eat frequently; and in consequence of this became so much stouter than the rest of his companions that he was questioned by the inquisitive chieftain as to the cause of his newly-acquired corpulency, and after some hesitation confessed the facts of the case. Rabiby, like a wise man, preferring experiment to mere information, very naturally wished to make the trial for himself. Finding the beef as good as had been described to him, the chief, far from indulging any jealous wish to keep so important a secret, ordered another bullock to be taken and killed in order that he might feast his companions. He also first ordered *fahitra*, or folds, to be made for collecting cattle, and was the first also who ate the flesh of the wild hog. The *fahitras*

by themselves for political motives.\* Yet their wonderful aptitude for religious instruction is shown by the presence of 18,000 Christians in the province of Ankova alone. Without any written language they appear to have an elaborate structure of grammar; although many words are evidently introduced from abroad.

At the Philological Society, on February 15th, 1878, a paper was read on "Malagasy, the Language of Madagascar," by the Rev. W. E. Cousins, long a missionary in the island. Mr. Cousins gave an account of the various contributions made by Europeans to the study and development of the Malagasy language from the sixteenth century to the present time. The written form of the language now in use was introduced by missionaries of the London Missionary Society about sixty years ago. Substantially one language exists throughout the whole of Madagascar, but there are various dialects. That spoken by the Hovas is the principal and most cultivated dialect. The Sakaláva is used on the west coast, and in the northern parts of the island; the Betsimisàraka is spoken on the east coast, and the Betsilèò in the interior of the island south of Imèrina. The paper contained a description of the principal linguistic features of the Malagasy, and an account of its unwritten literature, which consists chiefly of fragments of history, proverbs, and fables. The relation of the Malagasy to other languages was also discussed, and evidence adduced in favour of regarding it as the most westerly member of the Malayo-Polynesian family. Mr. Cousins showed that, both in its vocabulary and in its grammar, the Malagasy bears the closest analogy to this family. Without denying that an African element may exist in the language, Mr. Cousins maintained that no near relation to any African language

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made by him are still preserved at the village called after him, Ambohidrabiby."—Ellis, "History of Madagascar," vol. ii., p. 118.

Compare man's first taste of roasted venison:—

PROMETHEUS.

"Beast-like, till now, thou hast on raw flesh fed;  
Heap on more wood; that venison on it lay,  
New-slaughtered. Wait; thou shalt taste daintiest food,  
Fit for Olympus. See, how the red blood  
Roasts to rich brownness. Taste now this fire's feast."

MAN.

"Oh, I will worship thee! The luscious meat!"

"Prometheus, the Fire-giver": an attempted restoration of the lost first part of the Prometheian Trilogy of Æschylus. (Chatto and Windus.)

Both the Chinese and New Zealanders have a similar legend of roast pig.

\* "Imponia, the father of the first Radama, in consecrating some national idols, is said to have acted solely from political motives in the conviction that some kind of religious influence was useful in the government of a nation."—Ellis, "History of Madagascar."

Ra-haniraka, Foreign Secretary in 1862, remarked to me that religion was good for the lower classes, as it made them orderly and quiet citizens.

In May, 1880, the subject of the Friends' Foreign Missions also claimed much attention. It was reported that in Madagascar there were 2,500 scholars and ninety-two churches under the care of the Friends in that island. Mr. Frederick Seebohm, of Hitchin, made a thoughtful speech on the purely disinterested nature of these Madagascan missions, and those also of other churches there, as being carried on in a country where there is no British authority, and where there are no interests of British "Imperialism" of any kind to be promoted.

had yet been proved to exist. At the same time many African words have been introduced as the result of commercial intercourse.

The various nations or tribes inhabiting Madagascar may be considered as forming two distinct races; one characterised by small stature and a comparatively fair complexion, and the other remarkable for a larger stature and dark-coloured skin. The sources of their origin must ever be a mystery to us; but still, by the aid of linguistics, we have tolerable grounds for assigning to the lighter race some previous connection with Western Protonesia, whilst we consider the darker-coloured natives of the coast as the remains of the primitive aboriginals, or perhaps more accurately of an anterior population. Both these nations speak the same language, varied only as to dialect, but physically are totally different. Neither of them have any resemblance to African types. Even their clothing shows that there is small probability of their having at any former period sprung from an African colony, for at all times it appears that the races inhabiting the adjacent continent have universally been clothed with the skins of wild beasts, fur karosses, &c.; but although numerous animals exist in the island, whose skins are most suitable for the purpose, still they are never used by the natives, whilst their using so generally cloth made from the woven strips of the rofia-palm or the bark of the hibiscus simply beaten out, after the manner of making cloth practised by the South Sea islanders, affords additional evidence that these inhabitants of Madagascar have a common origin in the Asiatic Archipelago with the races now found in the Pacific islands.

On the other hand, Mr. Crawford, who has well studied the philology of Madagascar and Malaya, although he finds many Malay and Javanese words in the Malagasy language, will not admit that any of the Malagasy are of Malay origin. He says: "The people of Madagascar are not Malays, nor do they bear any resemblance to them; they are in fact negroes, but negroes of a particular description; they are negroes in the same sense that Portuguese, Lapps, and Englishmen, Germans, and Spaniards are Europeans, and in no other—their facial angle is not so acute as that of the ordinary negro. . . . Like all other negroes, they are ignorant of letters: no negro nation has ever invented an alphabet; the language was totally distinct, not only from Malay, but from every other language of Africa."

Mr. Crawford's hypothesis is "that a fleet of Malay pirates had been tempest-driven from their coast and not been able to make their way back; that they had been caught in the south-east monsoon which blows south of the Equator, and had made for the first land that lay in their way, which would, of course, be Madagascar; that in that way they arrived in sufficient numbers to protect themselves in the first instance against the natives, then afterwards imparted to them a certain amount of instruction and conveyed to them a knowledge of the cultivation and use of vegetable productions, and finally became absorbed among them by intermarriage."—"Proceedings of the Royal Geographical Society," vol. vii., No. 2 (1863), p. 69.

I now proceed to describe the chief physical and psychical peculiarities of these tribes, which constitute the bulk of the Malagasy population, but first will give a table

of their approximate numbers, of which it was almost impossible to obtain accurate information. Mons. Grandidier estimates the total population as being not under four millions. The Rev. J. Sibree reckons the population at between three and a half and four millions.

1. Malay origin?	1. Hovas . . . . .	Fair . . . . .	800,000
	2. Betanimena . . . . .	} Light brown . . . . .	1,500,000
	3. Betsimisaraka . . . . .		
2. Aboriginal?	4. Betsileo . . . . .	Brown . . . . .	1,500,000
	5. Antsianaka . . . . .	} Deep brown . . . . .	300,000
	6. Bezanozano . . . . .		
	7. Southern tribes and . . . . .	} Black . . . . .	1,200,000
	8. Sakalavas . . . . .		
Total . . . . .			5,300,000

Table showing principal tribes and clans of the Malagasy, from the Rev. James Sibree's work, "Madagascar, the Great African Island" (Trübner & Co. 1880) :—

SAKALAVAS.	North-west.	Tankarana. Tandrona. Behisotra. Tiboina.	Central Highlands.	North Sakalavas. Sihanaka.	East Central.	Zafin Ibrahima Betanimena Antaiva or Anteva. Vorimo Tambahoaka Taimoro Taifasy Taisaka Tanosy	
	West Coast.	Tsimilanga. Timiraha. Timahilaka. Tiména. Antanandro. Tifihérénana or Andraivola.		Mainty { Manisotra. Manendy. Tsierandahy.			BEZANOZANO. Plains of Tankey.
	South-west.	Vezo or Masikora. Mahafaly. Karambola.		HOVAS. Vonizongo. Imamo. Marovatana. Tsimahafotsy. Mandiavato. Tsimiambolohahy. Voromahery. Manandriana. Isandra. BETSILEO. Ilalangina. Mandranozemina. Ilafarivo. Ilalanginaivo. Avaradrano. Andoharano. Iarindrano.			FOREST TRIBE, TANALA.
			BARA. Tsienimbalala. TANDROY.				

A great extent of country is depopulated on account of long barbarous wars, the practice of infanticide, and cruelties of the slave-trade, which accounts for the smallness of the population as compared with the area of this fine island, which is about 250,000 square miles, or twenty-one people to every square mile. The population now is rapidly increasing.

The organisation of the Malagasy people, as I have before noticed, is referable to two distinct types. Let us first examine the light-coloured tribes, of which the Hova is the true representative type. This group includes the Betanimena, Betsimisaraka, and Betsileo tribes, all of whom possess small stature, with olive complexion of different shades, more

brown than black; physiognomy more Mongol than negro, with patent and recognised affinities to the Malay; in number they are inferior to the black or darker-coloured tribes, and inhabit the highlands inland and part of the eastern coast of Madagascar.\*

#### THE HOVAS.

The first in importance of all the tribes inhabiting Madagascar is the race of Hovas, who occupy the central province of Ankova, a highland territory occupying a plateau some 5,000 feet above the sea-level. In numbers far inferior to any of the black tribes of Madagascar, they comprise about one-sixth of the whole population of the island; but from their superior intelligence, and power of military organisation, form the dominant race, and rule absolutely over the other races, which together are five times their number.

Physically these Hovas form a fine, noble, well-built race of men. Robust and active, nevertheless they are mostly below the middle stature, which indeed but few of them ever exceed. Their figures are erect, with small but finely-formed limbs of good proportion, whilst their gait and movements are remarkably graceful, free, and agile. Although distinguished by their promptitude and activity, their strength and endurance is inferior to that of the other neighbouring tribes, and they are easily susceptible of fatigue from travelling or labour; this, however, I imagine, only proceeds from the fact of the Hovas as a rule not being brought up to undergo much manual labour as the slaves under them, who excel in carrying great weights for long distances.

Physiognomically speaking, they are eminently noticeable for their well-shaped heads, rather flattened at the back, with high foreheads, often of a European cast of countenance (in some few instances the distance between the hair and eyebrows is comparatively narrow), but generally indicative of considerable intellectual capacity, as well as moral excellence. Their features are rather delicate than prominent. The nose is small, firm, and well chiselled, never thick and fleshy, and sometimes of pure aquiline shape, more frequently straight, now and then short and broad, without fulness at the end; the facial angle is large; their lips are occasionally thick and slightly projecting, seldom round and large, but often thin, and the lower gently projecting (this latter from snuff-taking, I believe), as in the Caucasian race, with short haughty curling upper lip. Their eyes hazel, clear, and lustrous, but small and piercing. Their hair is jet black, but soft and fine, straight or curling (*Tsotra, tsobolo*); a few, indeed, have frizzy or crisped hair (*Ngita*), but this evidently does not belong to the true original Hova type. They used to plait their hair, but since 1822 have usually cut their hair short in European fashion, adjusting it with grace.

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\* The Protonesian are peculiar in their distribution; it is rarely that they form the exclusive populations of those lands on which they are found. On the contrary, they are found chiefly in the lighter variety: but they are always found in the interior or impracticable parts, and always as an inferior population; also that the migration of the Kelænesians took place anterior to the spread of the lighter tribes. (Dr. Latham.)

A parallel case is found in the Feejee islands, where there are two races, light and dark, the Amphinesians and Kelænesians. Mr. Craufurd says that 500 of these light-haired race are able to turn the scale of success against 20,000 of the darker Feejeeans.



The Hova women wear their thick glossy hair elaborately dressed, and plaited in extremely fine plaits and braids, tied in a number of small knots all over the head, giving a stiff and rather formal aspect to the contour of the head and face. There are ten or twelve different modes of arranging these plaits. The unmarried females allow their locks to flow negligently over their shoulders. There are few grey-headed people to be met with, and they are scrupulously careful to remove their grey hairs, as it is a matter of importance to them to avoid as much as possible any symptoms of age, and it is always an object of great desire to appear or be thought young. Their beards are but weak, and the hairs are plucked out when young; they frequently wear moustachios, generally thick and clipped close.

The colour of their complexion is an olive, more or less dark, but frequently lighter than that of the inhabitants of Southern Europe; the vigour of health often imparts a ruddy tinge to their countenances; but this, whilst it removes them from approximating in complexion to the yellow hue of the Malays, does not give them any resemblance to the copper-coloured Indians of America.

The men are better formed than the women, in whom there is a tendency to become corpulent. Their hands are not so warm to the touch as those of Europeans, and their blood is by thermometer colder. They are industrious, intelligent, and to a certain degree half-civilised. They are most kind and affectionate in their natural relations, cheerful, and hospitable, and capable of the warmest friendship, but superstitious and mendacious in the extreme. They are quick at learning, and have a retentive memory. They are very sensitive, and possess great natural dignity, being extremely amenable to law and order, and the constituted authorities.

The Hovas are not the aborigines of this part of Madagascar which they now inhabit, and it is impossible to determine with any certainty from what part of the island they came. It is, however, their own general belief that they came from the south-east of Madagascar, and had advanced inland, gradually dispossessing the aboriginal inhabitants. At all events, the Hovas are a race entirely distinct from all the rest of the natives of Madagascar; from wherever they have come, they have in every respect the pre-eminence and superiority over the other tribes.

There are several reasons why the Hovas should be fairer than their neighbours: they wear more clothing to begin with, and expose their bodies less than any of the coast tribes; besides, living in a mountainous district at high elevations, with a cooler and more salubrious climate, generally conduces to fairness of complexion; whilst vast rivers, alluvial deposits, and swampy countries under a tropical sun are found always to determine a tendency to the colour of the negro, a fact frequently confirmed and fully borne out by the colour and country of the black tribes of Madagascar.

The Assamese are examples of this distinction; they, a mountain race, being light in comparison to the inhabitants of the neighbouring swamps of Cambodia and Pegu. So in Fernando Po, an island only twenty miles distant from the mainland of Equatorial Africa, but rising 4,000 feet above the sea, the Ediya family have much lighter skins and softer hair than the African negro. Captain Beechy remarked that throughout the whole of

Polynesia the lower coralline islands always contained a darker people, whilst the higher volcanic islands possessed lighter coloured inhabitants.

The language of Ankova may be considered as the standard of the Madagascar dialect. It is the most copious and least nasal.

There seems to be no doubt that the Teninkova, or vernacular dialect of the Hovas, from its intimate relationship to the original Malayan or Polynesian language, points to the Indian Archipelago, of which Java is the head-quarters, as the ancient cradle of the Hova race; but it is equally uncertain at what time, or in what manner, this migration across the Indian Ocean could have taken place, nor are there any legends remaining which allude in any way to such a fact.

Mr. Ellis, on first landing at Tamatave, was surprised at the perfect identity of the Malagasy and Eastern Polynesian languages in the names of many things common to both, such as a cocoa-nut tree, the name of which they pronounced precisely as a South Sea Islander would have done. So also with the Pandanus or vacoua tree, one of the most common trees on the coast of Madagascar, and in Tahiti also; the words for flowers and the names of the parts of the human body. The numerals also he found, with but slight variation, were identically the same; but he found that, although in many respects the language retained the same simplicity of structure and arrangement, it was in some instances more defective, but in others, especially in the structure and application of its verbs, far more extensive and complex than the Polynesian language.

The Hova language exhibits an instance of a people but half-civilised, using a language copious, precise, and philosophical, and only oral, being till within the last sixty years an unwritten language. That they now possess a written language is entirely due to the London Missionary Society, and to its first pioneers, David Jones and David Griffiths.

It is noticeable that the dialects of the tribes on the coast more nearly resemble one another than any one of them can be found to resemble that of the Hovas; so that we are accordingly led to suppose that the Hovas are a people of later introduction to the island than the coast-tribes, who appear to have been the anterior inhabitants of the country. These I will now proceed to describe.

#### THE BETSIMASARAKA AND BETANIMENA.

These seem to form but one people, and next to the Hovas are the fairest race in Madagascar. It is supposed that they arise from a blending of the aboriginals of the east coast and the Zafindaramina, some remnants of an Arab colony. (Members of this same colony inhabit the island of St. Mary's, where they style themselves Zafibrihama, or descendants of Abraham.) But there is doubtless a great admixture of Hova blood in their veins. They are particularly cleanly in their houses and habits, but degraded in morals, and extremely apathetic and indolent. Intercourse with Europeans has produced marked European features amongst many of them; generally they have larger heads and less marked features than the Hovas.

The Betsileo, or "invincible," resemble the Hovas also, but are much darker and taller; they are more agricultural and less warlike than their neighbours, the Hovas, and inhabit the high mountainous region south of Ankova. They are large-boned and muscular, of various shades of brown, with long black curling hair; they are patriarchal in their mode of life, and have modest and unassuming manners. There is a branch of them called the Betsileontanala, a body of whom attended at the capital on the coronation of the Queen under their female chieftain Jovana. Ellis describes her as having a complexion of a mellow brown, regular features, open countenance, with dark glossy hair braided; she excelled in oratory, and appears to have been as brave in war as wise in council.

Mr. George A. Shaw, of the London Missionary Society, has given a good account of the Betsileo in the "Antananarivo Annual."

#### THE SAKALAVAS.

The second division of the Malagasy population is the dark-coloured variety, of which the Sakalavas are the typical representatives. They are distinguished by greater stature, dark complexion, and physiognomy as much negro as Mongol, and include the North and South Sakalavas, the Antsianaka, and Bezanozano; they have been an anterior population to the Malay Hovas, but are perhaps themselves connected with the Kelænesian branch of the Oceanic group, if not true aboriginals.

The Sakalavas sometimes are divided into North and South Sakalavas, but anthropologically speaking they may be said to include all the black tribes of the western coasts, and comprehend the outlying Bezanozano and the Antsianaka to the north of Ankova. Their head-quarters may be considered at Iboina and Menabé, to the king of whom for many years the Hovas paid tribute, until Radama I. invaded their country, and forming an alliance with their chief Ramitraha, married Rasalimo, his daughter, in 1826. (This princess was still alive when I visited the capital in 1862, when she used to appear at the court ceremonies.) The Sakalavas are a brave and generous people; physically considered they are the most athletic race in Madagascar.

Captain J. C. Wilson, R.N., in his notes on the west coast, declares "that the Sakalavas are the finest race of savages he has ever seen; that they are far superior to the Hovas in strength and appearance, but not nearly so intelligent. They are strongly built, tall, independent fellows, with the African cast of countenance, though generally much better looking. They are robust, but not corpulent; their limbs well formed, muscular, and strong. Their complexion is of the deepest hue, much darker than the other Malagasy; their hair crisped and curly, but not woolly. Their features handsome, regular, and prominent; open and prepossessing countenance, with dark eyes, and a keen and piercing glance. They are indolent when secure at home, but in war they are energetic, brave, and resolute. They are much addicted to divination, sorcery, and all superstitions. They are generally of a friendly disposition towards Europeans. They are exceedingly fond of ornaments of silver and ivory, and occasionally wear a ring in their nostrils, and a circular ornament of

ivory, silver, or shell, which is worn on the forehead. They carry flint-muskets, carefully kept in order, with the stock ornamented with numbers of brass-headed nails and well polished; as enemies they are not to be despised, being capital shots, as the French well know from experience on more than one occasion."—(Wilson.)

"They grow large quantities of rice, more particularly about the marshy country about the Ozsanga river; but on the whole the natives are more pastoral than agricultural in their habits. Their houses, like those of the east coast, are beautifully clean and comfortable, and of the same construction. Morality here is at a low standard, virtue being unknown among women; though it must be said that when married they are constant to their husbands. It is sad that this deplorable state should be so universal throughout this beautiful island, and that, though in many respects superior to other coloured nations, in this they are so far beneath them."

(I myself doubt whether they are so much below other savage nations in this respect.) As I have never been in the Sakalava country myself, I have given the above extracts from Captain Wilson's notes.

They are in the habit of making incisions in their faces and bodies. They wear their hair plaited in small knots, and sometimes wear wigs, made often of the skin of the hump of the zebu oxen. Whether they have derived the custom of cutting their bodies from the Mozambiques or not, is not known; there is certainly a similarity. So also there "appears to be a resemblance, amounting to identity between a number of words used by the Malagasy and the natives of the Mozambique coast and of the adjacent interior. . . . It is impossible to look over a map and not perceive the obvious similarity between the names of the districts and rivers of these countries severally: such, for example, as Masambika—Mozambique; Kilimany—Quilimane; Sambesy—Zambesi; Zimba, Inhambany, Manisa; which have not only a perfect resemblance to Malagasy names, but are either Malagasy roots variously combined, or actual words in the Malagasy language."—Rev. J. J. Freeman.

The Sakalavas still carry on a trade in slaves from the east coast of Africa; from somewhere about Angora river across to Cape St. Andrew's they are brought in Arab dhows. The Sakalavas give four head of cattle for one slave.—Wilson. There is certainly a treaty between the Hovas and English relative to prohibition of the slave trade; but though the Hovas are nominally recognised as the rulers of the island, they have only one military station at Mojanga, at the mouth of Bembatoka bay (into which the important river Betsiboka runs, forming the route from the capital), and the Sakalavas are in reality perfectly independent. The Rev. J. Sibree, of the London Missionary Society, gives the history of these tribes.

The Bezanezano ("anarchical") and the Antsianaka ("not subject to others") resemble one another very closely, and are outlying branches of the Western Sakalavas. They are stout, not very tall, of black colour, and flat features, short neck; the former are the best coolies for carrying burdens in Madagascar. From constantly carrying heavy burdens on bamboos across their shoulders, they are noticeable for large humps on their

shoulders, a provision of nature, these humps forming natural cushions saving the collar-bone from any concussion. The Rev. P. G. Peake, of the London Missionary Society, has described these people.

The Manendy are another branch of the darker-coloured Sakalavas; they live between the Betsiboka river and the sea. The Hovas say that the Manendy can live on leaves and roots; but Mr. Hastie, who visited them, was struck with their superior culture of the soil.

Another branch of the Sakalavas, namely, the Vangiandrano tribes from the south of the island, are described by Ellis as a striking race of men. They appeared tough and agile. These men were ornamented with bands round their foreheads, to which round pieces of polished shells were attached just over one temple.

Raloba, chief of Vangiandrano, is thus described:—"He moved about among the crowds a head and shoulders above his fellows—above seven feet high; his figure was thin, his head broad, and rather large; his features slightly prominent, his eyes small, his hair slightly grey, his limbs bony, but not muscular. He wore an open-breasted shirt, and above this a large native lamba. His head was covered with a singular cap of scarlet cloth, fitting close round the forehead, but drawn together in a line about a foot across above the crown. From this line the upper end of the cap, which tapered gradually to a point, was doubled down behind the extreme end, reaching below the waist. The cap itself was ornamented by a large solid oval piece of light green glass in front instead of a precious stone. The edges were covered with some kind of bright yellow bordering extending along the part which hung down, and terminating in a large yellow tassel, like the tassel of a bell-rope."

"These inhabitants of Vangiandrano and the country about Faradofay (Fort Dauphin) are famed as spearmen throughout the island, and are not allowed to sleep in the city; they are said to be *mahay*, *i.e.* to know what to do with the spear."

They exhibited their manner of fighting with shield and spear, thus described:—"In the war game now exhibited no spear was hurled, the fighting was at close quarters, and was an exhibition of personal encounter. No shouts or yells were uttered; it was silent, earnest business. When there was a little distance between the combatants they held the spears near the middle of the shaft; but in hand-to-hand encounters close to the head of the weapon. The small-sized men were selected, and seemed to be the best spearmen; steadiness of eye and agility appeared to be of more importance than great stature or strength. One little tough-looking individual elicited immense applause. A thrust that it was supposed would have told on the person of his antagonist had the spear not been purposely lowered, was followed by throwing up the shield in the air and catching it by the handle as it fell with the left hand. The shields are circular; not large nor fixed on the arm, but held in the hand by a handle left in the wood inside the shield."—Ellis, "Madagascar Revisited."

#### THE IKONGOS.

The Ikongos or Akongros are mentioned by Captain Rooke, R.A., as a tribe independent of the Hovas, whose head-quarters are 200 miles south-west of Mananzari.

Their chief town is said to be situated on the summit of a rocky plateau, the sides of which they have scarp'd quite perpendicularly, so as to render their stronghold impregnable against an enemy unprovided with artillery. It is provided with water-springs and rice-grounds; and, although the Hovas have repeatedly attacked it, they have always been repulsed with great loss, the garrison being assisted even by the women, who rolled down rocks and logs of wood upon their assailants. These Ikongos are included in the Tanala by Mr. J. Sibree.

Captain Rooke saw about twenty of these Akongros who were in Mananzari on a friendly visit. "They were," says Captain Rooke, "rough, powerfully-built, good-humoured fellows, wearing conical straw hats, and armed with swords and spears." They performed a war-dance, and assured Captain Rooke's party that no harm should befall them if they paid a visit to their stronghold, an invitation which, unfortunately, they were unable to accept.

#### THE FIRENENANAS

include clans of the Southern Sakalavas, who occupy a part of the country west of the Betsileo, and south of Menabé. They are as tall as the Betsileo, and less robust and muscular than the Betsimasaraka; their features smaller, colour darker, hair crisp, but not woolly, matted, not abundant; they have sinewy limbs, with free and agile movements. They are probably the result of intermixture of Betsileo and Sakalava blood.

#### THE VAZIMBA, KIMOS OR QUIMOS, AND BEHOSY.

The Vazimba are supposed to have been the first occupants of Ankova; they are described by Rochon under the name of Kimos, as a nation of dwarfs, averaging three feet six inches in stature, of a lighter colour than the negroes, with very long arms, short woolly hair. As they were only described by the natives of the coast, and have never been seen, it is natural to suppose that these peculiarities were exaggerated; but it is stated that a people of diminutive size still exists on the banks of a certain river to the south-west. There are many tumuli\* and cairns throughout the country, held in reverence by the Malagasy, as the tombs of the Vazimba, which, if opened, might throw light on the subject. The Rev. W. E. Cousins mentions also the Kalio or Behosy as still surviving descendants of these Kimos.

Some of the Betanimena have curious ideas of their ancestors and their origin, believing that they sprang from the babacootes or large lemurs of the forest. The year after I left the island, one of the officers following the Queen on her visit to the coast, having shot a babacoote, was degraded to the ranks and condemned to carry the babacoote back to Ankova and have it properly interred. So they seem to have an idea of the missing link.

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\* The barrows of the Vazimba resemble closely the ancient tombs of the Indians in the Chontales district of Nicaragua. It would be a difficult task to persuade the natives to open them, as they have a superstitious horror of desecrating their graves.

With regard to the native religion of the Malagasy, they can hardly be said to possess any form of faith whatever; their creed (if that term may be applied to the few and confused notions entertained on the subject) seems to consist of little more than a heterogeneous compound of superstitious terrors and practices. Certain barbarous ceremonies and unmeaning usages exist which have been handed down from their forefathers; but they have a very vague, indefinite notion of a Deity, applying the term *Andriamanitra* (literally, "the fragrant prince") to their sovereign, their idols, individually and collectively, their dead, to anything supernatural, a phenomenon of nature, and to the genius which animates their various charms, divinations, ordeals, &c.

Their ideas on these subjects are evidently borrowed from other nations; thus they practice the rite of circumcision learnt from the Arabs, but as a civil rather than a religious ceremony. The Vintana, or fixed immutability of their destiny, answers to the doctrine of fate taught in the Koran of the Mahometans. The Fandroana, or national New Year festival or lustration, has an obscure but evident relation to the Jewish Passover. Purifying and bathing are universal on the occasion; cattle are slain, and their blood is sprinkled on the door-posts of their houses, where it is allowed to remain throughout the year. A hasty meal is prepared and eaten, and general festivity ensues. The ordeal by Tangena (so long practised, but happily now rendered obsolete by law), or poison, is slightly analogous to the ceremonial of ordeal by bitter waters practised by the Jews (Numbers xxvi. 11.) The Fadritra and Sorona have an affinity to the cleanse, sin, and wave-offerings of the Pentateuch, and bear some resemblance to the institution of the scape-goat. So also the sampy, or idols, correspond closely to the teraphim of the Old Testament. Mosavy, or witchcraft, is punished by stoning to death, as in the law of Moses. Their Fady is equivalent to the Taboo of Polynesia. Their Ody, or charms and amulets, have perhaps a small relation to the African Fetish. The Fanandro, or genethliology, a peculiar casting of nativities, is also derived from ancient Eastern nations. The Skidy, or divination, alone seems peculiar to the Malagasy themselves, and is highly original. It is neither based on astronomy, necromancy, nor magic; but its nature is oracular, and calculated from a fixed process of the permutations and combinations of certain straws, beans, or sand, placed in particular lines and positions.

The Malagasy are very fond of music and singing, and have a quick and retentive ear. Their native musical instruments consist of wooden drums; the *lokanga*, a stringed instrument with a hollow calabash; the *valiha*, a sort of bamboo harp, of a very original character. They also blow conches as trumpets, and clap their hands in unison as a chorus. In many of the villages the instrument to which they dance consists of a large hollow bamboo held at each extremity by a little girl, whilst the musicians simply stand in a row and tap it vigorously with short staves, singing in chorus at the same time.

#### PUNISHMENTS AND PENALTIES.

*Capital Punishment.*—There are numerous methods of inflicting capital punishment. The most honourable is private execution, in which case the noble criminal is speared or

beheaded in his own house without being exposed to the gaze of the multitude, somewhat similar to the Hari-kari of the Japanese. In 1828, Prince Rakotobe, Prince Ratafy, and the mother of Radama, suffered death in this manner. Andriamihaja, soon after, was killed in like manner, and, with cool self-possession, directed his executioners with his own finger to the exact spot where to apply the steel which they were plunging into his throat.

*Starvation* is another method. Radama's eldest sister, and Ratafikia, own brother to Radama, were starved to death.

*Suffocation*.—Persons of the rank of nobles are usually suffocated in cattlefolds, where the mire is soft and deep, or in marshes.

*Strangulation*.—The sad fate of Radama II. affords us a late example of this method of execution of a royal personage, whose blood is forbidden to be shed. A *lamba* was thrown over his head, a girdle passed round his neck, and the twisted band tightened by Herculean arms engaged for the purpose.

The usual punishment of death is by *spearing*, the head being cut off afterwards. Sometimes a murderer is put to death in the same manner that he committed the murder (an eye for an eye and a tooth for a tooth).

Crucifixion on a frame like a gallows is another punishment.

*Burning or Flogging to Death*.—The military punishment of desertion or cowardice, and on prisoners attempting to escape.

Throwing down from a steep rock or cliff is a punishment for sorcery. Other military punishments are as follows:—Loading with irons; placing in confinement; and another rather original one is making the culprit to run up and down a hill for a certain time, holding a musket upright in his hand; and degradation to the ranks. Reduction to slavery, sometimes involving the whole family, and confiscation of property, are common punishments. Pecuniary fines, imprisonment with chains, with hard labour, &c. Maiming is sometimes practised. The public judges can inflict only punishments not capital, death being exclusively in the hands of the sovereign. If a criminal can obtain a sight of the sovereign he is pardoned, or if the sovereign accepts a *hazina* sent to him. So at the coronation of the late Queen Rasoherina, some of the Menamaso who had escaped the massacre of their comrades obtained a commutation of their sentence.—Ellis.

#### CASTE.

There seems to be a solitary instance of "caste" distinction among the Hovas, claimed by a clan named the Zanakambouy. They live in the district of Ambohimalaza (the illustrious village), about eight miles from Antananarivo, and are the descendants of the original conquerors of that town. Their peculiar privileges, which they maintain with great tenacity, are as follows, viz.:—The right of carrying the bodies of the deceased kings, and building their tombs and *tranomasina*, or houses, over them. They are exempt from working for the king except in smiths' works; so they make a spade but not use it. They look upon it as a degradation to erect a fence, to associate with other clans, nor



will they lend others even a mat or drinking vessel, nor will they eat out of the same dish as other people. They are very strict in adherence to rites and ceremonies, are very poor, indolent, and proud, and consequently ignorant.

#### POLYGAMY.

Polygamy exists under the sanction of the native laws. The sovereign is allowed twelve wives; but as a rule no man has more than three or four, and, still more frequently, two is the number. It is considered essential to anyone of rank to have more than one wife. The native word for polygamy is *famporafesana*, "the means of causing enmity." The wives, however, keep perfectly separate establishments. Divorces are frequent, and widows are not allowed to marry within twelve months of their husband's decease. Many of both sexes are married at twelve years of age; they frequently become parents shortly after the age above specified.—Ellis, vol. i., p. 163.

#### SEPULTURE.

The Malagasy tribes have great veneration for their dead, who are buried in large solid wooden sarcophagi, which are afterwards placed either in handsome mausoleums, or simply in wooden houses, or under mere sheds, according to rank of the deceased.

The following method of sepulture is practised up to this day by the tribe of Hovas, the inhabitants of the mountainous plateaux in the interior of Madagascar. The Hova chiefs begin to erect their tombs in early life, and make their completion through a series of years, one of the most important objects of their existence, as an effectual means of being held in honourable remembrance by posterity. These tombs are family vaults or catacombs, and in their construction an immensity of money, time, and labour is expended, limited solely by the wealth of the builder. In erecting a tomb, the first consideration is the selection of an eligible site, publicity and elevation being the two principal requisites. Sometimes a tomb is placed immediately in front of the house of the person by whom it is built, so the tombs of the kings are within the precincts of the palace at Anantananarivo, the tomb of the first Radama being a conspicuous object in the palace-yard. The site having been chosen, an excavation is made in the earth, and a stone vault made, the sides and roof of which are made of immense slabs of stone, unhewn granite, flat at least on the inner side. Each side of this kist, sometimes seven feet high, and twelve feet in length, is often formed of a single stone. A sort of subterranean grotto is thus made, the entrance to which, always to the north or east, is closed by a large upright block of stone,\* which is removed when a corpse is taken in, and fixed again at the termination of the funeral.

In reading this, does it not remind one of our European kistvaens and cromlechs of the stone age?

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\* Compare Nilsson, "The Sunny Side," p. 127; also Ellis relates that one of the Hovas requested his sons, shortly before his death, that after his interment they would occasionally remove the large stone slab that would form the door of his sepulchre, and let the sun shine in upon him.

This stone-sepulchre is covered over with earth, and by means of stone copings gradually diminishing, presents from the exterior a pyramidal form. These structures, which we call pyramidal tumuli, containing stone chambers, bear at all events a certain analogy to the chambered tumuli of western and northern Europe. Some of these structures measure fifty feet in length by twenty in breadth.

The large slabs used in forming these megalithic structures are usually of granite and syenite. The Hovas mark out the required dimensions of the slab by *odies* or charms (the idol-keepers being well acquainted with the cleavage of the rock, and taking advantage of this circumstance); large fires of cow-dung are made along the line thus indicated, and when the rock has become heated, water is dashed upon it, by which means, and with the help of long levers, large masses are detached from the mountain-side. When the slab is to be removed, ropes of native hemp (*rofia* fibre, or the bark of the hibiscus, and a long tough grass are all used in the manufacture of cordage) are fastened around it, and amidst the vociferations of the slaves it is dragged away.

In ascending a hill they place wooden rollers under the stone, and move them forward as it advances. Sometimes five or six hundred men are employed in dragging a single stone. A man usually stands on the stone acting as director. He holds a cloth in his hands, and waves it, with loud and incessant shouts, to animate those who are dragging the ponderous block. At his shout they pull in concert, and so far his shouting is of real service. Holy water is also sprinkled on the stone as a means of facilitating its progress, till at length, after immense shouting, sprinkling, and pulling, it reaches its destination. This ponderous cap-stone is named *rangolahy*.

When the tomb is erected for a person deceased, but not buried, no noise is made in dragging the stones for its construction; profound silence is regarded as indicating respect. Sometimes a corpse is buried in a dwelling-house till the new tomb is finished, when it is removed to its final resting-place. The dead body, wrapped in a red *lamba*, is placed on a bier, and a grave is dug for its reception within the vault, which is not paved; the corpse is placed in the grave without delay, and covered with earth, so that it is a grave within a stone tomb; a quantity of fresh charcoal is placed on the body to resist rapid decomposition; the wooden bier is left within the tomb by the side of the grave.

It is customary at the interment of any man of note to deposit large quantities of property in the tomb with the corpse, especially of articles to which the deceased was known to be attached; thus, at the funeral of the first Radama, six of his favourite horses were killed and buried with him, a brass canon was burst, and, with a cask of wine, also buried with him, besides 10,309 silver dollars, and upwards of 1,000 articles of personal property, jewellery, &c. His tomb, called *Trano-manara*, or "cold house," is described hereafter.

The tombs are sometimes enclosed with stone walls, and within the enclosure are often two or three large upright stones. The Hovas also erect stone pillars not dissimilar to our *menhirs*, some of which are of a considerable size; they have

no marks on them, and are called *fahatsiarovana*, *i.e.* "causing to remember." A name is also given them, derived from their position, *mitsangambato*, "an elevated stone." The Betsileo also erect simple upright slabs, some eight feet high, called *vatolahy*.

Mr. Lukis, in examining some of the cromlechs and kists in the island of Herm, near Guernsey, suspects that some were merely ossuaries; that the bodies had been subjected to maceration elsewhere, and their bones deposited where found; so, also, Sven Nilsson\* tells us that the Rev. M. Bruzelius found in the Asagrafven gallery-tomb in Scania, a vast quantity of human bones, from which he was of opinion that the flesh had been stripped off before being deposited in the vault, as he found in one place only the bones of the extremities, and no vertebræ, and in another a quantity of skulls. A similar conclusion was come to by Mr. Boye in examining a tomb at Hammer, in Zealand. I find some almost similar instances among the Hovas of the present day, which may serve to throw some light on the subject.

In Ankova the bodies of lepers are carefully bound up and rolled or thrown into a grave dug in any unenclosed space; here they are left interred beneath the soil for at least twelve months, after which they are dug up, the bones cleaned of all the flesh, wrapped in cloth, and deposited in the family vault.

Again, the Hova warriors are always anxious that their remains should rest in the ancestral stone vault; and it is customary for comrades on a campaign to pledge one another that should one of them die, the survivor is to obtain and convey the bones of the deceased to his relations. In such a case every particle of flesh is stripped off the bones, which are brought with great trouble from the scene of action, however distant, and given to the nearest relatives, and buried with due ceremony. When the body cannot be found, after a battle, for instance, it is usual to erect a cenotaph, which consists of an unfinished tomb, *i.e.* the three sides of unhewn stones, the fourth being left open for the disturbed ghost to enter and repose. Is it not possible that some of the apparently incomplete kists were erected with similar intentions? The author noticed near Andevorante a tumulus on which were six upright conical stones about six feet high, which had been erected in memory of six Hova officers, who died or were killed during Radama's campaign against the Betsimarakas.

Before leaving the subject it may be as well to allude to the vestiges of the Vazimba, the supposed aborigines of Madagascar. These vestiges consist of small tumuli, or rather cairns, surmounted by an upright stone pillar, and are generally overgrown with thickets. These graves or altars are regarded with superstitious fear by the natives, both Hovas and other tribes; they occur in Ankova and in the western portions of Madagascar. These Vazimba are said to have been dwarfs, and are described by Rochon under the name of Kimos, and supply the same part in the Malagasy legends that the Lapps do as pigmies in the northern Sagas.

There is little doubt that these Vazimba were the Hovas themselves, who, although

\* W. Lockhart, Proceedings of the Royal Geographical Society, 1866.

not diminutive, are below the average stature, and who in colour, intelligence, activity, industry, courage, manufactures, and habitations, are exactly what Rochon describes the Kimos to have been. Like the trolls and goblins of Scandinavia, the Vazimba have two characters; they are sometimes malicious and spiteful (*masiaka*), at other times benevolent and grateful (*masina*). It is curious that both in Europe and in Madagascar the pre-historic tumuli should be referred to these dwarfs and elves; thus in Sweden we have goblin caves and pigmy hillocks, and in the Channel Islands we have Pocquelaye, Creux des Fées, &c.

The Malagasy habits of life are simple, and conduce to longevity, and throughout the whole island there is an unusual amount of very aged persons; in fact, centenarians are common.

The Malagasy press the juice from the sugar-cane by an ingenious and simple roller and ferment a drink called *toaka*, from the liquors. They have a curious way of taking tobacco in the shape of snuff, but place it under the tongue instead of in the cheek, like a sailor's quid. They also in secret smoke *rongona* or hemp.

We now learnt that the *Hermione* (a French fifty-gun frigate, lying two miles off, near the Isle des Prunes) had brought Commodore Dupré and a large staff as the French representative at the coronation, and that they had left Tamatave the same morning for the capital.

We also heard that our newly-appointed Consul, Mr. Packenham, had not yet started for Antananarive, but was still at Tamatave, that he had wished to hoist his flag here, but that the Governor would not allow this without orders from Radama, and that our Consul had taken offence and refused to meet the Governor at the fort or elsewhere. James Andrianisa, one of the original Malagasy refugees (see J. J. Freeman's work), was our interpreter.

At 3 P.M. my Lord Bishop and myself went on shore, and Captain Anson accompanied Captain Wilson on board the *Hermione*. I then visited Mr. and Mrs. Packenham (our Consul and his wife), who were living in a small but comfortable enough house. They were both much disgusted with the savage country, as they called it, though, for my part, as yet everything seemed happy and prosperous.

The people crowded down to the boats when we landed. They seemed good-natured and friendly disposed to us; most of them dressed in the common lamba, which is a piece of stuff the size of half an ordinary sheet, and thrown over both shoulders, the longest end again being thrown over one shoulder, so that both their arms are imprisoned, and as the loose end is continually falling off, one hand is continually engaged in keeping it on. The lamba is made of all kinds of material. The poorer people use rabanne cloth, made from the bark of the rofia-palm. Those who can get it prefer European cotton material. Lambas of various patterns, always striped, however, are woven by the Hovas in Imerina from both cotton and silk.

Tamatave is a large village, and will, no doubt, soon become a place of importance. There are about 5,000 inhabitants. The village itself consists of two parallel but rather

straggling streets running north and south. Being built on a point, the sea is on both sides of it, and the main part of the village lies in a hollow between two sand-banks. The west sand-bank entirely hides the sea from the village, and is covered with trees, the most conspicuous amongst which is the pandanus, the wild vacoa, which grows to a great size here. The eastern bank is not planted, but here the best houses in the place are, with large enclosures of bamboo, and a few cocoa-nut trees here and there.

On leaving the Consul's I joined the Bishop and Captain Anson, and found that an escort of soldiers and a band of music, with chairs and bearers, had been sent down to take us up to the fort. This fort, called *Tomasina* by the Hovas, has successfully resisted our arms; so I will briefly relate the circumstances which attended the unhappy repulse of the French and English forces in 1845.

Although on a much smaller scale, the repulse of the French and English in their attempted assault on the fort of Tamatave, in Madagascar, was as signal a victory for the Hovas over their European invaders as was the destruction of the English force and camp by Cetywayo's warriors in defence of their frontier in January, 1879. In the latter case the bodies lay unburied some two months previous to receiving interment, whilst in the former event the skulls of the dead were exhibited over eight years as trophies of a victory never avenged; and this within memory of the present generation, some four and thirty years ago. And now for the story of the event, which took place during the early portion of Her Majesty's reign, at the time when Louis Philippe was yet on the throne, engaged in manœuvring with Guizot to bring about the infamous Spanish marriages. Similar in its inception to the imbroglio in Zululand, our somewhat analogous conflict with the Hova chiefs was brought upon us, then as now, by the headstrong waywardness of over-officious colonial administrators.

Three months previous to the accession of Her Majesty a Malagasy embassy had left England, after unsuccessful negotiations with the British Government, who expressed the strongest disapprobation at the barbarity and sacrifice of human life practised by the Queen of Madagascar, whilst the residence of a British agent was insisted on as a preliminary to any engagement on the part of England with the Government of Imerina. To-day we can see history in this instance repeating itself in Sir Bartle Frere's similar policy! It should be borne in mind that a similar treaty had been disgracefully violated by General Hall in 1818. (*Vide* "History of Madagascar," vol. ii., p. 207:) "The conduct of General Hall brought lasting disgrace on the British name, and added another to the melancholy catalogue of events illustrative of the calamitous results of even temporary power in the hands of weak or wicked men. It is but due to the British Government to state that the conduct of the Acting Governor was severely condemned." Was not the policy of the South African Pro-Consul also disavowed by the late Government in like manner?

In 1829 the French, under Commodore Gourbeyre, by order of De Cheffontaines, then Governor of Bourbon, had mercilessly bombarded Tamatave and unsuccessfully invaded Madagascar. Consequently affairs with Madagascar remained in the most unsatisfactory state of distrust; the natives being kept in a continual state of excitement,

expecting attack, whilst the Hova Government was irritated at the flagrant evasions of its laws by the European traders and slavers, especially with regard to the removal of Malagasy slaves from the country. At last the Hova Queen threatened to put in force the native laws against the illegal acts of these disreputable traders, who appealed to the French and English colonies with whom they dealt for protection from the penalties they had themselves incurred.

In 1845 Sir William Gomm, Governor of Mauritius, and M. Bazoche, Governor of Réunion, determined to act in concert and effect an adjustment of the differences between their ex-colonists and the Malagasy, by fair means if possibly they could get all they wanted by specious promises, but if not, by force of might and the moral suasion of an armed flotilla. We now take the account given in the "Annual Register" for 1845, p. 93, *et seq.*

The following account of the unfortunate affair on the coast of Madagascar was published in the French colonial paper "Le Cerneen":—

"Saturday, June 28th.—Her Majesty's frigate *Conway* and His French Majesty's ships the *Zelée* and the *Berceau* met in the Tamatave Roads, according to the arrangement agreed to by the Governors of Bourbon and Mauritius. The object of their voyage was to obtain from Ranavala Manjaka less harsh conditions than those which she had imposed upon the European traders, who she had threatened with immediate expulsion and the confiscation of their property if they did not become naturalised Malagash, that is, slaves. The representatives of the two nations not having succeeded in their negotiations, an obstinate combat took place, the details of which have been brought by the *Conway*. 350 men, of whom 100 were French soldiers and the others belonging to the crews of the three ships, under the command of Captain Feesick and Lieutenant Heseltine, landed in the afternoon of the 15th instant, and advanced across a plain under a sharp fire, from the fort and battery, of grape and musketry. The enemy was driven out of the battery and the guns were spiked. The outwork or screen, which had been supposed to be the fort itself, was stormed and taken. They here discovered the real fort, which is a circular one and mounting about thirty guns, which were casemated and in a circular gallery. The wall is about thirty feet high and surrounded by a ditch of about the same width. Possession was kept of the top of the screen for upwards of half an hour, and a constant fire kept up. Having no means of breaching the wall, and the men falling fast, they retired, carrying off the flag, for the possession of which the French and English sailors disputed for a long time, but it was finally settled that it should be equally divided between the two parties, the one obtaining a portion with the word 'Ranavala,' and the other with 'Manjaka' inscribed. They burnt the guard-house, custom-house, and a considerable part of the town.

"The firing from the men-of-war was excellent. They landed next day and carried off the remaining European property. The wounded were all brought off, but not the killed, whose heads were next day exposed on the beach stuck on pikes. The men-of-war and all the merchantmen sailed from the harbour.

“English—Killed, four men; wounded, one officer and eleven men.

“French—Killed, three officers and fourteen men; wounded, one officer and forty-two men.

“The *Zelée* and the *Berceau* lost each a top-mast from the fire of the enemy; the *Conway* had only a few ropes cut. Nearly all their balls passed over the ships, which had anchored about 800 yards from the shore.”

A private letter gives a sketch of the action, a drawing of which appeared in the “*Illustrated London News*” :—

“You will also find a sketch of mine, which with the aid of the letters may give you some idea of the keep and screen, &c. Don't criticise its execution. I must give you the details of the flag affair: The flagstaff was shot through, and it fell inside the circular fort, on the edge of which it had stood; it was then put on a lance or something of that sort and stuck again on the fort in a crevice of the stones. It was shot away again, and this time it fell outwards, hanging down within a few feet of the bottom of the ditch between the inner fort and the screen. Two English sailors and a midshipman and two or three Frenchmen made a rush into the ditch after it, seized it, and neither party being able to get it from the other, after struggling a considerable time for it in the very hottest of the Malagash fire, they were about to come to cutlass blows with one another, when Lieutenant Kennedy, of the *Conway*, to prevent mischief, rushed down and with his knife cut it, giving half to each party. The standard was of pure white, with the Queen's name, ‘Ranavala Manjaka,’ in large letters. Two or three letters remained with the flagstaff. The English got the Manjaka and the French the greater portion of the Ranavala, the English the ‘fly’ and the French the ‘luff’ of the colour, as the sailors say. In returning after this admirable arrangement Lieutenant Kennedy was getting through one of the embrasures of the screen when the gun went off and killed several, but he escaped with a wound from a splinter through both thighs—not dangerous.”

This account, given by “Le Cerneen,” is defective, and we should be curious to see the official despatches relating the engagement, both by Commodore Romain Desfosses and Captain William Kelly, of H.M.S. *Conway*, who committed this indefensible aggression, which failed so egregiously in its effects, only making matters which had been bad before much worse. The European traders, who hitherto had only been threatened with expulsion, were now carried away by their friends, and their property destroyed without compensation.

It has never been properly explained how it was that the dead were not carried away. As we have seen, the total dead of both the allied forces amounted to twenty-one, of which three were officers, and, according to the above account, their heads were placed on pikes near the landing-place. Rear-Admiral Albert Heseltine (Retired List), who, as a lieutenant, commanded the *Conway's* landing-party, could doubtless give some interesting details of the action, as could also Rear-Admiral John James Kennedy, C.B. (Retired List), who acted the part of Solomon's judgment in dividing the white rag.

This spirited policy of the two Colonial Governors was not unattended by incon-

venience, as Ranavala ordered all trade to cease; and as Madagascar is the principal source whence cattle for the market and agricultural purposes are bought, great distress was occasioned in both colonies, especially as a murrain had destroyed nearly all the island cattle. Sir William Gomm recommended the authorities at home to send out an armament sufficiently large to subdue Madagascar, but his advice was not followed.

In 1849 the skulls of the slain still adorned the public landing-place,\* when Admirals Cécile and Dacres attempted in vain to open negotiations with the Madagascar Queen, and all relations between Imerina and the outer world ceased until 1853, eight years after the fruitless attack.

On the 18th July, 1853, the veteran Foreign Secretary of the London Missionary Society landed at Tamatave from the schooner *Gregorio*, at a period when an opening for intercourse seemed practicable, taking a letter for the Queen from the merchants of Mauritius. He says:—

“The appearance of some of the skulls of the English and French killed in the attack on this place in 1845, and fixed on high poles not far from the place where we had anchored, produced a singular and not very pleasant sensation, as for the first time I gazed upon this revolting spectacle.” (‘Three Visits to Madagascar, 1853, 1854, 1856,’ by Rev. W. Ellis.) “The Hova captain of the port replied that the Queen had returned her answer to the effect that no trade could be allowed until the money required for compensation for the insult and wrong perpetrated in the attack on the country in 1845 had been paid. He asked if it was right to go to a country and shoot down the people because we did not like their laws? He soon informed us that he had been a member of the embassy sent to Europe in 1837; that he had visited France and England, and knew that whoever went to reside in either of these countries must be subject to the laws of the country so long as they remained there; that the laws of their Queen were the laws of Madagascar, and if anyone wanted to live there they must be subject to the Queen’s laws; if not, they must leave the country.”

The end of all this was that the merchants of Mauritius lost no time in subscribing the required sum of 15,000 dollars (about £3,125), which was the amount demanded by Ranavala before she would grant permission for the renewal of trade. This sum was taken in the *Nimble* on the 10th of October, by Messrs. Cameron and Maugeat, and it was at once followed by the re-opening of trade.

Even now the English did not seem to care much for the “thirteen skulls” still on poles opposite the fort of Tamatave; for not until January 1854 did the Government of

\* A sketch by Dr. Favel appears in Freeman’s volume. “Some time after these heads had been thus exposed, an officer in the Queen’s service, of high rank and of humane disposition, came down to Tamatave in command of fresh troops. This was *Ratsitohaina*, the chief officer in the Malagasy Embassy to this country, in the time of his Majesty William IV. Regarding this exposure of the heads of the slain as an unnecessary indignity, he ordered them to be taken down and buried. This act was reported to the Queen. It was treated as a grave offence. ‘It was a proof that he sympathised with the enemies of the Queen.’ His head was ordered to be cut off and hoisted on a pole, and placed among the rest; and on the beach they are still standing, and are to do so till the indemnity or fine is paid.”—*Vide* J. J. Freeman’s narrative, p. 383.



Madagascar, "anxious to evince their entire cordiality in the friendly relations recently established," send to the Governor of Mauritius, Mr. James Macaulay Higginson, informing him that as trade was re-opened they wished to be friendly with all; and he was, therefore, at liberty, if he chose, to send for the skulls of his countrymen and of the French that were fixed on poles at Tamatave, and to have them buried in such manner as he preferred.

Accordingly, a non-commissioned officer was soon afterwards sent to Tamatave for this purpose. But on arriving he found that the skulls had been previously removed by the French and buried at the Ile de Ste. Marie, the French colony. This leads us to believe that possibly only the French dead (not including the officers) were left in the hands of the Hovas.

It was not until 1862 that I at all understood how it was that this fort Tomasina, which lies to the north of Tamatave, had been so ably defended against no inconsiderable force of allied French and English, but on visiting it I fully comprehended the conditions of the repulse. In the first place, the attacking force despised the enemy, and as Zululand was invaded in ignorance both of the difficulty of the country and of the strength of the enemy, so thirty odd years ago this Hova fortress was not reconnoitred, and its plan, profile, and strength of garrison unknown to the assailants. In a not dissimilar way we subsequently courted defeat at the mouth of the Peiho in 1859.

The fort of Tamatave is a hollow circular construction of solidly-built masonry, round which is a casemated gallery. These casemates were rivetted with strong timbers, and armed with old ordnance of various descriptions, such as the obsolete long iron 9-pounders. This citadel or keep (in the centre of which is an official house or residence for the Governor and his staff, with two other buildings for servants and stores, shaded with trees) is surrounded by a deep ditch, dry and partly overgrown, but so deep that people in it cannot reach the casemates. The outer edge of the ditch is formed by a counterscarp surmounted by steep glacis with large embrasures, through which the fire from the inner casemates passes. A peculiar and ingenious arrangement.

The outside view of the fort is not unlike the appearance of our modern forts at Portsmouth and Plymouth, but better built, as the exterior slopes of the latter are continually in want of repair (especially this wet season). On the north-west of the fort is a flanking caponiere, on which is a saluting battery of three small iron guns, mounted *en barbette*; it is this latter work, outside the fort proper, but connected with the glacis, that was held for a brief space. In rear of the fort is a kabary-ground and palisaded cantonment, capable of holding some 2,000 men in huts. The flagstaff is now inside the fort, and is a massive pole with steps on it. I imagine that since the old flagstaff fell partly outside in 1845, it has been erected within. What has become of the proud trophy of the white flag? It should have been returned when the dollars were paid to re-open trade, or, at least, in return for the skulls.

Capt. H. G. Raynes, R.N., who was present at this disastrous affair, writes:—

"I must here state that, being in the confidence of Captain (late Admiral) W. Kelly,

I know that he was most reluctant to commence hostilities, and that he was acting under instructions from the Government of Mauritius. The British residents at Tamatave were then under the protection of that Government, in fact Tamatave was considered a dependency of Mauritius, and foreigners resident there were exempt from the barbarous laws of Madagascar.

The principal cause of the failure of the attack on the fort at Tamatave was the want of correct information as to its nature and strength; the only plan furnished by the authorities at Mauritius proved to be obsolete, representing it to be a simple open earth-work, and there were no means of ascertaining anything to the contrary, as the Hovas would not allow strangers, not even the residents, to approach near enough to form an idea of its strength, and the view of the fort from the roadstead was partly obscured by jungle; therefore there was no reason to doubt the correctness of the old plan.

In many respects this affair is nearly on a parallel with "Isandula," but it might have been even more so had it not been for the prompt action of the officer left in temporary command of the *Conway*, in the absence of Captain Kelly on shore, by taking upon himself to disobey orders and re-open fire from the ship's guns to cover the retreat of the storming-party. The Hovas had sallied from the fort and neighbouring bush in overwhelming numbers, which he only could observe from the mast-head, obviously with the intention of attacking the retiring force; when there must have resulted a considerable addition to the already long list of casualties, had not the well-directed fire from the *Conway's* guns kept them in check.

The French Commodore visited the *Conway* on the following day, expressly to thank the officer who had taken upon himself this risk, remarking that "by so doing he had saved the whole column from destruction." Be this as it may, there is no doubt it had the effect of enabling the retreating force to retire in good order and complete the work they had to do at the landing-place.

With regard to the dead being left, had the force delayed in order to bring them away there must have been a further loss of life; but on the following morning, when the ghastly sight of the heads appeared on the beach, there were plenty of volunteers ready to recover them; Captain Kelly, however, wisely I think, would not permit it to be done.

All the French officers were decorated for this affair, but there was no acknowledgment made by our Government at the time; Captain Kelly's despatch was not even made public. But some months afterwards, on a change of Government, a letter was received by the Admiral on the Cape station from the Admiralty, of which the following is an extract:—

"I am commanded by their Lordships to acquaint you that, without expressing an opinion as to the circumstances that led to the attack upon the forts of Tamatave in the Island of Madagascar, in June 1845, my Lords have great pleasure in recording their approbation of the gallantry displayed by the officers and men engaged in that embarrassing service.

"My Lords give Captain Kelly credit for having been actuated in all he did by right motives, and by a desire to maintain the honour and credit of the British flag; and they are fully sensible of the fact that great firmness and courage were displayed by himself and those whom he commanded, under very peculiar and difficult circumstances.

(Signed) "H. G. WARD,  
"Secretary to the Admiralty."

I must say that nothing could exceed the bravery of the Hovas, which, I believe, is quite equal to that of the Zulus, and they had the advantage of having been trained by English soldiers, and armed and equipped by the British Government, but at close quarters they fell back on the native weapon, the spear."

Mons. Francis Riaux gives the following account of this affair:—

"En 1845, Ranavalo, que poursuivaient toujours la haine et la terreur des étrangers, somma brusquement ceux qui habitaient Tamatave ou de se faire immédiatement ses sujets en abandonnant leur nationalité, ou de déguerpir dans quinze jours. Nulle réclamation, nulle demande de prolongation de séjour ne fut admise. L'ordre était péremptoire. Les navires français *le Berceau* et *la Zélée*, sous le commandement de M. Romain Desfossés, et la corvette anglaise *le Conway*, étaient sur la rade. Leur présence n'en imposa nullement aux Hovas, qui forcèrent les Européens de s'embarquer sans délai, et dévastèrent leurs propriétés. Indignés de ce spectacle, les commandants français et anglais canonnèrent la ville et y mirent le feu. Trois cents marins descendirent à terre et repoussèrent l'ennemi en lui tuant quelques centaines d'hommes, sans autre perte de notre côté que quelques tués et blessés. Mais ici, comme à Foulpointe, trop peu nombreux pour poursuivre l'ennemi et le détruire, et même pour occuper longtemps le rivage, il fallut nous retirer à bord de nos vaisseaux; et, le lendemain, Anglais et Français pouvaient contempler du haut des bastings les têtes des Européens morts ou blessés que les Hovas avaient plantées sur le rivage!

Dés que la nouvelle de cet attentat fut parvenue en France, il n'y eut qu'un cri d'indignation. M. Guizot résolut avec l'amiral Mackau, ministre de la marine, d'en finir avec les demi-mesures, et d'envoyer à Madagascar une expédition sérieuse sous les ordres du général Duvivier, que des aptitudes spéciales et le plus brillant courage désignaient au choix du gouvernement. C'eût été un grand bonheur que le plan de M. Guizot fût adopté. Malheureusement les Chambres étaient en veine d'économie; on n'y comprit pas l'importance de la mesure proposée par le gouvernement, et, l'opposition aidant, les crédits demandés ne furent pas accordés. L'expédition était sinon abandonnée, du moins ajournée."

With the remembrance of this attack and repulse in our minds, no wonder we felt unusual interest in visiting this fortress.

We mounted our chairs, and the band in front marched off, blowing away at some rather battered European brass instruments, a saxhorn, cornet, and trombone, a clarionet or two, and several drums. Then followed the soldiers in double ranks, dressed in white

trousers and blouses. Old Tower flint muskets and bayonets, not particularly clean, and old cartouches and belts nearly falling to pieces, kept together by a piece of string, and evidently not pipe-clayed for the last twenty years.

After the soldiers, of whom there might have been some twenty-five or thirty, walked the officers, who were still more incongruously dressed in every style of European costume, but so ragged that they looked as if they had come from Donneybrook fair. Very few had shoes, and fewer still had stockings, and those who had these latter allowed them to drop over the heels of their low boots. After these magnates came our party in chairs, or, as the natives call them, filanzans. Some were arm-chairs fastened to two poles, others two short poles kept apart by two bars of iron and a piece of ox-hide stretched across to sit upon. Seated in these, the Bishop, Anson, and myself, and our interpreter Andronisa, proceeded in solemn state to the fort.

The fort lies about a half-mile to the north of the town; it is composed of a keep or citadel mounting some dozen cannon. Outside this is a deep ditch, and outside this again an enormous glacis, so steep as not to deserve the name, and through which embrasures are cut for the guns of the keep to fire through to the west; and to flank the approach from the town is an outwork of earth mounting three small cannon. This is also used as a saluting battery.

To the north of the fort is a large palisaded camp capable of holding 3,000 soldiers. I was unable to find out how many soldiers were quartered there at present, but I do not suppose there were more than 400.

On entering the fort we passed three guard-houses—one at the gateway of the palisaded camp, the next at a second line of palisades to the east of the kabary-ground, and after passing through the archway of the glacis another guard-house was on the bridge over the ditch. The guards all turned out as we passed, and presented arms. I forgot to mention that all the soldiers here had spears as well as muskets when in the ranks, and halted in line they plant the spear in front of them. The object of this I imagine to have arisen from the idea of magnifying the number of men, as at a distance, when one can only see the spear-heads and bayonets, they appear more numerous than they are in reality. I afterwards learned that this custom was not followed at the capital, but only on the coast fortresses and military posts, where there are but a few soldiers.

After the last guard-room, another archway under the rampart, and we entered the courtyard of the fort. Here the troops were drawn up in parade-order, forming three sides of a large square round the flagstaff. The Governor and his Staff were in front of his house, a long, low, two-storied building, with verandah painted red. The band struck up "Sidikin," the Malagasy "God Save the King."

"Zahanary tahio ny tomponay!  
Radama mpanjaka ny Madagascar!  
Aoka izy holoha ny toudra anay:  
Hanao ny soa asainao ataomay."

The troops presented arms to the flag, and the Governor took off his hat, and we

followed his example. Directly the music ceased the Governor, Staff officers, &c. all salaamed to the flag, exclaiming "Veloome" :—

"Velo-o-o-o - - - - - me  
Tsara tompk - - - - - ay!!!"

which means "Hail, good oh King!" The band then struck up "The British Grenadiers," and the soldiers again presented arms. We advanced to meet the Governor, who came towards us with out-stretched hands. He was dressed in striped pyjamas slippers, yellow waistcoat, and a long scarlet coat reaching nearly to his heels, and two large bullion epaulets. He shook hands with us all round, and then led us into the house and upstairs to his reception-room, where there was a long table and champagne and glasses. We sat down, and through the interpreter made the usual common-place compliments, &c. The Governor next ordered the wine to be opened, and as soon as our glasses were filled proposed the healths of Radama and Victoria. The signal was given to the band outside, who played the national airs of both countries, and the troops again presented. In fact, the wretched troops seemed to be kept on parade all day long, and presenting arms every five minutes on the slightest occasion. After arranging with the Governor about the landing and ceremony the next day we left, being escorted down to the beach by the band and soldiers as usual. We returned on board ship in time for Captain Wilson's dinner, and made arrangements for getting all our things on shore the next day.

Wednesday, July 16th.—Occupied all the morning in getting the baggage ashore in the paddle-box boat, and storing it in the Custom-house.

At two o'clock a band and escort of soldiers, &c. with palanquins as the day before, came down to the beach, and the General and Staff landed in the Captain's gig, being saluted as he left the *Gorgon*. The procession was soon formed, Madagascar etiquette placing the highest ranks last in the order of march. We then proceeded to the Chief Judge Pilibert's house, where, in front of the house, in a large courtyard shaded by lofty trees, was the Governor Andriamandroso, dressed in a small French cocked hat jauntily stuck upon the side of his head; scarlet coat, long swallow-tails and gold frogs; blue velvet trousers, embroidered with gold from the hips down the seams; field-officer's sword and scabbard and epaulets.

A large escort of soldiers was here drawn up in line, the Governor shouting to them in a loud tone and gesticulating with his drawn sword for them to present arms, which they did cleverly enough.

He then advanced and shook hands with us all, and led the General into the house which he proposed giving the General to live in whilst he was at Tamatave. As the General lived on board ship in preference, Anson and I took possession of it, storing our cases all round the room, which was a fine large one, papered with French paper representing the battles of the Crimea. The Governor gave over the house in a long speech, and after a great deal of complimentary language on both sides we again mounted our palanquins, and went up to the fort, the Governor riding in a palanquin by the side of the General, the music playing the whole way.

When we reached the fort the same ceremonies as the day before were gone through, and the General having finished his visit we all returned on board ship.

Thursday, July 17th.—Go ashore with Anson, and take up our quarters in the chief judge's house. Andronisa sets out to engage Marmites, as they call the bearers, to take us up to the capital. The French are reported to have taken more than 600 of them. Caldwell's party require 200 with the King's presents, and we shall want 400, which 400 are very difficult to obtain. Last year the price for each Marmite was two dollars; this year they have raised their price to three dollars fifty cents, which makes a great difference in the expenses of the journey.

The Chief Judge's house, where we now lived, was decidedly one of the best in Tamatave. It consists of one large room, about fifty feet long. The timber of the roof is palm-tree, lashed with rofia. The thatch is very neatly put on, and is formed by Ravenale leaves. The floor is raised some three feet from the ground, which here is pure sand. So far it was the same as the other houses, but inside there was an attempt at European ornamentation, as it was floored and papered, although the wind came through the boards in a manner that secured thorough ventilation. Here we lived, Anson slinging his cot from the cross-beam, and I making use of the General's palanquin for a bed. There was a good large table, and so we soon mustered our forces and set to work to make ourselves comfortable.

Our staff of servants consisted of a Tranquebar cook, who was always called "Cook," and I don't think had any other name. He was a willing young fellow, and a first-rate cuisinier. Next was Peter Botte, a Malagasy naturalised British subject; he was the General's personal attendant. After him was Davido, also a Betsimasaraka, talking both Creole and Malagasy. Medine, my man, an awful rascal, and Jean, a little constable, who was Anson's retainer (he had been an escaped Sakalava slave), and Francois, the assistant-cook, made up the number. Turkeys being four for a dollar we did not want for eating, and besides, we had plenty of stores of preserved soups, hams, &c., not to mention wine, beer, and other luxuries.

Arranging and unpacking and repacking and stowing occupied the greater part of this day, and in the evening Anson and myself strolled through the town, amusing ourselves with the novelties of the scene. We dined as soon as it was dark, and soon after retired into our respective couches, and slept for the first time in Madagascar.

Friday, 18th.—Up soon after daylight and out for a ramble along the coast with Anson. We soon found amusement in shooting sun-birds (*nectarinie*), several varieties of which were flitting about. I also got two or three sketches, for the views from the tops of the sand-hills that stretch along the shore are beautiful in the extreme: in front of you are wide plains, green and verdant, scattered here and there with clumps of low trees, areca palms (*voua-tsiri*), and bushes of bignonia (*colea floribunda*), called "rei-rei" by the natives,—the sand-hills are protected by the "sahoundra" plants (*aloe sahundra*); beyond the country is gently undulating and covered with ravenale and large timber; behind mountains of every shade and colour, growing fainter and fainter, their valleys filled with white mists,

above which the crests looked blue and purple (like shot silks) in the morning sun. We had the edge of our appetite taken off by coming across the body of a man in a state of decomposition. He was strangled, the rope still round his neck; but whether murdered, or destroyed by his own hand, it was impossible to say. We afterwards told the authorities, but they appeared to think it no business of theirs.

After breakfast a deputation from the Fort arrived with a present to our party of four bullocks and rice, sugar-cane, fruit, &c. as they termed it, the staple products of the country. After entertaining the chiefs who brought them, we received an invitation to dine with the Governor, for which purpose the General and Bishop, who were still on board ship, came on shore at 2 o'clock.

Meantime the number of Marmites who were recruited for us by well-paid emissaries was nearly complete, and we were in hopes of sending off on Saturday about 200 men with the heavy baggage, and following on Monday ourselves.

We were taken up to the Fort with all the ceremony used on the former occasion, and found a large table spread in the lower room of the Governor's house with roast and boiled and stewed and curried everything in and out of season. Everybody helped themselves, some sixty guests sitting down. Knives, forks, and at the bottom of the table, where there was a scarcity, hands and fingers came into requisition, and soon made short work of the viands. The Governor sat at the top of the table, with the General on his right hand, the Bishop on his left, then below two 13th honours, and then Anson and myself. The common herd filled the lower end of the table. A great many loyal and friendly toasts were proposed and drank, and about six o'clock we were able to get away after a cup of native coffee, which seemed very good.

The General and Bishop were escorted down to the beach, where I noticed fire-flies in great numbers. Here Anson and I left them to go back to the *Gorgon*, we returning to our house, outside which the band continued playing for a long time, and with great difficulty we got them to leave. This at length accomplished, we were able to be quiet and talk and laugh over the events of the day and the *gaucheries*, &c. of the dinner-table till time for bed, when we turned in for the night.

Saturday, July 19th.—In the morning the sailors, to whom we had given a bullock, came on shore to kill it. This was easier said than done, and the capture of the animal was not effected for a long time, when he was cut up and taken to the ship. The mornings were nice and cool now. At 7.30 the thermometer stood at 68 degrees; barometer (Aneroid), 30.36 inches. Before breakfast the Marmites began to muster in the courtyard under the trees, and by the time we had finished our breakfast were present to the amount of some 500. All the baggage was in front of our house before the doorway, and round this squatted in a semicircle the Marmites, each with his eyes fixed upon that piece of luggage which he thought lightest. As there were not many light packages, and a great many heavy ones, of course a great many were eager after the same thing, and at last they charged down on the baggage, fighting and struggling for the lightest things, no one, however, attempting to touch the heavy ones.

Anson, myself, and Andronisa, backed by the servants, however, drove them back after a vigorous application of long sugar-canes, and restored some kind of order, but Anson being called away, our forces were so diminished that when a second charge took place, we were forced to let them have their own way and tie up the packages as they liked. But no one could we induce to touch some very large cases and magazines that unwittingly we had brought with us. However, at last, through the oratory of Mr. Andronisa, a compromise was effected, and by the help of a little extra pay and the promise of a bullock, we came to terms. The General and Bishop came to see how we were getting on during the afternoon.

However, we could not get all this matter with the Marmites arranged before it was dark, so that it was impossible to start off the heavy stores as we intended, so we put off our departure till Tuesday. This evening it came on to blow and rain; everything wet and moist inside the house as well as out.

Sunday, July 20th.—Rain, pouring rain. Anson not well, having a slight attack of fever. The Marmites kill their bullock, and do not appear to mind the wet a bit.

The Bishop held morning service on board the *Gorgon*, but we were unable to go, as there were none of the ship's boats on shore, and the sea was too rough to go off in a canoe. In the afternoon, however, the Bishop came ashore, when the weather moderated, and read the service in French at the store of a trader in the town, where we joined him. The congregation was very small, Anson, Pakenham, and myself, Andronisa and not more than four or five people of the place, the retail traders here being a very low lot. Anson was not at all well in the evening, and I began to be seriously afraid that he would not be able to go up to the capital.

Monday, July 21st.—Early in the morning 134 Marmites started off with our heavy baggage in advance! 245 remained behind, being our bearers and carriers of our personal effects and stores for the march-up. An escort of twelve soldiers, under two officers, and our seven servants, interpreter, and five of ourselves made the whole of our forces, amounting to 406. The General's palanquin was carried by twenty men, eight at a time. Captain Anson's was the same. Mine only required eight, as did Dr. Meller's (a botanist who is on sick-leave from Dr. Livingstone's expedition). The Bishop had sixteen men to his. The whole of this day was devoted to packing.

Tuesday, July 22nd.—First day's journey. The General and Bishop landed tolerably early, and we were able to form our line of march by 10 o'clock A.M., at which time the vanguard started with music, escort, &c., and all the honours. Anson and myself remained at least two hours afterwards to see everything off; as was our established custom afterwards. Anson and myself then at last started at a tearing pace. He in his long bed-like palanquin, covered something like a hearse with black waterproof, I with a simple chair on two poles, and no protection from the sun. All the others cried out at my (as they termed it) reckless exposure of myself to the sun; but, as it turned out afterwards, I was the only one who did not suffer from fever, although I had the skin burnt off my face, hands, and neck by the mid-day sun.



On leaving Tamatave we travelled along the coast in a S.W.  $\frac{1}{2}$  W. direction. Our course lay over a flat plain, the soil sandy, but covered with grass, there being a great quantity of dark vegetable matter mixed with the sand; besides, were a number of strychnos, pandanus, &c., and various shrubs. We passed several herds of oxen in pens ready for shipment in bullockers to Mauritius or Réunion. Two or three streams we had to go through, and elsewhere were numerous pools of shallow water, in which the children, little naked urchins, were sailing their mimic boats. A good trade wind from the south-east blew freshly the whole day. After travelling two or three miles I caught up the advanced guard and passed it, having the lightest chair and weighing myself only 140 lbs.

The country now became more wooded and park-like, short crisp turf made the plain like an English lawn, and beyond half a mile on each side of the road were some very good groups and topes of timber, principally filaos and gum-trees, palms of several descriptions, &c. The ground within that distance had been cleared on account of the numerous herds of cattle that came from the interior for sale at Tamatave.

I reached Hivondro River more than thirty minutes before any of the rest, and halted at the village of Anzolokafa, where I waited the arrival of the rest in a verandah of a house belonging to Madame Fische, a Malagasy, I ought to say a Betsimasaraka princess, who has been to Bourbon, and hence rather more civilised than most of her neighbours. All our baggage as it came up was stored in the Government guard-house. The General and the Bishop took possession of a house close by, whilst Anson, Meller, and myself put up in Madame Fische's house, which also served as our mess-room.

Hivondro Ferry is about eight miles from Tamatave, and takes about two hours and a half to travel in a chair. In the afternoon Anson, being ill, was unable to go out; however, Meller and I walked along the sea-shore, and were much refreshed by a bathe in the sea. The surf here is nearly as great as that at Madras, and made it very dangerous to go out in the breakers, the shore being very steep. Anson's fever still on him. Fine moonlight night.

Wednesday, July 23rd.—Second day's journey. Up early and got a bathe in the sea *solus* whilst the sun was rising. By the time it was up, I walked to the highest part of the village, and sketched the river and the noble panorama beyond it. Before I had half finished, breakfast was ready, to which we all did ample justice, except poor Anson, who was in a bad way, not having been able to sleep from fever. I forgot to say in my last day's diary that when we arrived here we found our heavy baggage halted, and a great many of the bearers bolted. So we had all the trouble of engaging new ones. This, of course, delayed this day's march, as we had to send them on in front, and our journey this day commenced with a ferry to the banks of Lake Nossive. The first stage from Tamatave to Hivondro is always short, in order that travellers may have an opportunity of sending back anything they may find missing, and alter the arrangements of the baggage, &c.

We waited a long time on the banks of the Hivondro, as there were not boats

enough. These canoes are about two feet broad, and varying from twenty to forty feet long, formed from the simple trunks of trees\* hollowed out. They are very crank and easily upset. We had to stay out in the hot sun till nearly 1 o'clock P.M., when we embarked and pushed across the mouth of the river, behind a little island, and a short distance up the Lake Nossive. We were about forty-five minutes in the canoes, and landing under the shade of some fine gum-trees we took to our chairs and palanquins respectively, and after half an hour through beautiful shady groves of palmiste, logania, copal, blue, and copaiba gum-trees, ramnaceæ, &c.

We now passed a little village famous for the remains of a huge vase, now partly broken, under a tree near the village. This jar is of gigantic size, and no one can tell whence it is derived. The journey still lay over an extensive plain running parallel to Lake Nossive, the track worn in furrows, and numerous paths, by the many herds of cattle that travel down, the wood and shrubs being cleared away for nearly a mile on each side. The white bare leafless trunks of the larger trees, still standing, give this district a rather dismal appearance.

Two hours brought us to Ambalatambaca (the place of tobacco), a wretched hamlet of not more than a half a dozen huts or sheds of the most wretched description. Here the Marmites put down our baggage, and struck to go on except for higher wages. The Bishop and General looked with horror at the proposed accommodation in the village, a few reeds and stalks of ravenale affording the scantiest shelter from the dew and wind at night, the cold of which we felt after the fatigue and heat of the day. After a long delay here we persuaded the Marmites to take up their loads, and take us as far as Tranomaro (many houses), a few miles on, by the promise of a sixpence extra, and also an advance of half-a-dollar of what was due to them. On this they agreed to take us on, but we did not reach Tranomaro till dark, at 6 o'clock.

The village of Tranomaro was a decided improvement on the village we had just left. About fourteen houses were arranged in the form of a square, enclosing a piece of ground about thirty yards long. All round this piece of ground the Marmites encamped, making the whole village glow with their fires. The Bishop occupied a house in the lower end of the village, in which our baggage was stored; here he slung his cot, and the General had very comfortable quarters by himself, whilst Anson and I slept together in the next hut, he in his cot and I on the floor. Meller slept in the mess-room a little further off, among the plates, knives, and forks. He had been indefatigable collecting plants, &c., all day long, and in the evening, after dinner, employed himself in skinning the birds we had shot in the day. We now had a little rain, but the houses were tolerably snug. The house in which Anson and I were had recently had a fire in it, which made it pleasantly dry and warm; outside was mist and fog.

Every night at 9 o'clock the officers in command of the escort of Hova soldiers proclaimed watch-setting with a loud tone, and proclaimed that any Marmite or others

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\* *Inophyllum*.

moving about after that time would be shot by the sentries. We had a sentry at each of our doors, we having the treasure-chest, with about 1,800 dollars in it, in our room. One of these sentries would continually fire off his musket to scare away intending thieves. Besides this, and a slight annoyance from creeping things, there were no disturbing influences, and we all got a sound night's rest.

Thursday, July 24th.—Third day's journey. I was up before daylight, and bathed by moonlight in a small pond behind the village. I then employed myself sketching till breakfast was ready, whilst Anson superintended the paying of the men the promised advance of the half-dollar apiece. The Marmites are very particular about their money, the current coin of the realm being the dollar, or rather the French five-franc piece as the unit, and this is cut up into half-quarters, eighths, and sixteenths. The Marmites are never tired of weighing and testing their money, and are very careful that they are not cheated by coin either spurious or deficient in weight.

This all settled, most of the baggage was started off by 8.45, when Anson and myself started off on foot, the General and Bishop preceding us in their palanquins, the Doctor behind, ever running off the path in search of new specimens of plants. After leaving Tranomaro the track is narrower, the trees look more healthy, and there is an absence of those blanched, gaunt, dead trunks of trees which are so remarkable a feature of the country between Tranomaro and Hivondro River. The white ant appears to be very destructive here, however; all along the coast multitudes of their nests are to be seen up in the trees, and their tracks up the sides of the trees, which they soon destroy. Plenty of parraquets, green pigeons, cardinals, egrets, black and white crows flew about here, and found plenty of occupation for our guns, which were not idle. The thickets were now closer, the path, however, still as broad as a drive at home, and covered with beautiful turf, the scenery altogether reminding one of a shrubbery or wilderness in some nobleman's park at home, and one could almost expect to see at the next turn a beautiful mansion and lawns and gardens; instead, however, we only passed a few squalid charcoal-burners' huts, and small bivouacs of woodcutters, who stared with open eyes at our caravan, which straggled over two or three miles of country.

We now turned out of the forest of Tanyfotsy, where we crossed a small stream, the banks of which were shaded with some kind of tulip-tree, and came upon the sea-shore, along the sand of which we travelled for a few miles till we reached Ampanirano, a small village on Lake Famanoampairana, which means "the killing of serpents." This lake is only about a mile long, and like most of the lagoons about the coast is covered with dwarf pandanus and large arums, with papyrus. Here we halted at mid-day whilst the Marmites got their breakfast, and we took a small tiffin, after which Anson and I and the Doctor strolled about with our guns till the bearers were ready. The Doctor shot a snake here, in order to prove the place was rightly named, but we did not see any others. I got two very pretty birds here, one they call a suce-sushne, a nectarinia or sun-bird,\* a small bird with

\* *Nectarinia angladiana*.

two bright yellow spots on its shoulders; also an *Horova*, a grey bird the size of a thrush,\* with red eyes. The weather was very hot, and we often had to rest under the thick bushes, and had plenty of time to admire the magnificent orchids which were in full blossom around and above us on every side; more especially the angræcums, sesquipedalia, and superba, which the Rev. W. Ellis describes in his work on Madagascar.

Our course now lay along the borders of Ampandranety Lake, and another piece of water called Alopiana, after which we came to one of the largest of these lakes, Lake Erangy, where we halted at Andranakooditra, a collection of wretched cottages on a high bank of sand, between the lake and the sea. Here, after having arranged our things for the night, we walked out along the coast, but only shot a few sandpipers, bathed in the sea, and whilst waiting for dinner shot an owl, a large horned one. Meller and Anson besides got some shots at a goat-sucker, but could not hit him, the twilight being so short that it was too dark to see the birds. After dinner I employed myself in drawing an *Angræcum superbum*, to show its full size. We were so annoyed on previous nights by fleas, &c., that we had to anoint ourselves every night with camphor, which, if it did not keep off the little beasts, still soothed the interminable itching. Anson had another attack of fever in the night, but this was the last attack.

Friday, July 25th.—Fourth day's journey up. Daylight saw us stirring. The usual custom was to pack off everything directly, leaving just sufficient to make our breakfast meal with. Got a dip in the sea, the chance of a shark being less than that of a crocodile in the lake. The General and Bishop started their palanquins after breakfast, and we younger ones set off as soon as the packing was finished on foot. Our journey to-day led under the shade of some thick pandanus-groves alongside the Erangy Lake. It was pleasant walking under the shelter of these groves, and when they opened we got beautiful glimpses of the lake and the wooded banks and hills beyond.

We left Andranakooditra at 8 o'clock, and strolled along, taking it very easy till we came opposite Takalampona, a small village on a point of land running out on the western side of the lake, for all the world like some of the flatter parts of Windermere. We now emerged from the woods and again took to the sea-shore. The travelling along the sand was very tedious at mid-day; the sand glowed till it was painful to the eyes, and the white sea-foam, extending some 300 or more yards from the sand, was so dazzling as to prevent you looking at that long. The sea itself was obscured with a hazy misty glare, which suggested suffocation, and the only relief the eye had were the groves on our right hand of filaos, palms, and vacoas, which we wistfully gazed at. This continued as far as Ambanandrakit; here the groves ceased, one or two filaos alone grew on the sand between the river and the lake. The line of sand-bank between the sea and lake was now narrower and lower, and half a mile beyond this place the sea and lake joined, so that we were forced to take pirogues and cross at the ferry of Ambanandrakit; directly after crossing we had to ascend a steep bank, at the top of which was the village.

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\* *Hypsipetes ourovang.*

We then turned our steps to the left, and after passing a lovely grassy glade, surrounded with an amphitheatre of lofty timber, plunged into the intricacies of a thick forest, the path of which was so narrow that with difficulty they were able to get the General's palanquin through at all. The creepers, parasites, orchids, and ferns were here numerous and of great size. After an hour of this we emerged along the bank of a small stream skirting the edge of the woods, and fording the stream halted for the mid-day meal at the hamlet of Pantomazina ("pounding of rice by night"). In front of it was a small piece of water, and shallow, swampy marshes, long grass, &c., beyond which again were thick woods full of lemurs of a large kind and not very timid; we did not shoot any. These belong to the tribe of *Lemur albifrons*; they vary in colour from chestnut to grey, with white hair on the forehead; the natives call them *makis*.

We halted at Pantomazina for some time, the bearers quickly arranging themselves in little messes of three or four, one of whom made the fire between three stones, another put the rice and water in a thin earthenware pot, called a "marmite," from their being used by these people, and another brought up ravenale or plaintain-leaves to use as plates and cups and saucers. It took about half an hour to cook, eat, and finish everything, but we generally allowed them to halt for at least an hour. From Pantomazina we found the country more undulating, the lowest parts being all marsh. The shrubs and plants here were still the same as we had previously on the coast, the only perceptible difference perhaps being the number of sago-palms about this place, which gave a new feature to the country.

An hour and a half brought us along the lakes Antoby\* and Andrasoamasay to Andrasoabé Lake, on the banks of which was our halting-place, Ivavongy, situate on two sides of the narrowest part of the lake; on the western side is the military post, and Lapa or King's house, of which there is one in every village, with a flagstaff, rice-store and outbuildings all enclosed in a neat palisade of gaulettes. The village on the east is a small collection of huts which have sprung up on the nearest part of the road to the village, for a market and as accommodation to travellers.

After we halted, I crossed over alone to the western village to sketch the Lapa; in one of the cottages I found two native drums, of which I made a drawing. It consists of a solid piece of hard wood, hollowed out, and about an inch thick. Pieces of ox-hide with the skin and hair on outside, is fastened on by withes, and kept tight by twisted rofia-cord, stretched over clumsy bridges of wood. Here before dinner we met a young botanist, named MacGee, in the service of Messrs. Veitch the celebrated florists in England. He is engaged in collecting ferns and orchids for his employers.

Saturday, July 26th.—Fifth day of journey up. At half-past 8 we had formed our order of march, and were on our way by the banks of the Lake Imoasa. We passed the village of Ambila on the opposite side of the lake, when it began to rain, and continued wet till we arrived at the ferry across Lake Imoasa, which here joins the sea, and

\* A narrow stream, called Andranopandrana, runs out of Antoby Lake.

went over in pirogues (some of them of the frailest and rudest construction), to Andevaka Menerana (the hole of serpents). Here we dried our steaming garments over a fire in one of the huts, and the rain leaving off, we started off again, nor halted till we came to Lake Ranomainty (black water). Near here were great quantities of sweet limes, of which we gathered some, and found them very refreshing and palatable. I also noticed several shrubs of tangena (the celebrated Malagasy poison) about here. Put up a few quail, but did not get a shot.

We now came in sight of Andevorante, a large village, consisting of 200 cottages at least, and situate at the confluence of the Lake Ranomainty and the River Iharoka, which here runs into the sea. Here we found a very comfortable (comparatively) house ready for us, much larger than any we had been accustomed to before, consisting of one large room and two side ones. The General and Bishop occupied one room, Anson and I the other, and we used the large room in the centre as a dining and sitting room. This night Anson's cot and my hammock were both slung from the same transverse chevrons that ran along the junction of the steep roof and wall. The weight of two persons was too much for the slightly-built framework, and accordingly down we came with a crash, I thinking that at least the roof had fallen in.

Sunday, July 27th.—Sixth day on journey up. Halt for the day. This rest was a great relaxation, and it was a great comfort not to have to hurry through one's breakfast and pack up hurriedly. To-day we were able to wash and dry ourselves and clothes. Soon after breakfast and bath, the Bishop performed divine service. Our ordinary table, generally built of cases of champagne and brandy, to-day was covered with a plaid to make a reading-desk, at which the Bishop performed prayers, omitting the sermon, to the great relief of at least the younger part of our community, who were eager to get outside and see what was to be seen. Directly, then, after service we all (except the General, who was unwell this morning) set out to see the country, and first of all the mouth of the river. The Bishop and General declared that there was no mouth to the river; that it was only a lake like the rest of them, merely separated from the sea by a narrow spit of land. The Bishop declared that he had walked to the assumed mouth, and had seen the sand right across the alleged mouth of the river.

Well, off we started, and the first object of interest that stopped us was a group of gamblers under the projecting eave of one of the cottages, a man and damsel, who appeared to take as great an interest in the game as any determined chess amateurs ever displayed. The game consists of moving beans from one hole to another, and forfeiting those of your antagonist when you have a greater number of beans than his opposite. But we could never learn the intricacies of the game, although afterwards at Ambohibohazo Captain Anson took great trouble to learn the game. We next met a group of traders from the interior. Their families were with them, and the women of the party were very tastefully dressed. A little short jacket like the Malabars', of blue cotton, a stiff petticoat of striped rofia-cloth, and a shawl of bandanna over her shoulders. Her ears were ornamented with ear-rings of silver, three in each ear, of different sizes.

Leaving the village, we crossed the sand-hills south of the place, and came to the long bar of sand, and certainly, as the Bishop had said, it appeared to go right across, although the waves of the sea threw their foam and spray over the steep bank. Here the Bishop, being fatigued, returned home, and we went along the top of the bar for half a mile or more. It is about the breadth of Plymouth breakwater, and the running between the waves to escape the sea-water reminded me much of that old place. The slope of the sand is a very curious curve, on the outer side hollow and on the inner side sloping. The outer curve must be like what I hear they are building at Portland. At last we got far enough to see the real mouth of the River Iharoka, which is here about 600 yards wide, with apparently a deep calm channel, and as far as I could see perfectly practicable.

After sketching the mouth of the river, we walked back to our temporary home and ate a good tiffin, after which Captain Anson and myself went out in the opposite direction, and examined some tombs on the north-east of the village. These mostly consisted of groups (generally three in a group) of coffins placed side by side, and covered by a roughly-constructed shed of ravenale, and surrounded by palisades of some eight or ten feet in height. The coffins were made of the trunks of trees hollowed out in a horse-shoe form, covered by a V-shaped roof of boards. The coffin was supported on trestles or platforms of unhewn wood, and in front of them were generally some broken porcelain or earthenware, and some little bits of coloured paper stuck into the split ends of sticks. On the highest poles of the surrounding palisade are stuck the skulls and horns of the oxen killed at the funeral. Emblems of their profession were generally placed at the eastern end of the coffin, for instance the end (bows) of a canoe placed on end at the foot of one coffin significantly suggested the untimely end of some poor boatman. At the foot of another was a simple cross, neatly carved, and but lately erected outside and opposite the feet of one who probably had been tortured by the tangena, and died in the cause of Christianity.

Beyond these tombs was a tumulus, and on the top of it six upright stones of different sizes, perhaps the largest six feet; opposite was a pole, and a single skull of an enormous ox, with wide horns, grinned from the top. These were called by the natives *tsungam bato*, and are the cenotaphs of six Hova officers who died here during a campaign of Radama I. against the Betsimarakaka tribe. It is customary for the comrades of Hovas to carry the bodies of their comrades home if possible; if not, bury them, and, noting the spot by such stones, at a future time return and recover the bones to be ultimately placed in the family vault.

Monday, July 28th.—Seventh day on journey up. We were rather longer than usual this morning packing, as a halt on Sunday had induced us to get out many extra articles. By 9 o'clock, then, having mustered sixty-four canoes at the landing-place, we got all our things on board, and finally ourselves, the General and Anson in one canoe to themselves, the Bishop by himself, and Meller and I by ourselves. Meller, being a most amusing companion and an indefatigable botanist, made the journey up the Iharoka very amusing as well as interesting, as he was able to draw attention to rare plants that I knew

nothing about. We paddled slowly along, the greater part of our fleet of canoes quickly disappearing in front, as we, continually stopping to pluck some new fern or other, fell behind.

Gradually we passed several villages, the principal of which were Marovata, Batrasina, and Maromandia. Near the latter we leave the main body of the river and turn more south along a narrow tributary, leaving Ambohibohazo, a large military station and first-rate snipe locality, to our right, pushing on to Maronby, a small village on the top of a steep slippery clay-bank. Behind the village is a house in a garden slightly separated from the rest of the village by a fence and some coffee-bushes. This was the first coffee which we had seen, and was cultivated by a Malagash, who had been educated when a boy in England, had been baptised, but subsequently, during the persecution, had apostatised, and was a follower, or *dekana*, to the Prime Minister. His name is Razafinkarifo.

The rain now fell incessantly, and, leaving our pirogues here, we took to our chairs, and were carried slipping and tumbling through a narrow lane, the mud of which was poached up by cattle so as to require care lest we were bogged all together.

Our next difficulty was a brook we had to pass; this my bearers insisted on carrying me over by a short cut over a single plank, and at some height above the water. Not trusting their capabilities, however, I walked over by myself, and had to take great care, but they crossed with the chairs on their shoulders quite easily. The heavier palanquins, &c. crossed a little lower down, where there was a ford.

The country here is undulating and gently sloping to the east. (Ravenale, rofia palm, and bamboo are the chief trees, and fill all the marshy and swampy bottoms between the downs, most of which are bare.) The country towards the south is more hilly, and gives some sharp outlines of hills that form a good background to the smooth and low undulations in the foreground. The marshes in the valleys, caused by the streams being choked with decayed and fallen trunks of the palm and other trees, are full of dark-coloured waters, and exhale noisome and pestilential vapours, caused by the corruption of vegetable matter. The country seems here very desolate, with few inhabitants and little cultivation.

We soon came in sight of the little village of Manamboninahitra, a snug little village, the houses built a little better than those on the coast, but very confused, all the houses being huddled together without order of any kind. The village is built on the open down, and with the exception of a few tobacco and plantain gardens round the village, and a few fields of rice in a neighbouring valley, there are no signs of inhabitants about.

This night, my hammock-lashings breaking, I was forced to lie on the floor, and as they had emptied a rice-store for us to lie in, the rats, unaccustomed to the loss of their usual meal, revenged themselves on the unhappy intruder by running steeple-chases over him the whole night. At last I had to take a broom in my hand to beat the brutes off. I really thought I should have suffered the fate of the Bishop of Metz, who built the Mouse Tower.

Tuesday, July 29th.—Eighth day of journey up. We left Manamboninahitra at



8 o'clock punctually (showering benedictions on the rats), descending a valley, and across some wet paddy-fields. We had a rather stiffish ascent up a clay-bank on the other side of a small rivulet, which gave us a slight idea of some of the difficulties of transport before us. There being no regular road, everybody takes his own line of country; the consequence is that there is a broad track composed of numberless little paths like sheep-walks, and some of these lead over terribly rugged roads.

The country to-day in all respects resembled that we passed over yesterday, with perhaps a still greater amount of wood and more ravenale, the hills having only their tops bare, their sides generally clothed with the blue rofia, the bright green ravenale, and the gamboge light-tinted bamboo, more like gardens of hops in Kent before they grow old.

At mid-day we approached Ranomafana (hot water), a village on a small tributary of the Iharoka, about 1,500 feet above the sea level. Here the Bishop and myself left the road and visited the hot springs, which were a little to the north of the ford we had just crossed. The river here was shallow enough to allow one to walk across, only wetting your knees. The sand (full of glittering particles of mica) felt warm in some places, as we walked through the stream, and at some places after watching attentively where the sand was disturbed by bubbling up of the springs, it was so hot that it almost scalded our feet. The Bishop had his gaiters, boots, and stockings off, and I stripped altogether. Laying down in the deeper pools of the river, I found the water at the surface cool, whilst near the bottom it was quite hot. We counted at least five hot jets in the shallow stream. There was also a spring on the other side of the river in the bank. I only had a thermometer attached to the barometer, so was unable to use it. Meller secured a sample of the hot water, which has a faint smell and a slight alkaline reaction and insipid taste, and speedily blackened a bright piece of silver.

After this little incident we kept on our way through a more hilly country, the hills wooded and magnificently clear streams of water, with large masses of quartz rock. These were most delightful resting-places, the woods meeting over the streams, giving grateful shade, and the water clear and cool to drink. Tree-ferns were now also to be found near the water's-edge, and there were plenty of wild raspberries ripe.

We now came to Ambatoharanana, where we stopped for the night. This village was much the same as most of the others we had passed through since leaving the coast. It perhaps seemed to have more rice-stores in comparison to its size, a sign of its greater wealth, I suppose. These rice-stores are raised a considerable height above the ground, and thus are protected from rats. They are very picturesque, with their projecting eaves of ravenale leaf and notched pole for a ladder.

I was delighted to find myself in the country of the far-famed Travellers' Tree. Since I was a boy I had a peculiar impression of this tree as described by Basil Hall as seen by him in Java in 1814, near Anjeer, on the road to Batavia. "Our host carried us to see a singular tree which had been brought from the island of Madagascar, called familiarly the Travellers' Friend; *Urania*, being I believe its botanical name. It differs from most other trees in having all its branches in one plane like the sticks of a fan, or the feathers

of a peacock's tail. At the extremity of each branch there grows a broad double leaf, several feet in length, which spreads itself out in a very graceful manner. These leaves have the property of radiating heat so rapidly, after the sun sets, that a copious deposition of dew takes place upon them; this soon collecting into drops, forms little streams, which run down the branches to the trunk. Here it is received into hollow spaces of considerable magnitude, one of which is found at the root of every branch. These branches lie one over the other alternately, and when a knife—or, which is better, a flat piece of stick, for it is not necessary to cut the tree—is inserted between the parts which overlap, and slightly drawn to one side, so as to cause an opening by prizing the leaves apart, a stream of water gushes out as if from a fountain. Hence the appropriate name of the Traveller's Friend."

Wednesday, July 30th.—Ninth day's journey. The hills as we got further up the country were stiffer than ever, and the ascents were now long and tiring, but the panorama looking back over the low country from their summits was magnificent, and improved as we got on. One of our bearers to-day got an attack of sunstroke, and we had to leave him behind. We kept along the course of the River Farimbongy, a small stream not unlike the River Dart, in South Devon, the wooded banks, pools, cascades, and miniature rapids all recalling the days when I used to fill a basket of trout in the Plym and other streams on Dartmoor. The travellers' palm, however, made the scenery a little different to that of England, although our old English friend the *Osmunda regalis* flourishes here in all its pride. The water-plants here were also extremely beautiful and delicate. Dr. Meller, however, took possession of all my specimens, as, being the scientific man of the party, he had a right to do. The *Ouvirandra fenestralis* was by no means the prettiest of them. I hope that ere this reaches England they will have reached Sir W. Hooker.

On the left bank of the Farimbongy is the little village of Mahela, but we did not halt, but crossed the river astride on men's backs, our usual way. Captain Anson and myself, seldom troubling the palanquin with our weight, used to cry out "Horses" on approaching a stream, when up doubled one of the strongest and tallest of our bearers, on whose back or shoulders (according as to whether the stream was shallow or deep) we speedily crossed dryshod. The conduct of the bearers was admirable; their good nature and willingness only increased with the difficulties of the journey. The steeper the path, the louder they laughed; the deeper the river, the more they joked; and when the slippery clay was rendered almost impassable, they danced and sang. Like Mark Tapley, they decidedly thought it creditable to be jolly under every disadvantageous circumstance. The Doctor wounded a black and white crow, called by the natives *goaika*, which birds are very numerous, and whilst holding it, it bit him severely, and so poisonous was its bite from its feeding on carrion that the sore quickly spread, and the next day assumed a serious aspect, and was hardly prevented from spreading more by a vigorous application of caustic. After Mahela, the travellers' tree is less abundant, and is more confined to the bottom of the valleys. The woods had more timber, and the tree-ferns and fig-trees increased considerably in size and number.

We arrived at Ampasimbe, a larger village than most we had passed since Andevorante, consisting of a long street, at one end of which was a sacred stone and a group of circumcision poles, on which the skulls and horns of the bullocks killed during the celebration of this national rite are stuck. They are simply the forked arms of trees pointed and roughly squared, covered with lichens and cobwebs from disuse, the celebration of this custom being only every seven years, and this was the year of celebration, although by the desire of the King, and on account of the year of mourning for the death of Queen Ranavola, it was celebrated privately and without any feasting and public festivity.

This evening we had an opportunity of witnessing the dancing and singing of the Betanimena people. Five or six of the matrons of the village beat time with sticks on a hollowed bamboo held by a couple of young children. A young girl of thirteen first danced, the movements being slow, and the feet hardly leaving the ground, but the body, arms, and hands bending and swaying to and fro, quivering to the quick notes of the music, which was accompanied by songs from a chorus of some twenty grown women and girls. Two grown women next danced. This was not nearly so decorous a dance as the first, and more in the style of the nautch girls in India, the former more resembling the dance of a Chinese actress in a sing-song house at Canton. We slept comfortably to-night, neither annoyed by rats nor creeping things.

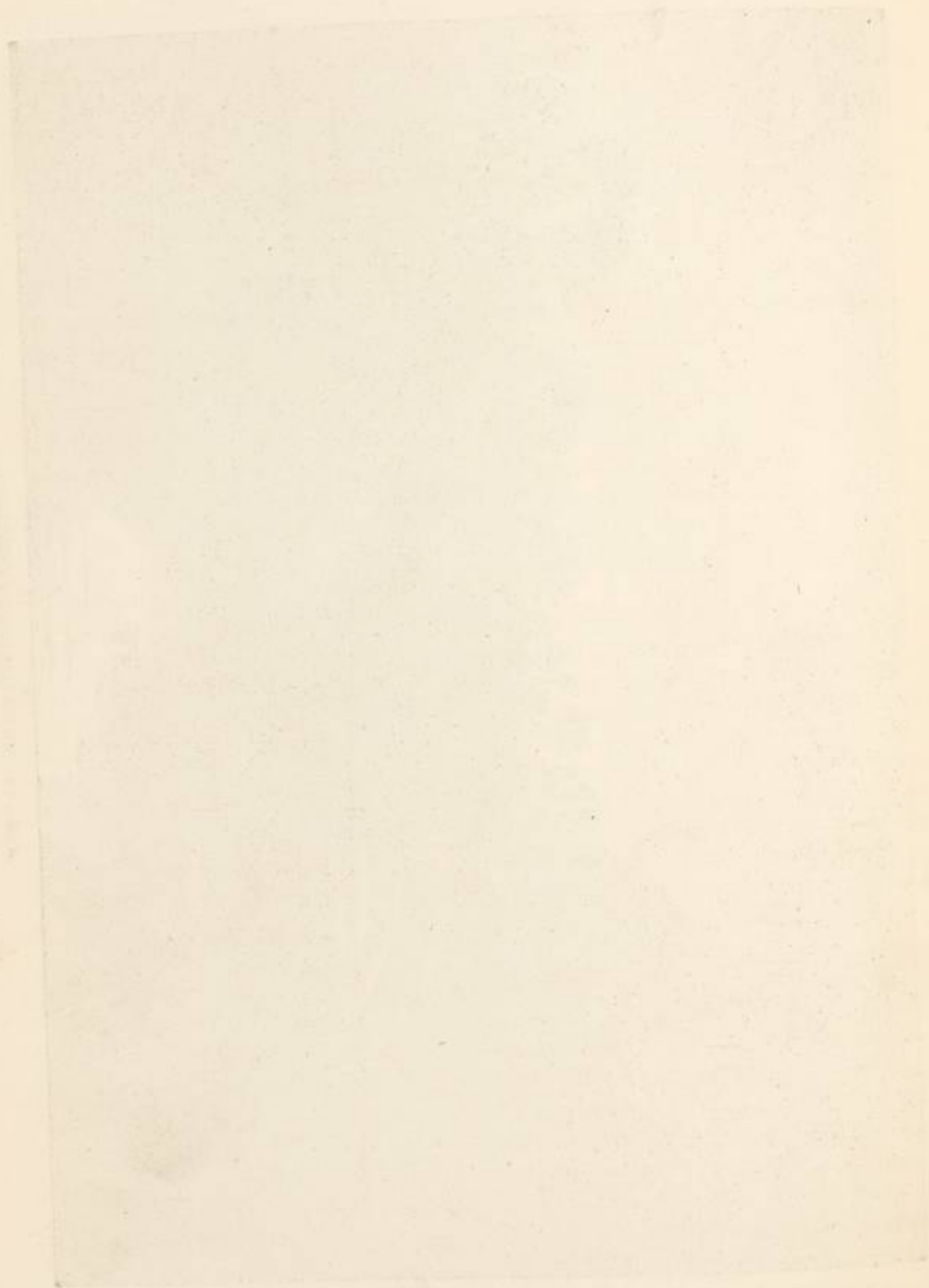
The crests of the hills were clothed with a dense composite bush with orange-coloured flowers, and arbutus. Here and there stood out solitary boulders of sandstone, dark and grim from exposure amongst the coarse tufts of grass, and an apocynous herb avoided by the cattle. We crossed and recrossed delightfully clear streams, tributaries of the river Farimbongy. Tree-ferns (*cyatheas*) were now conspicuous; arums lined the banks, covered with the most prolific vegetation, and in the marshy places grew a white-blossomed crinum with a delicious perfume, called by the natives *kingass*. Here, in the pools and less rapid portion of the stream, I first saw the *Ouvirandra fenestralis*, its lattice leaves waving like long dark green streamers below the surface, and its pink blossoms (showing it to be of the variety *bernieriana*) floating on the surface at the extremity of the long stalks. This lattice-leaf plant or water-yam, which Sir W. J. Hooker designated "the most curious of Nature's vegetable productions," was first figured by Du Petit Thouars, and was introduced into England by the late Rev. W. Ellis, the well-known missionary, whose acquaintance I had made in Mauritius, and who I subsequently met up at the capital. The timber trees which overhung the stream were covered with orchids, ferns, mosses, and lichens; one lichen especially, a *Rocella fuciformis*, hangs from the larger trees in great abundance. It was in one of these charming glades that I made the accompanying sketch of the characteristic scenery in which the Urania forms a prominent feature in the scene. Here, too, we found various fresh-water shells, such as *Melania*, *Pizena spinosa*, and *Ampullaria adusta*. In the shady and moist recesses were lovely variegated-leaved plants, a bright pink-marked coleus, and a sonerilla with silvery markings, &c. A long-spiked calanthe was also plentiful.

Thursday, July 31st.—Tenth day on journey up country. The country west of



HOME OF THE OUVIRANDEA FENESTRALIS.

[To face p. 154.]



Ampasimbe is thickly wooded, and is, in fact, the outskirts of the forest of Analamazaotra. The slopes of the steep hills and mountains (forming the eastern boundary of the tableland and elevated plateau of the interior) are covered with dense forest. The Hovas term the country The Wilderness, and persecuted Christians and malefactors were wont to escape hither and hide in its depths from the anger of the authorities.

Part of the track now led through thickly-tangled thickets, so that we had great trouble in getting through. The main bullock-track being too slippery to ascend, we had to pull ourselves up by the branches and trunks of the trees at the edge. How the bearers managed to get up the palanquins was marvellous. The views, when we did get a glimpse of the country through the woods, were enchanting.

The mountains covered with forest were in front, hill piled upon hill. Here we shot a great many birds, among them some lowries. We now descended a long hill to a small hamlet called Marozivongy. The houses here were thatched with long grass, instead of ravenale as at the former villages we had passed, fastened to bamboo. The sides of the houses were made some of bark beaten flat, and kept in its place by longitudinal strips of split bamboo, others of split bamboo solely. The floor was raised above the ground.

After a good many up and downs, and winding about, crossing and re-crossing small streams, we arrived at Beforona, a place notorious for fever. It was here that, when Lambert and Ida Pfeiffer were sent about their business out of the capital, the Queen gave orders they should be detained for some eighteen days in order to catch the fever, of which, indeed, Ida Pfeiffer ultimately died, and Lambert still suffers relapses from it. There was one large shed, called a house, given over to our use. Here we messed, and the General and Bishop slept. Anson and myself got hold of a very small cottage to sleep in, but it had the advantage of being very warm, and the nights were intensely cold as compared with the heat of the day.

The inhabitants again here assembled in great crowds about the standard-pole and Circumcision horns in the village, welcoming us with singing and dancing. The village is built in an extensive valley on the banks of a small stream. We bought a bullock this night for the Marmites.

Friday, August 1st.—The eleventh day's journey up. Thermometer 47 degrees Fahrenheit. This morning, a thick mist over the hills and woods. We started early, and walked the whole way. The General and Bishop starting, as usual, in front of us, got a good bit ahead. We wound along a long valley and then up a series of hills, each one higher in succession—a long weary climb. As soon as we got to the top of one hill we had to descend as steep a descent the other. The country along the road had hitherto been partially cleared by wood-cutters and charcoal-burners, and we stopped, after a long descent down the half-dry bed of a torrent, full of small, rough, loose, broken fragments of rock, at a small collection of wretched hovels, called Rehit, at 10 o'clock. After resting a few minutes on we went.

By this time the rain came down in torrents, and the roads, which were bad enough

before, were frightful. The red stiff clay, not yet turned into mud on the hills, was slippery to a degree, the water running down and filling the holes formed by the bullocks with water. The valleys and bottoms of the steep ravines were clay mud, tenacious and deep, so that by clinging to the trees, and crossing by stepping on the fallen trunks and limbs of large decayed trees, was often the only way of crossing safely. The impenetrable solitudes of the vast forests on either side was very impressive, and its silence only broken by the screams of the babacootes (the largest species of *Lemur propithecus diadéma*), herds of whom would howl in concert, making the valleys re-echo again. These and the shouts of the long straggling line of Marmites were the only sounds besides the rush of the torrents and the down-pour of the rain.

Some of the scenery was very striking, especially one part of the road that wound round the edge of a rapid torrent, which at one place, flowing under a gigantic table of granite, fell in a foaming broad cascade (Malagash Ranomandrien) into a cauldron hollowed out of the massive rock beneath. The trees and foliage looking up the ravine formed by this torrent were superb. The granite table formed a natural bridge over the torrent, several holes in which, worn by eddies of water during great floods, enabled one to see the hissing foam beneath you. Magnificent trees, covered with parasites and orchids and all the spontaneous growth incident to the propagation and decay of vegetation in its most monstrous forms under a tropical sun, presented a sublime gloom over all, the depths of which were lightened by the excessive bright colour of the young green tree-ferns, with startling distinctiveness, and the white foam of the Ranomandrien. The rain ceased for a few minutes, and we stopped awhile to breathe and to admire. Everything, trees, ferns, parasites-creepers, rocks, ourselves, all dripping; and the humid atmosphere hung heavily in wreaths of mist about the overhanging woods.

The scenery very similar to that of the "Mountain of the Golden Lake," near Shaoking, on the West River or Si-Kiang. The road was much easier to travel where it was rocky and bare, but sometimes our road led up precipitous, sudden, and unevenly deep chasms, some of which were regular slides, down which the bullocks on their way to the coast were forced to come slithering, unable to stop in one slide from the top to the bottom, where they happened to bring up in the softer soil. Almost the only way to ascend this was by climbing along the sides with a shod spear by way of a mountain pole, and helping oneself along by the network of tangled roots and fibres, where the subsoil had been washed away, exposing them bare. Here and there huge trees fallen across our track and half imbedded in the clay, or hanging still in mid-air, either afforded us a causeway, or caused us to climb and twist over or under them, or sometimes avoid them altogether, and leaving the path get entangled in the dense underwood and obscurity of the enormous parasitical plants.

The rain grew worse and worse. The hill appeared higher and higher. We were forced to empty the larger cases of their contents to get them through the mire and up the hills. It now grew dark, and we halted at evening at Anevoca, a small collection of wood-

cutters' huts on the top of a steep hill. Here we were obliged to wait for all our baggage, and we soon got news that some of the men were faint and unable to get on. We sent back some rum to them, but they did not reach us till early the next morning. Wet through and wearied we lay down to sleep before a fire in one of the huts, and were roused up at about 11 P.M. to eat some rice and fowls that our indefatigable cook had prepared for us, and then we dropped asleep as we were, and never slept more soundly.

Saturday, August 2nd.—Twelfth day's journey up. Awake with sunrise, and anxiously await the arrival of the baggage that had remained behind. We made our breakfast, and soon after had the happiness to behold our things coming up, with the Marmites covered with mud from head to foot, not that we ourselves were much better. This little time gave us leisure to dry our clothes in the sun, and we started about 9 o'clock. The Marmites, however, were so fatigued that we only were able to accomplish half-a-day's journey, and complete the stage that we ought to have accomplished the previous day. The road, though much shorter than the previous day's march, was very nearly as difficult, only the rain had ceased and the sun's rays soon baked the upper crust of the clay into firmer walking ground.

We halted very early, about noon, at Analamazaotra, a small military station, and which takes its name from the forest in the centre of which it stands. It stands prettily situated on a side of a hill, partially cleared and cultivated with patches of sugar-cane, tobacco, sweet potatoe, &c. At the bottom of the hill runs a small stream, where we put up some wild duck and also killed a diver. Meller and myself bathed here, finding it icy cold. The stream is half choked by trunks of trees, snags, &c., washed down or fallen across. Here we found the azaina-tree (*Chrysopia fasciculata*), valuable for the yellow resin that exudes from it. In the evening the lemurs made a great noise. On our return journey we shot some, and they proved to be different to any I have seen described—of a chesnut colour with a golden tinge (*Prosimia flavifrons*\*). Their voice is like that of a child's wailing.

In the evening, on the occasion of, and in anticipation of the Sunday's halt and rest, not to mention the prospect of a calf that we killed, the Marmites danced and sang, accompanying the natives of the villages, who played music consisting of principally the bamboo, and also the lokangavoatavo, a two-stringed musical fiddle, made of wood, a calabash, and quill. Andrionisa, our interpreter, here had an attack of fever, which kept attacking him afterwards at intervals during the whole of our stay in Madagascar.

Sunday, August 3rd.—Thirteenth day on our journey. Of course this day was a halt, and after five days' good hard exercise we enjoyed a little leisure much. After Divine service, we walked and strolled about the woods, and amongst other objects of interest our attention was especially drawn to a rudely-constructed sugar-crushing machine, composed solely of a round trunk of a heavy wood (zahana) with half a dozen large pegs or handles attached to it. One end of this roller rested in a groove cut out of a cross-beam, sup-

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\* Figured in the "Proceedings of the Zoological Society," 1867, Pl. xxxi.



ported on two forked uprights, the other was resting upon a rudely-shaped piece of timber somewhat resembling a canoe, but only one end hollowed out, the other end being a flat table on which the sugar-cane is placed. This end of the roller is kept in its place by three sticks of a kind of euphorbia called *songo-songo*. We also noticed here a blow-tube by which the natives blow arrows to a distance of twenty yards. They kill small birds, and are tolerably good shots.

The houses here were the first we came to which were built of anything like solid wood. The house we inhabited was a substantial building of one room, as usual, a window and door, both with shutters of solid wood. A stout post occupied the centre of the room, and the western half was divided by a loft, formed by cross timbers at the level where the roof meets the uprights. The sides are filled in with bark, through which our servants were wont to thrust our table-knives by way of cleaning them. The floors were still raised a few feet above the ground. One house, occupied by people making snuff, was raised on very high poles, and formed a very picturesque object in the village square, with a platform or balcony all round it. This evening, like the last, was employed by all the people singing in the moonlight.

This place was formerly the boundary beyond which no Hova could pass without a passport from the Queen Ranavola. This restriction is now abolished, and Radama allows his people full liberty to go or come. The people accordingly sang songs in commemoration of this liberty of the subject. In each of these stations where we stopped was a Hova officer and a couple of soldiers or more, whose duty it is when officially franked letters are received to forward them on, and so from post to post to Tamatave or the capital, as the case may be.

Monday, August 4th.—Fourteenth day on the journey. As soon as the morning mists cleared we had a glorious sunshiny day, and in the cool of the forest were able to laugh at the fierceness of his rays. The road much the same as yesterday. A kind of creeping feathery bamboo is very luxuriant here, covering bigger trees with its foliage, and presenting the appearance of gigantic hop-gardens, some eighty feet high. Some of the palms too are magnificent. I am afraid to say to what a height some of them had grown. The centre mast or pillar in the great palace at Antananarivo is 120 feet long, and is a single spar cut near this spot.

We halted at midday at a small place called Ampassapojy, and going on shot some lemurs and some large kites.\* I found one of those saloon rifles or Monte Christo carbines, with a bullet the size of a pea, answer capitally in shooting lemurs. It makes little or no noise, and the bullet is too small to damage the skin. Besides, it is light, portable, and quickly loaded. We now found ourselves approaching the edge of the forest, and were not sorry to see the open country in sight, and in truth the panorama from Moromanga is striking and extensive. Moromanga was reached about 5 o'clock P.M., and after the thick forests we had passed through, the hills and valleys we had climbed, the

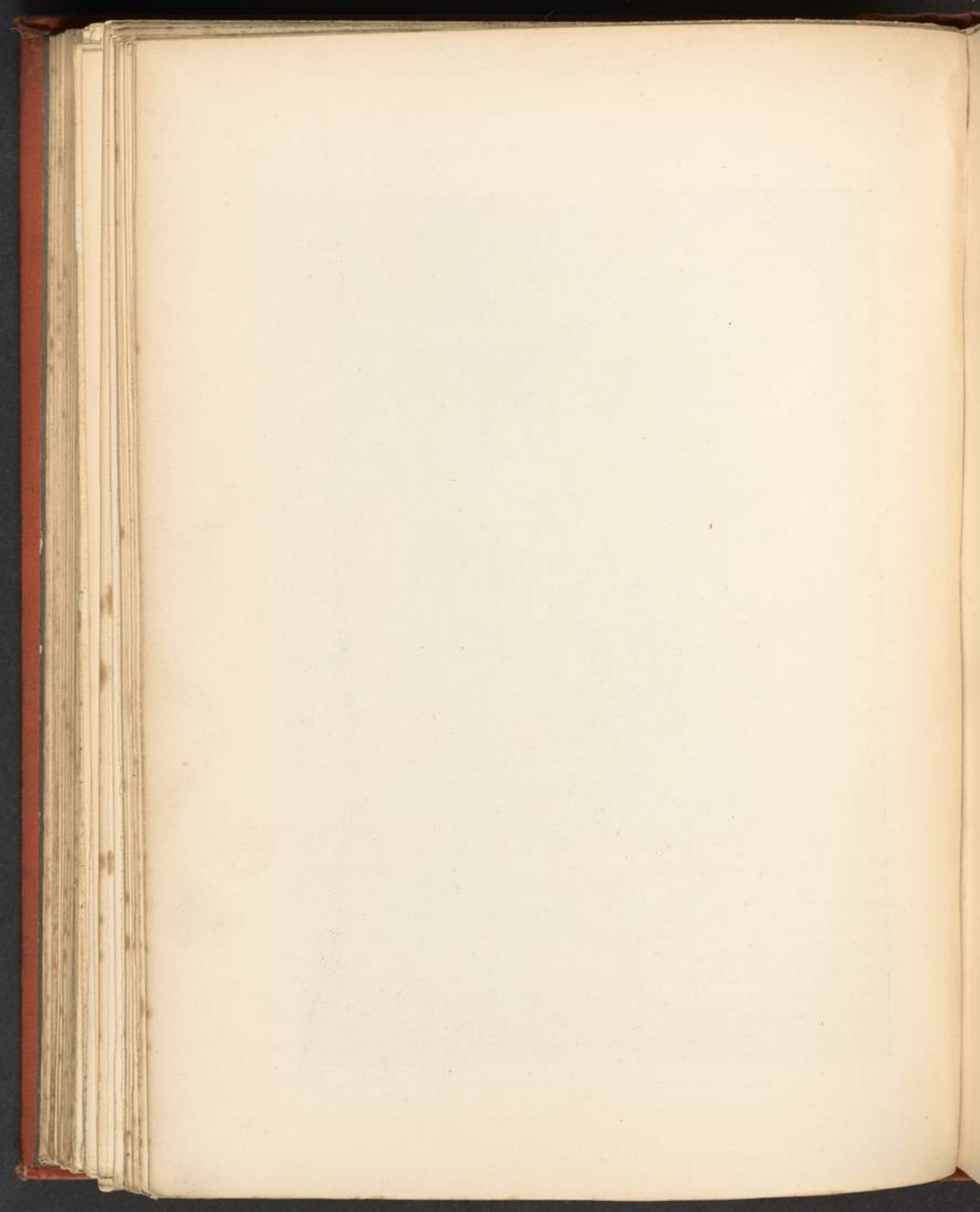
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\* *Milvus ater*.



CATTLE TRAVERSING FOREST OF ANALAMAZAOTRA.

[To face p. 158.]



flat province of Ankay, bounded by the distant mountains of Ankova, presented a novel and pleasing view.

The province of Ankay, or Antankay, consists principally of an extensive plain, situated between lofty hills and watered by the River Mangoro, which flows south and then eastward through the province of Anteva, south of the Betanimena. The River Mangoro is the second largest river in the island, and will, in time, on account of its magnitude and position, become a highway for merchandise. At present, on account of its numerous cataracts and rapids, it is impracticable, but this is only from hearsay. The plains of the Mangoro are inhabited by people called the Bezanozano, who are mostly poor and very superstitious. The Marmites come principally from this class of people.

Looking from Moromanga, you cannot see the Mangoro, which is on the side of the plain furthest from Moromanga, under the hills of Ifody, and concealed by its steep banks. The whole of this plain has the appearance of having been under water, and during the rainy season the major portion of it must be flooded. Even during the driest season there are numerous bogs, marshes, and streams full of snipe, wild duck, and crocodiles. A few days after we passed over this plain. Mr. Lambert came after, bringing among other presents to the King a valuable Arab horse with an Egyptian groom and some donkeys. Whilst crossing one of these small marshy streams, the greatest depth of which could not exceed two feet, the horse was attacked on his left flank by a huge crocodile, the marks of whose teeth I was shown when the horse arrived. The groom jumped off on the side furthest from the crocodile and left the horse, who kicked his aggressor with all his force on the nose and forced him to retire. Leaving the horse, the crocodile dragged a Malagash slave, who was leading one of the donkeys, away into the marsh, and destroyed him. The marshes are so extensive and overgrown with zozoro, a species of papyrus, the consequence is the crocodiles are never pursued by the natives, who, indeed, are afraid to kill them. The houses of the Bezanozano are not raised above the ground, as in the Betsimisaraka or Betanimena country.

Tuesday, August 5th.—Fifteenth day on the journey. We now left the forest altogether, and found the walking across the flat very easy after the clay hills of the forest. After ten miles across the plain, we came to the ferry of Andakana, on the banks of the River Mangoro. The river is here about fifty yards wide, the banks steep, and on the western side rise the wooded slopes of Ifody. The village stands at the bend of the river, which runs in a straight direction from the north as far as here, but below it winds considerably as it runs round the base of the projecting spurs of the mountainous frontier of Ankova. We crossed in some very cranky canoes, and halted for tiffin on the opposite bank, the doctor busily employed in skinning the lemurs we shot yesterday between each mouthful. Now began a stiff tug up the hill called Ifody. For a wonder, the road this time did not lay over the highest part of the hill, as in the forest had always seemed to be the case. The top and sides of the Ifody are clothed with wood, and some of the finest ebony comes from here.

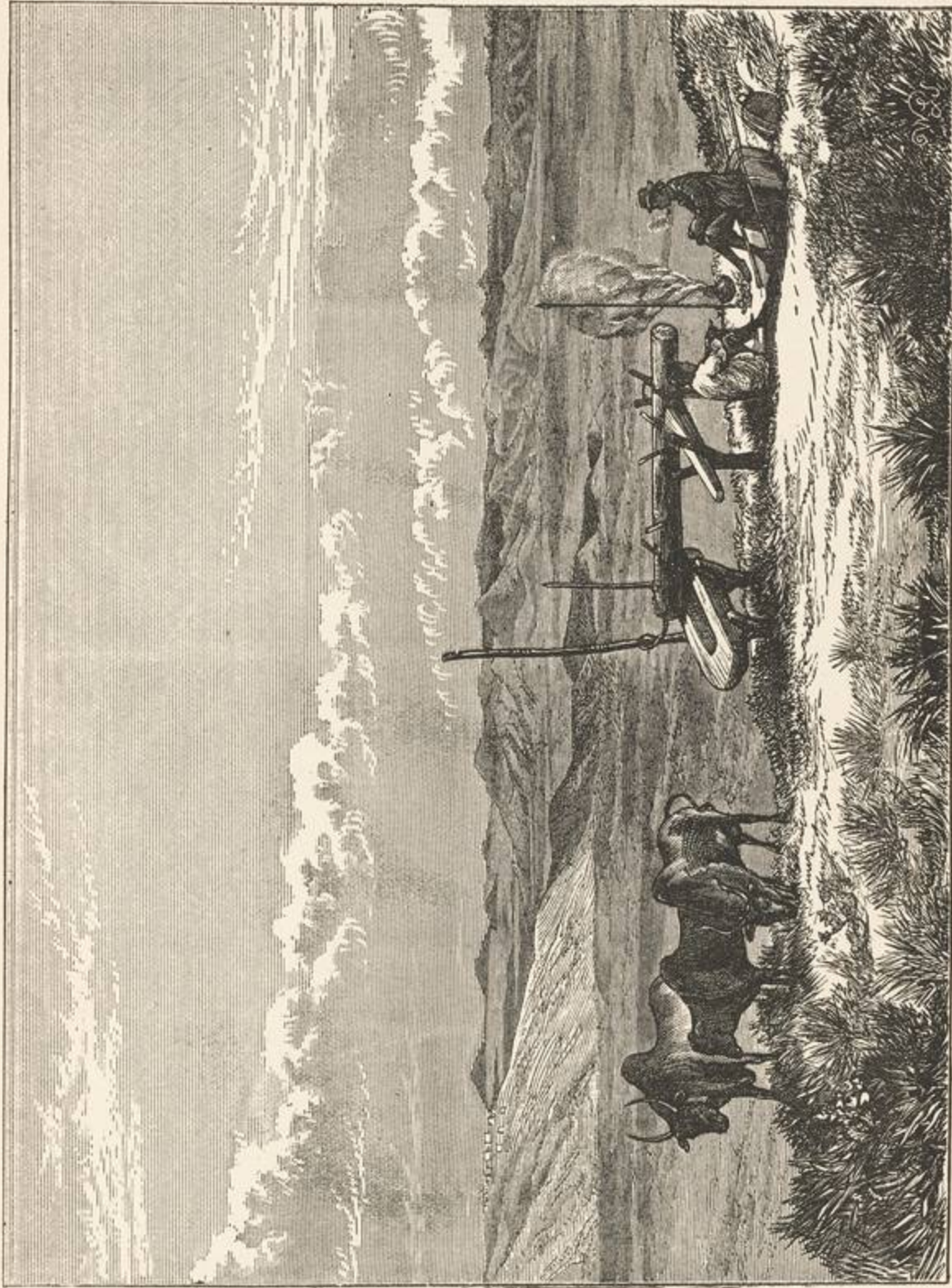
After crossing this hill we again descend to Ambodinofodi, a hamlet and military post, but without stopping we pushed on to the valley of the Vahala, which lies between Ifody and the mountains Angavo. This valley was the most fertile, happy, and prosperous district in the island. Fields and plantations cover the whole valley, which is dotted by farms, homesteads, and villages, the markets of which seemed well supplied with every necessary. The little river Vahala, which flows to the north and round the northern extremity of Ifody, till it joins the Mangoro, waters the level plain, and irrigates the rice-fields without trouble to the husbandman. Here they employ cattle to tread the fields to prepare them for the rice. The people here appeared happy, industrious, and well-to-do, the houses cleaner, warmer, and neater. At the extremity of the valley, which terminates in a fine amphitheatre of hills at the foot of the pass over the mountains to the lofty plateau of Ankova, stands Mandrahoody or Ambodinangavo. The first name means "The last impediment home." The sick or wounded Hova, when returning from some campaign against the turbulent Bezanozano or the yet unsubdued Betanimena, on being carried to this place would look up and say, "If I can only surmount this last hill I shall be in my own country. If I have strength to climb this mountain, I shall live to enjoy my highland home." Hence the name Mandrahoody. Ambodinangavo simply means at the foot of Angavo, similarly Ambodinifody means at the base of Ifody.

This was the first village we stopped at that had any semblance of anything like defensive works. We had passed one village and market during the day which was surrounded by a high wall of stout clay, bound here and there with sticks, but the wall had fallen to decay, and now was valueless. Ambodinangavo, however, although a small hamlet of not more than a dozen houses, was cut off from the side of the hill on which it stood by a deep ditch from twelve to twenty feet deep, which ran right round the village, and broad enough for four men to walk abreast at the bottom. The approach to the village led through part of this, and the narrow passage made the entrance very defensible. The banks of this ditch were covered with a kind of melon, and shrubs of *Buddlea Madagascarensis*, together with mulberry-trees.

The houses at Ambodinangavo were much more comfortable than any we had yet been in since Hivondro Ferry. The houses had a steep thatched roof, with a loft or apartment in it, and steps up to it inside; besides were doors, windows, and in some of the best of them partitions and bedsteads. From this place we despatched a messenger to announce our coming to the Minister for Foreign Affairs.

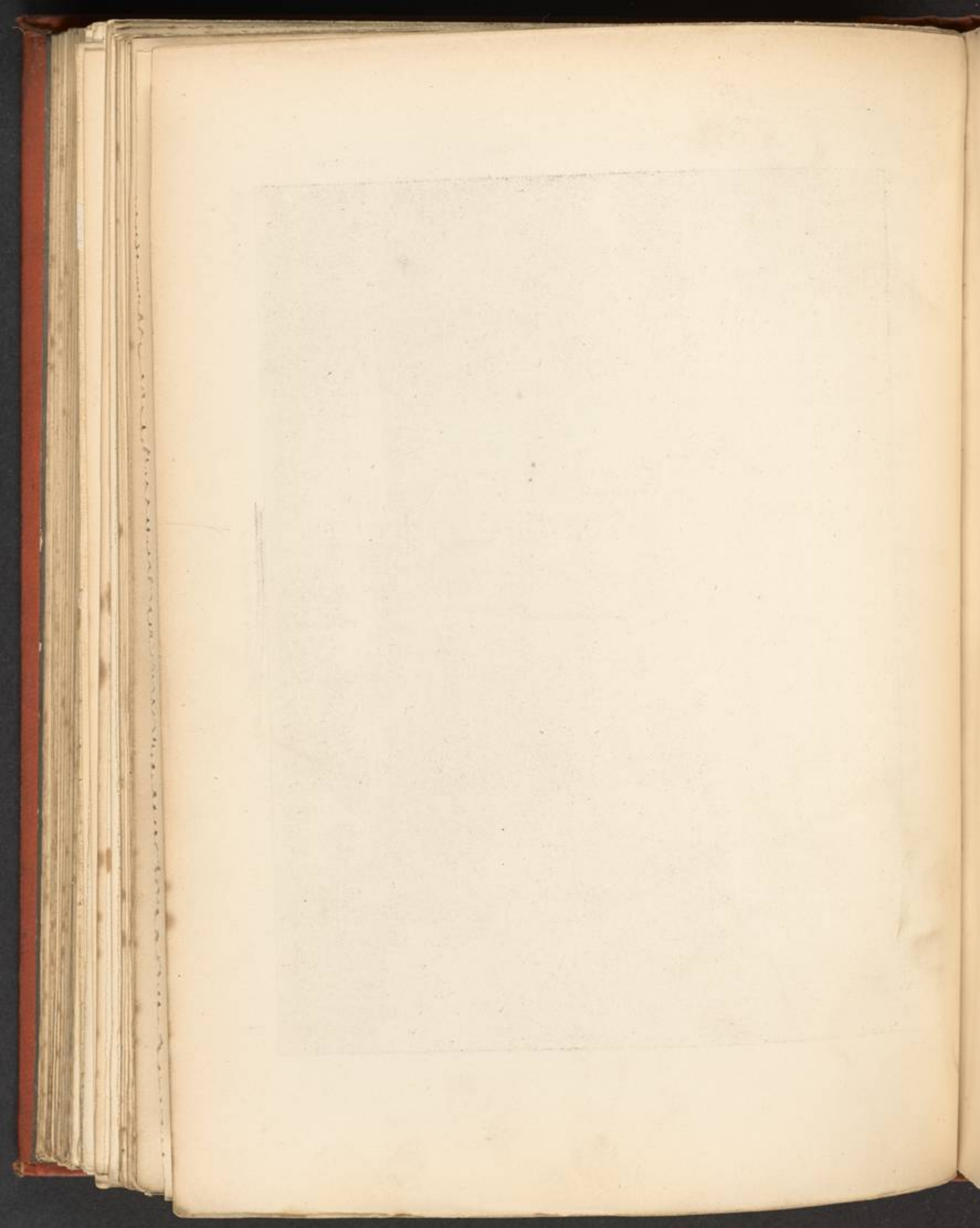
Wednesday, August 6th.—Sixteenth day on journey up.—A steep climb up the pass of Angavo on foot. On reaching the summit we find ourselves in woods again, and descend a precipitous valley, at the bottom of which was the Mandraka River, which flows west into the Ikiopa River. We had thus passed the water-shed of the country, and were about 5,000 feet above the level of the sea. Ascending again, we came to open country, and also to the first village in Ankova, viz. Ankera Madinika. Here we halted at the side of a small brook outside the village, and the bearers cooked their mid-day meal.

This was a very filthy, squalid village. The interior of the huts differed but slightly



THE PLAINS OF ANKAY.

[To face p. 160.]



from those at Analamazaotra, and were not so tall or so well built as those at Ambodinangavo. There was the usual central post, and besides two lofts at opposite quarters of the hut called "salazan" and "arehan." The fire-place was under one of these, and a crooked piece of wood with a leather-lined basket, called "tanashute," was suspended in the smoke, the bottom of the salazan being covered with long black shreds of soot—a badge of honourable ancestry.

Outside, in the village street, was the usual small market for the supply of the passing travellers; here was a man playing a musical instrument called the "valiha," consisting of a hollowed bamboo, four inches in diameter, and eleven strings, made of thin strips of bamboo stretched across bridges of the same. The tone of this instrument is very sweet, and afterwards at the capital we heard some pretty music played on it by good performers.

Whilst we were at tiffin, two women sitting a little distance from us wore spindles stuck in their hair, perhaps a sign of their being good housewives.

We now went over a bare country, but to the north of our route it looked more wooded. Over undulating downs, with boulders scattered here and there, and numerous villages and rice-fields, we came to the neat and pretty farmhouse and homestead of Angavokeli. The house stood at one end of a large oblong lawn enclosed by a double avenue of the aviavy, or wild fig tree. The whole slopes down to a small piece of water, and an extensive flat full of rice. Plenty of cattle were feeding about, the whole surmounted by the huge granite top of a lofty mountain in the background.

Not far from this was the village of Anoserine. The country, which is hilly here, grew more and more cultivated as we approached the capital, but as at this season the rice was not yet planted, you did not perceive it at first. The sides of the hills were diversified a little by large patches of burnt grass, which is periodically set on fire by the people to forward the growth of young grass when the rains set in. One mountain in front of us had a very queer shape, nearly conical; it was surmounted by three immense boulders.\* It is a conspicuous object for miles round, and is the highest point hereabouts. The hills about here were much cut about. The villages and farms dotted over the sides of the hills were enclosed with lofty clay walls, and some of the principal ones on the tops of the hills were protected by moats and defensible approaches. . . . Landmarks and memorial stones were frequent on the summits of these hills.

Soon after passing Amboikam, a fortified village on a hill, we came in sight of Ambatomanga, with the large blue rock from which it takes its name. Ambatomanga is a fine village, built on an eminence on the south of an enormous pile of granite, on the top of which is a tomb, the last resting-place of Indriamatoarabalo, and the town and lands about here belong to his family. The whole appearance of the village from a distance, especially when the sun is setting, is noble in the extreme, reminding one of the five-storied pagoda and the heights of Canton. The centre of the village was occupied by a large

\* Hence called "The Three Sisters."



house with verandahs, two stories high, high-pitched roof, &c., roofed with shingle or bardeaux, and entirely built of wood. The lower part only was inhabited, the upper portion falling to decay. It was built by the chief whose tomb surmounts the rock, and is still occupied by his heiress, Rasoamiaravola, his grandchild, a very prepossessing young lady with an oval face, good eyes, slight elegant figure; she received us in a white petticoat, light Indian shawl jacket with yellow sleeves, but her hair all about her face, as if she never brushed it.

It was in this house that Prince Rataffe (father of Prince Rakotobe, the latter being the heir to the throne when Queen Ranavalona usurped it) was killed, being speared after being detained here a few days. His body was buried in his family vaults near Lake Itasy, west of the capital. Prince Rataffe had been Commandant at Tamatave, and was one of the members of the Embassy that visited England in 1821. He was murdered here on the 6th October 1828, by command of Ranavola.

The other houses in the village have steep-pitched thatched roofs, and have each a little terrace and wall of clay or stones round them, leaving narrow sunken paths between these terraces. The whole village is enclosed by double ditches from fifteen to twenty feet deep.

Thursday, August 7th.—Seventeenth day of journey up.—With the Bishop and Anson to examine the tomb on the top of the rock. A steep climb up the rocks on the south side of the cliff brought us to the level plateau on the top. Here we could look down upon the village beneath us, and a curious, novel sight it appeared, the multitude of crossed sticks at the ends of the roofs. The surface of the rock had been scarped, leaving a terrace of a semi-elliptical form revetted with stone-work, and an entrance under a stone archway at the south-west corner. Entering this, and ascending the steps, we found a small lodge with the tombkeeper in it, and then examined the tomb itself. This consisted of a large vault forty feet long by thirty-six broad, lying north and south, with an altar-shaped excrescence at the south end, the main portion ornamented with a stone balustrade on the top, and on the sides by pillars. On the east side, but not in the centre, was an upright stone plainly carved, but no inscription on it.

The west side of the vault has an arched entrance built up. Inside the stone balustrade above was a small, neatly-constructed wooden building. Inside this building, which we were not allowed to enter, we understood was the wearing apparel and effects of the deceased chief. At this time of the morning the whole country was covered with a sea of white mist, the tops of the hills and rocks rising like islands in a snowy sea. As we stood in the gateway of the tomb, our shadows were cast with great distinctness, and magnified, of course, on the mists hanging about the mountain on the opposite side of the valley.

We now descended from the rock, and after a hasty breakfast set out on our way. Passing several great pits for fattening cattle, called *fahitra*, and crossing the ditches, we left Ambatomanga, and crossing a bare down, remarkable for its large Druid-like memorial stone, called *Mits-angambato*, we descend to the bridge and village of Yédien, the first

stone-arched bridge we had seen over a narrow brook some eighteen feet broad. It was a very narrow, single-span arch, and not calculated to resist much force. The fields about here, on the sides of the hills, were surrounded with low banks planted with a slight hedge of red or yellow prickly euphorbia, called *songo-songo*, in bright blossom.

Ascending another down we came in sight of the distant capital, about ten miles off, its palace gleaming white in the morning sun. The Marmites danced with joy on beholding it, taking off their hats and saluting it, leaping and shouting, pointing to Antananarivo, and describing its joys and pleasures. The country here is quite open, hardly a tree to be seen except a few amongst the houses of the surrounding villages.

About half-way from our last station to the capital we arrived at the village of Betoff, surrounded by a ditch planted with bananas, and a stagnant weed-covered pond inside the enclosure. Here we halted and mustered our caravan, and met an escort of soldiers, several mounted officers, and a band of music, to escort us to Andriasona, a small village about two miles from the capital, and remarkable only for its tall clay-walled enclosures, hot clay-walled houses, and general burnt-up, baked appearance. Here the escort, band, and officers left us, returning to the capital to announce our entry in state the next day.

Friday, August 8th.—Last night there was such beautiful moonlight that we sat till a late hour outside our houses listening to the *vahila*, to which the natives of the little village sang and danced before us. This morning we put on our uniforms, and felt quite surprised at our own smartness, after the ragged and dirty state we had been in for the previous fortnight. The escort, although they had been warned for 11 o'clock A.M. arrived before that time, but we did not proceed before noon, when, the band taking the lead, the escort followed. First a body of men in double files, and then the officers; lastly, our party, with soldiers on each side of us. All the troops were in old British scarlet uniforms, and, unlike the soldiers whom we had seen at Tamatave, were only armed with flint muskets, and had no spears.

We now ascended the hill over against Antananarivo, and here were welcomed with a salute of cannon, and got our first full view of the eastern side of the capital. The capital appears from here to cover the crests and sides of a long hill, extending north and south. On the highest point stands the large palace, on the north of it the silver palace, and to the south the Queen's palace. The two former are conspicuous from their size, superiority, and white colour, which makes them conspicuous objects from every point of view. From the east, as you enter the city, it has a very strange appearance. Few, if any, of the houses, except the larger and European-built house on the crest of the hill, have any windows looking to the east, or doors either. The houses stand piled one above the other, with the floor of one about on a level with the roof of the one below it, with little or no order or regularity. They are built just where their owners found it convenient to scarp, cut, or embank a plateau or terrace, commodious enough for his wants, for the smallest and most insignificant house or hut must have its separate yard.

A well-educated young secretary of the King's one day asked me, whilst looking at a

picture of a European town, where the yards were, and "wondered how the people could manage to exist in a house without a yard."

When we had surmounted the crest of the hill, overlooking the suburb and valley of Faliarivo, the guns of a small saluting-battery near the palace announced to the inhabitants of the town that we were approaching. After crossing a small causeway over the rice-field we began to ascend the hill and irregular pathway which forms the eastern approach to the metropolis. The walls and terraces were crowded thickly by crowds of inquisitive Hovas, men, women, and children, all looking smiling and good-naturedly at us foreigners. When we were about a third of the way up the hill we passed through an old ill-repaired gateway and guard-house. A few more minutes' ride (for we were all in our palanquins, the Marmites having donned their best clothes for the occasion), and we reached the top of the hill, some 500 feet above the plain. Here we dismounted in the principal street, that leads from the palace-gate to the north and western extremity of the town. Here we were shown on foot to the houses which we were to occupy during our stay at the capital.

Razafinkarefo, one of the *dekana* of the Prime Minister, and who had been educated in England, besides Rabezandrina, 13th honour, and Rabearana, 13th ditto, two brothers and aides, both speaking and writing English, accompanied us, and followed by a numerous crowd we turned down the street to the north, and after a quarter of a mile turning to the left, we entered a narrow pathway between two high clay walls, and after several intricate twistings and windings descended some steps, and entering through a doorway found ourselves on a terrace, looking over the west, and in front of a single-storied shingle-roofed house, with a good verandah and a magnificent view over the vale of Betsimitatatra, and across the plains to the Aukaratra mountains, and the hills near Lake Itasy.

Saturday, August 9th.—The King having intimated through his ministers that we might hoist the British flag early this morning, we made arrangements for the same. A guard of honour, band, &c., and any amount of incongruously dressed officials accordingly came down at 11 o'clock, and the General's palanquin poles, eighteen feet long, being lashed together and fastened to the supports of the verandah made a very fair temporary flagstaff. The officer commanding the troops begged the General to give them the word of command to present arms, which he did with due solemnity, whilst Captain Anson hauled up the Union Jack, the band playing "God save the Queen," and the batteries on the rocks to the north gave twenty-one guns in honour of the British flag being again hoisted thirty-four years after Mr. Lyall had hauled his down, November 12th, 1828. The British flag was first hoisted by Mr. Hastie, in October 1820.

After the ceremony we entered the house, and entertained the officers with champagne, &c., the usual toasts of Radama and Victoria being drank with all honour. We were informed that the people were unwilling that foreign flags should be unfurled in the capital, and that it was probable they might take it into their heads to haul it down. However, we never saw any demonstration of such a feeling on their part. In the afternoon we got a mast forty feet high fixed in the ground, and changing the flag to this, made a conspicuous object for many a mile on the west of the capital.

On the General's arrival at Antananarivo he found the card of Commandant Duprè left upon him. But the Commandant did not call upon him personally. This afternoon the General accordingly sent me to take his card and ascertain if the French Commodore intended to call first or expected the General to call, and to intimate that the Commodore ought to be the first visitor, as his rank gave precedence to the General, Jules Duprè being only a *capitaine de vaisseau*, and as Commodore ranked only as a Brigadier. The Frenchman, however, would not see it in this light at all, but claimed equal rank with the Major-General, and on account of priority of arrival expected General Johnstone to call upon him.

Every evening at about 9 o'clock a gun is fired, after which time the inhabitants are forbidden to leave their houses, fires and lights are extinguished, and the watchmen continue bawling to one another to show that they are on the alert. These assembled at Antsahatsiroa, a small parade-ground opposite the tomb of Rainimahay. They continue their cries till daylight.

Sunday, August 10th.—Mr. Ellis called this morning, and took the General and myself in chairs to a part of the town called Ambatonakanga. To reach this we traversed the principal thoroughfare to the north, through the daily market at Andohalo, along a boulevard on a terrace, over some precipitous cliffs, and where cannon are mounted, under the trees past the houses where the missionaries are to live, when they come, next to the house of Rarhorahly, where the head-quarters of the French Mission were. Beyond this the road descends, and here is a guard-house, and beyond here, in the time of the late Queen, no pigs, goats, or onions might pass, as they were considered unclean and forbidden by the idols.

Below here the road branches off, and we come to Ambatonakanga, a suburb inhabited principally by mechanics. Here we found a long shed, and some 1,200 people assembled singing hymns and addressing one another. We entered the building, and they made room for us, and we sat down at a table in the centre of the room. The chapel was crowded, and the entrance doors, &c. blocked up by people unable to obtain entrance. Mr. Ellis preached to them in Malagasy, and our interpreter, Andrianisa, also addressed the people. It was very interesting to see in the midst of a town so lately a very centre of idolatry a congregation numbering over a thousand professed Christians, and knowing that at the same moment in six other parts of the town there were congregations of nearly the same magnitude, and met together for the same purpose of prayer and thanksgiving. They are in the habit of meeting early in the morning, and at daylight on the Sunday crowds will be seen in holiday and bright clothing walking towards their respective chapels. They continue uninterruptedly singing and praying, or listening to addresses and sermons delivered by the elders, the whole day; they are at liberty to go in and come out at any time. The major portion do not return to their houses till dusk, but it must be remembered that all the Hovas are remarkably fond of singing and music, as well as great assemblies. They hold a *kabary* or council on the most trivial point, are very proud of oratory, and display their powers on public occasions. Then, again, they are in the habit

of sitting for hours together merely singing and talking, so that their crowding to chapel on Sunday must not be placed to the score of religion. The excitement, amusement, and last, but not least, an excuse to put on fine clothes, are great inducements for many to go to any public gathering. They never have much, and but seldom anything, to do at home. They seem to spend hours, nearly the whole day, squatted either indoors on the matted floors, or basking in the sun in their courtyard, or, strange to say, squatted on the tops of the walls which divide them from their neighbours. Here they seem to do nothing but gossip and watch with listlessness the coming and going of passers by, saluting their acquaintance, and making satirical remarks on their enemies or strangers.

To people like this Sunday is a holiday, and a great fête with them. They do not feel that tediousness which English people generally feel after an hour's sermon at home. Adapting themselves naturally to part-singing, heathen or Christian will both sing psalms for the sake of the music, and without thought of the words that they use. Of course there are many bigoted idolaters, who are superstitious and hostile to Christianity, who will not use the words of the psalms and hymns, but this is a very small proportion. As in English drawing-rooms at home, young ladies will sing absurd and sentimental songs in public, but would be astonished if they were expected to entertain the ideas and sentiments expressed, so the Hovas will sing hymns and psalms, but laugh if you ask them what they sing.

In renouncing their idols they have pretty generally renounced all religion; some of the best educated (for instance, Ra Haniraka, the Minister for Foreign Affairs) will tell you that "Christianity is a good thing for the people, for the lower orders, it is a good thing for them; but what good is it to us, we do very well without it?" Nevertheless, that there are many sincere and devoted Christians there is no doubt, there being many who have never deserted the faith during the fiercest persecution. It was calculated that there were at least 5,000 Christians in Antananarivo and its suburbs.

After an hour in the chapel at Ambatonakanga we returned to our temporary home, and found the Bishop, who had been excessively ill, well enough to perform divine service. Mr. Caldwell's party, consisting of, besides himself and Wiehe, Lieutenant Wadling, 2nd battalion 5th Regiment, and Ensign Wilmot, helped to swell the numbers of our little congregation. Mr. Ellis, being an Independent minister, was not present. He preaches to the King every Sunday at a half-built stone schoolhouse. As we had not yet been presented to the King, we were unable to be present on this occasion.

Monday, August 11th.—This day was appointed for our official reception by the King at the Silver Palace. At 11 o'clock, accordingly, we put on full uniform and proceeded in chairs to the gateway of the Palace. Here we dismounted and ascended the steps to the gate; the doors were opened, and we were ushered into the courtyard of the palace, and a noble court it was. In front of us was the big palace, rising 120 feet, its white massive timbers striking the beholder by their ponderous proportions. On the left of this and at right angles was the Silver Palace, smaller, but a fine building and of greater finish than its huge brother. Nearer, and to the right of the Silver Palace

(Trano-vola), is the tomb of the first Radama, and we were directed to take off our hats in passing it. The troops were drawn up in two sides of a square with their band, 300 men on parade composing the palace guard. They presented arms to the General, playing the "British Grenadiers."

At the gate of the Silver Palace we were met by Ra Haniraka, who conducted us into the reception-room, where the King and Queen were ready to receive us. The King, dressed in English uniform, with the Queen on his left, stood up when we entered. The General made a short speech, presented the Queen's letter and each of the other members of the Mission. The Bishop then presented a very handsome Bible and made a long speech. This was one of the Queen's presents, and presented to-day, as the Bishop was very anxious to leave Antananarivo as soon as possible. Captain Anson next addressed His Majesty, and informed him that the presents had not yet all arrived at the capital.

The King is a small man, with olive complexion, and nearly as fair as any European who has been long in a tropical country. Good forehead, short curly hair, small features, hooked nose, and short moustache; he deports himself amazingly well, and on public occasions is dignified and self-possessed. He is decidedly the best behaved of all the Hovas we had seen, and, always well dressed, was a nearer approach to a European gentleman than you could well imagine the king of a barbarous country to possibly be. The Queen Rabodo, on his left, is not at all unlike the picture of her in Ellis' book (page 413); rather older-looking, and on this occasion better dressed than she appears in the picture. The likeness of the King on the same page gives a very bad idea of him. The Queen held by her left hand her little adopted daughter, grand-daughter of the first Radama's sister; on her left again Tahiri, her adopted son, and heir to the throne, the Queen having no children.

On the left of the children and in front were the Court ladies, the nieces and daughters of Ramboasalam and Ramonja. Ramonja was the Prince of the Antsianka, and being the first of all the other chieftains to acknowledge Radama I. as king, ranks next to the blood royal. Ramboasalam, who died six months before, was the adopted son of the late Queen, before Rakoto, the present king, was born. The present king was born twelve months after the death of his father, and this gave Ramboasalam a sort of claim to the throne. On the death of the Queen (a party having tried to put Ramboasalam on the throne, a dynasty which would have effectually closed Madagascar against Europeans) the Prince was kept in honourable confinement and most of his adherents imprisoned in a distant part of the country. Prince Ramboasalam starved himself to death or was murdered, though certainly not by the wish of Radama. The King and Queen took his children under their protection, and on the eve of the coronation proclaimed a general amnesty and released all the adherents of Ramboasalam.

A short distance from, and on the right of the King, was Rainilairivone, the second Commander-in-Chief. His elder brother, the first Commander-in-Chief and Prime Minister (both offices being merged in one), being ill of gout, was not present. Rainilairivone was very prepossessing in appearance, a great favourite with the late Queen, and

always friendly to Europeans, unlike his brother, who is suspicious and jealous of Europeans.

The King now sat down, and begged us all to be seated. There were chairs, &c., on the right of the Commander-in-Chief, and some general conversation commenced, Rahani-raka translating. Behind the King were several of his secretaries and aides-de-camp, all in rather gorgeous apparel, trousers with gold stripes, French cocked hats, with an extra amount of lace, and green frock-coats, gold-lace pouch-belts. Refreshments were offered, and champagne handed round, soon after which we took our leave, and left the Palace with great ceremony.

In the afternoon Anson and myself walked with Dr. Meller along the principal street of the town towards the south under the west side of the Palace-yard, and over Tampomvohitra, the highest part of the town, where there is a signal-gun in a small battery, commanding an extensive view of nearly the whole of the town and surrounding country. Further on we passed a half-finished stone building. The King was here, and the place was surrounded by his guards.

We now left the town and came to the southern extremity of the hill; here is the execution-ground, called Ambohipotsy. Here they speared or crucified criminals, and many Christians suffered martyrdom here, their bones lying still on the ground. The foot of the cross is also in the ground, and one of its arms lay a short distance from it. A church has since been built here, and the bones of the martyrs collected and placed under it. The wooden arm of the cross is built in in some part of its walls. To the south can be seen the Palace of the Isonierana, and to the west is the hill called Ambohid-Zanahary, a conical hill, chiefly remarkable for its being cut by immense parallel trenches, about the origin of which there are several explanations. There is little doubt but that they were dug by order of Radama. One reason assigned is that he wished to level the hill similarly to the ground on which Isonierana stands, but that, the ground being too rocky, the idea was given up. Another explanation is that they were dug for the exercise of his troops in scaling such trenches, which resemble those around the fortified villages.

Tuesday, August 12th.—Mounted on a pony lent me by Rainikotovao (one of the richest men in the island) I accompanied the General, the Bishop, and Dr. Meller, together with Rabearana and Rabezandrina, both thirteenth honours, and who spoke English well, these two mounted on horses bred in the country. They took us by the north road as far as Ambatonakanga, where we turned to the west first and then to the south, a very circuitous, but the only practicable, way of reaching Mahamasina, the large parade-ground. Here we passed on our left the Government smiths' shops, and on our right a small garden of plaintains and a house were Mr. Chick had formerly lived. By the smithy was a small piece of ground overgrown with brambles, and containing the graves of Mr. Hastie and other English who have died at this place.

We crossed the parade-ground from north to south, and then ascended a hill forming a kind of isthmus between the southern suburb of the town and Ambohidzanahary Hill. The parade-ground is extensive, about 800 yards long, by 500 yards. After crossing this

hill we descended, the rocks of Ambohipotsy being on our left. Here is a small stream running along an artificial channel some feet above the level of the surrounding rice-fields, by which irrigation is facilitated. Still keeping to the south we passed through a street of booths, forming a bazaar, for the accommodation of the troops who paraded at Isonierana.

We now came to a circular plateau about 400 yards in diameter, forming the site of a low conical hill, which was cut away to form a site for the palace. Round this is a double row of aviary, the wild fig-tree, but they do not seem to have flourished much here. In the centre is the palace, a low building of two stories, built entirely of wood, spacious verandahs all round and large steep roofs of shingle. This was begun in 1824. The building consists of a centre and two wings, the two wings being longer than the centre and narrower. A circular gravel drive bounded by an iron-chain is immediately round the building, which is about 125 feet long, by 100 feet. The railing of the verandah at the north and south entrances is of iron-work, with the initial of Radama Rex in the centre. The name given to the site, Isonierana, signifies "a place well suited for inquiry." This magnificent palace, was afterwards claimed by M. Lambert for his so-called Madagascar Company, which was to rival the old East India Company, and establish French power in the East. M. Lambert declares that the deed of gift was made by Radama when he was yet Rakoute, and in 1855. Since then Lambert was banished the island, and I imagine effectually forfeited all claim to that which Rakoute had no power to give.

When we arrived at the palace there were about 2,000 men in a large hollow-square being drilled. They went through the manual very well. Very few, if any, having sheaths for their bayonets, at the word "Unfix bayonets" they threw their bayonets on the ground in front of them, making their points to stick in the ground. We entered the palace and examined its spacious rooms, of which there are nearly forty in number, and the pannelled walls and inlaid floors were very handsome. The ascent to the upper storey is by a curious winding staircase of very broad shallow steps, and twisting right and left.

After examining the palace, we rode together, with the exception of the Bishop, who left us, to the gardens of Mahazaoreeve, about two miles to the south-east. Passing under the south of Ambohipotsi, we skirted the bottom of the hill, and after crossing alternately hollows full of unworked paddy-fields and low hills of clay, with farm-yards and enclosures with cottages all built of the same, and presenting a burnt, dried-up appearance, we came to a small lake, on which, between it and the river beyond, are the gardens. These consist of a flower-garden, amongst which cabbages were conspicuous, a vineyard, peach-orchard, and large plantations of plantains. A few rofias and one peculiar pandanus are also planted, besides limes and fig-trees. The house is a comfortable bungalow with three small rooms and a large verandah all round, with steep shingle-roof; besides are carpenters' shops, kitchens, and summer-houses. This house is close to the lake, in which are several water-fowl, plenty of fish, and some magnificent water-lilies. The house is



under the shade of some very large trees, and is the coolest place for miles round. At some distance, on a hill between the lake and river, is a half-finished structure of stone, intended some day to form a banquetting hall. After examining this we returned home. In the afternoon I accompanied Rainikotavao and Andronisa to the country house of the former, a mile out of the town to the north-west, called Ambatomitsangana. Here Rainikotavao was building a handsome stone-vault as a tomb for himself and family.

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## CHAPTER III.

Parade-ground of Mahamasina.—Procession of the King.—Fête given by the French.—Dancing and dinner party.—The Tarpeian Rock.—The Water of Lies.—Primitive open-air court of justice.—Consecration of the King of Andohalo.—Imahamasina.—The Champ de Mars at Antananarivo.—The idols and their bearers.—The King's speech.—Dispersal of the clans.—Accident to the King—Royal coronation banquet.—Departure from the capital.—Revolution and death of Radama.—Conclusion.

WEDNESDAY, August 13th, 1862.—The Bishop, General, and Captain Anson this morning went round with Mr. Ellis to see the different spots where the Christians had suffered martyrdom.

Meller and myself went down to the large parade-ground at Mahamasina to see some sports which the King was holding there. This was the first time we had seen the King in public out of doors. The strange procession was very novel and amusing. First of all came some soldiers to clear the way, then the band, and then the Court in European dresses, two and two, men and women arm-in-arm—the women without bonnets, and rather extensive wreaths, &c. in their hair; the men in bright clothing, red trousers evidently being fashionable, frock-coats, and most of them affecting the same style of cap as the King himself, usually worn in undress, consisting of the top piece of the hump of an ox, tanned either in the form of a jockey cap or a French kepi. The King himself dressed in stout hand-woven undyed silk coat, trousers, skin cap. These caps they use to drink out of when they are thirsty, and on a journey they eat out of them too. The King was the last in the procession, and behind him a guard of soldiers, who also enclosed the whole procession on either side. Immediately behind the King came his Staff, the Commander-in-Chief, and his personal secretaries and aide-de-camp, all in plain clothes.

Behind the guards came the Tsimandoavavy, wives of the town body-guard, singing as they walked along and clapping their hands. The roads, walls, and houses on each side were covered with people, who kept up the cry of "Hoo-hoo-oo-oo-hoo-oo-oo" like humble bees, as the King passed.

After visiting the Queen's palace on the little island in the centre of a piece of water, called Lake Anosi, and connected by a *chaussée* with the shore, His Majesty returned to Mahamasina. Here the King and his party sat down, most of the French Mission with them, with the French Consul, Monsieur Laborde, Commandant Dupré, Colonel Lesselines (Commandant of Ré-union), Captain Mazieres, Marine Artillerie, Lieutenant Prudhomme,

de St. Maurs, and a few others. Caldwell and Wiehe, Wilmot, Wadling, Castray, and myself were the only English present. We were soon on good terms with the younger portion of the French officers, and though our knowledge of French and their knowledge of English was limited, the *entente cordiale* was a cure for this. The King was very anxious to see the Europeans ride, so we mounted as many of his horses as there were and raced, much to his edification.

After this we all accompanied the King to a small garden-house on the border of the parade-ground. Here we sat down on the grass, and some vermouth was handed round. We then walked up to the palace, but it was so dreadfully hot in the narrow, dusty lanes that I left the party and went home, after being invited to dine with the King.

At about 3 o'clock, accordingly, I went to the stone school-house, where they had already sat down to dinner. Curry and rice formed the chief part of the entertainment. Then the tables were cleared away, the band struck up some dance music, and they danced a sort of quadrille. Afterwards were some faster dances, in which we joined. The name of my partner, a lady of the blackest and ugliest description, was Rasandkazana. However, she was a capital dancer. I left very early with the French Colonel of Marines, in time to find our own party at dinner when I returned to our head-quarters.

Thursday, August 14th.—Spent the day with Caldwell and Wiehe. They always had plenty of visitors, and amused them with small india-rubber balloons filled with hydrogen, with which the natives were much astonished. In the evening walked with Dr. Meller under the east side of the palace, and climbed about the rocks after flowers, ferns, shrubs, &c.

The next day, Friday, being the fête day of the Emperor Napoleon, we all received invitations to a grand banquet given by the French Mission and Consul at the residence of the latter; we were also begged to assist at a grand mass at which their Majesties Radama and Rabodo would be present. The latter part of this invitation caused the Bishop much chagrin, and he sent round to all the English to say that if any of them went to the mass he would take it as a personal insult.

Friday, August 15th.—St. Louis, Emperor's Fête. This day was chosen by the French for the hoisting of their tricolour. Accordingly, at an early hour, about 8 A.M., that ceremony was performed at the French Consulate. Then followed mass, and at 3 o'clock in the afternoon we went in chairs to Laborde's house, in the courtyard of which was a large marquee ornamented by French, English, and Madagascar standards and wreaths, and the initials N.R.Y. all over the interior. Inside the marquee was a long table, and places for sixty people, and a handsome cold collation, flowers, plate, and glass, &c.

The company assembled in the adjoining house. The King, Queen, and their immediate attendants had already arrived, and directly after we had paid our respects to them, and the French Mission, the party adjourned to the tent outside, and we arranged ourselves round the table, our places being indicated by our names in our plates. The King and Queen sat at the top of the table, Dupré on the King's right, and the General

on the left of the Queen. Dupré made a long speech, and drank the King's health, coupled with Napoleon and Victoria.

After a little more speechifying the viands were attacked, and everybody's spirits rose considerably. All stiffness and dullness soon wore off, and laughing and talking and taking wine with one another was kept up with great success. I was fortunately situated next to the Commandant of St. Mary's, a very pleasant gentleman, and who has resided in Madagascar some sixteen years. On the other side of me was a trader, Soumaigne, a very noisy fellow, but who speaks Malagash well. Behind the chairs of the guests stood Malagasy female slaves dressed in white, with horsehair fans at the end of long rods to whip the flies from the table. Numerous servants, French and Malagasy, hurried about. The band played numerous airs continually outside, their intervals of rest being filled up by the singing women, *Tsimiriry*, who all, squatted in the shape of a triangle outside, all in white lambas, kept up a constant clapping of hands in time like "Kentish fire," accompanied by singing odes in honour of Radama. The entrance to the tent was guarded by men with spears and double sentries with crossed muskets. The whole courtyard was lined with soldiers, who lounged either sitting or standing as they pleased, all with bare feet, white trousers, white blouse, white rather ragged belts, and black pouches, and white caps with blue band.

As soon as it got dusk the King and Queen arose, everyone following their example, and we adjourned to the house, which was brilliantly lighted. The Bishop and General now took leave, but the rest of us stayed on, and dancing commenced, the Queen opening with a quadrille, in which Dupré was her partner.

About 10 o'clock the Queen's palanquin stopped the way. The King, assisting her in, walked himself, and, the guards falling in, the whole party in procession accompanied the King back to the palace. As this was an hour after gunfire, the whole place was in darkness and the people in their houses, but as the noise of the band was heard they rushed out of their houses and ignited torches and handfuls of dry grass all along the track of our route. This rude and impromptu illumination had a very fine effect. Where the procession passed were to be seen lights, and the men, boys, and women in white lambas risen from their beds to see the King and salute him, and light him up as he passed. The moment the procession had passed the lights were extinguished. The drums and brass instruments made the deserted streets rattle again in front. The fixed bayonets of the guards gleamed as they passed the torches, and the gay dresses of the Queen's female attendants, the palanquins of the Princesses all decked out in brilliantly coloured silk lambas, each followed by her retainer in white. The King on foot, surrounded by his *menemaso* and spears, and the whole capped by the crowd of singing women after, never ceasing their incessant "Clap clapper clap, clap clapper clap," and screaming at the top of their voices, the crowds who lined the walls and houses repeating in unison, like the waves of the sea, beginning softly, increasing the sound till very loud, and then gradually softening it—

"Tsa-ra-a a Tom-p q a."

We left the crowd at the part of the road nearest our mess-room, and were glad to have a quiet cup of coffee.

Saturday, August 16th.—This morning the English Consul and his lady, Mrs. Pakenham, arrived from Tamatave, accompanied by Doctor Mayeuse, a French doctor of Mauritius, only recently out of prison there for debt. As soon as the guns announced his arrival, Anson and myself went to his residence, which was a comfortable small house, with a nice courtyard and terrace overlooking Andohalo. Here we found them, and brought them to our mess to breakfast with us. They had had a good journey, but were very much disgusted at the place and the country. Their Marmites, too, had been very mutinous.

In the afternoon we were all invited to dine at the Commander-in-Chief's by the King. His Majesty is not present himself on such occasions, but directs one of his high officers to entertain at his own expense people whom he may desire, sending something to help him perhaps, but not always. On this occasion the King sent the host thirty dollars and the same number of bottles of wine.

At 3 o'clock, the fashionable hour for such entertainments to commence at Antananarivo, we found ourselves at the house of Rainilairivony, our host. He received us very hospitably, and led the way to the banqueting-room, a handsomely fitted and furnished apartment, a gallery running all round the room, the cornices and curves of the arches enclosing the gallery ornamented with small looking-glasses with gilt frames close to one another, and producing a glittering effect. A magnificent table, some twenty feet long by twelve feet broad, and corners rounded off, stood in the centre, covered with a profusion of candelabra and vases of flowers, and dishes of every description: ham, fowls, and geese, veal, beef, mutton, &c., dished up in a style which would astonish Gunter. All the dishes were cold. Having taken our seats, ladies between the gentlemen, we sat down to dinner, about the number of thirty. Soup was first served, and next an innumerable series of dishes, consisting of rice and different hashes, stews, &c., rice being the staple food of the people here from the highest to the lowest. Meantime the band played outside. We conversed as well as we could with the dark beauties next us, and at last the dinner came to an end, after a deal of speechifying among the swells at the upper part of the table. After dinner the General, Bishop, and Mr. Ellis left, but we continued, and the tables being cleared, waltzed and quadrilled for another hour.

Sunday, August 17th.—This morning early Mr. Ellis came to conduct the General and Bishop to one of the Malagasy chapels. Anson and I stayed at home, as the last Sunday the Malagash chapel had been so hot and crowded; besides, the entrance of Europeans into the place of worship only seemed to confuse and interrupt them. When they came back the Bishop performed divine service at our head-quarters, attended by all the English here except the Consul.

A rather novel incident took place to-day, showing how very much the Malagash customs differ from ours. In the afternoon Anson and myself were walking towards

Ambohipotsi, the most breezy part of the town, when we were met and stopped by Ramaniraka (the King's private secretary, who speaks English well), who said that Miss Razandkazana, the lady I had danced with on several occasions, was on her way to make me a present of fruit. The young lady then appeared herself, and her servants with two large baskets containing pine-apples, oranges, and vegetables, &c. I made suitable acknowledgments, and the fruits being sent to our house, we proceeded on our walk.

Monday, August 18th.—This morning up early drawing, &c. The Bishop and Dr. Meller leave this place to proceed to Tamatave. The presents having all arrived now at the capital, this day was appointed for Anson to present them to the King. As soon as the Bishop and Doctor had left we went up to Tranovola, the Silver Palace, where the presents had been taken, to unpack them and place them in order for presentation. We then returned home to dress in uniform, and at noon the General, Captain Anson, and myself proceeded in State to the palace, and waited for some time in the inner enclosure, where the King and Queen entered and examined the presents, with which they both seemed much delighted.

Soon after this was satisfactorily accomplished, the British Consul, Mr. Pakenham, and his wife were introduced to the King, and the former read an address to His Majesty and presented his credentials. We then retired.

Frequently of an evening we would either visit our neighbours, the most respectable Christian family in the island, or sometimes they would visit us. The name of the good man was Rabemolaly, a kinsman and Dekana of Rahaniraka's, his wife Ramasonaro. They had no family, but their cousins, Rafara Razavavy and Ravaomi-hanta, were generally with them, and sometimes Rahaniraka's small children, Rabefiniraka and Ratavy, would come with them. Before we had left the capital we became great friends with all these, and were constantly interchanging visits. This evening the whole lot of them came and drank coffee with us after dinner, and sang what I suppose they thought would interest them most, viz., the Malagasy hymns.

Tuesday, August 19th.—Draw a view of the capital, as seen from our mess-room. Walk with Anson to Ambohipotsy, descend the hill, and walk at the foot of Nampaminarina, the name of the rock 200 feet high from which the Christians were hurled but a few short months previously. There are two small peach-trees at the bottom which marked the exact spot where the mangled bodies were arrested in their course. Returning along the bottom of the rock we ascended up a narrow path which led to the cliffs below Andohalo. Here we found Caldwell's party, with Razafinkarifo, the chief of the *farantsa*, or civil police, shooting the numerous owls which abound here. The owl is a bird of ill omen, and is called *vorondolo*. At first the people were not pleased with the owls being slaughtered by "the whites," but they soon found that "the whites" suffered no harm, and soon little boys and urchins would bring us any amount of owls, snakes, chameleons, lizards, butterflies, &c. We kept some owls a long time alive in our mess-room, and a lot of chameleons soon got tame in my bed-room.

Wednesday, August 20th.—Before breakfast we finished letters, drawings, &c., to go by courier to overtake the Bishop and go in the *Gorgon* to Mauritius. (These letters never reached the island of Mauritius till the 7th December, having, I suppose, fallen into the hands of some French agent.)

Ramaniraka and Razanakombana, the two Assistant-Secretaries of State for Foreign Affairs, thirteenth honours, and aides-de-camp to the King, the former being also his private secretary, breakfasted with us. These two young men are the best educated here, being the son and nephew of Rahaniraka, the Madagascar Tallyrand.

After breakfast we rode out, I mounting the black horse given to the King last year, and the others their own horses. We rode to Anosi Palace, which we examined, and then to the south along an embanked road leading between the vast flats, the rice-fields of Betsimatatatra, and to the west of the farming villages, threshing-floors, &c., on the west slope of the hill Ambohidzanahary, round to Isonierana Palace, then skirting the south of the hill on which the town stands ascended to Ambohimitsimbona by a steep ascent, and, entering the stone-house, paid our respects to the King, who was receiving *nasima*, or tribute, from some Arab traders just arrived from Majunga, most likely slave-dealers. They spoke Malagasy well, apparently, and one of them spoke to me in English, and I found out he knew Captains Crawford, Oldfield, and Rigby. I suspect he had often had his dhow overhauled if not captured by one of them.

In the afternoon Anson and myself walked by some intricate paths to the small pond called Ranovitra, "water soon to be dried up," famous for its being the spot where all strangers used formerly to be taken to perform the *mively rano*, or the oath of allegiance, by striking the water. Above the pond rises the steep ravine forming a kind of amphitheatre, called Antsahatsiroa, where *kabarys* are held. Skirting the edge of the steep rock, in some places overhanging the depths below, we came to the top of Nampaminarina, the Tarpeian Rock of Tananarivo, which I have mentioned before. From here I sketched the town to the north.

Having expressed a wish to hear some good singing, the King this evening sent down his singing class under his private secretary, and although we had asked them to come after dinner, long before dinner we found our courtyard crowded with them. As soon as we had finished, however, we invited them in, and they sang us their principal national songs, accompanied by the usual clapping of hands.

Thursday, August 21st.—In the morning taking angles with compass and sextant. After breakfast walk with Anson and my servant David as interpreter with our chairs, and Marmites behind us, down the eastern slope of the town. Here we saw men with spears shouting to the people in the streets to clear the way, and everybody obeyed. With these men were women carrying pots of water on their heads, which we learnt was for the King, and no one is allowed to approach the King's water for fear of treachery.

Leaving the little suburb of Faliarivo on our left (here formerly in the time of the late Queen strangers had to wait till the *sikidy* had been worked to see if the omens were favourable) we took the road to Alasora, to the south-east, and here met a party of men

with a silver spear,\* which is the warrant of arrest here. It is called *tsitaliainga*, "the hater of lies." This is planted in front of the door of the house in which the accused person to be apprehended is. When that spear is thus planted no one, except the officers of justice, may enter or leave the dwelling. These were now on their way to apprehend one of the waiting-women of the Queen who had refused to perform her duty. Each district and clan, or subdivision, furnishes its quota of attendants, both male and female, for the King and Queen.

Passing these people we came to the small clay-built village of Ambosirouit, surrounded with the usual ditch and high clay-walls, near which is the country house of the late Prince Ramboasalam, consisting of a comfortable bungalow out-house and a square piece of water in front of it, the whole shaded by large aviary-trees and surrounded by a garden which nearly fills the small horse-shoe amphitheatre in which it is situate. A mile beyond this and we came to Mahazaorivo, which I have described before. We then returned another way.

Afterwards we visited the King at Ambohimitsimbona, near which there is a court of justice, and it is indeed a court, for there is no house, all cases being tried *sub Jove*. The system seems to be that the twelve judges so-called for a jury, and decide all the cases brought before them. If they do not agree in the decision the case is referred to the King himself at once; the jury of judges, criminals, and witnesses proceeding immediately before the King, who, after hearing the case, personally decides at once and dispenses judgment.

The King, with an undyed rough kind of silk (frieze-looking) suit of clothes and Hump skin cap on, sitting on a rough iron chair outside the half-finished stone-building, reminds one of Romulus of old. One of these cases had just been concluded when we arrived, and the court was being cleared.

This afternoon, for our amusement, the King ordered several Betsileo and other clan dances and songs; one of the *mirary*, or war-songs, was very characteristic. The female singers standing up and facing the west (the Sakalava country), brandished spears or sticks, pointed them in that direction, singing and stamping their feet, and exhorting their brothers, husbands, &c., to be brave and fight well. Most of the French were present, and the General, with Mr. Ellis, joining us, we had the whole of the performances repeated.

Friday, August 22nd.—Pay the Pakenhams an early visit, as well as Mr. Ellis. Receive invitations through Razanakombana for the whole of our party to dine with

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\* The silver oar of the Court of Admiralty of the Cinque Ports is a somewhat analogous institution. This has already been fully illustrated in the "Journal of the Archæological Institute," vols. xxix., xxx., xxxi., by Mr. Knocker, Mr. Albert Way, and more especially by Mr. Vernon, who has brought together a large number of examples of these oars, which served the purpose of a mace. To this day a silver oar, probably of the date of Henry VII., is laid before the judge of the High Court of Admiralty. A very diminutive silver oar, in a kind of brass *étui*, surmounted by a crown, belonging to the Corporation of Dover, and used as a kind of tipstaff by the water-bailiffs of that port.



Rahanarika to-morrow. After breakfast go to the *anzouma*, or Friday-market. This is always attended by a vast concourse of people from the adjoining districts. Every day there are several bazaars or markets in several places about the town, but the great market is on Friday. Besides this, three or four large markets are held at different distances from Antananarivo, all called by the name of the day of the week on which they are held. After going through the length and breadth of the market I left Anson to make purchases, and went through the suburb of Soraky and along the east shore of the Lake Anosi, sketching and taking angles. It was very hot, and I was very glad to get home. In the afternoon walk our usual stroll to the gun-battery at Tampombohitra. Not finding my quarters very comfortable this night, I slept in Anson's room, and continued to do so till we left.

Saturday, August 23rd.—Early in the morning proceed to the top of Nampaminarina, sketch, &c. It is intended to build a church here. Went up to Caldwell's, where I found them entertaining some Malagasy, amongst whom was Razaimbolamena, the daughter of Andrianmandrose, the Governor of Tamatave. She was dressed in white cotton gown with odd frills and a ruff like Mary, Queen of Scots. In the evening dressed and went to Rahaniraka's. All the English except Mr. Ellis and Pakenham were present, besides Lieut.-Colonel Lesselines and Dr. Vinson. Like all Malagasy entertainments, the dinner was very tedious. Heard news of Lambert's approach, and that he had crossed the Mangoro; also that he had lost a man by a crocodile in crossing a marsh near that river.

Sunday, August 24th.—Anson and the General go with Ellis to the Malagasy service, and I visit Razanakombana, and make the acquaintance of Rahaniraka's second wife's family, Ratavy and Ranavirakarivo (one who can send a thousand men). At 11 o'clock Anson read service at the General's, all the English except Pakenham and Ellis being present. Walk to Isoaerana in the evening.

Monday, August 25th.—Before breakfast measure a base on Mahamasina with Anson.

Lambert, whom Radama had sent to Europe as his agent, makes his entry into the capital to-day, and we were all invited up to the Palace to witness his official reception. We arrived at the Court about 11 o'clock, and waited in the verandah of the smaller, or Silver Palace. Presently the Queen entered in her palanquin with her little ward, the great niece of Radama I. The Commodore and the General then entered with the King, and we all followed. We had not long taken our seats when Lambert was announced as being close to the Palace, and the band striking up next, declared that he was entering the palace-yard.

In a handsome palanquin of scarlet and gold, preceded by two white silk banners, and dressed in the uniform of a French *Maréchal*, this great charlatan made his entry, dismounting from his chair and followed by a small staff of a few credulous people who followed him from France, and by some adventurers from Bourbon. He came through the doors of the Silver Palace, and advancing to the King, who stood up, he embraced the King and kissed him on both cheeks. The King looked much disgusted, and evidently

did not appreciate the style of proceeding, whilst the Hova nobles showed unmistakable signs of indignation at his audacity. Laborde, who always makes himself a sort of master of the ceremonies, as soon as the King was seated, caused chairs to be brought opposite to the King, in which Lambert and his party seated themselves. Conversation became general. Complimentary speeches, &c., from everybody, the British Consul always speaking French and having his words translated by the French Consul, Laborde. We left soon.

This afternoon sketched the town from Ambohipotsi. Whilst at dinner got a letter from Rahaniraka that the King wishes to see me. I accordingly go to supper with Radama at Ambohimitsimbona, and have a long private interview with him on very important subjects which I cannot write here. Amongst other things he wished much to keep me with him after the rest of the Mission departed, &c.

Tuesday, August 26th.—Painting before breakfast. Visit Rahaniraka, and afterwards his son and cousin. Ratavay Ramasonaro, and Ravao-mi-harta came, dressed to the nines, to have their pictures taken.

In the afternoon Anson and self visit the King; find him with Mr. Ellis in the small cottage north of the stone house.

Wednesday, August 27th.—This morning the Queen sends us a present of fruit.

The French urge on their treaty with the King; Lambert and Laborde take Pakenham with them to show them that the English coincide with the French views.

Dinner-party at our mess. Dupré, Laborde, Devvatre, Colonel Lesselines, Rahaniraka, Rainilairivony, the Commander-in-Chief, Lieutenant Wadling, besides ourselves.

The Queen being very old, the King, it must be known, does not live with her, but his second wife, called Mary, who lives at Ambohimitsimbona, is in reality his consort, though never recognised in public. She was confined of a son the day after we entered the capital. She is married *pro forma* to the King's chief *menamaso*, or red eye. The *menamaso*, or red eyes, are a party of young noblemen who have sworn to defend the King, and they never lose sight of him; some of them continually on guard against treachery, with which the country is very rife at present, all sorts of intrigue and plots having been discovered and nipped in the bud.

Mary, who has now lived with the King for many years, was most devoted and active in saving the persecuted Christians from death during the late Queen's reign, and hid them and supplied them with the means of escape, and with money, &c. Ellis and the missionaries recognise her, but I believe the Bishop of Mauritius wishes much to bring about a divorce of the Queen by the King, and then for him to marry Mary. This would be impossible. It was debated a long time whether we ought to visit Mary. At last the General decided that it would be politic, and accordingly he paid her a visit to-day, and made her a handsome present. The King consults Mary on nearly every question of importance.

Thursday, August 28th.—This morning, greatly to the disgust of Ellis (who, the

previous day, had told us of his being the only one who was allowed to have anything to do with the Queen's adopted child Tahiri, "the watched one," the present heir to the throne), the boy Tahiri, without any warning, was taken from Ellis and taken to the Jesuit school lately established here. Owing to the influence of Laborde the General corresponded with Duprè on the subject, who says that the whole affair is beyond his province.

Anson and myself explore that part of the town beyond Andohalo, which the King is not allowed to enter, to the east of Ambalonakanya, and back through Analakely and Faravohitra, the place where the nobles condemned to death for professing Christianity were burned to death.

Caldwell, who has obtained at last some grants of land at Vohemar, &c., from the King, meets Lambert at Court, and has a great row with him.

Packenham writes to the General to ask the reason why, as British Consul, he was not asked to the official dinner at our mess yesterday. By the General's direction I write back to Packenham, the drift of the reply being that he was too sensitive.

The French have lost what they have been trying for so long, in fact bullying and forcing the King to grant to them in the ostensible name of Lambert and a Franco-European company (at present a myth). This company were to have had the exclusive right of trading along the whole coast from Tamatave, round by Vohemar, Fennerive, Antongil Bay, Diego Suarez, Majunga, Bembatooka, and the ports on the west coast, as far as Fort Dauphin on the south. But Caldwell obtaining a patent to plant and track anywhere has broken this exclusive privilege by which the French hoped to monopolise the whole Malagash trade.

Friday, August 29th.—Paint till breakfast. Visit Rahaniraka as usual, who keeps us *au fait* to all that is going on. It is much to be regretted that, in consequence of what is going on, the details of which I am unable to give, we cannot leave the capital to explore the country in any direction, though I had promised myself the pleasure of proceeding to Lake Itasy, in the west, as well as the cataracts of Farahantsana. The General however, having given me leave to stay after the Mission left, at the request of the King, I put off all further idea of visiting the west till that time.

Go with Razanakombana to the house, called Maromaditra, from the verandah of which I make a sketch of the entrance to the Palace-yard. Receive a long memorandum from the General relative to what I am to do and what his wishes were in respect of my remaining in Madagascar. Walk towards Andriasova and sketch. Hear that the missionaries have arrived at Ambatomanga.

Saturday, August 30th.—After a very early breakfast, take my chairs and bearers and set off to meet the missionaries. I pass Andriasova, and meet them near Betafo. Two ladies, Mrs. Davidson and Mrs. Toy, both extremely knocked up by their journey, and their husbands, besides Mr. Stagg and an interpreter, a man named Adams. This interpreter could not speak a word of English, only Creole and Malagash, so they had had difficulty in making m understand. We stop at Andriasova to get some tea m

for the ladies, who were rather exhausted, and then entered the capital, where we were met by Ellis, who showed them their quarters. Letters from the Bishop, Castray, and Meller, by the missionaries.

Sunday, August 31st.—Go to see the missionaries before breakfast to see if they want for anything. Supply them with milk, &c. Divine service at the Embassy. Colonel Lesselines visits us. Anson and self go to Caldwell. Meet Ellis and proceed with him to Ambohimitsimbona to hear him preach to the King and Court. That over, we walk over Isvaurana to the conical hill Ambohidzanahary, and thence get a fine panorama of the palace, town, and surrounding country.

Monday, September 1st.—This day we had arranged some games to come off at Mahamasina, and at about 11 o'clock the King and his Court proceeded thither. We had got the strongest Marmites in the place, and picked some good teams amongst them, and these were to race. The race was round the Champ de Mars, and the bearers with little Rabefamiraka won. Next followed a flat race, and then a race for boys. We then adjourned to Anosi, and had a race in canoes. The King was much astonished that none of the French sailors ventured to race against the English soldiers. The consequence was we had it all to ourselves. Next followed a steeplechase of palanquins and bearers from the top of the conical hill, Ambohidzanahary, and then we go to the French Consul's, where we were all invited to tiffin.

In the afternoon the King sent for me and introduced me to Mary. She is very intelligent, but anything but good-looking, according to our ideas. Afterwards, we returned to the King's private rooms at Ambohimitsimbona, when he insists upon my staying in Madagascar, promising me anything I like. I can only tell him that I am a servant of the Queen, and without permission I cannot enter his service, and yet keep my commission, &c. He, however, persists in calling me his aide-de-camp, which he always called me afterwards.

The King then proposed visiting the General at his house, and I sent a message to let him know, and accompanied the King myself there. The King and staff dine with the French.

Tuesday, September 2nd.—Up early and visit Rahaniraka with letters from the General, then, with Ramaniraka, to the King's morning *levée*, meet the Commander-in-Chief, and wait for the King's arising. He soon after enters, and after some conversation retires to breakfast, and I return to mine at home. Go to Caldwell's and draw the likeness of Rambousalam's daughters, Raketaka and Razanjazaza. Visit with Ramaniraka, Ralefoka, daughter of Prince Ramonja, and get an account of all the different modes of wearing the hair, the plaiting, &c. (See "Memoirs, Anthropological Society," 1867, Illustration, p. 17.)

In the afternoon visit the King again with Anson, also our Consul, Pakenham, and the missionaries, three more having arrived.

Wednesday, September 3rd.—Go early to attend the King's *levée* with Laborde. A family kabary, or council was sitting, so we had to wait till it was over. Visit Ellis,

Lambert, who is ill of fever, and the missionaries, with whom I breakfast. To-day being appointed for the reception of the missionaries by the King, we all proceed to the Miadamafana, the Queen's palace. The King in plain clothes and the Queen in morning dress. Ellis made a very good introductory address. In the afternoon visit Rahaniraka, and gain much information about the formation and discipline of the present army of Madagascar.

This evening we entertain at mess the King, the Commander-in-Chief and Rahaniraka.

Thursday, September 4th.—Attend the King's morning *levée*. Laborde brings the French treaty, and the King refers him to his ministers.

Walk with Rainikietaka and his family, to introduce them to the missionaries, and then with the General and Anson to Ambohimitsimbona, to hear the new band play on the instruments we had brought out.

Walk with Anson to Ambohipotsi, and, descending the rock, skirt the eastern portion of the town, and return.

Before dinner Rahaniraka, accompanied by Ellis, brings the Madagascar text of the proposed French treaty, to see if the English can offer any suggestions about it. Accordingly we sit up to near midnight, discussing the articles of the treaty, and Rahaniraka writes down all the objections and suggestions to be laid before the King to-morrow.

Friday, September 5th.—Attend the *levée*. Witness a family kabary outside the Manjakareny, the small house where the King and Queen breakfast. The King and Queen addressed the people in turn from a small window, through which you could only see their heads and shoulders. The people sitting round in a semicircle, whilst their elders addressed the King and Queen in turn.

Breakfast at Caldwell's, and visit Ellis with Anson; then to Rainikietaka's house, where we are received by himself and wife and family. Then call on Lambert with Anson, and then on the missionaries. Take Mrs. Davidson for a walk through the Friday Market. The people crowding so to see an English lady that we could hardly force our way through. Visit the Consul, Pakenham, who is bitter in his invectives against the missionaries, who have not called upon him.

The *Gorgon* arrived at Tamatave to-day (as we afterwards heard) with Maule and Newton on a shooting excursion on the lakes. The next day she left, taking the Bishop and Dr. Meller and Mr. Castray back to Mauritius.

Saturday, September 6th.—Before breakfast go to the *levée* as usual. Rahaniraka reads the French treaty to the King, and they ask me several questions relative to it.

Laborde appearing, Rahaniraka bundles the treaty into his pocket and soon retires. Laborde has news from Europe, but no letters come yet for us. In the afternoon go with Wadling, Wilmot, Caldwell, and Wiehe to Ambohimitsimbona. The *Gorgon* left Tamatave to-day with the Bishop and Dr. Meller.

Dine with the King at Ambohimitsimbona; the dinner consisting of soup maigre with bread in it, and large dishes of rice, and different hashes called curry, though not a vestige of curry-powder about them.

Sunday, September 7th.—In-doors all the morning. Anson reads service at 11; Wilmot, being ill, does not appear. The whole of Caldwell's party stop tiffin with us, and at 3 P.M. we all go to the stone house to hear Mr. Ellis preach to the King. We waited some time whilst the Court were all present waiting for the King, who was detained by the French Consul about the treaty, and I had a good opportunity of noting the scene.

The room in which we were was oblong, some thirty feet by twenty, walls and flooring all of stone. The roof flat, of strong timber, painted white. The Court, both ladies and gentlemen, sat round on long benches, with sloping tops to write upon, and forming a kind of desk. These were all round the room; all the members lolling, most of them with their heads on their hands, and some of the fairer sex chewing tobacco, or rather snuff, which they appear much to enjoy; nearly all the gentlemen of course did the same. This snuff, which is taken rolled up under the tongue, causes a considerable amount of expectoration, at which some of them were great adepts, the Honourable Miss Rafara being particularly conspicuous in this respect. A pulpit stood in one corner for Mr. Ellis, from which, as soon as the King had entered, he addressed the people, occasionally stopping to chide some of the congregation for talking or sleeping. They all appeared very indifferent, except to the hymns, in which most of them joined with more vigour than harmony.

When the service ended we took our leave, and being chilled by the long service were glad of a run at Ambohipotsi.

Monday, September 8th.—The King having appointed an interview with the General, get up early and go to find him. Find him at Mr. Ellis's. Accompany him to the Palace, and after a not very interesting interview with the King, come back with him to breakfast.

The King and all his Court go to Sonierana Palace to-day, and we all go too. After a race of Marmites and palanquins, flat race of horses, &c., the King, by special desire, ordered a kicking match to be played, as it was one of the national games, and we were very desirous of seeing it.

Some of Rainikotavao's slaves instantly stepped forward, and a circle being formed by the soldiers, and their challenge accepted, a pair commenced the game. Advancing nearly in a state of nudity, they cautiously approached one another, dodging and feinting, till one turning round caught the other nearly in the face with the back of his foot, but, missing, was at the same time hurled to the ground by a kick in the small of his back, well aimed by his antagonist. This made the first round, and others, with varying fortune followed, which I need not describe. After the combat two sides were formed, about a dozen on each side, who, holding one another, advanced line against line till the line was broken, and each man singled out his opponent and a regular *melee* was the consequence, ending, after a fierce struggle, in one side being beaten off the ground.

Rainikotavao's slaves, twelve in number, were the victors, and so complete was their victory that no one dared faced them, and it was not until they offered to fight double

their number that any more combatants offered themselves. Another fight then took place, when the populace, enraged at their *protégés* being beaten, joined the *melée*, breaking the ring, and Rainikotavao's men were forced to flee. In vain the troops would stem the torrent and the rush of the dense crowd, and the poor Marshal, a man grown grey in the service, was himself bonnetted and knocked over. Everything, however, was done in the greatest good humour, and no one was really hurt or injured the whole of the afternoon.

This being a good opportunity for rifle-shooting, the King had his Wilkinson rifle (which was presented him by Queen Victoria) brought out, and proceeding to the circle of trees that surrounds the Palace, we fired a few shots at a canoe about 250 yards off and some fifty feet below our plane. The people were all astonished at the accuracy and range of the rifle. The King fired the first shot himself, and was not very wide of the mark. We afterwards fired at 1,100 yards, to show the extreme range of the rifle.

In the afternoon, about 4 P.M., we walked back in the ordinary procession, two and two, the band leading, and the Guards as I have before described them. After dinner went with Anson to the Davidsons. Dr. and Mrs. Davidson were as usual most cordial and friendly; Ellis, who is a first-rate and energetic man, and a good friend to the Malagasy, was there to meet us.

Tuesday, September 9th. During the night some rain fell, but barely wetted the ground. Paid Pakenham a visit, and fixed Friday for their coming to dine with us. Call on the French Mission, and find them nearly all at breakfast, Dupré, Lambert, &c., and Staff. They were all very cordial, especially the young lieutenants.

French Treaty not signed yet. The point on which they stick now is about the authority the Malagasy Government is to have over foreign, and especially French, fugitive sailors, deserters, &c.

Visit Pakenham again. The Commodore, Jules Dupré,\* remarks to me that the General has not returned his visit, so we invite him to dine to salve his peace of mind. In the afternoon I take Mrs. Davidson out for a ride in a palanquin, as the poor lady seldom gets out, her husband being so busily employed. We took a long round by Isonierana Palace, and back in time for dinner.

Wednesday, September 10th.—Up early and to the palace. Meet Laborde and Lambert, the latter bringing some decorations which the King had commissioned him to obtain in Paris. There were three classes, very similar to the Legion of Honour. The prices of these seemed to me exorbitant, being 100 dollars for the grand cross, 50 dollars the second order, and 12 dollars the lowest. They were from Kretty, 45, Palais Royal, Galerie Montpensier.

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\* Vice-Admiral Jules Dupré died in 1880 at Paris. He was born at Strasbourg in 1813. He commanded the *Tonnante* at the bombardment of Sebastopol, and also served in the Cochin-China Expedition. He became Governor of Réunion in 1864, and was made Governor of Cochin-China in 1871. During the Franco-German War he blockaded a number of German merchant ships in Chinese and Japanese ports. He had some chances of becoming Minister of Marine when MacMahon was President.

Laborde then read letters to the King (translating them as he read them) from the different Governments in Europe and America, or rather from their representatives at Paris, congratulating the King on his accession to the throne. These were from Portugal, Italy, United States, Sweden, Norway, Prussia, Belgium, Turkey, Denmark, and an autograph letter from the Pope in Latin. The Queen being sent for to hear these, they were again read over.

This morning after breakfast paid a private visit to the Silver Palace, examined all the rooms, and took measurement, &c. of it. After this I drew a portrait of the Princess Ralefoka, Ramonja's daughter. She is a young widow, and *the court beauty par excellence!*

Thursday, September 11th.—To-day we had invited the King to dinner, and were occupied most of the day in preparing for it. We sat down in the following order:—Oliver, Ramaniraka, Dr. Davidson, Mr. Ellis, the King, Mrs. Davidson, Ra Haniraka, Commander-in-Chief, the General, Rainikietaka, Captain Anson. The Davidsons left early, and the rest of the party sat late, the conversation chiefly turning on the merits and demerits of the medicine called *radama*, a plant that grows on the walls of the houses and enclosures of Antananarivo and neighbourhood, with which some wonderful cures have been effected it is said.

Friday, September 12th.—French Treaty signed at noon to-day. All the French present, and the General, myself, and Ellis. The French Treaty is read in Malagash and French, but having copied it before we knew well what the terms of it were.

Another dinner-party to-night, Pakenham and Mrs. P., Dr. Davidson, Mrs. Davidson, Mr. and Mrs. Toy, and Commodore Dupré.

Saturday, September 13th.—Attend the King's morning *levée*, and obtain the details for the ceremony. At Ra Haniraka's all the morning drawing Antsahatsiroa, the Kabary ground, and the town to the north of it. Afterwards make a drawing of Ramaniraka's wife. She was preparing her coronation robes. All the princesses of the blood are to wear scarlet close-fitting bodices, and skirts long behind, so as to form a train. The bottom of the skirt is studded with gold spangles, for which they were very anxious to get some sovereigns, which were beaten thin and then cut into little spangles. It took several sovereigns in this way to ornament one dress. In the afternoon draw at Ambohipotsi, visit Davidsons, dine at home, and spend the evening at Caldwell's.

Sunday, September 14th.—All in bed till later than usual. Breakfast at 10. Divine service at 11. Service at the stone-house at 3 o'clock, where Ellis preached as usual. Afterwards walked to the north-west suburb of the town, and examined the tomb of the late Prime Minister and Commander-in-Chief, father of the present one. The tomb is called *Fas an Rainihiaro*, "The tomb of Rainihiaro." It is built of hewn stone, and consists of a square terrace, each side of about sixty feet. A colonnade runs round it of nine arches with plain pillars; on the top of this terrace is an open, square enclosure consisting of four stone arches on each side, the pillars at the angles being cut rather fantastically. A



headstone stands on the eastern side, both above and below. On the north and south sides is a minaret. The whole stands in a large polygonal area, surrounded with neat thatched houses.

Monday, September 15th.—To-day we gave a grand pic-nic at Mahazaorivo, the pleasant grounds of which are well adapted for anything of that kind. There was an immense party, and the French in great force. We spread a sheet for the table-cloth on a shady plot of grass, sheltered by an avenue of banyan trees; but this not being near large enough we spread plantain leaves at the lower end to serve the same end. Meantime the cooks were at work and made huge dishes of soup, curry, and the unfailing rice. As soon as this was ready we all sat down, to the number of at least 200, the band playing at a short distance from where we were. It all went off very pleasantly and agreeably. But we found it a long way home walking in procession, and the steep ascent into the capital drove us all into our palanquins.

Following are a few notes of the origin and associations connected with these Royal Botanical Gardens.

The village of Mahazaorivo is distant from Antananarivo, the capital of the Hovas, about two miles to the south-east. Here nearly fifty years ago King Radama I. established a small cottage residence for himself, and had the grounds surrounding it laid out entirely under his own superintendence. Here he collected all the plants, shrubs, flowers, &c., introduced by foreign visitors to the country; and as the height of Mahazaorivo above the sea level is at least 2,000 feet, although within 19° south of the equator, the climate is such as to admit of many European plants living, if not flourishing. It was the intention of the first King of Madagascar to have rendered the collection of Malagasy indigenous plants as complete as possible—an intention, however, which has never been realised. The cottage residence is extremely homelike and without pretension, and consists of three rooms encircled with a wide verandah—with outhouses, &c., attached; the interior being fitted up in the French style, which is looked upon as fashionable by the Hovas. Close within the gates of the front entrance the King, Radama the Great, formed with grass turf the letters R. R., for Radama Rex, one on each side of the great path to the cottage. Radama was born in 1792, and was, therefore, thirty-four years of age when he commenced his botanical garden at Mahazaorivo in 1826.

“Radama,” said Captain Moorsom, of H.M.S. *Ariadne*, “is an extraordinary man. His intellect is as much expanded beyond that of his countrymen as that of the nineteenth century is in advance of the sixteenth; but his penetration and straightforward good sense would make him remarkable under any circumstances.”

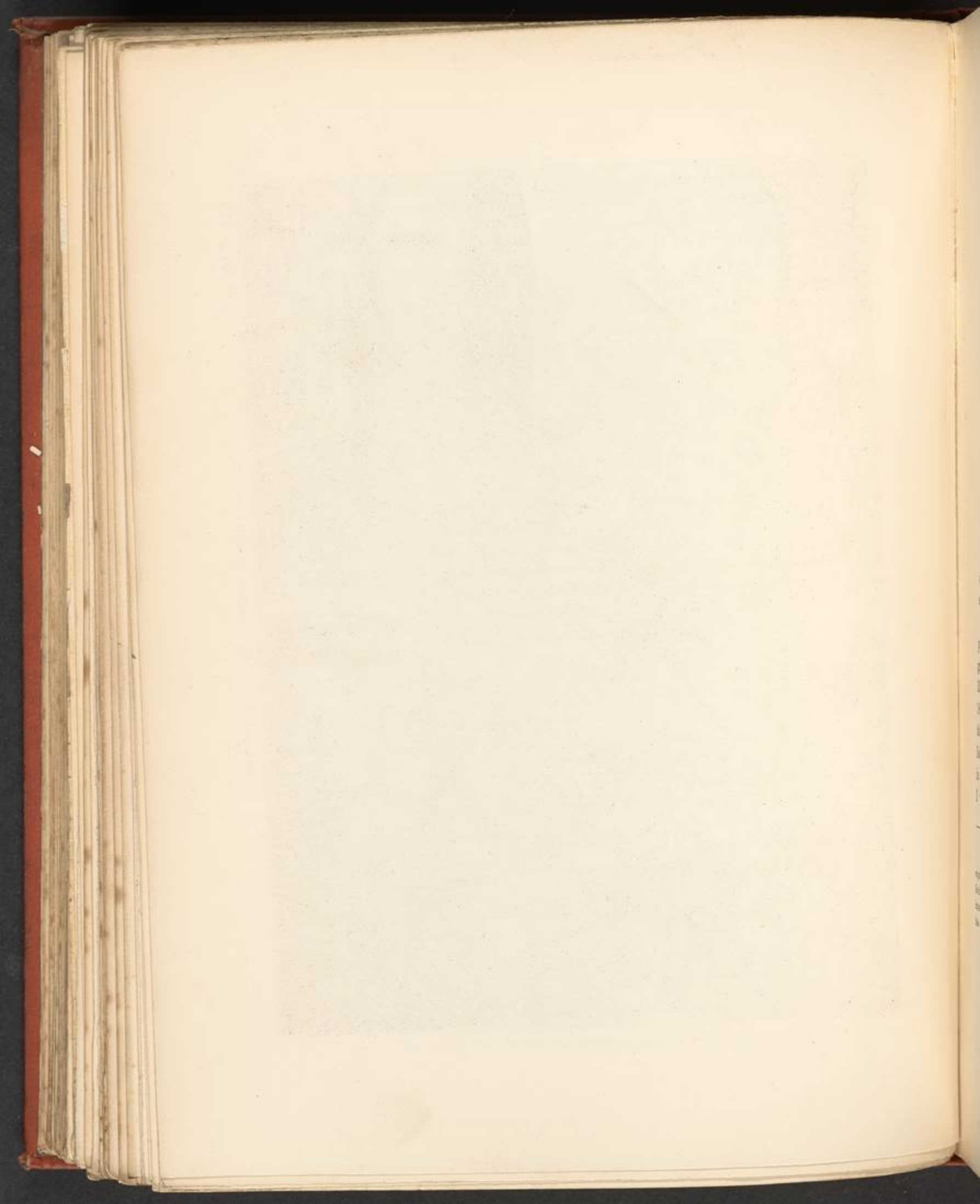
The garden is nearly encircled by one of the feeders of the river Ikiopa, which flows into the Mozambique Channel, and, besides, there is a small lake, on whose banks are some borassus and rofia palms (*Raphia ruffia*), planted by the King, who also stocked the waters of the lake (which is, probably, partly artificial) with water-fowl, turtle, and fish, eels, &c.

Mahazaorivo was a favourite resort of Radama, and after his death and burial in July,



THE ROYAL BOTANIC GARDEN OF MAHAZORIVO.

[To face p. 186.]



1828, his *matoatoa*,\* or "ghost," was popularly supposed to haunt the precincts of the royal garden; for here on one moonlight night the keepers and gardeners saw his apparition parading up and down, apparently dressed in one of the uniforms which, according to custom, had been buried with him in his solid silver coffin, and riding on one of his best horses, which had also been slain opposite his tomb in the palace-yard. The terrified ghost-seers, scared out of their wits, bolted as fast as their legs would carry them off to Queen Ranavalona Mpanjaka, his successor on the throne, and informed her of the supposed supernatural re-appearance of the buried monarch. Her Majesty sent for her ministers, and a solemn appeal was made to the divination of the *sikidy* (a species of oracular incantation), after consulting which the chief minister, the venerable Andriamamba, accompanied by the idols, their keepers, exorcisers (*mososa*), and priests, proceeded to Mahazoarivo, where a bullock, with its four legs tied together, was solemnly sacrificed after having had holy water poured upon it by the Senegala. Prayers were offered to Zanahary the deity, and the spirit of Radama adjured as to why he came there to disturb them. Had they not buried property enough (over 10,000 dollars, besides personal property) with him in his tomb?—was it not that he of his own accord turned his back upon them, and not they who drove him away? &c. These remonstrances appear to have had their effect in exorcising the restless spirit of the deceased sovereign, and he never seems to have taken any more moonlight rides around the domain of Mahazoarivo. This story was related to a missionary of the London Missionary Society by some of the spectators, who firmly believed in the whole transaction.

Ranavalona did not neglect these pleasure-grounds, and commenced building a country palace, or banqueting hall, of solid white stone masonry, on the highest part of the grounds. It was here, an appropriate spot, that Prince Rakotond and his wife, the Princess Rabodo, first entertained the "Apostle of Madagascar," the missionary William Ellis, in 1856, during his first visit to the capital. Ellis especially remarked the avenue of bananas, the fruit of which are very fine; in fact, finer than any he had seen in the South Sea Islands, Mauritius, or Ceylon. Speaking of the vines, he says, "the latter were planted in circular holes about two yards across, and eighteen inches or two feet deep, which mode, I was told, prevented their being burnt up in the hot season. They appeared to require

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\* Other Malagasy ghosts and shades of the dead are the *ango-dratsy*, *ambiroa*, and *lolo*; the latter equivalent to the imago which emerges from the chrysalis. There are also "wraiths" or "doubles" of living people called *fahasivy*, and animated skeletons called *kinoly*, answering to our "bogy!" All these interesting but uncomfortable subjects are popularly supposed to inhabit dismal caverns and ravines under the Ambondrombe mountain range, in whose depths uncanny noises are wont to be heard.

"Hark! forth from the abyss a voice proceeds—  
A long, low, distant murmur of dread sound,  
Such as arises when a nation bleeds  
With some deep and immediate wound;  
Through storm and darkness yawns the rending ground,  
The gulf is thick with phantoms."

"Childe Harold."

pruning, but were said to bear good grapes. I was pleased with a fine palmyra tree, and some good specimens of rare indigenous plants."

Ellis relates in his "Madagascar Revisited," how he was invited to accompany Queen Rasoherina in 1863 to a *fête champêtre* in the same gardens. He again remarks, "There were a number of peach and other trees which appeared to want pruning, but the loquat, orange, and citron were thriving remarkably well, and the number of vines under culture had greatly increased since my former visit. The grassy turf was our seat, and freshly plucked banana leaves served for table-cloths."

Besides rice the Malagassy cultivate maize, manioc, arrowroot, and several varieties of yam, also sweet potatoes, French beans, peas, and most of the European esculent vegetables, besides many valuable roots that grow in the plains, woods, and valleys without culture. The potato has been introduced, but onions are exotic. Leeks, pumpkins, and melons, with many agreeable and wholesome vegetables resembling greens or cabbages, and others that have thick and pulpy leaves, are eaten by the people. Their fruits include pine-apples, oranges, lemons of various kinds, citrons, peaches, figs, bananas, and plantains, Muscat grapes, Cape mulberries, also a fruit somewhat resembling the guava, mangos, pomegranates, loquats, and pistachio nuts. Native-grown coffee is good, and plenty of sugar is now made on the coast. Milk, butter, and honey are procurable in the market at Antananarivo.

How the gardens at Mahazoarivo progress under the present mild and Christian monarch, Ranavalona, who now reigns over the Hovas and neighbouring tribes, we have no recent information, but doubtless there is little fear of deterioration. It will be a long time before the vast forests on the mountain-sides of the interior of Madagascar disappear, but as soon as the ubiquitous miner commences the unearthing of the prodigious mineral wealth contained in the island, the woods will vanish like magic.

Following the example of the American Government, which has preserved the grand group of Sequoias at Mariposa, and put aside as a people's park a large district of the Yellowstone region, the Malagassy Queen would do well to reserve a royal piece of primeval jungle in the depths of the Analamazaotra forests, to be kept sacred from the axe of the pioneer; whilst a more tropical garden might be prepared on the coast in the neighbourhood of Tamatave.

The accompanying drawing is copied from a water-colour sketch, drawn on the spot by myself in August 1862. It shows the stone-house on the hill in the centre, and the rofia palms planted by Radama I.; on the right is the lake, aquatic fowl, and plants; conspicuous amongst which are enormous water-lilies and the yellow-blossomed *volandrano* (hair of the water) with *Aponogeton distachyon*.

Tuesday, September 16th.—To-day there was a grand muster of troops on the ground at Mahamasina, and a rehearsal of the arrangements that would be made on the Coronation Day. From the General's house we had a capital view of the manœuvres on the plain beneath us, and a very imposing sight it presented. The country all around is snow-dotted with tents, &c., the camps of the soldiers and their families, who have come from a

distance. Visit the King with the General; afterwards in my chair to Isonierana Palace to sketch.

Wednesday, September 17th.—Start for Miarinarivo to see the iron mines. I met Caldwell as I was returning from the palace in the morning, and he told me that he was going to Miarinarivo; so I got leave from the General, and started about 9 o'clock with Caldwell, Wadling, Wilmot, and Wiehe. We passed south-east of Mahazaoreve, and skirted the river for some distance till we came to some downs, the tops of which were covered with scattered masses of quartz. Leaving Ambohipen on our left we passed under the tall hill on which stands the picturesque village of Ifandan, and came to the village of Antanamalaze, and afterwards through some deserted and wild passes through a rather mountainous district, till we found ourselves south of the queer-topped mountain which you see from Ambatomanga, and we arrived after dark at Miarinarivo, where we were speedily accommodated with shelter in the house of the chief.

Thursday, September 17th.—Early this morning we examined the mines, which, after all, are nothing more than small excavations in the side of a hill, whence the ore, in the shape of sand, is obtained, washed, and afterwards put in alternate layers of charcoal in small cupolas built of large stones and lined with clay. A blast is kept up by means of double bellows, consisting of two hollow trunks of trees with a rude piston worked by hand; the air is forced from an orifice at the bottom through a small pipe into the cupola. All was of the rudest description, and on a very small scale. Monsieur Laborde, however, has some rather extensive works\* further towards the forest, but I was unable to go to see them. As I was in a hurry to come back I did not even stop for breakfast, but started straight back alone to Antananarivo, where I arrived in the evening, almost burnt to a cinder by the mid-day sun.

Friday, September 19th.—To-day for the first time we were admitted inside the Great Palace, or as they call it "Manjakamiádara," which has been closed ever since the late Queen's death. It consists of three immense rooms, one over the other, and some very small ante-rooms at each end of them. Each of them has an immense verandah or balcony, the top one having projecting eaves like the points of an umbrella. This was built in 1841, designed by the late Queen; the smaller palace, *Tranv-vola*, being built in 1846 for the present Radama and his Queen Rabodo. There is a long ramp at a gentle incline which leads from the late Ranavolamanjaka's house, on the eastern side of the *Anaty Rova*, to the first balcony. The whole is painted white from top to bottom. The attics were spacious, and the whole but poorly furnished. One part of the room in each floor is railed off and never used, being sacred, in consequence of the body of the deceased monarch having been placed in this part of the house. A part of the large room at the bottom is screened off, where the King bathes in public at the new year.

This afternoon all the prisoners concerned in the late conspiracy to place Rambousalam on the throne were released by order of the King, and great rejoicing caused by the

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\* At Soatsimanampiovana.

general public amnesty proclaimed on the occasion of the coronation. The King dined privately with us the same evening, in honour of the event; whilst the cannon under the trees at Ambodinandohalo thundered a royal salute.

Saturday, September 20th.—Went with the King to Ellis's to see the King's likeness taken, as Ellis is very anxious to get a good profile of the King, in order that coins may be struck at home with his likeness on for circulation in Madagascar. The photographs were very successful.

Sketched with Anson about the town, and in the evening he and I dined with the French. I sat next to Lambert, who, after dinner, got very excited and declaimed loudly against Ellis, saying that he attempted his life in the Ida Pfeiffer affair of 1859. Pakenham was also there, and his opinion of Ellis was as unflattering and outspoken as Lambert's.

Old Dupré and the young French officers were very jolly, and Laborde is always very polite. In the evening I walked home with Pakenham and Mrs. Pakenham to their house, which they have made now tolerably comfortable. Poor Pakenham does not get on at all well with the Hovas. He expects a great deal too much of them, and quite forgets that they are not half up to all official and diplomatic etiquette. He is also not over-pleased with our Mission, and a good deal of correspondence passes between them, which gives me a good deal of writing to do.

Sunday, September 21st.—Divine service at 11, and then walk in the country. When we got back in the evening the whole country was illuminated for miles around, and the whole of the Betsimatatra valley and plain were blazing with small bonfires, and outside the houses in the town were men and boys holding wisps of straw on fire. It was a glorious sight, and showed how thickly inhabited the surrounding country must be.

At about 9 o'clock a house near the Palace took fire, and a fire in Antananarivo, where the streets are narrow and all the houses of wood, and thatched or roofed with bardeaux, is no joke. One house set fire to another, and as I ran up from our house it was a magnificent sight to see the palace brilliantly illuminated by the flames of the two burning houses, the smoke of which went up nearly straight in the calm night. Antananarivo, usually so quiet, and its streets deserted by all except the watchman at this hour, was now full of life. The chief of each district paraded, beating the alarm on drums, and marshalling the men, who at once marched to the palace and surrounded it with 3,000 or 4,000 men. Here might be seen the women and ladies of rank from the houses adjacent to the fire carried on the backs of slaves to the houses of their friends more remote from danger. Bells were clanging, and loud words of command, of caution, and shouts for water, which here is so scarce, as all the water is brought up from 700 feet below, and nearly half a mile off. Most of the unfortunate townspeople, dreading another *coup d'état*, looked with rather hostile feelings at any of the Europeans they passed, and all was confusion and turmoil. Amid all the confusion and din the houses fell in, blazing away clearly, and, thanks to there being no wind, the houses around were speedily pulled down, and the ruin left to burn itself out, which it did without doing further damage. Coming

so soon after the King had released the political prisoners, it was with difficulty many could be convinced that it was a pure accident.

Monday, September 22nd.—The Coronation was now so near, and as yet no final determination on the part of the English and French representatives as to whom the precedence should be given. The King determined that the General, as an Englishman whose nation had done most for Madagascar, should be on his right, but Dupré declared that he would leave Antananarivo, go straight to Paris, and return with the Emperor's leave to bombard Tamatave, and burn the capital. Pakenham and Laborde were to settle how the Europeans were to be placed, and it must have been an edifying sight for the king of an uncivilised country to see the great amount of jealousy between the allied Powers.

In the morning Lambert brought up to Miadamafana the Arab horse which he brought from Egypt for the King, and which had been attacked by a crocodile near Andakana, on the Mangoro River. It was magnificently caparisoned, two saddles having been brought up by Lambert, supposed to be facsimiles of those which the Emperor uses on State occasions. These were presents from Lambert himself, on the part of the European (French) Company, which, under the auspices of this adventurer, was to rival the ancient East India Company. After trying the horse, which was well trained, and had a good mouth, and perfect action, I went to breakfast, after which I accompanied the General to Ambohimitsimbona, where the King then was. The country was again illuminated this evening. The town, however, was in darkness, the fire of the preceding day having deterred them.

We were now on the eve of the great event for which we had waited so long, and which it will now be my difficult task to describe. I can give but a faint idea of it.

#### THE CORONATION OF KING RADAMA II.

Tuesday, September 23rd.—To see Antananarivo on a fine winter morning is a magnificent sight at any time. In the night it is enveloped in clouds, on account of its height, and as the sun's rays dispel the mists, the clouds in long fleecy masses roll along the sides of the steep cliffs and rocks which bound this precipitous city, obscuring at first the plains beneath.

As the clouds moved off this day they disclosed the troops arranged in battalions deploying into the lines previously marked out with banners and (tell it not in Woolwich or Aldershot) with cords, so as to enclose the polygonal area in front of the sacred stone of Mahamasina (from where we looked down upon them, 800 feet above, they looked like lines of ants); and at the same time from every path and road from the town, from suburbs, adjacent villages, and as far as you could see in the far distance of the Betsimatatra Valley, lines of gaily-coloured crowds continually streamed on and on, all tending to the sacred stone.

*"Utque, dato signo, spatia in sua quisque recessit  
Defigunt telluri hastas, et scuta reclinant.*



Tum studio effusæ, matres et vulgus inermum,  
 Invalidique senes, turres et tecta domorum  
 Obsedere: alii portis sublimibus astant."—"Æneidos," xii. 129.

"The sign is given; and round the listed space  
 Each man in order fills his proper place.  
 Reclining on their ample shields, they stand,  
 And fix their pointed lances in the sand.  
 Now studious of the sight, a numerous throng  
 Of either sex promiscuous, old and young,  
 Swarm from the town; by those who rest behind,  
 The gates and walls, and houses' tops are lined."—DRYDEN.

I must tell you that I don't think a single Hova in Antananarivo could have slept the previous night, for every house was crammed with visitors from the country, guests or lodgers, and the strict curfew regulations were relaxed. There was a noise of revelling, singing, and chattering the whole night, and they were all so anxious not to be late and to secure good places that I believe most of them dressed overnight. Wretched were the unhappy slaves, whose duty it would be to stay in the house and guard it whilst the family was absent at the great spectacle, and many a one played truant I expect on the day in question.

In the town itself great confusion reigned. In front of every house the bearers and slaves in their best clothes prepared the filansano, which were all decorated for the occasion with silk or cloth and gold. As their occupants were carried off in them, many were the collisions between those going to and others coming from the palace, where everybody of any standing at all in the country hastened at daylight to attend the *levée* and congratulate the popular and favourite Prince of the people on his coronation.

Notwithstanding the French party had used all their influence to induce His Majesty to don a magnificent suit of royal clothes brought from France and presented by Lambert, Radama persisted in his original intention of being crowned in English uniform, and wore accordingly the British Field Marshal's uniform which we had presented him with from the Queen.

Père Jouen and the Jesuits boasted that they crowned the King privately with all due Roman Catholic solemnity before daylight. This I cannot believe. Radama, superior to superstition, would, I am perfectly sure, never allow himself to be subjected to any such imposition of hands, as the Romish priests had declared they had used, and although he might have suffered them to perform any mummerly they pleased over the crown itself, would really laugh at it himself, as he had not even been baptized.

"Radama avait donné des ordres pour que le 21 septembre à six heures du matin les portes du grand palais fussent ouvertes aux missionnaires catholiques qui ce jour-là devaient entrer librement, afin d'offrir le sacrifice de la paix et de la réconciliation au lieu même où s'étaient rendues tant de sentences d'exil, de confiscation et de mort.

"En effet, à peine les premiers rayons du soleil éclairaient-ils le faite du palais, nous nous sommes présentés, le R. P. Finaz et moi: à l'instant toutes les portes se sont ouvertes et nous avons préparé l'autel pour le saint sacrifice.

“ Bientôt j’ai commencé la sainte Messe en présence du roi, de la reine et de quelques personnes de confiance. Un de nos Pères me la servait. La Messe terminée, j’ai béni la couronne royale en récitant les prières consacrées par l’Eglise. Puis, m’approchant de Radama, je la lui ai placée sur la tête en prononçant ces paroles : ‘ Sire, c’est au nom de Dieu que je vous la remets. Régniez longtemps pour la gloire et le bonheur de votre peuple ! ’

“ Il était près de huit heures quand cette cérémonie s’est terminée, n’ayant eu guère pour témoins que Dieu et ses anges.

“ Déjà toutes les avenues du palais étaient occupées par les troupes. La foule se précipitait par toutes les issues, et ce n’est qu’avec peine que nous avons pu regagner notre demeure, assez semblables à ce prophète que venait de répandre, par l’ordre du Seigneur, l’onction de la royauté sur la tête d’un prince d’Israël, et qui, sa mission remplie, se hâtait de disparaître pour chercher dans le silence de la solitude le calme de la prière.”—  
Le Rev. Père Jouen.

The Jesuits here had spread such scandalous reports both about the Bishop, Mr. Ellis, and the Nonconformist missionaries, that they fully deserve any such attack as I have been obliged to make on their veracity. However this may have been, the King received all visitors at the Tranovola in plain morning clothes, and by 7 o’clock the procession began to arrange itself outside the north gate of the palace. Meantime the road from the palace to Mahamasina was lined with the troops in single file, banners with the insignia of Radama II. being planted at intervals throughout the whole distance.

The crowds still continued to pour in in the direction of the sacred stone, and the crush was such that with difficulty we passed in our filansano up to the palace. In the verandahs of the Tranovola were assembled most of the chiefs and high honours in the island, with whom we were now upon tolerably intimate terms. The dresses sported on this occasion would have put to shame many a masqued ball in Europe, and the amount of velvet of bright colours and gold embroidery was really astonishing.

In the court-yard were the singing women of the town and provinces, singing songs of praise of Radama’s forefathers, the clapping of hands being kept up so vigorously as almost to overpower the efforts of the King’s band, who, twenty-five in number, played very accurately selections of marches and other pieces of music. The singing women were all in white, and squatted like wild fowl, to the number of two or three hundred, in the furthest corner of the Anaty Rova.

Whilst the King was dressing we kicked our heels about outside, impatient of delay, for we had had no breakfast, and there seemed no prospect of our obtaining any. It must have been at least 11 o’clock before the King appeared in uniform, when he was speedily joined by Her Majesty, who was got up royally, indeed, but my knowledge of ladies’ toilette technicalities is too limited for me to attempt to describe it. The King mounted his horse and the Queen in her palanquin, and accompanied by her little adopted daughter, preceded the King.

The whole procession moved on, the members of the English and French Missions

following behind the King, who seemed rather nervous on his spirited horse, which had to be led by the groom, and the slow pace at which the pageant was obliged to go fretted the animal. Laborde and myself walked down together, being unable to get our palanquin in the crush.

The procession stopped first at a sacred stone on Andohalo, where, dismounting, the King left his horse, and standing on the stone proclaimed himself King, and all the Court, who formed a circle round him, went through the usual obeisance, bending their heads, saying, "*Velo-o-o-o-me, Tra-rantra Tsara Tsara To-m-p-q-a-a*" (Hail! Long live, oh King). And the soldiers presented arms, the crowds cheering with their peculiar *o-o-o-o*, like so many bees, the women skirling like sea-fowl. The Queen's palanquin having stopped, she alighted, and saluted her husband, Rakoto, as Radama II. The King and Queen having set the example, everybody returned to their palanquins.

This temporary halt at Andohalo enabled me to make a sketch of the procession, which appeared in the "*Illustrated London News*" subsequently. Standing on the first sacred stone, Radama stood with his face to the east, and exclaimed "*Masina, Masina, v'aho?*" (Am I consecrated, consecrated, consecrated?), and his officers, the Minister of Justice, Rainimharavo, Rainilairivony, the Commander-in-Chief, and Rainandriantsilavo, Rahaniraka, the Minister for Foreign Affairs, and his sons, responded "*Masina! Masina! Masina! Hianao!*" (You are consecrated); and the guards, attendants, and populace shouted aloud their great cry, the guns on the terrace of Ambodinandohalo above were fired to announce the act, and the singing women redoubled their *Miholy*, or song of triumph.

This was only the preliminary ceremony, and we soon resumed the column of route between the avenue of tall poles with banners, which were relieved at intervals by clusters of plaintain-trees, freshly planted the previous evening, which had a very good effect. The procession arrived at Imahamasina\* ("the making sacred") at about half-past 10, where the positions of the various tribes assembled had been previously indicated by bannerols, bearing their totems or heraldic devices.

Imahamasina, the Champ de Mars, or parade-ground of the Hova metropolis, is a fine plain, peculiarly well suited for such a vast assemblage as now occupied it, to the number of near 100,000 people. The city, set on a hill, forms an impressive background, and the Lake Anosi in front conduces to the picturesque effect. It was certainly an exciting and thrilling spectacle, the gorgeous pageantry, half barbaric and quasi-European, diversified by the presence of wholly savage chiefs and their followers. Strains of wild patriotic music, mingled with the shrill chorus of the Tsimiry and Tsimandoavavy, in their white flowing lambas.

\* According to Jouen, whose relation is monstrously inaccurate:—

"A onze heures, un coup de canon s'est fait entendre l'éclair le signal convenu pour annoncer que le roi et la reine sortaient du palais et se mettaient en marche pour Mahamasina."—"Notes du Rev. Père Louis Jouen, Préfet Apostolique de Madagascar."

"Ibant æquati numero, regemque cauebant ;  
 Ceu quondam nivei liquida inter nubila cygni,  
 Quum sese e pastu referunt, et longa canoros  
 Dant per colla modos ; sonat amnis, et Asia longe  
 Pulsa palus.  
 Nec quisquam æratus acies ex agmine tanto  
 Misceri putet ; æriam sed gurgite ab alto  
 Urguerit volucrum raucarum ad litora nubem."\*—"Æneidos," VII., 698-705.

## HOVA CHORUS.

"Rakoto does not tread upon the ground,  
 Rakoto Radama of Andrian-Ampoin-Imerina.  
 Rakoto Radama does not tread upon the country.  
 Long live Radama! Andrian-Ampoin-Imerina."

These pæans and odes (*mizary*) were accompanied by the universal clapping of hands, such as one hears in Spain, and throughout the monotonous acclamations and applause, or *hoo-bé*, of the assembled multitude sounded ceaselessly.

The King's chamberlains had arranged an ample and commodious *estrade* on either side of the Royal pavilion, which sheltered the coronation stone of blue granite. On the right of royalty were the foreign missions, whose demeanour was the least dignified of any as they scrambled where they could get the best view of the ceremony. On the other side were the Royal Princesses, all in gold and scarlet, headed by the venerable and historic personages, the most interesting of all the rank and fashion present, viz., Rasalimo, the Sakalava princess, whose marriage with Radama the Great, in 1821, was the seal of the peace concluded between her father, Ramitraha, and the first Radama, the Conqueror; the other, yet older, was the surviving wife of the great Ampoinimerina, the first Radama's father, and the founder of the present Hova dynasty. Accompanying them were Prince Ramonja and the young sons of the late Ramboasalama.

In strict impartiality the Pagans and Christians, two sects, were represented near the throne. On one side were the Romanists, comprising six missionaries *prêtres*—Pères Jouen, Webber and Regnon, de la Compagnie de Jésus; cinq frères *coadjuteurs*; trois sœurs de Saint Joseph; et les deux écoles, l'une de filles, l'autre de garçons, contenant chacune près de 400 élèves, chanting Latin, and with banners, images, and emblems raised aloft. In contrast less obtrusive, in front were the native Christians, far more numerous, under their native evangelists, and the missionaries of the London Missionary Society,

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\* "All these in order march, and marching sing  
 The warlike actions of their sea-born king ;  
 Like a long team of snowy swans on high,  
 Which clap their wings and cleave the watery sky,  
 When, homeward from their watery pastures borne,  
 They sing, and Asia's lakes their notes return.  
 Not one who heard their music from afar  
 Would think these troops an army trained to war,  
 But flocks of wild fowl, that, when the tempests roar,  
 With their hoarse gabbling seek the silent shore."—Dryden.

without banners or emblems, whilst in the rear was the group of *sampy* (idols), borne aloft (*manangana*) by their hereditary *mpitondra*, or idol-carriers, and escorted by their national guardians, the keepers of the idol-houses, the *mpitahiry*, and followed by their especially zealous attendant *momba*. The following celebrated idols were present on the occasion (notice the Egyptian prefix of "*Ra*," the title of all the great idols), viz.:—

*Ra-Manjaka-tsiroa*, signifying "there are not two sovereigns," "the king is dead," "long live the king," "the king is supreme." Although only third in the precedence of the national mythology, he is strictly the tutelary idol of the monarch. He is the essence of Jingoism, essentially Tory and anti-democratic, his adherents especially fanatical. He resided in his own residence within the palace-grounds.

*Ra-Fantaka* was the idol whose signification was "the lord of the oath." His lordship superintends the coronation oath and the swearing of allegiance to the throne.

Each of these two idols was made of two oval slips of extra superfine scarlet cloth, which were fastened to light staves of black and white bands. At the upper end of the staff or pole on which sat Ramanjakatsiroa, and under the ends of the cloth, was a beautiful large cornelian, polished, about the size of a pigeon's egg, called *Arana*, and underneath a green jade-stone, cut in the figure of a diamond, named *Andriantsiriry*; from beneath these depended a chain of six silver rings.

The idol *Fantaka* had the silver chain without the jade and cornelian ornaments.

*Ra-Kélimalaza* was conspicuous by his absence, for, primate of the Malagasy hierarchy, does he not abhor guns and gunpowder, which, with pigs, onions, &c., are an abomination to him? Therefore he kept his place at Ambohimanambola ("the village of Money"), seven miles distant.

But *Ramahavaly* was present with the *farantsa* from Ambohitany, and his keepers showed their aversion to some of us by pretended retreat at our approach, for had we not killed snakes? Had we not got skins of the martingum (*Heterodus Madagascarensis*)? Was not the stuffed body and skeleton of the great acuma in our possession (*Pelophilus Madagascarensis*)? not to mention the *Colubrine dipsades* and *herpetodryades*, which we taught our Marmites to collect. And are not these snakes and reptiles sacred to Ramahavaly? Therefore Ramahavaly ("able to answer") was wroth at our presence and incapable of replying, as his powers of reply are injured by the approach of the profane.

These idols, with others, such as the "half-dishevelled" *Rakapila*, the charmer; *Ra-Manaramody*, the Malagasy Proteus; *Ra-Kelimanjaka-lanitra*, who "although little rules the heavens," forecasts meteorological phenomena: in all thirteen *sampy*, were assembled at the throne of the unbelieving prince; but all sulked under their coverings, but were nevertheless viewed with superstitious awe by many thousands of those assembled on this inauspicious occasion. Although their actual composition, besides those described before, consisted of silver balls, bits of coral, carved wood, and crocodiles' teeth, mingled with strips of scarlet cloth, and nondescripts, with charms wrapped in bags of rofia cloth and straw-plait baskets, these idols reigned until the 8th of September 1869, when they were all burnt by order of Queen Ranavalô.

The Queen, having left her palanquin, took her place, accompanied by her adopted child, the favourite infant of Ramonja's eldest daughter; the King dismounted from his horse and walked in his robes up to the coronation stone, guarded by his Tsimandoa or personal guard in green, and surrounded by his ministers and staff. He looked well and almost handsome in his field-marshal's uniform and light cream satin robe. All the officers of state were in gorgeous uniforms.

After a short pause, the King, standing up in front of the vast assemblage of his subjects, in full view of all, made a gesture, upon which the music ceased and a dead silence ensued. With considerable dignity he took the crown from a stand and placed it on his head, whilst a salute of guns thundered out from the cliffs above. The band struck up the Malagasy National Anthem:—

"Zanahry tahio ny tomponay!  
Radama Mpanjaka ny Madagascar!  
Aoka izy holoha ny toudra anay;  
Hanao ny soa asainao ataomay?"

Then arose a loud long cry of acclamation from the multitude, the tens of thousands shouting their cry of "Trarantitra hiano Radama" (Long may you live, Radama)! After the prolonged cheering had somewhat subsided, the Queen stood by his side, and he took a diadem from the hands of an attendant page and placed it on her head before the now silent crowds, when again the loud cheers and deep-toned *hióbe* sounded far and wide, and again a royal salute was fired from the ordnance on the plain and on the rock. The highest ministers then tendered their homage, and after a short interval the King took off the crown and stood bareheaded before his people. Unsheathing his sword (a British blade), he waved it over his head, and then made the following harangue with fluency and animation:—

"Veloma Ambaniandro! Veloma! (Hail, oh my subjects I salute you!)

"By the power of Zanahary (the great God), Andriamanitra (the fragrant Lord). By the powers of the great Lord God Almighty, we meet, we live, we see one another face to face. The day of separation has passed, and the time appointed has arrived, oh my people. Is it not so? Ambaniandro!" And the whole multitude shouted "Izany, Izay!" (It is so). "Ho-ho-ho. . . I salute you. Veloma! Ambaniandro!"

"Zanahary has given to us of his goodness not to die, but to live and to see each other living, Arahaba. Salutations to you all, oh my people! And this is it that I say now unto you, you all under heaven—the whole people. It is not I that have chosen you to be my subjects, but you choose me to be King over you. Is it so?"—"Izany, Izay!" repeated the loyal tribes after each period.

"Nor did I hope to reign, but Zanahary it was who appointed the kingdom to me.

"You know my past life and my purposes, for by me has nothing been ever concealed, oh my people!"—"Izay!"

"My thoughts and my purposes have not changed. There is nothing above me but only Zanahary, truth, and justice. Is that right?"—"Izay!"

"Not of myself have I now come down to the sacred stone Imahamasina, but you have besought me to come to Imahamasina, therefore have I come down, oh my subjects! Is it so?"—"Izay!"

"This is my counsel to you, to you all beneath the sky. Do what is lawful and right. Deceive not, that you, your wives, and your children may prosper. Is it so?"—"Izay!"

"If that be so, my reign will in quiet and peace repose, so I truly put away all deceit and falsehood from before me. Is not that right?"—"Izay!"

"The work-people, let them labour. The merchant, let him barter and trade. Let there be no fear, for the appointed time, long expected, is come. I will protect all. Is that not so?"—"Izay!"

"Both rich and poor I will protect, that all may prosper. Your desire shall be accomplished. Trust in me, all under heaven. My word unto you all—Ambaniandro, Arahaba, Veloma!"—"Ho-ho-ho. Hi-ôo-be!" shouted the people.

The King then resumed his seat, and the high officers and nobles, in order of precedence, severally presented their "hasina," or token of allegiance, followed by the chieftains and representatives of all the tribes assembled before the King.

The Zanadralambo, the Zanakandriandrora, the Zanakandriamasinavalona, and the other three clans of the noble Hova aristocracy ranked first. Then the central tribes of Sihanaka from Tankay in the north and the Betsileo from the south, easily distinguishable from the forest tribes of the Tanala, the wilder Baras, and those from Tandroy in the south, the western Sakalavas and the eastern Betsimarakas and Betaimnènes. The aristocratic Hovas are particular and exclusive in caste, and are composed of the "upper ten thousand" (*Andriambaventy*), next to whom are the commoners,\* the bôrizàno or civilians, and the miaramila,† or military classes, and, finally the Zaza-Hova, or servile Hovas, the Andevo, or slaves proper, captives of the spear and sword, and the African slaves imported from the east coast of the continent across the Mozambique Channel.

Finally the foreigners, including Arabs and Parsees and Africans, all bringing either gold or silver coin in token of tribute, filed in succession past the throne.

This tedious ceremony at length came to an end, when the procession was re-formed in the same order, and returned by the same route to the city. As the assembly broke up it was most interesting to witness the trooping off in various directions of the tribes to their encampments and billets in the many villages and suburbs of the metropolis, whilst the hills around were dotted with the white, flowing lambas of the women spectators.

The crush, noise, dust, and confusion were great and unavoidable in some of the narrow streets, and it was instructive, as well as amusing, to see *Les enfants de la Ressource*, with their images or banners, jostling the idol bearers with their poles.

At Andohalo in returning the party again halted, and Monsieur Lambert, the French

\* The Hovas proper, including the *Farantsa*, civil police, and the *Vadintany*, sheriffs, with the *Amboninjato*, their subordinates.

† The *Maroserana*, military officers, including the *Manamboninahitra*, possessors of honours.

adventurer, came out with champagne from the French Consulate to refresh the newly-crowned King and Queen. The pop of a champagne cork caused the horse on which the King was riding to rear upright, throwing the King backwards, when he was fortunately caught in the arms of Lieutenant Eardley-Wilmot (now Captain on the Staff in Dublin), of the 5th Fusiliers, otherwise it might have been an awkward accident. The King was much affected by this incident, and intended to have had a medal struck to commemorate his escape from injury. I noticed that on being remounted subsequently to this accident the idol-keepers and their adherents stuck closely to the King, and he entered under the fine archway of the Manjaka-miagara, environed with the poles surmounted by the guardian teraphim. The banquet, which was laid out in the large hall on the ground floor, was a success.

The hall itself is of fine proportions, being eighty feet long by forty-six feet broad, and twenty-four feet high. The tables were set in gallant array, with silver vases of native workmanship and quantities of flowers. The *menu* was varied. A calf roasted whole formed the *pièce de résistance*, with large fish to match (one nearly three feet long), eels, and an abundance of joints, such as wild pig, turkeys, geese, fowls, guinea-fowl, and snipe, pastry, cakes, &c., not forgetting various native dishes, such as crocodile's eggs, water-beetles, the chrysalides of silkworms, locusts (not unlike shrimps), grasshoppers, cray-fish, *sifotra* (snails), and wild honey, with plenty of wine, beer, and *betsa-bets*, fruit, including pine-apples, grapes, and oranges, peaches, citrons, bananas, lemons; and of course huge dishes of vavy rice, with vegetables, such as water-yams, sweet potatoes, and salads. Postprandial speeches were duly uttered, and the toasts loyal and national properly proposed and acknowledged.

The banquet was over by 6 o'clock, when the Princesses, at a signal from the Queen, followed by their slaves, accompanied Her Majesty Rabodo to her private apartments, and a general adjournment took place to the upper floor, where the invited guests awaited in the spacious balconies the re-entry of the Court to the dancing-room. Here various courtly dances were gone through in a most creditable manner by the young aides-de-camp, nobles, and their lady relatives, this State dancing forming a normal characteristic of the Malagasy Court ceremony. A picked selection of dancers went through a regular course or *suite de pièces*, comprising a stately *sarabande* and a *passepied*, followed by a species of *courante*, and finally the *gavotte*. The feasting and revelling of this strange society amongst which we mixed had a strange air of unreality about it. The brunette demoiselles affected all the airs of the Court of Grandjousier. The magnificence of the palace, its polished floors, and walls painted with native designs in gay colouring; the ladies in velvet and satin, heavy with gold embroidery and jewels; the brilliant uniforms bedecked with heavy bullion, formed a most fantastic *mise en scène*, not unlike a tableau from the Thousand and one Nights of the Arabian tales. The more staid officials, such as the General and the Commodore, departed early; but we younger ones of the Staff remained to the end, till the wax lights of the illuminated *salle* grew dim, when the fun grew fast and furious.



The last sweet air that reached my ears, of which I have any reminiscence, resembled in its subtle effect that sweet music of Baron von Flotow, which I heard at Brussels :—

“ Midi, minuit,  
Le jour, la nuit ;  
Cette heure bénie  
Change tour à tour :  
Midi c'est la vie :  
Minuit c'est l'amour ! ”

The next day we were busy preparing to return, but in the evening we again attended an entertainment at the palace, on which occasion there were fireworks exhibited by the French, and more dancing.

On the 25th September a formal leave-taking took place, and presents were exchanged, and the same evening we set out on our journey to the coast.

We arrived at Tamatave on the 6th October, and re-embarked on board H.M.S. *Gorgon*, which vessel safely landed us at Mauritius on the 12th October.

Poor Radama's reign did not last long. Barely eight months after his coronation there occurred a palace revolution, and on the morning of Tuesday, May 12th, 1863, he was strangled by Herculean arms engaged for the purpose, and his body carried by night, clandestinely, to the royal village of Itafy, six miles north of the capital. It was in consequence of this event that in June 1863, on receipt of the intelligence at Mauritius, I proceeded again to the east coast of Madagascar on board H.M.S. *Rapid*, eleven guns, then commanded by Captain Trelawney Jago, returning from Madagascar on the 18th July; but the narrative of this trip would be merely a repetition of scenes described in my former letters, of which my readers must have had more than enough, and so I will proceed to pastures new in my next chapter.

## CHAPTER IV.

## A MAURITIUS HURRICANE.

Arsenal.—The barrachois.—Atmospheric phenomena.—Sharks in waiting.—Minute guns at sea.—Effects of hurricane.—Scene of shipwreck.—Paul et Virginie.—Typhoons of the Indian Ocean.—Calm after storm.

“Then rolled the tropic storm along,  
Where, tho’ the garish lights that fly  
Dying along the troubled sky,  
Lay bare, thro’ vistas thunder-riven,  
The blackness of the lowering heaven,  
That very blackness yet doth fling,  
Light on the lightning’s silver wing.”

“*Les navires sont des mouches dans la toile d’araignée de la mer.*”

SCENE.—*L’Ile de France*, now the English colony, Mauritius; date, the 1st February, 1863; and although more than seventeen years have passed, the scene and events connected therewith return to memory as if it was yesterday, so indelibly were they impressed on my mind.

BAROMETER 28 IN., LATITUDE 19 DEG. SOUTH.

It was a Sunday evening, on the above date, that a party of four of us were seated by the beached margin of the Indian Sea, and of this small party I have been for some years the only survivor. The tropical summer’s day had hitherto been unspeakably sultry and oppressive, and till the sun’s rays had declined low in the western sky we had judiciously idled recumbent on the wicker-worked lounges behind the jalousies of the long verandah, over whose trellis drooped languidly the *ipomæa* and *grenadilles*, while close beneath us, in the calm waters of the basin, lay the idle *chasses-marées* moored to the convenient stems of the tall cocoa-palms, whose tufted plumes overshadowed these vessels and their stumpy masts. This charming rural retreat, where we had spent the heat of the day, was situated at the head of the small land-locked *embouchure* known as *La Baie aux Tortues*. Here a small stream has been diverted so as to fill a considerable reservoir by an old stone embankment, formed by the famous Mahé de la Bourdonnays (celebrated by

Bernardin de St. Pierre) in order to obtain water-power for his powder-mills, which were subsequently destroyed by an explosion. It was on the ruins of these old foundations that our host had constructed his establishment of flour-mills and a distillery, adjacent to which, on a lofty terrace, was the country residence where we were staying.

In latitude 19 degrees south of the equator, it need hardly be said that at the beginning of February the weather is at its extreme culmination of heat, the sun's declination being only two degrees north; and the rays are then almost perpendicular from the zenith at noon. In the absence of the healthful trade-winds from the south-east we had for some time previously experienced calms and doldrums, with warm, feverish wind, at times like the African sirocco, locally called by the Créoles de Maurice, "*le vent Malgache*"; whilst the thermometer stood at 87 degree Fahrenheit in the coolest shade obtainable. Nevertheless, we formed a merry party, we four—two were the daughters of the house; the eldest the *fiancée* to my companion, recently promoted captain, and whose marriage was shortly to be celebrated. I had been driven over by my friend to play propriety and spend a quiet Sunday, away from our dusty barracks in Port Louis.

We were delighted to get out of the house, and lazily mooned along the shore, between water-worn boulders and rocks of incrustated lava, intermixed with rugged masses of Madrepore coral, upheaved by volcanic force above the sea-level; and leaving the *barrachois*, with its shady groves of lataniers and vacoas, palmistes and papayes, we strolled to where the *Pointe des Mortiers* juts (a wan grey beach, fringed with harsh, deep-green herbage) out into the sea, forming the northern limit of the *Baie du Tombeau* of ill-omened fame; and here we sat against the lichen-covered stones of the old French mortar battery, from the ruins of whose *épaulement*, under which lie ancient pieces of ordnance flaked and honeycombed with rust, the point takes its name. The view from this point is impressive and extensive; behind us were the lank stems of the cocoas, set off by a background of tangled wild growth of wild passion-flower and moon-creeper, the lianes almost smothering in their festoons the bronzy dracænas and pomegranate bushes beneath, whilst in rear the rocky barriers of the volcanic crater-cliffs reared their embattled peaks of fantastic form. In front of us stretched the wide expanse of ocean, visible for some leagues from the forts at the harbour's mouth on our left, to the more distant lighthouse on Cannonier's Point to the north, on the extreme right.

Of course, the engaged couple of lovers were sentimental, whilst we, the younger pair, less romantic and impressionable, in vain pretended to follow suit, in but poorly simulated ridicule of our elders, who, seated at some distance and being musical, soon broke out with appropriate chansons, one of whose well-known words ran somewhat as follows:—

" Au soleil couchant  
Toi qui vas cherchant  
Fortune,  
Prends garde de choir  
La terre, le soir,  
Est brune.

“ L'Océan trompeur  
 Couvre de vapeur  
 La dune  
 Vois ; à l'horizon  
 Aucune maison !  
 Aucune ! ”

Although at first glance the surface of the sea was apparently as calm as glass, except where it was rippled with cat's-paws, by vagrant puffs here and there ruffling the oily waters, or its lustre dimmed by cloud-shadow ; nevertheless, to the experienced eye on closer observance it could be noticed to be in reality heaving with a long ground-swell, only perceptible by the very gradual rise and fall of the waters, shown by its change of reflection and diverse shadow along the reef, whose serrated edge, half a mile distant, was at intervals exposed and again re-covered almost silently by the smoothly surging wave rising and falling vertically, without breaking into surf ; a slight white streak only here and there could be detected, whilst at our feet small wavelets lapped gently the strand. Later it gets, and later. What fatal presentiment is it that causes us to fancy we hear low sinister mutterings from the horizon re-echoed by the far-off crags ? Surely we are mistaken, for as we listen all again is still.

Meantime the sun sinks lower in the amber skies, low down in which, to the westward, are bright copper-tinted cirri floating in the strange and almost infernal radiance, which flushes both the glassy waves and rocks, and tips the rank lemon-grass and the tree stems in the thickets of pandani beyond with an uncanny metallic lustre. The atmosphere becomes more vaporous and obscure ; coils of sulphurous mists appear, twirling and twisting as they drift over the mountain peaks, and dissolve in the purer air above, preceding heavier cumuli, the true storm-clouds, which commence to bank up to the north-east, throwing out in bright relief the Calebasses range of mountains, with the strange pitons and peaks of the *Pieter-both* above the *Vallée des Prêtres* against their purple shade. Fitfully the wind rises and falls, causing odd whisperings to rustle midst the petioles and pinnæ of the fan-palms, whilst the glassy waters of the sea reflect the furnace-like glare of the fiery orb above in expanding folds and undulations as the ground-swell increases in its sub-aqueous agitation, and the dead calm silence is barely broken by the musical ripple of the small tidal currents aptly termed by the Créoles “ *les filets de courant*.”

Whilst we look on in admiration at the kaleidoscopic change of aspect of sea and sky, and whilst the rays of the sun, yet a few degrees above the horizon, are still too bright to gaze at steadfastly, we are suddenly aware of the arrival of a fine, full-rigged ship, of some 1,000 tons, rounding the quarantine station to the north, and approaching abreast of us to where the bell-buoy marks the anchorage off the harbour-bar to the south of us. Simultaneously we hear a dull report of a gun at Fort George, but we are too occupied in watching the approaching ship to heed it much, beyond noticing to each other that Meldrum\* had forecast an approaching storm. She was under full sail, and the

\* Dr. Meldrum, F.R.S., in charge of the Meteorological Observatory at Port Louis, whose office it is to indicate the approach of a cyclone.

gallant ship looked beautiful as her buoyant hull rose and fell on the calmly heaving swell, her cutwater cleaving the waters like a knife. She had, when we first observed her, every inch of canvas spread to catch the wavering light winds to reach her goal before sunset; but as she came abreast of us her studding-sails were taken in in good form; next her top-gallant and fore-topmast staysail, then her fore and main sails, and she showed out in clear relief against the sky as she glided past us under her topsails, jib, and spanker, as

“—— when he saw beneath the sunsets’ planet  
A black ship walk over the crimson ocean,  
Its pennons streaming on the blasts that fan it,  
Its sails and ropes all tense and without motion,  
Like the dark ghost of the unburied even  
Striding across the orange-coloured heaven.”

Meantime, we frivolous idlers on the rocky beach set to work to criticise the appearance of the vessel (on the strength of a voyage to Japan and back we consider ourselves competent nautical critics) as she slips through the water slowly and steadily just opposite to us, first lifting her bows and then rolling rhythmically with the long swell, her canvas alternately bellying out or flapping as the wind catches her sails, and we notice she is an immigrant ship, with coolies from Calcutta on board. The process of shortening sail proceeds as she passes us and nears the bell-buoy, and as we glimpse her stern my chum reads out, through his binoculars, her name, one well known to both of us before. She is the *Mooresfort*. We are at once interested in the ship, for on board of her, when a hired transport, our battery lay for not some little time in the Si-Kiang, or Pearl River, off Canton, now some five years before, and it was on board of the *Mooresfort* that the black-tongued Chow dog then with us was a pup. Various surmises as to whether her ancient captain was still on board, and plans for entertaining him were broached.

A few minutes more and the sound of the rattling of the chain-cable through her hawse-holes reaches our ears distinctly over the sullen waters, distant as the anchorage is, and almost at the same moment the sunset gun fires and the flag at the fort is lowered, whilst the last gleam of sunlight disappears, leaving only a splendid glow, fading into an orange-glow, rapidly decreasing. The twilight is so short, lasting half an hour and no more, that we congratulate the ship on having reached the harbour’s mouth, and hope she will be allowed to enter the same evening, as we turn towards the house. But alas! *horreur sacrée!*

“—— Foul green-skinned sharks expectant wait  
For that immigrant ship with its human freight,  
Endued with fatal prescience, they  
Have scented afar their carrion prey:  
Grim dorsal fins shew where they steer  
With blood-red gills through the waters clear  
To the sound of the bell-buoy tolling.”

Even as we rise to leave the old mortar-battery, again, in close succession, two dull concussions boom across the sea with portentous sound, announcing a signal too well

known to doubt its significance, and, as if to enforce the warning, inarticulate murmurs, as of thunder, now begin to sound hoarsely and more continuously on the reef, on whose jagged barriers a long line of phosphorescent surf is at length breaking.

The ladies grow alarmed as chillier now whistle the gusts of wind, and the stiff petioles and drooping filaments of the palmiers rattle, and even the waters of the usually calm bay inside the reef shine with unwonted luminosity, and restlessly splash up on the path before us. Overhead the red-tail *paille-en-queue* wings,\* screaming his direct flight to his eyrie on Round Island—the *taille-vents*, and *gasses* fly inland. In the groves about us the bengalis and averdavats are uneasy among the badamiers† and acacias. A sense of unrest jars on our nerves, and the atmosphere is pregnant with inquietude. It is time for everyone to prepare, and the hurricane shutters are being secured as we reach the house.

What a change within the hour or so that we have left the building; then the glare of light was almost painful and the very shadows seemed hot, and yet withal so calm and still; now all trace of brilliant illumination and colour seems to have faded and given way to a dim, pallid obscurity, and there is a bustling of preparation for the impending danger. Leaving the captain to protect his fair bride-elect and her sister through the forthcoming tempest in the dwelling-house, now in a state of siege and barricaded against the wild storm-fiends let loose when their name is legion,‡ I myself had to get back to town, to my duty, as best I could hurry in a carriole, as more delay might impede my return altogether. Fortunately the carriole driver was as anxious to return to his home in town as I was to barracks, as I half feared he might refuse to go; but what a drive it was, the red dust was in clouds and blinding, as mixed with light refuse of sticks and leaves, it whirled in front of us. Luckily the increasing gusts of wind came from the north-west, so that it was behind us. The rofias swung their enormous leaf-stalks and the feathery bamboos tossed their plumes; the long pole-like stalks of the fourcroyas and aloes bent and creaked across the roadway from amid the prickly-cactus fences, shaking themselves free of their bell-shaped blossoms and bulbs. The Coolies, Malabars, and Indians, of all degrees and sexes, were jabbering and scuttling to their cases in all directions as we passed Terre-rouge. As we neared the town the storm increased in its intensity, until I thought the carriole itself would be upset; its linen awning had long since blown to ribbons. The driver sitting on one shaft, clung to his animal, encouraging him by word and whip, whilst waifs and strays, and even bardeaux, whistled past our head and ears.

As we passed along the totally deserted streets, the shops and houses of which were

\* So Bernardin de St. Pierre, in describing the approach of a cyclone at Bourbon during his short stay there, 2nd December 1770, writes in his diary:—"On respirait à peine, l'air était lourd, le ciel obscur, des nuées de corbigeaux et de paille-en-cus venaient du large et se réfugiaient sur la côte. Les oiseaux de terre et les animaux paraissaient inquiets. Les hommes mêmes sentaient une frayeur secrète à la vue d'une tempête affreuse au milieu du calme."

† *Badamier*, Créole name of the Indian almond-tree, *Terminalia catappa*, from the Bengalee term *Badam*.

‡ "Si le démon Légion existe, c'est lui, a coup sûr, qui est le Vent."—"Les Travailleurs de la Mer," liv. Troisième iii.

being barricaded to await the worst *coup-de-vent* possible, I was thankful when I clambered down at my quarters, barely distinguishable in the blackness, which could be felt. We were wet through, but not with rain; the atmosphere was saturated with moisture, but the moisture was salt, and the water was of the sea briny. This brine of the sea indicated the outer edge of the cyclonic tourbillon; it had been whipped up, as it were, by water-spouts hundreds of leagues away, and, whirled round with centrifugal velocity, reached us in spray—the *avant-propos*, the fore-word of the worse to come.

There was a slight confusion at the mess in Artillery Place when I arrived, owing to preparation for the hurricane, but the barracks were perfectly secured and barred up, and, although dinner was served rather late, we were safely housed from exposure to the terrific atmospheric enemy without. The latest bulletin from the Observatory, and the forecast of the track of the cyclone, of course absorbed the interest of all; but none of us anticipated any particular danger to the *Moore'sfort*, which we conjectured must have entered the harbour and been safely moored before night; no one ever dreamt of her putting to sea, and the louder the tempest howled without, the noisier was our talk and laughter at table within.

After dinner we attempted whist, but by this time the noise of the hurricane, and the quaking of the building in which we were, absolutely interfered with our enjoyment of the game. We knew our situation to be sheltered and safe, and could afford to pity those whose estates and buildings we knew must be exposed.

Through every crevice and cranny of the wood-work, and between the timbers even of the flooring, the water from without gurgled and bubbled as if we were enveloped in a cataract. We could imagine ourselves at sea from the continued noise and tremor of the water-floods. Sometimes the whole structure of the mess-house appeared to shake under the water-spouts of rain, as if heaven itself was ruining in upon the house; both barometer and thermometer had fallen, the abnormal depression of the atmospheric wave being indicated by my aneroid showing its index at 28 inches, whilst the thermometer was down to 70 degrees. It was now midnight, or past, when, during a momentary lull in the hoarse chorus of the tornado squalls, a dull, muffled sound of terrible import struck upon our ears—

"The oracular thunder penetrating shook  
The listening soul in my suspended blood."

The sound of such a funeral knell, again and again repeated at intervals, was harrowing; and either as the currents of wind shifted, or as the source of the sound drifted nearer, we heard plainer and more distinct the minute guns, from the direction of sea. Our very security, from its contrast, caused us to feel the utter powerlessness, the despair and hopelessness, of all who appealed for help on board a ship at sea at such a time. No human aid was possible from anywhere in such a dread rushing war of elements, such a chaos of waste as prevailed at that awful hour.

We could do positively nothing, but could only wait for daylight: and leaving strict injunctions to be called at the first signs of dawn I lay down to get an hour or two of

sleep, in spite of the horrible feelings of death and destruction which could not fail to accompany the associations mixed with the indescribable uproar without. And such a morning when day broke, for now the paroxysm of the storm had past its height and the barometer had begun to rise. At the first gleam of day, shining, or rather glimmering, between the chinks of the shutters, I was up and dressed for rough work, and we soon assembled in the ante-room and got some hot coffee, whilst we discussed our plans as to how best approach the scene of wreck, and at last made up our minds that it would be prudent to go to Fort William in the first instance, which defensive work is close to the southern entrance to the harbour, and half an hour before sunrise we started off. I shall never forget the first bewildering sensation on getting out of doors, and leaving the mess-house. It was like stepping off dry land into a torrent.

The scene was changed from the height of summer yesterday to a wintry aspect of to-day; the whole atmosphere, charged thick with aqueous vapour, rushed past one horizontally, with everything swept bare by its blast; the banyan-trees in the *Place* were bereft of every leaf and twig, only those of their bare branches which had escaped being torn off were apparently wrenched in one direction. Instead of rain, sheets of water tore past, reduced to powdery dust of water by their velocity.

It was utterly impossible to speak, barely possible to walk or even to stand; it was difficult to move without support or clinging for shelter. We had to make staggering rushes from one shelter to another in the direction in which we tried to proceed, tacking, as it were, from point to point. Meantime a continual indescribable sound of roaring filled the air. It was what Victor Hugo calls the "*rugissement de l'abîme.*"\* Yet there were no electrical phenomena whatsoever observable.

Our route lay past the Caudan and down a long winding avenue of filao-trees, which leads to the old cemetery, with the harbour on our right hand. These filaos, or *Casuarina laterifolia*, are tall cypress-like trees, only less compact; and with their thin thread-like, articulated branches, and with their joints furnished with membranous toothed spathes, have been compared by Humboldt and Darwin to aborescent *equisetaceæ*, and somewhat resemble our Scotch firs. The slightest wind passing over their acicular pendent leaves produces a peculiarly mournful and monotonous sound, which renders them fitting ornaments for burial-grounds. The euphonious Créole name of *filao* is far preferable to the extremely vulgar name of beef-wood tree, given by the Australians on account of the appearance of the timber when hewn. On this occasion they were bereft of their pinnules, and, no longer stately and funereal, were disordered, creaking, often dismembered, and, here and there entirely torn up, lay prostrate across the roadway.

The harbour presented a dismal sight; the ships rolling heavily one against the

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\* "Le rugissement de l'abîme, rien n'est comparable à cela. C'est l'immense voix bestiale du monde. Ce que nous appelons la matière, cet organisme insondable, cet amalgame d'énergies incommensurables où parfois on distingue une quantité imperceptible d'intention qui fait frissonner, ce cosmos aveugle et nocturne, ce Pan incompréhensible, a un cri, cri étrange, prolongé, obstiné, continu, qui est moins que la parole et plus que la tonnerre. Ce cri, c'est l'ouragan."—"L'Homme qui rit," Tome i., Liv. v. vii.



other, their topmasts not only housed but lowered on their decks with their yards, looked like hulks in distress; not a few were adrift and hopelessly stranded on the lee side of the harbour, but safe as regarded the life and limbs of their crews. Only obscure views, like *silhouettes*, of these phantom ships were visible at intervals through the tumult of the spray and scud.

On we went, with difficulty, past the Salines and the Chinese joss-house, and the stone-cutters' deserted yards; past the European graveyard on the left, and the separate burial plots set apart for the Mahomedan Arabs, Lascars, and Hindoos; also past the still more ghastly site of the gallows, the "*l'arbre d'invention humaine*,"\* where I have seen more than one body hanging at a time: past the melancholy site where felons and suicides are interred, and past the cholera pits, where hetacombs were cast like dogs; past an assemblage of these *aceldemas*: a fit prelude to the horrors before us.

As we proceeded, with all possible despatch, we met with the harbour-master, accompanied with a small staff, who were proceeding to Cassis, whither he had despatched a boat, on a cart, by the other road, and we accompanied him to the Martello tower, on the northern side of La Grande Rivière. Here, from the small promontory, we first caught sight of the vessel—or, rather, of what was once a vessel—of what was once the *Moorefort*. Through the blinding scud and cloud we could distinguish at intervals only the wreck, perfectly dismasted, and the stern, already broken up; the waist and fore-castle alone remaining solid on the reef, but alas! on the reef on the other side of the bay, separated from us by the broad mouth of the river, now an impassable gulf, in which a raging sea of billows tossed tumultuously.

But much nearer than the wreck an horrifying object attracted our notice, for within a few hundred yards, and drifting in a strong, turbid, and foaming current right out beyond the nearest reef, which here joins the shore, was one of the lower masts, the mizen, in the top of which were clinging several poor wretches who had yet survived the night; and now, when succour seemed so near, but yet in reality so far, they were drifting out again beyond reach of aid; for having been washed over the reef into the deep back-water at

\* "La nuit moins noire que l'homme."—Victor Hugo, "L'Homme qui rit," Tome i., Liv. i. v.

At the execution of John Hamilton, Bishop of Dunkeld, and Archbishop of St. Andrews, 7th April 1571, the epitaph upon the gibbet was—

"Cresce diu felix Arbor, semperque vireto  
O, utinam semper talia poma feras."

Or, according to another account, the second line runs—

"Fronibus, qui nobis talia poma feras."

The whole a parody on—

"Crux fidelis inter omnes arbor una nobilis,  
Nulla sylva talem profert fronde, flore, germine.  
Dulce lignium," &c.

"I think the similarity between the form and idea of this verse and those of the wretched couplet affixed to the Archbishop's gibbet is striking, and further that there is a strong presumption of the latter being a shameful parody of the old versicle."—Alex. Fergusson, Lieut.-Colonel. See "Athenæum," September 14th, 1878.

the river's mouth, the mast had been nearly drifted ashore, but, being tumbled again into the outward current, was being hurried away, carrying its human freight to a watery grave without. It was most heart-rending, as they were so near that their gesticulations could be noticed, and even cries could be heard; but, rolled over and over, "*de catastrophe en catastrophe*," their numbers decreased under our very eyes, and before the mast was out of sight but one or two remained alive upon it, clinging in their death agony to the trestle-trees, and lashed to the futtock-shrouds; one of these we surmised to be the captain, whose body was never recovered.

It was now evident that we were on the wrong side of the river, and as it was thought that some living survivors might yet be upon the hull two boats were despatched—one, a gig, on two convict-carts, and the artillery boat on a platform-waggon, drawn with dragropes, manned by gunners—across the suspension bridge, under Kœnig's Folly, to the martello tower over at Petite Rivière, where it appeared that most of the loose wreck was coming ashore. It took some time to accomplish this, as the distance round was somewhat considerable, but the strength of the hurricane was now slightly abating in fury.

It was a severe task to cross the suspension bridge over Grande Rivière, down whose bed discoloured torrents poured, carrying along *débris*—trunks of trees, soil, bodies of mules, goats, and cattle, and railway sleepers; a wonderful change from the scanty stream which generally meanders so peacefully into the still waters of the bay. Through the ravine, as through a funnel, the wind of the tempest roared aloud. The bourrasque seemed to tear away the sides of the hills, so effectually had it levelled the plantations of banana-trees and obliterated the gardens, as well as not a few *cases*, and washed deep gullies in the highway. The broad leaves of the few plantains yet remaining were torn into shreds, and their ponderous racemes of fruit smashed beyond recognition.

Everywhere was ruin; the tamarind-trees lay fallen in every direction. No longer was there any delicate foliage on the mimosæ, and the acacias were bereft of their phyllodia. The bougainvilleas despoiled of their mauve-coloured bracts trailed on the ground dank and sodden in the mud; the flamboyants no longer flamed with the brilliance peculiar to the poinciana; the hedges of *raquettes* (*Opuntia*) were rooted up, their dangerous spines dispersed, their prickly fruits mashed out of shape, staining the soil like blood. The all-devouring tempest revelled in the ruin it created.

As we left the high-road and reached nearer the sea-coast we had to encounter rough, broken ground through a scrub of moringa and veloutiers,\* mingled with wild vetches: and tripped up by entanglements of *patate durand*, creeping cassytha and amourettes, we at last emerged upon the scene of action—the scene of destruction and death. But few spectators besides ourselves were there to witness the sad yet exciting spectacle. It

\* "Le veloutier croît sur le sable, le long de la mer. Ses branches sont garnies d'un duvet semblable au velours; ses feuilles sont semées de poils brillans; il porte des grappes des fleurs. Cet arbrisseau exhale dans l'éloignement une odeur agréable, qui se perd lorsqu'on en approche, et de très près est rebutante."—Bernardin de St. Pierre ("Voyage à l'Île de France").

was truly what my favourite author, the engineer and professor, Bernardin de St. Pierre has termed "*un concert de la destruction*" in his "*Études de la Nature*."—"Des nuages sombres traversent les airs en formes horribles de dragons" (the origin of those mythical storm-demons the *Maccabees*!). "On y voit jaillir ça et là le feu pâle des éclairs. Le bruit du tonnerre, qu'ils portent dans leurs flancs, retentit comme le rugissement du Lion Céleste. L'astre du jour qui paraît à peine à travers leurs voiles pluvieux et multipliés, laisse échapper de longs rayons d'une lumière blafarde. La surface plombée de la mer se creuse et se silonne de larges écumes blanches. De sourds gémissements semblent sortir de ses flots. Les noirs écueils blanchissent au loin, et font entendre des bruits affreux, entrecoupés de lugubres silences. La mer, qui les couvre et les découvre tour à tour, fait apparaître à la lumière du jour leurs fondement caverneux."

I arrived with the gunners' boat; but not to be of any use, for such was the force of the wind and rain, that by the time we got to the coast at the rendezvous nearest to the wreck our boat had broken its back from the unequal strain and weight of the rain and wind, as it caught the blast on the waggon. The thunder now rolled more continuously nearer and nearer, like the accompaniment in *Le Naufrage de la Méduse*.\*

The harbour-master's boat, too, was speedily also brought to grief, and perhaps fortunately for the volunteer crew who manned her close to the shore, for the oars were washed out of the men's hands and she became unmanageable, and was filled and dashed back on the beach by a gigantic roller she met at the first start attempted, about 9 A.M. Some gloriously vivid flashes of forked lightning in rapid succession, with as many simultaneous detonations rattling overhead, now seemed to tear the dark pall which overhung the heavens.

The scene at this time was exciting and tragic in the extreme, and as the sun's gleams penetrated the hitherto obscure firmament with feeble radiance, it threw out in prominence the details with clearness. First, there was the mass of the wreck itself of the ship on its side, with the deck towards us; at least, such portions of the deck as had yet been left, for fresh planking was torn away by each successive wave; the ragged stumps of the fore and main masts as yet still standing. This remnant of wreck had been washed bodily out of the deep water to within the outer barrier of reef on to a ledge, and was wholly out of the water, which position thus saved it from entire destruction, as only a portion of the enormous waves, which broke along the entire reef for miles, actually struck the remaining moiety, for the vessel had broken in two, and the stern-half had entirely been destroyed by the prodigious force of the breakers, the sound of which oceanic passion rose high above the din of the nearer dashing waves. Without, the reef, sea and sky, ocean and cloud, were commingled, indistinguishable, "a complete annihilation of the limit between sea and air." Within the reef the shallower sea presented a most wonderful sight, such a few can

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\* The music in "*Le Naufrage de la Méduse*" is an admirable tone-description of a similar scene of horrors, by Baron von Flotow, who surely must have been present on some such occasion as this. The piece was written in 1839.

describe; it was what Bernardin de St. Pierre, nearly a century since, termed\* "*Une vaste nappe d'écumes blanches creusés de vagues noires et profondes*"; and what Victor Hugo, in his "*Travailleurs de la Mer*," has aptly described in European waters as "*d'eau de savon*,"† a sea of soapsuds and lather, the lather flying in snowy flakes like thistle-down.

[Both the above authors, incomparable in their respective lines, have, it will be observed, used somewhat similar imagery, which is sufficient proof of its fidelity to realistic facts. I have only seen one painter's drawing which has at all even faintly attempted to copy these soapsuds of the sea, "*L'énorme écume échevelait toutes les roches*," and that only on a small scale, viz. Mr. Frank Miles' study of a curling wave before it breaks on "*An Ocean Coast: Llangravig, Cardiganshire*" (No. 342), in gallery No. IV. of last year's Academy.‡ The rendering of the blotches of foam,§ which curdle on the hollow curved side and translucent crest of the breaking wave, are praiseworthy in their transcription, although their perspective has been blamed by some critics. "*L'écume ressemblait à la salive d'un léviathan*." Mr. Miles ought to have given to his drawing the lines from Keats, quoted by Ruskin as the *perfect* expression of the peculiar action with which foam rolls down a long wave:—

"Down whose green back the short-lived foam, all hoar,  
Bursts gradual, with a wayward indolence."

I cannot forbear giving Ruskin's imagery, as bearing out the above similes:—"The water from its prolonged agitation is beaten not into mere creaming foam, but into masses of accumulated yeast, which hang in ropes and wreaths from wave to wave, and where one curls over to break, form a festoon like a drapery from its edge; these are taken up by the wind, not in dissipating dust, but boldly in writhing, hanging, coiling masses, which make the air white and thick as with snow, only the flakes are a foot or two long each: the surges themselves are full of foam in their very bodies, underneath, making them white all through, as the water is under a great cataract; and their masses, being thus half water and half air, are torn to pieces by the wind whenever they rise, and carried away in roaring

\* The description given by Bernardin de St. Pierre of the view from the sea-shore on the north-east side of Mauritius is so true, and so evidently sketched from nature, that it will ever bear repetition. "*Chaque lame qui venait se briser sur la côte s'avavançait en mugissant jusqu'au fond des anses, et y jetait des galets à plus de cinquante pieds dans les terres; puis venant à se retirer, elle découvrait une grande partie du lit du rivage, dont elle roulait des cailloux avec un bruit rauque et affreux. La mer, soulevée par le vent grossissait à chaque instant, et tout le canal compris entre cette île et l'île Ambre n'était qu'une vaste nappe d'écumes blanches creusées de vagues noires et profondes. Ces écumes s'amassaient dans le fond des anses, à plus de six pieds de hauteur, et le vent qui en balayait la surface les portait par-dessus l'escarpment du rivage à plus d'une demi-lieue dans les terres. A leurs flocons blancs et innombrables qui étaient chassés horizontalement jusqu'au pied des montagnes, on eût dit d'une neige qui sortait de la mer.*"—"Paul et Virginie" (Ed. 1879, Hachette).

† "*La mer à perte de vue était blanche; dix lieues d'eau de savon emplissaient l'horizon.*"

‡ An exhibition of paintings and drawings of "*The Sea*" is announced this winter, as to be held in the Gallery of the Fine Art Society, 148 New Bond Street.

§ "*Les flocons d'écume, volant de toutes partes, ressemblaient à de la laine.*"

smoke, which chokes and strangles like actual water." See "Of Truth of Water." Modern Painters, vol. i., part 2, sec. v., chap. iii., p. 375.]

Holding on as well as I was able to the platform-waggon, on which was the broken boat, and under the shelter of a huge conglomerate rock of coral and indurated lava, this is what I beheld—the noise and confusion around, under the yet lurid and sombre light of the first sunbeams through the cloud-rifts above adding to the awfulness of the effect:—

A prodigious turmoil of boiling, seething masses, whirling, rolling, twisting, and smashing in rage an intricate entanglement of rifted yards, distorted iron and broken timber, torn canvas, sails, planking split into matchwood, and unravelled cordage, half-floating, sinking, rising, plunging, approaching, and receding; as though the wrecks of a fleet, there were blocks and treenails, transoms, knees, bottom-boards, oars, in fact, wreckage of all descriptions, tossed like corks on the crests of the billows, and now submerged in the tremendous abyssal depths beneath, the whole being absolutely churned and ground—the spars into splinters, the canvas into rags, and the iron into filings, as in a mill; and, dreadful to relate, amidst all this chaos of ruin and destruction dead bodies and fragments of carcasses, not only of beasts, but here and there would appear, not seldom, an arm, or a foot, or, still worse, a head of some mutilated human being. As each reflex wave receded, there were made desperate attempts to rescue these mangled remains from the hungry, drowning waves, which seemed loath to give up the smallest morsel of its prey, and the huge, upreared breaker would come momentarily thundering back like an avalanche seeking revenge against the salvors, the groups of which increased in number as the day grew older.

The clouds hurrying past were now less dense, dissipating as quickly as they had congregated the previous evening, and, sign of good omen, the sea-birds re-appeared on the scene. There were the different petrels, the *thalassidromæ*, the phaetons, the cormorants and curlew, puffins, terns, and noddies, in numbers, hovering over the turgid waters, which now receded with the tide, leaving the inner sides of the reef in comparatively shallow water. But the rollers continued to beat on the outer reef with unceasing thunder, the spray from the breaking surf being hurled in cascades of solid white spray nearly a hundred feet into the air, in spite of the whole gale of wind, which yet blew with considerable force; but the focus of the typhoon was past, and the hurricane swept on its relentless path towards Bourbon and the seas beyond, until it should dash its last remaining energy and passion against the coast and inland plateaux of Madagascar, some hundred leagues and more away, leaving agony to the few caught in its toils, but also health and vigour for the many in the purified atmosphere behind it; for fever and cholera are swept away by the all-destroying angel of the sea.

My own impressions as I surveyed this scene were free from all horror or pain, so unmixed was my astonishment and wonderment at this tremendous exhibition of the force of nature in this strife of the sea and air, to see the fine ship of a few hours ago, fully manned and equipped, now, not only engulfed but ground to dust and ashes; the mag-

nitide of the material and mechanical forces at Nature's command were so vividly brought home to one's limited comprehension.

But it must not be supposed that all this time we were standing idle. What it has taken some short time for me to relate, was witnessed by me in a far shorter space of time, and immediately on my arrival I learnt, to my relief, that some survivors had reached the shore; and as the men in the Martello tower belonged to my battery I went there to see that the rescued living were properly attended to, and that the bodies of the dead should also be decently laid together; the bodies already collected were numerous and not so mangled as I had expected to find, consequent upon having been washed ashore previous to the more bulky spars and timbers being broken up. Four Europeans and ten lascars were the sole survivors out of a total of some sixty souls that were on board the ill-fated ship. Of these Europeans, one was the third officer and one a petty officer (the carpenter I think), from whom we subsequently learnt the story of the wreck.

It was a melancholy scene; at the foot of the tower were seventeen or eighteen bodies, mostly Indians, Malabar immigrants, and others were being added as I came up. Within the tower the few survivors were in the beds of the gunners, under blankets, the wounded groaning and others half-insensible from pure exhaustion and exposure. Rum and stimulants were forthcoming, and ere long there were some doctors, who took charge of the poor creatures who required surgical aid.

About 10 o'clock we walked to the neighbouring military camp of musketry instruction, and got breakfast at the officers' mess, for it had been a rather exhausting morning's work, and we were in need of rest and refreshment; but we did not stay long, but returned to the work of salvage on the coast. Now that all life that could be saved had been rescued, and proper officials in charge of the wreckage, there was more leisure for calmer observation of the physical and natural phenomena attendant on the effect of the past cataclysm. First, what most struck me were the huge masses of living coral rock washed up from the outer escarpment of the reef. These masses of living madrepores, millepores, astræas, and mæandrinæ can support "a tremendous surf," according to Darwin, and, indeed, seem to prefer localities the most exposed to the action of storms. Humboldt long ago indicated the vital forces of these organisms, regulating the cellular structure of the polyp-trunks, which in time acquire a rocky hardness able to resist triumphantly the shock of moving waters. The masses now washed on the strand were covered with a living gelatinous film over the calcareous fabric, which affords food for both fish and turtle, and gives a disagreeable phosphorescent odour to the mullet caught on the coast. Among the coral were myriads of shells, molluscs, crustaceæ, sponges, and polyps, sea-slugs, the *bêche de mer*, echini and actiniæ, medusæ, &c., dead eels and fish, such as chætodons and ostracions, with masses of seaweed, monstrous bladderwrack, and the nasty shapeless, amœba-like masses of *errantia*, which the Créole fishermen style "*s'embrasse*," from their contractile habit of hugging, and their absorption of all within their reach.

The mountain-peaks again jutted out clear and sharp against the pure ether of a cloudless sky, but down their sides numerous cascades now poured, scoring deep paths through

the tropical thickets of bush and fern, only to be overgrown and obliterated by the quick growth of rank vegetation.

As the weather subsided, the pirogues and canots, formed out of single hollowed trunks of colophane, were dragged down by the fishermen to the tide and launched within the reef, in search of flotsam and jetsam; but a strong force of the civil police was now present, under a constabulary officer, who kept guard over the valuables and portables as they were recovered, and a hastily summoned inquest was held on the bodies of the shipwrecked mariners and immigrants, for in these hot climates it is absolutely necessary to bury the dead within a few hours. Long before the afternoon had grown late the bodies of the strangers were buried under the soil of the island, against whose inhospitable reefs their life's breath had been expended.

The same day we mustered a large party at tiffin in barracks, and the third officer, who had been saved, told us all he knew as to the occurrences on board the *Moorestfort*. His tale was thrilling, but terse and short, yet how significant and suggestive!

The story of the disaster was briefly as follows:—

All on board the *Moorestfort* had calculated on entering the harbour that Sunday night, when they anchored to await the arrival of the health officer to give them pratique. As no boat, however, communicated with them, they made all snug for the night, not having comprehended\* the meaning of the double signal-guns from Fort George, which indicated that all vessels outside must put to sea. In fact they took the firing for the usual sunset-gun. Too late, they discovered that the typhoon would burst upon them, and they tried to leave the roadstead, after firing guns in hopes that even at the last moment a steam-tug would be sent to bring them in, which certainly might have and should have been done. But, unfortunately, the Créoles de Maurice are in perpetual dread of cholera being imported, and would suffer all the ships in the world to perish rather than run the risk of contagion being brought in a coolie ship.

At midnight, when dragging her anchors, as a supreme resource, they attempted to veer out at a clinch, but the force of the storm was too powerful for them to get her head round, and she tailed off with her stern on to the reef at Petite Rivière. Almost the moment she touched she broke in half, and the fore-part of the ship, as we have seen, was lifted bodily on to the platform of the reef. The third officer was washed, with several others, overboard at the first shock, and carried by the wave well inside the reef, into shallow water, at low tide, where he was able to wade ashore, and a few of the others at the same time. All the remainder, who remained on board, including those whom we saw on the wreck of the fore-mast, were drowned.

The captain was a married man, and his desk was one of the few articles which were washed ashore intact, containing his letters to his wife, ready to be posted in Port Louis, on his arrival, 2nd February 1863.

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\* The Captain had the book of instructions relative to hurricane signals at Port Louis, and yet failed to recognise the order indicated by the two reports.

As soon as our guest had related his story, we discussed naturally the subject of hurricanes and the laws of the circular storms in the Indian Ocean.\* Dr. Meldrum, the able and zealous director of the Mauritius Observatory, who has made the life-long study of these revolving storms his *specialité*, has ever rightly insisted that they are centripetal, and consist of currents of air flowing inwards spirally, in contradistinction to M. Faye's theory that the wind moves in circles round the cyclonic centre. The harbour master, who was present upheld Meldrum's doctrine, and of course laughed to scorn the non-

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\* "The hot season, December, January, and February, is also the hurricane season, which, however, includes also March. About twice in every three years a hurricane visits the island; and, at much longer intervals, there is a really severe one, which does incalculable damage. Every season there are several severe storms, the outskirts of some cyclone passing at a distance, but little damage is done, for everything is adapted to resist them. Even the vegetation, that is to say the indigenous flora, looks as if specially grown to resist wind. The trees are ribbed and fluted, propped up by buttress roots, their branches compact and stumpy, the leaves thick, fleshy, and in clusters, covering leathery flowers or thick-stemmed seeds. Many of the trees bear their fruit on the trunk, and even on the roots, and so effectually protect them from hurricanes. The woody fibre too, of the large trees are extraordinarily tough and durable, and so heavy that that of most species sinks in water. The introduced species, however, suffer much from the hurricanes, which is especially the case with the growing sugar-canes, but if plenty of rain follows they re-root themselves and strike up afresh. When a really severe hurricane occurs the canes are broken off short, hurricane-shutters are blown in, houses even sometimes carried away, while trees are uprooted, ships wrecked, and the roads so cut up by water as to be impassable for days after. An immensity of damage is done to the ships, which are sometimes wrecked in the harbour, in spite of housed topmasts and extra anchors. Trains stop running during a hurricane, all traffic ceases, everyone shuts himself up in his house, bars his hurricane-shutters, and looks to his store of oil and tinned provisions. One has to live by lamplight, and on cold food; such torrents come down the kitchen chimney that no fire can be lighted, and besides the kitchens are apart from the dwelling-houses, and none dare venture out while the hurricane lasts.

"There is an observatory at 'Pamplemousses' (not far from the world-famous botanical gardens, the sight par excellence of Mauritius), whose famous director, Dr. Meldrum, is a well-known authority on cyclones; to him is due the discovery that they are most frequent during the years of maxima sun spots. The logs of all the ships that put into Port Louis are copied, and collated by Dr. Meldrum, and the directions of the wind, and course of every cyclone in the south Indian Ocean, traced as far as possible. From these data it has been distinctly proved that the direction of the wind in a cyclone is by no means circular, as has been long assumed, but spiral, becoming nearly circular close round the central calm. Cyclones originate, in this part of the world, in what usually is a belt of calms under the sun, they are caused by the north-west monsoons penetrating the calms until they meet the south-east trade-winds, a gyrating motion is at once set up, and the cyclone moves westward at the rate of a few miles an hour, gradually its direction of motion curves more and more to the southward, and finally it is lost amongst the south-east trades. Every year there are many hurricanes in the South Indian Ocean, but most of them curve to the southward before reaching Mauritius, and thus pass to the eastward of it. Dr. Meldrum gives warning of a hurricane at least twelve hours before the wind acquires dangerous force; from hourly observations of its direction, and strength, he is enabled to discover the position of the cyclone's centre, and its direction of motion, and thus predict danger or not to Mauritius. Telegrams setting forth the state of the weather, when a cyclone is approaching, are sent hourly to the public offices, newspapers, railway stations, &c., and are continued until it is necessary to close the telegraph offices. A cyclone rarely lasts more than two or three days in Mauritius, although they have been known to continue six or seven; when this is the case the mortality amongst birds, especially insect-feeders such as swallows, is very great, owing to the impossibility of obtaining food while the hurricane lasts. Immediately after a hurricane everybody starts off on foot, for the roads are always impassable to wheels, to see his friends and to inquire what damage is done; like all events in such a small place, accounts get immensely exaggerated, until each hurricane seems as bad, in its way, as one of the plagues of Egypt."—Lieutenant Haig, R.E. (Mauritius, 30th October 1880), "Royal Engineer Journal."



rotation theory of Espy. But, according to the present nautical directions, it is quite possible for a vessel seeking to avoid the centre, to be actually running into it.

These cyclones occur with regularity in cycles, their periodicity agreeing with the appearance of the solar spots and the magnetic disturbances of the sun's corona. At the time of which I am now writing, the frequency of the storms was decreasing; thus in 1862 we had experienced ten cyclones in Mauritius, in 1863 there were nine, in 1864 there were only five, and in 1868 there were seven.

The tremendous energy of these cyclonic eddies may be judged from the fact that, whereas a strong gale in Europe is estimated to travel at fifty-five miles per hour and a whole gale at seventy miles per hour, a Mauritius hurricane obtains a rotatory speed of eighty-five miles per hour, which signifies a pressure of thirty-five pounds to the square foot, sufficient to elevate the pendulum of Prestel's anemometer  $74\frac{1}{4}$  degrees from the perpendicular.

During one hurricane at Port Louis, whilst I was watching the self-registering anemometer—one of Osler's—the whole apparatus was blown away by a sudden *coup de vent*; and on the same occasion I saw corrugated iron roofs flying like paper, and a ship's dingy rolled over and over along the surface of the harbour, just as one sees a hat blown along the ground. In 1862 a force of 166 feet per second was registered, which is equivalent to 113 miles per hour, and a pressure of sixty pounds to the square inch.

On the 12th of March 1868, the iron girders—200 feet in length and weighing over 300 tons—were blown from the railway bridge over Grande Rivière, when a force of 100 pounds to the square foot must have been exerted by the wind in the ravine.

The same afternoon you may be sure I drove over to the *Baie aux Tortues* to inquire after the welfare of the two *belles Mauriciennes*. It was wonderful to see how soon the traces of the late terrible fracas had all disappeared, and with it the sultry languor of the preceding day. Although hot and bright, the trade-wind blew brisk and fresh. The fallen trees had already been removed; the flexible chandelier-like leaf-stalks of the agaves again stood upright, diminished in numbers, and with their inflorescence battered by the late transient frenzy of the atmosphere now so serene. The arundinarias and bambusæ rattled gaily, and the palmistes and cocoas were jubilant in the sunshine. The poor bananas certainly looked shabby, and the tamarinds and acacias were slightly woe-begone without their foliage. Many of the Malabar's huts and Créole cases showed signs of dilapidation, and not a few were entirely destroyed; but a few days and the material close at hand would soon supply the deficiencies. Past the prickly opuntias and the hedges of cassia we noticed that the honeysuckle and stephanotis—creepers which used to cover the ornamental iron gateway at the entrance to the grounds—were torn down; but the rose-trees and coffee-bushes in the gardens were unhurt, as was also the huge banyan-tree with its mantle of sweet climbing lianes. The mill and distillery were in full busy work, and within twenty-four hours from the time I left the verandah, again we were assembled; no longer languid and feverish, but active and excited by the stirring events so recently enacted around us.

Again we take a walk to the old mortar-battery, from which the yet remaining portion of the grim wreck is barely discernible through glasses away to the south; but it is not Sunday: I cannot linger, and having found all well turn to depart, leaving the happy couple to their duets and music, for his *tenore robusto* voice well accords with her bird-like soprano. Whilst chaffing and leave-taking in the porch with the younger gay and cheery demoiselle, we can hear already the chords of the piano in the *salon*, and the words of the following *meeresabend* reach our ears—

“ Sie hat den ganzen Tag getobt  
Als wie im Zorn und Pein,  
Nun bettet sich und glättet sich  
Die See und schlummert ein.

“ Und drüben zittert der Abend wind,  
Ein mildes heiliges Weh'n  
Das ist der Athem Gottes,  
Der schwebet ob den Seen.

“ Es küsst der Herr auf's Locken haupt  
Die schlummernde See gespricht,  
Mit säuseln dem Segen  
Schlaf ruhig wildes kind.  
Ruhig! Ruhig! Ruhig!”

It is again sunset, and under the filaos can be heard the sound of the tom-tom from the direction of the Malabar camps, but the majority of those who at this time yesterday were full of hope and expectation on board the *Moorefort* are dead and gone; of some the bodies are beneath the daturas and hibiscus shrubs; of most, however, the voracious tiger and hammer-headed sharks, which swarm on the harbour-bar, alone can give account—those deep-sea fiends, who have torn the mangled corpses for their food,\*

“ To the sound of the bell-buoy tolling.”

On the evening of the 29th of June, H.M.S. *Rapid* (eleven guns), commanded by Commander Charles T. Jago, R.N., put in to Port Louis with the news of the revolution in Madagascar and the death of the King. Captain W. Rooke, who commanded my battery, returned in her, and brought details of the late *coup d'état* at Antananarivo, which greatly interested me.

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\* Shooting and harpooning sharks at the Bell buoy is a recognised sport at Port Louis. For this purpose a dead bullock is towed out as a bait, when the sharks appear, sooner or later, and afford good fun for the sportsman. Lieutenant Haig, R.E., mentions having shot seven on one occasion, the smallest twelve feet long, and besides harpooning four others. “The jaws of one of them which I have” (says Lieutenant Haig) “pass clear over my shoulders, and are armed with six rows of teeth. Our total bag of eleven does not include twenty-nine baby sharks, found inside a 16-foot female; each of the little ones was over two feet in length, with extraordinary development of tail in proportion to the body.” See sketch by Major Robley, 91st Regiment, in “Graphic,” October 16, 1880.

I also received the following letter by post from the capital:—

“MY DEAR,

“Antananarivo, May 15, 1863.

“I inform you the death of His Majesty Radama II., and the rising up the Queen upon the throne. I kant tell you now all that happen, because I am deeply sorry, nevertheless Kapt Rook must tell you.

“Believe me, My dear,

“Your sincere Friend,

“RAZANAKOMBANA,

“14th honor, officer of the Palace.”

“To Oliver.”

Early next morning I galloped up to Moka and breakfasted with the General, and as the *Rapid* was to return to the coast of Madagascar to watch British interests, I obtained leave to proceed in her, more especially to learn more particulars as to the fate of the King, who (it was rumoured) had escaped from death, and was on the coast in hiding. The General, now acting as temporary Governor of the island, was as interested as I could possibly wish, and gave me special instructions as to the course that I was to pursue in the contemplated search for the deposed sovereign on the east coast. As I had been particularly intimate with the unfortunate monarch, it was thought that my presence on the coast would give confidence to any of the Hovas and Menamaso who were possibly contriving for the escape of the King to English protection on board a man-of-war. Accordingly, I embarked the same afternoon in company with Lieutenant Burton and Ensign Simpson, of the 13th Light Infantry, and found a hearty welcome from Captain Trelawney Jago and his officers, a very cheery lot making up the ward-room mess. Arthur Dupuis was the 1st lieutenant; Martin Dunlop the 2nd; and Roe, master.

We had a slashing fine trade-wind blowing and made the Fong Islands before midnight 2nd July. Sighted the flag-staff on the battery at 9 A.M., and anchored off Tamatave by noon on the 3rd of July after a rapid run of sixty hours from Port Louis. We at once went ashore, I accompanying Captain Jago up to Pakenham's house, where the official complimentary visit was duly made.

Tamatave had already been considerably improved during the previous seven months, since I had left. There were several new buildings and signs of prosperity and increasing trade.

Several bullockers were at anchor, and we were much amused at seeing the method of embarking them on board; and I made the accompanying sketch for the “Illustrated London News,” as a companion to one I had previously made of the passage of a huge drove of these same cattle through the woods from the interior to the coast.

I here received the following letter, which should have reached me before:—

“MY DEAR LIEUT. OLIVER,

“Antananarivo, 20th May 1863.

“I duly received your note of the 6th of April last, and am sorry that urgent public engagements have prevented my shewing any attentions to your friend Captain Rooke, but I shall be happy to be able to do so before he leaves the capital.

"I shall be very glad to see you again at Antananarivo, and I hope that your love for Madagascar will never decrease.

"I cannot say much about my knowledge of English, as my public duties do not allow me to give much time to it.

"Remember me to all my friends at Port Louis, especially the General and Captain Anson. My brother and sister were pleased with your message of remembrance to them.

"I remain, your sincere friend,

(Signed) "RAINILATARIVONY,

"Lieut. S. P. Oliver, R.A."

"Commander-in-Chief."

We spent a few days at Tamatave, during which time I visited the coast on either side, and made guarded inquiries as to the possibility of the unfortunate Radama being in the neighbourhood. There was a general belief at that time that he was not dead but trying to escape from the island; but the generality of the people on the coast were too much in fear of compromising themselves in any way to dare any allusion to the King being made. News came from the capital now which made it certain that the King had actually been killed. I am precluded by obvious reasons from giving any detailed account of the confidential transactions which chiefly occupied my attention during this mission.

One day a party of us went for a ramble to the northward of Tamatave, opposite Prune island, halting and leaving our filanzans at Pangalen, whilst we borrowed a very cranky pirogue and explored the banks of a lagoon which here joined the sea. Between the sea and the lagoon was the usual scrub of *pandanus utilis*, *filao*, and stunted gum-trees; but on the opposite side of the stagnant waters, on the steeper banks, was a much more luxuriant vegetation, and in some of the winding creeks the scenery was striking. Here was an unusual quantity of a peculiar tall *vacoa*, which Ellis calls *Pandanus muricatus*, and the French "*vacoua en pyramide*." The stem of it is as straight as that of a larch tree, and it grows up to fifty feet, with feathery plumes resembling more a fountain than a pyramid. When partially clothed with creepers, and, as was often the case, with a species of bright convolvulus, the graceful curves took away the normal stiffness of the trees, whilst their aerial roots form a characteristic thicket at the margin of the waters, intermingled with which were the blossoms of *Hibiscus tiliaceus*, and the glorious racemes of *Alpinia nutans*, or great ginger: whilst further inland were bushes of *strychnos*, *brexiads*, and various cycads. Ubiquitous also was the evergreen distichous foliage of the various angræcums and other orchidaceous plants, every decaying and fallen trunk being clothed with these and other scandents. Here and there tall bare trunks were conspicuous with gaunt white limbs; but even these were often as not surmounted with clusters of the so-called bird's-nest *Asplenium*, and *Ophioglossum pendulum*, and bunches of moss and lichen entangled amidst epiphytal lianes.

There seemed plenty of fish in the deep pools, and now and then the stirring up of the mud and strong aroma of musk betokened the near presence of the abhorred crocodile, "*voay*." The waters were enlivened by the presence of the lively "*skulula*," a pretty

wagtail, and graceful herons and gallinules; whilst brilliant little *nectarinias*, called "shoie" by the natives, flitted among the blossoms of the hibiscus, lobelia, and the shining leaves of the blue tradescantia.

Growing in the water were tall rushes of "zorozoro" and "herana" with *Pistia stratiotes* and water-creepers, such as "volandrano" and huge caladiums; whilst on the drier banks in the sun darted numerous lizards, such as *Gerrhosaurus lineatus* and *Liolepsima belli*, and not seldom we would come across the common snake, called by the Betsimasarakas "martingum," viz. the *Heterodus Madagascariensis*, a whole nest of which I found under an old trunk which we had used as a seat. "The large and universally distributed family of Colubrine snakes is represented in Madagascar, not by African or Asiatic genera, but by two American genera—Philodryas and Heterodon, and by Herpetodryas, a genus found in America and China. The other genera are all peculiar, and belong mostly to widespread tropical families; but two families—Lycodontidæ and Viperidæ, both abundant in Africa and the Eastern tropics."—(Alfred Wallace, *Island Life*.) Deeper in the shade as we plunged through ferns and undergrowth were chameleons, some of which kind I had previously kept as pets, viz. *C. lateralis* and *bifurcus*, named "tanroondro" by the Hovas. Madagascar is certainly the main home of that exceptional family of Lacertian reptiles, the family of the chameleons.

It is most enjoyable, such an idle rambling through crowds of novel vegetable and animal forms, and we came back loaded with quantities of rubbish, amongst which we in our ignorance loaded ourselves with many common tropical weeds, passing over real botanical curiosities.

Another day (I have lost my note-book of dates) I went to sketch the old fort of Thomasina, hitherto impregnable, the history of whose successful defence is worth keeping in remembrance, and is recorded at p. 132. As a boy one of my first recollections was seeing in the "Illustrated London News" an engraving of the attack on Tamatave, which somehow or other left an impression on me. Gloss it over as we may, the attack was unprovoked, and subsequently disavowed, at least tacitly, by the English Government.

Whilst at Tamatave we had several "Aye-eyes" brought to us for sale, and these curious creatures (*Cheiromys Madagascariensis*) were evidently not so rare as they had been reported previously. Of course the Betsimasarakas say it is rare in order to enhance its price, and no doubt it is not so common as the nearly allied lemurs who go in bands; as the cheiromys is a solitary animal, or at least only met with in pairs, and is essentially nocturnal in its habits, sleeping all day in the thick tufts of large bamboos in the most impenetrable forests. The name "Aye-aye" bestowed on it by Sonnerat as the native name, is merely a common exclamation of the Malagasy when they see anything strange.

A few days before we sailed, Captain Jago determined to examine the entrance of the Hivondro River with his boats, and see the state of the bar at its mouth. There had been some wreck there which he had to report upon. Accordingly he started with his gig and whaler, whilst Dupuis and myself and Dunlop went overland in our filanzans, or "tacons" to meet him.



EMBARKING OXEN, TAMATAVE.

[To face p. 220.]

1840  
1841  
1842  
1843  
1844  
1845  
1846  
1847  
1848  
1849  
1850

Our journey to Hivondro went over the same ground as described in my former route, and we slept in the lapa as before.

Captain Jago arrived safely with his gig, but the whaler could not cross the bar, and had to return to the *Rapid*.

The following morning we accompanied Captain Jago in his gig up the river as far as Ampasimaventy, and landed to explore the forest of Chasmanna. The large volume of water which generally flows down this main stream must be enormously increased in the rainy season, and fully accounts for the lagoons on the coast, which are equivalent to the gobhas on the eastern coast of Ceylon.

#### LAGOONS ON THE EAST COAST OF MADAGASCAR.

The numerous rivers which drain the high-lands of Imerina and Sihanaka and flow eastwards through the Betsimasaraka and Betanimena provinces to the coast, between  $17^{\circ}$  and  $21^{\circ}$  of south latitude, arrive at the sea laden with alluvium, and at their junction with the ocean being met by the south-east trade winds and the passage drift current from the north-east, which prevails in the Southern Indian Ocean; the sand and alluvial soil instead of being carried out to sea, are heaped up in bars along the shore, and as these deposits are ever being augmented by fresh matter held in suspension by the currents, the rivers flow behind these bars in search of new outlets, and thus a series of lagoons is formed not dissimilar to the so-called "*gobbs*" on the east coast of Ceylon, and the "*gobhas*" on the coast of Arraccan.

These formations once commenced, their growth proceeds with rapidity. The material deposited being dried and partially consolidated in the intervals between the tides, long embankments are gradually raised, behind which the rivers flow for considerable distances before entering the sea.

Occasionally these embouchures become closed up by the accumulations without, and the pent-up water assumes the appearance of a still canal, more or less broad, according to the level of the beach, and extending for miles along the coast, between the main land and the new formations. But when swollen by the rains, if not assisted by artificial outlets to escape, they burst new openings for themselves, and not unfrequently they leave their ancient channels converted into shallow lagoons without any visible exit.

In process of time these sand-banks become covered with vegetation; herbaceous plants, shrubs, and finally trees peculiar to saline soils make their appearance in succession, and as these decay their decomposition generates a sufficiency of soil to sustain continued vegetation. This process of conversion may be observed in all its stages along the east coast.

The margin of land nearest to the water is first taken possession of by a series of littoral plants, which apparently require a large quantity of salt to sustain their vegetation. These at times are intermixed with others, which, though found further inland yet flourish in perfection on the coast. The penetrating roots soon secure a breakwater; notably the dwarf broad-leafed pandanus, which is utilised by the Betsimasaraks to prevent the



inroads of the blown coral sand, which otherwise would bury their small gardens and plantations.

But to return to the forest of Chasmana, this forms the eastern portion of the great outer zone of jungle, which more or less encompasses the whole island. This outer belt of almost impenetrable forest grows upon comparatively recently formed clays, in which are found remains of the hippopotamus (now extinct), gigantic tortoises, like those of the Mascarene and Aldabran type, and also of the lately extinct struthious *Æpyornis*,\* the latest survival perhaps of its former allied brethren, such as the *Ichthyornis* and the *Hesperornis*. The Kimos, or dwarfs of Madagascar, described by Rochon, must have appeared like Lilliputians by the side of their contemporary, the *Æpyornis*.—"S'il y avait des races de nains, comment pourraient-elles abattre les forêts pour cultiver la terre? Elles se perdraient dans les herbes. Chaque ruisseau serait pour elles un fleuve, et chaque caillou un rocher. Les oiseaux de proie les enlèveraient dans leurs serres, à moins qu'elles ne fissent la guerre à leurs œufs, comme Homère dit que les Pygmées la faisaient aux œufs des grues." Is it not possible that the fame of the pigmy Kimos in the country of the gigantic egg-laying Rukh Gryphon may have reached Chios as early as the Homeric times?

We did not wander far into the woods, being anxious chiefly to collect the stems of the huge tree-ferns, which are heavy when moist but dry up to feather-weight when desiccated. I also collected hampers full of angræcums, calanthes, davallias, and *ophioglossum* sp. for Mr. Duncan of the Pamplemousses Gardens at Mauritius, besides some lovely specimens of *coleus*, with bright pink markings along the mid-ribs and veins of its leaves, as well as various *sonerilas* with silvery and metallic intra-marginal blotchings, some with regular rows of pure white spots, and others with purple and carmine dottings, the innumerable patterns of variegated hues on some of these vegetable spouts being brilliant and ornamental. All the older trees are covered with a redundancy of mosses and lichens with pendulous ferns. Among the lichens being *therophoron*, several *usneas*, *parmelia*, *stictinas* various, *physcia*, and a *ricasolia*, interesting as hitherto only known in equinoctial America. We soon filled the boat and had a rapid pull back to Hivondro after a most pleasurable day. Arriving late at night we slept at Hivondro, whence we returned to Tamatave the following morning.

On the 18th July we sailed from Tamatave, sighting Réunion on the morning of the 24th July. The appearance of Réunion from the west at daylight was striking, the summits of *Les Salazes* (10,069 feet elevation) and the *Pic Cimandef* (7,303 feet) stood up conspicuously above the mass of the dome-like island, and by effect of the refraction appeared nearer than they really were; for as the sun rose the island gradually faded away,

\* "C'est à lui (M. Lépervanche-Mezières, Créole de Bourbon) que M. J. Geoffroy Saint-Hilaire dut les documents qui lui servirent à décrire l'*Æpyornis*, qu'il avait (ne sachant pas que ce nom existât dans la science) nommé *Megalornis*. Ce fut à tort que le nom de M. Malavois fut prononcé à ce sujet; il n'était dans cette découverte que le représentant de la maison de Rontaunay, dont les agents et les navires avaient alors, et à diverses reprises, apporté les débris de cet oiseau géant."

and at noon was quite out of sight. Land not being again visible until evening when we approached the Pointe des Galets, and coasting along the enormous cliffs between La Possession and St. Denis, had a good opportunity of noting the curious stratification of the lava beds, whose sections are here well exhibited, especially remarkable where the *cascade de la Ravine Malheur* hurls itself over a chasm on to the rocks at the water's-edge; and at the Cap Bernard where one small *coulée* of melted lava gives the impression that it has flowed over the less recent formations. Some of the dykes also are wondrously fantastic. We did not reach Port Louis until the 26th, when I transferred my botanical treasures to Mr. Duncan at Pamplémousses as soon as possible, and a *heterodon* to Mr. E. Newton\*.

In August it was necessary for me to look out for a house in the vicinity of Port Louis; and as the only one available was somewhat remarkable, and as it may be suggestive to some of your readers of how to utilise old timber, I will describe it for their benefit.

The dwelling-place I fixed upon was known as "The Ship Ashore," and consisted in the actual deck-house of a ship which had been wrecked a few years previously at the mouth of Grand River. Grand Rivière is close to the southern side of the entrance of Port Louis harbour, and many an unfortunate ship, riding at anchor at the bell buoy outside the harbour, has been driven by a hurricane upon the coral reef at the mouth of this bay. The owner of the structure had bought the wreck, and had the deck-house hauled up on rollers above high water-mark in the neighbourhood of the favourite bathing-place called Cassis.

The deck-house consisting of a *cuddy* and two state-rooms was raised on a substructure of stone and cement, and an upper storey added by roofing in the deck above, to which access was had by an outside gangway. The saloon formed a drawing-room, the side port-holes forming quaint windows, the two stern cabins made small bedrooms, whilst above was a dining-room and large bedroom. Another pavilion with bath-house, &c., was separate, and the kitchen with servants was as usual altogether detached from the dwelling. The outer staircases and trellis-work were covered with creepers such as the quick growing elephant-creeper (*Tecoma jasmenoides*), and the common moon-creeper, with its large white blossoms (*Posana paniculata*), called by the Créoles *Liane de Marie*, or *Manche de la Vierge*, which begin to blow as the sun goes down, perfuming the air deliciously, besides the purple Madagascar creeper (*Crypta stygia*). It did not make half a bad house, and when I left speedily found another tenant. Since the fever became epidemic in 1867 it was deserted, and the "Ship Ashore" is now again a wreck, its timbers overgrown with many a garden flower grown wild.

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\* *A propos* of this snake (which ultimately reached the Zoological Gardens in the Regent's Park alive and wriggling), it managed to escape from the box, which held it, one night in the ward-room of the *Rapid*, thereby causing considerable consternation in the adjacent cabins, until its capture in my improvised bed on the floor of the ward-room. There is a heavy fine payable by any person introducing poisonous reptiles into the *Ile Maurice*.

## CHAPTER V.

Réunion.—The largest of the Mascarene Islands.—General description.—On board the *Saxonia*.—Disembark at St. Denis.—Our Consul.—The town.—Description of route to Salazie.—Fine scenery.—Tropical rain.—Bourbon coffee.—Swiss-like situation of Hell-Bourg.—Climb up the Crater Cliffs to La Fenêtre.—Six thousand feet above the sea.—Landslip and loss of sixty lives.—A *Raz-de-Marée*.—Residence of a Bourbon planter.—Tame eels.—Journey to St. Rose.—The volcano.—Scrope's authority.—Professor Judd's work quoted.—Professor Prestwich.—Description of the Grand Brulé.—The new lava-stream.—Cascade of lava over cliff.—St. Pierre.—Cirque de Cilaos.—Les eaux thermales.—Ascent to the Plaine des Caffres.—European flora.—Arduous climb up the volcano.—Two nights in a lava-cavern.—The famous Pas de Bellecombe.—Storm on summit of the mountain.—Leave Bourbon.—Character of the Créoles one hundred years ago.

BEFORE leaving the Mascarene shores I was able to pay a visit to Réunion, the largest of the group, and obtained leave of absence from the General, when the hot weather came to an end in March 1864.

It may not be out of place to give a short outline of this island, so little known to English and even to travellers in general, from the fact of its having, until lately, been out of the track of steamers.

Réunion, or Bourbon as it used to be called, is the largest of the Mascarene group of islands in the Indian Ocean, lying just within the southern tropic, about 400 miles east of Madagascar, in latitude 21 degrees south, and longitude 53 degrees east of Greenwich. The Portuguese under Pedro de Mascarenhas, discovered these islands in the middle of the sixteenth century. At that time (1545) there must have been a discouraging prospect to the colonists proposing to settle there. The whole island not much more than a rocky mountain, with inaccessible peaks, a terrible volcano, and inhospitable shores covered with huge rocks and boulders, affording no shelter for shipping during the awful hurricanes that desolate these seas, must have been the reverse of inviting. There certainly were birds, including the almost fabulous solitaire (*Pezophaps solitarius*), sea and water-fowls, fish in abundance, turtle and immense land-tortoises (*Testudo tricarinata*), but no mammals with the exception of the tanrec (*Centetes ecaudatus*), a species of hedgehog, and flying foxes (*Pteropus*). There was neither grain, fruit or vegetable food, except the cabbage, palm, and the vavangue; consequently, all the domestic and other animals, fruits, and plants were introduced from foreign shores, and have become naturalised in what is now an earthly Paradise.

From the absence of convenient harbours, and the comparatively small extent of its sugar plantations, the commercial importance of Réunion is much inferior to that of Mauritius; nevertheless, it has been a most flourishing little colony, and one where I have enjoyed more true hospitality from strangers than I ever experienced before or since in all quarters of the world.

In 1545 these Portuguese discoverers first placed some goats and pigs on the island, and within a few years the peaks and precipices abounded with wild goats, whilst the thickets in the ravines were inhabited by "sounders" of wild hog, their savage life soon reproducing the tusks and aspect of the wild boar.

In 1642 the French East India Company was established under the auspices of Cardinal Richelieu, and the same year Captain Prounis took possession of Bourbon, and the island has ever since been in the possession of the French, with the exception of a period of five years from 1810, when the English captured it, until 1815, when it was restored to France by treaty, under its new name of Réunion.

In 1649 Flacourt brought from Madagascar a bull and four heifers to Bourbon; by the year 1654 these had increased to thirty head of cattle, when he increased his stock with another bull and five heifers. These animals multiplied and became so numerous that soon the few colonists were obliged to hunt them as wild cattle, and to protect their plantations against their ravages with strong fences. Until 1775 there were still wild cattle on the heights of St. Paul, and a few are said yet to remain on the Plaine des Caffres.

Bory de St. Vincent declared "that the island of Bourbon appeared to have been created by volcanoes, and destroyed by other volcanoes," and, without doubt, there is good truth in what he said. The island, about forty miles long by thirty broad, and almost oval, is in fact composed of two groups of mountains, joined by a table-land called the Plaine des Caffres, at an elevation of 3,000 feet above the sea; the largest group of mountains (the remains of extinct volcanoes) to the north culminates in the *Piton des Neiges*, 11,000 feet above the sea, and the southern group in an active volcano of 7,000 feet elevation.

Another natural division of the island is caused by the protection afforded by the high mountains from the constant south-east trade-winds, separating it into the windward and leeward divisions.

Each of these two last divisions are arbitrarily divided into four cantons, each possessing a chief town with a resident justice de paix; the cantons, at least the larger ones, are subdivided into communes and sous-communes, under commissaries of police.

St. Denis is the principal town, and is the seat of government. It is inconveniently situated to the north of the island, and has no harbour, but only a dangerous exposed roadstead; it numbers some 36,000 inhabitants.

St. Pierre is the chief town to the south, where a small harbour is in the course of formation, and, including the adjacent commune, numbers nearly 20,000 inhabitants. The population of the island may be roughly computed at upwards of 200,000 souls, of

whom 135,000 are native-born Créoles and residents, the remainder being 64,000 immigrants. Of the Créoles born, but a small proportion are actually white, the majority being composed of a *mélange* of negroes, Malagassy, Caffres, Mozambiques, Abyssinians and Arabs, whilst the immigrants are chiefly Indians, either Malabars, Bengalis, or Tamils, and Chinese, with latterly, since the Cochin-China war, not a few Annamities.

It may be here mentioned that the resident English Consul is, *ex officio*, the protector of immigrants, the majority of whom are from Her Majesty's Indian dominions. These immigrants have only been imported since the emancipation of the slaves, which took place in the year 1848.

The climate of Bourbon is most healthy, and it is only since the introduction of the Indian immigrants that epidemics of cholera have been known; the fever which has so disastrously afflicted the sister island of Mauritius is unknown here.

A large portion of the country surrounding the still active volcano is uninhabited and uncultivated. It forms a vast desert of ashes and scoria, and every alternate year is traversed by greater or less streams of molten lava. This part is called the Grand Brulé. The volcanic vents are steadily changing their place in a south-east direction, and the island is visibly extending in that direction.

The remainder of the island, by its varied temperature, different altitudes, and alternate wet and dry seasons, offers a vast field of study to the botanist. The littoral zone may be said to contain, besides its indigenous vegetation, the majority of its cultivated plants, together with palms, such as the latanier (*Latania Borbonica*), the palmiste chevelu (*Saguerus saccharifer*), Le Mouffia (*Sagus ruffia*), and the ravenale. Above this we find the broad belt of forest vegetation up to some 3,000 feet elevation. In the forests the most valuable timber-trees abound, comprising the incorruptible bois puant (*Fœtida mauritiana*), le natte à petites feuilles (*Imbricaria petiolaris*) and others; beyond which is the zone of tree ferns, bamboos, and other reeds and grasses, with tamarinds. Higher up still are shrubs, then stunted bushes and heaths, with the beautiful satin-leaf plants, whilst finally the summits on which the snow rests in the winter present blocks of lava and basalt sparsely covered with mosses and lichens.

On the coast the cultivation of sugar is carried on to a great extent; about 73,000,000 kilogrammes annually exported. Vanilla is cultivated in gardens; about 6,000 kilos of the pods are exported yearly.

The cultivation of cacao, cloves, and cotton, which used to be grown largely in the island, has given way before the more remunerative sugar-plantation, and in the mountains coffee and wheat are still grown, but to not such an extent as formerly. The coffee of St. Leu has the best reputation and is grown chiefly for local use.

The total commerce of the whole island amounts to 112,000 tons.

The Government of the colony of Réunion, according to the terms of a decree of the *sénatus-consulte* (1854), is administered by the Governor as representative of the Emperor and Minister of Marine. The high functionary is responsible for the supreme command and administration of the colony, and the military and naval forces are entirely at his

disposal. The chiefs of the colonial administration under the Governor are the Ordonnateur, the Directeur de l'Intérieur, and the Procureur-Général, besides a Contrôleur who corresponds direct with the Minister de la Marine.

There is a colonial privy council, consisting of the above heads of departments, with two resident notables and the bishops, of which the Governor is president.

Besides there is the Conseil-Général, of which half the members are named by the Government and half elected by the respective municipalities, of which the Directeur de l'Intérieur is president, and representing the Government.

Of all the varied administrations, that which is most important to the colony is the Direction de l'Intérieur. The head of this department, whose duties are equivalent to those of the préfets and sous-préfets (inclusive) in France, exercises a supervision over the entire civil service of the colony. His influence on the affairs of the colony and therefore his responsibility, is unusually severe.

There are no less than six principal departments under his control.

The military force at the disposal of the Governor is composed of a battery of artillery, a detachment of artificers, and a company of infantry of marine; these are regulars. There is also a militia composed of all the white inhabitants, but it is inefficient, and I have been unable to ascertain its numbers.

March 15th, 1864.—Went on board the *Saxonia*, screw-steamer, rigged as a three-masted schooner. C—— and myself had a cabin with four berths in it for ourselves. Mr. Dick, the Rev. Mason, and Captain Wales came to see us off. The captain of the vessel, Daniel Jermy, had great difficulty in making his crew understand him, for he had shipped a new crew, and they could not understand his French, pronounced with a strong northern accent. Consequently, one of the first manœuvres we performed was to steam steadily into the *Hotspur*, a fine ship waiting for her cargo in the harbour. No damage was done, and after having extricated ourselves we got out of harbour by sunset, and when it was dark went down into the little saloon to eat dinner; dreadfully hot and close, and crowded with Frenchmen.

March 16th.—Up at 6 A.M. Heavy swell, but sea calm. Bourbon in sight. Cabin very hot. C—— dresses with some difficulty, comes on deck, and is then very sick. The clear outline of the high mountains rises distinctly behind some fleecy white clouds in the horizon. Flying-fish and boatswain-birds. The slopes and valleys, ravines, &c., appear more plainly till 11.15 A.M., when off the lighthouse at Suzanne the engines stop. A moment after they commence again, and after a great deal of cranking noise they stop for good, and we know the cylinder cover is blown off and the piston-rod broken, and we have, in fact, broken down altogether. We get under sail, and are boarded by a French pilot; anchor in the roadstead at St. Denis, and get pratique by 1 P.M.

St. Denis stands partly on a ravine, the greater portion being on the eastern side of it, whilst there are but few houses in the ravine, and only one or two besides the barracks on the other side, behind which the mountain rises up precipitately some 3,000 feet, and forms a bold cape or promontory, with dark madder-coloured cliffs of basalt and

trachitic rock, diversified by layers of lavas and conglomerate, in horizontal layers, whilst here and there perpendicular dykes cut through these layers in strange contrast. On the ledges of these cliffs are numberless sea-fowl, terns, noddies, the frigate-bird, &c.

St. Denis is so well shaded by the trees planted in the different emplacements that it does not present the appearance of a large town from the sea. The Hospital, Cathedral, Hotel de Ville, Government House, &c., show conspicuously, but one can hardly see the private houses at all, so overshadowed are they by the umbrageous tropical foliage of *Badamiers*, *Flamboyants*, *Nowruks*, *Sang-Dragons*, *Samalongas*, &c. The beach at St. Denis is very steep, and formed of large round rocks, looking like huge pebbles, too big to be called shingle. The landing is difficult on account of the exposed state of the coast, and there are landing-stages of platforms suspended from shears projecting from the beach, into which one climbs or is hauled. However, near the douane there is a barachois, where there is a small basin, into which boats can come in tolerably calm weather, and into which on landing we were dragged by some dozen niggers. The whole place formed a great contrast to the busy harbour of Port Louis, with its shipping and warehouses, &c. Here there were only a schooner, a ship, and a couple of barques, besides the French gun-boat *La Bourdonnais*; and hardly a boat came out to our vessel.

Through Hadley's interference our boxes were not opened by the Custom-house people, and we proceeded to the "Hotel d'Europe," in the Rue de Consul, where we got rooms with a small verandah overlooking the street. We did not get settled until it was dark, and we went to the table d'hôte. The various tints of coloured physiognomies at table were instructive to view, and we were reminded of the story of Le Gentil who visited this island at the commencement of the last century.\* In the evening get a letter from Tamatave that Andriamandroso has been made a prisoner.

Thursday, March 17th.—Went down early to sketch the landing-places and the river at St. Denis. Breakfasted at the table d'hôte. C—— and I then hired a carriage for an hour, and drove round the town, after which I went to call, with Hadley, the owner of the *Saxonia*, upon J. D. Hay Hill, Esq., our Consul in Bourbon. He has a handsomely-fitted house in Rue l'Arsenal, and as soon as I called, he and Mrs. Hill begged me to bring up my wife and stay with them, which invitation did not require much pressing. Accordingly, at 3 P.M., we came up to stay with the Hills in Arsenal Street.

The streets seemed very neat and clean, and the absence of many carriages and carts left the town quiet. The Rue de Paris is the principal street, traversing the entire length of the town. At the bottom of it, near the sea, is the Place du Gouvernement, near

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\* "Le Barbinais le Gentil rapporte qu'étant à Bourbon en 1717, il vit un jour dans l'église paroissiale de Saint-Paul une famille entière qui lui causa de l'admiration. Tous les visages de ceux qui la composaient lui parurent de couleur différente, et sa vue allait du blanc au noir et du noir au blanc. Il compta depuis la trisaïeule jusqu'à la petite fille cinq générations. La trisaïeule, âgée de cent huit ans, dit-il, était noire comme les Indiennes de Madagascar; la fille était mulâtre, la petite fille métisse, la fille de celle-ci quarteronne; enfin la dernière était blonde et ne lui parut pas moins blanche qu'une Anglaise."—"Histoire de l'Île Bourbon," par M. Georges Azema.

which are all the public offices. The Hotel de Ville, hospital, &c., are also in this street, which terminates in a boulevard with the gardens of the Museum.

As soon as it got cool in the evening we walked to the ravine and descended by a series of ramps to the river. We ascended a little further up the ravine, returning at dark, by which time the *rousettes* and *collets-rouge*—the same flying foxes (*Pteropus Edwardsii*) as we have in Mauritius—were fluttering about, with smaller *chauve-souris* (*Dysopes Natalensis*).

Friday, March 18th.—Early down to the ravine for a sketch, and then a walk to the Point des Jardins. In the grand place opposite the Cathedral we were greatly struck with the magnificent palm-trees, *Palmiers de Cayenne* (*Euterpe caribæa*), whose trunks form superb columns of enormous height, "et dont le panache ondule au gré de la brise, et brave l'effort des ouragans qui renversent quelque fois des champs entiers des cocotiers."

In the afternoon we visited the Hotel de Ville, and saw some drawings and lithographs of views in Bourbon. We then visited the Museum, which I should have much liked to examine more closely. There were some monstrous specimens of flying-fish, and some curious reptiles and insects, besides shells, corals, and marine animals.

We returned from the Museum in order to drive round the racecourse, which is on the other side of the ravine and river. Here the 4th Regiment of Line were practising at about 500 yards range with their rifles. It is a pretty spot, but rather spoiled by a redoubt and magazine built in prominent positions. There is a capital view of the town across the ravine, and we sat on the grass near a monument to an English officer who was killed at the taking of the island. After dinner the Legras brother and sisters called and spent the evening. They are French Protestants, were very friendly, and promised us letters to some friends of theirs in the south of the island.

Saturday, March 19th.—Walked up the ravine with Hill. Went to the Messageries Coloniales to order a carriage and relays of horses to Salazie for Monday. After tiffin walked towards the cemetery. Spent the evening at Dr. Legras's house; music, singing, and ices.

Sunday, March 20th.—Church service performed by the Consul to a congregation of six souls—two Mesdames Legras, Madame St. Maur, and ourselves—in the drawing-room. In the evening walked in the cemetery.

Monday, March 21st.—Leave St. Denis at 5.30 A.M. in a roomy carriage and pair of greys, *en route* for Salazie. After leaving the town the road keeps close to the sea, crossing here and there shallow watercourses full of bare rocks, but no water in them, that drain the ravine on the right belonging to the Brulé du St. Denis. A fine clear morning as it was, yet the heights were enveloped in a mist, till, as we reached the Rivière des Pluies, issuing from a magnificent gorge between the Plaine des Chicots and the Plaine des Fougères, the sun rose, and, the mist clearing, we had a beautiful view of the charming and mountainous scenery.

An hour's drive brought us to the little landing-place of St. Marie, where we



watered our horses, and then galloping down the zigzags on the western side of the Ravine des Chèvres, after another hill, saw the light-house at the Pointe du Bel Air, near which is the small village of St. Suzanne, which we reached at 7 A.M., and halted to change horses.

All the way the road-sides were planted with palmiste, cocoa-nut, citrons, cabbage-palm, filao, &c. The diligence was just starting as we entered St. Suzanne, and whilst they were exchanging a pair of bays for the greys that had brought us, I got a very pretty sketch of the mountain and a valley, at the bottom of which runs the Ruisseau du Bel Air. After leaving St. Suzanne the road strikes more inland, leaving the small districts called Quartier Français and Champ Borne between it and the sea.

At 8 o'clock we drove through St. André, a long straggling village, with a picturesque little church. We stopped at the further end of the village and changed horses, and now leaving the Route Imperiale we turned into a smaller and steeper road, and presently reached the brink of the large banks of the Rivière du Mat. Here we descended, and the road leads along the bottom of the valley. The valley soon narrows and the mountains rise higher on either side, till, entering a narrow defile, the mountains, covered with tropical forest and glistening with innumerable white threads of cascades, rise almost perpendicularly above you some 3,000 feet. It is in these sheltered ravines that the finest trees are found, such as the tacamahacas blanc et rouge (*Calophyllum*), from whose trunk the pirogues are hollowed.

The road winds picturesquely along the banks of the river, rising gradually and leaving the river deeper and deeper beneath us in the tortuous and deeply cut channel, which the torrents and floods of the never-wearying waters have scooped for themselves during countless ages. The ravine is a little further on, apparently, divided into branches by a huge conical mountain. The smaller ravine on the left is called the Bras du Caverne, and the water of a mountain stream comes pouring down in two or three long leaps from the very summit of the mountain, and disappearing behind some huge basaltic wrecks, reappears 200 feet below you, joining with a foaming course the Rivière du Mat, almost hidden by the overhanging cliffs.

The conical mountain, called the Malakoff, which from the approach appeared like a huge dome, now appears to lengthen out, and is really only the extreme point of a large spur. Beyond this we cross the bridge called L'Escalier, where there are a few small huts inhabited by very independent Bourbonnais, and the whole valley begins to widen, and distant views of the Piton des Neiges, rising 11,000 feet above the level of the sea, appear, forming a magnificent background. This is only for a moment, for the mists already curl half-way down the hills, and clouds come curling over the ridge on our left, and rain falls. We, however, can still see the gorge beneath us, and the road winds in long zig-zags at such sharp angles, and no protecting parapet, that it is with great faith in the driver and mules that we proceed. Faith comes naturally in the flourishing whip of the tawny Jehu, and we gallop down a long incline cut out of the cliff, with small culverts or stone copings for the numerous watercourses to cross under or over the roadway, and now we see the

village of Salazie on the other side of a wooden bridge, covered with a heavy shower, and not far from a broadish waterfall.

We stop on the nearest side of the bridge, which is being repaired, and I walk over to get people from the blacksmith's shop to take our luggage. We gave the coachman seventy francs for the carriage from St. Denis and two francs *pour boire*, and retired from the rain into a little low cottage belonging to the blacksmith, whose wife cooked an omelette for us. From the window of this house I only had a view now and then, between the frequent showers, of the queerly-twisted basalt column rising high above us. Everything was dripping wet. At last the porters, with a *fauteuil* for C— and a mule for myself, arrived, and we started, regardless of rain and wet, through the village, along a narrow footpath either built projecting from or cut out of the cliff, and although we could not see the tops of the cliffs above us, yet their sides and the rocky torrent beneath us, with the numerous cascades (Haig mentions *thirteen* cascades as being visible at one *pointe de vue* alone, in this ravine), made one almost forget the weather and rain, which now settled down in a steady pour.

We crossed a fine suspension bridge, and could see the half-dry bed of a broad water-course, but now our whole attention was to the slippery path, and a steady climb up an even ascent, easy enough in fine weather, but slippery on account of the wet. We just got a glimpse of a small lake, called the Marre aux Poules d'eau, on our right, and then came more zig-zag paths, and here and there a dripping collection of huts, gardens, woods covered with the creeping *chou-chou*, a large-leaved liane (*Sechium edule*) bearing a small vegetable, eating not unlike vegetable-marrow. Then came some coffee-plants, good sized bushes, planted, as is usual, under the shade of larger trees, &c.

At last some scattered cottages appear, hedges of heliotrope in blossom, nasturtions, fuschias, &c., and we arrive at Hell Bourg, pass by the Military Sanatorium, church, and house of the Sisters of Mercy, and go down into a deep narrow valley, at the bottom of which is the "Source." Here we stopped at the Spa Hotel, to find out which pavilion had been engaged for us, and were sent on to the Boulangerie, a small three-roomed cottage, with verandah, and higher up the other side of the valley than the hotel. Here we arrived about 1.30 or 2 P.M. Barometer 27.49, giving 2,560 feet above the level of the sea.

Rain prevented us poor helpless travellers doing more than unpacking our wet things, for everything was wet through, and we had no change, for our "warranted" trunks were, alas! not waterproof. We got something to satisfy our wonderful appetites, and went to sleep. In the evening had some soup and went to bed, very glad to get beneath the dry blankets.

Tuesday, March 22nd.—We were, as you may imagine, delighted to get some sunshine when the morning came, and soon put out all our things to dry, and went down to the hotel for our mineral baths and cups of *café au lait*. As we crossed a Swiss-like little bridge close to our cottage, up above us, high above some slightly threatening clouds, were the mountain tops of "*les trois Salazes*" ridge, whose highest top culminates in the

so-called *Piton des Neiges*, rosy and pink, and rising almost perpendicular, devoid of trees or vegetation apparently, but like a very cliff, sheer up and down, then more broken crags, then a belt of clouds, and beneath the clouds ridges of densely-wooded ravines, broken by crossing and irregular torrent beds, the lowest falling in a succession of broken water under our feet.

I climbed up to the church at Hell Bourg and sketched, for we knew rain would come on, as it did, after breakfast, which we had down at a table d'hôte, and were yet alone, this not being the fashionable time of year for the Bourbonnais to visit the springs. Whilst we were in our verandah, I painting up my sketches made in the morning, Hadley came in, dripping, in a pea-jacket, and very glad to get some brandy-and-water after the journey up.

As we had a letter to Madame Cassien, and Hadley one of introduction to her mother-in-law, Madame Daniel, we went to call upon them in the slight rain and mist that there was, as it was only a few steps off. The old lady received us very graciously, and talked for all, whilst Dr. Cassien showed us his album, and in it were some large views about Salazie and the volcano, well executed in crayon on a large and bold scale. He showed us one view in particular of the last eruption of the volcano, which made a fine and effective picture.

Every day at this season in these valleys the early mornings are clear and fine, but the afternoon is generally sure to be wet. I made a sketch looking towards the south-east from the break in the ravine between the Source and Hell Bourg village. The Pic Cimandef comes first, a pyramidal-looking cone, next the Plaine des Chicots, a flat table-topped mountain; then in the centre rises the Piton d'Enchien, an old crater cone, beautifully wooded, and in the centre of the circular hollow called Salazie, in the distance, on the right, the Plaine des Fougères.

It is a queer custom they have here calling mountains *plaines*, but as they mostly consist of cliffs with sloping plains, inclining upwards to the sudden perpendicular edge of the crater ranges, the cliffs, which look from below like sharp-edged mountains, are named after the plains surmounting them. Hadley made our former duet a trio at the hotel this evening, and lent us his umbrella to walk back with, from which it may be inferred that the night was not as fine as the morning.

Wednesday, April 23rd.—Walked with C—— and Hadley up the slopes to Hell Bourg, and passing by the church, went out on a spur overlooking the Rivière du Mat and the "marre aux poules d'eau." Here I got a good sketch and some good blossoms of the faham (*Angræcum fragrans*), an orchid which we afterwards found all about the upper parts of the island.

Amongst the numerous little birds twittering in the bushes, were noticeable, siskins, or "tarins," as the Bourbonnais call them; the "tec-tec," or wagtail, two kinds of bush-creepers, called respectively "Oiseaux blancs et verts," and the "moutardier" (*Loxia chloris*).

We then came back, left C—— at the Pavilion, and walked on another ridge, from

which I got another view. We then all descended to the Source for baths and breakfast. The Source itself is a small jet of water running out of a fissure in the rock beneath the building. It is conveyed through a small pipe to a tank, where it is warmed up by a fire underneath, and thence distributed to the different baths, which, to the amount of about twelve, are distributed on either side of the fire; for the mineral water is barely tepid, tasting like flat soda-water with a dash of ink. There is also a *douche* for those who like it.

The weather was beautiful in the morning, and in the winter is very cold. It was now much like what we experienced at Vacoas. Breakfast being at 10. The sun was generally too hot for C—— to be out much later, but Hadley and myself, the day being fine for a wonder, set out for a long rambling walk, first up the ravine, then along a series of waving hills, till we came to the Rivière du Mat, the Piton d'Enchien being close to us, only divided by the deep dry bed of the river. We had a long hot walk and some severe climbing, and did not come back till 4.30 P.M., when C—— and I had a short stroll on the shady side of the ravine, and got an appetite for our dinner at 6 P.M.

Monsieur Cuzard, the manager of the hotel (not the proprietor), has the reputation of being the best cook in Bourbon, and the Mauritius New Club had engaged him at £300 a year. I suspect a great deal of his reputation rests upon the account of people who go up the mountain having such excellent appetites. This evening he gave us a very good mayonnaise. The Mauritius Club was a failure, and M. Cuzard is still at Salazie.

Lieut.-Col. W. E. Montague of the 94th Regiment has written in the February number of "Fraser's Magazine" (1879) a capital and lively sketch of Bourbonnais life and society at this famous Créole watering-place, which is so much frequented in the hot season by the fashionable visitors from both the Mascarene islands.

Thursday, March 24th.—Start at 4.30 A.M. from the hotel, Dr. Cassien as guide, with a Créole well acquainted with the woods and paths, and a black servant of Hadley's. We took some provisions up with us, cold fowl, &c. We followed the regular footpath for three or four miles, when we struck into the valley, crossed a small stream, and ascending some rough half-cleared ground covered with pumpkins, we reached the foot of the wall-like face of the mountain, and right above us could see the Fenêtre, a slight square opening in the otherwise unbroken ridge. The mountain appeared well wooded, except where there were some blank scarped ridges of basalt appearing, their columns here and there wavy, and elsewhere perpendicular, where the water-courses had worn the rock bare and prevented the shrubs growing. We at once addressed ourselves to the ascent, after a few minutes needed rest whilst we watched the rosy tint of morning reddening the perfectly clear top of the Piton des Neiges, the highest point of the Grands Salazes. At first the ascent appears impregnable, but climbing through brushwood we find a watercourse near whose course we find a slight track, we swing ourselves from the rocks and roots to those above us, and the arms are as much needed for our upward progress as our legs. Excelsior is the word, and we pursue our way silently, barring a little panting, only diverging from the original track where the water has washed away the soil and bushes, where we make a slight detour. When we come to the ridges of basalt, quite bare, we skirt along their lower edge till we

get to some more bushes and roots. Here and there a rude ladder of gaulettes and twisted lianes has been left on the face of the rock, which otherwise would be rather difficult scaling.

At last we reached the summit, ever passing something new in the shape of ferns; but I saw several, to me, unknown species of orchids in blossom, and at the top there was a quantity of the silver-leaf plant growing with its wild beauty. Each leaf has a delicate down covering, which gives it a silvery satin appearance. To the touch also the leaf is delicately soft. Everywhere *en route* we came across intrusive raspberry brambles and Alpine strawberries, exotics which have become like weeds, and have an evident superiority in the struggle for existence over the ancient indigenous plants.

At 7.30 A.M. we reached the Fenêtre which now appeared to us a large chasm and a basin densely wooded with tree-ferns, palmiste, yellow wood (*Ochrosia borbonica*), and other trees.

La Fenêtre. I imagine it must be the same as Haig speaks of as "a beautiful gully" (p. 124). To me it was chiefly interesting from its wondrous vegetation of large arborescent ferns—*Cyatheas* of sorts (*C. excelsa*, *C. Bourbonica*, *C. glauca* and *C. canaliculata*), on whose most spongy trunks grow innumerable delicate parasitic ferns (especially *Acrostichum sub-diaphanum*, *Polypodium lanceolatum*, &c.), whilst on the moist soil beneath is *Pteris flabellata*, *Asplenium compressum* and *Ophioglossum*, in great variety, with *Adiantums* in abundance. Nor must I forget to mention the handsome *Lycopodium inflexum*, so much used by Créoles for decorative purposes, as we use stag's horns moss. From Lieutenant Haig not mentioning more particularly the profusion of the aborescent ferns, I fear that the great wood conflagrations have destroyed them since our visit.

We found water collected between the rocks very cold, and also plenty of wild potatoes, which we speedily dug up and got a fire under way. After we had rested, sketched, and breakfasted, we did not take a long time coming down; but first I must tell you of the glorious view we got from the top. The whole valley of Salazie lay at our feet; we looked down upon the Pitor d'Enchien, and could see the plateau on its summit, where the Malagassy slave Enchien lived so long as a maroon, and brought up a family. On our left was the high glorious Piton des Neiges, glowing with the bright sun, whilst beneath us all was yet deep shadow. Then the Gros Morne, the Morne des Fouches, and the Plaine des Merles; then the Cimandef and the Plaine des Chicots, the Plaine des Fougères, were the limits of our horizon. The sun was behind us, and lighted them up beautifully. Behind us and where we stood was the Plaine de Belous, but on account of the woods we had to take it for granted that it was a plain, for the trees (mostly the curious "Tamarins des hauts" (*Acacia heterophylla*), "Bois noir des hauts" (*ébène*), *Diospyros melanida*), and a curious species of heath-like shrub (*Hubertia ambavilla*), or *ambavilles*, which cover the highest native ridges. These last-named plants derive their name from Joseph Hubert, one of the Bourbon savants. He is celebrated by Bory de St. Vincent, who was "émerveillé de trouver tant de science chez un homme qui n'avait jamais quitté les Iles

Sœurs") and rocks prevented us seeing anything in that direction, or else we ought to have seen the Mazerin, which, however, I had the pleasure of seeing afterwards.

Between us and the opposite mountains was the "cirque," the amphitheatre (as you might say) or "caldera" of Salazie, torn into a thousand different branches by various streams, ravines, and watercourses, all tending towards the narrow pass or "barranco" at the north-east corner, viz. the different branches called Ravine Bai-Cabot, Ravine des Roche à Jacquet, and the Ravine des trois Bras, united under the sharp angle of the Plaine des Fougères, joining a short way further on the Rivière du Mât, whose branches above break from the Ravine de la Grosse Roche and the Bras d'Amale close to the Marre aux poules d'eau, which shone in appearance and size like a fourpenny-piece beneath us, besides the main ravine de la source, with its numerous little cottages, bridges, church, and hospital. We descended very easily a series of drop-jumps from bough to root, and from the root of one tree to the branches of the one beneath, and so on, varied by a little slipping down the face of the rock, &c. The Fenêtre is about 6,000 feet above the sea.

We reached our hotel at 1 P.M. Breakfast and baths occupied our first thoughts naturally. Wet afternoon. Dined off truffled turkey, for which we had to pay the piper in the end.

March 15th (Good Friday).—Walk with C—— and Hadley towards the coffee plantation. After a cup of the *eaux thermales* and *café au lait*, found a gap in the rock, from whence we had been told we should get a magnificent view; but after all, though it was very fine, in a valley all the views necessarily consist of the same mountains seen from a limited number of points, and therefore description becomes monotonous. Return to breakfast (after our chemical baths) on *rechauffé* turkey, &c. Rest in our pavilion, and read the service of the day. Dr. Cassien presents us with one of his drawings, and bids adieu. We prepare for leaving Salazie on the morrow; pay a farewell visit to Madame Daniel, and see her garden. Standard lemon-plant, verbenas, apples, strawberries, pinks, fuschias, Norfolk Island pine, and many valuable plants and roses, amongst which the *géant de bataille* shone foremost. Alas! This happy valley was, later on, the scene of a terrible catastrophe, for in 1876 a fearful landslip occurred,\* spreading destruction throughout its course, and burying at least sixty persons under its *débris*, rivalling the late cataclysm at Naini-Tal in its disastrous effects, and the recent "berg-stürzt" from the Tschingel at Elm, in the mass of fallen rock.

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\* "The dreadful floods in 1876 caused landslips all over the country, one of the largest of which was in the Salazie crater, and is called the Grand Eboulis. It is situated at the base of the farthest peak of the Piton des Neiges called the Gros Morne, from which an immense mass of earth and rock came down, filling up a smiling valley, and entombing a village containing sixty-nine people. The distance from Salazie to this place cannot be more than six miles in a direct line, but we found the estimate of the people about the hotel, none of whom had been there, very much under the mark. The country is cut up by ravines and watercourses, and the path zig-zags up the steep slopes, making the distance actually to be gone over certainly not less than ten or twelve miles. After crossing the hot springs, and crossing two deep ravines, the track winds past the base of the Piton d'Enchien, a steep conical hill near the centre of the crater. This is named after a celebrated Maroon, who made its summit his home, and poised stones and rocks so that he

In the evening, whilst at dinner, Messieurs Thorny and Desjardins arrived. They were friends of Hadley's, and the latter had been civil to me in my last trip to Madagascar, and had shown me where to get some wild duck up the Hivondrona river.

Saturday, March 26th (Easter Eve).—Rain, rain. Our porteurs arrive to take our baggage, but we are obliged to wait till the rain is over, and descend to breakfast, pay our bills, for Hadley, Desjardins, and Thorny accompany us; and the rain ceasing about 12, we walk on our way back to Salazie village, and a very pretty walk it was too. We, however, get rather wet near Salazie village, when we engage a carriole on four wheels and a couple of mules to take us to Champ Borne. I have described the valley leading to Salazie, the gorges and waterfalls, so I need not repeat that part of the journey between there and St. André, to which place we retraced our former steps, and returning as far as the church, a little further on, we turn off to the sea-coast and arrive at Monsieur de Floris, who, with Madame, a dear old couple, receive us very kindly, and we find ourselves domiciled for a couple of nights in a Bourbonnais habitation. We were close to the sea, and the coast here fully exposed to the trade winds, the sea was rolling on the beach with fine rolling breakers, refreshing to look at. What is called a *raz-de-marée*, i.e. an unaccountable series of huge rollers, was in full force, exhibiting a remarkable oceanic phenomenon which occurs

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could drop them on the heads of anybody attempting to scale his stronghold by the only accessible side. Here he lived for many years with his wife and children, cultivating a little garden, and collecting water enough for their simple wants from the rain caught in holes they cut in the rock. Years after slavery was abolished, the inhabitants of Salazie were astonished by the appearance of this aged Malegash, followed by his wife and a family of six children. They had got tired of their solitude after twenty-one years, and, perhaps, also had outgrown their means of subsistence, and so they preferred returning to slavery, as they thought, to the life they led. What must their joy have been when they learnt that slavery had long been abolished, and that they were free to go where they pleased! As we got near to the scene of the landslip, our old guide, Mandouc, was so much affected that he had frequently to brush away his tears; he had known the poor victims well, and but a short time before the disaster had been in the village. After several days of very heavy rain the slip occurred; it began about 2,000 feet up the precipitous side of the Gros Morne and, increasing as it fell, came down in an irresistible overwhelming mass, which now extends, a sea of barren rocks and earth, a mile across and several miles long. Such desolation can rarely be seen. What a contrast! before the disaster this was a little plain in which a river wandered, gradually sinking into a ravine; a village nestling amidst trees stood on its banks with its gardens stretching around. And now! nothing but bare earth and stones, with here and there a smashed and blasted tree-trunk, and beneath all this lie buried, without the aid of sexton or priest, sixty-nine poor creatures, hurried into eternity without time even to breathe a prayer.

"The stupendous roar of the landslip was heard miles and miles away, even, it is said, at St. Denis, and all who could hurried to the spot. Some of the escapes were marvellous: on the mountain was a hut, surrounded by a plot of maize, in which lived a man and his wife. This piece of ground was carried along three-quarters of a mile by the avalanche, and now stands up in the sea of stones as a little hill. The hut, though tilted on one side, was not destroyed, and the fortunate couple, who were in it at the time, were able to harvest their crop of maize. The disaster was witnessed by an Indian, who, having a presentiment of evil, left his house in the doomed village about half an hour before it occurred. It is said the spot had been examined a few years before by an engineer, who warned the inhabitants of the village that it was a dangerous place, and he pointed to a line of springs at the foot of the steep scarp of the Gros Morne in support of his warning. These springs were strongly impregnated with silica, which the water deposited on any substances it came into contact with, making beautiful petrifications; now they are covered with many feet of *débris*, and the people about have increased their prices for the petrified leaves, sticks, and nests which they offer for sale at Salazie."—Lieutenant H. de H. Haig, R.E., 1880.

at rare intervals at Mauritius, Bourbon, and on the coasts of the Indian Ocean, similar to what are called *rollers* at Ascension and St. Helena, and *calemmas* on the west coast of Africa. I had best give Maillard's account in explanation:—

“*Les raz de marée* sont des phénomènes fort remarquables. On appelle ainsi toute grosse mer, dont l'action ne se fait sentir qu'à la côte, tandis qu'au large, et même en rade, il n'y a que de grandes houles. Ces mouvements déréglés de la mer frappent successivement les différentes côtes de l'île, et quelquefois avec une force telle que la plupart des embarcadères de la colonie se trouvent démolis. *Les raz de marée* sont, pour les côtes et les établissements voisins, souvent bien plus à craindre que les coups de vent: ils paraissent être déterminés par le passage de cyclones, très au large de la Réunion, et se font particulièrement sentir dans la belle saison, c'est-à-dire d'Avril à Novembre, alors que des ouragans passent dans les parages du cap de Bonne-Espérance et au sud de la Colonie.”—  
“Notes sur l'île de la Réunion,” par L. Maillard, 1862.

I cannot agree with M. Maillard in attributing these phenomena to the neighbourhood of cyclones, as their connexion has never yet been proved. It is far more probable that they are caused by submarine earthquakes, as they appear in calm weather without any barometrical indications of passing circular storms. On this occasion as far as we could see along the coast was a cloud of surf and flying spray, the successive rollers tumbling in as though about to swallow up all before them.

“Existence fluctuates only like the tide,  
Whose everlasting changes bring no change,  
But billow follows billow to the shore,  
Recoils, and billow out of billow swells,  
And endless whirl of ebbing, flowing foam,  
Where every bubble is like every other,  
And Ocean's face immutable as Heaven's.”—Montgomery.

Along the coast, as far as one could see, was a cloud of surf and driving spray; not a boat to be seen but those dragged high out of reach of the waves. A small landing jetty near the church, built like all the rest of these stages in the island, shook with every wave, vibrating till you expected each wave to swallow it up. Close to it was a small church and a long low stone-house for storing sugar previous to embarkation, with red-painted tin roof, with large stones wrapped in gunny bags placed over it to prevent the winds carrying it away. The road runs along the sea-beach slightly above it, and the de Floris habitation stands opposite an avenue of filao-trees, at right angles to the road. Monsieur de Floris cultivates tobacco, cacao (for chocolate), avocas, oranges, mangoes, &c. (and is what we should call a market-gardener at home, but who in Bourbon is rightly considered a planter), a very lucrative and gentlemanly mode of making money. We had a tolerably comfortable pavilion assigned to us, a great improvement after the wretched accommodation at Salazie.

We met a nephew of M. de Floris, a young student at the Lycée at St. Denis; and at dinner, which was early, we were much amused at the Créole fashions prevailing. Each dish (everything being on the table) in succession was handed to old de Floris, who



carved or served out a proportion for everybody but Madame, who fasted, only eating but once a day. We were obliged to eat of every dish, and sometimes it was very provoking. There were several kinds of vegetable, but palmiste predominated, and both as a salad and *au gratin* it was excessively good. These palmistes, or cabbage-palms, are cultivated extensively in Bourbon for the sake of their *chose*, or cabbage, at a certain height above the sea (about 900 mètres). There are three descriptions of the Chou palmiste, viz. *Areca alba*, *Palmiste blanc*, *A. crinata*, *Palmiste épineux*, and *A. rubra*, *Palmiste rouge*. The tree is cut down to obtain the soft tender shoot in its spathe, which forms the cabbage. But the thrifty Bourbonnais never cut down one tree without planting another, and they have them planted in rows in succession, in order that as the tree arrives at its early maturity for the table, there are others ready to take its place.

“La tige de cet arbre a quelquefois plus de cent pieds de hauteur; elle est parfaitement droite; elle porte à son sommet, pour unique feuillage, un bouquet de palmes, du milieu duquel sort un long rouleau de feuilles plissées, semblable au fût d'une lance. Ce rouleau renferme, dans une espèce de fourreau coriace, les feuilles naissants, qui sont très bonnes à manger avant leur développement. Le tronc du palmiste n'a de bois qu'à la circonférence; mais il est si dur, qu'il fait rebrousser le tranchant des meilleures haches. Il se fend d'un bout à l'autre avec la plus grande facilité, et il est rempli au dedans, d'une substance spongieuse qu'on enlève aisément.\*

One areca is reputed poisonous, viz. *Areca lutescens*, found wild in the ravines of the island. It is a handsome palmier, “appelé Palmiste poison. Hereusement que l'aspect de l'arbre, d'un vert glauque et l'amertume de son chou, ne permettent pas que le voyageur le plus novice s'y laisse prendre.”

Easter Sunday, March 27th.—C—— went to early mass at the church to hear the singing with Madame de Floris, and I strolled about in the morning with the old gentleman. Afterwards followed breakfast, a very similar meal to that of the night before, and fresh modes of cooking palmiste. To-day we were taken to pay a long formal visit to the family of M. de Floris's late brother, and then into the orange-groves—

“And orchards bending with Hesperian fruit  
That realised the dreams of olden times.”

The fruits were wonderful, citrons and mandarin oranges, hanging in myriads. The Avocada pears also were now in full bearing, and the trees weighed down by the heavy fruit. Besides, there was cacao, the fruit of which grows out of the stem and boughs of the tree. There were also multitudes of mangoes, most of them bearing.

The horticulture about Champ-Borne is carried to a great perfection, and M. de Floris

\* It will be remembered that Bernardin de St. Pierre introduces this palmiste incidentally into his famous “Paul and Virginia,” when Paul “mit le feu au pied du palmiste, qui bientôt après tomba avec un grand fracas. Le feu lui servit encore à dépouiller le chou de l'enveloppe de ses longues feuilles ligneuses et piquantes. Virginie et lui mangèrent une partie de ce chou crue, et l'autre cuite sous la cendre, et ils les trouvèrent également savoureuses.”

and his brother own extensive gardens and plantations of fruit-trees. The French Créole planters in Bourbon take infinite pains in the propagation of the best kinds and varieties of rare fruits and vegetables; and the orange-groves are veritable gardens of the Hesperides. Most English people think that a mango is a mango, whereas there are as many named varieties as there are of apples, pears, peaches, &c., in Europe. The best are *les mangues Auguste, Dauphiné, Genève, maison rouge*. Besides mangoes were fields of bananas, thickets of avocas, bergamottes and bibasses, cherimolias and corrossols, goyaves and citrons, trailing grenadillas and handsome lechti-trees, shaddocks and mandarin oranges, lemons and sapodillas, besides spices such as muscades and poivres with giroffes, the famous ravinsara like allspice, &c. Vanilla,\* a handsome climbing orchid, is also a great feature in the gardens of the Bourbonnais. These richly-cultivated gardens contrast favourably with the neglected gardens in Mauritius, where everything is sacrificed to the ubiquitous sugar-cane.

At M. Victorin's neighbouring *établissement* we were shown some monstrous fatted *anguilles* (*A. marmorata*) in cemented basins, together with some noble *gouramiers* (*Osphronemus olfax*), of which fish (introduced from Batavia) Commerson, the naturalist, declared "*Nihil inter pisces tum marinos tum fluviatiles exquisitus unquam degustavi.*" (A figure of this fish is given in "Land and Water" for February 1st, 1868). Most officers who have been stationed in Mauritius will have tasted with relish a *gouramier en aspic* at *La Flore* or at Paul Morillon's. Do these establishments still exist? Under the grateful shades of these groves fluttered numerous cardinals (*Foudia Madagascarensis*) *Bengalis*, *calfats*, and *coutils*, with *Senegalis* as well as the European sparrow, whilst both the Malagasy and indigenous *tourterelles* cooed undisturbed on the lowest branches of the trees, as tame as possible.

The whole of these extensive gardens were, indeed, well worth admiring, and Champ Borne is deservedly considered the richest district of the rich fruit-bearing island of Bourbon.

Monday, March 28th.—Leave the De Floris habitation early, after being earnestly requested to repeat our visit, and with numerous promises of presents of fruit and tobacco when we should leave the island. Our luggage was taken to St. André by porteurs, and we drove in a chaise lent by M. Victorin. We stopped at St. André for the diligence. Meantime I sketched the church, which is a picturesque little building, with a belfry tower, supported by long tall arches and square pillars, and over the door in rude letters "*HIC EST DOMUS DEI.*"

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\* La vanille (*Vanilla planifolia*) was introduced into Bourbon in 1819; but it was not until the discovery of the artificial fructification in 1840, that M. de Floris cultivated it on any grand scale. This artificial fructification was first discovered by a young black named Edmond, a servant of M. Bellier Beaumont.

"Il voulut se rendre compte de la position des organes de la fleur de cette plante. Son maître eût cueilli la fleur pour l'étudier; mais lui n'osa pas se permettre ce dégât dans la crainte d'une punition, aussi se contenta-t-il de relever l'opercule qui, dans cette fleur, recouvre le pistil. Ou, pendant cette opération, le pollen des étamines tomba; la fructification artificielle de la vanille était trouvée."

After an hour's waiting we found the diligence crowded on account of the Easter holidays, and took our seats for St. Rose. Fortunately every moment the passengers thinned, and we were thereby much more comfortable. We crossed the Rivière du Mat by a long white iron bridge, and kept along a tolerably flat road through Bras Panon till we reached the sea, after the Rivière des Roches at the point called Cap Fontaine, where the projecting cliff and rocks called Point du Bourbier, shelter a little bit of beach and a small fishing station, with huts, boats, &c.

A little further on we pulled up at the Bureau of the Messageries Coloniales at the town of St. Benoit, a considerable place with handsome church, square, and fountain, a long irregular street, plenty of houses, shops, &c. It is situate at the mouth of a fine (for Bourbon) river, over which is a handsome bridge. This river comes from a ravine draining the Plaine des Salazies, and is called—why, I can't say—the Rivière des Marsouins.

At St. Benoit we changed our vehicles, a smaller diligence going on, and it being too crowded to hold us, they provided a carriage and pair of horses for us, which was a great improvement. We still kept close to the sea, and passed in succession a number of smaller streams, all well bridged over. In this way we passed the Rivière Séche, the streams from the ravines of St. François, St. Marguerite, St. Anne, and St. Pierre—in fact, a whole collection of saints, an abridged calendar of them—then a steep descent at the river and Point of des Oranges, when the road turned inland and uphill, in order to cross the large ravine of the Rivière de l'Est higher up. This is a fine ravine, and is famous on account of an extraordinary landslip that took place, I think, in 1861. There were the usual long well-engineered inclined planes leading to the bottom of the ravine, which is of great width. The present stream, however, occupies but a small channel in the centre of the ravine. This ravine was once bridged over by a handsome suspension bridge, but in 1861 there was a landslip higher up the ravine after a storm, and a torrent of water, rocks, débris, &c., washed away the major portion of the bridge and half buried the remainder, filling up the whole ravine with rubbish, &c., as high as the top of the old pier of the bridge. It has never been bridged over, and across the narrow waters are planks and trunks of trees, forming a temporary roadway.

After ascending the southern side of the ravine, it was a good down-hill drive to St. Rose, which is a small village formed by a break in the cliffs, and where there is a slight indentation of the coast, forming an insecure anchorage. There is a poor hotel, but it is the nearest village to the volcano, so we made our head-quarters here. I met Soumagne, the brother of the ex vice-consul in Madagascar, at breakfast; and after the diligence had left for St. Pierre we had the hotel to ourselves, and arranged a room, which only had a door and no windows, as comfortably as we could. We rested till 3.45 P.M., having arrived about 1 P.M., when we got a mule and a four-wheeled carriole, and, accompanied by the *maitre d'hotel*, set off for the volcano, now in active eruption.



GEOLOGICAL SKETCHES OF LA RÉUNION OR BOURBON.



General view of Volcans at Bourbon, showing the Crater rings with the separate 'enclos' or 'cargues', North by view from N.E. modified from Bory de St-Vincent by Capt. S. P. Olivier



- 1 Ashes, scoria & fluid lavas
- 2 Obsidian & pumice fragments
- 3 Ancient pumice basalt
- 4 Modern vitreous lavas
- 5 Protruding base of trachyte

The Ancient mass of the island, composed of various ancient lavas with basalt in vertical prisms alternating with tuff & conglomerate. Base of trachyte

The Modern mass of the island, mainly composed of vitreous lavas rich in chrysolite with a peculiar size of obsidian & pumice, lapilli, & over vitreous lavas

S. P. Olivier Capt.  
19/7/81.



To face P. 276

## THE VOLCANO.

"All volcanoes," says Scrope, "have shown a tendency to shift their principal point of discharge, and it is frequently found that the ancient habitual issue at the summit of the volcano is deserted in favour of some new aperture more or less distant on the flank or at the foot of the mountain, a new cone forming itself round the new habitually eruptive orifice."

The Island of Bourbon presents a good instance of this kind. Vast central craters are environed by the summit heights of the north-western half of the island, forming the so-called *cirques* of Salazie and Mafatte. The habitual point of eruption has since, but in ages long gone by, evidently shifted its position more than once in the same (south-easterly) direction, first to the crateral cavity of Cilaos and gradually to the present site of the now active volcano, whose dome rises (to a height of 2,625 metres above the level of the sea) from the focus of a vast semi-circular (*demi-elliptique*) cliff range, formerly the walls of a prodigious crater; formed, it may be, either by some explosive paroxysm of extraordinary violence, or by constant formation of smaller craters gradually merged in one huge cavity and filled up by the ejections of the existing volcanic vent.

"Qu'après au moins deux grandes perturbations, le centre d'action fut déplacé, et reporté où se trouve encore le cratère principal actuel: mais outre ces points principaux il a successivement surgi sur toute la surface de l'île, depuis le bord de la mer jusqu'aux sommets les plus élevés, une foule de cratères secondaires qui ont déversé les laves dans toutes les directions. Très-peu de ces volcans ont conservé leurs cratères complets." —Maillard.

Professor Judd, F.R.S., in his recent work\* says, "that great upheaving forces have operated on volcanoes subsequently to the accumulation of their materials, we have sufficient evidence in the Val del Bove of Etna, the Caldera of Palma, the Curral of Madeira, &c. In all these cases we find a radial fissure '*barranco*' leading into a great crateral hollow, and these radial fissures are of such width and depth that their origin can only be referred to a disruptive force like that which would be exercised by the intrusion of masses of more or less imperfectly fluid material between the subjacent strata."

On the examination of the map of Bourbon these *cirques* of Salazie and Cilaos with their radial fissures are easily recognizable, and are evidently the result of an upheaval and fissure of the great ancient mountain mass, lenticular masses of trachytic rock having been forced from beneath the basaltic strata above.†

From our position we commanded the whole of the eastern side of the volcano, from the Rampart du Bois Blanc to the opposite Rampart du Tremlet as far as the Pointe de la Table formed by a *coulée* of lava, about the same age as the flow at St. Rose.

\* "Volcanoes: What they are, and what they teach." By John W. Judd, F.R.S., Professor of Geology in the Royal School of Mines. (Kegan Paul & Co., 1881.)

† "Un fond de lave compacte, presque toujours basaltique et quelquefois trachytique."

The stupendous enclosure of horse-shoe trace (L'Enclos) is formed by precipitous cliffs (ranging from 500 to 800 feet in height) composed of alternate layers of greystone, lavas and conglomerate surrounding the flattened dome, whose eastern slopes, seamed with innumerable lava streams of various hues and tints, are called *les grandes pentes* (1,400 mètres), and are only broken by a shoulder called Piton du Crac. It is surmounted by a low depressed cone culminating in two craters, whose outline, however, from beneath does not interfere with the symmetry of the cone.

The breadth of horse-shoe is nearly six miles, and its greater axis from the Cratère de l'Enclos to the sea is about ten miles, whilst the highest point is seven miles from the sea-coast.

The northern side of the dome is steeper at the shoulder before alluded to, and between the Piton de Crac and the Rampart du Bois Blanc is a curious depression, into which the latest lava-streams flow; this is called La Plaine des Osmondes. From below, it appears as an elevated terrace.

The various streams of lava can easily be dated from their colour, and when we arrived there was a grand stream of lava which had broken out of the northern flank of the smoky mountain, but poured down into La Plaine des Osmondes, whence again it poured over a species of barrier or terrace on to the lower slopes, close to the Bois Blanc, and finally plunged over a precipitous cliff into the seething waves beneath. This *coulée* was yet flowing slowly but surely, with an irresistible force, leaving here and there amidst its black torrent small islets of vegetation, scorched and withered. Although the crust cooled rapidly on the surface, the molten rock was yet pouring on underneath, and the mass pouring over the precipitous cliff of older lava-beds, the edge of which till now had formed the old coast-line, had filled up the ocean-bed until it extended some distance, say a quarter of a mile, out to seawards, forming a considerable addition to the surface of the island by many acres, thereby exemplifying how in course of time fresh land is formed to the south and east, whilst the sea is continually eating away the northern and western cliff, so that in the course of ages the whole island will have shifted its position towards the south-east. We were told that there was formerly from fifteen to twenty fathoms of water where now is lava! (?)

As it was getting late we drove down the steep coach-road to the bottom of the cliff, and, leaving the carriage where the lava-stream crossed it, mounted on foot the rugged surface of the *coulée* itself. We found large gangs of workmen engaged in making a sufficiently passable road for carriages across the steaming and smoking mass, whose pitch-like stream had entirely obliterated the former road, burying it beneath several feet of semi-molten rock, whose cracked and contorted surface emitted noxious and too-odorous vapours, which left crystalline deposits of bright colours in the crevices, from which the fervent heat beneath glowed as from a surface. The workmen, who were knocking off work at sunset, had placed their kettles to boil over some of the numerous apertures from which steam and fire proceeded, and putting the end of a stick into any crack, it instantly caught fire within two inches of the surface.

From the surface of the lava-stream here we could see its course almost from its source, from where it came like a black glacier over the lower end of La Plaine des Osmondes, leaving an isolated *piton* in its midst dividing into two streams which united at its base, from whence it came uninterruptedly to where we stood, all the valley behind the shoulder of the dome of the volcano filled with cloud and smoke, a most Tartarean scene! the black surface diversified by jets of white steam and wreaths of smoke in mid-channel.

Where the road was destroyed was about three-quarters of a mile from the coast-line, and we traversed with difficulty the surface of the new-born lava until we reached the spot where the molten metal fell in cascades over the cliff, the coagulated falls being some ninety feet in depth, and as it was getting dark we should soon have to retrace our steps, but not before we had admired the meeting of the sea and the lava, to which I had looked forward.

We had some difficulty, at least my wife had, in descending the face of the cliff, as the heat and stifling vapours were most trying, and in places where tubular gutters had broken, disclosing their glowing contents, it was even dangerous, and often we could not bear to touch the hot rock with the hand. Having, however, at last descended, we got over as quickly as possible towards the outer edge, where the *coulée* was actually in a state of fusion; but I found that the moving mass of lava was surrounded, as it were, by an outer crust of congealed lava, which came in contact with the sea-waves, being pushed slowly forward, so there was not the grand display of molten matter and water I expected. Altogether the first sight of the molten cataract into the water must have been splendid, had it been witnessed by any close by; but I fancy no one was there, as few boats frequent this deserted spot, and vessels pass at a distance.

As it was, when a larger wave than usual broke over the projecting lava, the spray, which found its way into the white hot cracks and fissures, was ejected in small clouds of steam, which mingled with the spray, but the noise of the surf prevented anything else being heard.

We had not much time to spare; already the closing darkness allowed us to perceive the spectral glare beneath us, and the crackling and splitting of the cooling rock mingled with hoarse and inexplicable murmurs, so that at times we fancied the rock shook beneath us. It was dark when we got back to the village, and neither of us was sorry to reach our hotel at St. Rose, very late, where, in spite of uncomfortable quarters, we managed to rest well after a tiring day.

Tuesday, March 29th.—Up at daybreak for a long day's sketching on the volcano. It was remarkable that few of the people knew anything about the upper parts of the mountain, or even the routes thither. They seemed equally uninterested in the course of the lava, or in the eruption generally, excepting in regard to the road to St. Philippe being destroyed. I requested our host to try and procure me a guide up to the summit the following day, as I knew the difficulties of mountain ascent without well-qualified guides.



From the northern rampart, we took the same road in carriage as the previous day, and I obtained a good panoramic drawing of the Grand Brulé, and of Le Volcan itself, in all its glory shining clear in the rays of the rising sun. Haig describes the sun rising *behind* the smoky volcano as he viewed it from the Piton des Neiges. Our view of it was from the other side, and as the early morning is the best time for seeing the high summits of the mountains before the clouds collect (as they do later), forming an impenetrable canopy above 2,000 feet, the height of the trade-wind currents of air; wreaths of smoke curled on the north slope of the cone, at its base, and in rear of the Piton de Crac whence the sombre lava streams, slowly flowing in a semi-solid mass, looked almost bright, as in many parts the vitreous lava had a glossy surface which glittered in the sunlight. The vaporous jets were almost invisible by bright daylight, but a general haze of hot vibrating air formed a slight mist over the whole length of the *coulée*. The coast-line, irregular and broken in detail, forms a noble bay viewed as a whole, and the bright bits of tropical forest in the foreground rendered more effective the bare and withered tract of the mountain sides which sweep like a wave over Les Grandes Pentes.

In some places the mountain appeared blotched with black and purple, here red and ochreous, parts grey and singed brown. Near at hand, the smoking cinders and deep maroon-coloured rippled surface of the fresh lavas close to us. The ocean, the *ne plus ultra* of all ultramarine, looked deliciously cool next to the hot iron-bound coast from which it was divided by a narrow strip of dazzling white surf.

Having finished my panorama, our next object was to transfer to paper the great lava cascade which we had hastily visited the former day; so we again descended beneath the cliffs, and I made a careful study of the fall. Every step we took reminded us more and more of an angry torrent having been suddenly arrested and petrified. Here the lava appeared to have gone on rippling like a brook, there lashed into waves, elsewhere it had formed swirls and eddies, and the molten wavelets overlapped each other, arrested by cooling whilst yet they curled over. Along the edges, the stream had evidently flowed more slowly, whilst in the centre it had hurried along quicker. Imagine the surface of a river as broad as the Thames at Henley, but with a strong current, rushing over rocky bottom, and thus forming rapids, to be suddenly petrified, and subsequently to be subjected to heavy stormy waves beneath, with upheavings and subterranean earthquakes which break the upper crust and crack and grind and toss it about in all directions; this was the impression formed on the beds of lava above the cliff. But when we climbed down and viewed from below the tumble over the cliff, the effect was still more wondrous and impressive. Here it had rushed over with most liquid impetuosity, there more heavily, as if of the consistency of treacle; over this again it had dribbled down languidly, and some of the later flow had not reached the bottom, but hung like stalactites or icicles, not unlike the guttering of candles. In places it resembled coils of rope, in others hanks of threads; here rough and brittle, elsewhere glassy, polished and tough; some was apparently viscous, other portions glutinous.

Innumerable fantastic and singular appearances were assumed by this viscid stream,

like folds of sail-cloth, sheets of drapery, melted wax with glossy crust, everywhere wrinkles and twistings and writhed contortions; even the spray and frothings of a cascade were represented by finely broken morsels of clinker. At the base of the cliff the lava had spread out, as if vast quantities of pitch had been spread over a field, less broken but still fissured in every direction, tumbling in, apparently, as the yet molten and liquid lavas escaped from beneath the indurated surface which rose and sank in ridge and furrow, plainly marking out the successive flows and advances of the lava; the whole, more or less covered with corrugations in irregular series of curved and wrinkled folds, having their convexities in the direction of the flow of the current. The surface was also everywhere diversified by cavities of all sizes produced by the bursting of large bubbles and smaller blisters, forming *spiracula* or *bocche*; and again, most characteristic was the presence of long arched pipes or gutters, some with such hollow and thin crusts that but a slight weight is sufficient to break through them. Some of the natural conduits\* are of great size and ultimately form long caverns. Such a cavern is that at Petite Rivière in Mauritius, and others in Bourbon, notably those such as Le trou Deley at St. Philippe.



LAVA CASCADE, BOURBON.

(A figure is given in Professor Judd's lately published work on volcanoes from the careful drawing I made on this occasion, and is here reproduced by permission of Messrs.

\* "Nous avons dit plus haut que les coulées se refroidissaient assez rapidement à leur surface; il n'en est pas de même à l'intérieur, où il n'est pas rare de voir la lave couler dans des conduits souterrains, plusieurs jours après que la croûte en est assez refroidie pour permettre au voyageur de la traverser sans danger. Il se forme alors des canaux plus ou moins réguliers, qui conduisent la lave à la partie inférieure de la coulée, où elle continue encore à se faire jour. Ce sont aussi ces cavernes qui rendent si dangereux les voyages au volcan par le pays Brûlé, parce qu'il arrive souvent que la lave se crève sous le touriste, et qu'il disparaît en partie dans les vides qu'il ne pouvait prévoir."—Maillard.

Kegan, Paul & Co. Mr. Judd remarks: "A tenacious crust seems to have been formed on the surface, and by the further motion of the mass, this crust or scum has been wrinkled and folded in a very remarkable manner. Sometimes this folded and twisted crust presents a striking resemblance to coils of rope. Precisely similar appearances may be observed on the surface of many artificial slags when they flow from furnaces, and are seen to be due to the same cause, namely, the writhing up of the chilled surface crust by the movement of the liquid mass below. Lavas which present this appearance, are frequently called 'ropy lavas'; an admirable example of them is afforded in the lava-cascade, of the Island of Bourbon, represented in fig. 18, page 93.")

The interiors of these channels are invariably glazed, and often botryoidal or more or less mammillary. Everywhere the scoriaceous surface was heaped up in small mamalons and cinder cones, and there was a constant clinking and metallic sounds of disintegration which at times were almost alarming. I never made a hotter sketch in my life, and it was only great enthusiasm with the subject which enabled me to make a careful study of the details of the peculiar shapes and forms assumed by the cooling pendant masses. It is fortunate that congealed lava is a non-conductor of heat, otherwise our position would have been unbearable. On re-ascending the cliffs we followed the course of the lava stream a long distance up toward the mountain, but it is very slow travelling over newly cooled lavas exhaling sulphurous vapours. In more than one place we found casts of trees, one especially of the trunk of a filao tree (*casuarina*), which the lava had surrounded, cooling before the tree had charred away, leaving a cylindrical hole, an exact mould of the exterior bark in the now solid rock. I made arrangements with some labourers to transport specimens to St. Rose, and then we returned to make preparation for the ascent of the mountain on the morrow.

"Look on this desolation: mark yon brow,  
Once adamant, a cone of ashes now.  
Here rivers swampt, there valleys levelled, plains  
Overwhelmed, one black-red wilderness remains.  
One crust of lava, through whose cinder heat  
The pulse of buried streams is felt to beat;  
These, from the frequent fissures, eddying white,  
Sublimed to vapour, issue forth like light,  
Amidst the sulphury fumes that, drear and dun,  
Poison the atmosphere and blind the sun.

The mountains melt like wax along their course,  
When downward pouring with resistless force,  
Through the void channel where the river rolled,  
To ocean's verge their flaming march they hold.  
While blocks of ice and crags of granite rent,  
Half-fluid ore and rugged minerals blent,  
Float on the gulf till molten or immersed,  
Or in explosive thunderbolts dispersed."—Montgomery.

On reaching St. Rose, we were disappointed at finding no guide had as yet been obtained, but one was promised to be forthcoming the next morning. On awakening at daybreak on the 30th, however, we found a downpour of rain, such as only occurs in the

tropics, and of course no signs of a guide; so at noon we determined to take diligence to St. Pierre and attack the volcano from the rear, having failed on its northern flank. By this time the road had been rendered passable across the *coulée*, but for foot passengers only, so we had to leave the diligence at the foot of the Bois Blanc, and tranship to another diligence beyond the *coulée*, whence we drove across the Pays Brûlé,\* and walked up the opposite Rampart du Tremblet. Here we came to vegetation again, broken by a succession of smaller *brûlés* from numerous parasitic *pitons*, or cones, on the southern outer flank of the volcano, and changed horses successively at St. Philippe and St. Joseph, by which time it was dark, so we missed seeing the country between that village and St. Pierre, the capital of the southern part of the island (*partie sous le vent*).

Itinerary—St. Rose dist. from St. Denis, 58 kilometres.

St. Philippe	„	„	88	„
St. Joseph	„	„	107	„
St. Pierre	„	„	125	„
			378	kilo.

We arrived tired, and were about going to bed after dinner, when M. Pouget called upon us, as we had a letter of introduction to him. He tried to persuade us to come and stay with him, but we wished to get on to Cilaos and back by Saturday. We found it was impossible to go on the Thursday, as we should have to write on to secure porteurs and a room.

Thursday, March 31st.—Visited by M. Pouget, who was excessively kind. I went on to the public works, where a small pont and docks are being constructed. Afterwards M. Pouget lent us his carriage, and sent his clerk with us to see the establishment of M. Theodore des Hayes, who is an enterprising sugar-maker, and has the show place of the island. We saw and heard explained the apparatus called “triple effet,” by which the steam from sugar boiled under a vacuum cooks the sugar under a still less pressure of air, the steam from which again cooks the syrup under a yet smaller pressure. Whether this really answers and pays is still a question. It does away with altogether the old battery of the sugar-mills.

The mail arrived, and we had the first news of fighting between the Danes and Germans, in the *Illustration*.

We paid the Pougets a visit, and met M— L—, and also the engineer, her *fiancée*, a Pole, named Poulowski, quite a young man, but nevertheless Surveyor-General of the Colony.

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\* Dans le lit même du volcan, au milieu du Grand-Brûlé, les forêts forment des bouquets épargnés par la lave, et le voyageur y jouit d'une fraîcheur qu'il apprécie d'autant mieux qu'il vient de traverser des coulées plus ou moins récentes, ou il quelque soit le temps, éprouve une chaleur excessive augmentée encore par l'aspect désolé du sol qu'il a parcouru.

We could now fully appreciate les grâces naïves et charmantes du langage Créole, which M. Héry has celebrated in the dedication of his "Fables en Langage du Pays":—

"Le Créole naïf et tendre  
 Dans votre bouche est enchanteur ;  
 Lorsque vous le parlez qui ne voudrait l'apprendre,  
 Rien n'est plus doux, c'est la langue du cœur."

Friday, April 1st.—Started early in *calesse* for the Entre-deux, where we arrived soon after sunrise. We leave the Entre-deux about 6.30 A.M., C— being carried in a fauteuil by two Créoles, and a third carrying our breakfast. Proceeding up the gorge of the River St. Etienne we admired the steep abrupt cliffs, so much steeper and higher than those of Cilaos, but wanting in those numerous cascades that make the valley of Salazie so charming. The river ran in a broad bed of boulders beneath. We walked under the shades of avenues composed of *cœur de bœuf* (custard apple), gouvaviers—marrons, and jam-rosas, with which the sides and bottom of the Bras de Cilaos was covered. We came into a magnificent amphitheatre under the mountain, called the Plaine des Makes, which ascended 4,000 feet on our left hand. The Entre-deux being still on the other, after four hours' walking we ascended a steep barrier of trachyte that laid in our way, and seemed to block up the whole valley. This mass was, however, split by a perpendicular rent, at least 800 feet deep, and below the waters of the torrent rushed, the bare rock rising sheer up on either side. The path is here scooped out of the face of the cliff, in many places overhanging the ravine, and only broad enough to allow two people abreast. Surmounting this platform we follow all the windings of the cliffs, and the spurs of the mountain gradually ascending, now passing through artificial arches, cut in the face of the rock to enable the passenger to reach the otherwise inaccessible valley. About 12 o'clock we reached the spot from whence the whole of the interior of the Cirque or Crater of Cilaos was visible.

"Within the dark ravines below,  
 Where twined the path in shadow hid,  
 Round many a rocky pyramid,  
 Shooting abruptly from the dell  
 Its thunder-splintered pinnacle,  
 Round many an insulated mass,  
 The native bulwarks of the pass,  
 Huge as the tower which builders vain  
 Presumptuous piled on Shinar's plain,  
 The rocky summits, split and rent,  
 Formed turret, dome, or battlement."

In front of us were mountains,

"Craggs, knolls, and mounds confusedly hurled,  
 The fragments of an earlier world."

But these mountains were three times the height of the highest of all Scott's Scottish mountains. The Great Bénard and the Piton des Neiges in the background, the Plaine des Merles on the left, on the right the Entre deux and the Bonet du Pretre; beneath us a valley, with a few huts, close by the river; and opposite to us, the path, in zig-zags,

could be traced for a long distance, winding along ridges, up and down, and terminating in a dark spot indicating a tunnel through another cliff. Peaks, pinnaeles, crags, rocks, precipices, and ravines, bearing a red volcanic glare over them, looked so wondrous wild, the whole might seem the fantastic scenery of a fairy dream.

Another three hours' climbing, with a short rest in one of the long tunnels or galleries, brought us to a fine waterfall, which we had to cross above the fall, and close to the chasm into which it thundered some 300 feet sheer precipice, the abyss below being hollowed out like a huge cauldron. This is the "Cascade de la Plateforme," and with some difficulty I climbed to where I could get a good sketch of it. Our guide informed us how in olden days (before the path we were then traversing was cut) that the Maroons were wont to rendezvous here at the cascade, before setting out on a raid into the lowlands.

More zig-zag paths and climbing, till we are 3,000 feet above the sea, when we arrive at a small plain on which are a few wooden cases; we have arrived at last, and rest ourselves in the largest of the huts, which calls itself an hotel. Mdlle. Baptistine, proprietress of the hotel, gave us a beautifully clean room, the blankets, sheets, &c. being perfectly new. Soon after we arrived M. Pottier, to whom we had letters, called upon us, and we accompanied him and Madame Pottier to their house, which is by the source of the Eaux Thermales.

The ravine where the hot springs are is directly under the Piton des Neiges, and at the source of the river a stony torrent bed at the foot of a perpendicular-faced rock, in the bed of which rises several bubbling hot springs; a little further up is a strong mineral spring, but cold. Little straw \* cases are erected over these springs, and the baths are of the rudest description, being formed of stones heaped up, and the interstices filled with sand, earth, &c. We each had a hot bath, and enjoyed it very much, but felt it very cold on coming out, but, putting on wraps, we went back to our hotel, and had dinner off roast duck and Cilaos potatoes, with desert of wild strawberries and raspberries. We

\* "Comme compensation, les baigneurs ont à leur disposition un véritable torrent d'eau thermale, qui a toutes les qualités de celle de Salazie, avec une température et une abondance bien plus grandes. Il suffit de creuser un trou dans le lit du bras des étangs, pour que ce trou se remplisse d'une eau chaude et gazeuse. Supposez sur cette baignoire un peu primitive un ajoupa en paille avec un rideau pour porte, et vous aurez une idée complète des installations de cette localité, dont on pourra faire, quand on le voudra, des établissements thermaux les plus remarquables."

L'analyse par 100 grammes d'eau; outre l'acide carbonique:—

Bicarbonate de soude . . .	.553	grammes.
Carbonate de potasse . . .	.123	"
"  de magnésie . . .	.218	"
"  de chaux . . .	.308	"
"  de fer . . .	.034	"
Sulfate de soude . . .	.082	"
Silica . . .	.140	"

1.458	} Total auquel il faut ajouter de pertes, ce qui donne un résidu de par litre d'eau.
0.025	
1.483	

needed all the blankets we could get, for 3,000 feet above the level of the sea made the atmosphere chilly at night. "Car il fait froid à Cilaos et l'on y voit quelquefois de la glace."

Itinerary—St. Pierre to St. Louis	10	kilomètres.
St. Louis to L'Aloes	6	"
L'Aloes au Pavillon	14	"
In Pavillon à la Plateforme	7	"
De la Plateforme a l'Eglise	9	"
De l'Eglise aux sources	2	"
	—	
	48	kilo.

The Source de Cilaos is situated at a height of 1,114 mètres above the level of the sea, and the warm springs (whose temperature ranges between 52° Fahr. and 69° Fahr.), are said to have been discovered in 1826 by a Créole sportsman, named Paulin Técher, when in pursuit of wild cabris (*Capra hircus*). These cabris are the descendants of the domestic goats introduced by the Portuguese and English in the sixteenth century. "Malgré deux siècles de liberté, rien n'est plus facile que de les apprivoiser de nouveau, et il n'est pas rare de voir des chasseurs redescendre des montagnes avec de jeunes chevreaux, qu'ils ont rendus domestiques en quelques jours." Nevertheless this discovery was not fully appreciated, or at least utilized, until these chalybeate springs were further exploited by M. Guy de Ferrières, the Surveyor of the arrondissement Sous-le-vent. Under his auspices the present road, an excellent specimen of clever mountain engineering, was laid out, and the marvellous works executed under his supervision.

The "Chemin de Cavaliers" is thirty-eight kilometres in length, and often cut in the face of escarped precipices, and through tunnels, as in the Alps. "Cet ingénieur a du risquer dix fois sa vie pour placer un repère ou un jalon."

Saturday, April 2nd.—Feel the cold intensely on getting out of bed. Sketch, and at 6 o'clock meet M. Pottier at the hot baths, bathe, go up to M. Pottier's house and get hot rolls, milk, &c.; meet a Dr. de Mayis and his Swiss wife, with two lovely children, who informs us about the volcano, &c. Start back for St. Pierre; long, hot, fatiguing walk, but much easier than that of the day before, the ascents being less and the descents long and steep; plenty of wild strawberries and button-fern. Breakfast on cold duck at the Pavilion; eighteen kilometres more to the end of the Entre-deux, which we reach at 5 P.M.

We found a carriage waiting for us, with four mules, who took us at a gallop into St. Pierre, where we took up our quarters with old Mr. Pouget, a rich merchant, and whose house was one of the best in the town. Monsieur and Madame entertained us right royally, and gave us a pavilion, which was almost like another house. Here we stayed the whole of Sunday, the 3rd of April. We decided to go on Monday to M. Pottier's, on the Plaine des Caffres, and if possible ascend the volcano from that side.

Monday, April 4th.—We leave the Rue Imperiale and our kind host and hostess, who had considerably put up some luncheon for us, notably a bottle of English beer and a corkscrew, and start in a carriage and three mules (pay forty francs for carriage) for the

fourteenth kilometre on the Chemin de la Plaine, where we had sent on donkeys to ride up the rest of the way.

The Plaine des Caffres is the term applied to the broad tract of uncultivated plateau at the bottom of the valley formed by the slopes of the ancient and more recent volcanic centres. It is studded all over with small pitons, in reality ancient craters.

The road went along at a steep gradient, twisting and turning; on our right the Ravine de la Rivière d'Abord, an insignificant little stream, and on the left the Ravine de la Chaine. At the fourteenth kilomètre the road gradually got worse and worse, and at last ended in a very apology for a track for bullock-waggon. The country was here thickly wooded with tolerable timber, tree-ferns, and orchids in great numbers. The orchids were nearly all in flower at this time of the year, and we recognised many old friends among them.

We got up at last in a shower of mist by 3 o'clock in the afternoon to M. Pottier's. He is the brother of the one we met at Cilaos, and has come into this out-of-the-way part of the country to see if he can make his fortune in these hitherto uncultivated forests, at an elevation of 3,000 feet above the level of the sea, and where they have frost and cold. Barometer, 25.58 inches, gives nearly 4,000 feet.

M. Pottier and his wife, their children, and a large Pyrenean hound welcomed us, and after we had changed our wet things we sat indoors, for everything outside was covered with a wet Scotch mist, and it was as dark as a November twilight in England. M. Pottier and I discussed the projected ascent of the volcano, and sent for a guide. He himself had never gone further than the Pas de Bellecombe on the edge of the Enclos, as his head was not steady enough to allow him to descend that precipice, but he knew of a Créole who was acquainted with all the country round, a sort of trapper of *tanges* or *tanrecs* (*Centetes ecaudatus*), who would serve as a capital guide, but as his whereabouts was uncertain it was hardly possible to find him till the morrow; so meantime some Kaffir labourers were despatched in search of him, and we examined the farm and surroundings of M. Pottier's establishment, comprising an estate of no mean dimensions, with the usual complement of *parcs à bœuf*, *hangars* and *cabannes* for his Kaffirs. He grows all sorts of European *légumes verts et secs*, et surtout la *pomme de terre*, besides having 500 sheep and as many *bœufs et bestiaux* out at pasture on the extensive plain.

We noticed in the vicinity of the farmhouse, besides the ox-eyed daises, innumerable pansies, originally introduced as exotic curiosities, but which have now become weeds to such an extent that they are perfect pests, whilst in the garden near the house were hollyhocks (*Althæa sp.*), violas, Mexican dahlias, and other familiar garden plants, not forgetting good varieties of roses. On the plain there also grows that curious indigenous vegetal monstrosity, *le mapou* (*Monimia rotundifolia*).\*

\* "Arbre très-original des hautes régions, résiste vivant, sans perdre ses feuilles, à la température glaciale des hauteurs de 2,000 mètres; et mort son bois est presque incombustible. On voyait à La Plaine des Caffres, chez M. P. Reilbac, une cheminée toute fait de ce bois: tuyau, âtre, foyer, hotte, et l'on y faisait grand feu."—Maillard.



As to the temperature at this elevation of 1,600 metres, M. Textor "donne pour cette localité un *minimum* de 4° (25° Fahr.) au dessous de zéro dans la saison froide, et pour *maximum* 19° (66° Fahr.) au dessus dans la saison chaude." "Pour nous (M. Mailard), nous y avons vu quelquefois de la glace, souvent de la gelée blanche, remarqué que le soleil y était d'une ardeur extrême, et enfin que les brumes y sont presque constantes."

Standing on one of the numerous volcanic eminences which are scattered promiscuously through the otherwise level surface of the Plaine des Caffres, one notices that the general slopes of the plain converge slightly to the centre, at present affording famous pasturage for the herds of cattle, but in the wet season forming a vast *marécage* and tenacious bog not unlike the Mare aux Vacoas in Mauritius. It is highly probable that in these extensive marshes may be found the bones of the famous *solitaire* (*Pezophaps solitarius*), the contemporary of the dodo at Mauritius, just as the carapaces and bones of the hugh extinct Mascarene tortoises (*Testudo tricarinata*), are now found at intervals in the sands on the coast near St. Leu and St. Paul and in the Bassin de St. Pierre. As it is, the *poule sultana* (*Porphyrio Madagascarensis*) now and then finds its way over. As late as 1775 wild cattle, descendants of those brought to the island by Flacourt in 1649, were still to be found roaming at large upon these uplands.

We may here notice a remarkable fact; it is that the oxen bred upon these elevated plateaux in Réunion (and I daresay on similar elevations elsewhere) have a great objection to leaving the locality, and that it is exceedingly difficult to make them descend from the Plaine des Caffres to the seaboard country below. As early as 1764 the celebrated traveller Legentil, when visiting Bourbon, remarked upon this curious habit, and has left notes of this peculiar trait on record (*qu'il est presque impossible de conduire à l'abattoir les bœufs élevés dans les plaines de la colonie*).

In the evening we were glad to amuse ourselves with books, &c. Among other Creole literature we came across some of the famous "Poésies Erotiques" of Paul Deforges Parny, a Creole poet little known in England, but whose success was great in France about 1778. Voltaire styled him "*mon cher Tibulle*"—"et tout la France reconnat en lui le premier de nos poètes élegiaques?" Here is a specimen:—

"DEMAIN."

"Vous m'amusez par des caresses,  
 Vous promettez incessamment,  
 Et vous reculez le moment  
 Qui doit accomplir vos promesses;  
 'Demain' dites-vous tous les jours  
 L'impatience me dévore;  
 L'heure qu'attendent les amours  
 Sonne enfin, près de vous j'accours:  
 'Demain' répétez-vous encore.  
 Rendez grâce au Dieu bienfaisant  
 Qui vous donna jusqu'à présent

L'art d'être tous les jours nouvelle ;  
 Mais les temps, du bout de son aile,  
 Touchera vos traits en passant ;  
 Dès *demain* vous serez moins belle  
 Et moi peut-être moins pressant."

We were more interested in finding a description of the Plaine de Cafres written by an *ancien gouverneur de l'île*, M. de Villers, under the old administration of the Compagnie des Indes Orientales between 1701 and 1709.

"C'est lui qui dut recevoir à son passage à Bourbon, le Cardinal légat envoyé en Chine."

M. de Villers writes as follows :—

"Entre ces plaines, qui sont sur les montagnes, la plus remarquable, et dont personne n'a rien écrit, est celle qu'on a nommée la Plaine des Cafres, à cause qu'une troupe de Cafres, esclaves des habitans de l'île, s'y étaient allés cacher, après avoir quitté leurs maîtres. Du bord de la mer on monte assez doucement pendant sept lieues pour arriver à cette plaine par une seule route, de long de la rivière St. Etienne : on peut même faire ce chemin à cheval.

"Le terrain est bon et uni jusqu'à une lieue et demie en deçà de la plaine, garni de beaux et grands arbres, dont les feuilles qui en tombent servent de nourriture aux tortues que l'on y trouve en grand nombre. On peut estimer la hauteur de cette plaine à deux lieues au dessus de l'horizon ; aussi paraît-elle d'en bas toute perdue dans les nues. Elle peut avoir quatre ou cinq lieues de circonférence : le froid y est insupportable, et un brouillard continuel, qui mouille autant que la pluie empêche qu'on ne s'y voie de dix pas loin : comme il tombe la nuit, on y voit plus clair que pendant le jour ; mais alors il y gèle terriblement, et la matin avant le lever du soleil on découvre la plaine toute glacée.

"Mais ce qui s'y voit de bien extraordinaire, ce sont certaines élévations de terre, taillées presque comme des colonnes rondes, et prodigieusement hautes ; car elles n'en doivent guère aux tours de Notre Dame de Paris. Elles sont plantées comme un jeu de quilles, et si semblables qu'on se trompe facilement à les compter : on les appelle des pitons. Si l'on veut s'arrêter auprès de quelqu'un de ces pitons pour se reposer, il ne faut pas que ceux qui ne s'y reposent pas, et qui veulent aller ailleurs, s'écartent seulement de deux cents pas : ils courraient risque de ne plus retrouver le lieu qu'ils auraient quitté, tant ces pitons sont en grand nombre, tous pareils, et tellement disposés des même manière, que les Créoles, gens nés dans le pays, s'y trompent eux-mêmes. C'est pour cela que, pour éviter cet inconvénient, quand une troupe de voyageurs s'arrête au pied d'un de ces pitons, et que quelques personnes veulent s'écarter, on y laisse quelqu'un qui fait du feu ou de la fumée, qui sert à redresser et à ramener les autres ; et si la brume était si épaisse, comme il arrive souvent, qu'elle empêchât de voir le feu ou la fumée, on se munit de certains gros coquillages, dont on laisse un à celui qui reste auprès du piton : ceux qui veulent s'écarter emportent l'autre ; et quand on veut revenir, on souffle avec violence dans cette coquille, comme dans une trompette, qui rend un son très aigu, et s'entend de loin ;

de manière que, se répondant les uns les autres, on ne se perd point, et on se retrouve facilement. Sans cette précaution, on y serait attrapé.

“ Il y a beaucoup de trembles dans cette plaine, qui sont toujours verts : les autres arbres ont une mousse de plus d’une brasse de long, qui couvre leur tronc et leurs grosses branches.

“ Ils sont secs, sans feuillages, et si moites d’eau, qu’on n’en peut faire de feu. Si après bien de la peine, on en a allumé quelques branchages, ce n’est qu’un feu noir, sans flamme, avec une fumée rougeâtre, qui enfume la viande au lieu de la cuire. On a peine à trouver un lieu, dans cette plaine, pour y faire du feu, à moins que de chercher une élévation autour de ces pitons ; car la terre de la plaine est si humide, que l’eau en sort partout : et l’on y est toujours dans la boue et mouillé jusqu’à mijambes. On y voit grand nombre d’oiseaux bleus, qui se nichent dans des herbes et dans des fougères aquatiques. Cette plaine était inconnue avant la fuite des Cafres ; pour en descendre il faut reprendre le chemin par où l’on y est monté, à moins qu’on ne veuille se risquer par un autre qui est trop rude et trop dangereux. On voit, de la Plaine des Cafres, la montagne des Trois-Salases, ainsi nommée, à cause des trois pointes de ce rocher, le plus haut de l’île de Bourbon. Toutes ses rivières en sortent ; et il est si escarpé de tous côtés, que l’on n’y peut monter.”

Tuesday, April 5th.—Although my wife wished to accompany me, she was assured that it was next to impossible for a lady to accomplish the ascent of the mountain, and subsequently I was glad that no lady was with me to embarrass our movements.

We breakfasted late and soon afterwards M. Josémon Loret, the guide, turned up, the *beau-ideal* of a wiry mountaineer who had spent all his life on the mountain and evidently capable of climbing like a wild goat. M. Pottier kindly supplied me with two Kaffirs to carry rugs, cold turkey, Bordeaux wine, bread, and tins of preserved soups, coffee, &c., and we got away at about 2 P.M. I cannot say I was in good walking trim, having been taking matters very easily, and always driving and riding when practicable, whereas my guide was in first-rate training and was evidently contemptuous of my walking powers, and, as he afterwards confessed, did not suppose that I should last very long, but return before going far.

The coolness of the air on the plateau, however, was most refreshing, and we tramped gaily along over the *plaine*, due east ; here and there the ground sounded hollow underneath our tread, as there are extensive subterranean cavities under the fields of lava which form the surface. The ascent for some miles was very gradual, and as we got higher the vegetation became stunted and at last scarce, only gorse and species of heath and broom with lichens.

After about two hours walking, we reached the boundary of the Plaine des Caffres, formed by the abyssal chasm of the Rivière des Ramparts, near the head of which we passed a conspicuous *piton*, which for some way had been our landmark, named Le Nez du Bœuf. One side of this cone has been broken by a denuded crater called Le Trou Blanc.

From the heap of the ravine, whose sides are most precipitous, by looking back, we obtained an extensive view of the centre of the island. In front were the table-lands and terraces of echeloned plateaux, crossed with rounded mamelons covered with sparse vegetation. Beyond were the higher grounds of the *Entre-deux* and *Plette de Patience*, backed by the huge summits which border the valleys of *Cilaos* and *Salazie*, and the peaks which culminated in the *Bénard* and *Le Piton des Neiges*.\* (Talking of snow, as applied to the highest mountain peak in Bourbon, it rarely falls, scarcely once a year, and then it seldom remains on the high peaks more than a day or two). This mountain range appeared deep blue with the white fleecy evening mists curling up from the heated valleys beneath.

On the east side of the *Rivière de Ramparts* was exposed the natural section of a crater of eruption. "The action of what we call denudation serves as a scalpel to dissect volcanic mountains for us, and to expose their inner recesses to our view" (Judd). The torrents which had formed the vast escarpments of ravine had washed away one-half of this cone so that the structure of this volcanic hill was plainly visible; below could be seen the ducts through which the lavas from beneath had forced their way to the surface and overflowed on either side in pyramidal stratas, between which were loose beds of scoriæ, lapilli and ashes, tuffs and pumice. This crater bears the name of the *Cratère Commerson*, and is well worth studying.

We had now left the ancient formation entirely, and had reached the outer zone of the elliptical rings which surround the modern volcano, and the surrounding scenery bore ample evidence that we were now on the outer flank and within the first of the series of crater rings or cirques which surround the *Pays-Brûlé*. The centre cliff has itself been destroyed, part by the radial fissure of the *Rivière des Ramparts*, and part by another depression to the north, which has again been filled up by various *coulées* forming *La Grande Montée* and the *Ravine Séche*. The zone on which we now were is termed *La Plaine des Ramparts*, and under a ledge of rugged lava, which we reached at sunset, we halted to bivouac for the night. This *Caverne des Lataniers* is the regular station for the few visitors who start for the *Volcan*. We found a low-roofed nook in which we could sit up but not stand. The Kaffirs soon lighted a fire from the withered branches of "*ambaville*" they had collected *en route*, and one was despatched in search of water in some crevice, a good way below us, bekown to *Josémon Loret*, and the other sent to gather more fuel; moreover, *Loret* knew of some neighbouring retreat where the decaying vegetation had collected, forming sufficient soil in which he had planted potatoes, and he proceeded thither, leaving me to enjoy the scene, and to sketch and write up my notes. It was well we had a fire as it was very cold, and some warmed-up soup, with hot potatoes washed down with ciaret, was most agreeable, and wrapped in a plaid I soon slept the sleep of the

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\* "Le 22 Novembre 1860, les sommets de Grand Bénard et du Piton des Neiges étaient couverts de neige; il s'éleva un vent violent qui la fit tourbillonner dans l'air, et détermina une grande baisse de température."—Maillard.

just, to awake in the morning dripping wet from moisture which permeated the spongy lava *plaques* above.

Wednesday, April 6th.—Up at daybreak, leaving one Kaffir to collect firewood, bring water and cook dinner for us by our return at dusk, whilst Josémon and myself, with the other Kaffir, strike off across the Plaine des Ramparts, with a slightly more southerly course than yesterday, towards the Morne d'Angevin, near to which we crossed a cinder cone, at the foot of which we arrived at the edge of the Premier Enclos, a steep impregnable barrier of three distinct terraces of columnar basalt, surmounting one another, with beds of scoriaceous conglomerate between. At the spot where we hit off, this cliff, elsewhere insuperable, was broken away as though breached with heavy ordnance, leaving a partial fissure half choked with *débris* of ashes and pulverised pumice, down which we could easily slide. This natural gap is called Le Cassé de la Plaine des Sables, and its summit is 2,380 metres above the sea level. This *second*, although called *le premier*, crater ring, is also partially destroyed, terminating to the south by the chasm along which runs the Rivière d'Angevin, and to the north the ravine of the Rivière de l'Est, which flows near St. Rose.

We had now to traverse "la plaine dite Des Sables, qui se compose au totalité de laves brisées par petits fragments," and is studded with numerous *mamelons* and cinder cones. "Il semble que la lave, lors de sa sortie par ces cratères, se soit trouvée en contact avec de grandes masses, qui, par un refroidissement subit, l'ont fait se fendiller en parcelles presque régulières. L'aspect general de la plaine fait supposer que ce sable été nivelé, soit par les eaux, qui peut-être ont fait éruption en même temps que la lave, soit par les pluies torrentielles qui à la Réunion, donnent quelquefois 500 millimètres d'eau en vingt-quatre heures. Ce nivellement, du reste, date de loin, puisque l'on trouve à la surface de la plaine des fils vitreux, appelés dans le pays 'cheveux du volcan.'"

This zone of *sables* is composed of beds of compact lava overlying basalt similar to the exposed cliffs of the *cirque*; over these *plaques* again are small angular fragments of glassy lavas and obsidian, besides crystals of olivine and augite, from the disintegrated blocks; everywhere the surface is broken by the uprising of numerous *mamelons*, the overflows from the craters of which have consolidated on the sides and at their bases. (See views of these *mamelons* formed by the extension of very viscid lavas, in Scrope, and in Judd's volume, p. 127.)

It was more difficult travelling over these gritty *sablons*, some of it like fine black sand, coal dust, and sometimes like R.L.G. gunpowder; in other places further on the colour changed to ochreous, then to brick dust, and finally to deep red sand, the remnants of ash-cones washed down almost level. The sky now became overcast and rapidly thunder-clouds rolled together with hollow murmurs, so that we were not sorry, after nearly three hours slow travelling, when we surmounted a more rugged heap of lava than usual, to find we had reached the great demi-elliptical chain of perpendicular cliff-range forming the so-called second (*deuxième*), in reality the third, crater cliff circle called Le Grand Enclos! whilst in front of us rose, in all its noble dimensions, the summit of the volcano,

its side scored and seamed with a myriad of contorted, writhing streams of former lavas broken throughout by numberless hummocks and hillocks piled up—cinder cones, ash heaps and fissures in all directions. The summit of the cliff at the edge of the *enclos* is 2,556 metres above the sea, and almost on a level with the summit of the Volcan. We were nearly due west of the summit, and were at the extremity of the Horse Shoe Cirque, whose parallel walls in continuation of the ramparts on which we stood reached down to the sea where we had previously crossed them. (See M. Chas. Velain's article in *La Nature*, No. 160, where he gives a good view of this scene: reproduced in *Nature*, Aug. 17th, 1876, p. 335.)

At the edge of the cliff we dropped down on to a narrow ledge, but a few feet broad, by which we reached a chasm in the rock which formed a so-called *caverne*. This is where one has to descend, and the spot is the famous Pas de Bellecombe, on the "Lucus a non lucendo" principle; "nommé mal-a-propos *De Bellecombe*, puisque M. de Bellecombe n'y a jamais descendu."

"Le 26 Octobre huit ans après,\* le sieur Donnlet, M. de Bellecombe, Gouverneur de l'île, et de Crémon intendant entreprirent de visiter la Fournaise. Ils partirent de Saint Bénait. M. Hubert de Montfleury fut du voyage; notre guide, Germain Guichard, en était aussi."

"L'Intendant y fait une grande affaire des bons dejeuners, et parle sans cesse de pierres calcinées qui coupaient ses souliers, et de montagnes épouvantables qui le mettaient tout en sueur.

"Après deux jours de marche on se trouva aussi peu avancé que si l'on n'eût rien fait.

"On était rendu au bord de l'Enclos, et l'Enclos paraissait une barrière insurmontable. Dejoûté par ce nouvel obstacle M. de Bellecombe renonça à demi exécuté, et revint sur ses traces." (Bory St. Vincent, Vol. iii. p. 6.)

The depth of the cliff here is 252 metres high, and another practical *pas* called Paso de Bory is yet higher.

In this cave on the side of the giddy cliff we took our scanty breakfast, and here also we left the sole remaining Kaffir to collect water and warm some soup whilst we proceeded. During our interval of rest I made some sketches of the ancient summit of the volcano with Le Nez Coupé on the left and the Formica Leo, a parasitic crater, in the foreground, apparently at our feet although in reality some 300 metres distant. Meantime I did not half like the look of the apparently inaccessible rocks beneath, but breakfast and a rest soon took away all dizziness, and I addressed myself to the descent, not even a *facilis descensus* was it, and gleams of misgiving as how I was ever to re-ascend the height came across my mind. Josémon descended first close beneath me, and by placing my feet or toes in the crevices where his hand guided them, and then clinging with my fingers to the

same narrow interstices, I managed to get down, and breathed more freely when we had arrived at the bottom.

A sure guide gives one great confidence, but I was sincerely glad my wife had not accompanied us. I notice that M. Vélain says he reached the base of this escarpment *with difficulty*. I can recommend these cliffs to the notice of the "Climbing Boy" of the "Graphic";\* he will find this escalade worthy of steel.

On we went, as our time was limited, and the weather looked threatening; and we first skirted the base of the Formica Leo, a flattened cone of different coloured scoriæ, so called by Bory de St. Vincent from its resemblance (from above) to one of the Ant-lion's (*Myrmeleon translatus*) pitfalls in the sand, or traps rather, formed by its larvæ. Small as it looks from above it is "80 mètres de diametre et, au plus, 15 mètres de hauteur. Son cratère, presque nivelé par des pluies, présente une calotte concave d'environ 20 mètres d'ouverture sur 5 ou 6 de profondeur." (This *calotte* appeared to me double, one saucer shallow, the other depression deeper.)

We next skirted the edge of the grand crater now no longer active, although vapours still ascend from the hot fissures within; the diameter is about 200 metres and it is 20 metres in depth, and the solid lava beds at the base appear nearly horizontal. Our height now was 2,625 metres. I had hoped here to have had a grand view over seawards, but by the middle of the day the summits are rarely clear, being almost always enveloped in the cloud formed above the trade wind, and we could only see as far as Les Grandes Pentes at intervals, and at times were wrapped up in dense clouds of mist.

We now directed our path towards the lower summit, the burning crater so called, or the Cratère Bory. Besides these two large notable craters, are innumerable smaller craters and adventitious cones, all more or less in a state of dilapidation. Many of these are of tuff, scoriæ, and lapilli, ashes, &c., all of which have been thrown up along the lines of fissures: whilst others on the lower flanks are hummocks and domed *mamelons* of extruded lavas, of varying forms according to the viscosity of their lava ejections. After a most fatiguing walk over the crackling lavas, now and then breaking through the upper crust of the gutters and *canaux* I have before mentioned (although I took particular care never to step on what looked like hollow pipes, but sometimes one is obliged to, and at one time both Loret and myself were up to our waists in such cavities), we reached the more recent crater, whose sides are similar to those of the Grand Enclos, but less worn, and quite recent and freshly surfaced. It was an impressive view looking down as into the infernal regions, and it gave great significance as to how the outer cirques were formed; this *enclos*, or crateral aperture, had its summit about 2,625 metres above the sea, and a depth of perhaps 100 metres with a diameter say from 200 to 300 metres. It was partially broken towards the north-east, whence the lava stream had its origin, flowing down into the Plaine des Osmondes, whilst a flattened cone

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\* See "Ascent of the Morne Brabant" (the "Graphic," May 21, 1881), by Lieutenant Haigh, R.E.

of scorïæ and ashes had been formed on the further edge of the crater from which volumes of vapour and sulphurous fumes exuded. We could not see from our position the course of the yet flowing lava stream, although its path was plainly indicated by the smoke and steam that mingled with the thunder-clouds which now gathered round us.

We next tried to coast, as it were, round the brittle edge of this newly-formed cratering so as to reach the outflow of the fresh lava, but found the indescribable roughness of the upheaved and torn lava rocks almost too much for us, when the storm, long threatening, burst in all its fury upon us; hail, mingled with lightning, and accompanied with tremendous thunder, thoroughly drove us for shelter into an old lava channel, whose polished sides reflected the lightning in the gloom and darkness around us, and we had even anxiety as to getting back to the Pas de Bellecombe that evening. We devoured the food we had with us and at length when there seemed a lull in the storm, we ventured on our return back. If our route had been arduous enough before, it can be imagined what the way was back, when we could hardly see more than a few paces in front. It was only by the direction of the wind and the direction of the ubiquitous lava flows, that we reached the base of the cliffs or ramparts which formed the Enclos, and fortunately we were enabled through a rift in the clouds to recognise momentarily the remarkable point of Le Nez Coupé, on reaching which we skirted the basement of the *cirque*, till we reached the foot of the Pas de Bellecombe, from the top of which we could hear the holloaing of the Kaffir left behind who gave us up for lost.

The descent of the Pas de Bellecombe had been bad enough for me when comparatively fresh: "sed revocare gradum superasque evadere ad auras, hoc opus, hic labor est." Worn out and fatigued, with numb fingers, the rocks apparently as perpendicular and smooth as the side of a cyclopean wall, reaching almost to the clouds, with violent gusts of wind, the crevices slippery with hail and rain, I had to follow my guide up the cliff, obliged to keep pace with him so as to put my hands into the fissures his feet quitted. Fortunately I was too occupied in looking above to notice the increasing depth beneath, and I was heartily glad to find myself landed in safety on the summit of Grand Enclos, and lay down in the cavern half exhausted. Some hot soup and claret soon made me feel myself comfortable, and after half an hour's rest we retraced our steps across the Plaine des Sablons, only annoyed by the *brume* which made our path more tedious as it got darker, but somehow or other we managed to reach our shelter of the previous night in the Caverne des Lataniers where a cheerful fire was burning, dinner ready, and everything cosy. We wanted no rocking to sleep that night you may be sure.

Thursday, April 7th.—Start with a splendid sunrise on my way back to Boisjoli Pottier's, and with our faces towards the Piton des Neiges we get a splendid view over the whole of the centre of the island. From the Cratère Commerson we, ourselves 6,000 feet above the sea, could see the sea on our right, and on our left the lower slopes of the island on either side, from Champ Borne on the north-east to St. Pierre on the south-west; in front rose the Piton des Neiges, and below us stretched the Plaine des Caffres and des Palmistes. Deep blue shadows marked the vales of Cilaos and Salazie, and the Pic Cimandef and



Plaine des Chicots rose up beyond. The sharp ridge of the Couteau Monique, leading to the Mazerin Mountain, over the Plaine des Belous and the Entré Deux on the other side flanked the majestic peak of the centre Piton, whilst in the foreground the sharp-cut, deep Ravine des Ramparts presented its gloomy depths.

The roads being all down-hill we came along merrily enough, and got to M. Pottier's in time for the 10 o'clock breakfast. In the afternoon I visited a cavern in the old lava in rear of M. Pottier's house, which formed a fine grotto.

Friday, April 8th.—Start at 8 o'clock, C—— riding a horse of M. Pottier's and I walking across the Plaine des Caffres, by the Chemin de la Plaine, and to the descent of the Grand Montée, where we leave the horse, and accompanied by some men carrying our luggage descend a steep path to the Plaine des Palmistes, and walk across this happy valley for three miles to the twentieth (kilomètre) milestone from St. Benoit, where we find a carriage and pair of horses that we had previously written to the Consul to engage for us. We gallop rapidly to St. Benoit, change horses at the usual stages, and reach St. Denis in time for dinner with our hospitable hosts, Captain and Mrs. Hill, at Her Britannic Majesty's Consulate. The first intelligence we got was that the *Saxonia* had arrived, and was to start for Mauritius the next day.

Saturday, April 9th.—Pack up our things, get on board the *Saxonia* by four o'clock in the afternoon, leave our anchorage about 6 P.M., and adieu to Bourbon.

Sunday, April 10th.—Make out the Morne Brabant about 10 A.M.

“The Hesperian isles, from distances dimly blue,  
With gradual beauty opened on his view.”

Certainly Mauritius shows to better advantage from the sea than Bourbon. We do not anchor till 3 P.M., and get on shore some time after, having to wait till we get *pratique*.

I must not finish this brief notice of our sojourn in the island of Réunion without testifying to the well-deserved reputation for hospitality which the inhabitants of this distant colony still preserve. That accomplished writer Bernardin de Saint-Pierre wrote, more than a century ago, the following eulogium, which I can fully endorse “to the echo” :—

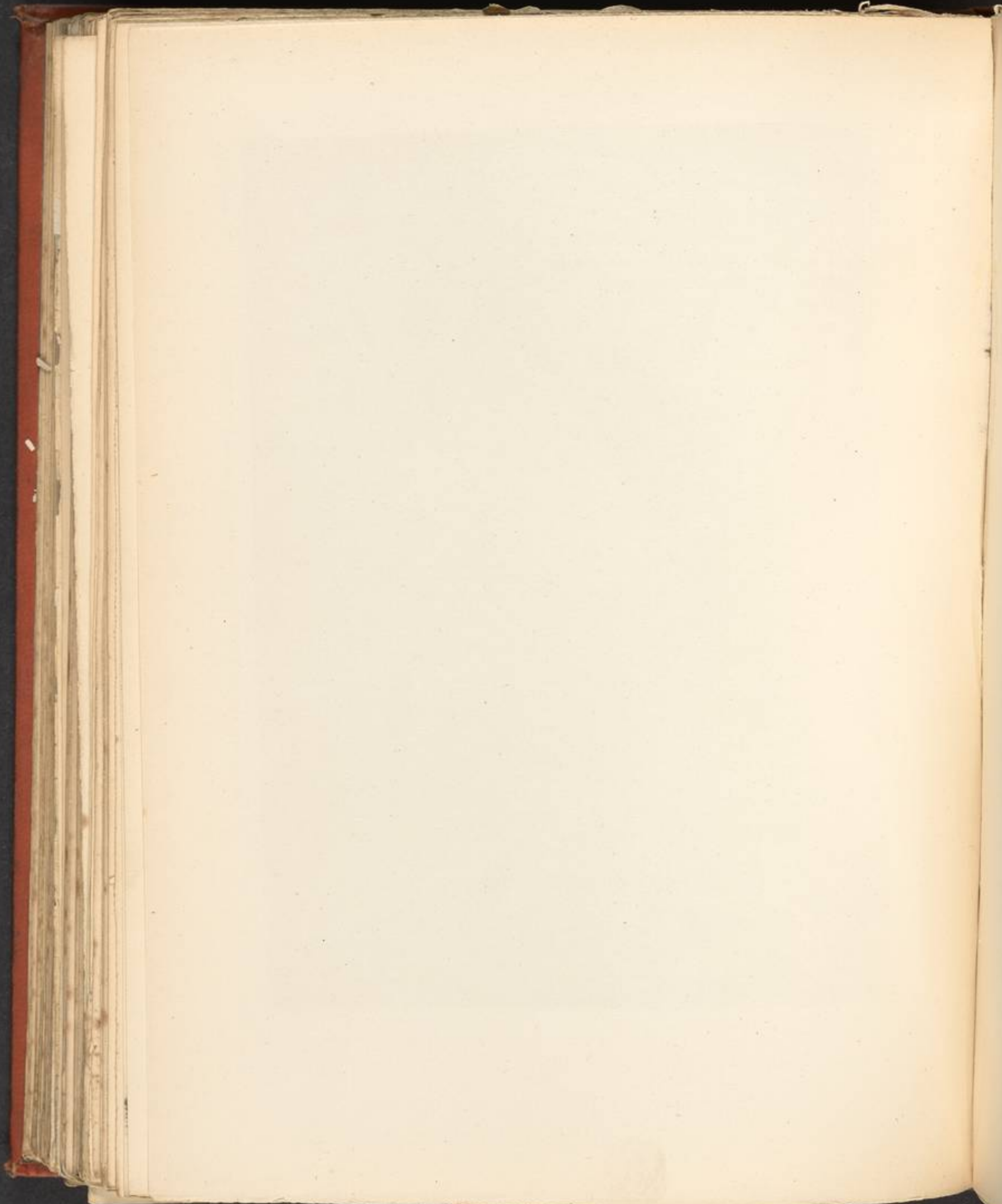
“A Bourbon, ce 21 Décembre, 1770.—Les mœurs des anciens habitans de Bourbon étaient fort simples. La plupart des maisons ne fermaient pas, une serrure même était une curiosité. Quelques uns mettaient leur argent dans une écaille de tortue au dessus de leur porte. Ils allaient nu-pieds, s'habillaient de toile bleue et vivaient de riz et de café; ils ne tiraient presque rien de l'Europe, contents de vivre sans luxe, pourvu qu'ils véussent sans besoins. Ils joignaient à cette modération les vertus qui en sont la suite, de la bonne foi dans le commerce et de la noblesse dans les procédés. Dès qu'un étranger paraissait, les habitans venaient, sans le connaître, lui offrir leur maison.”

“Nous avons trouvé dans leur maison la cordialité des anciens habitans de Bourbon et le politesse de Paris.”



LA PLAINE DES PALMISTES, FROM LA GRANDE MONTÉE, BOURBON.

[To face p. 260.]



## ITINERARY.

St. Pierre à la Ravine Blanche . . . . .	12	kilomètres.
La Ravine Blanche à la Plaine des Caffres . . . . .	15	”
Plaine des Caffres à la Grande Montée . . . . .	10	”
Montée à Plaine des Palmistes . . . . .	8	”
Plaine des Palmistes à St. Benoît . . . . .	23	”
St. Benoît, à St. Denis . . . . .	39	”

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## CHAPTER VI.

Theories of volcanic action.—Bernardin de St. Pierre.—Rival modern hypotheses.—Scrope, Darwin, Judd, and Wallace.—Professor Prestwich's latest theory.—Captain Rooke's voyage along the Malagasy lakes.—Fresh-water fish of Mauritius.—Camarons.—Wreck of the *St. Geran*.—Rivière Noire.—L'Abbé Eggermont and his birds.—Cannonier's Point.—H.M.S. *Orontes*.—Ceylon.—Temple of the Dalada at Kandy.—Peradeniya Gardens.—Huge india-rubber tree.—Mr. Thwaites, the director, his distinguished botanical career.—The home of the cocoa-nut.—Return to Mauritius.—Batteries embark for England.—Arrive at the Cape.—St. Helena.—Home at last.

IN the last chapter I have endeavoured to give my readers some idea of the aspect and surroundings of a remote volcanic island, and I think that some allusion to the physical geognosy of the sister island should not be left out of this short and inadequate sketch of the Mascarene Islands.

First, I had better give a brief *résumé* of old and new theories on the causes of volcanic action, to which agency these islands owe their inception. The most quaint and picturesque is that held a century ago by the engineer whom I so often quote, Bernardin de St. Pierre, in the fourth of his "*Études de la Nature*." After a long description of the important functions of the ocean on the terrestrial globe, he proceeds as follows:—

"L'eau de la mer n'est pas seulement imprégnée de sel, mais de bitume, et encore de quelque autre chose que nous ne connaissons pas; mais le sel y est dans une telle proportion, qu'il aide à la dissolution des cadavres qui y flottent, comme celui que nous mêlons à nos alimens aide à notre digestion. Si la nature en avait fait une saumure, l'Océan serait couvert de toutes les immondices de la terre, qui s'y conserveraient perpétuellement.

"Ces observations nous indiqueront l'usage des volcans. Ils ne viennent point des feux intérieurs de la terre, mais ils doivent leur naissance et les matières qui les entretiennent aux eaux.

"On peut s'en convaincre en remarquant qu'il n'y a pas un seul volcan dans l'intérieur des continens, si ce n'est dans le voisinage de quelque grand lac, comme celui du Mexique. Ils sont situés, pour la plupart, dans les îles à l'extrémité ou au confluent des courans de la mer, et dans le remou de leurs eaux. Voilà pourquoi ils sont en grand nombre vers la Ligne et le long de la mer du Sud, où le vent du sud, qui y souffle perpétuellement, ramène toutes les matières qui y nagent en dissolution. Une autre

preuve qu'ils doivent leur entretien à la mer, c'est que, dans leurs éruptions, ils vomissent souvent des torrens d'eau salée.

"Newton attribuait leur origine et leur durée à des cavernes de soufre qui étaient dans l'intérieur de la terre; mais ce grand homme n'avait pas réfléchi à la position des volcans dans la voisinage des eaux, ni calculé la quantité prodigieuse de soufre qu'exigeraient, le volume et la durée de leurs feux. Le seul Vésuve qui brûle jour et nuit, depuis un temps immémorial, en aurait consommé une masse plus grande que le royaume de Naples. D'ailleurs, la nature ne fait rien en vain. A quoi serviraient de pareils magasins de soufre dans l'intérieur de la terre? On les retrouverait tout entiers dans les lieux où ils ne sont pas embrasés. On ne trouve nulle part de mines de soufre, que dans le voisinage des volcans. Qu'est-ce qui les renouvellerait d'ailleurs, quand elles sont épuisées? Les provisions si constantes des volcans ne sont point dans la terre; elles sont dans la mer. Elles sont fournies par les huiles, les bitumes, et les nitres des végétaux et des animaux, que les pluies et les fleuves charient de toutes parts dans l'Océan, où la dissolution de tous les corps est achevée par son eau lixivielle. Il s'y joint des dissolutions métalliques, et surtout celles du fer, qui, comme on sait, abonde par toute la terre. Les volcans s'allument et s'entretiennent de toutes ses matières. Le chimiste Lémery a imité leurs effets par un mélange de limaille de fer, de soufre et de nitre humecté d'eau, qui s'enflamma de lui-même. Si la nature n'avait allumé ces vastes fourneaux sur les rivages de l'Océan, ses eaux seraient couvertes d'huiles végétales et animales, qui ne s'évaporerait jamais, car elles résistent à l'action de l'air. On les y remarque souvent à leur couleur gorge-de-pigeon, lorsqu'elles sont dans quelque bassin tranquille. La nature purge les eaux par les feux des volcans, comme elle purifie l'air par ceux du tonnerre; et comme les orages sont plus communs dans les pays chauds, elle y a multiplié, par le même raison, les volcans. Elle brûle, sur les rivages, les immondices de la mer, comme un jardinier brûle à la fin de l'automne, les mauvaises herbes de son jardin. On trouve, à la vérité, des laves qui sont dans l'intérieur des terres; mais une preuve qu'elles doivent leur origine aux eaux, c'est que les volcans qui les ont produites se sont éteints quand les eaux leur ont manqué.

"Ces volcans s'y sont allumés, comme ceux d'aujourd'hui, par les fermentations végétales et animales dont la terre fut couverte après le déluge, lorsque les dépouilles de tant de forêts et de tant d'animaux, dont les troncs et les ossemens trouvent encore dans nos carrières, nageaient à la surface de l'océan et formaient des dépôts monstrueux que les courans accumulaient dans les bassins des montagnes. Sans doute ils s'y enflammèrent par le simple effet de la fermentation, comme nous voyons des meules de foin mouillé s'enflammer dans nos prairies. . . . Nous en avons dit assez sur les volcans, pour prouver qu'ils ne viennent point de l'intérieur de la terre."

"Ces idées ont, sans doute, servi de base à la belle théorie de M. Patrin" (observe M. Aimé-Martin, the editor, in 1834). "Ce savant minéralogiste avait observé, comme l'auteur des Études, que tous les volcans, sans exception, sont dans le voisinage de la mer, et qu'ils s'éteignent à mesure que les eaux s'en éloignent. C'est donc dans les eaux de la

mer, dans le sel et les huiles dont elles sont surchargées, qu'il faut chercher les matières qui alimentent les volcans. La terre ne pouvait les fournir car les laves vomies par l'Etna sont plus considérables que la Sicile entière ; une grande partie de la surface du globe a été couverte de volcans ; et s'il existait des vides proportionnés aux masses des laves qu'ils ont jetées, la terre verrait chaque jour s'ouvrir de nouveaux gouffres. Les observations de l'auteur des Études, et la théorie de M. Patrin, lèvent toutes ces difficultés, et s'accordent avec les expériences les plus récentes de la physique. C'est entre les tropiques que les eaux de l'Océan sont le plus chargées de sel ; et c'est aussi entre les tropiques qu'existe le plus grand nombre de volcans. La simple province de Quito au Pérou, en a seize ; et les îles de la vaste mer du sud forment une zone volcanique, qui s'étend dans un espace de plus de 150 degrés de longitude. Ainsi, c'est à la décomposition du sel, de l'eau et de l'air, c'est aux différens gaz qui circulent dans le sein du globe, c'est à l'action de l'étincelle électrique qui enflamme toutes ces matières, que les volcans doivent leur origine : ils sont, comme les fontaines, des émanations d'un fluide sans cesse renouvelé, et c'est la mer qu'on doit regarder comme leur source."

Now for more modern hypotheses :—

"Two rival theories, with reference to the structure and origin of volcanoes, long struggled for supremacy" (says Sir John Lubbock in his inaugural address as President of the British Association, at York, on the 31st August 1881), "the more general view was that sheets of lava and scoriæ which form volcanic cones—such, for instance, as Ætna or Vesuvius—were originally nearly horizontal, and that subsequently a force operating from below, and exerting a pressure both upwards and outwards from a central axis towards all points of the compass, uplifted the whole stratified mass and made it assume a conical form, giving rise at the same time, in many cases, to a wide and deep circular opening at the top of the cone, called by the advocates of this hypothesis a 'crater of elevation.' This theory, though, as it seems to us now, it had already received its death-blow from the admirable memoirs of Scrope, was yet that most generally adopted fifty years ago, because it was considered that compact and crystalline lavas could not have consolidated on a slope exceeding one or two degrees. In 1858, however, Sir C. Lyell conclusively showed that, in fact, such lavas could consolidate at a considerable angle, even in some cases at more than thirty degrees, and it is now generally admitted that though the beds of lava, &c., may have sustained a slight angular elevation since their deposition, still, in the main, volcanic cones have acquired their form by the accumulation of lavas and ashes ejected from one or more craters."

Upon Professor J. W. Judd, F.R.S., of the Royal School of Mines, has fallen (as Mr. Rodwell expresses it) assuredly the mantle and spirit of his master, the late Mr. Poulett Scrope, one of the fathers in Vulcanology. This author considers that the volcanic phenomena depend, first, on cracks or apertures forming communication between the surface and the interior, so that volcanoes are built up along lines of fissures in the earth's crust ; secondly, on the presence of highly-heated matter beneath the surface ; thirdly, on the existence of great quantities of water imprisoned in the subterranean regions—which

water, escaping as steam, gives rise to all those active phenomena which we observe in volcanoes.

Professor J. Prestwich, of Oxford, has quite recently made the following objections to Mr. Poulett Scrope's volcanic hypothesis, that "the rise of lava in a volcanic vent is occasioned by the expansion of volumes of high-pressure steam, generated in a mass of liquefied and heated matter within or beneath the eruptive orifice."

The Oxford Professor of Geology objects:—(1.) That during the most powerful explosions, *i.e.* when the discharge of steam is at its maximum, the escape of lava is frequently at its minimum. (2.) That streams of lava often flow with little disengagement of steam, and are generally greatest after the force of the first violent explosion is expended. (3.) That it is not a mere boiling over, in which case, after the escape of the active agent—the water—and the expulsion of such portion of the obstructing medium—the lava—as became entangled with it, the remaining lava would subside in the vent to a depth corresponding to the quantity of lava ejected; but the level of the lava, *ceteris paribus*, remains the same during successive eruptions.

Of the important part played by water in volcanic eruptions there can be no doubt, but instead of considering it as the *primary*, Professor Prestwich views it as the *secondary* cause in volcanic eruptions. He conceives that the first cause of volcanic action is the welling up of the lava in consequence of pressure due to slight contraction of a portion of the earth's crust; secondly, the fluid lava coming into contact with water stored in the crevices of the masses of lava and ashes forming the volcano, the water is at once flushed into steam, giving rise to powerful detonations and explosions; thirdly, follows an influx of water, from the underlying sedimentary or other strata lying at greater depths, into the ducts of the volcano; and, lastly, as these subterranean bodies of water are thus converted into steam and expelled, the exhausted strata then serve as a channel to an influx of seawater into the volcano. A point is finally reached when, owing to the cessation of the powerful shocks and vibrations, and the excessive drainage of the strata, the flow of the lava is effected quietly, and so continues until another equilibrium is established and the lava ceases to escape.

Now, according to Mr. Judd, "There is good ground for believing that the great linear bands of volcanoes, which, as we have seen, stretch for thousands of miles, have had their positions determined by great lines of fissure in the earth's crust. . . . The volcanoes on the eastern coast of Africa may be regarded as situated on another branch from this Atlantic volcanic band." Again: "From what has been said, it will be seen that, not only do the volcanoes of the globe usually assume a linear arrangement, but nearly the whole of them can be shown to be thrown up along three well-marked bands and the branches proceeding from them. The first and most important of these bands is nearly 10,000 miles in length, and with its branches contains more than 150 active volcanoes; the second is 8,000 miles in length, and includes about 100 active volcanoes; the third is much more broken and interrupted, extends to a length of nearly 1,000 miles, and contains about 50 active vents. The volcanoes of the eastern coast of Africa, with



Mauritius, Bourbon, Rodriguez, and the vents along the line of the Red Sea may be regarded as forming a fourth and subordinate band."—"Volcanoes," pp. 233, 335.

According to Mr. A. Wallace, Mauritius, Bourbon and Rodriguez belong to the *oceanic* group of islands, as opposed to the *continental* groups as classified by Darwin, defined as follows:—

"*Oceanic Islands*.\*—Islands of volcanic or coralline formation, usually far from continents and always separated from them by very deep sea, entirely without indigenous land mammalia or amphibia, but with abundance of birds and insects, and usually with some reptiles."—Wallace, "Island Life," p. 235.

Following Wallace's account, "Mauritius and Bourbon are lofty volcanic islands, evidently of great antiquity. They are about 100 miles apart, and the sea between them is less than 1,000 fathoms deep, whilst on each side it sinks rapidly to depths of 2,400 and 2,600 fathoms." The thalassography of these seas, however, is as yet but very imperfect.

These islands appear, therefore, to lie over the fissure in the earth's crust, forming the fourth or subordinate volcanic band mentioned by Judd, which passes along the shores of the Red Sea, and the coast of eastern Africa, where it is marked conspicuously by the Njemsi volcanic region, Kilima-Njaro (18,500 feet), Mount Kenia (18,000 feet), and next by the Comoro islands ("four of which vary between sixteen and forty miles in length, the largest being 180 miles from the coast of Africa, while one or two of the smaller islets are less than 100 miles from Madagascar, all of which are volcanic, Great Comoro being an active volcano 8,500 feet high"), which volcanoes rise from a submarine bank with less than 500 fathoms soundings, connecting Madagascar with Africa. There is reason to believe that these islands are of comparatively recent origin, and that the bank has been formed by matter ejected by the volcanoes, or by upheaval. The volcanic belt is continued through Madagascar, where it is indicated by the large number of recently extinct volcanoes in Madagascar, where peaks and domes of basalt break through the granite plateaux and secondary plains beneath.

The late Dr. Mullens described forty craters west of Lake Itasy, with more visible to the north, and the huge crateral cavities of Ivoko and Iatsifibra fifty miles south.

Bishop Kestell-Cornish describes lava streams at the extreme north-west of Mada-

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\* "Almost all the scientific men of the day held the idea of continental extensions, and of oceanic islands being their fragments, and it was long before Mr. Darwin's views obtained general acceptance. Even now the belief still lingers; and we continually hear of old Atlantic or Pacific continents, of 'Atlantis' or 'Lemuria,' of which hypothetical lands many existing islands, although wholly volcanic, are thought to be the remnants." In October 1881 we learn that a new volcanic island has sprung up on the Peruvian coast. "Captain Meyer, of the German schooner *Phoenix*, at Callao, from San Jose de Gautemala, reports having discovered a new island. According to advices received by the West India mail it is in lat. 7 deg. 48 S., long. 83 deg. 48 W., lying about 198 miles from Punta Aguja, which is the nearest land. The island appeared of volcanic origin, not being over fifty feet above the sea in its highest part. It is a mile long, and about the same width, and Her Majesty's ship *Kingfisher* and the United States vessel *Alaska* have been despatched to examine it. The Chilean transport *Chile* has also been ordered to pay it a visit during a trip she is now making to the north."

gascar; and Mr. Sibree mentions similar streams of lava-rock running into the sea to the south-east of the same island.

It is possible that the distant islands of St. Paul's, Amsterdam, Kerguelen, Possession, Penguin Island, &c., recently visited by H.M.S. *Comus*\* in search of ship-wrecked crews, may be on the prolongation of the same fissure.

Now it is evident that the island of Bourbon is not sinking, as there is but little coralline formation around its shores, which are steep and abrupt like those of St. Helena. In this respect Mauritius is far different, for it is almost entirely surrounded by an extensive fringe of coral reefs, a good proof of recent subsidence. But it is best to quote Darwin ("Geological Observations," p. 33).

"*Mauritius*.—Approaching this island on the northern or north-western side, a curved chain of bold mountains, surmounted by rugged pinnacles, is seen to rise from a smooth border of cultivated land, which gently slopes down to the coast. At the first glance, one is tempted to believe that the sea lately reached the base of these mountains, and upon examination, this view, at least with respect to the inferior parts of the border is found to be perfectly correct. Several authors\* have described masses of upraised coral rock round the greater part of the circumference of the island. Between Tamarin Bay and Black River I observed in company with Captain Lloyd two hillocks of coral rock, formed in their lower part of hard calcareous sandstone, and in their upper of great blocks slightly aggregated of *astrea* and *madrepora*, and of fragments of basalt; they were divided into beds dipping seawards, in one case at an angle of  $8^{\circ}$ , and in the other at  $18^{\circ}$ ; they had a water-worn appearance, and they rose abruptly from a smooth surface, strewed with rolled *débris* of organic remains, to a height of about twenty feet. The Officier du Roi, in his most interesting tour in 1768 round the island, has described masses of upraised coral blocks, still retaining that moat-like structure (See "Coral Reefs," 2nd Edition, p. 69) which is characteristic of the living reefs.

"On the coast northward of Port Louis, I found the lava concealed for a considerable space inland by a conglomerate of corals and shells, like those on the beach, but in parts consolidated by red ferruginous matter. M. Bory St. Vincent has described similar calcareous beds over nearly the whole of the plain of Pamplemousses. Near Port Louis, when turning over some large stones which lay in the bed of a stream, at the head of a protected creek, and at the height of some yards above the level of spring tides, I found several shales of serpula still adhering to their under sides.

"The jagged mountains near Port Louis rise to a height of between 2,000 and 3,000 feet; they consist of strata of basalt, obscurely separated from each other by firmly aggregated beds of fragmentary matter; and they are intersected by a few vertical dykes.

\* See drawings of these islands by Captain J. W. East, R.N., "Illustrated London News," September 18th, 1880.

† Captain Carmichael in Hooker's "Botanical Miscellany," vol. ii., p. 301; Captain Lloyd, "Proceedings of Geological Society," vol. iii., p. 317; "Voyage à l'île de France," par un officier du Roi; "Voyage aux Quatre Isles d'Afrique," par M. Bory St. Vincent.

The basalt in some parts abounds with large crystals of angite and olivine, and is generally compact.

“The interior of the island forms a plain, raised probably about a 1,000 feet above the level of the sea, and composed of streams of lava, which have flowed round and between the rugged basaltic mountains. These more recent lavas are also basaltic, but less compact, and some of them abound with felspar, so that they even fuse into a pale coloured glass. On the banks of the Great River, a section is exposed nearly 500 feet deep, worn through numerous thin sheets of the lava of this series, which are separated from each other by beds of scorïæ. They seem to have been of sub-aërial formation, and to have flowed from several points of eruption on the central platform, of which the Piton du Milieu is said to be the principal one. There are also several volcanic cones apparently of this modern period, round the circumference of the island, especially at the northern end, where they form separate islets.

“The mountains composed of the more compact and crystalline basalt form the main skeleton of the island. M. Bailly (*Voyage aux Terres Australes*, Tom. i. p. 54) states that they all ‘se developpent autour d’elle comme une ceinture d’immenses remparts, toutes affectant une pente plus ou moins inclinée vers le rivage de la mer; tandis, au contraire, que vers le centre de l’île elles présentent une coupe abrupte, et souvent taillée à pic. Toutes ces montagnes sont formées de couches parallèles inclinées du centre de l’île vers la mer.’ These statements have been disputed, though not in detail, by M. Quoy, in the *Voyage of Freycinet*. As far as my limited means of observation went I found them perfectly correct.\*

“The mountains on the north-west side of the island, which I examined, namely La Pouce, Peter-Bott, Corps de Garde, Les Mamelles, and apparently another further southward, have precisely the external shape and stratification described by M. Bailly. They form about a quarter of his girdle of ramparts. Although these mountains now stand quite detached, being separated from each other by breaches even several miles in width, through which deluges of lava have flowed from the interior of the island, nevertheless, seeing their close general similarity, one must feel convinced that they originally formed parts of one continuous mass.

“Judging from the beautiful map of Mauritius, published by the Admiralty from a French MS., there is a range of mountains (Mt. Bamboo) on the opposite side of the island, which correspond in height, relative position, and external form, with those just described. Whether the girdle was ever complete may well be doubted; but from M. Bailly’s statements, and my own observations, it may be safely concluded that mountains with precipitous inland flanks, and composed of strata dipping outwards, once extended round a considerable portion of the circumference of the island. The ring appears to have been oval, and of vast size; its shorter axis, measured across from the inner sides of the mountains near Port

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\* M. Lesson, in his account of this island, in the *“Voyage of the Coquille,”* seems to follow Mr. Bailly’s views.

Louis, and those near Grand Port, being no less than thirteen geographical miles in length. M. Bailly boldly supposes that this enormous gulf, which has since been filled up to a great extent by streams of modern lava, was formed by the sinking in of the whole of the upper part of one great volcano.

"It is singular in how many respects those portions of St. Jago and of Mauritius which I visited, agree in their geological history. At both islands, mountains of similar external form, stratification, and (at least in their upper beds) composition, follow in a curved chain the coast line. These mountains in each case appear originally to have formed parts of one continuous mass. The basaltic strata of which they are composed, from their compact and crystalline structure, seem, when contrasted with the neighbouring basaltic streams of sub-aërial formation, to have flowed beneath the pressure of the sea, and to have been subsequently elevated. We may suppose that the wide breaches between the mountains were in both cases worn by the waves, during their gradual elevation—of which process within recent times there is abundant evidence on the coast-line of both islands.

"At both vast streams of more recent basaltic lavas have flowed from the interior of the island, round and between the ancient basaltic hills; at both, moreover, recent cones of eruption are scattered around the circumference of the island; but at neither have eruptions taken place within the period of history. As remarked in the last chapter, it is probable that these ancient basaltic mountains, which resemble (at least in many respects) the basal and disturbed remnants of two gigantic volcanos, owe their present form, structure, and position "to the action of similar causes."

In a subsequent chapter Mr. Darwin states: "At Mauritius the sea within a late geological period must have reached to the foot of the basaltic mountains. . . . At Mauritius, when standing on the summit of one of the old basaltic mountains, one looks in vain towards the centre of the island—the point towards which the strata beneath one's feet, and of the mountains on each side, rudely converge—for a source whence these strata could have been erupted; but one sees only a vast hollow platform stretched beneath, or piles of matter of more recent origin.

"These basaltic mountains come, I presume, into the class of craters of elevation: it is immaterial whether the rings were ever completely formed, for the portions which now exist have so uniform a structure, that if they do not form fragments of true craters, they cannot be classed with ordinary lines of elevation. With respect to their origin, after having read the works of Mr. Lyell and of MM. C. Prevost and Virlet, I cannot believe that the great central hollows have been formed by a simple dome-shaped elevation, and the consequent arching of the strata. On the other hand, I have very great difficulty in admitting that these basaltic mountains are merely the basal fragments of great volcanoes, of which the summits have either been blown off, or more probably swallowed up by subsidence. These rings are in some instances so immense, as at St. Jago and at Mauritius, and their occurrence is so frequent, that I can hardly persuade myself to adopt this explanation. Moreover, I suspect that the following circumstances, from their frequent

concurrence, are some way connected together, a connection not implied in either of the above views; namely, first the broken state of the ring, showing that the now detached portions have been exposed to great denudation, and in some cases, perhaps, rendering it probable that the ring never was entire; secondly, the great amount of matter erupted from the central area, after or during the formation of the ring; and thirdly, the elevation of the district in mass. As far as relates to the inclination of the strata being greater than that which the basal fragments of ordinary volcanoes would naturally possess, I can readily believe that this inclination might have been slowly acquired by that amount of elevation, of which according to M. Elie de Beaumont, the numerous upfilled fissures, or dikes, are the evidence and the measure. . . .

“The conjecture is, that, during the slow elevation of a volcanic district, or island, in the centre of which one or more orifices continue open, and thus relieve the subterranean forces, the borders are elevated more than the central area; and that the portions, thus upraised, do not slope gently into the central less elevated area . . . but are separated from it by curved faults. We might expect from what we see along ordinary faults, that the strata on the upraised side, already dipping outwards from their original formation as lava-streams, would be tilted from the line of fault, and thus have their inclination increased. According to this hypothesis, which I am tempted to extend only to some few cases, it is not probable that the ring would ever be formed quite perfect; and from the elevation being slow, the upraised portions would generally be exposed to much denudation, and hence the ring become broken. By this hypothesis the elevation of the districts in mass, and the flowing of deluges of lava from the central platforms, are likewise connected together. On this view the marginal basaltic mountains of the three foregoing islands might still be considered as forming ‘Craters of elevation’; the kind of elevation implied having been slow, and the central hollow or platform having been formed, not by the arching of the surface, but simply by that part having been upraised to a less height.”

I have now given at some length the various theories as to the origin of such a volcanic mass as Mauritius, and the Mascarene islands in its neighbourhood.

Mr. Wallace writes:—“There is probably no portion of the globe that contains within itself so many and such varied features of interest connected with geographical distribution, or which so well illustrates the mode of solving the problems it presents, as the comparatively small insular region which comprises the great island of Madagascar and the smaller islands and island-groups which immediately surround it. In Madagascar we have a continental island of the first rank, and undoubtedly of immense antiquity; we have detached fragments of this island in the Comoros and Aldabra; in the Seychelles we have the fragments of another very ancient island, which may perhaps never have been continental; in Mauritius, Bourbon, and Rodriguez we have three undoubtedly oceanic islands, whilst in the extensive banks and coral-reefs of Cargados, Saya de Malha, the Chagos and the Maldive islands, we have indications of the submergence of many large islands which may have aided in the transmission of organisms from the Indian Peninsula.”

After having visited Bourbon, I have no doubt that the sister-island was built up in much the same manner, but that it has suffered submergence,\* as evidenced by the surrounding barrier of coral reef; as also elevation, as shown by the masses of old coral limestone beach formation, somewhat resembling the oolitic, and conglomerates of basalt fragments in coral, elevated some thirty-five feet above the high-water mark, whilst elsewhere, on the islets north of Mauritius are raised beaches five or six feet above the sea level.

Mr. Pike, for instance, mentions casts in limestone formation at Flat Island.

According to Lieutenant H. de H. Haig, of the Royal Engineers:—"Metamorphosed sedimentary rocks occur in more than one locality. In the south-west of the island contorted beds of coarse clay slate are found 1,200 feet above the sea; and in the Bamboo mountains, near Mahebourg, are crumpled beds of crystalline schist, at least 300 feet thick, with a general dip to the south-east, 1,500 feet above the sea; these strata stand in a conical hill above the volcanic rocks. They weather in a very marked way along the planes of cleavage, and across the lines of bedding. The soil formed from the decay of these metamorphic strata is very sterile; it supports nothing but grass, and a few scattered bushes and heather. The hill, owing to this stands out in strong contrast to the volcanic hills surrounding it, which are covered with luxuriant forest vegetation."

"There are a number of craters along the central ridge running from S.S.W. to N.N.E.; in all there are fourteen perfect ones, besides many more or less broken and obliterated. The largest, called the "Trou aux Cerfs," is 500 yards across, and 280 feet in depth; the almost vertical sides of all are, or were, covered with dense tangled forest, such as only the tropics can produce, and several of them are sufficiently watertight to enclose lakes, such as the "Grand Bassin," the "Bassin Blanc," while the "Trou aux Cerfs" is dry, or a lake, according to the season. One of the most curious of these recent volcanoes is that called the "Caves Crater"; it is a cluster of seven, in the bottoms of four of which are dome-shaped caves where the lava has sunk, leaving its hardened crust as a roof, ledges, running round horizontally, showing where the surface of the molten stone remained long enough to begin cooling. In one of these small craters is a conical knob, down the centre of which is a pear-shaped tube fifty-four feet deep. These crypt-like chasms owe their formation to causes analogous to those now in active operation at Bourbon. See *ante*, p. 258.

It is curious to see the revolution of geological ideas since the last century when

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\* Mr. Wallace also, in noticing his map of the Indian Ocean, showing the position of banks less than 1,000 fathoms deep between Africa and the Indian Peninsula, says of "*Submerged Islands between Madagascar and India*."—Looking at the accompanying map of the Indian Ocean, we see that between Madagascar and India, there are now extensive shoals and coral-reefs, such as are always held to indicate subsidence; and we may therefore fairly postulate the former existence here of several large islands, some of them not much inferior to Madagascar itself." This large area of subsidence clearly supplies the "*pressure due to contraction of the earth's surface*" required by Prestwich's theory.

M. Le Gentil attributes the elevation of coral masses to hurricanes. In his observations on the Isle de France, he says:—

“The reefs are nothing more than coral or madreporæ worked in the sea by polypi, and form a considerable steep or perpendicular bank, which is continually augmenting either by the labour of those animals or by the power of the sea, which in its boisterous state covers it with fragments of the same substance which it has broken off from their beds, or forced up from its own depths. The particular spots which the billows have reached during the hurricanes are evident from the beds of fragments which the sea has left on withdrawing to its natural limits. Indeed, there is every reason to conclude that hereafter a dry passage will be obtained to the very brink of the reefs of the Isle of France, as the foot of the island will be prolonged in such a manner that the space now under water will become plains like those which have been already described. . . . The Isles of Ambre, to the windward of the Isle of France, are also a considerable mass of coral, which the sea formerly cast up and afterwards abandoned, as in the Isle of Tonneliers.”

Nicholas Pike, in his “Sub-tropical Rambles,” partially confirms M. Le Gentil as to the dislocation of coral islands by hurricanes. On the 14th, 15th, and 16th January 1868, a terrific cyclone swept past Port Louis and created a tremendous sea; the waves “at the entrance of the harbour were truly frightful, throwing up piles of coral *débris* at the right hand (going in) and forming an islet three-quarters of a mile in length, in some places from four to six feet high. This was nearly united to the mainland, there being only a foot or two of water covering the banks opposite Fort William, and I have no doubt another hurricane will unite them all together.” This is now called Barkly Island. Nevertheless, these recent formation of modern corals must not be confounded with the cretaceous formation found upheaved on the plains and coasts of the island which encase corals of extinct species. Submergence has also taken place, as the fossilized casts of large endogens have been found at Flat Island and near Mahébourg embedded in marine detritus. (See Mr. Pike’s work, chap. ix. on the “Geology of Mauritius.”)

Mr. Scrope and Mr. Pike both attribute the formation of the island to submarine volcanic agency, but after its upheaval I think that, doubtless, there were sub-aerial vents still active; so also Mr. Scrope is of opinion that the *Piton* (Piton de Milieu?) “was probably the chief vent of these central and latest eruptions.” My own idea is that it is to the south-west of the island, where the mountains are more massive and exhibit portions of magnificent disrupted and convulsed crater rings, that we must look for the last efforts of the internal fire, for one reason that the vent seems to have shifted in that direction, *i.e.*, southerly, as in Bourbon; and, secondly, because the most recent traces of ashes and the most modern-looking cinder cones that I have seen are near Chamarel. The most perfect minor crater is that now called the *Trou aux Cerfs*, within the Great Crater-cliff girdle.

In the sections, which are found in the ravines and vast fissures, the result of violent disruption, are to be seen successive lava-beds superimposed upon one another with layers

of scoriæ, &c., intervening. One of the best, if not most instructive, of these sections, on the largest scale, is to be seen in the ravine called Le Cabinet, where the River Tamarin falls in a series of waterfalls over successive ledges of lava-beds of different character, and which have flowed in different directions from various vents.

Numerous caverns of large dimensions, generally arched, hollow, and gutter-like, are to be found beneath the surface of the lava-streams, produced by the escape of the more fluid lava from beneath the cooler surface, which soon forms a crust. Some of these caves are traversed by subterraneous streams, notably one in Savanne. The most noticeable of these caves which visitors are accustomed to penetrate is at Petite Rivière on the west coast. The rounded and polished mouldings which extend in a parallel direction with the course of these winding subterraneous passages are most remarkable. They are observable in the sub-aerial section at the Tamarin Falls observed above.

On our return from Bourbon, off duty, to the barracks in Artillery Place, the captain of the battery, Captain W. Rooke, in company with Hewitt, of the Military Store Department, and Johnson started off in the *Saxonia*, with a boat of Rooke's construction, in which they made a journey along the lakes on the east coast of Madagascar, an account of which is given in the "Proceedings of the Royal Geographical Society" (December 11th, 1865).

The whole journey, from north at Tamatave in 18° south latitude to south at Manzanari, latitude 21° 15', occupied the party thirty-two days, over a distance of 230 miles.

It was at Manzanari that Captain Rooke met the Ikongos, who have been before alluded to (p. 124).

The monotonous duty in barracks at Port Louis was, however, relieved by enjoyable visits to Arsenal and Lucia, the latter the estate of Mr. Barlow. Here in company with Major George Hannen and the sons of Mr. Barlow, we used to drag the streams which drain the lava plains in the north of the island, and which unite and form the Rivière du Rempart. Whence it is that these volcanic islands have been stocked with fresh-water fish I know not, but nevertheless the streams are, or at least were then, plentifully supplied with various species, and we managed to get good hauls in the drag-nets. The high temperature made the swimming and wading in the fresh-water delightful. The fish caught are of several species, viz., two species of *Nestis*, called by the Créoles *chittes* (*N. cyprinoïdes* and *N. dobula*); one *Cyprinus thoracatus* (called *carpe* in Mauritius), and several blennies or gobies, viz. *Gobius kokius* and *G. ocellaris* (called *loche*), *G. cæruleus* (vulgarly, *bouche-rongue*); as well as *Sicydium lagocephalum* (*Cabot lézard*), *S. laticeps* (*Cabot, bouche-ronde*), *Cotylopus acutipinnis* (*Cabot marare*), *C. parvipinnis* (*Cabot de cascade*), *Eleotris niger* (*Cabot noir*), *E. porocephala* and *E. cyprinoïdes* (*Cabot marare*).—[Maillard.]

Still greater fun, however, was the snaring of *camarons*, or cray-fish—species of *Astaci Enoplometopus pictus*—*chevrettes*, or prawns (*Palaemon carcinus*), and *bétonnes*, all different, which are found frequenting the deep pools and springs which are numerous in the chasms and *trous* throughout the island. The way we caught them was as follows:—a piece of *toile bleu* or blue *dungaree* is lowered by lengths of twine containing bait in the



shape of dough or flour, maïs or manioc paste, which shows out white against the blue cloth beneath; failing the cloth the broad leaf of the esculent caladium is generally ready to hand. The fisher provides himself with a thin pliant rod—the topmost shoots of the miniature bamboo are the best; at the end of the rod is a noose of thin wire or gimp, although the Créole piqueur prefers the slender root of the *faham* (*Angræcum fragrans*) or other allied orchid, and sometimes the tendril of the native indigo. When the *camarons* come out to feed, the thing is to slip the noose deftly over their tails or anterior claws. It is quite an art, that of noosing the wily *camaron*, enticing and appetising, if not an intellectual amusement. Ladies seem to excel in the practice of catching, and also in cooking them. I know of no better dish at home or abroad.

Whilst at Lucia I took the opportunity of examining the coast opposite to the Ile d'Ambre, where the famous wreck of the *St. Géran* took place, affording the romantic incident and finale to Bernardin de St. Pierre's pathetic romance.

Curiously, all the books that I have seen on Mauritius give a different account of this wreck, and more especially everybody seems to take it for granted that the Baie du Tombeau at Arsenal obtains its name from the bodies washed ashore there from this wreck; whereas it is a corruption of *baie ou tombent eaux*, from the fall of the waters of the Rivière des Pamplemousses at the head of the embouchure.

It is physically impossible that the bodies of those drowned off the Isle d'Ambre on the north-east coast could be washed round Mapon and Cap Malheureux, the extreme north, past Grande Baie and Cannonier's Point, over the reefs at the Pointe aux Roches and the Baie de Mer d'Ache into Tombeau Bay, four or five miles south. Any bodies that floated beyond the Pointe de la Butte aux Sables would necessarily be washed out past the Coin de Mire (or Gunner's Quoin) by the strong current caused by the south-east trade-winds. The following is the official record of the wreck:—

“Le naufrage de ce navire, au milieu des convulsions d'un ouragan, a inspiré à Bernardin de Saint Pierre, comme chacun sait, un roman pastoral le plus beau qui ait existé, d'un style doux, gracieux, coulant comme les ruisseaux bordés d'orangers qu'il a célébrés, un chef-d'œuvre de grâce, de passion, de douce philosophie, de poésie descriptive, d'observation de la nature, qui a nom 'Paul et Virginie.' Si les douleurs de Paul nous arrachent des larmes, le naufrage de Virginie nous brise l'âme; nous sommes tentés de l'invoquer comme un ange, cette vierge qui sacrifie sa vie à la pudeur.

“A part les immortelles pages de ce petit ouvrage, qui fit l'admiration du monde entier, le rôle de l'historien est de rétablir les faits dignes de la vérité de l'histoire. C'est dans ce but que nous dirons, en passant, quelques mots de l'horrible catastrophe du *Saint-Géran*. Ce naufrage, dont on ne peut révoquer en doute la réalité, loin de s'accomplir le 24 Décembre 1744, dans le saison des ouragans, ainsi que le prétend le roman, a eu lieu le 17 Août de la même année, dans le mois de la belle saison sous les tropiques. Le commandement du vaisseau n'était point confié à un M. Aubin, comme le constate Bernardin de Saint-Pierre, mais bien à un M. Delamarre. Au moment du naufrage, deux jeunes filles, Mesdemoiselles Mallet et Caillou, étaient restées à bord du *Saint-Géran*.

“ Les déclarations de quelques infortunés échappés à la fureur des flots, constatent ces faits dans des procès verbaux reçus le 22, le 24, le 25 et le 28 Août 1744, par M. Antoine-Nicolas Herbault, conseiller du roi au Conseil supérieur de l'île de France, assisté de son greffier François Molère.

“ Voici en résumé les dépositions des dix naufragés, telles qu'elles résultent des procès-verbaux déposés au greffes de la Cour d'appel de l'île Maurice.

“ Le *Saint-Géran*, du port de 600 tonneaux, armé de 30 canons, partit de Lorient le 24 Mars 1744, sous le commandement du capitaine Delamarre. L'état-major se composait de MM. Mallet, premier lieutenant; Péramont, second lieutenant; Long-champs de Montendre, premier enseigne; Lair, second enseigne et écrivain; le chevalier de Boette, enseigne surnuméraire.

“ Il y avait à bord 186 personnes, lorsque, 22 jours après son départ, le *Saint-Géran* relâcha à Gorée, où il prit, pour les déposer à l'île de France, au compte de l'Etat, 20 nègres et 10 négresses, tant Iolofs que Bambaras. Un Français de 25 ans, du nom de Belleval, s'y était en outre furtivement introduit.

“ Le vaisseau voguait paisiblement avec les 217 personnes qu'il renfermait dans ses flancs, malgré l'affreuse maladie qui s'était déclarée à bord avec tant d'intensité, qu'elle mit sur les cadres plus de cent d'entre elles, lorsque, le 16 Août 1744, vers les quatre heures du soir, on aperçut l'île Ronde en vue de l'île de France. Tout à coup la mer devient furieuse, le navire est mis à la cape au S.S.O. et S.O. A 3 heures du matin, le *Saint-Géran*, pris au travers, est poussé sur l'île d'Ambre et brisé contre les récifs. ‘ Au coup de talon que donne le navire, ’ rapporte le naufragé Jean Janvrin, pilote, de Saint-Malo, ‘ tous les officiers sortent de leur chambre et viennent en chemise sur le pont. ’ L'équipage s'agenouille à bâbord sur le pont, où la mer n'arrivait pas encore malgré l'inclinaison du vaisseau, et implore la protection de Dieu. Aussitôt le révérend père Martin Burck, du convent des ‘ Billettes ’ à Paris, aumônier du *Saint-Géran*, donne la bénédiction générale et entonne le *Salve regina* et l'*Ave, maris stella*, que continuait avec l'enthousiasme de la foi l'équipage breton. L'hymne achevée, les vœux à Sainte Anne d'Auray terminés, ces hommes pieux s'embrassèrent en se demandant pardon les uns aux autres. Chrétiens, ils s'humiliaient sous la main de Dieu, afin de se réconcilier avec lui au moment de l'heure suprême.

“ Un morne silence régnait dans l'assemblée qui attendait la fin de ce drame déchirant. Au point du jour, l'équipage cherche vainement à se sauver dans les bateaux; mais bientôt les mats tombent, les bateaux sont écrasés. Le maître boulanger se jette le premier à la mer et trouve la mort à quelques brasses du vaisseau. Il est suivi de Pierre Tassel, de Lorient, bosseman, qui, meilleur nageur que lui, traverse les lames et gagne en dedans des brisants. Chacun à bord était attentif à ce qu'il deviendrait, pour imiter sa manœuvre en tentant le trajet. L'équipage, encouragé par son exemple, se jette à l'eau au nombre de plus de 60, les uns sur des planches ou des débris, les autres sur un radeau qui devient la cause de la perte de bien des hommes; ils s'étaient précipités en telle quantité, disent les naufragés, que ‘ le radeau chavira sur eux et personne ne peut se sauver. ’

“En cet instant solennel, on vit le patron de la chaloupe, Edme Caret, de Lorient, s’approcher du capitaine Delamarre et lui dire: ‘Monsieur, quittez votre veste et votre culotte, vous vous sauverez plus aisément.’ A quoi M. Delamarre ne voulut jamais consentir, disant ‘qu’il ne conviendrait pas à la décence de son état d’arriver à terre tout nu, et qu’il avait dans le poche des papiers qu’il ne devait pas quitter.’ Plus loin, ‘l’on voyait Mademoiselle Maillet sur le gaillard d’arrière à M. de Péramont, qui ne l’abandonnait pas. Mademoiselle Caillou sur le gaillard d’avant avec MM. Villarmois, Gresle, Guiné et Longchamps de Montendre, qui descendit le long du bord pour se jeter à la mer, mais qui presque aussitôt remonta, afin de déterminer Mademoiselle Caillou à se sauver.’

“Les procès-verbaux, dont nous avons consulté l’original, se taisent sur la fin tragique de ces intéressantes victimes. Selon toute apparence, leurs restes inanimés, après avoir été quelque temps ballottés par les flots, ont à jamais disparu dans les gouffres de l’Océan Indien.”

Such is all that can be gathered from the scanty authentic records of the disaster.

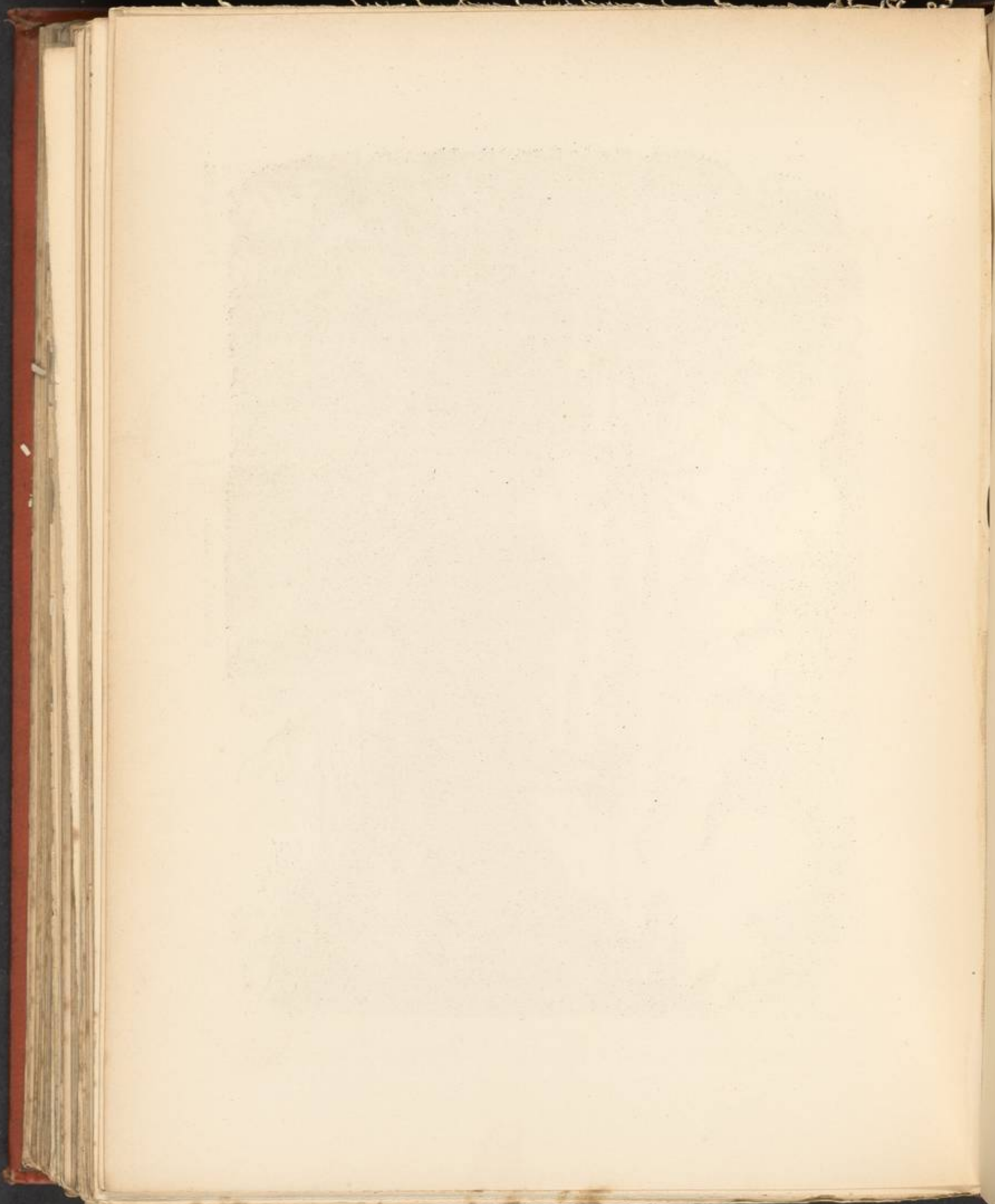
On the 5th of May 1864, the hired transport *Marlborough* put into Port Louis in distress, leaking so badly that the passengers all had to take their turn in pumping. There were Indian artillery on board, and one of the gunner officers who landed was convalescent from sunstroke. Unfortunately this officer, Clarence Macpherson by name, after taking a long walk through the island, became quite insane; his insanity breaking out one Sunday during divine service in the cathedral, greatly to the consternation of the congregation this Lieutenant arose and declaimed against the preacher’s doctrine so violently that he had to be removed from the building; on being taken to the barracks he broke away from those with him, jumped out of the ante-room window, and at last he was finally placed in bed with a strait-waistcoat to confine him. A board of officers was assembled to inquire and report upon his condition, in connection with which a serio-comic incident took place. Archie Gordon, the principal medical officer, differed from the other military surgeons as to Macpherson’s insanity. “Let me see him alone,” he said; “I am sure he is perfectly quiet and rational.” So the strait-waistcoat was removed, and old Archie entered his apartment. The maniac waited until the medico was well inside the room, then getting between him and the door, seized a chair by the leg, and exclaiming “Now I’ve got you!” rushed at the canny Scotsman, who dodged about till he could beat an undignified retreat, at length fully convinced that the patient’s mind was unsound.

As soon as the *Marlborough* had been repaired, Lieutenant Macpherson was sent home in her, of course under proper supervision; and we afterwards heard that he had recovered, at least so far that he was permitted to return to duty at Woolwich. His latest appearance on parade in that garrison, was at an inspection by the General, when Macpherson astonished everyone by appearing in slippers, greatly to the horror of the inspecting officer, as may be imagined. On being requested to explain this unusual appearance, he referred the staff-officer, deputed to inquire, to his bootmaker, and it is needless to add that he did not appear again on duty.

Some six years afterwards we were astonished at meeting the unfortunate man again in society at Guernsey. Here again his mind gave way, when in consequence of his



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dangerous eccentricities, he was ordered to be confined. In expectation of this event he had provided himself with a knife, with which he stabbed mortally the keeper who was sent to arrest him. He again escaped from confinement, but was of course unable to leave the island; he was captured when asleep in an hotel at St. Peter's Port, and that is the last we ever heard of poor Macpherson.

On the 12th of May the first portion of the Mauritius Railway was opened for traffic, an auspicious event, which was duly honoured by the Government. Everybody of any consequence was invited, and we made a large party, filling a good long train, which took us along the northern line to Grand River, south-east. Here several parties went up the river in boats to the foot of the magnificent falls, which however did not show to advantage, with crowds of fashionably-dressed ladies and officials in frock-coats and tall hats dotted about the banks.

We returned to the station at Flacq to a famous spread in a large marquee on the Beauchamp estate, and the return journey was marked with plenty of hilarity after the champagne-cup, which was flowing liberally.

The Pamplemousses botanic gardens was another favourite resort of ours, which we were never tired of visiting, as there was always some new orchid in blossom, or some newly arrived fern, or interesting economical plant from on board the vessels which arrive from all parts of the world.

Opposite is a drawing I made of a group of *Uranias*, the Malagassy travellers' palms, which have thriven at the water's-edge in these gardens, and which will serve to give some idea of one of the numerous picturesque peeps in these well-arranged grounds.

The collection of palms indigenous to Mauritius and its dependencies is unrivalled, including fifteen species of ten genera; amongst which are some of the most magnificent and elegant in the world: such as *Verschaffeltia splendida*, *Stevensonia grandifolia*, *Latania glaucophylla* and *aurea*, *Hyophorbe*, and *Areca*. Besides these were exotics, such as, the Talipot (*Corypha umbraculifera*); the stately *Oreodoxa Regia* (*Saguerus saccharifera*); the Jaggery, or Gommuti Palm, from which the giou fibre is obtained; the Panama-hat Palm (*Carludovica palmata*); Coco-de-mer (*Lodoicea Seychellarum*); the Prickly Palm (*Licuala horrida*); *Areca catechu*; *Caryota urens*; *Roffia*, &c.

On the 2nd July I was ordered on detachment to Black River, and marched the men down there, a good pull on foot, being twenty miles at the least from Port Louis along the highway. The post at Black River has ever been a favourite station, as it is well situated for shooting and fishing. The military post consisted in 1864 of a barrack and hospital for the men, and at a convenient distance three small bungalows as officer's quarters, the whole shaded by banyan trees, and close to the margin of the bay, at each extremity of which was a martello tower and battery. One of these towers rejoiced in the name of Harmony tower, after the old French battery, Harmonie, reminding one of the Golden Dustman's abode in "Our Mutual Friend"; the other is La Preneuse. The river emptied itself into the bay close to our post, in rear of which was a small Roman Catholic Chapel, and its curé's abode.

Old Abbé Eggermont was the incumbent when we were there, a quaint, kindly character, and always welcome at the post. His congregation was not large, but conscientiously did this old Abbé read mass every morning within the empty walls of his chapel. Now this chapel was infested with rats, which were so bold that they were accustomed to put in an appearance whilst this early mass was recited. This went on with impunity until at last the old Abbé could stand it no longer, so borrowing a Monte-Christo pistol, he used to chant his mass, Aves, and *Pater noster qui es in celo*, &c.—bang! bang!—*Ora pro nobis*—bang! bang! at the rats between the periods. In this manner did the Flamand padre get rid of his unbidden guests. After mass betimes this dear old priest used to put off his robe and appear with his pyjamas underneath, and in his sleeping costume of *toile blue*, mount his mule, and ride down to the river's mouth for a swim, generally calling for me *en route*; and a quaint figure he cut with his broad-brimmed straw hat, his portly form. He was especially pleased, the rogue, if he found the ladies bathing when he passed, when he would doff his hat with the greatest air imaginable, and pay them elaborate compliments in his Flamand patois.

He used to swim with his shoulders high out of the water, always a cigar in his mouth and his broad-leaved hat still on; the most comical figure possible.

His great delight was in rearing pet birds, and the trees and bushes about his abode were full of his pets.

Some people have been wont to write accounts of Mauritius as if there were no variety of birds in the island, and perhaps in comparison with the West Indian Islands there are less species, but, nevertheless, considering the limited area of the island and its isolated position, Mauritius can compare not unfavourably with most tropical islands in regard to the number of species of its fauna.

The ornithology of the island has been well worked out by Mr. E. Newton, the present Lieutenant-Governor of Jamaica. The following are the commonest birds met with, viz.:

Mangeur de poules.	Cateau.
Oiseau blanc.	Perruche.
Oiseau manioc.	Pigeon hollandais.
Merle ( <i>Turdus Mauritanus</i> ).	Pigeon ramier.
Coq du bois.	Bengali.
Cuisinier.	Pingo, or nutmeg-bird.
Cardinal.	Java sparrow.
Oiseau banane.	Martin.

“The destruction of so many particularly interesting birds indigenous to the Mascarene Islands (Mauritius, Bourbon or Réunion, and also Rodriguez), as the dodo and its kindred, as well as other forms, by the ruthless old navigators and the predatory animals which were introduced by them, will never cease to be lamented by every naturalist. But the French introduced numerous animals from various countries into Mauritius (and doubtless also into Bourbon), which have long been there thoroughly established.

"The commonest Malayan monkey (*Macacus aigula*, as distinguished from the kindred *M. cynomolgus* of Burma), which abounds in Mauritius, was brought thither by the Portuguese, according to the testimony of the Abbé de la Caille. It had become numerous in the last century, if not before, and its habits, as there observed in a state of freedom, are described in the 'History of Mauritius' published by the Viscount de Vaux in 1801.

"The stag of the mountain forests of that island is the Javanese rusa-deer (*Cervus rusa* seu *Rusa tunjuc*, *Cervus tunjuc* of Vigors), and it does not appear to have been modified by its long naturalisation. The hare is the black-naped species (*Lepus nigricollis*) of Southern India and Ceylon, which has likewise been introduced into Java. A small hedgehog-like animal, the tenrec (*Centetes ecaudatus*) was brought from Madagascar to prey on the big cockroaches (*Blatta orientalis*) so troublesome in hot climates.

"Of game-birds, the Chinese or pearly francolin (*Francolinus sinensis*), known as the 'pintade,' was introduced from China, and from India the plain-coloured spur-fowl (*Galloperdix spadicea*), the spurred grey partridge (*Ortygornis ponticerianus*), one of the two pigmy partridges (*Perdicula cambaiensis*), and the diminutive painted quail (*Microperdix sinensis*), which last is generally diffused over south-eastern Asia and its islands. Also two species of doves from Java (the 'tourterelle de Batavie,' *Turtur tigrinus* (?), or perhaps *T. bitorquatus* (?)—I cannot learn which—and *Geopelia striata* for certain).

"The Indian house-maina (*Acridotheres tristis*), known as the 'martin,' was introduced to keep the destructive grasshoppers in check. We are told by Michelet that when the 'martins' were thought to have unduly increased in the Isle of Bourbon, a reward was offered for the destruction of them, and their numbers were so much thinned that the grasshoppers one more got ahead, to an extent that soon induced the Government to withdraw the edict and do their utmost to protect the birds for the future.

"Of sundry small birds, from Madagascar were brought the little grey-headed 'love-bird' parrakeet (*Agapornis cana*), and the two beautiful red weaver-birds (*Foudia erythrops* and *F. Madagascariensis*). According to Mr. E. Newton, vast numbers of those grey-headed 'love-birds' are even now brought yearly from Madagascar to Mauritius, but they have long been plentifully wild in the latter island. From South Africa came the golden-rumped serin (*Crithagra chrysopyga*), although styled 'serin-du-pays,' the grey-necked serin (*Serinus canicollis*) or 'serin-du-Cap,' and the rayed waxbill (*Estrelida astrild*) or 'bengali'; and I believe the speckled waxbill or amandavat (*E. amandava*) from India is also there, and an Indian munia-grosbeak or 'nutmeg-bird' (*Munia punctularia*) in abundance, with the 'Java sparrow' as already mentioned.

"Referring to the 'History of Mauritius' by the Viscount de Vaux (published in 1801), I find that, besides most of the above, 'several couples of ravens had been let loose in the woods, of which there remain but three males. The inhabitants accuse them of devouring their chickens. It is not possible,' he remarks, 'to pass over the mischief occasioned by the Cape-bird, a kind of small singing bird, which is very melodious. They were at first brought here from curiosity, but some of them escaped into the woods, where



they have greatly multiplied. They subsist on the fruits of the harvest, and the Government has set a price on their destruction.' Surely the 'serin-du-Cap' would only feed on small grass-seeds, or upon such other diet as the domestic canary-bird would partake of!

" 'There is also,' he remarks, 'a very pretty tomtit, whose wings are dotted with small spots,' doubtless the red Indian amandavat (*Estrela amandava*). 'Geese and wild ducks also have been introduced to the pools of water; there are also tame ones, and, amongst others, the Manilla duck' (*Cairina moschata*).

"According to Mr. E. Newton, the only species of duck wild in Mauritius is the *Dendrocygna viduata*, a species common to Madagascar, Africa, and South America. 'But it has been undoubtedly introduced, large quantities being brought over from Madagascar in every bullock-ship,' as are also still larger numbers of *D. arcuata*, which has not gone wild in like manner. Moreover, remarks the Viscount de Vaux, 'there is also a bird brought from the Cape, which is extremely useful. The Dutch call at the gardener's friend. It is of a brown colour, and the size of a large sparrow. It feeds on worms, caterpillars, and small snakes. But it not only eats them, it also provides a store for its future wants by hanging them up in the hedges; and, if deprived of its liberty, will continue to suspend a portion of the meat which is given to it in the wires of its cage.' Here we seem to have indicated the *Lanius collaris*, a species of shrike which is very common in the Cape Colony; but I have seen no recent account of this bird as still inhabiting Mauritius.

"Writing of the 'serin-du-Cap' upon the island, Mr. E. Newton remarks (*Ibis*, 1861, p. 272):—

" 'At Jacotè this bird is extremely abundant; at St. Martin it was comparatively scarce, and I only saw one or two flying over. At the former place, which belongs to Mr. Telfair (a relative of him of dodo celebrity), the house is surrounded by a grove of filao-trees, and a perpetual concert was kept up by these birds. The song is not unlike that of a tame canary-bird, but is not so loud, and the notes are sweeter. They were just beginning to build, as I saw one flying with a feather in its mouth, but I was unable to watch where it went. Mr. Telfair took me to see, as he said, 10,000,000 birds of all sorts in one field! Though this was a slight exaggeration, there was certainly a good few—perhaps as many as I ever before saw at once. The piece of land was in "plant-canes," and very foul with a species of groundsel, then in seed, which was probably the cause of the multitude. The "serin-du-Cap" was perhaps the most numerous, then the "serin-du-pays," "cardinals" (*Foudia Madagascariensis*), "bengalis," the small green parrakeets, and "tourterelles," which were flying round on all sides as thickly as sparrows, finches, and bunting in a farmyard at home in winter time. I wish that I had had with me some of the people who say there are no birds in Mauritius.'

"And all of the species named are introductions, of which some are now extending to Rodriguez and the Seychelles: *Agapornis cana* on the former island; *Acridotheres tristis*, *Geopelia striata*, &c., on the latter, besides the 'Java sparrow' as before mentioned. The

little ground-dove (*G. striata*) is not Indian, as commonly asserted, but is indigenous to the Malay countries.

"I will finally here add that the Malayan hog-fish (*Osphronemus olfax*) or *gourámi*\* is regularly bred and fattened in Mauritius for the table, and was introduced into that island from Java, as mentioned by the Viscount de Vaux; while the common golden carp (*Carassius auratus*) abounds in the brooks, as it likewise does in Portugal and elsewhere. Upon the whole, it cannot be denied that the present Mauritius fauna has been considerably enriched by importations from various countries, which have found their new habitat a suitable one."—"The Field," March 8th, 1873.

The level flat strand in the bay of Rivière Noire, between the two batteries, was a favourable spot for drawing the seine-net, and much frequented by the fishermen for that purpose. I have seen what to me were certainly miraculous draughts of fishes taken at a single haul, the net so full that it would positively hold no more. There were comprised among these:—

Créole Name.	Scientific Denomination.	Créole Name.	Scientific Denomination.
Aigrette . . .	. <i>Pagrus filamentosus</i> .	Bonette . . .	. <i>Thynnus thunnina</i> .
Ail . . .	. <i>Apsilus fuscus</i> .	Bonite . . .	. <i>Pelamys sarda</i> .
Aiguille . . .	. <i>Belone crocodilus</i> .	Boiteur . . .	. ———
Albicore . . .	. <i>Thynnus</i> sp.	Breton . . .	. ———
Ambache du large	. <i>Ambassis Commersonii</i> .	Bon parterre . . .	. <i>Julis formosus</i> .
„ blanc . . .	. <i>Equula dentex</i> .	Bourse . . .	. <i>Balistes</i> sp.
Anana . . .	. ———	„ piastre . . .	. <i>Balistes conspicillum</i> .
Anguille à rubans	. <i>Muræna</i> sp.	Bouvetanne . . .	. <i>Diodon</i> sp.
„ marèle . . .	. „	„ . . .	. <i>Triodon</i> sp.
„ patna . . .	. „	„ . . .	. <i>Tetraodon</i> .
„ ciseaux . . .	. „	Capitaine . . .	. <i>Pentapus dux</i> .
Bacoua . . .	. ———	Capucin . . .	. <i>Upeneus vittatus</i> .
Balaou . . .	. <i>Hemiramphus erythrorhynchus</i> .	Carangue . . .	. <i>Caranx</i> sp.
Banane . . .	. <i>Albula bananus</i> .	„ folle . . .	. <i>Hynnus insanus</i> .
Barbe . . .	. <i>Polynemus plebeius</i> .	Cardinal . . .	. <i>Myripristis archiepiscopus</i> .
Barrois . . .	. ———	„ . . .	. <i>Priacanthus fax</i> .
Beau clair du large	. <i>Priacanthus speculum</i> .	„ lancette . . .	. <i>Holocentrum leo</i> .
„ „ . . .	. <i>Myripristis refulgens</i> .	Carpe de mer . . .	. <i>Blennoides</i> sp.
Bécune . . .	. <i>Sphyræna obtusa</i> .	Cateau . . .	. ———

\* M. Carbone states that.—"The male *gourámier* or *gaurámi* constructs a nest of froth of considerable size, fifteen to eighteen centimètres horizontal diameter, and ten to twelve centimètres height. He prepares the bubbles in the air (which he sucks in and then expels) strengthening them with mucous matter from his mouth, and brings them into the nest. Sometimes the buccal secretion will fail him, whereupon he goes to the bottom in search of some *conferva*, which he sucks and bites for a little, in order to stimulate the act of secretion. The nest got ready, the female is induced to enter. Not less curious is the way in which the male brings the eggs from the bottom into the nest. He seems unable to bring them up in his mouth; instead of this, he first takes in an abundant supply of air, then descending, he places himself under the eggs, and all at once, by a violent contraction of the muscles in the interior of the mouth and pharynx, he forces out the air he had accumulated by his gills. This air finely divided or pulverised, in some sort by the *lamellæ* and fringes of the gills, escapes in the form of two jets of veritable gaseous powder, which envelopes the eggs and raises them to the surface. In this manœuvre the *gourámier* quite disappears in a kind of air-mist, and when this is dissipated, he reappears with a multitude of air-bubbles like little pearls over his whole body."

Créole Name.	Scientific Denomination.	Créole Name.	Scientific Denomination.
Cavale du large . . .	. <i>Caranx mauritianus</i> .	Maquereau . . .	. <i>Cæzio cæruleus</i> .
Chagrin . . .	. <i>Rhinodon typicus</i> .	Marguerite du large . . .	. <i>Amphacanthus luridus</i> .
Chien . . .	. <i>Cossyphus bodianus</i> .	Mastaba . . .	. <i>Fierasfer Homei</i> .
„ noir . . .	. <i>Tautoga fasciata</i> .	Mulet barbé . . .	. <i>Mugil axillaris</i> .
Chirurgien . . .	. <i>Acanthurus xanthopterus</i> .	„ ronde . . .	. „ <i>Mauritianus</i> .
„ noir . . .	. <i>Acanthurus nigro fuscus</i> .	„ voleur . . .	. —
Coffre taureau . . .	. <i>Ostracion cornutus</i> .	Marmite . . .	. —
Coin-coin . . .	. <i>Pristipoma anas</i> .	Niche madame . . .	. <i>Cirrhitichthys oxycephalus</i> .
Congre . . .	. <i>Muraena sp.</i>	Papillon . . .	. <i>Chætodon virescens</i> .
Cordonnier . . .	. <i>Acanthurus triostegus</i> .	Pavillon . . .	. <i>Heniochus monoceros</i> .
Crapaud . . .	. <i>Synanceia brachio</i> .	Perroquet . . .	. <i>Scarus capitanus</i> .
Créole . . .	. —	„ vert . . .	. „ <i>Blochii</i> .
Demoiselle . . .	. <i>Stegostoma fasciata</i> (tiger shark).	Perruche . . .	. „ <i>venosus</i> .
Dame Berri . . .	. —	Petit blue . . .	. <i>Glyphisodon celestinus</i> .
Domingue . . .	. <i>Cirrhitites maculatus</i> .	Petit café . . .	. <i>Heliasces cinersascens</i> .
Dorade . . .	. <i>Coryphæna chrysurus</i> .	Pilote . . .	. <i>Echeneis remora</i> .
Druide . . .	. <i>Serranus punctulatus</i> .	Pintade . . .	. <i>Serranus guttatus</i> .
Espadon . . .	. <i>Xiphias gladius</i> .	Poisson armé . . .	. <i>Pterois volitans</i> .
Empereur . . .	. <i>Holocanthus imperatore</i> .	„ d'aye . . .	. <i>Pimalepterus altipinnis</i> .
Endormi . . .	. <i>Rhynchobatus ancylostomus</i> .	„ volant . . .	. <i>Exocætes evolans</i> .
Flamme . . .	. <i>Etelis coruscans</i> .	„ „ . . .	. <i>Dactylopterus orientalis</i> .
Grosse écaille . . .	. —	Pompre . . .	. <i>Chorinemus Mauritianus</i> .
Gueule pavée . . .	. <i>Chrysophrys sarba</i> .	Prêtre . . .	. —
„ „ . . .	. <i>Diagramma gaterina</i> .	Rougette . . .	. <i>Serranus marginalis</i> .
Griset . . .	. <i>Hexanchus griseus</i> .	Raie bouclé . . .	. <i>Urogymnus asperrimus</i> .
Harang . . .	. <i>Doules tæniurus</i> .	„ vache . . .	. <i>Aëtolatis narinari</i> .
Indienne . . .	. <i>Serranus formosus</i> .	Requin aiguillat . . .	. <i>Acanthias vulgaris</i> .
Janne de côte . . .	. <i>Diacope octolineata</i> .	Sabre . . .	. <i>Trichiurus savala</i> .
„ fond . . .	. „ <i>decemlineata</i> .	Sardine . . .	. <i>Clupeonia fasciata</i> .
Lachaux . . .	. <i>Cheilinus trilobatus</i> .	„ queue noire . . .	. „ <i>Commersonii</i> .
Laffe des brisants . . .	. <i>Pterois muricata</i> .	Savon . . .	. <i>Grammistes orientalis</i> .
„ de corail . . .	. <i>Synanceia horrida</i> .	„ . . .	. <i>Aulacocephalus saponaceus</i> .
„ volant . . .	. <i>Scorpæna mauritiana</i> .	Scie . . .	. <i>Pristis antiquorum</i> .
Latanier . . .	. <i>Aphareus rutilans</i> .	Sole . . .	. <i>Rhombus Mauritianus</i> .
„ noir . . .	. „ <i>cœrulescens</i> .	Tazarre . . .	. <i>Sphyræna sp.</i>
Lèvre de bœuf . . .	. <i>Diacope rivulata</i> .	Tazard . . .	. <i>Aprion virescens</i> .
Licorne . . .	. <i>Naseus fronticornis</i> .	Thon . . .	. <i>Cybius vulgare</i> .
Lime . . .	. <i>Trachinotus baillonii</i> .	„ blanc . . .	. „ <i>Commersonii</i> .
Lion . . .	. —	Totoffe . . .	. —
Loup de mer . . .	. <i>Alopias vulpes</i> .	Tongole . . .	. <i>Latilus doliatus</i> .
Lubine . . .	. <i>Chorinemus Commersonii</i> .	Trembleur . . .	. <i>Torpedo marmorata</i> .
Lune . . .	. —	Trompette . . .	. <i>Fistularia tabacaria</i> .
Machouaran . . .	. <i>Plotosus lineatus</i> .	Vielle . . .	. <i>Sargus capensis</i> .
Macabit . . .	. <i>Serranus merra</i> .	Vivaneau commun . . .	. <i>Serranus filamentosus</i> .
		Vieux monde . . .	. <i>Xyrichtis pavo</i> .

The following fishes, crustaceous, and shell-fishes, known to be dangerous, shall not be admitted into the market; if introduced, they shall be seized and destroyed; and the retailer in whose possession they shall be found shall be moreover liable to a fine not exceeding £5:—

1. The croissant à queue jaune.
2. The sinsilla.
3. The vieille loutre.

4. The varavara.
5. The giblot.
6. The vieille called "crabe noir."

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| <p>7. The cheval de bois.<br/>       8. The chemise.<br/>       9. The gros tartara.<br/>       10. The vieille plate called "bambara."<br/>       11. The crab with red spots (<i>Carpilius maculatus</i>).</p> | <p>12. The benitier.<br/>       13. The oursin (<i>echinus</i>).<br/>       14. The caret.<br/>       15. The laffe, if alive; (corrupted from <i>la vive</i>, trachinus.)</p> |
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It would occupy far too much space to describe all the natural beauties of the neighbourhood about Rivière Noire. In a former chapter I have given a slight sketch of a *chasse*; besides this amusement we never failed for lack of sport, and there was always the enjoyment of fishing in the streams, wading and spearing fish on the reefs, or collecting shells, with an endless variety of rambles through the wild gorges and up the sides of the mountains; visits to the various waterfalls, such as Chamarel and the falls of the Rivière des Galets in the Savanne district, the Tamarin falls and excursions and picnics at Grand Bassin, the show lake of the island, with wanderings through the Bois Sec and by the Marre aux Vacoas. All these have often and well been described, and by none better than Mr. Pike, the American Consul. There is one spot which, however, I have not seen noticed, and that is where the ruined cairns are which make the ends of the base-line measured by the Abbé de la Caille.

On the 29th of October 1864 I accompanied Mr. Rice, a police officer, who was about to visit that portion of his district which lies about Morne Brabant. We started from Black River in a whale-boat with a crew of three Créoles, and, as the tide was high, pulled easily across the shallows to Bénitier Island, where we found the long rows of sheds (used for sheltering the cattle suspected of disease when disembarked from the bullockers) broken down and overgrown with cascavelle and clitoria, &c.

We could not find the *gardien* but we found his *case* in a small enclosure planted with *tomates* and *piments*, whilst a quantity of wild cotton was growing about, the whole shaded by a goodly grove of fine-sized *casuarinas*. However, two dark-skinned youths at last made their appearance, one totally naked, the other with the collar-part of what was once a shirt round his neck. They had just left a kitchen-midden or shell-mound, where heaped together were innumerable shells mostly marine, but also many land-shells, and *bouillon courroupas*, or snail-broth, was evidently their commonest fare.

From Bénitier we pulled across to the flat plain which lies immediately under the Morne Brabant, forming an outlying peninsula seldom visited. As we pulled along the the water was so shallow and limpid that we could see every branch and pattern of the variegated madrepores beneath us amidst which numberless little, and fewer large, fishes were observable.

We landed on a point made conspicuous by a single large filao, guided by which we found a small cemetery under its shade; here we left the boat and proceeded on foot. In most maps this peninsula is shown as an island, but in reality it is now a part of the mainland. It took me some searching to find any trace of the base-line, as the ground is overgrown with scrub of veloutiers and small bushes and lianes. At last I found the remains of a cairn which, although ruined, could have served no other purpose, and at about under 3,000 yards was the wreck of just such another pile. I regretted that I had

not the means of accurately measuring this base, which I believe M. de la Caille made 1,828 toises. There is a fine piece of meadow-land here, and the old abbé had chosen most suitable ground for his base. Near at hand is a small house, then belonging to Madame Gaston d'Emmerez, close to the foot of the Morne, whose precipitous sides frown menacingly from above. At one point the side of this mountain comes sheer perpendicularly down from summit to base, a height of 1,700 feet. A most remarkable seam or channel like a crevice traverses the entire face of this stupendous cliff from its top right down to its foot. In wet weather a cascade must course down this gutter-like crack, the result of some fearful volcanic cataclysm.

We walked round the base of the Morne to the crater-like bay in which the Islet des Fourneaux rises, returning across the rocky neck which forms an isthmus between the Morne and the Chamarel Mountain.

TABLE of the Geographical Positions of the most remarkable Points in MAURITIUS, with the Heights of its Mountains above the Level of the Sea, according to the Geometrical Operations of the Abbé de la Caille, made in the year 1753:—

	S. Latitude.	E. Longitude from Greenwich.	Feet above Sea.
Summit of the Isle of Serpents, called Parasol, or Small Round Island . . . . .	19 48 55	57 46 10	498
Summit of the Great Round Isle . . . . .	19 50 34	57 45 6	990
Summit of the Coin de Mire . . . . .	19 56 12	57 34 37	486
Summit of Piton, foot of flag-staff . . . . .	20 6 44	57 35 14	804
Foot of the flag-staff, Long Mountain . . . . .	20 7 56	57 29 51	534
Signal Mountain, Port Louis, foot of mast . . . . .	20 10 8	57 27 10	996
Summit of Pieter Bott . . . . .	20 11 21	57 30 48	2,520
Summit of the Pouce . . . . .	20 11 40	57 29 25	2,496
Summit of Piton de la Fayence, eastern end . . . . .	20 14 28	57 39 13	1,338
Summit of Corps de Garde Mountain . . . . .	20 15 22	57 26 48	2,214
Piton du Milieu . . . . .	20 17 9	57 33 10	1,812
Summit of Montagne du Rempart . . . . .	20 18 2	57 23 23	2,376
Highest of Trois Mamelles . . . . .	20 18 28	57 24 42	2,052
Summit of Piton du Bamboo . . . . .	20 18 57	57 42 46	1,932
Summit of the Piton de la Petite Rivière Noire . . . . .	20 20 40	57 20 13	2,564
Summit of Morne du Grand Port . . . . .	20 21 29	57 41 14	1,854
Morne de la Rivière Noire . . . . .	20 24 18	57 22 7	1,544
Summit of Morne Brabant . . . . .	20 27 1	57 17 11	1,698
Montagne de la Porte . . . . .	20 26 50	57 19 27	1,854
Summit of Savanne Mountain . . . . .	20 27 2	57 27 30	2,230
Summit of Montagne des Créoles . . . . .	—	—	1,128

With few, if any exceptions, all these peaks have been surmounted, and the story of the ascent and descent so repeatedly told that I need not inflict on the reader the repetition of an oft-told tale.

In modern times Admiral Sir Harry Keppel, when a young lieutenant, in company with the late Inspector-General of Artillery, Arthur Taylor, then a subaltern, and Dr. Protheroe, also of the Royal Artillery, with some others made the ascent of the Peter

Botte in 1832, and since then parties have repeatedly made the trip without difficulty. In 1864, Captain G. Burgmann, Royal Artillery, Lieutenant G. Montgomery, and Lieutenant Soames, both of the Artillery, with some of the 24th officers, since slain at Isandhlana, made the ascent without experiencing the slightest *sensational* emotion.

At last orders came for all the detachments to join head-quarters at Port Louis, as the brigade was to be relieved, and on the 23rd November we all marched out of Port Louis for Cannonier's Point, leaving the barracks ready to receive the incoming relief. It is a hot dreary march of thirteen miles to Cannonier's Point, which place is situated at the extreme north-west extremity of the island. The station is used as a place in which are interned coolies and immigrants who land in quarantine, and the whole quarters is palisaded in like a prison. There is also a battery and a lighthouse. The only thing to do in such a place is to fish and make boating excursions to the neighbouring islets. However, we had not long to wait, for on the 2nd December H.M.S. *Orontes* made her appearance with the head-quarters of the 2nd Brigade Royal Artillery on board, under Colonel Maclean. The troops were at once disembarked; but the *Orontes* had to proceed on to Ceylon to relieve the two batteries there.

Captain H. Hire, R.N., then commanding the *Orontes*, was kind enough to offer me a passage to Ceylon and back with him, an offer which I gladly accepted. The *Orontes* was then a new ship on her first voyage, and was a very different ship to what she is now.

We reached Galle in the *Orontes* on Saturday, December 17th, after a trip of eleven days at sea. The first sight of Ceylon from the southward in the early morning was enchanting, Adam's peak was plainly visible, whilst the lower portions of the island were yet in mist. At sunrise this peak, which rises 7,200 feet above the sea, abruptly casts an elongated shadow over the west of the island to a distance of seventy miles.

According to Mr. Abbay, the phenomenon of this shadow viewed from the peak is striking. He says, "As the sun rises higher it rapidly approaches the mountain, and appears at the same time to rise before the observer in the form of a gigantic pyramid of shadow. Distant objects may be seen through it, so that it is not really a shadow on the land, but a veil of darkness between the peak and the low country. It continues to rapidly approach and rise until it seems to fall back upon the observer, like a ladder which has been reared beyond the vertical, and the next instant it is gone. Mr. Abbay suggests the following explanation of the phenomenon. The average temperature at night in the low country during the dry season is between 70° and 80° Fahr., and that at the summit of the peak is 30° or 40° Fahr., consequently the low strata of air are much the less dense, and an almost horizontal ray of light passing over the summit must be refracted upwards, and suffer total internal reflexion, as in ordinary mirage. On this supposition the veil must become more and more vertical as the rays fall less horizontally, and this will continue until they reach the critical angle, when total internal reflexion ceases, and it suddenly disappears. Its apparent tilting over on the spectator is probably an illusion produced by the rapid approach and the rising of the dark veil, without any gradual disappearance which can be

watched and estimated. It will be evident that the illumination of the innumerable particles floating in the atmosphere causes the aerial shadow to be visible by contrast. Another interesting phenomenon visible in the mountain districts admits of an equally simple explanation. At times broad beams, apparently of blueish light, may be seen extending from the zenith downwards, converging as they approach the horizon. The spaces between them have the ordinary illumination of the rest of the sky. If we suppose, as is frequently the case, that the lower strata of air are colder than the upper, the reflexion spoken of in the case of Adam's peak will be downwards instead of upwards. If several isolated masses of clouds partially obscure the sun, we may have several corresponding inverted veils of darkness like blue rays in the sky, all apparently converging towards the same point below the horizon. This latter phenomenon is called by the natives 'Buddha's rays.'"

Protheroe and I went on shore, and put up at the Mansion House Hotel, where I saw my name, written in 1860. I accompanied Prince Frederick of Schleswig-Holstein to a Pansela and a Vihara, or Bhuddist temple, named Paramananda, a mile or two out of Galle. Here we examined some most ancient manuscripts, inscribed on palm-leaves, in Burmese, Pali, and other characters. The Prince, who is more than a tolerable Sanscrit scholar, remained a long time examining and arguing with the learned priest, who had just arrived from Siam, and is a correspondent with all the principal Buddhist authorities in Lassa, Delhi, Pekin, &c. We learned a great many interesting facts relative to the various tenets and differences of chronology maintained by the different schools and monasteries. I was enabled to sketch the Dagoba, and then we returned to Galle.

Galle did not appear to be the least altered since I was there more than four years before. Inside the fort there was the same still sleepy air, very different to the busy streets of Port Louis. Government House showed a little stir, as the Duc de Brabant had arrived by the *Messageries Imperiales* boat, and with his Staff occupied Government House, much to the disgust of Major and Mrs. Parish, who had meant to take possession of it, as the Prince Frederick had given up his apartments there, preferring a shake-down at Forbes's, the Government agent.

The troops were landed early on Sunday morning, and after some delay, which gave me time to go to tiffin at Forbes's, the *Orontes* got up her anchor and began steaming off. We (Colonel Domville, Captain and Mrs. Harris, the Prince, and myself) were nearly left behind, as the Government boat which took us out (the *Orontes* was a mile or more from the shore) was late, and old Hire made us pull right out to sea after him before he would stop and pick us up. I enjoyed the fun, as it did not matter to me if I went in the *Orontes* or not, but the rest were furious. The sea was very rough, and we had some difficulty in getting on board.

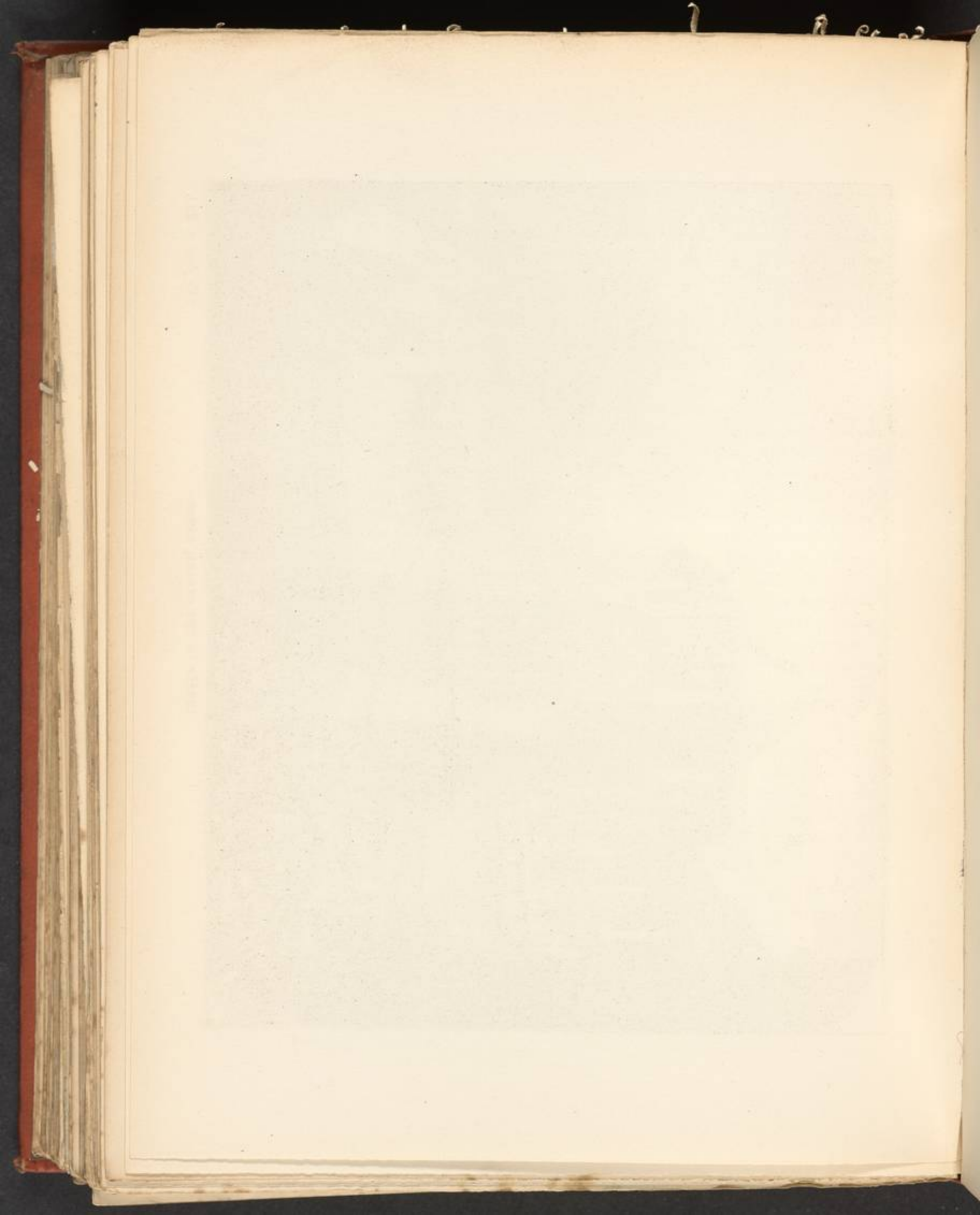
Monday, December 19th.—Made Colombo at about six o'clock, and got to anchor about eight o'clock. Went ashore with Desborough, of the Artillery, and Nicholls, who came off to the ship; went to Desborough's quarters, and got a good bath, called on Harry Dick at the Oriental Bank. He asked me out to stay with him, but as I wanted to go on to Kandy by the next day's coach, I decided upon remaining in the fort. On going to the



KAIGALLE, CEYLON.

[To face p. 286.]





coach office I found, however, that I could not get a place till Thursday, the 22nd. Paid £5 for the return journey to Kandy and back, inside place. Dreadfully hot I thought it to-day, so remained at the mess of the 25th Regiment. Protheroe was able to get a place in the coach on Wednesday, so we agreed to meet up at Kandy,

In the morning of Tuesday, the 20th, went for a walk, but found it difficult to get a favourable sketch, but got some magnificent peeps of the distant mountains and Adam's peak from the fortifications. I bought some photographs, which the man promised to send to the Oriental Bank, but never did, so Dick promised to send them after me. I also invested in a tortoise-shell claw bracelet.

Tiffined at mess, and in the afternoon drove with Harry Dick on the Galle face outside the fortifications, and the usual evening promenade of the inhabitants of the fort and the vicinity. Here the band of the 25th Regiment played till dark, and I made the acquaintance of all the beauty, rank, and fashion of Colombo.

Colombo seemed to me a wretched place to live at, always hot except when the land-breeze blew at night, and then it was dangerous to expose oneself, and every door and window is closed to keep it out, the Europeans dreading the miasma and malaria from the neighbouring paddy-fields more than the heat.

After dark we drove to Mr. Ritchie's house, one of the best in the colony, surrounded by a lake; it looked to me anything but healthy, the flooring of the house and pavilions being but a few inches above the water. Here Dick and two other young fellows were living, and after a capital dinner and a hand at whist, I was glad to get to bed. Up the next morning for a sketch, and after breakfast drove in to the fort with Mr. Ritchie. Had a good morning's entertainment with some snake charmers, and saw again all the old hacknied tricks with some cobras, and an excessively large python. The Duc de Brabant reviewed the troops in the evening, so I had an opportunity of seeing the Ceylon Rifles and the 25th march past; dined and slept at Ritchie's again. As we are now near Mauritius, and the mail will go off at once, I must leave my trip up to Kandy till next mail.

Wednesday, December 21st.—Up early and sketched the Galle Face Church from the gardens of Ritchie's house, noticed a snake swimming in the water. Close by is an establishment where artificial ice is manufactured on a large scale. After breakfast an itinerant native exhibited a dancing bear. The Cingalese bear (*Ursus labiatus*) is an ugly brute, with a very pointed nose. I believe it is a nasty customer when wounded or enraged. Dick drove in to town early; but I went in later with Ritchie, had luncheon at the 25th mess in the afternoon, visited the Ceylon Rifle mess establishment in the native lines outside the fortifications, and found the mess a most luxurious place. They are building a new mess-room, which, when finished, will make a capital banqueting or dancing room. Drove on the Galle face in the evening, and dined at Ritchie's.

Thursday, December 22nd.—Up early, and Dick drove me to the coach office in Colombo, where I started, the only passenger. Driving out of the town we passed over ditches round the lines, which it is proposed to throw down, fill the ditches, and sell the

land at an enormous premium. This plan, if carried out, will improve the health of the town considerably, and has been proposed and estimated for by Woodward, of the Royal Engineers. We left about 6 A.M., and passing through the Pettah, the dirty native town, stopped near the bazaar, where the remainder of the inside passengers took their seats; they consisted of the Rev. Dr. Claughton, the Lord Bishop of Colombo, his wife, a Rev. G. Bennett, and the little child of a friend whom they were escorting up to Huera Ellia. This episcopal party was very pleasant and agreeable, and I was much pleased at travelling in the society of a gentleman so well qualified to point out every object of interest, and the native habits, customs, &c.

The road is very flat near the coast, successions of paddy-fields and cocoanut-groves, and we had to cross a fine river by a bridge of boats at Grand Pass; this river is the Kalany Ganga. The great volumes of water during floods make any permanent bridge impracticable. More paddy-fields, plenty of huts, and the road with plenty of foot-passengers, all more or less covered with the red dust of the *cabook*, as the light soil is here called, consisting of particles of decomposed gneiss or laterite. Palms of various descriptions, the straight areca, with its small tufted top, and the bending cocoa-nut. There are telegraph wires the whole way along the roadside, the wire oftentimes fastened by insulators to the tall palms or other trees in the vicinity. These wires were favourite resorts of birds, especially the brilliant kingfisher (*Halcyon Smyrnensis*), whole rows of which would sit looking down on the paddy below for their prey.

Every eight miles or so we changed horses, and now the road began to ascend as we approached the interior. After passing Mahara, Heneretgodde, Allootgama, Veangodde, twenty-five miles from Colombo, Passyale, and Warakapolly the scenery became more varied, and the ground, hitherto undulating, now broke in picturesque hills, and magnificent peeps of forest and ever-verdant tropical foliage, covering hill and dale, delighted our eyes. There were plenty of white paddy-birds (*Ardeola leucoptera*), and the paradise grakles, or Maynah bird, on the backs of the water-buffaloes, similar to what I had seen so often in the south of China. We were often delayed by whole trains of bullock-bandies (two-wheeled covered carts with long pole yoked to a pair of oxen) laden with coffee. A runner preceded the coach, uttering unearthly yells to warn them to get out of our way.

On the road side Mr. Bennett pointed out a large snake (*Python molurus*), about nine feet long, basking on the fallen trunk of a tree. The foot-passengers did not seem to regard its presence. I understood that some of the snakes are encouraged by the natives, who allow them to feed with the family, and who keep the hut free from vermin. It is even related as a fact that they sometimes cut off the little horny spurs, or partial development of hinder limbs common to all the boa tribe, of the snake to prevent mischief. Sometimes a cobra de capello is allowed to traverse the huts with impunity, so that it never molests the inmates, whilst any nocturnal intruder would assuredly not escape from its venomous bite.

About thirty miles from Colombo the Bishop pointed out to me a cavern in the face

of some rocks cropping out precipitously on the side of a steep hill, in which a hermit had lived, it is said, for many years. The trees were now more varied. The Jack-tree and bread-fruit, the palmyra and talipot palms, acacais, tamarinds, limes, banyan, and bamboos in great luxuriance.

At Ambepusse, thirty-six miles from Colombo, the coach stopped at the rest-house, where luncheon was laid out, and we had half-an-hour's leisure. On the box of the coach was one of the managers of the company who performed the mail service between Kandy and Colombo. Some altercation took place between him and the driver, in the course of which, although the Bishop and his wife were there, the manager made use of unjustifiably foul and blasphemous language, for which the Bishop rebuked him in a dignified manner. The manager received the reproof very sulkily and made surly replies; at last he retired, growling and grumbling that he could swear at his servants if he liked, that no one should stop him. This was the last I saw of Mr. P——, and I don't wish to meet him again.

Soon after this rencontre we started much refreshed, and left behind us the picturesque station, which looks tempting as a residence, in reality a most deadly locality for Europeans. They say it is even dangerous to sleep here one night, as an attack of jungle fever is certain to follow, the malaria and miasma here are so deadly. The road was still more hilly, and we had frequent opportunities of walking as the coach ascended the hills. The road seemed well made and kept up.

A ten mile stage brought us to Ambanpettia. On this stage we had the only bad horse the whole way. They had to start him with a twitch on his nose and his near fore-leg strapped up, which was a novelty to me. After he was once started, however, he went first-rate. Up some hills we had an extra horse, passing Kaigalle about fifty miles, and further on, at Uttuwankanda, we ascended the famous Kadooganawa Pass. Before reaching this we had a fine view of the Kataganawa Mountain, over which this pass leads, from a fine bridge which crosses a broad river flowing swiftly over rocks at the fifty-sixth mile. I forgot to mention that a short time before, near a picturesque temple, built under a rock, I noticed a monstrous lizard.

The road led up a steep incline round the base of the mountain, and we got lovely panoramic views to the south and west, whilst we had plenty of leisure to enjoy them whilst we lingered on foot as the horses slowly panted in zig-zag course up the pass, halting every few minutes with the wheels scotched. About three-quarters of the way up we passed under a rock which had been tunnelled in a rude arch fashion, and on the completion of which the Kandyans recognised the fulfilment of an ancient prophecy, to the effect that Kandy would never be conquered until the enemy came through the mountain into their territory. This is now being strongly exemplified, as the railway engineers are now cutting a tunnel just above the pass, and whose operations, on an enormous scale, were visible to us on the other side of the ravine. About the top of the pass is a monument to the engineer who completed the road over the pass.

After surmounting the mountain we found the road level and passed the kuppuyames

or hamlets of the Rodiyas tribes, a very low caste native. The road leads alongside the River Nana Oya, in which we saw two elephants, one a large one and a small one, being washed by their keeper. A few miles more, during which the road seemed more crowded, we arrived at a fine wooden single-span arched bridge, built of satin-wood, over the Mahawelliganga River. We were now within three miles of Kandy, and this suburb is called Peradenia. Here the Bishop's party separated from us, going on towards Nuera Ellia in the mountains, a station with a European-like climate, being situate several thousand feet above the sea-level. The coach now rolled on to the coach office in the dusty street that forms the approach to Kandy; here I met Protheroe, who accompanied me to the Katekulle Boarding-house and Hotel, kept by an Italian named Viscardi.

Before dinner Protheroe and I walked round the lake, the sacred lake round which the town is built, and through the gardens of Government House, near the remains of the old Palace. We had several guests at dinner, an amusing old judge amongst the number. In my room at night, which was on the ground floor, I was slightly disturbed by the noise made by several toads (*Bufo melanosticus*) that had found their way into my apartment; they are numerous, and during the night one heard a large rat-snake crawling over the tiles above one's head after its prey. However, a good night's rest was most enjoyable after the fatigue of seventy miles odd in the coach, with one's back to the horses all the way.

Friday, December 23rd.—Up early, and walk off with my sketch-book to the Temple of the Dalada, and sketch its exterior and moat from the bridge at the entrance. There is a great mixture of ancient tasteful architecture and sculpture and modern tawdry repairs and disfigurements. The sun soon gets hot, and I enter the temple and stroll about the courts and verandahs, but am unable to converse with any of the priests or monks who reside in the precincts. Here is kept the sacred tooth of Buddha within the innermost recesses of the shrine. It is exhibited only on great occasions at rare intervals with great ceremony.

Beyond the temple away from the lake is the only part now remaining of the ancient palace of the kings of Kandy, in front of it an enclosure with palms and cocoa-nuts, surrounding ancient dagobas and monuments, which I had not leisure to examine. Above are the gardens and grounds of the Pavilion, the house of the Governor when here. The Temple of the Dalada is adjacent to the lake, the two sides of which nearest the town are enclosed with a parapet, surmounted by the peculiar triangular decoration extensively used by the Buddhists. At the corner of the lake nearest the temple, a bridge crosses the moat of the latter which joins the lake; here a large building with columns, and now used as a library, projects into the lake, standing almost surrounded with water; an island beyond, of oblong shape, appears picturesquely half across the lake, the remains of the building upon it forming once the harem of the palace. There is now a powder magazine built of its ruin.

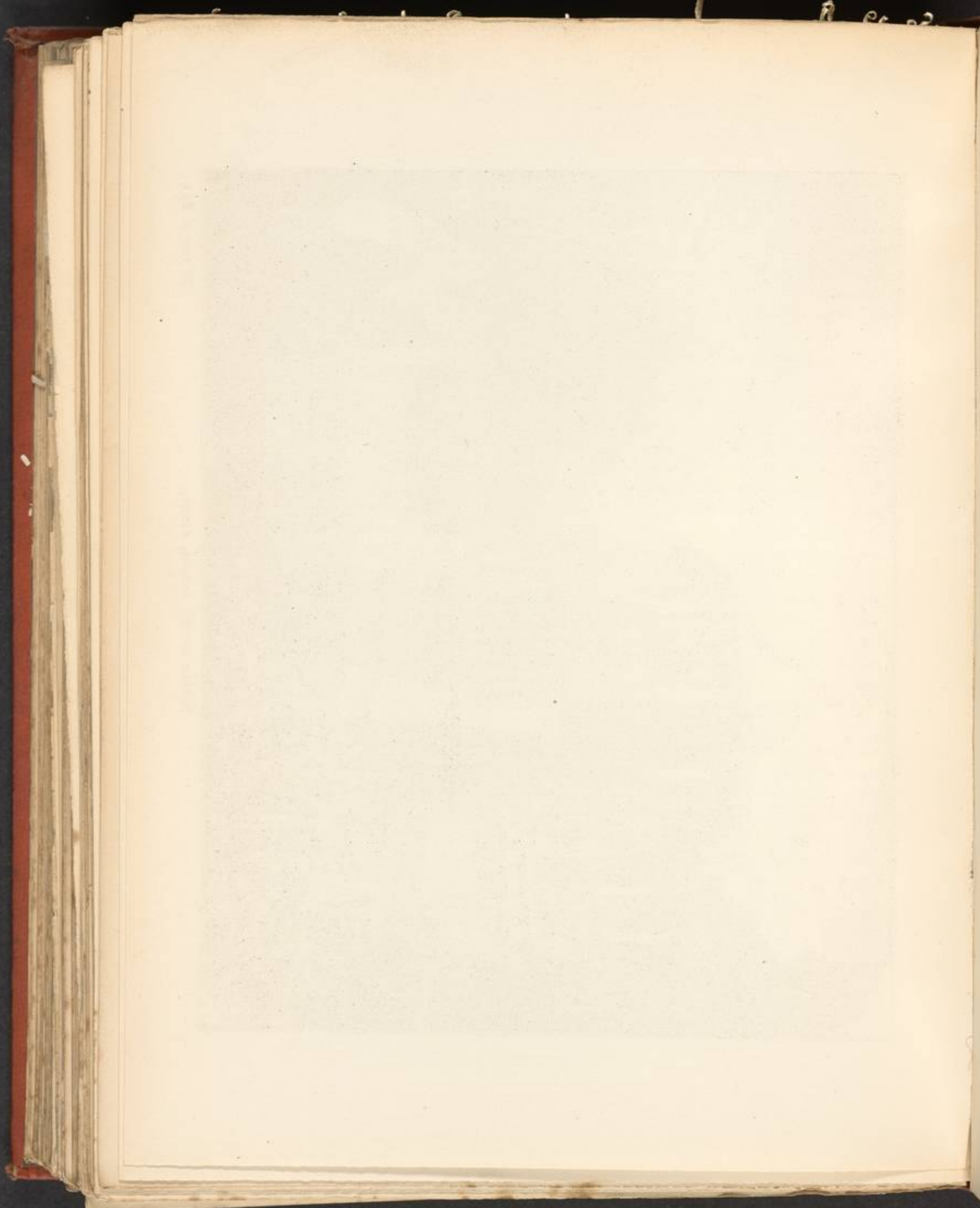
The hills that surround the lake are beautifully wooded and dotted here and there by handsome bungalows, the residences of the wealthy merchants, coffee-growers, &c.

On returning to Katekulle, I found Protheroe up and dressed, and I was soon



TEMPLE OF THE DALADA, KANDY.

[To face p. 29J.]



refreshed by a primitive bath, *i.e.* a coolie working away at a pump which sent the water in a good jet over head and body, and filled the bath at the same time beneath. The day was so hot that we stayed indoors the most part of the morning, and Symons, a lieutenant of the Royal Artillery, and just leaving the service in order to turn coffee-planter, with Dr. Wright, paid us a visit, and a party to Peradeniya Gardens was arranged for the afternoon.

Soon after tiffin we started off in a trap along the dusty road for about two miles and a half, and were glad to turn off and enter the cool shady entrance to the magnificent botanical gardens of Peradeniya, passing the magnificent group of palms\* at the entrance.

This garden is hardly surpassed in its own style of beauty by any similar botanic garden in the world. It occupies an area of upwards of 130 acres in extent, and lies in a bend of the River Mahawelliganga, which forms three-fourths of its boundary. Nearly 1,600 feet above the level of the sea, it is surrounded on all sides by hills rising from 1,000 to 3,000 feet above it, and it may be generally described as beautifully undulating park-like grass-land, with trees of fine growth and great variety of foliage standing singly or clustered in groups upon it. There are considerable portions still woodland, which add a wild charm to the grounds.

Upon entering the garden from the public road, the first object which arrests the attention is a fine group of palms (fig. 91), containing the gigantic talipot palm (*Corypha umbraculifera*) as its most conspicuous element. With this noble species are associated specimens of *Livistonia*, *Borassus*, *Oncosperma*, *Caryota*, *Licuala*, *Pritchardia*, *Phœnix*, *Kentia*, *Areca*, *Attalea*, *Ptychosperma*, *Latania*, *Eleis*, and *Sabal*; and with these again are intermixed scrambling prickly stems of several species of *Calamus* (rattan palms). Fine specimens of *Cycas* are also in the group.

We went up the avenue of talipot and other trees, and through the park-like scenery, which is extensive, to the house of the Director, a well-known scientific gentleman, G. H. K. Thwaites, Esq., F.L.S., to whose judicious management and scientific knowledge these gardens owe their present unrivalled reputation. The Director kindly escorted us over the grounds, and invited me to breakfast with him the next day to see his collections more minutely. Protheroe, standing incautiously too long in the damp whilst admiring some fine bamboos, got bitten by land-leeches, which are always ready for an assault upon the unwary. Whilst enumerating the vegetable wonders of Ceylon, I must

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\* The following is a list of the trees forming the group of palms in the centre of a large circular area of grass (fig. 91):—1. *Cocos nucifera*; 2. *Acrocomia sclerocarpa*, standing behind No. 1; 3. *Areca catechu*; 4. *Cycas circinalis*, in front of No. 3; 5. *Corypha umbraculifera*, "Talipot palm," overtopping all the rest and central—this has flowered and died; 6. *Eleis guineensis* (young plant); 7. *Livistonia oliviformis*, quite behind, just to the right of No. 6; 8. *Areca catechu*, group of three or four; 9. *Oreodoxa regia*; 10. *Sabal palmetto*, foliage touching the ground, on the extreme right; 11. *Eleis guineensis*, large palm, on the right; 12. Mass of *Yucca gloriosa*, on the extreme left.



not omit in the note beneath to give the principal mammalian fauna associated with such rich indigenous flora.\*

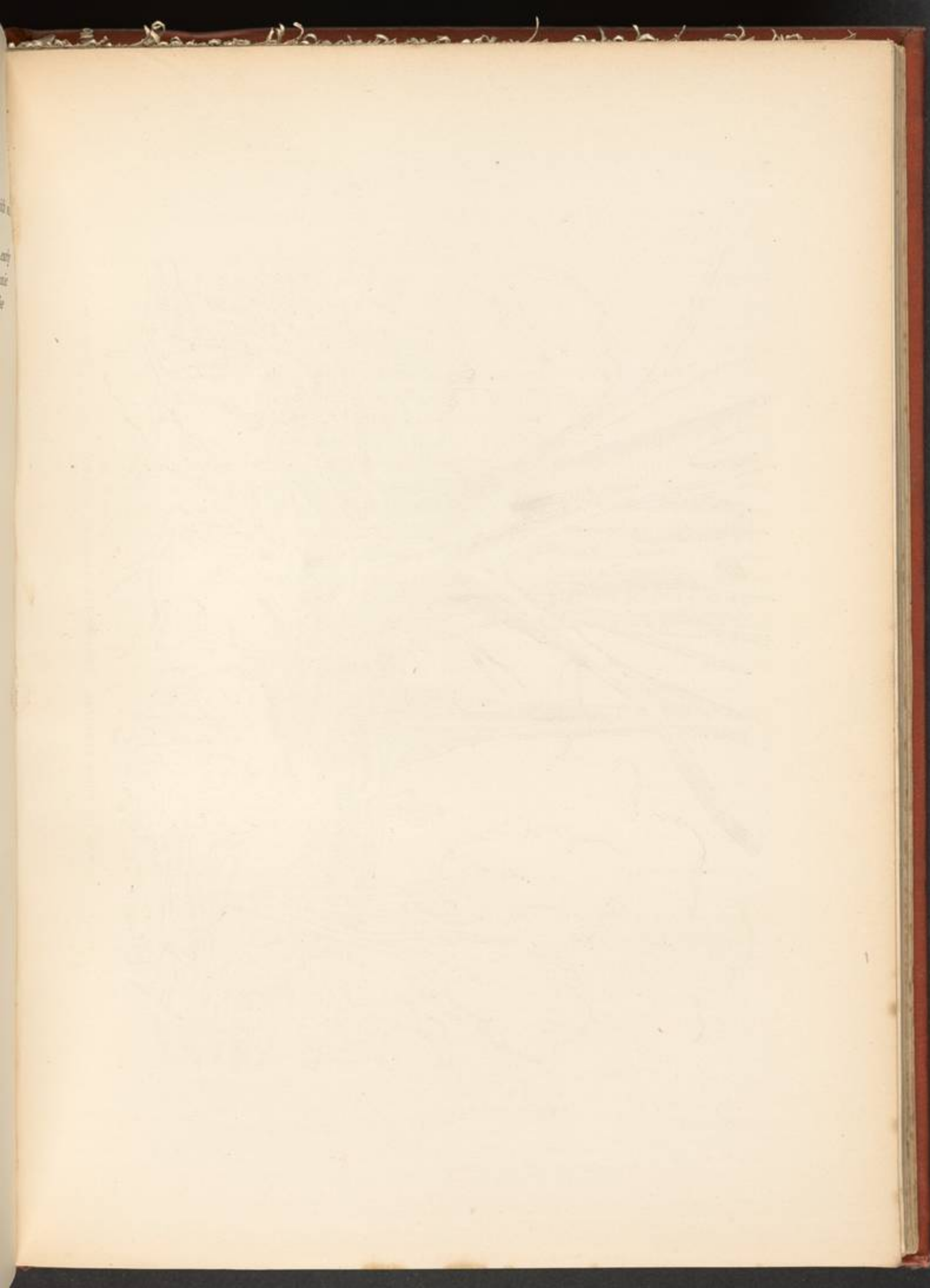
Christmas Eve, 1864, was one of the most enjoyable days in my life. Starting early I went by invitation to breakfast with Mr. Thwaites, the venerable director of the Botanic Gardens of Peradeniya. He met me at the entrance to the gardens in front of the celebrated palm group, amongst which towered two superb talipots (*Corypha umbraculifera*), then some thirty years of age, and which I regret since to learn, have flowered, seeded, and died. In 1877 the height of the largest of these trees was 105 feet, including the flower-panicle of 22 feet. The circumference of stem with persistent bases of leaves at 3 feet from the ground 13 feet 9 inches, of naked stem at 21 feet from the ground 8 feet 3 inches.

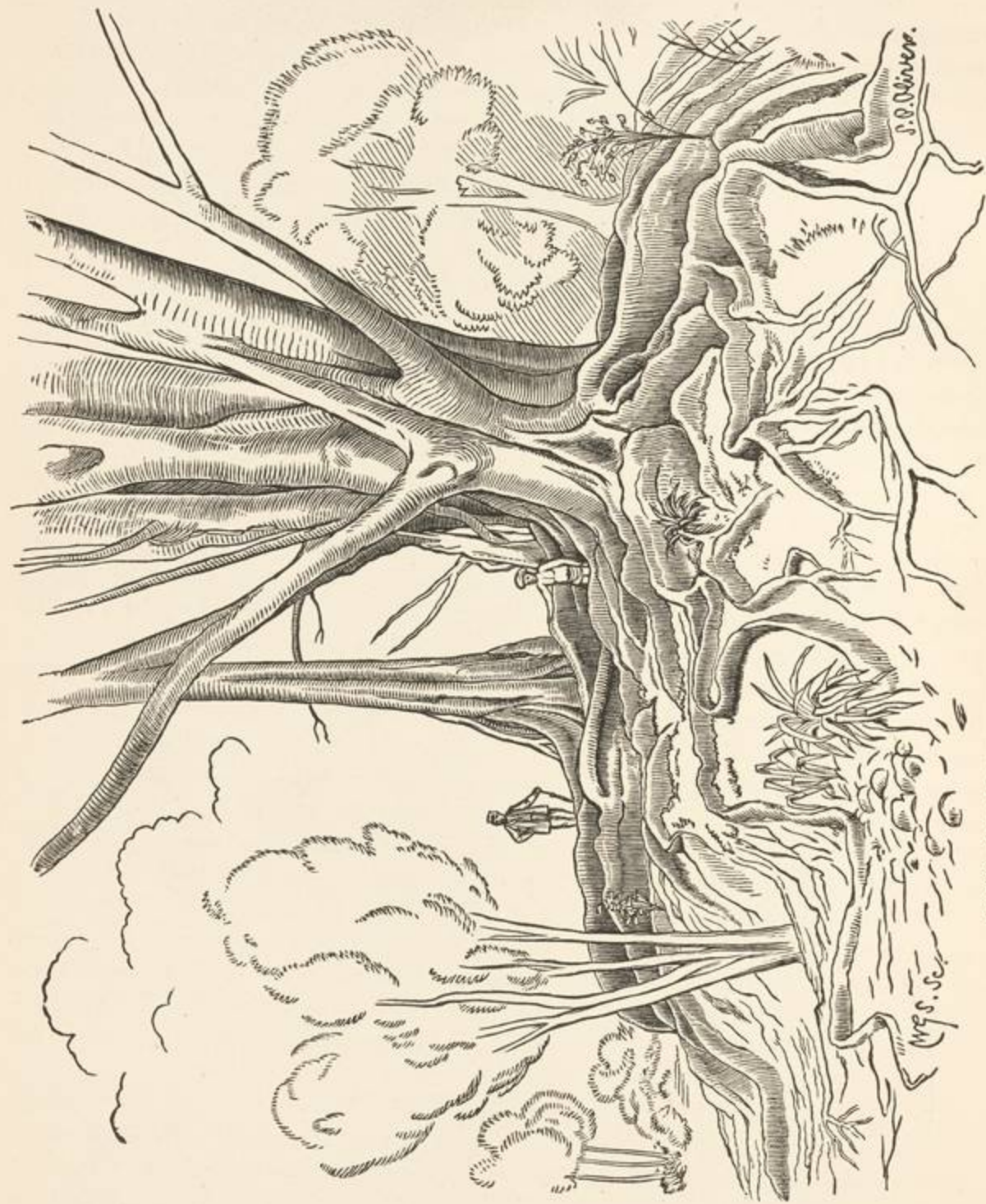
See Report of Royal Botanic Gardens, 1877, and "Gardeners' Chronicle," vol. i., 1874, p. 439. I should much have liked, had time permitted, to make a careful drawing of these splendid palms, associated as they are with the broad-leafed urania, my old friend of Madagascar, and handsome specimens of another corypha palm (*elata*), coco-de-mer (*lodoicea*), from the Seychelles islands, the oil palm (*Cocos oleracea*), *Elais guineensis*, date (*phœnix*), and areca. Such luxuriance of growth it is almost impossible to conceive in England. Besides were caryotas, and syagri (*calyptrocalyx*). Licualas, some of which bore masses of fruit, with large and small musads, rofiyas, and at their bases heliconias and hedychiums, cycads, arecas, and zamias.

Past this grand mass of splendid palm foliage, the wide straight carriage road takes you first through an avenue of shrubs and trees, forming a bank of varied foliage and flowers

\* INDIGENOUS MAMMALS OF CEYLON, AFTER ANDREW MURRAY.

Presbytes cephalopterus.	Sorex ferrugineus.	Pteromys petaurista.
„ ursinus.	„ serpentarius.	Mus bandicota.
„ Priamus.	„ montanus.	„ Ceylonus.
„ Thersites.	Feroculus macropus.	„ Kok.
Macacus pileatus.	Corsira purpurascens.	„ rufescens.
Loris gracilis.	Ursus labiatus.	„ nemoralis.
Pteropus Edwardsii.	Lutra nair.	„ Indicus.
„ Leschenaultii.	Canis aureus.	„ fulviventris.
Cynopterus marginatus.	Viverra Indica.	Nesokia Hardwickii.
Megaderna spasma.	Cynictis Maccarthiæ.	Golunda neuera.
„ lyra.	Herpestes vitticollis.	„ Elliotti.
Rhinolophus affinis.	„ griseus.	Gerbillus Indicus.
Hipposideros murinus.	„ Smithii.	Lepus nigricollis.
„ speoris.	„ fulvescens.	Hystrix leucurus.
„ armiger.	Paradoxurus typus.	Manis pentadactyla.
„ vulgaris.	„ Ceylonicus.	Elephas Indicus.
Kerivoula picta.	Felis pardus.	Sus Indicus.
Taphozous longimanus.	„ chaus.	„ Zeylanicus.
Scotophilus Coromandelicus.	„ viverrinus.	Moschus Meminna.
„ adversus.	Sciurus macrurus.	Stylocerus muntjac.
„ Temminckii.	„ Tennentii.	Axis maculata.
„ Tickellii.	„ pencillatus.	Cervus orizus.
„ Heathii.	„ trilineatus.	Rusa Aristotelis.
Sorex cœrulescens.	Sciuropterus Layardi.	Halicore Dugung.





ROOTS OF FICUS ELASTICA. PERADENYA GARDENS, CEYLON.

[To face p. 293.]

on each side; then you come to a fine flat circular area of grass, with *Lagerströmia* and other handsome trees around its margin, and in its centre another beautiful group of palms. Passing this, the road, making a sweep to the right through park-like scenery, soon reaches the river bank, with its lovely scenery, and close to which it is continued for a considerable distance, lovely clusters of bamboos appearing from time to time—now the yellow-stemmed one of Ceylon, then the gigantic species of Burmah, as well as other kinds, varying in size and character, but all elegant with their feathery stems. On the opposite side of the road are to be seen pretty forest glades, and intervals of open grass having fine trees scattered upon it, with nothing formal in their arrangement to clash with the natural beauty of the grounds.

Just before this drive, terminating at the entrance gate, the eye is charmed by a wonderfully luxuriant growth of *Thunbergia laurifolia*, which for a length of not much less than a hundred yards has covered with a dense tapestry a row of trees of various kinds, ascending in some cases to their very summits, and so masking them as to produce an appearance quite scenic, of architectural ruins overgrown with a thick mantle of foliage.

In addition to the main drive, which makes the whole circuit of the garden, there are numerous roads and paths in various directions through the grounds, some leading through groves of magnificent palm foliage, and where the large rattans show their elegant crowns of leaves above the tops of trees, which have served them for support during their growth. Other roads or paths bring you to where tropical fruit and spice trees and plants may be seen in abundance, the former unfortunately in many cases more pleasing to the eye for their picturesque beauty than gratifying to the palate for the flavour of their produce.

The visitor to the garden should not fail to see the fernery, the rare beauty of which it would be difficult to properly describe. In it are growing in the most healthy luxuriance banks of ferns, comprising most of the kinds indigenous to Ceylon, together with a great many species from other countries. Intermixed with these ferns grow equally flourishing examples of other shade-loving plants, including *Marantaceæ*, *Begonias*, *Cyrtandraceæ*, *Zingiberaceæ*, *Heliconias*, *Dracænas*, small palms, *Piperaceæ*, terrestrial orchids, *Medinillas*, and aroids in great variety.

Though much attention is paid to keeping up the beauty of the grounds, it must not be supposed that opportunities of increasing their utility in an economical point of view are lost sight of. The nurseries are kept well supplied to meet the numerous demands for useful and ornamental plants and seeds, and an extensive correspondence is maintained with similar establishments in other countries for interchanges of their respective plant treasures. The interests of science, too, are of course not neglected.

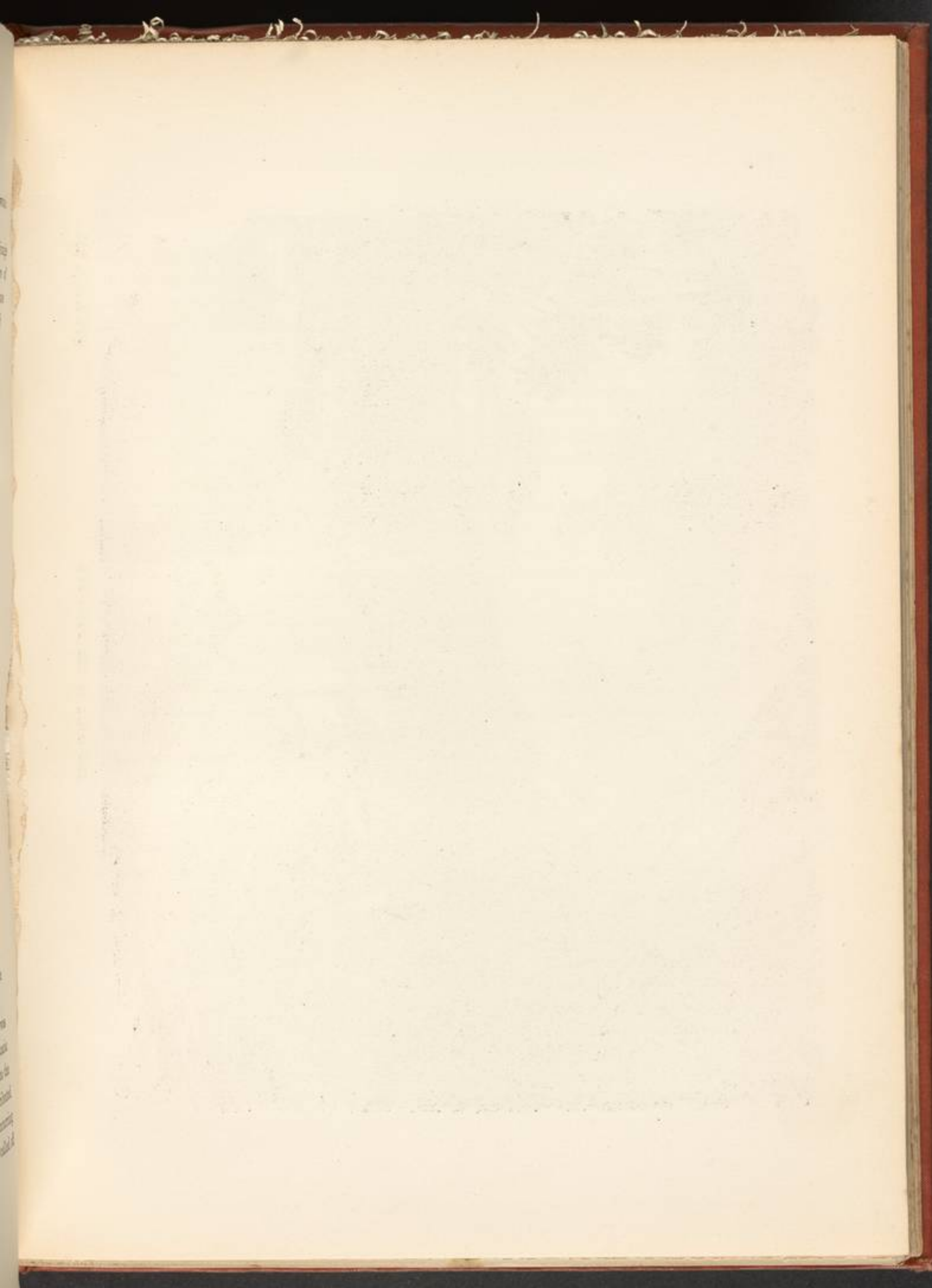
By desire of Mr. Thwaites, I made a careful outline drawing of a huge India-rubber (*Ficus-elasticæ*) tree, a majestic specimen, with its intricate development of wall-like roots and buttresses especially prominent. This drawing, now at Kew, was subsequently engraved in the "Gardeners' Chronicle" (1873), by Worthington Smith, and shows the small spare figure of Mr. Thwaites and one of his coolies in contrast to the bulk of the timber roots. I enjoyed a good substantial breakfast, whilst Mr. Thwaites, a strict vegetarian, indulged

in bread and milk, and during the morning I subsequently examined carefully the wonders of this tropical wilderness.

A portion of the garden consists happily of some extent of really wild forest and jungle untouched. To attempt to describe the specimens would be beyond my powers of description. *Damaras* and *Araucarias*, teak, and bamboos of infinite variety; rattans (*calami*), and creeping palms, *Crescentias* with their gourds, and the *Calosanthus indica*, with its pendulous capsules, mingled with *Kigelias*, *Pandani*, *Acacias*, *Caesalpinas*, *Albizzias*, &c. Here were gigantic lianes, such as the *Entada monostochya* and quadrangular vines, half-strangling huge *Korthalsias*, and *Plectocomias*, with the long fronds of *Demonorops*; beneath, again, were climbing peppers, and in moist corners *Alocasias* and other aroids. On the branches were large orchids, as *Grammatophyllums* and *Angræcum*, and smaller ones, as *Vandas* and *Cypripedia*, growing on tree-ferns, and *Plumerias*. Nutmegs and cinnamon, coffee and allspice, *Ravintsara*, and rare spices all in rich profusion. Huge camphor trees (*Dryobalanops camphora*), *Artocarpus* (bread fruit), and lovely flowered *Lagerstræmias*. At their base, carpets of moss and lycopodium, with the most graceful ferns in creation. If there was a happy man upon earth, it was the enthusiastic director of this paradise in those days. The following notice of his career I take from the "Gardeners' Chronicle."

"G. H. K. THWAITES.—This distinguished botanist began life at Clifton as an accountant, during the intervals of business applying himself to the pursuit of botany. In conjunction with Mr. Broome he made great accessions to our knowledge of fungi, especially amongst the *Tuberacei*, being quite indefatigable in the search for these curious productions. His attention was not, however, confined to fungi. He made many interesting discoveries amongst algæ, the result of which appeared in the supplementary numbers of 'English Botany.' An intimate study of the more obscure algæ led him to the brilliant discovery that each tribe of lichens is represented by some particular algoid form, which appears to be the true interpretation of what has lately been brought forward respecting the connection of algæ and lichens. The most important observation, and one perfectly original, which was the reward of his studies, was the discovery of the mode of propagation in diatomaceæ, which would alone give him a very high place amongst botanists. He also made many important observations amongst *Desmidiaceæ*. In *Phænogams* he made the curious observation that from a single seed of a fuchsia containing two embryos, two entirely distinct varieties might be raised. His skill and ingenuity in the preparation of microscopical specimens for preservation are not the least valuable part of his services, though apt to be overlooked by the rising generation.

"His botanical studies while still at Clifton had become of such importance, that he was selected to succeed Dr. Gardner in the important office of Superintendent of the Botanic Garden at Ceylon. The duties of this office were such as to confine him principally to the *Phænogams*, in which line he has discovered many new genera, and he has contributed many interesting plants to our collections, as well as an enumeration of the plants occurring wild in Ceylon, the first complete modern tropical 'Flora.' Though necessarily called off





THE HOME OF THE COCOA-NUT.

[To face p. 295.]

from the study of *Cryptogams*, he made a very large collection of fungi, causing most accurate drawings to be made of the greater part. Messrs. Berkeley and Broome have described these in the 'Journal of the Linnean Society.' Nearly 1,200 species have been already described, and there are still more in hand for a supplementary report. The diseases to which cultivated plants in the island are subjected have been the object of Dr. Thwaites' careful investigation. Dr. Thwaites has also rendered important service to horticulture and agriculture in his capacity of Director of the Peradeniya Garden, by means of which a large number of useful tropical plants have been cultivated and dispersed, as, for instance, chocolate, tea, and cinchona. The first seeds from imported plants of cinchona are supposed to have been raised in the Ceylon garden. During his twenty-four years' tenure of office he has never left the island, and has scarcely taken a holiday unconnected with his professional work. Those who are best acquainted with Dr. Thwaites have not only a very high opinion of him as a botanist, but as a most amiable, excellent, and devoted friend. Alas! old age has at length compelled him to retire to England (1880)."

After tiffin, in which you may be sure the choicest fruit and vegetable productions were presented, Mr. Thwaites most kindly busied himself in arranging duplicates from his *hortus-siccus* of dried ferns, for me to take to England, and also entrusted me with packets of seeds for Kew Gardens and St. Helena, as well as seeds and plants for the Pamplemousses Gardens at Mauritius, which I had the subsequent pleasure of delivering safely at their various destinations. It was not until after dark that I left my kind entertainer, and walked back to Katekulle, with the hedges lighted up by myriads of fire-flies. I shall never forget the gardens of Peradeniya as long as I live.

On Sunday we went to church, and afterwards had tiffin at the mess of the Ceylon Rifles, and walked round the lake, and idled in the library, once a palace of the Kings of Kandy.

Our short stay at Kandy terminated the next day, for the *Orontes* was to sail at 4 P.M. from Colombo, and so Protheroe and myself went down by coach, and we should have been in plenty of time had not various trivial delays caused us to be late, so that before we reached Colombo we observed H.M.S. *Orontes* in the offing, steaming away steadily to the south, and we were left behind; but I cannot say lamenting, for this mishap enabled me to spend a regular merry Christmas evening with Harry Dick, at Mr. Ritchie's, eating plum-pudding and quaffing iced champagne in true orthodox fashion, amid loud explosions of crackers and fireworks, let off by the servants outside the verandahs. To catch the *Orontes* it was necessary to coach down the road to Galle, and the road, which is along the coast the whole way, is certainly well worth seeing, although from the universal prevalence of the ubiquitous cocoa-nut tree it is perhaps slightly monotonous.

We halted to eat oysters at Bentotte, and I got one or two good sketches *en route*, one of which has been engraved, under the title of "The Home of the Cocoa-nut." We found that we need not have hurried to Galle, as the detachment of Royal Artillery had not arrived yet from Trincomalee, and so we had another day on shore, and went on board the troop-ship in time for dinner.



We sailed early on the 29th, at 7.20 A.M., too early, alas! to get the ice which had been ordered for the mess by Mr. Parkes, our caterer. There was now a single battery on board, under Lieutenant-Colonel Graham and Lieutenant Sam Desborough. Again we were sailing south, and now really homeward bound.

On Saturday, 31st December, last day of 1864, we crossed the Line in longitude  $75^{\circ} 43'$ , and we entertained the sailor officers, who then messed separately from the military, with a big feed in the saloon, and saw the old year out in true convivial fashion. Captain Hire had taken us across the Line three years previously (within three days) in the *Urgent* [see "On and Off Duty" (*Ante* p. 103-4)], and we celebrated the triennial anniversary.

On the 5th, one of the soldier's children died, and we were welcomed by the black and white noddies (*Onychoprion fuliginosus*) and the boatswain-birds\* before we sighted Round Island on the morning of the 7th January 1865. The gunners crowded out on the ramparts of the battery under the lighthouse at Cannonier's Point, and cheered the arrival of the vessel which was to convey them home, and we slowed engines off the bell-buoy at 3 P.M., and were at our moorings off Fort George by 5 P.M. the same afternoon, whence I rejoined my battery at Cannonier's Point the same evening.

Nos. 2 and 4 batteries, 12th Brigade, Royal Artillery, paraded at midnight, at Cannonier's Point, on the 11th, and marched to Port Louis, a good thirteen miles, by 6 A.M. 12th January, when we were taken out in a tug by Captain Wales, the harbour-master, and embarked amid loud cheers. The anchor was weighed, and we proceeded to sea at 2.30 the same day.

January is one of the stormy months in these parts, and it was not long before we were experiencing heavy rolling seas, fortunately going with us, and we had this dark threatening weather with huge following waves. Although blowing hard, fortunately no actual storm broke over us, we were either in the wake or ahead of heavy weather. Our small party from Ceylon (one battery) was now increased by two batteries from Mauritius, but still the vessel was comparatively empty, and fortunately I and C—— occupied the commanding officer's cabin as far as the Cape. All the ladies on board, of course, were ill, and so our number on deck was limited.

After the hot weather of Mauritius we were all delighted with the cooler atmosphere as we reached the south, and by the time we had reached latitude  $30^{\circ}$  south we were glad to get on warmer clothing, wherewith to enjoy the gloomy weather. In this latitude, and as we got towards  $34^{\circ}$  longitude east, the sea-birds increased in numbers. Here first I saw the true southern albatross in his glory; before I had only seen two so-called albatrosses off Formosa. (See p. 99, *ante*).

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\* Il y a des paille-en-cus de deux sortes; l'une, d'un blanc argenté; l'autre ayant le bec, les patés et les pailles rouges. Quoique cet oiseau soit marin, il fait son nid dans les bois. Son nom ne convient pas à sa beauté. Les Anglais l'appellent plus convenablement l'oiseau du tropique. These are *Phaton phanicurus* and *P. flavirostris*, which latter breed in Round Island.

“Tel l’oiseau du cap des Tempêtes  
 Voit les nuages sur nos têtes  
 Rouler leurs flots séditionx.  
 Pour lui loin du bruit de la terre  
 bercé par son vol solitaire  
 Il va s’endormir dans le cieux.”

All the same I doubt much if the albatross (*Diomedea exulans*), or mutton-bird (*Mouton-du-cap*) *dort en volant*; it is the frigate-bird which sleeps on the wing, as the poet would have us believe. There is another variety called the molly-mauk (*D. culminata*), besides the *D. melanophrys*. As we neared the Agulhas Bank we met plenty of Cape-pigeons (*Daption capensis*), gannets, gulls, and petrels of different sorts; cinereous puffins, and Mother Carey’s chicken of two descriptions, *T. Wilsonii* and *melanogastra*. Our Assistant-Surgeon on board belonging to the head-quarters of our brigade, Dr. Sampson Roch, was a good naturalist, and inspired us with great interest in identifying the various sea-fowl.

The boilers of the *Orontes* would not allow of pressing on, and so we steamed very easily and leisurely along till Monday, 23rd, when we rounded the Cape of Good Hope and its lighthouse close enough to sketch the promontory on which it stands, of hard metamorphic sandstone, whilst on the ledges of the quartzite strata could be observed numbers of penguins (*Spheniscus demersa*). Soon afterwards, however, we were enveloped in a dense sea-fog, and had to stop the engines, whilst yet above us is the clear sky, and the tops of the Twelve Apostles loom out above the weird fog, which lifts now and then and allows us to proceed and stop alternately, with the fog-whistle screaming, as the mists close yet denser around us. Presently we hear a mysterious fog-horn close ahead of us, and out of the unnatural darkness appears suddenly a ghost-like vessel “mit blutrothen Segeln und schwarzen Masten,” like “Das Schiffe de fliegenden Holländer’s,” on board of which a wild chorus of true Wagnerian tone resounds—

“Steu-er-mann! Lass die Wacht! Komm, lass die Wacht!  
 Steu-er-mann! Komm her zu uns!  
 Ho! He! Je!  
 Ha! Hisst die Segel auf! Anker fest! Steu-er-mann her!  
 Fürchten weder Wind noch bösen Strand,  
 Wollen heute ’mal recht lustig sein!  
 Jeder hat sein Mädél auf dem Land,  
 Herrlichen Tabak und guten Brantewein!  
 Tabak und guten Brantewein!  
 Ho! He! Je!”

This is the Hollander pilot, under whose guidance we round Green Point and anchor in Table Bay at 2 p.m. Those who are not on duty get off to shore as soon as possible, but as we are to remain a week, the ship is ordered back to Simon’s Bay, and we proceeded thither at 1 a.m. on the 24th, reaching our moorings off Simon’s Town by 9.40 a.m.

What need I say of our stay at Simon’s Bay? When on duty we fished over the side of the ship and got tired of hauling in the numbers of fish. When off duty we went

up the kloof and on to the wild heath-lands beyond, admiring the brilliant flora and the uncouth strange fauna which accompanies it.

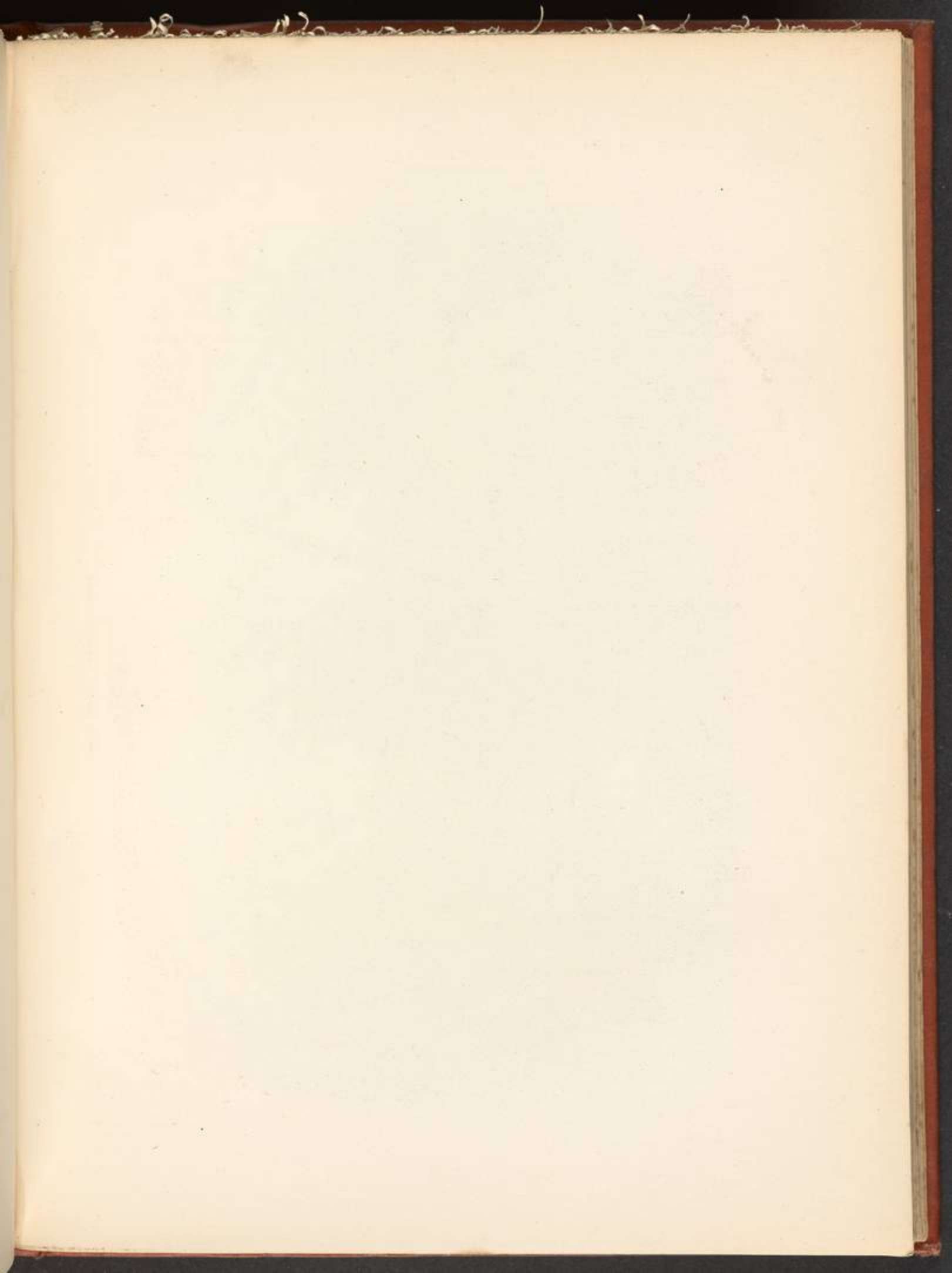
Of course we went over to Cape Town and visited Wynberg and Constantia, but all our thoughts were homeward, and we were not sorry when we were at Cape Town, living at the Club-house, to see the *Orontes* come round to Table Bay and anchor at daybreak, on the 4th of February, but it was blowing a south-easter, and it was with great difficulty that I managed to get off to the *Orontes* in one of the craft employed to take anchors to ships in distress. However, it calmed down, and another battery of artillery embarked under Lieutenant-Colonel A. Connell, and Lieutenant (now Major) E. Lyons, with other details for England, and we "up anchor" and proceeded to sea half an hour after noon.

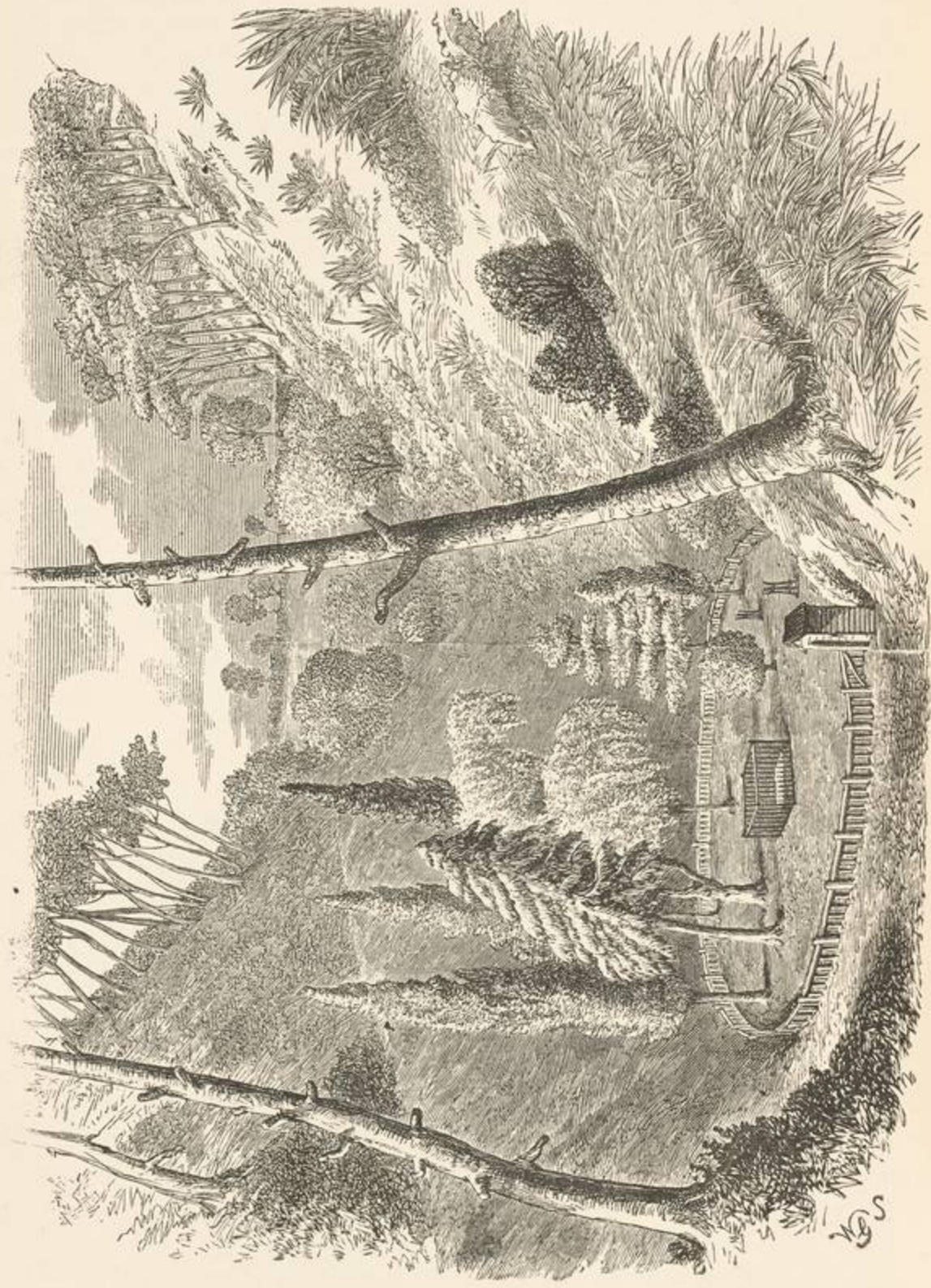
The next day we had the screw up, and sailed before the south-east winds to St. Helena, where we came to anchor at 5.45 p.m. on the 12th of February; a lovely Sunday evening.

Our thoughts are all for home, as we look forward with joyful anticipation to the hospitable reception, announced by letter, to be waiting for us at the house of my oldest and kindest friend, generously placed by him at our disposal.



ONGAR RECTORY. 1865.





NAPOLEON'S TOMB. 1865

[To face p. 299.]

## APPENDIX I. TO PART II.

ON THE NATURAL HISTORY OF MADAGASCAR.

BY J. G. BAKER, F.R.S.\*

*Kindly supplied by the Author as an Appendix to "Lemuria."*

AREA AND PHYSICAL GEOGRAPHY.—Madagascar is the third largest island in the world, Australia and Borneo being the only two that surpass it in size, the latter but slightly. It extends over about fifteen degrees of latitude, its southern extremity being a little outside the tropic of Capricorn, and the remainder all included in the south tropical zone. It is nearly a thousand miles long, with an average width of 250, and an extreme width of 360, miles. Its area is nearly a quarter of a million square miles, about equal to that of France, and about four times that of England and Wales; and there is at the present day a channel 240 miles broad between it and the African continent.

It is divided into two well-marked physical regions. About a third of its area is occupied by a mass of high land, the greater part of which is at an elevation of between 3,000 and 5,000 feet above the sea-level. This mass runs from the extreme north of the island down south as far as the tropic of Capricorn, and forms the water-shed between the principal rivers, which run east and west. It forms a ridge of which the long diameter is north and south, and of which the width from east to west varies from 80 to 160 miles. It slopes steeply towards the east, and on this side many of the numerous rivers, all of which are short, with deep-cut gorges through this eastern escarpment, make their way to

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\* Read at the meeting of the British Association at York, September 1881.

the plain in a succession of wooded cataracts. The falls of the Matinana, for instance, leap at a single plunge a depth of 500 or 600 feet. A good deal of this central elevated portion of Madagascar is bare and somewhat dreary-looking country, consisting of rolling moor-like hills, covered principally with long grass, which gets very brown and dry by the end of the summer.

The soil is generally a red clay, and granite, gneiss and basalt are present throughout the whole of this region, which has evidently been raised above the sea-level from a very early geological epoch. The highest level anywhere reached by the forest is 6,000 feet. There are abundant marks of recent volcanic action, but there are now no active volcanoes left in Madagascar, though they occur to the west of it in the Comoro group, and to the east of it in Bourbon.

In the southern portion of the island there is some fine mountain scenery in the Betsileo country, and in the centre the Ankaratra mountains rise to a height of 9,000 feet within a short distance of the capital, which itself stands at a height of 4,000 feet above sea-level. This range consists of five or six principal peaks, arranged like a cross, and in the clear atmosphere which prevails in that part of the world it forms a conspicuous object from a great distance. The valleys interspersed between these red-clay moor-lands are often wooded, and in some places there are tracts of rich black alluvial soil, two of the principal of which occur in the neighbourhood of the two chief cities of the interior, and are used for the cultivation of rice, which in Madagascar is the "staff of life," like bread with us in Europe. The remaining two-thirds of the island is occupied by a country of typically tropical climate, consisting mainly of extensive plains elevated not more than a few hundred feet above sea-level.

Of its geology very little is known, but it is probably underlaid by sedimentary rocks of a much later date than those of the interior. The fossils which have been found are Neocomian, Jurassic, and Tertiary. This belt of low country is narrow on the east side of the island, but much broader on the west, and on the south it occupies a wide continuous area. The river that runs down from the capital in a north-western direction, the Betsiboka, is 300 miles long. It can be ascended by steamers of light draught for nearly 100 miles; boats can sail up it for 60 miles more; and from the point where navigation terminates the merchandise has to be carried 85 miles by road up a steep slope to Antananarivo.

In some places ranges of hills, which run north and south, diversify the surface of this low country. A belt of primæval forest runs all round the island: it comes down to the shore at the north-west, opposite the French island of St. Marie and northward, and here it fills up the whole space between the coast and the mountain region, but generally it forms a belt with an average breadth of fifteen or twenty miles, which does not come down to the shore. On the east side of the island this belt splits into two, and its upper half runs along the edge of the mountains; on the west side of the island the belt of forest runs through a level country. This belt of primæval forest is substantially continuous for a length of upwards of 2,000 miles, and the trees which compose it have as yet been only

explored botanically very imperfectly. These, then, are the main physical features of the island: the great central ridge of elevated ground; the encircling tropical plains, broad on the west side of the ridge, narrow on the east; and this long girdle of untouched primæval forest.

The population of the island is vaguely estimated at 5,000,000. There is a vast extent of country in the plains, where the soil is fertile, which is without inhabitants, and there are wide tracts of land between the territory occupied by the different tribes in the hill country, as, for instance, what is called "No-man's Land," between Imerina and Betsileo, which are only peopled very thinly, or not at all. As scarcely any of it is desert or rainless, it could doubtless support ten or twenty times its present population; and there is probably nowhere else in the tropical zone such a wide extent of country so little interfered with, or where man has done less to modify the natural distribution of the animals and plants.

CLIMATE.—In Madagascar we possess very few precise *data* bearing on the subject of climate, but what we know about Mauritius will indicate all that is necessary for our present purpose. At Port Louis the average annual mean is 78° Fahr. in the shade, and the average daily range is from 70° at sunrise to 86° in the middle of the afternoon. In Bourbon the mean temperature throughout the year is stated to be 77° in the shade, that in exposed places often rising to 50° more; the average minimum of the day throughout the year being 72°, and the average maximum 82°. No doubt this may be taken as a fair representation of the state of things that holds good for the sea-level in Madagascar. If we follow the accepted rule of deducting 1° Fahr. for every hundred yards in elevation, this will give us an average of 65° for the temperature of the capital, which is about that of Naples or Palermo; and an average of 48° Fahr., which is that of London, for the summits of the highest mountains of the island. But in making this comparison we must remember to take into account how little within the tropics the months vary in temperature and the days in length between one season of the year and another, so that *Aspidium aculeatum* or *Lycopodium clavatum* on a Madagascar mountain would pass through a very much smaller range of temperature throughout the year than they would on a Surrey heath. In a trip which Dr. Meller made in 1862, in July and August, from Tamatave to Antananarivo, the maximum temperature here noted in the shade was 88°, and the minimum 49°. Madagascar falls within the zone of regular periodical rains and winds. The wet season lasts for about our winter half of the year, from November to April, when the monsoon wind blows from the north-west. At this time there is a heavy fall of rain, which sometimes continues incessantly for several days. In Mauritius the annual rainfall varies from 146 inches on the east coast to 38 inches at Port Louis. The vegetation of the forests, the abundant epiphytes, the tree-mosses, the filmy-ferns, and the viviparous character which so many of the ferns put on, show clearly that they get an abundant supply of moisture. The dry season, which is rather colder, lasts from May to October, when the wind blows from the south-west; and as the summer advances the vegetation of all the exposed places turns very



dry and brown, and burns readily if set on fire. Dr. Parker writes:—"The flowering season of most plants in Madagascar, whether in the forest or out of it, is from October to May, *i.e.* during the rainy season; but by far the great majority of them wait until December is nearly or quite over until they flower; whilst the majority of grasses and *Cyperaceæ* wait for the approach of the colder dry season, flowering best between March and May."

ZOOLOGY.—The fauna of Madagascar is a very remarkable one, and exhibits an extraordinary amount of peculiarity, both in its positive and negative characteristics. Of the mammals there are sixty-six species known in the island, and they are harmless, timid animals, often of small size and nocturnal habits, of a kind that could only maintain their existence in the struggle for life either by being protected by isolation, or their facility for hiding themselves from the notice of their predatory brethren. Although monkeys, apes, and baboons are numerous, and widely spread in the tropical and sub-tropical regions of the adjacent continent, there are none of them in Madagascar, and the *Quadrumana* are only represented by the lemurs, of which there are six genera and thirty-three species, just half the whole number of the mammals of the island. The lemurs are spread from Angola and Guinea to the Malay archipelago, but Madagascar is the great head-quarters of the family, and of the four subfamilies two are exclusively confined to the island. The *Cheiromys*, or aye-aye, is a very peculiar type, intermediate in habit between a monkey and a squirrel, with very large ears, large eyes, long claws, and a long bushy tail. It is now classed at the end of the *Quadrumana*, and is quite confined to Madagascar. There are six bats, but they all belong to widely-spread families. Of the Insectivorous *Feræ* there are about a dozen, consisting of one shrew, a large cosmopolitan group; and all the rest *Centelidæ*, a group allied to the hedgehogs and moles, only known elsewhere at the present day in two or three of the larger West Indian Islands. In *Carnivora* the lions, bears, tigers, leopards, and hyenas of the adjacent continents, are totally absent, and the family is represented only by *Cryptoprocta ferox*, a cat-like plantigrade animal of savage disposition, like a small leopard in shape and size, which is confined to the island, and has no near affinity; several civets, and an ichneumon. The *Rodentia* consist of four species of rats and mice of peculiar genera, which, as individuals are numerous and troublesome. In the *Ungulata* the antelopes, so plentiful both in Asia and Africa, the buffalo, horse, zebra, elephant, hippopotamus, and rhinoceros, are entirely absent, and the order is only represented by a single river-hog of the African genus *Potamochoerus*, which is very rare. The bones of a small hippopotamus have been found in the south-west in a half-fossil state. Mr. Wallace has treated the question of the Madagascar mammalia in full detail in his "Island Life," and former work on the "Distribution of Animals," and draws the conclusion that it is likely that the absent types have originated in the Palæarctic region, where most of the genera are found in a fossil state in the rich Miocene deposits of France, Germany, Greece, and the north-west of India; that they have been stopped from spreading southward by the sea that extended in early tertiary times from the Atlantic to the Bay of

Bengal; and that Madagascar must have been isolated before they extended themselves so far in a southern direction.

**BIRDS.**—The birds of the island show the same strongly-marked peculiarity of character as the Mammalia. Upwards of one hundred species of land-birds have been determined scientifically, and of these not more than half a dozen are known elsewhere, whilst about fifty belong to thirty-three genera, which are peculiar to the island, and the remainder are endemic species of African and Asiatic genera. The Raptores are represented by one eagle, and several hawks and owls. One of the hawks has been adopted as the crest of the Hova Government, and an immense figure of the bird crowns the roof of the two chief royal palaces at Antananarivo. There are numerous *Picæ* and *Passeres* in the woods, none of which are remarkable for their large size or musical capacity, but some of them are striking in appearance from their brilliant colours. There is a kingfisher with a lovely purplish blue body, a yellow breast, and a scarlet throat; a weaver-finch, about the size of a lark, which flies in flocks of thirty or forty in the rice-fields, of which the male is a brilliant scarlet, whilst the female is sober brown; and several Nectarinidæ, or sun-birds, of beautiful brilliant metallic hues. There is a large dark blue cuckoo, and another which is a blackish glossy green, with a very long tail, which is forked at the extremity; a very intelligent slaty black parrot, and another dark green one; some bright green parroquets, about the size of love-birds, that fly in flocks; and a large crow, with a white collar, and a white breast. Of plainer coloured perching types, thrushes, pigeons, goat-suckers, wagtails, swallows and swifts are represented. About the lakes and in the marshes there are numerous Grallæ and Gallinæ, such as ducks, waterhens, sandpipers, quails, guinea-fowls, herons, storks, and ibises; so that Madagascar is a country where a sportsman can find plenty of occupation. Of characteristic African types Mr. Wallace enumerates the plantain-eaters, glossy starlings, ox-peckers, barbets, honey-guides, hornbills and bustards as being entirely absent; as is the case also with several of the striking Asiatic and Polynesian types, such as the trogons, golden pheasants and birds of paradise. At the present day there is no ostrich, emu, or cassowary known in the island; but the bones have been found of at least three Struthionidæ, one of which, the *Æpyornis*, had an egg a foot long and nine inches the shorter diameter, with a capacity six or seven times that of the ostrich, and 140 times that of an ordinary barn-door fowl.

**REPTILES.**—The lower groups of animals have been less fully studied than the mammalia and birds. In Reptilia there are several snakes, but no venomous ones are known in the central hill-region. The cosmopolitan family of Colubrinæ is represented by two American genera, *Phylodryas* and *Heterodon*; and by a third genus (*Herpetodryas*) common to China and America. The other genera are all endemic, but belong to widely-spread tropical families. Two families, Lycodontidæ and Viperidæ, both abundant in Tropical Africa and Tropical Asia, are absent. Lizards are numerous, belonging mostly to specially African or widely-spread tropical families. There are some species of two American genera of Iguanidæ, and that family, except for these, is entirely restricted to America;

and a genus of Geckoes, which also inhabits America and Australia, occurs also in Madagascar.

Crocodiles are plentiful and troublesome; and there are several tortoises of African affinity, including a gigantic species, which is probably now extinct in Madagascar, but which still survives in the small uninhabited islets of the Aldabra group, four degrees further north. There are two living specimens of this huge creature at the Zoological Gardens, of which the male is between five and six feet long, rather broader than long, weighs 800 pounds, and is said to be able to carry a weight of two tons on its back.

As regards the general bearing of the character of the fauna of the island on its previous physical history, we may regard it, without proceeding further through the lower groups of animals, as a proposition fully established by the facts that have been already brought forward, that Madagascar produces many striking types that are peculiar to it, and that many striking and widely-spread and copiously-represented types which inhabit the neighbouring continent are absent; and that as a whole the fauna possess the stamp of a remarkable individuality of character, such as can only be explained by supposing it to be the result of long insulation.

GENERAL CHARACTER OF THE FLORA.—But when we come to deal with the botany of the island a great many of the facts point in an entirely different direction. No special work on the flora of Madagascar has yet been written, but taking the species that have been described in general monographs and scattered papers in the various periodicals and transactions of learned societies, and adding to these the species contained in the Kew Herbarium, including five or six parcels that have been received from different sources during the last two years, I estimate that we have now definite knowledge of at least 2,000 flowering plants that grow wild in Madagascar; and considering how many novelties each new parcel from an unexplored district contains, and what a large proportion of the named and described species gathered by the French collectors we do not possess in England, and how rich the fern-flora of the island, which has been much better explored than the flowering plants, has proved, I should not be at all surprised if the number of flowering plants inhabiting the island should ultimately be raised to 4,000 or 5,000; so that of course all the remarks that follow must be considered as founded on a botany that is perhaps not more than half-known. But looking at the catalogue of Madagascar plants, as it stands according to present knowledge, as a whole, the first point that strikes the mind is how thoroughly the general plan of the flora follows the same lines as that of other tropical regions of the Old World. This may be illustrated in various ways, as follows:—In the first place by taking the natural orders one by one, and noting how nearly they run parallel in Madagascar and the adjacent tropical areas.

The following Table shows the number of the genera and species of each natural order of *Thalamifloræ* known in Mauritius, Madagascar, Continental Tropical Africa, and India apart from the Himalayas. Out of fifty-five known orders of *Thalamifloræ* only eight are not here represented; out of these forty-seven, thirty-seven are already discovered in

Madagascar. Of the ten orders not yet known in Madagascar none are known in Mauritius proper, but two are represented by single species in the Seychelles. Two of them are confined to Tropical Asia, and one to Tropical Africa; but the other seven are common to both continents.

—	Mauritius and Seychelles.		Madagascar.		Tropical Africa.		Tropical India.	
1. Ranunculaceæ . . . . .	1	1	2	15	4	18	5	17
2. Dilleniaceæ . . . . .	1	1	1	3	1	3	6	34
4. Magnoliaceæ . . . . .	—	—	—	—	—	—	5	7
5. Anonaceæ . . . . .	2	4	5	10	12	59	25	190
6. Menispermaceæ . . . . .	1	4	7	10	11	22	19	34
7. Berberidæ . . . . .	—	—	—	—	1	1	1	3
8. Nymphæaceæ . . . . .	1	1	1	5	2	3	5	8
11. Crucifera . . . . .	3	3	3	6	21	45	2	6
12. Capparidaceæ . . . . .	2	2	7	20	11	61	8	49
13. Resedaceæ . . . . .	—	—	—	—	4	5	1	1
15. Violaceæ . . . . .	—	—	4	20	4	16	3	16
17. Bixineæ . . . . .	3	3	5	8	6	27	9	26
18. Pittosporæ . . . . .	1	1	1	8	1	2	1	5
20. Polygalæ . . . . .	—	—	1	5	3	24	5	30
21. Frankeniaceæ . . . . .	—	—	—	—	1	2	1	1
22. Caryophyllaceæ . . . . .	2	2	2	2	12	25	7	11
23. Portulacæ . . . . .	—	—	1	1	2	8	2	6
24. Tamariscineæ . . . . .	—	—	—	—	1	2	1	3
25. Elatineæ . . . . .	—	—	—	—	1	5	2	6
26. Hypericineæ . . . . .	1	1	3	11	5	18	2	12
27. Guttifera . . . . .	1	2	5	19	6	12	6	61
28. Ternstromiaceæ . . . . .	1	1	—	—	3	3	11	37
29. Dipterocarpeæ . . . . .	1	1	—	—	3	3	9	92
30. Chlœnaceæ . . . . .	—	—	5	9	2	2	—	—
31. Malvaceæ . . . . .	7	7	10	28	17	88	20	85
32. Sterculiaceæ . . . . .	6	13	6	22	14	51	16	79
33. Tiliaceæ . . . . .	2	3	4	15	10	70	13	109
34. Linaceæ . . . . .	2	4	2	6	6	14	6	18
35. Humiriaceæ . . . . .	—	—	—	—	1	1	—	—
36. Malpighiaceæ . . . . .	—	—	2	4	5	14	3	10
37. Zygophylleæ . . . . .	1	1	1	1	5	14	4	8
38. Geraniaceæ . . . . .	2	3	4	15	6	39	7	101
39. Rutaceæ . . . . .	3	7	2	2	4	12	19	70
40. Simarubæ . . . . .	2	2	1	1	9	11	9	16
41. Ochnaceæ . . . . .	1	1	2	9	2	19	4	11
42. Burseraceæ . . . . .	2	2	1	1	4	9	10	39
43. Meliaceæ . . . . .	2	4	1	5	5	15	19	83
44. Chaillotiaceæ . . . . .	—	—	1	8	1	15	1	6
45. Olacineæ . . . . .	3	3	3	3	15	26	23	65
46. Ilicineæ . . . . .	—	—	1	2	1	1	1	14
47. Celastrineæ . . . . .	3	3	7	22	6	44	13	85
49. Rhamnæ . . . . .	4	5	6	15	8	12	11	40
50. Ampelidæ . . . . .	2	3	2	12	2	78	3	75
51. Sapindaceæ . . . . .	8	11	9	11	13	37	20	55
52. Sabiaceæ . . . . .	—	—	—	—	—	—	2	9
53. Anacardiaceæ . . . . .	3	5	7	14	11	31	18	93
55. Moringæ . . . . .	—	—	1	1	1	1	2	1
—	—	—	126	350	—	—	—	—

LARGE COSMOPOLITAN GENERA IN MADAGASCAR.—One of the most striking and suggestive characters of the flora of the intertropical zone of the world, taken as a whole, is the large extent to which it is everywhere made up of species representing large genera

which do not show any special preference for one of the three great continents, or to the Old or New World, as compared with each other.

The area embraced by the intertropical zone is about twenty millions of square miles out of fifty millions for the whole world, and there are many genera that contain 300, 400, or 500 species that are largely represented both in America, Asia, and Africa. Some of these are herbaceous glumiferous Monocotyledons, as, for instance, *Cyperus* with 400 species, and *Panicum* with 500. The large genera of ferns all fall into this category, *Polypodium*, *Acrostichum*, *Asplenium*, and *Pteris*. Some of them are Dicotyledons, with separated sexes and small inconspicuous flower-wrappers, such as *Ficus* with 400 species, *Piper* with 600, *Phyllanthus* with 400-500, *Croton* 450. But many of these large cosmopolitan genera are Dicotyledons of shrubby or aborescent habit, with insect-fertilised hermaphrodite flowers, a distinct calyx and corolla, and showy scented petals. *Loranthus*, with 300 species, although exclusively parasitic, falls into this geographical category; so do *Psychotria* with 500 species, *Indigofera* with 300-400, *Vernonia* with 400, *Solanum* with 500, *Eugenia* with 500. And a point that must be prominently taken into account in estimating the general relations of the flora of Madagascar is that these large cosmopolitan genera are nearly all represented in the island. This holds good of all those that have been already mentioned; and others of the same class that may be named in addition, of which two species or more are already detected in the island, are *Ipomœa*, *Vitis*, *Gouania*, *Hibiscus*, *Gomphia*, *Ochna*, *Desmodium*, *Crotalaria*, *Acalypha*, *Cleome*, *Capparis*, *Cassia*, *Dalbergia*, *Eragrostis*, *Commelina*, *Dioscorea*, *Dalechampia*, *Andropogon*, *Scleria*, *Kyllingia*, *Mimosa*, *Jussiaea*, *Homalium*, and many others.

WIDELY-SPREAD SPECIES.—The marked tendency to uniformity in general character which is shown by the flora of the whole tropical zone is further illustrated by the fact that a considerable number of species are spread universally through the Old World, and that a considerable number extend their range in addition to Tropical America. Out of 1,058 flowering plants and vascular Cryptogamia which are indigenous in Mauritius and the Seychelles, 370, or about one-third of the whole, occur also both in Tropical Asia and Continental Africa; and of these 225 species, or about one in five of the whole flora, extend their range to Tropical America. Of the 225 cosmopolitan Mauritian species, 159 are flowering plants and 66 are ferns and fern-allies. For Madagascar I have been able already to make out a list of 100 cosmopolitan flowering plants, and I have no doubt a closer search through the London herbaria would raise the number to 150. The orders which are most largely represented are *Gramineæ* and *Cyperaceæ* in Monocotyledons, and, in Dicotyledons, *Compositæ*, *Leguminosæ*, and *Malvaceæ*.

GRAMINEÆ.—*Coix Lacryma*, *Dactyloctenium ægyptiacum*, *Eleusine indica*, *Cynodon Dactylon*, *Panicum Crus-galli*, *fluitans*, *prostratum*, *sanguinale*, and *Colonum*, *Chloris barbata*, *Oplismenus Burmanni*, *Stenotaphrum complanatum*, *Andropogon contortus*.

CYPERACEÆ.—*Cyperus compressus*, *rotundus*, *difformis*, *articulatus*, *Mariscus umbellatus*, *Abilgaardia monostachya*, *Fimbristylis diphylla*, *Scirpus mucronatus*, *Fuirena umbellata*, *Lipocarpa argentea*, *Cladium Mariscus*.

COMPOSITE.—*Elephantopus scaber*, *Ageratum conyzoides*, *Adenostemma vicosum*, *Mikania scandens*, *Gnaphalium luteo-album*, *Eclipta erecta*, *Bidens pilosa* and *bipinnata*, *Chrysanthellum procumbens*, *Sonchus asper* and *oleraceus*.

LEGUMINOSÆ.—*Crotalaria verrucosa* and *striata*, *Tephrosia purpurea*, *Zornia diphylla*, *Desmodium triflorum*, *Abrus precatorius*, *Clitoria Ternatea*, *Teramnus labialis*, *Mucuna pruriens*, *Dioclea reflexa*, *Canavalia ensiformis*, *Sophora tomentosa*, *Cæsalpinia Bonducella*, *Cassia occidentalis*.

MALVACEÆ.—*Sida rhombifolia*, *spinosa*, *carpinifolia*, *Urena lobata*, *Hibiscus tiliaceus*.

The majority of these cosmopolitan plants are coarse-growing annuals or herbaceous perennials, with abundant flowers and copious easily-dispersed seeds. They are mostly such as grow readily in waste and open places. A few of them are shrubby plants of sea-shores, as, for instance, *Suriana maritima*, *Hibiscus tiliaceus*, and *Sophora tomentosa*. Of the flowering plants *Piper subumbellatum* is the only conspicuous instance of a plant of shady woods, but many of the cosmopolitan ferns, such as *Trichomanes radicans*, *Hymenophyllum polyanthos*, *Adiantum lunulatum*, and *Davallia Speluncæ* are of this category. In addition to these it would not be difficult to make out a list of 100 more Madagascar flowering plants that are spread widely through the tropical zone of the Old World. Amongst these latter aquatic plants are represented by such species as *Nymphaea Lotus* and *stellata*, *Limnanthemum indicum* and *Utricularia stellaris*; trees and shrubs of the muddy swamps of the sea-shore by the mangroves and their associates (such as *Rhizophora mucronata*, *Bruguiera gymnorrhiza*, *Sonneratia alba*, *Lumnitzera racemosa*, *Thespesia populnea*, and *Avicennia officinalis*); and shrubs not specially maritime by such plants as *Schmidelia racemosa*, *Columbrina asiatica*, *Ormocarpum sennoides*, *Desmodium lasiocarpum* and *umbellatum*, *Premna serratifolia*, and *Securinega obovata*. As a whole, comparing Madagascar with our own colonial possessions in that region, no doubt the number of widely-spread tropical types will be found to be quite as large, but of course the proportion which they will bear to the whole flora will be much smaller, because the flora of Madagascar is so much more extensive.

THE ENDEMIC ELEMENT IN THE FLORA.—I will next attempt to give as good an idea as I can in a short space of the character of the endemic element in the Madagascar flora. Bentham and Hooker, in "Genera Plantarum," admit 166 natural orders of Dicotyledons. Reckoning the orders of Monocotyledons on the same scale, the number will be about 40. Of these 206 natural orders 125 are already known in Madagascar. Only one of them, *Chlenaceæ*, is regarded, so far as published material goes, as peculiar to the island, and out of its five genera we have in the Kew Herbarium specimens of two gathered by Forbes in Mozambique. *Chlenaceæ* are shrubs or small trees with alternate rigid entire leaves resembling those of the myrtles or *Melastomaceæ*. In the structure of the flower they come nearer the *Malvaceæ* and *Tiliaceæ*. The ovary is three-celled, and the sepals are also only three in number, by which they can readily be recognised from all their neighbours. The stamens are usually indefinite. Three out of the five genera have a large persistent cup-like epicalyx, which in one genus is fleshy. *Rhodolena* is a magni-

ficient plant with a lax corymb of flowers, like those of a *Pleroma*, two or three inches in diameter, with orbicular, much imbricated, red petals. *Sarcolæna grandiflora* has a turbinate fleshy epicalyx, with white flowers a couple of inches in diameter when expanded. In *Schizolæna* there are two flowers to an involucre, and it grows out in the fruiting stage, and is lacinated at the edge like that of cotton. In the three other genera the flowers are smaller and aggregated at the end of the branches in dense corymbose panicles. The total number of species known in Madagascar is eight or ten.

In the island altogether the number of genera now known is about 700. Of these about eighty, of which the following is an approximate catalogue arranged under the natural orders, are supposed to be endemic, so far as present knowledge extends.

MENISPERMACEÆ.—*Rhaptonema*, *Spirospermum*, *Bursaia*.

STERCULIACEÆ.—*Cheiolæna*.

TILIACEÆ.—*Ropalocarpus*.

CELASTRACEÆ.—*Ptelidium*, *Polycardia*.

SAPINDACEÆ.—*Macphersonia*.

ANACARDIACEÆ.—*Micronychia*, *Baronia*.

LEGUMINOSÆ.—*Chadsia*, *Baukea*, *Colvillea*.

CRASSULACEÆ.—*Kitchingia*.

HAMAMELIDÆ.—*Dicoryphe*.

RHIZOPHOREÆ.—*Macarisia*.

MELASTOMACEÆ.—*Dichætanthera*, *Vepracella*, *Rousseauxia*, *Gravesia*.

SAMYDACEÆ.—*Calantica*, *Nisa*, *Asteropeia*, *Myriantheia*.

PASSIFLOREÆ.—*Deidamia*, *Physena*.

RUBIACEÆ.—*Breonia*, *Carphalia*, *Tamatavia*, *Chapeliera*, *Nematostylis*, *Leiochilus*, *Saldania*, *Hymenocnemis*.

COMPOSITEÆ.—*Centauropsis*, *Rochonia*, *Glycideras*, *Henricia*, *Synchodendron*, *Syncephalum*, *Sphacophyllum*, *Micractis*, *Epallage*.

LOBELIACEÆ.—*Dialypetalum*.

MYRSINACEÆ.—*Oncostemon*.

SAPOTACEÆ.—*Cryptogyne*.

OLEACEÆ.—*Noronhia*.

APOCYNACEÆ.—*Craspidospermum*, *Plectaneia*, *Mascarenhaisia*.

ASCLEPIADACEÆ.—*Pentopetia*, *Camplocarpus*, *Harpanema*, *Pycnoneurum*, *Decanema*, *Pervillea*.

GENTIANACEÆ.—*Tachiadenus*.

CONVOLVULACEÆ.—*Bonamia*.

SCROPHULARIACEÆ.—*Hydrotriche*, *Rhaphispermum*.

ACANTHACEÆ.—*Periblema*, *Brachystephanus*, *Lasiocladus*.

VERBENACEÆ.—*Adelosa*.

LABIATEÆ.—*Tetradenia*.

AMARANTACEÆ.—*Henonia*.

PHYTOLACEÆ.—*Barbenia*.

MONIMIACEÆ.—*Ephippiandra*.

LAURACEÆ.—*Ravensara*, *Potameia*.

PROTEACEÆ.—*Dilobeia*.

EUPHORBIACEÆ.—*Leptonema*, *Cometia*, *Tannodia*, *Sphærostylis*.

URTICACEÆ.—*Pachytrophe*, *Ampalis*.

PALMACEÆ.—*Dypsis*.

MUSCACEÆ.—*Ravenalia*.

ORCHIDEÆ.—*Bicornella*.

GRAMINEÆ.—*Mallebrunia*.

Several of these are represented by a single species only, and none of them by more than five or six. Many of them are little known, and of several of them we have no authentically-named specimen in the Kew Herbarium. No doubt in the next ten years this list will need to be materially modified by the addition of fresh discoveries of endemic genera and by the omission of others, which, like the two genera of *Chlænaceæ*, will be discovered in the adjacent regions of Tropical Africa, the botany of which has been explored very imperfectly. The principal point of general interest to be noted about them is that they are scattered through the whole systematic series, and not concentrated in any particular order or sub-class, and that a large proportion of them belong to the large natural orders, such as *Rubiaceæ*, *Compositæ*, and *Asclepiadaceæ*, and are closely allied to cosmopolitan tropical genera. A few notes on the general habit of some of the more striking types may not be out of place.

The endemic type that influences most the general physiognomy of the vegetation is the "traveller's tree," *Ravenala madagascariensis*. It is allied to *Heliconia* and the banana, and has a tall simple woody trunk, distichous leaves, with solitary spreading axillary distichous clusters containing about ten flowers each, large spathes, an oblique perianth-limb six or eight inches long, cut down nearly to the base into linear segments, six very long basifixed anthers, and a capsular fruit, with numerous small umbilicate seeds with a blue pulpy arillus. *Dypsis* is a palm allied to *Areca*, with pinnate leaves. *Colvillea* (figured Bot. Mag., t. 3325, 3326) is a magnificent leguminiferous plant of the suborder *Cæsalpineæ*, with bipinnate leaves, with numerous small sensitive leaflets like those of a *Mimosa*, and a dense raceme a foot long of large red flowers, with convex orbicular petals. *Baukea* is a shrubby climber allied to *Phaseolus*, with curved reddish-yellow flowers above an inch long, with very acute calyx-segments, and a keel longer than the wings and standard, arranged in sparse axillary corymbs on long pedicels. *Cheirolana* is a close ally of the nearly-extinct blackwood and redwood of St. Helena. It is an erect shrub with long linear leaves clothed with stellate pubescence, and a small red mallow-like flower with lanceolate bracteoles. *Bonamia* is an erect convolvulaceous shrub, with coriaceous, strongly-veined, oblong leaves and small flowers in a dense panicle at the end of the branches. *Bicornella*, the endemic genus of orchids, is a small-flowered terrestrial type allied to *Habenaria* and *Satyrium*. *Tachiadenus* is a blue gentian, with a hypo-



crateriform corolla like that of a large *Vinca*, with a tube in one of the species four inches in length, and a flat limb a couple of inches in diameter. *Mascarenhaisia* is allied to *Echites*, but is not scandent. The flower is rather like that of *Tachiadenus*, in one species of a brilliant crimson, with a long tube twice as thick in the upper part as in the lower. The *Kitchingias* are showy succulent plants allied to *Bryophyllum* and *Cotyledon*, with corymbs of bright red middle-sized tubular flowers. *Deidamia* is a passion-flower with pinnate leaves, flowers as large as those of a buttercup, arranged in lax axillary corymbs, a rudimentary corona, and a baccate fruit the size of a greengage plum. *Dicoryphe* has the habit of *Cestrum*, with large stipules, dense terminal corymbs, flowers like those of a *Lythrum* or *Cuphea*, with a long calyx-tube with five small petals inserted at its throat and hidden stamens. *Asteropeia*, of which the ordinal position is doubtful between *Samydaceæ* and *Linaceæ*, is a shrub with crowded entire leaves, copious small flowers in dense terminal corymbs, coriaceous persistent petals, ten hypogynous stamens, and a three-celled syncarpous ovary.

CLOSE AFFINITY OF THE MADAGASCAR FLORA WITH THOSE OF MAURITIUS AND THE OTHER SMALL NEIGHBOURING ISLANDS.—Between the flora of Madagascar and those of Mauritius, the Seychelles, Bourbon, and the Comoro group of islands, there is a close alliance. This may be best illustrated by examining the range of a few genera which are confined to the Mascarene group, but not entirely restricted to Madagascar alone. For instance, of the Rubiaceous genus *Danais*, a shrubby climber allied to *Cinchona*, there are four or five endemic species in Madagascar, one confined to Mauritius, and one to Rodriguez. *Aphloia*, with two or perhaps three species, grows in Madagascar, Mauritius, Bourbon, Rodriguez, and the Seychelles. Its neighbour *Ludia* grows in all the same islands, and, in addition, has lately been detected by Sir John Kirk on the mainland opposite Zanzibar. *Fœtidia*, a curious anomalous genus of *Myrtaceæ*, is found in Madagascar, Mauritius, and Rodriguez. *Obetia*, a large stinging tree-nettle, figured by Gaudichaud in the beautiful atlas of plates illustrating the botany of the voyage of the *Bonité*, is found in Mauritius, Bourbon, Rodriguez, and Madagascar. Weddell makes two species, but the Madagascar and Bourbon plants appear to me identical. *Radamæa*, a genus of *Scrophulariaceæ*, named by Mr. Bentham after King Radama, has one species in Madagascar, and a second in Galega Island and the Seychelles. *Phyllarthron*, a very curious erect Bignoniad with articulated leaves, has four species in Madagascar and one in the Comoro group. Its neighbour *Colea*, named after Sir Lowry Cole, has six species in Madagascar, one in Mauritius, and one in the Seychelles. *Stephanodaphne* of Baillon, allied to *Dais* and *Lasiosiphon* of the Cape, has one species in Madagascar and one in the Comoro group. *Cynorchis* has four or five species in Madagascar, one in Mauritius, one in Bourbon, one in the Seychelles, and one that was gathered by the Livingstone expedition in the Zambesi country. Of striking species common to Madagascar and the smaller islands, and not found elsewhere, we have instances in *Clematis mauritiana*, *Tristemma virusanum*, *Phyllanthus casticum*, *Antidesma madagascariense*, *Acalypha colorata*, *Elatostema fagifolium*, *Oberonia brevifolia*, *Eulophia scripta*, and many other Orchids,

*Smilax anceps*, *Cyperus ferrugineus* and *longifolius*. According to Dr. Kuhn's recent enumeration in the botany of Van der Decken's travels, out of 262 Madagascar ferns 115 occur in Mauritius and 138 in Bourbon.

CLOSE AFFINITY OF THE MADAGASCAR FLORA WITH THAT OF TROPICAL AFRICA.—There is a strong affinity between the forest-flora of the tropical zone in Madagascar and that of the main African continent. In *Rubiaceæ* alone there are ten genera (*Pentas*, *Otomeria*, *Dirichletia*, *Tricalysia*, *Diplocrater*, *Cremaspora*, *Alberta*, *Lecontea*, and *Anthospermum*), otherwise restricted to Tropical Africa, which extend their range to Madagascar. Of the fine genus *Dombeya*, in *Sterculiaceæ*, there are about twenty-five species, half of which are natives of the forests of Madagascar, and the others of Kaffraria, Natal, Abyssinia, Bourbon, and Mauritius. There is a remarkable genus of *Podostemaceæ* called *Hydrostachys*, one species of which is used as a charm in Madagascar at the bull-fights, the idea being that if a man hold a piece of the plant in his hand it will ensure the victory of his own animal. Of this genus there are six species in Madagascar, one in Natal, one in Mozambique, and one in the Zambesi country. Of the Hypericaceous genus *Psorospermum*, one species of which enters largely into the Madagascar pharmacopœia as a remedy in scabies and exséma, there are half a dozen species in the island, and on the continent four, in the Mozambique district, Nile-land, and Upper and Lower Guinea. Another very curious genus is *Xerophyta*, an endogen allied to *Narcissus*, with shrubby stems and star-like blue flowers, with a glutinous inferior ovary. Of this there are four species in Madagascar, ten or a dozen in Angola, Abyssinia, Natal, and Central Africa, and about half a dozen in the mountain provinces of Central Brazil. We have further instances of characteristically tropical African genera which extend to Madagascar in *Thylacium*, *Acridocarpus*, *Cadia*, *Myrothamnus*, *Trochomeria*, *Raphidocystis*, *Ophiocaulon*, *Landolphia*, *Anthocleista*, *Kigelia*, *Brillantaisia*, *Mimulopsis*, *Pycnocoma*, *Uapaca*, and many others, and of well-marked species common to Madagascar and Tropical Africa in *Haronga madagascariensis*, which occurs also in Mauritius, Mozambique, Angola, and Senegambia, *Desmodium mauritianum* and *paleaceum*, *Eriosema cajanooides* and *parviflorum*, the Copal-tree (*Trachylobium Hornemannianum*), *Albizzia fastigiata*, *Rubus apetalus* and *pinnatus*. *Serpicula repens*, *Nesæa erecta* and *linearis*, and *Dracæna reflexa*.

SLIGHT SPECIAL AFFINITY OF THE FLORA OF MADAGASCAR WITH THAT OF TROPICAL ASIA AND THE MALAY ISLES.—There are a few curious cases of special affinity between the floras of Madagascar and the Seychelles with those of Tropical Asia and the Malay archipelago. There are about thirty known species of *Nepenthes*; of these twenty-eight belong to India and the Malay archipelago. There is one endemic species in the Seychelles and one in Madagascar, but the order does not reach Mauritius, Bourbon, or the African continent. Of *Tambourissa* in *Monimiaceæ*, there are about a dozen species divided between Madagascar and Mauritius, and one in Java. Of the scandent Asclepiadeous genus *Stephanotis*, one species of which, with its clusters of tubular pure white waxy flowers, is a great ornament of our conservatories, there are five species in Madagascar and five in

the Malay archipelago and South China. Of *Strongylodon*, in *Phaseoleæ*, there are four species: one in Polynesia, one in the New Hebrides, a third in Ceylon, and a fourth in Madagascar. Of the *Lagerstromia*, in *Lythraceæ*, there are eighteen species in Tropical Asia, concentrated in Burma, and one has lately been discovered in the hill-country of Central Madagascar. *Hernandia peltata* extends from Polynesia to Madagascar and the Comoro group, but fails to reach the African continent. Other Asiatic species found in Madagascar, but not in Continental Africa, are *Azelia scarabæoides*, *Pongamia glabra*, *Azelia bijuga*, and *Barringtonia speciosa*. But when the flora of the whole tropical zone is so homogenous in its general character, it does not seem to me either safe or necessary to assume a comparatively recent land-connection of Madagascar with India and Malaya to account for a few cases of this kind.

AFFINITY OF THE FLORA OF THE HILL-COUNTRY OF CENTRAL MADAGASCAR WITH THOSE OF THE CAPE AND MOUNTAINS OF CENTRAL AFRICA.—There are many curious cases of affinity between the flora of the hill-country of Central Madagascar and those of the Cape and the mountains of Central Africa. Many of the groups and genera characteristic of the Cape flora are represented in Central Madagascar, as they in the mountains of Abyssinia, Angola, Guinea and the Zambesi country by species closely allied to, but not absolutely identical with, those of their head-quarters. At the Cape there are upwards of 500 heaths. In Central Madagascar there are about a dozen species—one *Ericinella* and the rest *Philippias*. The *Selagineæ* are represented by a single endemic species, *Selago muralis* of Bentham, which grows upon the walks of the royal palace in Antananarivo. The aloes are represented in Madagascar by *A. Sahundra* and *A. leptocaulon*; the Cape *Iridacææ* by species of *Aristea*, *Geissorhiza* and *Gladiolus*; the *Proteacææ* by *Faurea* and *Dilobeia*; the special Cape ferns by *Mohria caffrorum*, *Cheilanthes hirta*, *Pellæa calomelanos* and *P. hastata*; the Cape saprophytic *Scrophulariaceææ* by *Alectra melampyroides* and *Harveya obtusifolia*; the Cape orchids by species of *Disa* and *Satyrium*; and the Cape *Ihymelacææ* by species of *Dais* and *Lasiosiphon*. Other characteristically Cape genera, represented by one or two endemic species in Central Madagascar, are *Phyllica*, *Anthospermum*, *Diclis*, *Chironia*, *Halleria* and *Streptocarpus*. There are a few curious cases in which characteristically temperate species reach Central Madagascar, or a Madagascar species reappears at the Cape and amongst the Central African mountains. Amongst the vascular Cryptogamia of Central Madagascar are *Asplenium Trichomanes*, *Nephrodium Filix-mas*, *Aspidium aculeatum*, *Pteris aquilina* and *P. cretica*, *Lycopodium complanatum* and *L. clavatum*. *Asplenium Mannii*, reappears in the Cameroons and Zambesi-land. The only Madagascar violet (*V. Zongia*, Tulasne, = *V. emirnensis*, Bojer, = *V. abyssinica*, Steud.) only occurs elsewhere at 7,000 feet above sea-level in the Cameroons, at 10,000 feet above sea-level at Fernando Po and amongst the mountains of Abyssinia. The only Madagascar Geranium (*G. emirnense*, Bojer, = *G. compar*, R. Br., = *G. simense*, *latistipulatum* and *frigidum*, Hochst.) has a precisely similar range of distribution. The only Madagascar *Drosera* (*D. madagascariensis*, DC., = *D. ramentacea*, Burchell) reappears at the Cape, and amongst the mountains of Angola and Guinea. *Agauria salicifolia* is common to the

mountains of Madagascar, Mauritius, Bourbon and the Cameroons; and has lately been found by Mr. Thomson on the high plateaux round Lake Nyassa. *Caucalis melanantha* occurs only in Central Madagascar, at an elevation of 9,000 feet in Abyssinia, of 7,000 to 8,000 feet in the Cameroons, and of 7,000 feet in Fernando Po. *Sanicula europæa* occurs in Central Madagascar, the mountains of Abyssinia, the Cape, 4,000 to 7,000 feet in the Cameroons, 4,000 feet in Fernando Po, and is widely spread through Europe and other parts of the north temperate zone. Just as in Europe, there is a close affinity between the floras of the Pyrenees, Alps, Carpathians and British mountains with those of Norway, Sweden, Lapland, and the arctic regions; so in Africa there is a close affinity between the floras of the mountains and plateaux of the central mass of the continent and the wonderfully rich flora of the Cape, and in this affinity Central Madagascar claims a distinct share.

The following propositions will, I believe, therefore, present a fair general summary of the leading characteristics of the Madagascar flora:—

1. The flora of the tropical zone throughout the world is remarkably homogenous in its general character, and to this general rule Madagascar furnishes no marked exception. There is no well-marked plant type largely developed in the island which is not found elsewhere, and none absent that one might, *à priori*, expect.
2. About one in nine of the genera are endemic, but they are all small genera, mostly belonging to the large natural orders, and closely allied to cosmopolitan generic types.
3. There is a close affinity between the tropical flora of Madagascar and that of the smaller islands of the Mascarene group.
4. There is a close affinity between the tropical flora of Madagascar and that of the African continent.
5. There are a few curious cases in which Asiatic types which do not occur in Africa are met with in Madagascar, and these bear a very small numerical proportion to the great mass of the flora.
6. There is a distinct affinity between the flora of the hill-country of Central Madagascar and those of the Cape and the mountain ranges of Central Africa.

## APPENDIX II.

The preponderance of *Cryptogams*, especially ferns, in the Mascarene flora is pointed out by Mr. A. Wallace, who gives the following tables from M. Frappier's and Mr. J. G. Baker's notices of the respective islands of Bourbon and Mauritius, and dependencies:—

	Réunion (Frappier).	Mauritius, &c. (Baker).
CRYPTOGAMS:		
Ferns . . . . .	240	168
PHANEROGAMS:		
Orchidæ . . . . .	120	79
Graminæ . . . . .	60	69
Cyperacæ . . . . .	24	62
Rubiaceæ . . . . .	24	57
Euphorbiacæ . . . . .	18	45
Compositæ . . . . .	60	43
Leguminosæ . . . . .	36	41

Besides these M. Frappier gives the numbers of others besides the marine *Algæ*, 120 *espèces*, for Bourbon:—

Mousses . . . . .	84	Hépatiques . . . . .	24
Champignons . . . . .	60	Lycopodes . . . . .	12
Lichens . . . . .	48	Equisétacæ . . . . .	1

## APPENDIX III.

There are now, according to Sir George Mivart, F.R.S.,\* fifty known species of chamæleon, and no less than twenty-one of these kinds are from Madagascar, seventeen of which are described as having horns or other remarkable processes on their heads. Madagascar is thus the great home of chamæleons generally, and especially of these curiously distinguished kinds.

1. Chamæleo verrucosus . . . . .	}	Devoid of prominences.
2. " balteatus . . . . .		
3. " lateralis . . . . .		
4. " campani . . . . .		
5. " antimena . . . . .	}	Plate-snouted . . . . .
6. " Labordi . . . . .		
7. " surperciliaris . . . . .	}	Prominences over eyes . . . . .
8. " pardalis . . . . .		
9. " globifer . . . . .	}	Nose dilated . . . . .
10. " calyptratus . . . . .		
11. " calcaratus . . . . .	}	Globular prominences at muzzle . . . . .
12. " cucullatus . . . . .		
13. " gularis . . . . .	}	Lofty-helmeted . . . . .
14. " brevicornis . . . . .		
15. " Malthe . . . . .		
16. " rhinoceratus . . . . .		
17. " minor . . . . .	}	Prominent occipital flaps . . . . .
18. " bifurcus . . . . .		
19. " Parsonii . . . . .	}	Elongated long nasal prominence . . . . .
20. " O'Shaughnessi . . . . .		
21. " gallus . . . . .	}	Bony, double-horned . . . . .
		Flexible conical appendage to nose

\* Lecture delivered at the Zoological Gardens on July 28th, 1881.

## APPENDIX IV.

## MAMMALIA OF MADAGASCAR.

- |                                |                                       |                                       |
|--------------------------------|---------------------------------------|---------------------------------------|
| 1. <i>Indris albus.</i>        | 20. <i>Microrhynchus laniger.</i>     | 39. <i>Galidictis vittata.</i>        |
| 2. " <i>brevicaudatus.</i>     | 21. <i>Hapalemur griseus.</i>         | 40. " <i>striata.</i>                 |
| 3. <i>Propithecus diadema.</i> | 22. " <i>olivaceus.</i>               | 41. <i>Herpestes Bennetti</i> sp.     |
| 4. " <i>lunatus.</i>           | 23. <i>Cheirogaleus Mili.</i>         | 42. " <i>vansire.</i>                 |
| 5. <i>Varecia leucomystax.</i> | 24. " <i>Smithii.</i>                 | 43. <i>Eupleures Goudotii.</i>        |
| 6. " <i>nigra.</i>             | 25. " <i>typicus.</i>                 | 44. <i>Crocidura Madagascarensis.</i> |
| 7. " <i>rubra.</i>             | 26. <i>Lepilemur furcifer.</i>        | 45. <i>Centetes ecaudatus.</i>        |
| 8. " <i>varia.</i>             | 27. " <i>murinus.</i>                 | 46. " <i>semispinosus.</i>            |
| 9. <i>Lemur catta.</i>         | 28. " <i>mustelinus.</i>              | 47. <i>Ericulus nigrescens.</i>       |
| 10. <i>Prosimia albifrons.</i> | 29. " <i>myoxinus.</i>                | 48. " <i>setosus.</i>                 |
| 11. " <i>albimana.</i>         | 30. <i>Galago Madagascarensis.</i>    | 49. <i>Echinogale Telfairi.</i>       |
| 12. " <i>Anjuanensis.</i>      | 31. " <i>minor.</i>                   | 50. " <i>spinosus.</i>                |
| 13. " <i>collaris.</i>         | 32. <i>Cheiromys Madagascarensis.</i> | 51. <i>Pteropus Edwardsii.</i>        |
| 14. " <i>coronata.</i>         | 33. <i>Viverra fossa.</i>             | 52. " <i>rubricollis.</i>             |
| 15. " <i>melanocephala.</i>    | 34. <i>Galidia concolor.</i>          | 53. " <i>vulgaris.</i>                |
| 16. " <i>Mongoz.</i>           | 35. " <i>olivacea.</i>                | 54. <i>Rhinolophus Commersonii.</i>   |
| 17. " <i>nigrifrons.</i>       | 36. " <i>elegans.</i>                 | 55. <i>Taphozous Mauritanus.</i>      |
| 18. " <i>rufifrons.</i>        | 37. <i>Paradoxurus stigmaticus.</i>   | 56. <i>Nycticejus Bourbonicus.</i>    |
| 19. " <i>xanthomystax.</i>     | 38. <i>Cryptoprocta ferox.</i>        |                                       |

From Andrew Murray's "Geographical Distribution of Mammalia."



HOME AT LAST! BOVINGER RECTORY.



THE HISTORY OF THE

1770	...	...	...
1771	...	...	...
1772	...	...	...
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1798	...	...	...
1799	...	...	...

THE HISTORY OF THE

IN THE

APPENDIX IV.

MANUSCRIPTS ON MEDICINE.

1. <i>Manuscript on the Diseases of the Head</i>	1
2. <i>Manuscript on the Diseases of the Chest</i>	2
3. <i>Manuscript on the Diseases of the Stomach</i>	3
4. <i>Manuscript on the Diseases of the Liver</i>	4
5. <i>Manuscript on the Diseases of the Spleen</i>	5
6. <i>Manuscript on the Diseases of the Gall-bladder</i>	6
7. <i>Manuscript on the Diseases of the Pancreas</i>	7
8. <i>Manuscript on the Diseases of the Intestines</i>	8
9. <i>Manuscript on the Diseases of the Urinary Organs</i>	9
10. <i>Manuscript on the Diseases of the Genitals</i>	10
11. <i>Manuscript on the Diseases of the Skin</i>	11
12. <i>Manuscript on the Diseases of the Bones</i>	12
13. <i>Manuscript on the Diseases of the Joints</i>	13
14. <i>Manuscript on the Diseases of the Muscles</i>	14
15. <i>Manuscript on the Diseases of the Nerves</i>	15
16. <i>Manuscript on the Diseases of the Brain</i>	16
17. <i>Manuscript on the Diseases of the Spinal Cord</i>	17
18. <i>Manuscript on the Diseases of the Senses</i>	18
19. <i>Manuscript on the Diseases of the Mind</i>	19
20. <i>Manuscript on the Diseases of the Heart</i>	20
21. <i>Manuscript on the Diseases of the Lungs</i>	21
22. <i>Manuscript on the Diseases of the Pleura</i>	22
23. <i>Manuscript on the Diseases of the Peritoneum</i>	23
24. <i>Manuscript on the Diseases of the Ovaries</i>	24
25. <i>Manuscript on the Diseases of the Uterus</i>	25
26. <i>Manuscript on the Diseases of the Vagina</i>	26
27. <i>Manuscript on the Diseases of the Cervix</i>	27
28. <i>Manuscript on the Diseases of the Penis</i>	28
29. <i>Manuscript on the Diseases of the Testes</i>	29
30. <i>Manuscript on the Diseases of the Prostate</i>	30
31. <i>Manuscript on the Diseases of the Bladder</i>	31
32. <i>Manuscript on the Diseases of the Urethra</i>	32
33. <i>Manuscript on the Diseases of the Kidneys</i>	33
34. <i>Manuscript on the Diseases of the Adipose Tissue</i>	34
35. <i>Manuscript on the Diseases of the Connective Tissue</i>	35
36. <i>Manuscript on the Diseases of the Blood</i>	36
37. <i>Manuscript on the Diseases of the Lymphatics</i>	37
38. <i>Manuscript on the Diseases of the Immune System</i>	38
39. <i>Manuscript on the Diseases of the Endocrine System</i>	39
40. <i>Manuscript on the Diseases of the Reproductive System</i>	40
41. <i>Manuscript on the Diseases of the Nervous System</i>	41
42. <i>Manuscript on the Diseases of the Musculoskeletal System</i>	42
43. <i>Manuscript on the Diseases of the Sensory System</i>	43
44. <i>Manuscript on the Diseases of the Mental System</i>	44
45. <i>Manuscript on the Diseases of the Cardiovascular System</i>	45
46. <i>Manuscript on the Diseases of the Respiratory System</i>	46
47. <i>Manuscript on the Diseases of the Digestive System</i>	47
48. <i>Manuscript on the Diseases of the Urinary System</i>	48
49. <i>Manuscript on the Diseases of the Reproductive System</i>	49
50. <i>Manuscript on the Diseases of the Integumentary System</i>	50

From the collection of the Government of Assam.

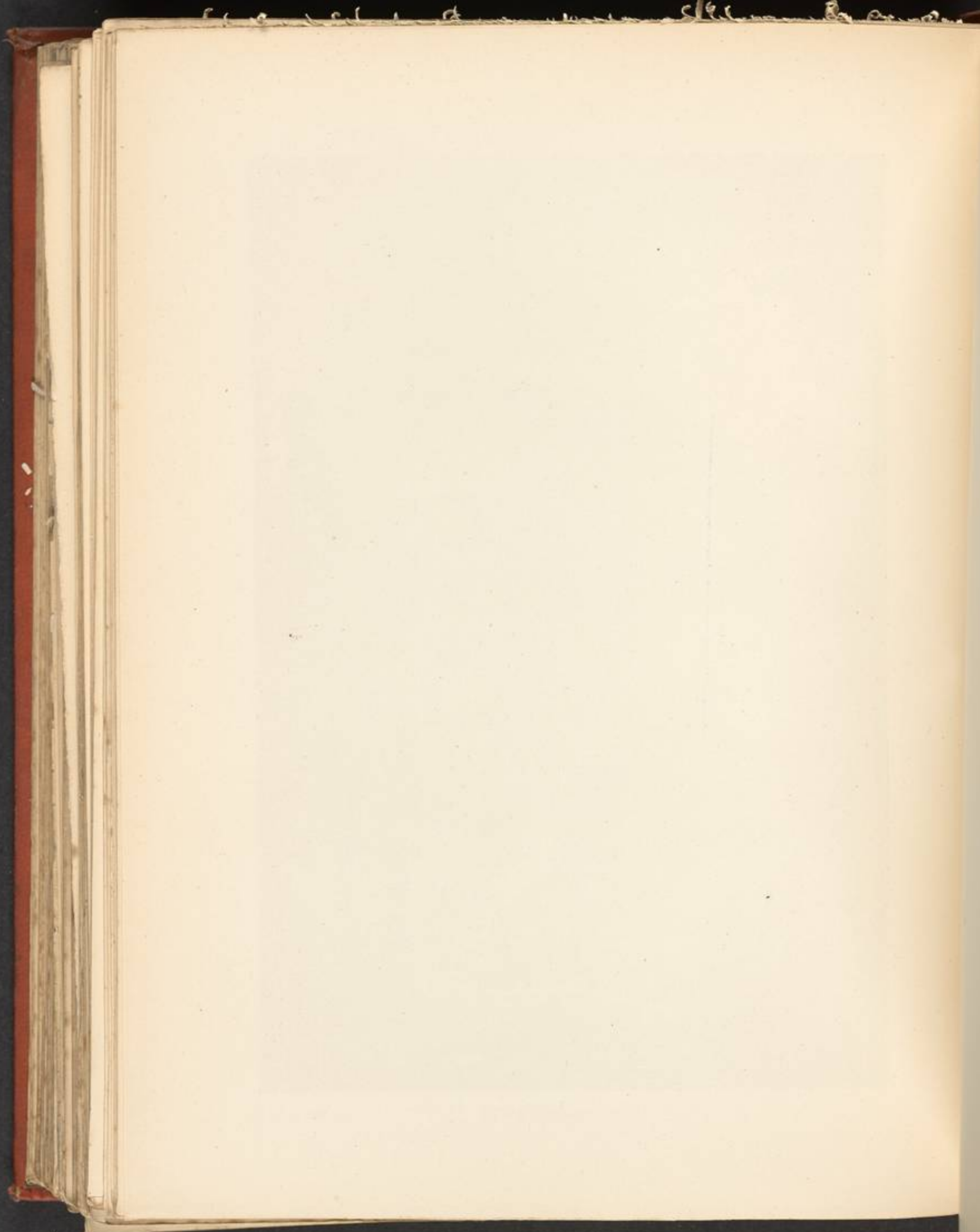


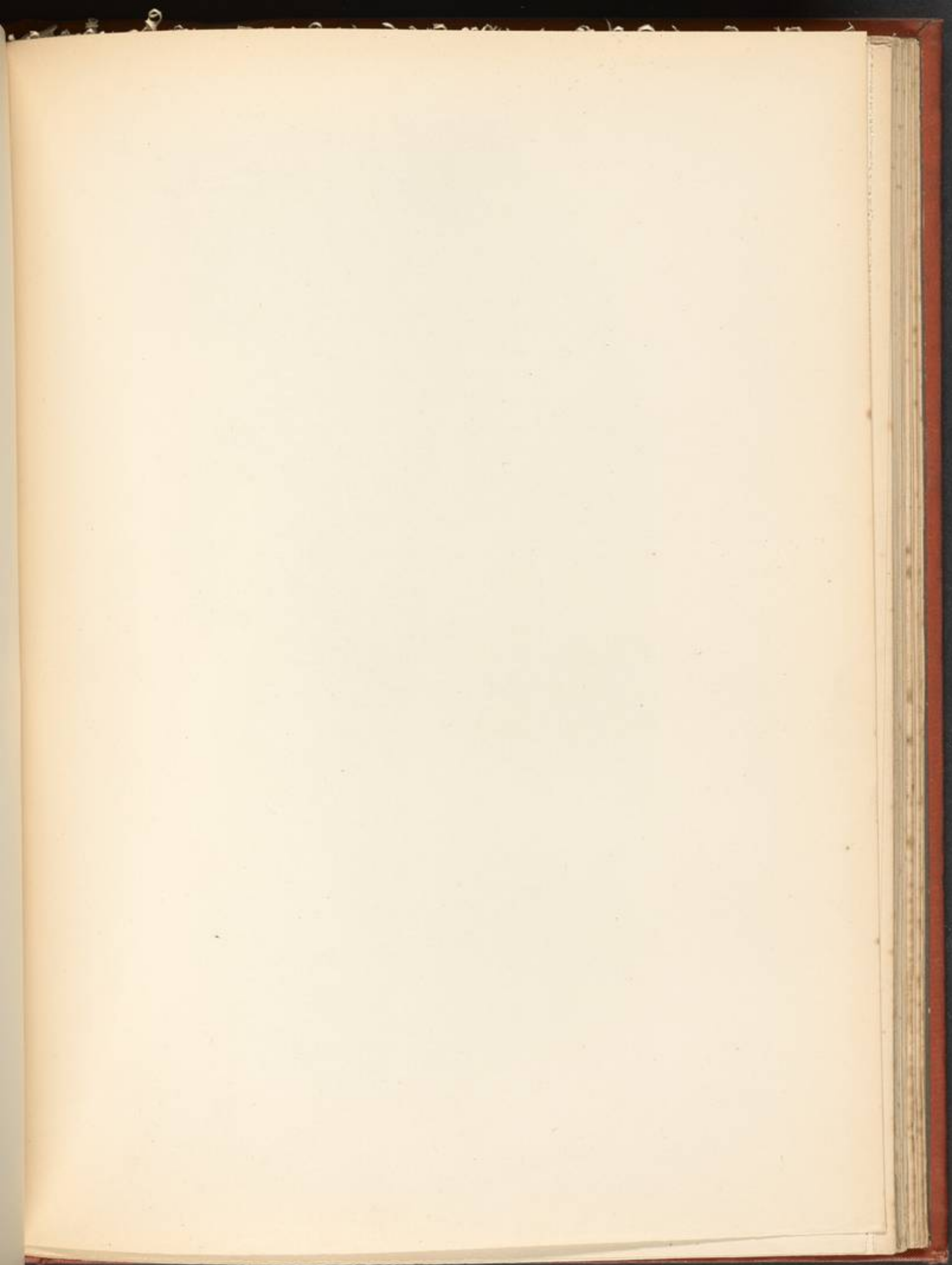




UNDER HALLEY'S MOUNT.

[To face p. 316.]







GREYTOWN HARBOUR.

[To face p. 317.]

## ON AND OFF DUTY,

BEING LEAVES FROM AN OFFICER'S NOTE-BOOK.

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### PART III.—COLUMBIA.

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#### CHAPTER I.

Voyage home in the *Orontes*.—Fort Brockhurst.—On detachment in the Isle of Wight.—Wrecks.—The Klabotermann.—Shoeburyness.—Garrison life.—Proposal to explore a route across Central America.—Sir Roderick Murchison.—Leave of absence.—Westward-ho.—Bound for Columbia.—On board the *Tasmanian*.—Gale at sea.—Arrival in the West Indies.—Colon and Panama.—Greytown.

I LEFT my readers in mid-ocean at St. Helena, which may serve as a finale to Part II. of my "Wanderbuch." It may suffice here to say briefly, that in due course the *Orontes*, after touching at St. Vincent on February 25th 1865, for coal, left Porto Grande and the Bird Rock behind on the 28th, and anchored in Funchal Roads, off Madeira, on the 6th March, not reaching the Needles until the 14th March, when it was snowing as we came up the Solent, a novel sight to more than one native of tropical climes, who had read of, but never before witnessed the fall of snow from the sky. Our welcome to old England was decidedly a cold one, and as most of our men had been long in tropical climates they all felt the change keenly. By evening we were alongside the jetty at the dockyard, and I may briefly dismiss the account of our disembarkation and march to the Gosport Forts, then but lately completed. They had been the pet hobbies of Lord Palmerston, and only two days before his death, five months previous to our landing, he had ridden round to inspect them. Of course the brigade was inspected by the General, and you can imagine the brigade of old soldiers as they attempted to march past. We had batteries from China, Ceylon, Australia, Mauritius, the Cape, and St. Helena, mostly time-expired men, and our appearance was what might have been expected. We were

ordered to drill morning and night, with a threat that all leave would be stopped, &c., until we made a better appearance on parade. Utterly ridiculous proceedings, as within three weeks we discharged something like 400 or 500 men, whose time was up, and the brigade was filled up with recruits.

Another noticeable change was soon also apparent in the brigade. We had been starved of officers whilst abroad, hardly more than one or two per battery, but directly we arrived in England it was wonderful how popular this garrison brigade became, and every battery had its full complement of officers in no time, and curiously enough the brigade which relieved us abroad was denuded of its officers. This remarkable phenomenon I have noticed repeatedly.

The battery in which I served was sent over to the Isle of Wight, on detachment in Sandown, and there we passed as pleasant a time as it is possible to imagine at the old barracks at the top of the village, for the forts were not then sufficiently advanced to be occupied. Pic-nics on the Landslip and in the America Woods, and a brilliant yachting season in the Solent, made that summer a most enjoyable one. The French Fleet came over to Spithead that year, and the Admiralty gave a grand ball at the College in the dockyard. The winter was mild, but the early part of the year 1866 was stormy, and we had some wrecks to enliven us up on the island.

According to Heinrich Heine the Isle of Wight is infested with witches, who attempt to delay the passing ships, and inveigle them by winds and currents against the rocks, in spite of the Klabotermann, the invisible guardian angel of the ships. His favourite fancy is to sit on the top-sail, whence his voice is sometimes heard, and at other times he is heard hammering in the hold of the vessel. Hence the origin of Longfellow's verses:—

“ And one was spinning a sailor's yarn  
 About Klabotermann,  
 The kobold of the sea; a sprite  
 Invisible to mortal sight,  
 Who o'er the rigging ran.  
 Sometimes he hammered in the hold,  
 Sometimes upon the mast,  
 Sometimes abeam, sometimes abaft,  
 Or at the bows he sang and laughed,  
 And made all tight and fast.”

\* \* \* \* \*

“ And woe to him whose mortal eyes  
 Klabotermann behold,  
 It is a certain sign of death!  
 The cabin-boy here held his breath  
 He felt his blood run cold.”

One vessel, the *Sauvegarde*, ran right on the rocks under Dunnose, during a bright moon on a calm night in May, with all sail set, evidently the work of the witches.

In this year the then unique turret-ship *Miantonomah* came across the Atlantic, and lay for some time at Spithead, the cynosure of all the nautical world at Portsmouth, and many would not believe she had come across unassisted.

This summer we were sent to Shoeburyness, in order that the battery should go through a course of instruction, and on our return we formed one of the head-quarter batteries at Fort Brockhurst, where the principal remarkable event that season was a wonderful shower of meteorites on November 13th, the grandest display ever recorded of these Leonids.

Garrison life was getting monotonous, when I was asked to join an exploring expedition through Central America, and after some trouble in obtaining the necessary leave of absence at the Horse Guards, mainly through the kind instrumentality of the late Sir Roderick Murchison, I was able to make my preparations to join the party then forming. Captain Bedford Pim, R.N., and John Collinson, Esq., C.E., were interested in the promotion of a transit railway route through Mosquitia and Nicaragua, and it was to assist them in making the preliminary surveys that I was proceeding to the West.

It was very cold at the end of the year 1866, and we had capital skating on the moat round Fort Brockhurst for several weeks together. We had steps cut in the bank from the windows of the mess ante-room down to the ice. Open house was kept from luncheon-time to dark, and as soon as it was dusk we had dancing till dinner-time. A jovial, merry Christmas time we had at Brockhurst in 1866.

January 16th, 1867.—Train from Gosport to Southampton, and after a steak at Radley's go down to Sholing to skate till dark, when I returned to Southampton to complete minor purchases for the voyage, and get the agent, Thomas Hill, to ship my baggage on board the West Indian mail steamer, *Tasmanian*. Not the least useful purchase was a small medicine-box, made up particularly for travellers, and which afterwards proved invaluable.

January 17th.—At 11.30 Major H. Edmeades, R.A., came up by the 9.18 train to see me off, and we both proceeded by the tender from the docks at 11.30, off to the *Tasmanian*, a fine long steamer, then lying in the stream off Netley Hospital.

A little distance below was the *Plata*, lately arrived from the West Indies, and in quarantine; the yellow ominous-looking flag at the fore was unpropitious, and we were told that sixty deaths from yellow fever had occurred on board of her during her homeward voyage. Some of her passengers and crew were on board the *Æolus* and other hulks on the Motherbank off Ryde.

It was bitterly cold as we paced the deck after luncheon on board; the only amusement was to watch the passengers from the shore coming on board. We were rather startled by the arrival of a number of sisters of charity with several hundredweight of baggage, all inscribed "P.L.S.," very conspicuously. These initials we afterwards discovered meant Priscilla Lydia Sellon, the famous Miss Sellon, of Exeter, who was bound for Honolulu to establish a branch of her conventual order in that distant settlement. Edmeades, having bid me adieu, went off in the tug, and at 3.20 we got under weigh, and by the time 4 o'clock dinner was over we were passing the Needles and tossing in the Channel. Among our few passengers were Lieutenant-Colonel Mockler and his wife, and one or two other officers of the 16th Regiment and West Indian Regiment, Military Store Department, and

I was also pleased to find Staff-Commander Frank Inglis, R.N. (an old shipmate of mine on board the *Gorgon*), was on board as "mail agent."

The first day at sea was fine, and everyone in good spirits. The *Tasmanian* was a comfortable ship, very long, 2,445 tons, and 550 horse-power, and commanded by Captain Leeds. She has since been lost at sea, quite recently, I believe. Next day, however, January 19th, the barometer fell seven-tenths during the night, and we found ourselves met by a serious depression of the atmosphere, with ugly sky, and in the morning encountered heavy seas. The ship rolled so that few were at breakfast, and taking a bath was difficult; at noon we were 831 miles from Terceira, barometer falling 28.56, and at midnight we were passed by the centre of the cyclone. Heavy cross sea. The next few days we were in for a hard gale right in our teeth, so that we did not make much progress, passing Terceira on the night of the 23rd.

On the 24th of January, Thursday, just a week after leaving Southampton, at eight bells, the boatswain, who had been confined in the sick bay with delirium tremens, ran up on deck and jumped overboard.

"So by a calenture misled  
The mariner with rapture sees  
On the smooth ocean's azure bed  
Enamel'd fields and verdant trees:  
With eager haste he longs to rove,  
In that fantastic scene, and thinks  
It must be some enchanted grove,  
And in he leaps, and down he sinks."—SWIFT.

With such a heavy sea running, there was a great difficulty in lowering a boat and picking up the body; the steamer, however, was brought round, close to where the body was floating face downwards, and we saw the body hauled into the boat close under the counter. Just as the body was hauled in a huge white shark rose at it, and if it had only been a few seconds sooner would have seized its bait. With some danger the boat was brought alongside and hooked on the davits, but there was no possibility of resuscitation, as life was extinct, and the corpse was re-committed to the deep the same afternoon. This was 2,132 miles from Sombbrero, and the shark must have followed the ship some distance.

We had now passed the Azores, which generally mark, at least in summer, the south-east trade winds, or at all events the limit of the variable; but we experienced unusually severe south-west gales. To-day we were followed by a few kittiwakes (*Larus tridactylus*), and stormy petrels\* (*Thalassidroma pelagica*). The only vessels we had passed hitherto were small Portuguese brigantines trading to St. Michael's for oranges, and they seemed like corks tossing along the enormous waves of the Atlantic. We hoped that the victim

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\* Mr. Forbes has classified the petrels, basing his classification upon those collected by the *Challenger* Expedition. He divides them into two main families—the *Oceanitidæ* or Oceanic Petrels, with four genera and seven species; and the *Procellariidæ*, divisible into three sub-families of albatrosses, diving petrels, and true petrels. He considers the petrels as probably much modified descendants of some ancient form related to the ciconiform birds of Garrod, viz. the storks, American vultures and their allies.



sacrificed might appease the spirits of the deep, but we were disappointed, for it blew harder than ever, and on January 26th it was a regular tornado. The ship pitched bows under, shaking all over. The bowsprit was broken short off, leaving only the stump inboard. The seas as viewed from the bridge were splendid. It must be this portion of the sea which our Gallic neighbours term *Le trou de diable*. The captain said he had never made a passage in the teeth of such a storm; not but what all captains say the same on such occasions, at least such is my experience. Everyone complained of aching legs, for no one gets any rest even when turned in one's bunk. In the saloon there was a general subsidence, every one regarding everybody else as a Jonah.

At last fine weather made its appearance on Sunday, 27th, in latitude  $32^{\circ} 35'$ , longitude  $37^{\circ} 37'$ , when the sun shone, and lustrous emerald crests capped the indigo waves around us. How delightful the warm weather of the tropics appears after leaving the wintry seas of the Northern Atlantic in January!

Whilst yet in latitude  $30^{\circ}$ , on the 28th, the thermometer rose to  $70^{\circ}$ , and before reaching the actual tropic we came across the familiar flying-fish, which one never tires of watching, as they dart with such wonderful velocity out of the waves without any regular apparent flutter of their fins, which, however, must be in rapid vibration. According to naturalists, their pectoral fins do not act, as is generally supposed, like the wings of birds, but in reality the aerial movement of the *exocetus volitans* is the spring imparted to the body by means of extraordinarily strong side muscles. Their peculiar formation of mouth enables it to carry water during its flight in aid of respiration.

"Far o'er its face the dolphins sported on,  
And sprung the flying-fish against the sun,  
Till its dried wing relapsed from its brief height  
To gather moisture for another flight."

These flying-fish of the equinoctial zone are borne by their predilection for the warmth of the water of the Gulf stream far to the north of the temperate zone.

*Tasmanian*.—N. lat.  $23^{\circ} 0'$ , W. long.  $55^{\circ} 37'$ .—January 31st. During a voyage through the tropics (to-day we have just crossed Cancer), sunrise and sunset are ever subjects for contemplation; not only are the actual points of sunrise or sunset the scenes of glories unsurpassed in beauty and brilliancy of colour, but the exactly opposite points of the hemisphere are equally interesting, if more subdued and oftener more complicated in their succession of tints. Rays similar somewhat to those of the aurora will be traced almost to the zenith, whence they contract to the east and west horizon; "les rayons de crépuscule" as the French call them, and "Buddha's rays" by the Cinghalese. These must not be confounded with the "sun drawing water" and *le bouillon qui chauffe* which phenomenon is caused by the rays of a higher sun through storm-clouds on the horizon. From Sombrero 512 miles. It is an absurd error, although a popular one, and to be found in most astronomical works, that the zodiacal light is best observed near the equinox, as last year, 1866, Lassell observed it brightest at Malta in February, as also did Father

Secchi eleven years ago (in 1856) at Rome, when he described it as *Un grande spettacolo*. During these few days we observed this light particularly well.\*

*Tasmanian*.—N. lat.  $20^{\circ} 28'$ , W. long.  $60^{\circ} 0'$ .—February 1st. Fine trade-wind abaft, spinning along at over twelve knots. Read Staunton. Play chess with Captain Leeds, and am altogether overpowered. From Sombrero 225 miles.

*Tasmanian*, St. Thomas.—February 2nd. Pass Sombrero Key about 6 A.M. Small low island, the eroded remnant of an atoll, remarkable as the site of an extraordinary find of the fossil remains of extinct colossal land-tortoises, a link between the Chelonians of the Galapagos Islands and the Mascarene turtles. It has only some three miles' circumference. Of all the odd, wretched, rugged-looking little islands that are stuck here and there in the oceans of the world, Sombrero is the oddest I have seen. It is about a mile in length, and a quarter in breadth. It is nearly wholly composed of phosphate of lime; and 430 men, inhabitants of St. Martin's, under the direction of Mr. J. Corfield, are employed quarrying and shipping this valuable commodity, in the interests, of course, of a company. It has also a fine lighthouse, which is of vast importance to ships entering and leaving the Caribbean Sea. It is a remarkable fact that there is not a woman on the island. Ships loading with sulphate of potash from beneath the guano—subject of dispute with Americans—the Company pay English Government £700, and make £7,000 out of it.

Next Virgin Gorda, highest of the Virgin isles. Squalls. Reach St. Thomas about 2 P.M., and do not enter further than quarantine station. About ship and around a point to anchorage in Little Krum Bay, separated from the real harbour only by an island and rocky ledge awash. Here we find the *Danube*, *Mersey*, and *Eider* steamers; the *Mersey* ready to start off. The *Mersey* comes alongside and takes passengers and cargo for the Windward Islands, and the *Danube* is to go on to Jamaica and take us in there. Afternoon and evening transshipping goods, &c. to the *Mersey*. Half the passengers leave us here for the islands, and we all go on board to inspect the steamer's accommodation, &c., and in the evening take our grog on board the *Mersey* and say good-bye to our friends. Send letters to be posted and sent *via* Martinique. Major Newdigate, 60th Rifles, comes on board to join his brothers; at first, difficulty about him on board as passenger, on account of quarantine laws, but Captain Leeds is civil enough to stretch a point and to allow him a passage.

February 3rd, 1867.—Leave our snug anchorage in Little Krum Bay before breakfast, preceded by the island steamer *Mersey* on her way to Barbadoes, and by the *Danube* steamer, which went on in advance to Kingston. The *Tasmanian* steamer proceeds through the Gregory Channel to the anchorage of the quarantine station outside St. Thomas's Harbour. Here I take a sketch of the town and harbour. The coals are late in coming off, and doleful tales of the ravages from yellow-fever and cholera are repeated. The flags (most of which are yellow) are all hoisted half-mast in the town and shipping,

\* See Charles Piazzi Smyth's "Contributions to a Knowledge of the Phenomena of the Zodiacal Light" (1852).

and add to the gloomy forebodings and impressions. No church-service is held, as all hands are employed in transshipping cargo. Wolff, the Californian Jew, is very unwell, and is still more frightened than ill. Captain Leeds, who is no mean artist, criticises my sketch and adds a boat to it. French steamer, flying yellow flag, arrives; also an American steamer, by which we get news from New York, and, through Atlantic telegraph, later news from England. Coaling goes on all night, the niggers working for double pay on account of its being Sunday, and extra besides for working at night.

Cameron, the agent here, seems an energetic man, but immunity from Yellow Jack causes him to be rather too favourable in his reports and letters on state of health, and in his statistics only shows the number of deaths occurring actually in St. Thomas, leaving to obscurity those deaths which have been incurred before leaving here.

February 5th.—All day within sight of the south-coasts of St. Domingo. We ought to go into Jacmel, but we only sight Alta Vela, and, by express desire of the Mail Agent, we go on to Jamaica, rather to the disgust of our only Jacmel passenger, viz., my friend Dr. Henius.

A French transport, apparently bound for Mexico, under sail, keeps pace with us for some time, and finally crosses our bows. When she alters her course we soon leave her behind, but we were going fast, and doing over twelve knots. She turns out to be the *Gironde*, and is wrecked the next day (Wednesday, 6th) on one of the Kays, south of Kingston.

February 6th.—Blue Mountains and Morant Point in view by noon. About 3 p.m. we pass the White Horses and arrive through the channel between the Kays at Port Royal, where the *Danube* was in quarantine; whilst, for a wonder, we obtained pratique. Rooke and Sandes\* come off in the garrison boat and take me to Port Royal, the *Tasmanian* steaming on to Kingston. Rooke shows me the principal lions of Port Royal and we visit the Dygans. He has comfortable quarters as Governor of Fort Charles. Rooke, Sandes, and two (3rd West India) officers compose the party at mess in the evening.

February 7th.—Feel the sun hot before sea-breeze, the so-called "Doctor," sets in. After breakfast Sandes, Rooke, and I go in the fort boat to Kingston, have luncheon on board the *Tasmanian*, and then walk out shopping. See the women coaling the steamer. Return early to the fort, walk to the Point, and in the evening after mess go to the Dygans with Jamieson, the surgeon. The *San Francisco* steamer arrives from New York, bound for Greytown; she obtains pratique and passes on to Kingston. We watch her round the Point from the battery outside Rooke's quarters with some curiosity on my part, as I expect Captain Pim, Collinson, and his staff to be on board of her.

After I left Port Royal they had yellow fever very bad, and Captain Glascock was carried up to Up-park Camp almost dying of it. He ultimately recovered, I believe. Rooke's battery suffered severely, losing the battery sergeant-major and many others.

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\* Major W. Rooke, R.A., and Captain H. T. T. Sandes, R.A., now Adjutant, Yorkshire (West Riding) Artillery Volunteers.

February 8th.—The intellectual amusement of taking shots at a shaving-brush occupied us during a hot, lazy morning in verandah. Glascock comes to join the garrison, after breakfast, in the market-boat. At 2 P.M. the *Danube* is released from quarantine, and steams alongside wharf at Kingston. At 2 P.M. Rooke and I leave Port Royal and have a good sail down to the Company's wharf at Kingston, meeting *en route* the *San Francisco*, on board of which I quickly recognise Pim and staff of the Nicaraguan railway, bound for Greytown. Hail Pim, and exchange a few words with him and Collinson.

We reach the *Tasmanian* in time for dinner, and then go on shore with the Scotts for a drive; the traces breaking we come to grief, so we walk back by moonlight, and look in to evening service at the church. Previous bad impressions of Kingston confirmed. Sleep on board *Tasmanian*, but before we turn in the *Tamar* arrives outside; exchange signals by rockets and blue lights.

February 9th.—*Tamar* comes in from Colon, her only news being an increase of yellow fever at that port; woke early by donkey-engine transshipping cargo to *Danube* steamer, commanded by Captain Reeks. Before breakfast passengers transhipped to the *Danube*. Rooke stays to breakfast. About 10.30 we get under weigh, and wave our farewells to the *Tasmanian*, proceeding under steam to Port Royal, where we leave Rooke, whom Sandes comes out in the boat to fetch. Not many new passengers; two, an uncle and niece, very sea-sick and affectionate. Fresh trade blowing outside. Have distant view of the wreck of the *Gironde*, French transport, and the *Doris* frigate alongside it.

February 10th.—Distance made, 203 miles. Miss Lysaght is very ill, and her companions, viz. Miss Sellon and the Sisters of Charity, are most unkind in not believing how ill and weak she really is. It is the opinion of the doctor and all of us that she should not proceed further under Miss Sellon's so-called care; and the captain and doctor both gently suggest her return to England. The hot and sultry weather, with the wind blowing with us, has a very relaxing effect, and we fear Miss Lysaght is in great danger of becoming so low that she may never rally. When this is mentioned to Miss Sellon or any of her nuns or maids (for they all act as waiting-maids for her), they laugh, and say it is all Miss Lysaght's fancy, and that she will soon get over it.

All the officers and passengers, male and female, remark the selfishness of Miss Sellon as contrasted with the good nature of Miss Lysaght; and in our eyes the lay sister has much more claim to our respect than the lady superior, who has apparently grown too good for this earth, and looks upon all mortal men as sinful dust and ashes. I should like to have time and space to record a few of her many little meannesses. She is, out-and-out, the most selfish woman (sainted though she be) that I have ever met with.

February 11th.—Distance 190 miles; hot weather. Miss Lysaght is still very ill; at last even the charitable Sisters of Mercy begin to believe that there is really something wrong with her health; but Miss Sellon will not dispense with even one of her party who minister to her wants. When painting on deck, she has one sister holding a palette, another mixing colours, a second holding paint-brushes, a third cleaning them, &c., and any one or all of them running up and down at her bidding for a cushion, or stool, or some

luxury, always bowing low to her on approach and retiring backwards with curtsy, &c.; meantime Miss Lysaght is at the mercy of a black stewardess.

However, to-day, after strongest representations of Doctor and Captain, one of the Sisters is most ungraciously permitted to go and sit with poor Miss Lysaght. If Miss Lysaght dies, as is not at all improbable, I shall never cease to blame Miss Sellon for her heartless conduct; everyone on board fully appreciates her mixture of ostentatious piety and utter selfishness.

February 12th.—At 3 A.M. off Port Manzanilla; as it is not light our course is altered, and, accordingly, a sea washes into the port over where I am sleeping on the cushions in saloon, effectually awakening me up about 5 o'clock, in time to get my first view of the New World. The first piece of America which greets me is the mountain range of the Serro Llorana, 3,000 feet elevation, wooded to the summits. When we approach nearer we obtain a good view of the coast about Porto Bello forests, with overhanging mists; whilst by the time we have finished breakfast the steamer has rounded Punta Longarrenas and is well into Navy Bay.

Arrive at Aspinwall; some time in warping alongside the wharf. Go on shore and to Mr. Martin's office, where we consume iced *cocktails* with Captain Reeks. Too late to catch train, although in the evening the Newdigates succeed in getting across to Panama. I visit the manager of the Panama Railway\* (Mr. W. Parker) and get a free pass across the isthmus and back. In the evening walk with the Scotts and Inglis round the point, by the church on the sea-shore.

Aspinwall is a filthy town, of no pretensions whatever. The railway company is all potent here. The settlement is barely protected from the north by a slightly projecting coral reef, on which is a light and look-out station; it is of made ground, on which stand warehouses, with five projecting piers of wood, stone, or iron screw-piles. Northern one, Railway Company's wharf; next Liverpool Company's; then Royal Mail Steam, iron; Railway Coaling Wharf and American Pacific Company's wharf; iron-foundry and workshops; Boston Ice Company. At Point is Mess-house, Railway Company, Martin's house, Hospital, sheds, fine warehouse, Martin's iron office, Harbour-Master's, West India and Pacific Steam Company's office. Billiard-rooms—Hôtel de France and Howard House the most reputable; behind, filthy dens and slums; stagnant tidal-pools and swamp everywhere else. French Consul's house is building.

Everybody looks fever-stricken, and may well do so, as the climate is deadly from the miasmatic vapours which are exhaled from the swamps and stagnant marshes, but half filled in, without drainage.

There is no railway-station, the trains starting from the street. The locomotives are of peculiar build and form, some having most absurd-looking balloon-like chimneys. The

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\* Mr. William Parker, Superintendent of the Panama Railway, was subsequently shot in his office, in the presence of several other employés, on September 24th, 1868, by Mr. J. L. Baldwin, an engineer of the line, who then shot himself. Parker died on the spot, and Baldwin was in a dying state. He was believed to have been suffering from delirium tremens when he committed the murder.

carriages are very long and hang on two pivots, each pivot on four wheels, and when in motion the body of the carriage swings and sways easily. The object of the two sets of four wheels is to enable the carriage to turn sharp corners. The engine fires are fed with wood, which heaped over the engine gives it a quaint appearance. A bell is kept constantly ringing on the locomotive as it passes along to warn the passers-by in the street. Everything is of a very rough-and-ready appearance, and there is a very little attempt at show. In front of the engine is a projecting iron grating, a "cow-catcher," to clear away cattle or anything from the line, which is nowhere enclosed as in England. There is only one class for all passengers; and the price of the journey of forty-seven miles is twenty-five dollars, or £5, across, and 2½d. for every pound of luggage.

February 13th.—Accompany Miss Lysaght to the railway cars. She begs me to attend on Miss Sellon, but I insist upon accompanying her; she is so weak that she is unable to walk all the distance without resting, although it is only a few yards, perhaps 150.

At 7 A.M. we started for Old Morgan's Panama, the "town of gold" of the old filibusteros and pirates two centuries ago.

"Then down we marched on old Panama,  
We the mighty buccaneers."

Morgan, the Welsh buccaneer, left Chagres with 1,200 men on the 18th of August, 1670; he reached Panama in ten days, which he at once attacked and sacked.

All the passengers for the Pacific side were in the train by 7 A.M. The last two cars only were for passengers. There was plenty of room, and the car nice and airy; you can walk from one car to another. The train was a long one, the other cars containing cargo, freight, &c. The curves are very sharp, and looking from the after car you see the engine and foremost cars doubling round a corner as if it was impossible to follow where they led. I went free, having a complimentary pass signed by William Parker, to Panama and back "at owner's risk of casualty" on it!

Leaving the swamp we stopped a few miles on to lay in wood fuel for the engine, and here first saw the turkey buzzards seated about perched on posts and dead trees watching for carrion. On either side of the line are numbers of graves, old and recent, the remains of the labourers, Chinese coolies, and others who constructed the line. It is estimated that there is a body for every sleeper along the route. There will be many more before the excavations for the canal are completed, as disturbance of the soil is always found to produce deadly fever by releasing noxious gases which constitute miasma.

We were soon again on the track, never very fast, stopping every four miles at the track-master's bungalow, very neat little houses with shrubs, orange-trees, limes, roses, &c. about them. The line ascends for the first 37 miles to 263 feet above the sea, and descends to the Pacific the remaining 10 miles. The forest scenery is charming, and reminded me of the woods in Madagascar—palms, palmistes, and the palmetto, bamboos, and wild plantains. One forest tree, covered with yellow blossoms, a mass of golden flowers, was very

conspicuous. Deep-coloured creepers of magenta hues like the *Ipomæa* clustered here and there. Lovely creeping ferns of every imaginable delicate shape garlanded the palms and larger timber trees. Orchids in large bunches especially selected the decayed branches of dying trees, and it was tantalising to obtain only a passing glance of some extra gorgeous orchid, such as an *oncidium* or *odontoglossum*. Acres of a large species of *osmunda* were passed, and I picked up the silver fern growing, under the very rails of the permanent way. Butterflies of brilliant hues there were plenty of, but the birds were not so numerous to view as I expected. Still there were plenty of euphonias, orioles, tanagers, and parrots.

We arrived at Panama at 11 o'clock, after four hours, and proceeded to the Aspinwall Hotel there. Panama is a regular Spanish town, and similar to any old Spanish town of the south of Europe. Remains of fortifications, cathedral, Jesuit colleges, and churches, ruinous buildings, &c. Tiled roofs, verandahs, and jalousies are predominant. It was very hot in the streets. From the southern extremity of the town seawards there is an enchanting view of wooded promontories and islands. There were a pretty marmozet and two miniature lion monkeys that I saw, besides several jaguar-skins in the shops.

Returning to the hotel I breakfasted, and at 1.45 p.m. walked with Colonel Newdigate to the railway-station, where I again mounted the passenger-car; and as it was a special train, we spun along and did the whole passage back, only twice stopping in two hours, so that I got back to the ship in time for the 5 o'clock dinner. I was never less fatigued with a ninety-five miles-railway journey, and altogether my health is much better than when I left England; I really think that heat agrees with my constitution. Both Panama and Aspinwall were reeking with the pestilence, *febre amarella*, so that we were not anxious to prolong our stay on the isthmus, although some enthusiastic optimists would have one to believe that it is the finest climate in existence.

M. Lesseps has found out by this time how deadly the miasma is along his projected canal route, as already several of his staff have succumbed to fever since the commencement of the preliminary survey. The mortality whilst the excavations are in progress will, I fear, be beyond all precedent.

February 14th.—By breakfast-time we get under weigh, and, with a nice breeze from north-east, feel the atmosphere cooler and more healthy. The vessel seems much quieter, and empty now of all the passengers except Dr. and Mrs. Grand, or Grant, a French-American adventurer and his wife, and a Caraccas Spanish Colonel, Del Olio, who is always boasting of his warlike achievements, wounds, and bravery, till I begin to suspect he is a coward. Sea-sickness makes him roar aloud, so that he disturbs us at dinner, and the Captain kindly sends him some curry, the sight of which brings on a relapse.

February 15th.—After eight bells steered in towards land, which was very hazy and difficult to make out. Latitude was out, so made the coast, not far from Monkey Point, and had to put back, coasting, so that it was some time before we distinguished the few houses and low-lying town of San Juan del Norte, or Greytown. We had to anchor about 3.40 p.m. at least a mile outside the bar, which was bad, a heavy surf breaking, we rolling considerably. A mail agent came off in canoe, bringing me a note from Captain Pim,

telling me to land at once, if possible, with my traps. The man in charge of canoe refused to take me; and consequently I stopped on board, and had, at all events, a much more comfortable dinner and bed on board than I should have had on shore. As I was about to quit all luxury for some months, I was not sorry to have one more night's comfort. In consequence of recurrence of fatal accidents, the boats of the R.M.S.P. Company are strictly forbidden to leave the ship on any pretence, however calm; so that passengers are wholly dependent on the canoes and lighters from the shores.

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## CHAPTER II.

River San Juan.—Junction of Colorado River and San Juan River.—Machuca.—San Carlos.—River Frio.—On the Anna Maria Rock.—Bay of San Miguelito.—Lake Nicaragua.—San Ubaldo.

FEBRUARY 16th, 1867.—Up by daylight, and, after bath, to breakfast. The Vice-Consul Paton came off in a canoe; on the Captain asking him, he took me ashore. Landing about 8 A.M. I found Pim at Hollenbeck's, and learnt we were to start that afternoon up the river. Breakfasted with party consisting of Collinson, Pim's coadjutor, and Deering, his engineer, also Colonel Richard Maury (son of Commodore Maury, U.S.N., of geographical fame), nice little wife and child. They are going out to Chontales district to take charge of the Javali Mine, belonging to Central American Association. Permit obtained for passing traps. Canoe bought and christened *Sue*. Weather charming. Diggers here from Chontales Company's mine, going to England with gold. Dined with above party and a Colonel Del Olio at Mrs. Deziman's, where they are stopping. Pim at Hollenbeck's.

Embark on board the *City of Rivas* steamboat, drawing eighteen inches of water; stern paddle-wheel. On the River San Juan the Transit Company had several of these river-boats plying. Formerly they could steam right up the river, but at present they only ply between the rapids, causing frequent transhipments and consequent expense. It has been proposed to make artificial shoots to evade them, something like the Canadian *portages*. These river-steamers are built expressly for the purpose of traversing shallow waters. Their bottom is quite flat and divided into compartments, the first deck being only about eighteen inches above the water, from which it is divided by no gunwale. On this deck is the driving machinery—the vertical boiler and furnace in the bow and the horizontal engines in the stern, over which projects a huge paddle-wheel whose floats only dip the water for the depth of a foot. Above this deck is a platform on which are the passengers, with wooden pillars supporting a superstructure or hurricane-deck. The appearance of these huge, snorting, floating houses with their tall steeple-engines, and vomiting clouds of smoke with sparks from the wood fuel, has a peculiar effect as contrasted with the primæval scenery through which the river winds its tortuous way.

Get under weigh about 6 P.M., and proceed, with bright moonlight, up the narrow branch of the River San Juan, steaming all night; now shoving-off with *polancas*, now

backing off sand-bank, now running alongside to load with wood fuel. The haunts of alligators and their vicinity are frequent and easily perceived from their peculiar scent of musk; weird wood and forest scenery on either side. We sling our hammocks where we can. Thirteen Caribs and cook engaged to accompany expedition. The Mosquito-Indian Abraham, forms a most romantic attachment to Mrs. Maury. Chat with Southern colonel. The boat is badly provisioned, or rather not provisioned at all, and all passengers are supposed to bring their own provisions with them. Fortunately we were tolerably provided with rough-and-ready victuals, and plantains, *frijolas*, *tomales*, and maize can be purchased at the numerous halting-places *en route*. The *frijolas* are stewed like haricots, and also make a good *purée*.

We were now in the Laguna de San Juanillo, but by midnight were again in the creek which joins it to the main river.

February 17th.—Velocity of current, one mile to one mile and a half per hour. Woke at daylight and find that our raft-like steamer is moored to a tree, a simple and effective method. Bathe by means of a bucket, as alligators preclude idea of a swim. Get under weigh, or rather let go of the bushes, leisurely after breakfast, but soon stuck fast on a bank, and we have to transfer cargo and passengers to lighten the boat as far as the junction of the Colorado. The ladies are put into the sole canoe (viz. Dr. and Mrs. Grand, Colonel and Mrs. Maury), as it goes faster; and we, viz. Pim, Collinson, Griffiths, Fairbairn, Deering, and self in a lighter, under sail with dingy in tow; Colonel Del Olio steers. Very hot sun. On either bank are magnificent trees, with creepers, suspended birds' nests: numerous islands and snags in mid-stream, but few clearings. Visit one of Engene Costa's, in which are planted plantains, limes, cacao, and coffee. Notice plenty of traces of alligators.

Arrive at the Colorado branch at the head of the delta, and at once go on board the *Managua* river steam-boat, commanded by Captain Parker; his wife on board. He is one of the few people who have been up the River Frio. Lovely moonlight. Dinner off salt meat, warree, and ham. The flesh of the warree anything but so tender and savory as Samuel A. Bard would have us believe.

Comforting assurance that if you do this or that you will be sure to have *Calentura*, i.e. the fever; in fact, whatever you do you will be sure to get it. Fever-stricken look of the few settlers along some of the clearings. Low marshy banks, &c. See Mark Tapley's "Voyage up the Eden"; might be the identical river, as far as description goes.

February 18th.—After a wash by means of a bucket (emptying several over me over the side), set to work fishing, and, after a short time, hooked a *savallo* of about two and a half pounds. Colonel Maury catches another. Breakfast off more salt wild hog and salt salmon; *savallo* doubtful! Get my first shot at an alligator across the stream, 300 yards. Make up cartridges.

Go up the river with Collinson and Colonel Maury in canoe. Shoot a kingfisher and a heron, or rather egret. Capital close shot at two alligators, which splash into the river, and no mistake, when they feel the Enfield bullets. Lovely tree-ferns on bank

with numerous species of palms, whilst on the bushes, overhanging the stream everywhere, are large and small green iguanas. We paddle back to dinner on board: more salt provisions; scouse or soaked biscuit, tomatoes, and good Californian potatoes make up the bill of fare.

Towards evening the flats come up slowly with rest of cargo, and the *Cora* remaining, we get up steam and go off after dinner. It is a lovely evening with a glowing sunset. Colonel Maury has a couple of shots from my rifle at the alligators, which seem pretty plentiful about here; whilst Dr. and Mrs. Grand amuse themselves with pistol practice on the hurricane-deck.

On board the *Managua* there were merely shelves put up for sleeping accommodation, in three sets of tiers. Although I carefully arranged my mosquito-bar (Yankee term), still all through the night my, as yet unaccustomed, flesh was made a meal of by divers insects.

Above the Colorado branch the river is broader, more rapid, and deeper; in fact, it is actually navigable; and this is the route generally in use by the American steamers.

February 19th.—Machuca. Halt about 4 A.M. below the rapids. Heavy mists hanging about the trees, and everything dripping wet. Plenty of fish. Lose my line and hook. Canoe alongside with turtles' eggs. Transhipped to *Cora* steamer, a smaller one, above the rapids, the baggage going in canoes, and most of us walking round the point, where a path is cleared for the purpose. On the bushes are small scarlet frogs. Little girl on board very ill. Islands formed in river by wrecks of steamers. Remains of one blown up with filibusters on board are pointed out. Reach Castillo Viego and sketch. Number 2 dinner on shore; fish from shore. Walk up to Nelson's Hill by the fort. Strong rapids at bend of river. The *Cora* steamer goes back to Machuca to fetch remaining cargo. We sling our hammocks at rather close quarters in a hut, called by its proprietors an hotel.

The *Cora* arrives after dark, and the *City of Leon* steamer arrives before morning. Above us are Macaws flying at great height in pairs; screaming noise. Various water-fowl, herons, *garzas*, egrets. Shallow water and twisting river; bends in short reaches. Thick woods. Hot sun. The little girl's attack of illness has strong symptoms of cholera; she is very bad, and almost dead during night, but, by application of strong remedies, she recovers. At the very ends of boughs, where the twigs cannot sustain the weight of a monkey, are, on the highest trees, pensile nests, nearly a yard long, of the crested cassique, or oriole (*Cacicus cristatus*), about the size of, and as noisy as, a jackdaw.

February 20th.—Hammock uncomfortably slung. No mosquitoes, luckily, as our curtains could not be put up. Early breakfast, and go on board the *City of Leon* steamer, lying above the rapids. Goods transferred on trucks along a tramway. Get off at 7 A.M. and reach mouth of River Savallo about 10 o'clock. Pass the Toro Rapids. Shoot an alligator at twenty yards. Less wood and palms; more clumps of bamboo. After breakfast on board, go in boat up the River Savallo a few yards, and with Pim in front, cut a path with machetes to some hot springs (*aguas calientes*) that come bubbling up, steaming hot, forming a small marsh. Proceed under steam. Shores now flatter and marshy.

About dinner-time we sight Fort San Carlos, and steam into the lake round the wreck of a vessel, and lay alongside the *Tipitapa* steamer, a lake-going paddle-wheel boat. After dinner Pim, Deering, Colonel and Mrs. Maury in canoe, I and two Caribs in a dingy, pull to the fort and then across the San Juan and up the Frio River,\* of unenviable notoriety, for a few hundred yards; take a few angles, and, as it gets dark, return. See plenty of iguanas on the trees bordering the placid stream.

Return by dark on board the *Tipitapa*, and, getting under weigh, steer for San Miguelito, about twenty miles distant to the north-west. About 10.30 or 11 P.M. we make out the dim outline, through fog, of San Miguelito, and anchor, after sending boat ashore to ascertain that this is the place, for a few huts, invisible in the dark, is all that forms the village of San Miguel. We anchor about a mile off the shore, and, in spite of many discomforts, sleep well.

February 21st.—Up early. Deering, Collinson, Pim, &c., off early, mounted, to prospect. I wait and breakfast on board, then take Dr. Grand and Mrs. Grand, Mrs. Maury and child on shore. Captain Fish and myself then go off towards Bernado Island in a boat, so as to take soundings, and find the average depth to be thirteen feet right across mouth of bay. Lovely view of volcanoes, Madera and Ometepec to the south-west. Sea gets up, and we have a hard pull back to steamer.

In the afternoon go on shore, find the ladies of the party at Montenegro's house, where they dine. I take a walk through the woods, and make my first acquaintance with the Garrapata tribe. Pim comes back to supper, having fixed a good start, and Collinson comes to say good-bye, &c. Deering remains on shore. Griffiths and stores located in a house, hired, on the hill. Start off, steaming by moonlight, and in less than a quarter of an hour we strike on the Anna Maria Rock, to the great dismay and confusion of all. Various characters of those on board shown up. The loudest swaggerers (notably our fire-eaters Del Olivo and Dr. Grand) are most in a funk. Water comes in fast; a very bad hole. (Fate of Dr. Grand: see Monday, 9th of April.) Start off canoe to Castillo Viego with Captain Fish, for the *City of Leon* steamer to come to our assistance. Land the ladies and their husbands, Spaniards, &c. Occupied all night in stopping the leak and pumping. It is to be feared that it is a regular case of come to grief.

February 22.—Lie down about 1 A.M. in a bed prepared for Mrs. Grand, and sleep comfortably till broad daylight. Take bearings. Pumps keep the water through leak tolerably under. Fairbairn and Collinson came off in a canoe, and fetch some things. Sketch the bay. Captain Pim goes on shore after breakfast, and I go in a little boat

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\* The Rio Frio comes down from the interior of Costa Rica, and its inaccessible banks of impenetrable jungle are inhabited by tribes of Indians of whom little is known. They are called Guatusos, and are said to have fair, or at least red, hair, and to be generally lighter than the usual Central American Indians. Indeed, some go so far as to trace their origin to the buccaneers. Anyhow they are fierce and intractable, and many expeditions have returned with some of their party wounded by arrows from their unseen foes. The Guatusos are also said to inhabit trees, on which they form platforms, during the inundations to which their lowland country is subject. They use stone implements, bone hooks, &c.

and take soundings round the vessel; find the reef extends about two ships' length on port bow, line of San Miguel Island. Comes on to blow and squally. Land all our luggage and stores.

Go on shore in the afternoon, and take up quarters in the house hired by Collinson. There is a slight partition, behind which Mrs. Maury establishes herself, and we swing our hammocks in rather close quarters, and some sleep on the ground. The *City of Leon* steamer arrives about midnight. Mosquitoes rather annoying. A bongo hired, and, as it is very leaky, we have it patched up. The Spanish Colonel and Dr. Grand try to outbid Captain Pim, and have great quarrelling among themselves. Mr. Deering already at work with his level. The cholera has more than decimated San Miguelito, so that there are several houses empty. All the doors have prayers on paper fastened on them to keep the cholera out.

February 23rd.—Loading the bongo and canoe both nearly to water's edge. Colonel and Mrs. Maury sail with Fairbairn in the bongo about 11 A.M., with fair wind, for San Ubaldo. Captain Pim and self about noon, in the canoe, communicate with the *Leon*, and have the happiness to see the steamer *Tipitapa*\* got off the rock, and both steamers steam away for San Carlos. Wind on the quarter, we rip along at five miles an hour; gunwale almost under, but our heavy load renders the canoe stiff. Crew, Thomas and Julio. Much burnt by sun, although rather cloudy. Fine clear evening, with brilliant sunset effects behind island of Madera and Ometepec two volcanic cones. The island of Zapatero is also visible in the evening. The bongo's sail is just visible in front of us all the way, and we slightly gain on them. At night we make fast to an island, one of the Nanzital group, light a fire, and have dinner on shore. Captain Pim and self then sleep in the pirogue, and Thomas and Julio on shore. Various queer noises of birds and insects. All kinds of water-fowl and duck abound on the shores of the lake. Few, if any, kingfishers, for America is the poorest part of the world for kingfishers. No visible signs of sharks or alligators. There is no doubt but that sharks do exist in the lake, and traverse San Juan from the lake to the ocean. Similarly the alligator is found in fresh and salt waters, and later we saw numbers.

February 24th.—Moon rises, and at 3 A.M., by its light, we leave our bivouac on the Nanzital and hoist sail. I sleep most of the way, until we arrive at San Ubaldo, about 8 A.M., where the Maurys have previously arrived at midnight. I get a bath, and we all breakfast under a large stone shed, substantially built, with a tiled roof. In the little bay lie scattered pieces of machinery, awaiting transport to the mines, distant some thirty miles.

Captain Paul, the captain of the San Domingo mine, is fortunately here, and is able to escort Mrs. Maury, with her husband, up to Javali. Poor little Mrs. Maury is plucky enough, and was present at many battles in the south. She is a regular Southerner, and

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\* Before leaving the bay the unfortunate *Tipitapa* again got on shore near the San Miguel Island, but again came off, scathed, and steamed to San Carlos, where she was soon put in trim for the lake passage.

very outspoken with her sentiments. Her courage, however, failed her on her journey up to the mines, and she was utterly broken down before reaching Javali; and, indeed, well she might be, for a more heart-breaking road I never met with in all my life.

After the Maurys leave we re-embark in the good canoe *Sue*, now furnished with a larger sail; in fact, about as much as she can carry. Off we go, considerably lightened, no chairs or sherry, more sea-room, and a fresher breeze, before which we scud, taking in water; wet through and through to the skin all over, and baling. By sunset wind goes down, and we stop at an island called Polena, just beyond the islets Muertos. Good view of Mombacho, the volcano near Granada. We sleep in the canoe, and in the stillness of the night are only disturbed by the hideous noise of the alligators.

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## CHAPTER III.

Leave Lake Nicaragua.—Halt at Tipitapa.—Sail across Lake Managua.—Swamped.—Crater-lake of Tiscapa.—Ride to Leon.—Examine line from Leon to Realejo.—Volcano of Momotombo.—Temporales.

FEBRUARY 25th.—Under weigh at 4 A.M. by light of the moon. Bitten by insects, and not much refreshed. Fine breeze. Try northern entrance of Malacatoya River in vain, so try back and take southern entrance to Los Cocos. Lagoon formed by sand-bar. Scare an alligator as we pass the village of Los Cocos, and up the river to ferry-house on north side of river, on the highroad between Granada and Chontales. Breakfast at Paso Real, the Royal Ferry, getting good Tiste (chocolate, maize, and water). Snooze in hammock. Off again in canoe up the river Tipitapa. Alligators; first monkeys. Forest scenery similar to San Juan river; less traffic. Derbyshire's hacienda, and clearing hall at a hacienda below the falls. Hire a carreta, with four bullocks, to transport the canoe and baggage beyond the falls. Everywhere is Brazil wood cut down for sale. Plenty of horses and cattle, but few sheep. Children hunting iguanas. Dine off tough fowl, and two bottles of Fairbairn's invaluable beer, of which not much remains. Walk through woods in the evening. Shoot an iguana and a black monkey (*Cebus albifrons*), with white face and neck, a handsome animal; give both to the guide, as my apparatus for preserving has never turned up. Wound a quail, which escapes. Come to remains of an old bridge built by Spaniards below the falls; wooden upper works repaired by Nicaraguans. Good view of the falls. Curious sulphur springs close to bridge, on the right bank of river. Halt for the night at Tipitapa village. Sleep on ox-hide bed. The universal admiration of natives is excited at looking down the bright barrels of the breech-loading gun. Universal search of inmates for jiggers, garrapatas, and pinobillas (candle in hand) before turning in. The garrapatas are the larger, and the pinobillas the smaller ticks which infest the bushes universally throughout the Central American region.

February 26th.—Up at daylight, and bathe in the Falls of Tipitapa. Afterwards examine sulphur-springs, which bubble up on the right bank of the river close to the bridge, and incrust the rocks, sticks, and leaves with sulphur; the water boiling hot, flowing into the river. Sketch the falls from the bridge, about fifty yards below the falls, which are about twelve feet high. Drove of cattle driven in across the bridge. Picturesque costume

of the Vaqueros. Humming birds for the first time, very tame. Tame brown monkey with black ugly face. Talking parrot, imitating cries of Vaqueros. Fowls pecking at a dead armadillo brought in by the herdsmen. Mules with packs. Embark after breakfast, and run against rock; intricate passage. Black lava field and dark iguanas, called chuli, on opening the lake of Managua. See the volcano of Leon in front, and Momotombo to the right of it. Carry away boom. Squalls. Running before the wind. High seas. Ship green water. Baling out, and only just in time reach Managua, where we are swamped in the heavy surf, and wet through in shirt and breeches. General dread of cholera, and dull appearance of Managua, Plaza, Cathedral, Barracks, adobe houses, our dwelling apartment, cockpit dinner, &c. Procession to avert cholera. Churches filled with Indian worshippers and black priests. Pim goes to see Martinez, the President. Neighbouring room supposed case of cholera. Make up prescription for a woman who has had nothing to eat for six days. Tolling of bells. Thomas goes through vocabulary of Mosquito country. Howling winds. Send linen to the lavanderos. Sneezing fit. Congress not sitting.

February 27th.—Awoke by any amount of cocks crowing—the fighting-cocks being tied by the leg around the cockpit and round the compound; one old fellow in the centre. Bathe in a fine solid wooden washtub. Watch some tiny humming-birds opposite. In-doors nearly all day till about 2 P.M., when I walk with Captain Pim through the town, past the market and slaughter-house above the town. Cactus hedges. Out of the town by narrow road through uncultivated country; steep banks on either side. Various lizards. Up a hill, when we suddenly come on the deep lake of Tiscapa, evidently the extinct crater of a volcano, nearly circular, with precipitous sides, densely wooded. Women naked to waist washing. Drove of mules watering and cattle. Sketch. Notice red-crested woodpecker (*Celeus castaneus*). Captain Pim unable to finish his business with the officials, so have to stop over to-morrow. Linen back from wash; no attempt at ironing. Another procession in the evening. Buy pair of slippers and have my boot-toe mended for two dollars. Thomas and Domingo engaged in making a jib for canoe, and carpenter makes a rudder. New polanca provided for sprit.

February 28th.—Ten cases of cholera reported by Don Antonio during the past night. Visited by the Priest, Rafael Ramierez, before breakfast; show him breechloader, &c. Pack up after breakfast. Boys employed making alforcas and arranging tackle. See rudder fitted to boat. Don Antonia da Silva goes away to Masaya to meet the new President. Visit General Martinez at the Government House. This is his last day of being President of the Republic. The General shows us a magnificent eagle from the mountains of Segovia, which form a striking panoramic background to the lake of Managua as seen from the town. In the evening pack up a few things in our alforcas or saddle-bags, and put the bulk of our baggage away in the care of Senor Prospero, the hotel-keeper. Eagle above mentioned is the crested harpy (*Thrasaëtus harpyia*) or courageous eagle.

March 1st.—Off at 2 A.M., by starlight, across the lake in the canoe, as far as



Chiltepec promontory. The waters of the lake were calm and smooth, although rolling undulations were sufficient to make the boat unsteady. By daylight it came on to blow; the white curling crests soon appeared, and we ran as soon as possible, very wet and bailing, under the lee of the point. Here we put away for Mohabita, but a squall carries away mast and sail, &c., and we have to paddle hard to shore under a jury rig of the jib hoisted on a polanca. A slight bay gives us shelter to land near Nagarote; and here we light a fire, cook breakfast, and dry our clothes. I shoot a fine bittern, a squirrel, and a chuli or striped iguana. Sketch the active volcano of Momotombo from here. See a whole colony of white-faced monkeys. Of course get covered with garrapatas, which swarm in the bushes.

About 12.15 set sail again, the wind having moderated; and after a run of ten miles in about two hours, land in a heavy surf on the beach at Mohabita. Here we leave the boat with the pilot, and walk (Thomas and Julio carrying our traps, the mules not having arrived) through wooded country over a limestone ridge, on which is a deep well surrounded with tall cactus-hedge, where we hot and thirsty mortals are glad to drink; and, after about six miles, we reach Pueblo Nuevo. Put up in a comfortable home built of adobe or sun-dried mud-bricks. The streets are all at right angles, with tall pillar-like rows of cactus for fences. Two mules and a horse arrive for us before dark. The Plaza is enclosed for a bull-fight to-morrow, for which we cannot wait.

March 2nd.—There is a manufactory of pottery and earthenware jars at Pueblo Nuevo. Usual breakfast on tortillas,\* eggs, and frijólas.† Mount our mules and ride on the high-road to Leon, across a rising plain thinly wooded. Plenty of chulis, very tame lizards. Plenty of well-conditioned cattle feeding, but no signs of cultivation beyond an occasional plantain patch or a petraro with maize, now ready to be gathered. After three leagues we halted, and eat a few oranges. Several parties met us on their way to the bull-fight at Pueblo Nuevo; and we ride on through the same sort of country for four more leagues, when we arrive through a more open space of country from which we can see around for miles, from El Viejo to the north-west the range of volcanoes to Momotombo on the east.

Halt at a hut at a spot called El Convento; ask for tiste, but none to be had, so have to be content with water. The woman presents us with a fruit of delicate taste, which I had not met with before. It is called by the Nicaraguenses *Matasana* (*Casimiroa edulis*). Dr. Seeman has sent seeds of it to the well-known nurseryman, Mr. Bull, at Chelsea. The country here is fruitful and cultivated with sugar-cane, indigo, and tobacco with maize.

Another league across an elevated plain, mostly cleared, and with a magnificent panoramic view of the country all round. Sight the Cathedral of Leon, and soon on the town. Well paved streets, with gutter in centre, but no foot pavement. Plenty of

\* Tortillas are cakes—dampers made of maize.

† Frijólas—beans and other pulse.

churches. Ride through the Plaza and down the Calle Nacional to the café "Leon del Oro," kept by an Italian sailor. Morris is ill with fever at Mrs. Cauty's house. Quantities of small pigeons and doves, viz., *cola-larga*, *tortola*, and *carmelita*. Hedges of columnar cactus or *organo* (*cereus* or *pilocereus*) with *opuntias*, and varieties of melon-cactus, with plum-trees, sapotes (*Diospyros discolor*), sapotillas (*Sapota achras*), and *uvas* (*Ardisia coriacea*).

March 3rd.—Visit Mr. Morris, who is prostrated with fever, brought on whilst surveying the line from Castanon Bluff, the south-west extremity of Realejo Harbour. He and Sonnernsten have cut a piquet of 18 miles 900 yards, and chained, but not levelled it, in twenty-four days. Go to see one of the churches, and also the American Minister, Mr. Dickenson, wife, and married daughter; they are all very agreeable and pleasant, lately from the States, having come by the San Francisco steamer.

After dinner go up the outside roof of the Cathedral, and make a sketch of the chain of volcanoes, the Marabios, from thence. Very hot all day. Cock-fighting greatly in vogue; dozens of people traversing the streets, each with a cock under his arm. Apparently much hotter than near the lakes; no refreshing breeze. Uncomfortable little old stable by way of a room, without ventilation. Max Sonnernsten, an ex-Prussian corporal, arrives from the cutting, with the two Caribs, Simon and Perry. Procession round the town, with music, &c., escorting the saints, and invoking their protection from La Peste, the cholera, which is so much dreaded.

March 4th.—Up at 4.30 A.M. After a hasty cup of coffee, leave by five, mounted—Sonnernsten, on large grey flea-bitten Rosinante, and a very Don Quixote himself in appearance, leads; Captain Pim, on a pretty long-tailed little horse, following; self on large grey mule, Perry on another, and our mozo carrying a maleta. After leaving the town, we pass through the suburban village of Subtiaba, with its ancient church and ruins of conventual buildings, the first built by the Spaniards on exploring the country. Enter the woods just as the sun is rising behind Momotombo's conical peak, a long narrow carreta track. Pass Rancho of San Cristoval; rather impracticable levels here. Plenty of parroquets chattering.

At 8.30 come to salt-lagoon near Pacific coast. Salt-works, evaporation in earthenware pots. Poor breakfast. Mangrove bushes and sand-bar. Watering-place of Los Salinas. Remains of boothies and shanties of straw and palm-branches, which were used as bathing-houses during the season just over. Bad water. Marshes. We next traverse eleven miles of hot burning sand. Great difference in tides. Distant rocks and breakers. Remains of turtles cover the beach. Reach harbour of Realejo. Opposite we see Corintho, and vessels at anchor. Ride back by sunset. Get caught in dark. No moon. Splendid phosphoric breakers of the Pacific rollers. Return and sleep at the salt-works. Captain Pim gives me up his hammock, as I am rather knocked up by the sun and bad water. Noisy natives on the roof above where I sleep. The manzanillo trees, on the fruit of which land-crabs are said to feed and become poisonous, flourish here.

March 5th.—Up at daybreak, and mounting our poor tired steeds, who had been hard

up for water all day since yesterday, ride back. At the first stream of fresh water our steeds are eager to drink, and felt much refreshed. Get a sketch of Subtiaba on my way back. Breakfast at the "Leon del Oro." Visit cotton-ginning machine of Deshon's, and go to see Mr. Morris, who is evidently much better, but not fit yet to be moved. Try to get to the top of the Cathedral, but cannot find the man who has the key, and so enter inside, where I witness a grand procession round the interior, and evening vespers. No music, as I had hoped to hear.

March 6th.—Some men bring in a squirrel (*Sciurus aestuans*) for sale in a revolving cage. Great ringing of bells, and women returning from early mass at the different churches, marked on their foreheads with a black cross. Purchase tortoise-shell, spurs, sandals, &c. Go to the store of Madura & Co., and purchase Guatemala cloth for clothes, &c. In the afternoon accompany Captain Pim to the Government House and office of the Prefect of Leon; deliver letter to Don Clito Majorga, asking for the requisite certificate relative to railway construction between Los Salinas and Leon. In the evening a refusal to the request arrives. I get a sketch of the old Spanish bridge across the brook, a picturesque old ruin. Take wine in Derbyshire's rooms.

March 7th.—Up before daylight, and Captain Pim and self, accompanied by Max Sonnersten and the mozo, ride past El Convento by a different route to a hacienda near Lake Tigre. See some wild boars and a deer (*Cervus coassus*), but do not get a shot. Captain Pim kills a (*pava* or *guan*) penelope, a species of wild turkey, which we consume at the hacienda, under volcano of Axusco.

Ride on to ancient locale of the ruins of old Leon, close to the lake, and there, leaving Sonnersten, embark in canoe with pilot, Julio, Perry, Simon, Thomas, and ourselves. There is a nasty wash on, as there always seems to be on this lake, and we get close under Momotombo, and land to have supper close by the hot springs that issue from its base. Re-embark, and have a stormy wet passage round the point of the promontory on which the volcano Momotombo stands. Here the pilot says he knows a sheltered cove, so we stand in; and on reaching shallow water are instantly filled with the waves. We drag up the canoe, and manage to sleep a little with what dry things there are; and the waterproof sheet proved invaluable, as it had, indeed, the whole way.

March 8th.—First thing, some time after the sun is up, take my gun and go into the woods to see what I can get. Bring back a wild turkey. See a deer and lots of reddish-brown monkeys, a young alligator and a large one. Shot a macaw.

The wind still blowing fresh, we wait till after noon, when, it lulling for a time, treacherously, we are tempted to launch our frail craft and trust ourselves again on the waters. Of course, as soon as we are well off the shore it blows harder than ever, and we were all on the weather gunwale washed through and through, and the lee gunwale under water.

Just before reaching the Island of Momotombitra a white squall causes us to take in all sail and lie down in the bottom of the canoe until the "temporale" is over. Then we paddle up to the island, which seems guarded watchfully by stormy squalls and huge

alligators; these latter were swimming about, with their huge mouths open, in dozens. We land and examine a few insignificant, yet interesting remains of the Indian idols on the shore, and then paddle close in shore round the lee side of the island.

As we rounded each projecting point herds of large alligators, disturbed in the next bay, would hurry down into the waters; the whole shore was literally alive with them, and the lake waters as well. It was quite nervous to meet a heavy curling roller round the weather point of the island with a gigantic alligator swimming along on the top of it, with its fierce teeth and malignant eyes glaring on you.

I was not sorry when, after crossing as near the wind as we could, we reached the calmer waters six miles north of Matiares, to which place we paddled, and landed, very wet; glad of fire and supper on the sand. Go up into village, and have difficulty about mules. Meet Frank Mortara, a courier, who has letters for Captain Pim. Usual cholera procession.

Captain Belcher, R.N., who brought a boat to Lake Managua, in 1838, all the way from Realejo, was deterred from exploring by the frequency of fierce squalls. (*Vide* "Narrative of Voyage in H.M.S. *Sulphur*," by Sir Edward Belcher, Captain R.N.)

The country just described is that which was to be traversed by the *First Section* of Captain Pim's proposed railway, from Realejo to Leon, distance seventeen miles; and the *Second Section* was intended to be from Leon to Managua, distance, forty miles.

The line of the *Third Section* is described in the following chapter, from Managua to Pasquiel, across the River Tipitapa, a short distance of only fifteen miles.

The *Fourth Section* is hereafter described from the River Tipitapa to San Miguelito, an average distance of eighty miles.

The final and *Fifth Section* was the unknown country through the forest from San Miguelito to Gorgon Bay, the Atlantic terminus, a distance, as the crow flies, of only seventy-three miles. The nature of this country so successfully surveyed by Collinson and his indefatigable assistant, Mr. Deering, is described in the last chapters of this book. See Captain Pim's "Gate of the Pacific," p. 338. Also "Dottings on the Roadside," by Captain Pim, and Dr. Seemann. (1869).

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## CHAPTER IV.

Los Bestias.—Arrive at Managua.—Tipitapa.—Malagatoya River.—A jicaral.—San Nicolas.—Juigalpa.—Arrive at Libertad.—Tigre Mine.—Javali Mine.

MARCH 9th, 1867.—Los Bestias, on being taken to water, and having already been paid for (four and a half dollars each), made their escape, and caused at least a couple of hours' delay before they could again be brought to the scratch. Matiares has a bad reputation for its inhabitants; and we certainly suffered severely from the fleas *et hoc genus omne*. Chocolate and milk, with turtles' eggs and tortillas, prepared us; and we were soon on our way through the woods, for nowhere do there appear any cultivated clearings. The carreta track would not be bad if it were not that wherever a fallen tree had obstructed the road a *détour* is formed to right or left, and the obstruction not removed.

Leaving the Questa Mount on the left, we followed the carreta track, and, after five leagues, halt, drink tiste at a hacienda near Lake Apoya, one of those deep chasms or trous evidently former craters. On the rocks round shores of this lake are some rude Indian drawings; these *pedras pintadas* are characteristic relics of the former natives. From a tree by the hacienda we had a capital view of the Lake Managua, the promontory of Chiltepec, and the extraordinary deep blue waters of the salt-lake upon it; beyond the mountains of province of Segovia. Through more half-cleared woods, narrow paths; and our guide points out what he calls a *tigre* among the brushwood; but it is probably the effect of his vivid imagination. In these woods we noticed the fetid odour emitted by the polanca-tree (*Sapranthus Nicaraguensis*) amidst the rich vegetation.

Arrive at Managua. The poor woman who disturbed our slumbers when last here is dead and buried. We are the only people at the Fonda. The canoe had arrived before us, and all our traps are safe at the Fonda.

March 10th.—Slept much better last night than I have for some time. The Carib boy, Thomas, had been dissipating, and was consequently seedy this morning. Although the large wash-tub had been used to mix lime for whitewash in, still we made shift to use it, as a good bath is indeed a rare luxury here. Bells ringing away here pretty strong, but not so overwhelming as at Leon.

After noon our courtyard, where the cock-pit is, is crowded with the rank, fashion, rag-tag and bobtail of Managua, and cockfighting, betting, quarrelling, shouting, &c., are carried on, greatly to the prejudice of a peaceful Sabbath. The hullabaloo lasts until sunset, when the crowds gradually draw off in groups, carrying with them their dead and wounded combatant cocks.

In the evening, having loaded the canoe as low in the water as it would well float, we despatch it, with the Caribs and Julio, for San Ubaldo, *vid* Tipitapa. Julio has orders to land at San Ubaldo, where an anvil for Javali has to be left, and come up to Libertad.

More processions of saints, in hopes of extinguishing the cholera still prevalent here. A letter Captain Pim had written to Dr. Seemann from here on the 28th ult. is brought back, the courier being afraid (as it was stated) to pass Libertad on account of the cholera there being bad (this last fact is afterwards found to be quite false). A new lad, Ezekiel Silva, is engaged as mozo to Captain Pim; and a mule, small, but not bad for fifteen dollars, on which the mozo is to ride, carrying the maleta, &c.

March 11th.—Rising at 4 o'clock A.M., we find Prospero punctual with his chocolate, and our new mozo expeditious in saddling the animals, which, with our blankets on the saddles, with hammocks and alforcas, look more picturesque than imposing. We have a pretty shady ride. Plenty of monkeys (*Cebus albifrons*) enlivening the road. Pass at least seven streams, all of whose waters are noxious. Half-way to Tipitapa we met Julio, who had lost his blanket, and was walking from Tipitapa, where the canoe had arrived, back to Managua for it. We turned him back (if he had gone into town and back he would have had a walk of forty-eight miles; nothing to him, for these Nicaraguans are number-one pedestrians), and he easily kept up with our mules.

Arriving at Tipitapa, we leave Julio to bring on the boy from Granada, with saddle, to Pasquiel; and the canoe is transported by carreta to the same place. We ride on to the Rancho of Pasquiel Hacienda, crossing the Panaloya by the same bridge, beneath the falls. At first the people of Pasquiel were rather surly; but a nip of something neat opened their eyes, and we enjoyed a good breakfast; after which we waited for the canoe and saddle, both of which were late. At 3 P.M. the canoe came on the carreta, and in launching a piece of her stern was knocked off. Whilst this operation is proceeding some Vacqueros are lassoing cattle close by, and I have a good opportunity of watching their prowess. Just as we were starting off, Captain Pim's saddle and bridle arrive from Granada, which are put on the little horse of his that I ride, and are most comfortable.

Night coming on, we lose the track several times, and put into Pedro (?) instead of proceeding to the Rio Malagatoya. Our route now led over flat plains, the marshy ground of which was now caked with the heat. Numerous herds of cattle were in vain seeking for pasture, and at convenient spots heaps of log-wood (called Brazil-wood,\* and used for dyeing) were collected. We put up quail, and there were plenty of snake-birds (*jacanas*),

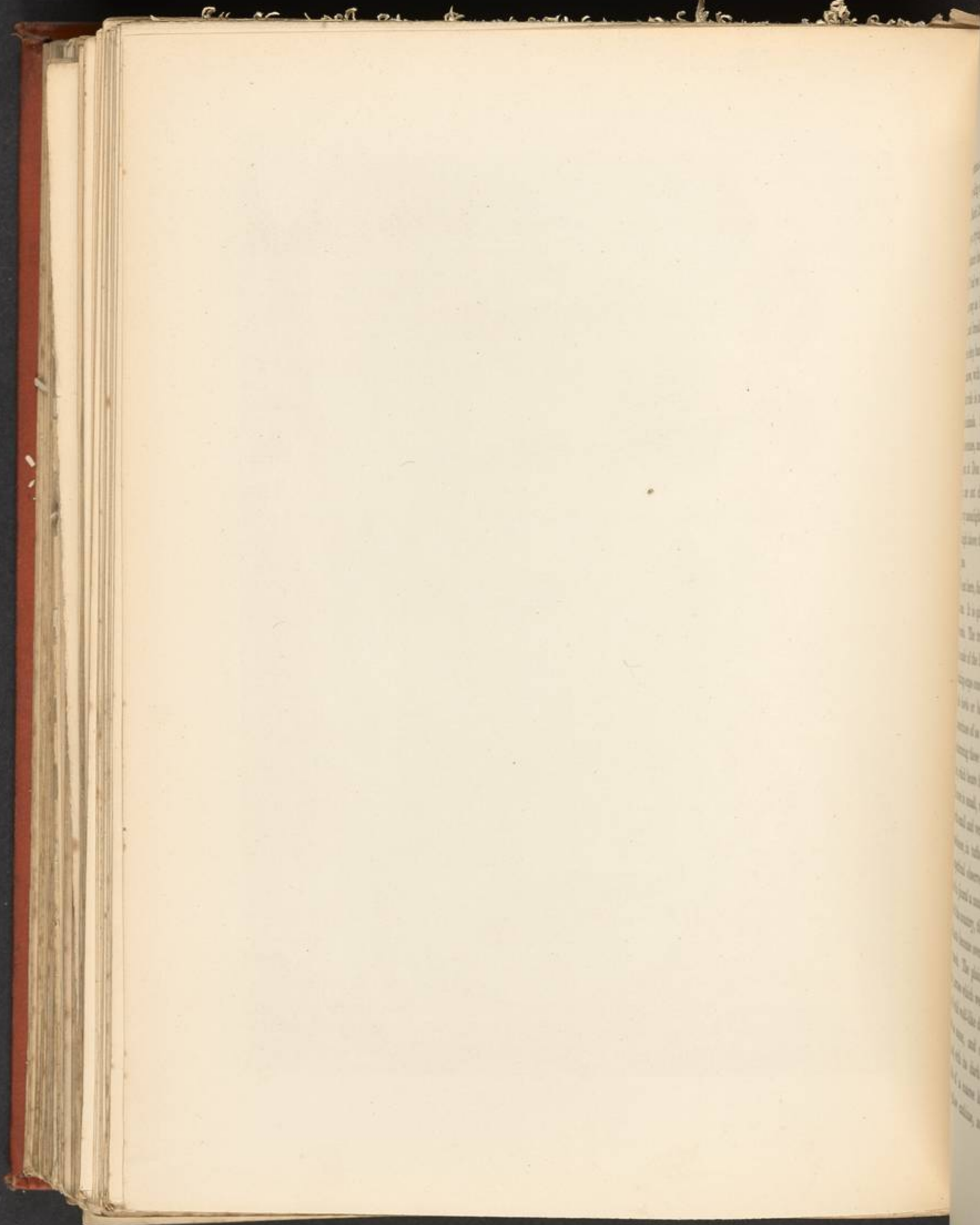
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\* Or "campescho," a leguminous tree, *Hamatoxylon campechianum*.



THE RIVER PANALOYA, AT PASQUIEL.

[To face p. 342.]





their lemon-coloured under-wing contrasting with the deep brown of their plumage. We had to sling our hammocks in a deserted rancho or hut.

March 12th.—Accustomed, as we are, to turning out by star or moon light, still it is always a trying operation; but circumstances are inexorable, and we have to accomplish the distance lost yesterday. We are soon off, and on the plain; but “more haste less speed,” and we lose our track, and are two good cool hours before we get into the highway (such a way as it is) to the Malagatoya River. We strike the river higher up than we ought, and breakfast off venison. Bathe in the river, which is very dry at this season, between deep banks; its stream when flooded must be dangerous. Quantities of parroquets and macaws, with parrots, abound.

Our ride is now rocky, and the stones and basalt rocks play the very — with our unshod animals. Scenery more wooded and undulating. We pass through several well-cleared avenues, and finally, after a hot march through the heat of the day, arrive by sun-down at Don Sebastian Marengo's Hacienda, where we have dinner, and, for a wonder, are not charged for the said meal. Push on after dinner, and reach Pedro Blanco by moonlight. Sling our hammocks, and to sleep. Very cold, as we are now a slight height above the lake, and there is no protection against the winds, only the roof of dried grass.

We met here, for the first time, what is called a jicaral, or tract of land overgrown by jicara-trees. It is quite a characteristic feature in the country, and must be described in a few words. The tree is the *Crescentia cujete*, or calabash-tree, well known by the use which is made of the hard shell of its fruit in manufacturing vessels for domestic purposes. The drinking-cups constructed from a smaller species, of an oval form, are called jicaras; while the bowls or basins prepared from a large variety, of a compressed subglobular shape, sometimes of as much as a foot in diameter, are named guacales. For the purpose of manufacturing these vessels the tree is cultivated. Here, however, I am speaking of the wild tree, which bears fruit of the size of the large orange.

The tree is small, with a number of long, thin, worm-shaped branches, covered all along with small and very poor leaves of their own, but bearing an additional vegetation of *Bromeliaceæ*, in tufts of stiff leaves, striped red and green, in parrot-like colours, so that a superficial observer may believe these tufts to be the flowers of the tree. To form an idea of a jicaral a number of these trees must be imagined scattered over a horizontal portion of the country, the soil of which consists of a black stiff clay, and which is so situated as to become overflowed in the rainy season, when the entire district is transformed into a marsh. The plains abound in large and small armadillos (*Dasypus Peba* and *D. minutus*), across which we came continually, whilst now and then packs of coyotes, a small species of wild wolf-like dog, would be seen. During the dry season the soil becomes nearly as hard as stone, and cracked in all directions, so that it is sometimes exceedingly rough, and, with its dark colour, appears almost like a field of lava. Between the trees some tufts of a coarse kind of grass and bushes of the *Aroma mimosa*, with sweet-scented yellow catkins, are scattered. The ground under the trees is strewn with the

fruits, which are eagerly sought and eaten by the cattle, the succulent pulp allaying at the same time their hunger and thirst. The skeletons of cows, horses, and mules lying about form an essential feature of an extended jicaral, as a considerable number of these animals die in such localities from want of food and water during the dry season.

A region of jicarals on a large scale extends all along the foot of the table-lands of Chontales, Matagalpa, and New Segovia. In this plain country are here and there knolls with clumps of spiny cactuses with flattened pear-shaped joints and scarlet fruit, small prickly palms, and bull's-horn thorn (a *bipinnate acacia*), always swarming with fiery little ants (*Pseudomyrma bicolor*), besides a quantity of the shrub with dangerous sharp curved horns, called *viena paraca* (i.e. "come here") by the Mestizos.

March 13th.—By break of day we are up and doing, and ride to breakfast at San Nicolas, passing pretty uplands, feeding-pastures, and grazing country diversified by various palms. Species of espadillo (*Yucca*) in bloom. Bamboo\* and small bamboo (*palmita*) with calabash-trees abound. Latter have few small twigs, the leaves growing out of the larger branches, and the calabashes from the greater limbs. This tree seems also subject more than others to parasitic plants, orchids, &c. Fortunately we had a good tongue in our alforças, which enabled us to breakfast well at San Nicolas. Many cacti grow on some trees, looking like so many twisted green snakes and iguanas writhing about the stem. Go down to a brook near San Nicolas to bathe. Noticed red-hatted woodpecker† and humming-birds. Fish striped like perch in the pools.

After a rugged ride arrived at Juigalpa quite ready for our dinner, at which the tongue again performed good service, backed up by the universal frijólas and eggs. Captain Pim's stirrup-leather, which is broken, is here mended, and we turn into our hammocks to receive visitors, including the Deputy of Chontales. Sketch. During the night a cow in the verandah kept lowing for her calf, lately defunct; and in the next house a midnight-mass for the dead or dying sounded mournfully, as the chanting of the priests kept us awake till early morning.

March 14th.—Leave Juigalpa by 5 o'clock, and pass through lovely scenery, grassy and park-like slopes, by the side of the river fine shady trees similar to the horse-chestnut (*Cedrela*). Well-watered country, and from the heights good distant views of Mombacho Mountain. Buy some venison on the way, killed last night. There is a long rise over some hilly pass; and here we are passed by some ruffianly-looking fellows, who are just in time to take possession of the hut, where we intend breakfasting, before we get there.

Halt at a hut on the pass about 1,000 feet above the lake, La Puerta by name. Captain Pim and self go down a steep pass on the face of a perpendicular rock to an old Indian

\* The so-called bamboo of Central America is not the true bambusa of India, but an allied genus of the Bambusaceæ, including the Guaduas and the Chusqueas: besides, the word bamboo is applied indifferently to Arundinarias nearly everywhere.

† *Centrurus Pucherani*.

well, where a calabash bath is refreshing. The fresh venison turns out first-rate at breakfast, and, with milk and coffee, we feel quite luxurious. Ascend ridge of mountains, passing the northern shoulder. The glens are filled with miniature bamboo, and gorgeous autumnal-like tints appear on the trees.

Flank the high range of mountains (Alto Grande), whose peaks rise like the battlements of Titanic castles, with embrasures, pinnacles, &c. Shoot a brace of quail. Pass Indian tumuli lately opened. Ancient stone pillar from interior of one formerly upright in centre. These tumuli are built up of stone. Arrive at Libertad, and go to Wolfe's store. Put up at Mrs. Booley's, an American woman of peculiar prejudices and many corns. (Poor old widow, she was shot the following Christmas by a savage half-breed.)

March 15th.—Visit Wolfe and De Barruel, the storekeepers. Bathe in the Rio Mico's muddy stream. Meet Paul Giraud, who has ascended the Mico from Bluefields. His information hazy and inaccurate. Start off after breakfast—a large party, Wolfe, Barruel, Captain Pim, Giraud, Mrs. Booley, and self—for Tigre Mine, the property of some Frenchmen. Road rather bad. Examine the quartz and ore-works, tramway and mill. See some good samples of ore crushed and washed. Leave Mrs. Booley at the mine; and Captain Pim and self, with guide, go on by Barbicalli road towards Javali. Green long whip-snake. Horrid bad road, worst I have ever seen, those in Madagascar not excepted; mud up to the mule's ears.

Wading, climbing, scrambling, and fagging, we are hours getting to El Cedro. Here we drink some chicha, or native beer made from maize; and get a better guide, who takes us by a machete road through the forest, a short cut to Javali mine. Meet Dr. Seeman, and we are kindly received by Colonel and Mrs. Maury at their house, built of cedar planks, close by the mills, which follow the course of the stream dammed up above. Water-power for five mills. The top mill is a turbine, second a horizontal, and a vertical overshoot next; below are two horizontal ones. The noise of the water-wheels is unceasing, and their creaking is not unlike the sound of an Indian singing.

March 16th.—Wash below the water-wheels, and see the native labourers paid and receive their token for rations; they carry the one in ox-hide bags, the strap of which passes round their foreheads; they have to carry so many loads per diem, and are well paid. Make a sketch of the works,\* through the woods of Pavone, looking for game; see plenty of small birds of brilliant plumage (trogons, fly-catchers, motmots, humming-birds), and butterflies, snakes, and squirrels; no game.

In the evening walk with Mrs. Maury and her little boy Matthew. Mr. Wickham, who has been up the Blewfields River, comes over from San Domingo to see Captain Pim. We had a jollification in the evening and improvised dance.

Our arrival was made the occasion of a nocturnal fête, such as had up to that time never been witnessed in those parts. By the natives it was thought truly splendid. After

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\* See view given as frontispiece in "Dottings on the Roadside, in Panama, Nicaragua, and Mosquito," by Pim and Seemann. See p. 310, May 27th, 1872, "Proceedings of Royal Geographical Society."

all our people, and as many of their friends as they liked to invite, had partaken of a hot supper and as much grog as they wished to drink, some fireworks which one of our men had contrived were displayed before the principal house, and some transparencies with inscriptions complimentary to the guests, lit up; after that a band of music, vile beyond description, but absolutely charming in the opinion of the natives, struck up, and dancing (such dancing!) was kept up till an early hour.

I don't think Captain Pim altogether thanked me for having permitted the fête, as the natives were, perhaps, rather too demonstrative in expressing over and over again their gratitude to him for having done so much for their country as he has done. Fond as he would have been to move about freely amongst the gay scene, he had to sit indoors nearly all night to escape hearing his praises *ad nauseam* shouted into his ears.

"At this nocturnal fête there were several pure Indians, amongst them the son of the one who had shown the Javali for three cows, and who was then working on the mine." \*

A short time afterwards a melancholy event occurred at the mines, resulting in the death of James Skewes, head carpenter. Skewes, who was a native of Camborne, accompanied the doctor of the mines to visit a patient at Acoyapa. On their way back they fell in with Captain White, who is a native of St. Ives, Cornwall, an agent of Chontales Mines. He was accompanied by a miner named Piper, a native of Helston. All were on horseback, but some were better mounted than others; and on Captain White leaving Piper in the rear, deceased remonstrated with him. Angry words followed, and a challenge to fight ensued. Four rounds were fought, and White went to the ground each time. He then drew his revolver and shot Skewes, the ball passing through the right lung. The only witness to the tragic event was the doctor, who did all he could for the unfortunate man, but his aid was of no avail, deceased expiring in about twenty minutes. White, on reaching the mine, gave himself up to the English Consul. He was taken to Libertad, and was afterwards taken to Juigalpa, where he awaited his trial. Deceased was formerly a member of the Camborne Rifle Corps, and was highly respected. He left Camborne about two years ago, as head carpenter of the Chontales Mines, which important post he filled to the entire satisfaction of the company.

March 17th.—After an early breakfast ride out to San Domingo Mine, † the head-quarters of the Chontales Gold and Silver Mining Company. Here are plenty of English, American, and Cornish miners, &c. Examine the sites for inclined planes and the large water-wheel, which is to work eight cups. Ride on to Consuelo Mine, and ascend the summit of Peña Blanca ‡, from which a distant view over primitive forest away into Mosquito territory is obtained, and all the mountains. Ometepe bears twenty-nine degrees and Madeira twenty

\* Dr. Seemann's "Dottings," p. 203.

† See woodcut illustration of this mine in Stanford's "Compendium of Geography and Travel," vol. "Africa," p. 123. Edited by H. W. Bates.

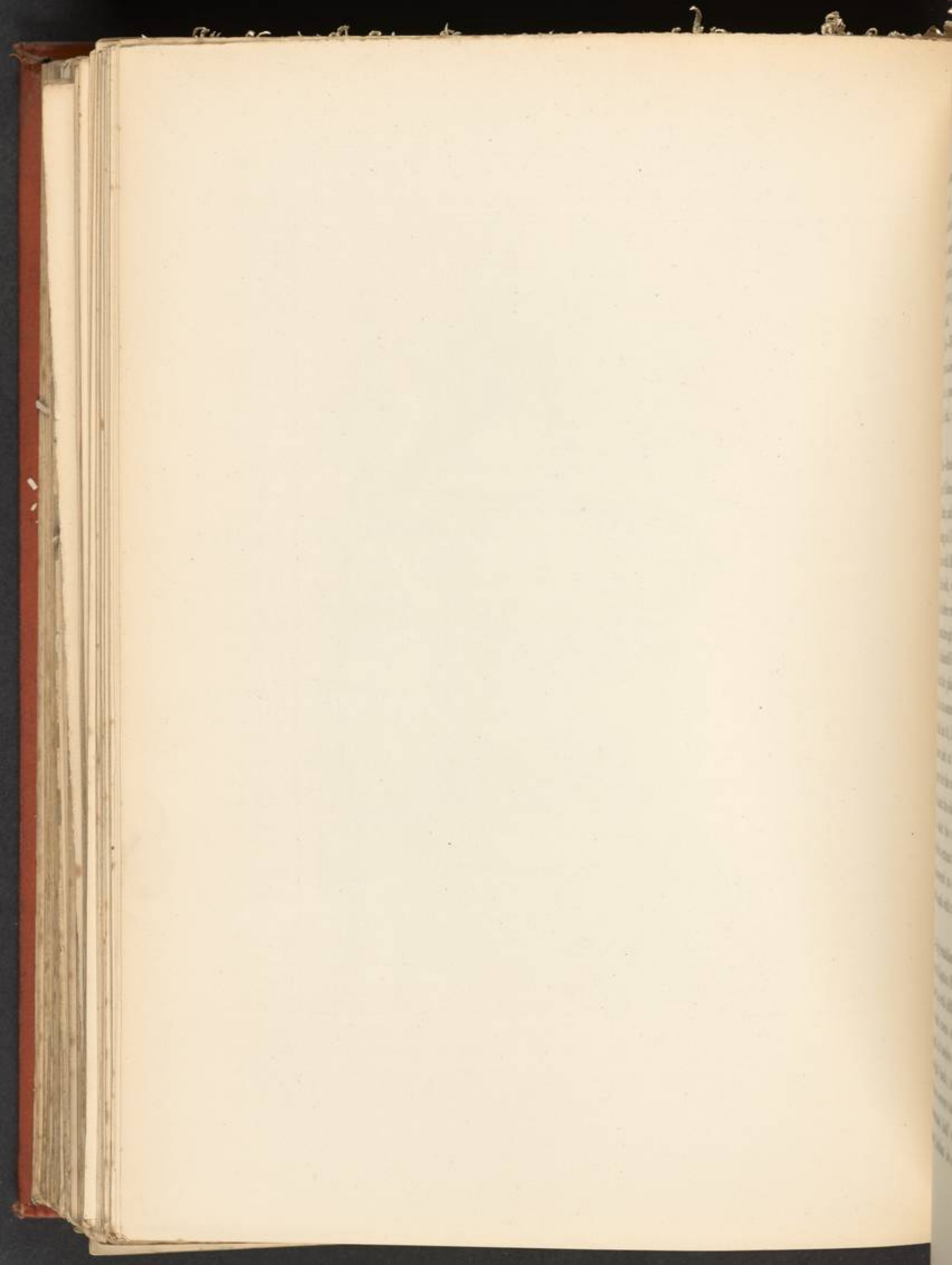
‡ A view of Peña Blanca and good descriptive account is given by the late Thomas Belt in his "Naturalist in Nicaragua," p. 148.



SAN DOMINGO MINE, CHONTALES.

(Fac-simile of the actual sketch on spot untouched.)

[To face p. 346.]



degrees west of south by compass. Return to Javali. Cocktails all the order of the day at San Domingo.

I was much interested in the native miners, mostly Segovians from the north-west; amongst these some of the earth-eaters were pointed out to me, distinguishable by their peculiar complexion. Humboldt, in his "Views of Nature," mentions tribes on the Orinoco as living on gums and earth; the latter being an unctuous, almost tasteless clay, true potters' earth.

March 18th.—Walk up to Pollock's tunnel and Griffin's shaft with Dr. Seemann, who is a brother-in-law of Captain Anderson, of our brigade. Walk then to San Domingo Mine, and take a panoramic view of the whole works. Back to Javali. Meet Mrs. Robinson, Mrs. Paul, and Mrs. Simmons at breakfast at San Domingo. Cocktails as usual.

March 19th.—Breakfast tolerably early. Receive Captain Pim's last instructions, and take leave of Colonel and Mrs. Maury and Dr. Seemann, &c. Start off with Captain Pim and Mr. Melzer, and examine the site of the proposed new town. Two of the hired mules were missing, so I left Julio to bring them on with the baggage, and, taking leave of Captain Pim, rode with Mr. Melzer to his clearing where I left him, taking with me a soft sandy-haired little sloth, with fierce claws, sleepy head and long tongue. He was placed in the holster, but before reaching Libertad was quite dead.

Rode on alone through the forest by the Company's road, which was bad enough, but much superior to Barbicelli's road. Stopped at the Company's house at the Pital, where the forest ends and the plains begin, and delivered a letter to and spoke with a certain Leon Celerie, who is to accompany me as interpreter at twenty dollars a month, if I think fit. I do not think him fit, however, and do not engage him.

Arrived before dark at Libertad and saw Mr. Wolfe, who is to provide the cargo, bullocks, and stores for the cutting; I find that the animals and stores, but no men, are forthcoming. Skinned the sloth before dinner. Put up at Mrs. Booley's. Before turning in for the night I asked the woman who helps in the hut to examine my foot, and she forthwith proceeded to extract from under my big toe a disgusting *chigoe* which had been long enough undiscovered to spread considerably before being ejected. In the evening Julio arrives from Javali with the traps, but there are still two oxen and three men not forthcoming.

March 20th.—By breakfast-time the two expected oxen arrived, and I sent back by their bearer a note to Captain Pim at Javali. My experience of bullock-driving now commences. One driver is with difficulty engaged, taken before the magistrate, a dirty, naked native, lying in a dark room on an ox-hide bed. Our first recruit is called Francisco Perez, and is engaged at twelve dollars a month. Meantime some of the oxen get away, and have to be brought back; next Ezekiel says he is lame and cannot walk, he must ride; whilst Julio has a severe toothache and shows signs of discontent. It is fortunate that I cannot understand half what they say, as I thereby escape their importunities. Another wild-looking Indian is secured as a driver and duly matriculated; and as the

saddler, who promised to have my saddle completed by this morning, has not touched it, I have to content myself with a common alborda.

After dinner we make a start. At first go off, one bull without a cargo disappears at full pace, the others kick off their cargoes and disperse in various directions outside the town, and all of us after them; at least an hour elapses before all, except one, are secured, their cargoes repacked, only to be interrupted by similar scenes till dark, when they are more quiet and fatigued, and we travel steadily at a foot's pace for three leagues to a ranche belonging to the Company at Esquipula, where we arrive about midnight under a bright moon, and, sleeping on a feather-bed, soon forget where I am or how I got there.

March 21st.—Breeze continually blows through middle of the day. A thick fog covered the landscape. Rouse up the but too sleepy hirelings with the cattle and cargoes. I and Ezekiel wait for a cup of coffee and breakfast kindly supplied by Mrs. King: plenty of milk, bread-and-butter, and fowl. Start off, catch up the oxen, who are not progressing fast, and some of which already show signs of lameness. We now descend easy passes along the Company's road: pieces of machinery for San Domingo lie scattered here and there, and several broken axles, &c., of carretas attest the difficulty of transport in this country. I met a Mr. George Griffin in the Company's service, who is anxious to obtain employment on the proposed railway.

I ride on so as to avoid the noonday sun, and reach Acoyapa at 11.30 A.M., meeting Senor Don Dolores Bermudez, whose comfortable house is on the north-west corner of the Plaza, opposite a guard-house. Senor Bermudez talks English well, has been to the States, and is altogether in advance of his countrymen. His wife sits at table with him at meals, &c. Catch a nasty cold by lying in my hammock in a draught when perspiring. Meet De Barruel on his way from San Ubaldo to Libertad. The oxen do not come in till 3 P.M., and then two of them very lame. Arrival of a number of pressed recruits, amongst whom soon after a case of cholera is reported; the reputed case is instantly dismissed to his friends, and calmness is restored to the excited population.

In the evening the new President's proclamation of amnesty is read in public at each corner, with music, rockets (home-made), and in the evening a dance, to which my host and hostess go dressed in the height of Nicaraguan fashion, whilst I retire to bed very soon after 9 o'clock.

March 22nd.—Up at early dawn, as is, indeed, getting customary to me; and it is certainly the most charming time in this hot climate. Pay Bermudez two dollars for forage for the beasts; he refuses to charge me for my board, &c. Leave cargo of one lame bullock behind with Bermudez. Send on the beasts a short way, whilst I wait for a cup of chocolate; then soon catching them up, I find to my dismay that Torribilio has bolted, and instead of the expected four only one is with me, and who knows when he intends to bolt?

The oxen travel but slowly, so on reaching the River Ojo-quapa we bivouac, cook chocolate and a tin of beef, and swing in my hammock till it is cool enough to proceed.



Before our meal I shot a couple of *lapas*, or macaws, which were pronounced good to eat, and forthwith disappeared before the appetites of my followers. I also bought some jerked beef for three and a half reals from a passer-by in case our party should fail in food. This river, according to Julio, runs into the lake at Nanzital.

Another party from the opposite direction halts at the same time, and we exchange civilities, one presenting me with *quejada* (cheese), and I biscuit and cognac to him. Another young man joins our party, who, appearing willing to come to the piquet, I engage and set him to work at once, his name being Pietro Palacios. A little further on we come across a lot of monkeys, when I shot an old congo, or black-skinned, black-faced monkey (*Myctes palliatus*); and I felt quite sorry when I had done so, as some little ones looked down on me till I felt very guilty.

Pass large hacienda of Vera Cruz, and through some wild deserted country; here and there a cross to commemorate a murder in this lonely spot. Attacked by wasps; Julio stung. On by night after dark; halt at Madronos.

March 23rd.—By moonlight early despatched the oxen and cargoes, with Julio, towards Animas, whilst I snatched another hour's sleep, and then had a bathe in a neighbouring brook, kindly shown me by Rufina Baez, one of the civilest Nicaraguans I have met. A nice cloudy morning. Fourteen dimes was the charge for everything. etty scenery; on the left La Bentana Mountain raised its head, and on the right to the th Mount Anon, with basaltic rocks on the summit beyond the heights of Memeltepec.

Senor Baez accompanied us some way himself on our journey. He informed me that there was a gold mine close by Vera Cruz which he wished examined; he had no samples of quartz or gold to show. We caught the oxen up, after a couple of long leagues, close by Animas, a large hacienda, there being some 7,000 head of cattle on the estate. All this country is pretty level, the hills detached and smooth.

I had a letter from Acoyapa for Juan Lopez, the steward at Animas; but when I presented it he was not at all gracious. However, I had breakfast there, and let the oxen go on to the River Del Animas, whence, on consulting Julio, I think of reaching San Miguel late to-night, as it appears practicable. Accordingly I give Julio one dollar six dimes for subsistence, and ride off across the plains, feeling the heat of the sun almost intolerable.

A long day's ride through plains, hill, and dale; more Erythrinas, palms, caesalpinias, and bamboos appearing, crowds of cattle and many ranchos and haciendas. We miss our way several times and are set right, till after nightfall we became regularly fixed in some bamboo-thickets; and after some scrambling we gave it up as a bad job, and went back to the last rancho for a guide. No one, however, would go till morning, so we slept there in the open air after a tin of preserved mutton and biscuit: a wild unbroken mule on one side, and cows, whose offspring are railed in, wandering around and snuffing at one.

March 24th.—Slept most uncomfortably, or rather not at all; the blanket wet with dew, and clothes covered with garrapatas which vied successfully with the mosquitoes in keeping me awake. At daylight aroused Ezekiel, and refreshed myself with milk (a

ON AND OFF DUTY.

draught of this in a *guacal*), which was being poured from buckets into a large wooden trough, the milk so strong and creamy as to require water with it to bring it to drinking consistency. A flock of parroquets kept up a loud chorus from their roosting-place above my head.

Started in mist from the ranche, with the master as guide; taking a more southerly course, we struck a good road through dense *vinea brava* (bamboo) thickets, whence we viewed a deer and crossed the River Ayasapa. Piraguas ascending this river as far up as this.

We now crossed extensive savannah nearly all burnt up, bitterns here and there, and cattle looming through the dense fog. The barguses seemed very long, and when the fog cleared and the guide declared our road was straight ahead, I gave him the *una peso* demanded and rode on; but on reaching the woods beyond the savannah found that the paths, diverging again, placed us in doubt, but a vacquero kindly put us in the road, when we reached the River El Camastro, where a foot-bridge, of three or four bamboos only, forced our animals to swim across.

More woods, and then swampy, burnt marshes, and bad travelling till we reached a rancho, where more milk was acceptable, as the sun was getting high and the fog had long cleared up. Another league of wood and swamp brought us to San Miguelito again, where I found Mr. Griffiths alone in his glory, and was very glad of a good breakfast, wash, &c., and lay resting in the hammock till dinner. In the evening a bath and eating oranges, whilst Captain Pim's letter was despatched by canoe to the Commandant of San Carlos. Sunset behind the flank of Madeira Island.

March 25th.—Rose with the sun, and bathed in the lake; my body is covered from head to foot with garrapata-bites, ant-bites, &c., and the irritation is excessive. Shot a cock and hen prairie-fowl (*Tinamus sp.*); saw squirrel and nest. After breakfast shot a macaw, as Griffiths wanted its feathers. The rest of the morning filling cartridges with No. 6 shot and B. B. for the cutting. No Julio with the oxen yet. Instructed the boy Ezekiel in filling cartridges till 1 P.M. Thermometer 89° in the shade. My health and spirits both good, in spite of a disagreeable companion. After dinner ride off with Ezekiel, gun in hand, to look for venison; come back after dark without success—only a prairie fowl, which the natives call *chacalaca*.

March 26th.—Did not sleep well from the effects of mosquitoes and garrapata-bites. Up by moonlight before sunrise, and shoot three prairie-fowls (*chacalacas*), but see no deer. Back very hot, and drink milk from Chico's opposite, chocolate, &c. Despatch off Julio and Ezekiel, the former to Acoyapa on the hired mule, and the latter to bring up the cargoes and oxen. Send a letter to Bermudez, instructing him to buy an ox to bring in the cargo left behind. Bathe. Give Julio two dollars for expenses, and Ezekiel eight dimes. Writing up journal. The mountains of Costa Rica extraordinarily plain. Make a sketch of them. Island of Ometepe means two mountains. One of the two peaks of the island bears the name of Ometepe, the other is called the Peak of Madera.

According to Baron Bulow, Ometepec has an altitude of 5,100 feet, Madera an altitude of 4,190 feet. The former can be ascended without difficulty. The lower region is covered with forests, the higher with savannahs. The peak of Madera is thickly wooded from the water's edge to the summit. There may be considerable difficulties in penetrating through the forest, which, as I imagine, conceals some objects of Indian antiquity.

During the dry season, while for months a spotless sky is spread over Nicaragua, a thick cloud covers the top of the peak of Ometepec, and if examined on the spot may be observed to be in a constant process of originating on the north-eastern side of the summit, to roll over it in a direction to the south-west, where it is in an equally constant process of dissolving. The north-eastern trade-wind striking against the side of the mountain is forced to cross the apex, and, passing thus from a warmer into a colder region of the atmosphere, is obliged to part with a portion of the water held in solution. Thus the cloud is produced on the windward side of the summit.

On the lee side the reverse takes place. The wind descends from the colder to the warmer region, where the cloud is dissolved, not, however, before a part of its water has collected in heavy rain-drops, which I have observed to fall even at the northern foot of the mountain from a thin and almost transparent veil surrounding the cone. I have already mentioned this kind of local precipitation in reference to the summit of Mombacho. During the five days of my sojourn I never saw the summit uncovered for a single moment.

Another observation I made during this time was that of the regular gusts of wind which poured down the side of the mountain every evening. As to the Peak of Madera, I cannot tell whether it exhibits the same phenomenon in an equally regular manner. From a distance, however, I have seen it capped with a similar cloud, and this is occasionally the case with the summit of Mombacho Mountain.

In the evening, just when going to bed, the cargo-bullocks come in, greatly to my pleasure, for I had much misgiving as to the fate of the animals and goods. Six days from Libertad.

March 27th.—Bathe by the lake, and write. Stay in-doors, packing, &c.; reading all day. In afternoon sketch San Miguelito, with Madera and Ometepec in the distance. After dinner see Madera and Ometepec most plainly. Sun sets behind Madera. Amplitude:—Magnetic bearing  $265^{\circ}$  by compass; compass bearing of Mombacho Mountain  $285^{\circ}$ ; of Zapatero Island  $283^{\circ}$ . These last two, Zapatero and Mombacho, were visible plainly after sunset, and at first I could hardly believe that I could see them. Many mosquitoes and sand-flies; very much bitten.

Bathe in evening before sunset. Thermometer  $90^{\circ}$  at 4 P.M.; very hot. Nice cool breeze in evening. Bongo men, consisting of so many mariners under a patron, all of them coloured, are a class on the retention of whom the President depends; there are, perhaps, from 600 to 800 on the lake, and are the pluckiest of the inhabitants; can turn the scale of a revolution in the country.

In a similar manner it will be remembered the great victory of Salamis was obtained by the seamen, who were the lowest class of the Grecian populace, who, together with the helots who fought at Plataea, conspired with Pausanias for a democracy; and, again, the mariners of Syracuse conquered the Athenians, converting a mixed republic to a pure democracy. (*Vide* Lord Lytton's "Athens," book iv., chapter 2).

"When Athens' armies fell at Syracuse,  
And fettered thousands bore the yoke of war."—"Childe Harold."

Another analogous case is that when Marino Faliero, the Doge, conspired with the gondoliers of Venice in the fourteenth century, the failure of which attempt to overthrow the Republic has been so dramatically recorded by Byron.

March 28th.—Glorious scene of distant mountains disappeared. Start for the cutting by moonlight. The lake appears a boundless ocean to the eye. Bathe in the lake, if, indeed, it can be called bathing when one cannot comfortably go out further from the shore than a yard or two, and not deeper than one's knees, for fear of alligators and sharks, guapotes, &c. Whilst on shore the jigger is always on the look-out for any naked feet in which it may find a permanent home.

Breakfast being over, we start off under a hot sun, with the following party, viz., self, Eusebio, guide (a Spaniard), and five men (tall Costa Rican, Chicot Libertad, Chicot Perez, Gregorio, surnamed Chopin, and a young muchacho). A bull and an ox with cargoes, a bull for slaying, and a grey horse with cargo. I ride the fifteen-dollar mule. At first we do not follow the line already boned out (laid down) as the ground is too marshy to admit of our heavily-laden animals passing with safety; therefore, making a slight circuit to the north, we pass slightly broken and undulating ground skirting the marshy lagoon, and by savannah and bamboo-thickets strike the cutting in a grove of coroso-palms\* (*Alfonsia*), by a scanty but valuable puddle of water. This is reported by the guide as the last we should meet with; we therefore unload the beasts, letting them take their fill and graze. Shooting at a chacalaca, the report of my gun aroused a deer, which was allowed to pass unscathed.

March 29th.—Early daylight awaited by me with feverish eagerness, my face and hands swollen beyond recognition by mosquito-bites. Wet and dark, with heavy dews. I bathe in the long wet grass; but there is no water to drink, till I find Eusebio has economically reserved a few mouthfuls of muddy water for himself and me.

We now leave the savannah and all traces of civilisation, entering the real bush about the same spot where Colonel Cauty commenced his cutting. This, a mere path cut with machetes through the forest, ordinary-sized trees that prevent the proper boning-out of the line being cut by axe; but any enormous trees that would require a day's labour are avoided, the line diverging on their account. Wherever trees have fallen across the track, although the boning is carried on straight, a path for animals is cut round to avoid it; similarly, where the ground over which the line passes is too rough or steep, as it often is, for the

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\* The *Coroza-de-vino* of Venezuela, *Acrocomia sclerocarpa*. Thiselton Dyer.

pack-mules, &c. to pass, a path for them diverges sometimes for a considerable distance, to enable their passage.

About 10 A.M. we found a path leading to a camping-ground with a small pool of water, although it was muddied by dung of mountain-cow, &c. Here we stopped for a meal. Meantime I had shot three guans and two pavones (*Craz alector*), so we had no lack of food. The pavones, or curassows, are magnificent birds; the male black with yellow excrescence, white belly, and black crest; female, brown and mottled white-and-black crest. Saw, as usual, one of the common black snakes. Woods very dry. Shoot another pavon, making six turkeys in all. I ride on in advance, so as to have the best chance of game; but, on account of the slow progression of the oxen, am unable to get on at all quickly. Plenty of monkeys follow, brown (*Ateles*) and black ones.

About 4 P.M. come to a small stream, where I find a letter from Collinson and a rancho. Light a fire ready for the remainder of party to cook by when they come. The cargoes do not arrive till nearly dark, and so we have to wait the night here. When waiting for the party to arrive, I was attracted by a flannel-shirt torn in shreds and hung upon a tree, as if to mark something, at a slight distance off in the wood; my curiosity being awakened, I went up to it, and underneath, covered with dead leaves, was a portmanteau, or rather the remains of one, partially ransacked. This portmanteau had been left behind in the rancho, and, on the rancho being deserted, the monkeys had evidently from curiosity dragged the portmanteau out, ransacked its contents, and then deposited it where I found it.

The ground hitherto traversed has been entirely volcanic, basalt and trap, the valleys filled with clay, and the river-beds full of boulders.

March 30th.—Start off early on my mule quite alone, leaving the cargoes and men to follow as quickly as possible under Eusebio. All the country is densely wooded, here and there monstrous trees fallen from age and covered with lichens, mosses, &c. Country very hilly and in parts almost formidable. Dry watercourses, but little water; at last come to a river of size, with very steep, almost perpendicular banks; here I have to unload my mule, take off saddle and alforcas, and with great difficulty, after several failures, manage to get him across; another bend of the river, and I find traces of party in front in shape of baggage left behind; and further on, by a deep bend of same spring (Toolie River?), find a dead bullock swollen in the stream, and a crowd of zopilotes, vultures, turkey buzzards, and carrion birds of various sorts. Plenty of monkeys. Shoot a guan. Hear sound of the *campanero*, or bell-bird, like two strokes on a bell at intervals. Meet Simon and two others of the party returning to bring on the stores left behind.

About 1.30 P.M. come upon Deering with his level; and here, after a drink of tea and a few minutes' walk, I arrive at their camp No. XIV., situate in a deep valley between two steep hills on the banks of a watercourse, in which only pools and slightly trickling springs fill a small portion. Collinson is out. The camp presents a picturesque appearance, each man's mosquito-bar is spread on four sticks; two tents; fire and stores in

admirable confusion. Collinson arrives before dark, and is soon followed by his Caribs, who come in whooping and screeching in capital spirits.

To explain what had occurred in our absence, we must revert to Mr. Collinson's narrative, as thus recounted by him\* :—

“ After a laborious ascent of the river, I landed at the village of San Miguelito with my small party. Commencing work on Monday, February 25th, through the stunted undergrowth that clothes the shores of the lake, and which swarms with gallapatos, those terrible pests of the tropics, we proceeded with great rapidity, and on March 1st, had so far advanced that it was advisable to pitch our first camp. That night we swung our hammocks for the first time in the open air, and, in spite of mosquitoes, slept well.

“ On Tuesday, the 5th, we entered the forest, which extended from there without break, eastward, to the ocean. Up to that time we had been traversing the savannahs which skirt round the borders of the lake, and lie inland in places for many miles. These savannahs are immense plains, sometimes slightly undulating with hillocks clothed with trees standing up, at intervals, like islands, in the long grass, which will often overtop the heads of the horsemen. In crossing these savannahs, and for some time after entering the forest, we suffered dreadfully from want of water, and were only too grateful to obtain any dregs that might be left in the pools frequented by the dantes or tapirs (*Elastomotherium bairdi* or *Tapirus bairdi*), and used by them alike for drinking and bathing. We could trace the commencement of Cauty's old piquete on entering the forest; but, as I soon found it inclining too much to the southward, I decided to quit it and strike out an independent line.

“ Friday, the 8th, one of my men who had been despatched on Wednesday to San Miguelito for provisions arrived with a welcome supply. But what we needed most was water, and had it not been for a large vine (*Vejuca*), which seems planted by Providence in dry regions, where alone it flourishes, and which yields on being cut a moderate supply of wholesome clear water, our sufferings would have been unbearable. The forest now began to take a more distinct character, as, intermixed with the everlasting palms, india-rubber trees, sapodilas, cedars, and, further on, mahoganies occurred in magnificent groves, sprawling their enormous roots over acres of ground, and rearing their vast height from the jungle beneath almost, as it seemed, up to the clouds.

“ Tuesday, the 12th, I shot four guans (*Penelope*), the smallest species of turkey inhabiting the American forests. The country now became more broken up, our course crossing several spurs of a high range, running to the north of us, west and east. Mr. Deering began to feel the effects of drinking the filthy water we had been obliged to put up with.

“ On Saturday, the 15th, however, greatly to our joy, we came on a watercourse with several large and clear pools.

“ Monday, the 18th, we crossed the first running stream since leaving San Miguelito,

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\* “ Proceedings ” of the Royal Geographical Society.

and on the following day three Caribs, whom I had requested Captain Pim to send me from Leon, arrived—one of whom, Perry by name, an elderly man, I installed as 'boss' of the party.

"Our total distance up to leaving off work on Saturday afternoon was seventeen and a half miles in twenty-four working days; not so bad, taking into consideration the small number of hands. But now, having had a fair opportunity of comparing the work of these Caribs with that of the Mosquito and Woolwa Indians, employed on my first expedition, I must say that the latter were by far the best workmen. There were two very serious drawbacks to the Caribs; firstly, they were excessively particular about their food and personal comforts; if they had not for every meal plenty of meat, dampers, and vegetables well cooked, there was always great grumbling and an attempt to shirk work; they also insisted on having blankets and mosquito-bars for the night, which increased the bulk of our loads very seriously; and, secondly, they always have some among them, generally the biggest and laziest, whose dictum is invariably followed in the blindest and most obstinate manner—reasoning is wasted on them. The Indians, on the contrary, though they certainly complain if not kept well filled, are content with anything so long as they have sufficient of it to create a sense of repletion. When provisions were not plentiful they would often sit up all night boiling and eating eboe-nuts (*Dipteryx oleifera*), which quite satisfied them if they could obtain enough. As for wardrobe, it was all carried in the shape of a small cloth round the loins. Their respect for a white man is very great, and the virtue of obedience is rarely questioned by them.

"The country which we had passed through, nowhere in our course attaining a greater height than 400 feet above the level of the lake, had for the last few miles been broken up a good deal by isolated hills; but on Thursday, the 28th, we crossed a considerable plain, stretching, as far as the eye could reach, to our north, and bounded on our south at a distance of five or six miles by the spur of a range running north-east and south-west, which we crossed on Saturday, the 30th, at a height of 716·94 feet above the lake, and at a distance of 21 miles 528 yards from San Miguelito.

"On the same day in the evening, on coming into camp, I was gladdened by finding that Lieutenant Oliver, R.A., had arrived with four men, a mule, and two bullocks laden with provisions. Mr. Oliver, at my request, volunteered to remain with us and give his valuable assistance to the expedition. As an instance of the difficulty in travelling through this country I may state that Mr. Oliver started with six bullocks, lightly laden, only two of which arrived, the rest dying on the way.

"In the morning one of my men shot a wari (*Dicotyles jacaçu*), the first large animal which had fallen a prey to us; we had shot a few turkeys before, but it was remarkable how much less game there was in the country than formerly. No animals seemed to be plentiful now, except jaguars. The natives accounted for the phenomenon in this wise:—

"Two years ago a terrific hurricane, similar to the one which has recently devastated St. Thomas and Tortola, swept over the country, utterly destroying Blewfields, and laying low vast tracts of the forests. The wild animals and birds were destroyed by myriads, and

sought refuge in the very roads and houses of the little clearings on the coast of the ocean and the lake, where they were killed by the inhabitants. Since then hunting has become a profitless employment; but the jaguars, too hardy and cunning to be destroyed by the same means as the other game, have grown bolder and more ferocious, attacking men wherever they meet them, and even taking the town of Blewfields by storm. I was assured, by most credible witnesses, that while we were in the cutting seventeen jaguars marched into the place one morning and frightened the inhabitants so much by their numbers and appearance that they shut themselves up in their houses while the jaguars killed every goat in the place—the only animals kept on the Mosquito coast.”

Our universal panacea against fever was a dose of the celebrated Angostura bitters; the true bitter is an extract from the bark of the *Carony*, the *Galipea officinalis* of the Upper Oronoko River, where this *Xanthoxyloid* tree is called by its Indian name *Orayuri*, whose bark has ever been employed by the Indians to intoxicate fish.

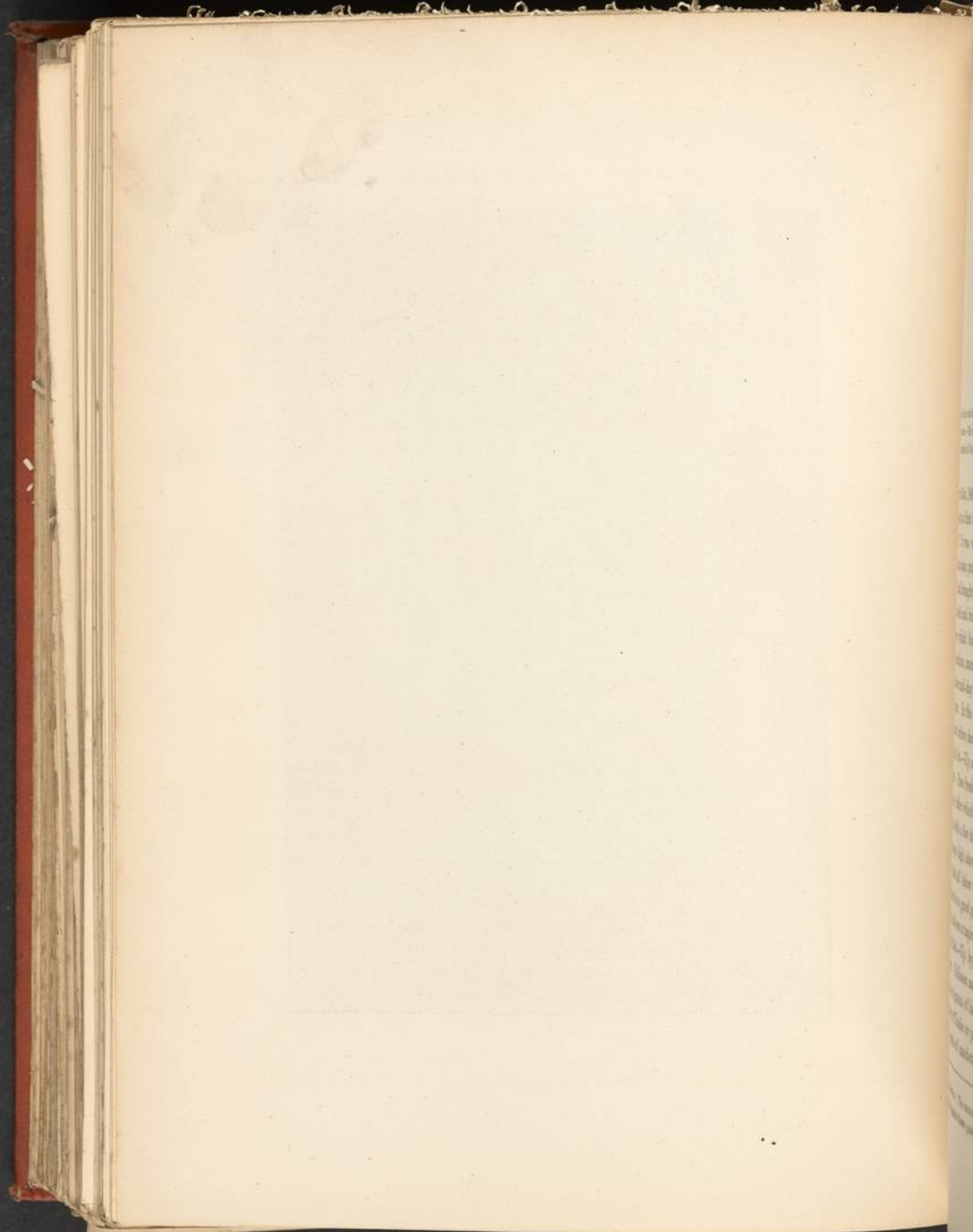
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CUTTING THROUGH FOREST.

[To face p. 356.]



## CHAPTER V.

Continue the cutting.—Quasje.—Curassows and tapir.—Luminous beetles.—Tobacco-juice used as a universal panacea.—Murmuring in the camp.—Deviation of magnetic needle.—Reach a tributary of the Rama River.—Armies of foraging ants.

MARCH 31st, 1867.—Go down the stream a short way and bathe. Shoot a curassow; also what at first I took to be a racoon, called by the natives *quasje*, by the Spaniards *pisoti*.\* It was very bold, coming down a tree to snarl and growl at me; a charge of B.B.-shot soon put a stop to this, however, and his flesh was by no means despicable. The bull I had brought was killed this morning, and turned into jerked beef, strips of its flesh being salted and dried in the sun, and smoked by night. As usual, make our meals from curassow, which bird eats remarkably like English turkey. The guans are not in such good condition, much smaller birds besides.

Before mid-day only the cargoes under Eusebio arrive, and an inspection of stores, &c. takes place. In the evening Collinson and I walk with our guns down the watercourse, and return before dark with a brace of guans.

April 1st.—Up as soon as light, and in search of game; have to content myself with one guan. Pass fresh tracks of tapir, their footmarks, &c. Join Deering in levelling till breakfast; after which I go in front, shoot a chacalaca and a plump partridge. Squall comes on with a few drops of rain. Curious effect of wind in the forest; sound of it in the tree-tops high above one's head; and falling leaves and withered branches clattering down, whilst all below is still. Meet the cattle with baggage returning to a watercourse where there is a good pool of good water. The cutting-party come to a considerable river in front, and see a tapir. Traces of large game plentiful.

April 2nd.—Up by misty daylight, and down the creek solus, shooting a brace of curassows. Collinson and I go on to the river, explore down it a short way, shooting a guan and an iguana of large size. This river, which runs south, is conjectured to be either a tributary of Toolie or possibly the Indian river. On its banks are two or three unmistakable marks of machete cuts of some two seasons old, but no trace of clearing; they

\* *Nasua narica*. The racoon-like *pisoti* is very partial to iguanas, but cannot catch them very easily alone, though when in packs these *quasjes* catch them without much trouble.

are evidently only remains of a hunting party of Indians up the river after game, or uleros after rubber.

At Camp No. XVI. we remained the 2nd and the 3rd, the working party cutting on, however, in front. Mr. Deering has fever. Our party now consists of three Europeans, viz. Mr. Collinson, Mr. Deering, and myself, with fourteen other hands (eight Carib mahogany-cutters, under Perry the boss, a Jamaica cook, and five Spanish-Americans), in all seventeen. There were three canvas-tents for the men, and a mackintosh-sheet stretched over a ridge covered our own three hammocks.

We now experienced heavy tropical showers. At night the fire and lantern-flies (*Lampyridæ*) were magnificent. They exhibit when at rest only two pale-green lights on each side of their head; when excited or in motion the abdominal light shines bright, of a more reddish hue, and the quicker they fly the brighter the light. A lovely glow-worm too, a *Myriapod*, we saw, with two similar lights, but smaller; on being touched, a series of minute sparks like pearls scintillated down its entire length in two rows.

April 3rd.—I now put tobacco-juice over me, which, I find, is serviceable against the persecution of garrapatas. Shoot a curassow. Collinson takes the levelling-party, and I lay out the line in front with cutting-party. Close by the camp they find some good honey-trees, from which is extracted plenty of good, peculiarly delicately-flavoured liquid honey, enough and to spare for all hands. Eaten with boiled rice, we find it very refreshing.

On way to cutting shoot a quasje larger than the last, on a fine coroso-palm. Fell the tree for its liquor. Breakfast brought on to us by the cook. Tea in a calabash; delicious out of a tin pannikin. Wild turkey, potted beef, flour dampers; very good living. Find no water; have recourse to large water-vines, or *bejucas*, which, on being cut, give a tolerable supply of tasteless liquid. The natives cut off short lengths about three or four feet, and drain liquid into their mouths, holding them upright. Good long walk back to camp have jigger taken out of toe on right foot; it has been a passenger there from San Miguel. Stuff up the hole caused by it with tobacco-ashes.

April 4th.—The brown horse gives in. At daybreak a heavy downfall specimen of tropical shower causes a scramble to get the tea, flour, and sugar, and other stores under cover of our waterproof tent. Put glycerine on my sores. I am very lame from sore feet. I go on with cutting-party. To-day we have to cut down several trees; among others guavas. These trees have very elegant buttresses, which make their trunks look larger than in reality, as the body of the tree is small. The trees are so entangled with parasites, vines, and lianes that the fall of one tree generally involves the fall of several besides, or often one refuses to fall, being upheld by its companions. Pass a magnificent india-rubber tree (*Castilloa elastica*). Sound of bird with note like shrill railway-whistle.\*

Establish Camp XVII. at water (scanty), near the immense india-rubber tree. Feet

\* This bird is the *toledo* (*Chiroziphia lineata*), a small bird about the size of a linnæ, velvety-black in colour, with a flat scarlet crest and sky-blue feathers on its back; its curious note is a deep-toned whistle, and it frequents the deepest woods.

much swollen and very tired. Just before dinner they find and kill a *tamaguso*, or tommy-goff snake, close to our hammocks; also a large centipede on our waterproof dining-sheet. Free from mosquitoes.

April 5th.—Rain again falls during the night; but we are all well prepared for it. Tent well ridged down, cords slack, &c. Our tent is composed of mackintosh, and answers admirably. Our climate here among the woods and hills is quite different to the dry season near the large lakes. The ground is dry, and sucks it all in, however, like a sponge. Feet still swollen about the ankles; painful to walk. Put on tobacco-juice and glycerine.

I go on to take the cutting-party, Collinson levelling not much in rear of camp, we cutting not much in front. The ground is easier than it has been latterly, and there is no precipitous climbing. Reach water before breakfast at junction of two streams. All these streams appear to run to the south, probably to the San Juan or Indian River. Come to a stiff hill, and make an angle to the south to avoid the heights. Grey horse succumbs. Back to camp on the stream. Jerked meat and dampers for dinner, and quinine by way of bitters.

April 6th.—For a wonder, no rain last night or this morning. Good opportunity for drying our clothes. Simon goes back with the mules to Camp No. XIV. to fetch up the main supply of provisions left behind there. Sugar is short, and accordingly the allowance decreased, at which there is much murmuring. Our course lies to-day parallel with or constantly cutting the river; so there is no want of water. Cut through what apparently has been an Indian clearing.

We now come across the Soupar palm (*Guilielma speciosa*), for the first time; this palm is universally grown by the Indians round their houses, and its fruit, tasting much like a yam, is boiled and eaten when ripe. The tree is about sixty feet in height, with a straight stem covered by regular bands of long black prickles, used by the natives as needles; the appearance of the leaves on the top is similar to the cabbage-palm. The existence of these palms is but very doubtful evidence of domestic habitation.

After ascending gradually for the next few days, we, to my delight, espied for the first time a grove of four eboe-trees (*Dipterix oleifera*). I took this as a certain sign of our proximity to the summit level, as none of those trees grow on the lake and Pacific slopes of the isthmus. At the same time the vegetation, as if by magic, changed. On the lake slopes the woods are principally hard and small-leaved, such as mahoganies (*Swietenia sp.*):—the mahogany (*Swietenia mahagani*) is called by the Caribs *oubouheri*, and by their women *liacaicachi*—cedars, *calantas* (*Cedrela odorata*), lance-wood (*Duguetia quitarensis*), lignum vitæ (*Guaiacum officinale*), and india-rubber (*Castilloa elastica*) are distinguishing features.

The jungle is exceedingly tough, in many places miles of prickly-pear (*Opuntia sp.*) bamboo, with *vejucas* and vines, which tried the sharpest *machete* and strongest arm to cut; while the surface of the ground, except in the bottoms of the valleys, was arid, stony, and so heated that our feet were burnt and blistered by it; watercourses were comparatively few, and many of them dry.

Such a country was quite unfamiliar to my previous experiences; but now every day the changing vegetation and aspect of the country reminded me more and more of the Mosquito coast. The vines became green and tender; the great coroso and cabbage-palms were now mixed with the swallow-tail (*Geonoma*), so useful for thatching, and ribbon-like leaves of the *Curculigo latifolia*; while the prickly and club-rooted zanona (*Socratea*) would mingle their foliage with the locust-trees (*Hymenæa courbrail*); the entada with their mahogany seeds, and the swelling trumpet-trees (*Cecropia peltata*), sarsaparilla (*Smilax medica*), and the clinging vanilla began to appear, and the invaluable silk-grass (*Bromelia*) took the place of the prickly-pear. Lovely tree-ferns gave their incomparably delicate appearance to grace the vegetation; running streams occurred more frequently, and the ground became springy and cool under our feet, while it acquired that rich black colour so suggestive of fertility in the tropical virgin soil of Mosquitia.

I bitterly regretted that I had no books of natural history with me to refer to, such as Hemsley's and Godman and Salvin's "Biologia Centrali Americana"—this district being of peculiar interest, as it is somewhere here that the remarkable change must take place for the fauna of Gautemala to pass into that of Costa Rica, and we were here just north of the line of separation.

Mr. O. Salvin considers "that the district included from the rise of the mountains to the north of the Panama Railway to the southern shores of the Lake Nicaragua and the Rio San Juan forms the key to the peculiarities of the Central American bird-fauna."

"Previously to the separation indicated between Costa Rica and the southern continent, but when the more northern strait, where the Lake Nicaragua now stands, was open, the species of the northern portion of South America and Costa Rica were identical and but few neo-tropical forms existed northward of this separation. A further subsidence must then have isolated Costa Rica, where, during a lengthened period, most of the species have become slightly modified. A rise of land to the extent of the present contour of Central America then took place. The old straits, now land, have been occupied by contending allied races; sometimes the Costa Rican and sometimes the southern races prevailing; occasionally the southern race penetrating through the country of its representative and driving it before it. Towards the south the Costa Rican species have soon met with their representative races by which their range has been stayed; while northward, impeded by no such barrier, they have spread as far as climate and the supply of their necessary food would allow them; the most strongly-defined limit in this direction being probably the northern boundary of the tropical virgin forest."\*

"Dr. Selater has carried the ornithic limit between the two regions up into the heart of Mexico, but not without hesitation. Even more than in the Mammals, Central America is a sort of debateable ground, in which the species of birds both from the south and the north meet and overlap each other."—Andrew Murray.

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\* Vide "Proceedings of the Zoological Society, 1867," p. 131.

April 7th.—A fine tapir comes and looks at us across the stream. The nipple of my rifle is foul; so I take the smooth-bore breech-loader and wound the beast, who retires precipitately, followed by self and one or two boys (Caribs). I find blood and traces of the animal; but after a long and ineffectual search, fail to track the beast, the jungle being too thick to follow. To-day the salt came to an end, which causes more murmuring, and at last open mutiny; consequently Domingo, the ringleader, another Spaniard, and the boy who came in with me are sent back to San Miguel.

April 8th.—Camp is broken up and sent on by Simon in two trips. Whilst waiting at the half-deserted camp, a fine tapir (called also Dante or mountain-cow) strolled close up to me, and I was able to take a deliberate aim at the beast within three or four yards, when the cap snapped. He still seemed undisturbed; when again drawing trigger, the rifle re-capped, another similar failure, and the discomfiture of seeing the Dante disappear at a lumbering trot. Our meat being short made it still more annoying. I find that the remaining caps are all bad, so the rifle is *hors de combat*.

April 9th.—Collinson and I proceed up a neighbouring dry creek in search of game; but are unsuccessful. Break up our camp, leaving stores in rancho, and move on a mile, where we are quickly followed by a relief-party under Eusebio, Julio, and Ezekiel, who bring in one horse, two oxen, and another left dying on the road. In meantime Perry, with the cutting-party, is badly wounded by a dry tree falling on him, and is carried back to camp, which we pitch in convenient bend of the river. Hear of the death of Dr. Grand by cholera at Grenada; sorry for his pretty widow.

April 10th.—Rearranging stores till after breakfast. Make up cartridges, build a rancho, and leave depôt of stores here. Eusebio, Julio, and Ezekiel, with Concepcion, return to San Miguel with letters from Collinson. Break up Camp XX., and move up to cutting-party; pass a pool, and when stooping to drink, find it guarded by a long black snake ten feet long, which skedaddles quickly. Another small snake crossed in front of my feet the same afternoon. No game. Mosses in fantastic wreaths cover dead branches, making them even more lovely than when alive, if possible. Fern similar to large button-fern and magnificent specimens of *Coleoptera*. Camp at small stream under steep bank; make our quarters further than usual from main camp. Consultation overheard among the men as to the propriety of leaving us. Things begin to look bad.

April 11th.—Make up more cartridges before moving. Jaguars heard at night; however, we do not think much of them. Magnificent tree-ferns with furry stems (handsome section exhibited when cut). Walk alone to join party in front; pass through a lovely valley filled with birds of bright and lovely plumage. In one thicket, wherever the machetes had cut or scoured the bushes, a deep red blood-like dye (*Anona reticulata*) or juice exuded (reminding one of Virgil, book III.\*)—logwood, fustic, quassia, brazil-wood,

\* "Nam, quæ prima solo ruptis radicibus arbor  
Vellitur, huic atro liquuntur sanguine guttæ  
Et terram tabo maculant."

"Æneid," III, 27.

and Nicaragua-wood. In other places orange and purple dye-woods present similar exudations. St. Juan and Poro yield a beautiful yellow. Lichens abound; few fungi (too dry at present for them). Large-branched tree-ferns are covered with hairy knobs similar to stags' antlers. Firefly, when at rest, exhibits only two green lights, one on each side of its head, like a miniature steamer's starboard-light. When in motion, however, a reddish light from underneath is exhibited; and on flying through the air, the quicker the pace the brighter the abdominal light shines, sometimes scintillating and flashing, at other times steady, but always paling the two green signal-lights, which are insignificant in comparison. Each green light equals the light of one English glow-worm. The streams all flow the right way now, and we are no doubt in the water-basin of some system leading to the Atlantic, either Rama or Indian rivers.

Delayed by a morass, across which Collinson throws a bridge; but most of the animals come to grief, refusing the bridge. No mosquitoes, and fewer ticks. Wonderfully brilliant fireflies and glow-worms; one of the latter similar to an illuminated pearl ring. Jaguars round the camp at night as usual.

April 12th.—Chiquot (Costa-Rican), when bringing in the oxen, finds tracks of tiger which had been prowling about them last night. For several days there have been some perplexing differences of reading between the compass-bearing and theodolite-angle; so we are anxious for a camp where we can observe the Pole-star or Southern Cross. The trees have been so impenetrable about us lately, that hitherto any view of the stars was impracticable. Easier ground fortunately for levelling and for the beasts of burden to pass, but difficult cutting through the bamboo-thicket.

Cross a stream or two flowing to the north; this looks as if we were in the delta formed by the two branches of the Rama. The men kill a barber's-pole snake\* and a curassow. Collinson put up a deer; but he was not armed, so unable to shoot it.

In the course of the day I try the effect of leading the cutting-party with machete in hand. I plunge ahead; but find the effort too hard to keep up, and the heat too exhausting. Camp on north side of stream flowing north-east, and clear it well, as we are to halt, as usual, two days. Deviation of compass, owing to small black grains of titanite iron in the lava and tuffs from this volcanic region, especially on sides of hill. Compass almost useless. This led probably to Cauty's result. At night we can see from our position both Pole-star and Southern Cross.

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\* This beautifully-banded "barber's pole," or coral snake (*Elaps*), whose bite is deadly, is marked as conspicuously as possible with bright bands of black, gold, and crimson; and so easily seen, known and avoided. The largest snake we came across was a large rock-snake, called by the Ramas *plupu taya*; we also heard wild stories of the huge boa-constrictor, the *wowlas* of the Mosquito tribes and the *tragavenado* of the Spaniards. There is also the *tommygoff* snake, not unlike the rattle-snake, as well as the *tamaçusa*, a small, very deadly, yellow snake, only eight inches in length.

There is a vine (*Vejuca*) which is looked upon by the Caribs as a certain cure for the most venomous snake-bites. It must be similar to the *guaco* or *cundurango* (*Mikania guaco* of Endlicher), to the leaves of which the condor of the Andes is said to resort when bitten by a poisonous reptile.



April 13th.—Simon goes back with the mules for the bulk of provisions left at Camp No. XIX. I stay at camp all day making a rancho. One of the oxen breaks down, so is brought along without a load. The cutting-party are working slowly. The men discontented, and provisions low. The cook, Watson, is most extravagant in his expenditure, and will not cook the beans, but expend at once flour and rice and such like economics. The men evidently contemplate deserting as soon as their time is up. Dine off rice and honey found in the woods, one small tin of potted meat, biscuit, and tea. We find the remaining small store of potted meat and liquor stolen so continually that we lock up as a reserve store all remaining, and are to keep it for an emergency.

I clear a spot from which in the evening we take some careful observations; and find the magnetic variation to be  $4^{\circ} 30'$  east, at least three degrees different to what Mr. Collinson's calculations have been based on. Owing to the presence of unusual quantities of titaniferous iron, loose black grains of titaniferous sand with crystals of iserine (*Pseudomorphous*) may be taken up by a magnet on the shores of Lake Nicaragua in an unmixed state. Composition—oxide of iron with proportion of titaniferous acid or oxide of titanium; it is of no value in the arts, and presents the appearance of glittering coal-dust.

April 14th.—A well-meaning curassow came close to camp, and I was very happy to shoot him in time for dinner. According to the survey projected up to this time, we ought to be within nineteen miles of Rama Station, our destination. In the afternoon Collinson and I stroll out in the cutting and pass the curious open ground they cut through yesterday, with paths through the undergrowth of mountain-cow, &c. Bring back a couple of guans; very acceptable to the camp, where meat is scarce.

April 15th.—Break up camp and move on, leaving proportion of stores in the rancho, with a note for anyone who may follow us, directing them to it. Murmuring among the Caribs; their two months' engagement is up, they say, and they will not work any longer, so will start to-morrow morning. Meantime the cutting goes on as usual, and we make our camp on the north side of a small stream flowing south-east.

April 16th.—Many of the trees when cut or bruised give out poisonous juices; and the scratches caused by thorns are very apt to fester, &c. Our arms and legs suffer accordingly.

Six of the Caribs (*viz.*, Gomes, Laurie, Pedro, Santo, Santiago, and Thomas), with Chiquot, the tall Costa-Rican, desert in a body early this morning—stating, as their reason, that they could not live any longer on nothing but frijolas, which gave them, in their expressive language, "belly swell." Our party, although reduced to ten in all, resolve anyhow to reach the Atlantic. They are not allowed to take any provisions with them. Simon and I go back to last camp to guard and move up provisions for fear they should sack our stores. Shoot two guans.

Our party now consists of three Englishmen, Collinson, Deering, and myself; two Caribs, Perry and Simon; one Creole (Jamaican), Watson; four Spaniards (Nicaraguan), José, Bruno, Gregorio, Chiquot Perez. Do not move camp, but stay here. Make up cartridges and arrange stores, which are very small now. Go out with my gun after game,

but return without success. The levelling will now have to be given up and just line-chained and plotted. On returning from observatory camp, I found a young chick guan, which I caught and kept alive. My hammock comes down with a run, and I have to spend the night on the ground, eaten alive by ticks.

April 17th.—Party now arranged as follows:—Collinson, with Simon, Perry, Gregorio, and José, form cutting-party; Deering chains with Bruno; and I move the camp with Chiquot Perez. The pay of those men remaining with us is raised. The small kind of mosquito called strikers, which deposit a grub in your limbs, are very spiteful at No. XXIV. Camp. Break up camp. I shoot a cock curassow on the way; and when we reach camp find Collinson has shot a queen curassow, brown with white spots (*Crax fasciculata*, crested curassow), differently marked.

On reaching a pretty stream, we breakfast, make our encampment. Soon after a party, consisting of Sonnersten and Anderson, with the Spaniard Domingo, reach us from San Miguelito. I get letters from home announcing the birth of my second daughter; also one containing a page from the "Saturday Review" on my Madagascar Sketch-book, and a journal. Morris has come into the cutting; but an attack of fever compelled him to go back.

April 18th.—Just as Sonnersten is leaving, Captain Pim arrives mounted on a good mule; and having been only two days coming in, shows what can be done with good mules. Captain Pim relates his serio-comic adventures up at the Javali mines. How Captain Holman drew his revolver on him, and was accordingly shaken and summarily dismissed.

Go on in the cutting with Captain Pim and Collinson, hit tributary of Rama River warm water, and no mistake about it. Named Susanna River in compliment to Mrs. Pim. Captain Pim and self wade and walk a considerable way down the river. Get a nip of sherry-and-bitters, a great treat. Distance from San Miguelito 34 miles 870 yards. Level 398·62 feet above sea-level.

April 19th.—A Jamaica man named Collins, a muleteer, whom Pim had engaged to bring the provisions into the cutting, arrived in the course of the morning. A holiday and cessation of work is also observed on account of Good Friday. Collins, it appears, on meeting the six Caribs who deserted us, allowed them to help themselves to whatever provisions they liked; and consequently the *serones*\* were considerably lightened. A demi-john of rum containing two and a half gallons leaked or evaporated to as many pints. Mr. Deering goes back to the last rancho with Ezekiel and Florentio, who stay in the cutting with Julio.

April 20th.—Pack up and leave Bedford Camp No. XXVII. Cutting crosses the river two or three times. After breakfast join the cutting-party, and cut the river again at Cecilia Falls. Shoot a macaw (green one) and a quail; and whilst waiting alone (on the spot I had selected to camp in) put a charge of B.B. into a tigrillo, or black mountain

\* Ox-hide sacks.

tiger-cat (*Felis tigrina*), which came by hunting in a stealthy manner. Pass where Warree (*Dicotyles torquatus*) had been clearing all before them. Collins does not turn up till dark with the camp equipments.

April 21st.—Rain during the night, so that there is a general drying when the sun comes out. Make the occasion a fête, in honour of which we eat a *pâté de foie gras*; and Watson, rather out in his dates, puts crosses on the flour dampers, and calls them hot-cross-buns. Bathe and swim in a fine pool below the falls. Look out for alligators, as the water is warm enough for them; and this stream, evidently a tributary to the Rama River, is called Susanna River; the falls are named with due ceremony, and after Mr. Collinson's wife Cecilia. A flag and staff is raised in a prominent position, and I secure a sketch of this charming spot.

Serve out fish-hooks to all the men who wish for them; and we soon have plenty of fish for everyone. Mountain mullet are first-rate eating. Observe the tiniest of humming-birds, one of the shady ones. One hardly knows which to admire most, the birds smaller than butterflies, or the butterflies and moths larger than birds. One blue butterfly is a splendid fellow.

The brilliant metallic-hued lizards are numerous; one has a curious yellow breathing apparatus which projects from and retires to its breast. This lizard affects water. One with brilliant phosphoric blue tail, has a curious expansile throat; it is an anolis (*Anolis*). When frightened, it will often turn to bay and intimidate its foes by puffing out its throat. It frequents the banks and stones of these rivers.

Sometimes we were deterred from pitching our camp from finding the site, selected in advance, threatened by the much-dreaded *tarring*, or foraging ants, in whose line of march the desired spot lay. These tarring ants (*Eciton predator* and *E. hamata*) march in warlike array, in marshalled columns of countless numbers, sometimes a furlong in length and six feet broad, clearing everything edible in their track. They serve one useful purpose in clearing buildings of cockroaches and vermin. The late Mr. Thomas Belt, F.G.S. (who took charge of the Chontales Mines, a few months after my visit), has given most interesting details of the reasoning powers of the numerous species of ants which inhabit this region, in his valuable work, "The Naturalist in Nicaragua" (1874).

Another species of ant, called by the Indians *wee-wee*, are noticeable from their leaf-carrying propensities. The long processions of these leaf-cutters (*Ecodoma*) are conspicuous throughout the forest region, hurrying with their vegetable burdens to their formicaria, where they deposit their leaves, forming ingenious hot-beds, the purpose of which is not known for certain, although the late Mr. Belt, who studied their habits at Chontales, asserted, with reason, that these heaps of decaying vegetable refuse were intended by the depositors as miniature mushroom-beds, the fungi from which are used as food.

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## CHAPTER VI.

Bright-coloured frogs.—Shoot a puma.—Desertion of labourers.—Make a raft.—Difficulties of a raft-voyage.—Rapids.—Meet relief-party.—The big falls.—Rama River.—Return to England.

APRIL 22nd, 1867.—Build a rancho, and leave behind us major portion of provisions which we are unable to carry, especially seven sacks of beans. The mule-train under Collins behave even worse than yesterday. Notice scarlet and blue tree-frogs, quite lively, which, however, on approach of danger, appear to exude a fœtid moisture which saves them from being preyed upon by snakes.

April 23rd.—Collinson shoots a curassow, which is very acceptable. Whilst Deering picks up the surveying behind, Collinson assists me in driving the mules, and they all, each and severally, come to especial grief in the bogs and ravines, of which we have to cross several. The bull turns out to be the best of the lot. Lose one mule in morass.

April 25th.—Break up camp and move on. The country pretty easy but dry, and we breakfast on summit of high ridge, and eat the tree bare. The quequistas fail, and we make the most of our last taste of them. After putting the camp in motion, I go on with Collinson and the cutting-party. Through some bamboo-thicket I rouse up a deer, but, of course, not having bullets, a shot was out of the question. On the look-out all day, but shoot nothing; plenty of macaws and parrots, but no game.

In afternoon cross a dry watercourse; by hunting down it we find a pool about a quarter of a mile from the cutting, and I establish our camp in the watercourse. Catch land-crab, good size. This day passed wild vanilla; no pods upon the plant, however. Covered with garrapatas. There is no peace for the wicked.

April 26th.—Bruno came and aroused me early, with the intelligence that there were wild boar in the neighbourhood. I accompanied him down the stream, and soon find their tracks. Trace them through the woods, and come up with a large herd of them. I get a shot at one, and give him two barrels of B.B., which have no effect on his tough hide. The whole herd bolt off sharp, and I pursue them some way, and, thinking Bruno was close behind me, did not take much notice of where I was going to; consequently, when I turned round to retrace my steps, I found I had altogether missed my way, and

had to wander about a long time before I reached camp. The cartridges are nearly all spoiled, so that it took four barrels to shoot a curassow.

On arriving at stream saw two tapirs, and gave chase to one; got two shots with slug at one, but only wounded it. Camped here. Muddy stream, barely flowing; water bad; marshy banks. Men kill a long black water-snake. Pass the vines used by Indians for intoxicating fish.

April 27th.—Simon sets out early to go back to the rancho at Cecilia Falls for provisions, now reduced to tea, coffee, sugar, beans, native cheese. I shoot a guan before breakfast, at the foot of a steep hill we had surmounted. On the top of the hill we had passed a small cave, the earth of some wild beast or uncanny animal. Natives declare these caves, of which we saw more, to be made by owls. We all take quinine twice a day at present. Weather still dry in daytime, damp and chilly at night. Many small and elegant varieties of palms. My health lasts well, but continual perspiration and fatigue makes us all feel not quite up to the mark without any stimulant. Return to camp early. The cutting-party progress well, cutting the Susanna River again at 80°, which puts us in good spirits.

April 29th.—By this time Charles, the Creole, and his party, with provisions, ought to be at Rama Station, on the look-out for us, and we are at least twelve miles from there, even according to Mr. Collinson's calculations; but, as far as I can make out, the localities have been so badly fixed that we may be fifteen or twenty miles off. As there is no game to be shot, we are expending the reserve potted meat daily. Walk up as far as the river, which we cross, Collinson leaving a note in a prominent position, to be seen by anyone ascending the stream.

Breakfast across the river, which now is a really important stream. I descend alone two or three bends of the river, as far as its junction with Deering River; below, the river seems deep and navigable for large canoes, which gives hope that we may be nearer than we imagine. This day we only have four animals to carry the camp, &c. Horse very weak, lies down continually; and one mule has a lump on its side suspiciously like a broken rib, and from the amount of tumbling and rolling it has had, it is only what could be expected. No game to be seen or shot. Make our camp late at the extremity of cutting. Mr. Deering has another attack of fever. Troubled with mosquitoes. Find curious insect with wings like two dead leaves; (*Pterochroza*) species of Orthoptera.

April 30th.—Up early and hunting unsuccessfully for game. Hear a curassow, but cannot get near him. The bird makes a peculiar booming noise, but it is of a kind that it is difficult to know from what direction it comes. The horse gives up its life, poor beast. Whilst packing up the camp, Chiquot marks a curassow, which I shoot. Break up camp and join cutting-party. Simon hears some curassow, and I leave the track and hunt after them, and get a brace, a fine cock and hen. Camp in a nice open-wooded valley, good water. Catch a land-tortoise with an enormous garrapata on it.

May 1st.—Plenty of *Gamelote* long grass on banks. The beasts wander far, and are difficult to find; at last the small macho is found, but the bull is lost, so now two beasts

only remain, and one is not worth much. Breakfast off curassow and frijolas; join the cutting-party when they hit the main branch of North Rama River, which we cross, making our camp on further side. See an alligator for the first time since we left the lake. Perry declares that he recognises the river, and says that we are about ten miles from Rama Station; but eventually confesses that it is only conjecture on his part. None of the Caribs are ever to be believed. Traces of Dantes at water's edge, and other large game. Fish caught by Ezekiel. Large eboe-trees, and, consequently, *coxendeer*, a large species of black ant (?), with malicious nippers in its large head, which frequent these trees.

Towards early morning, before daylight, the dew is condensed on the summits of the lofty trees and drips down—the changes of temperature up aloft being greater, whilst under their shelter the temperature is more agreeable. It is difficult to estimate the height of trees. Collinson puts the limit at 300 feet, and he is experienced. I put it at a lower figure. Camp on north side of Rama. I proceed a short way further with Collinson. See plenty of iguanas; more than enough of garrapatas, and the mosquitoes increase in numbers and activity.

May 2nd.—This morning the stores are examined, and only one day's supply of frijolas remaining. Simon goes back with José and Perez to the rancho, at No. XXXI. camp, and, consequently, we have to halt to-day instead of Saturday. Shoot a guan marked by Mr. Deering's party, when we overtake them. Collinson and self go on to cutting-party, and reach them where the cutting crosses a little stream; ascend it a short way to cross it without getting very wet, and select a good spot, where we breakfast.

After breakfast heavy thunder-showers come down, and I, after hunting in front of the cutting till 2.30, set out alone to go back to camp. Before reaching place where we had breakfasted, met Deering and levelling-party; pass them, and whilst creeping under a steep bank in a *quebrada*, on reaching level ground hear something spring, and, turning, see a puma who I am forced to shoot in the head.\* He tumbles into the stream. I subsequently fetch Deering and one of his men, who assist me in dragging out the beast and skinning him. On my way home I meet wild boars, but fail to get a shot. Simon returns without the cargo-bull, which is a great loss.

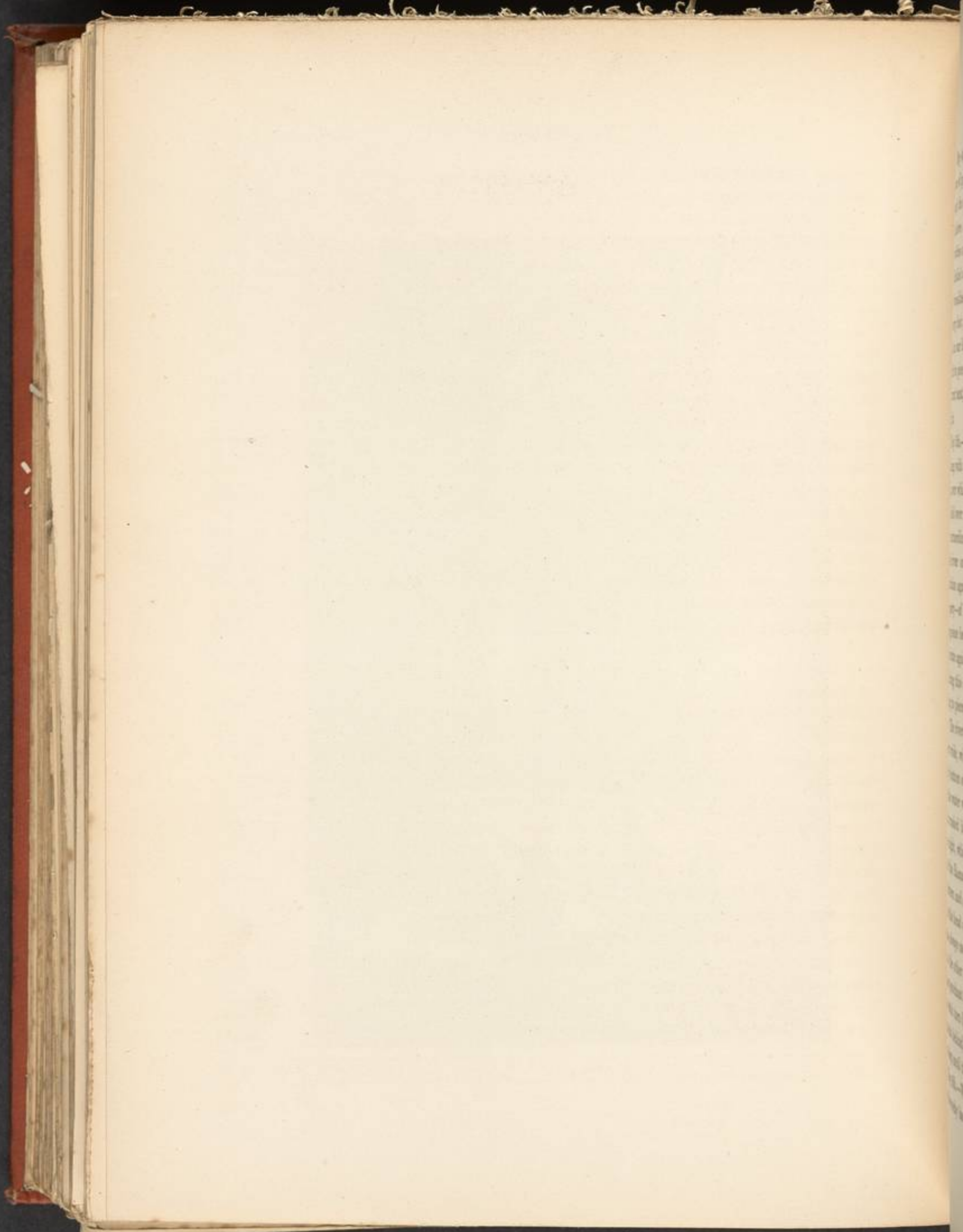
May 3rd.—Collinson leaves with Perry, Julio, José, Chopin, and Ezekiel, with small mule and provisions for two days, to cut to the fork of the Rama River. We meantime, viz. Deering, Simon, Watson, Florentio, Chiquot, Perez, remain at camp. Prepare a raft to float down the party and provisions. Raft is composed of ten planks of mountain mohoe, split—a light wood, something similar to the trumpet-tree, floats like cork; a small platform is arranged in the centre, on which the provisions (now much reduced) are stored, and is christened the "Mountain-cow." At night at 8.30 we hear the distant report of Collinson's gun, and fire a rocket in reply. Florentio brought in a brace of guans, which was satisfactory.

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\* See Appendix for details of this adventure, written by the Author for a French journal.



RAFT JOURNEY ON RIVER RAMA. [To face p. 368.]





May 4th.—Embark tents, provisions, &c., and proceed round the point, where I shoot a brace of guans and catch a fine guapote for breakfast. After the monotonous tramping through the woods, the movement of the raft is delightful. The raft is reduced to nine split halves of mountain-mohoe timber, fastened by two polancas crosswise, and bound with withes or behookas.

Ezekiel arrives with a letter from Collinson, upon which we break up our station, and, after breakfast, float down the calm still waters of the Rama, along still lake-like reaches. Sun very hot; we have been so accustomed to the shade of the forest, that we feel it very much on our heads. We arrived at the falls about 2 P.M., and at once set to work to take the raft to pieces, floating it piecemeal over the falls, and preparing it ready for next day. Construct tent, &c. among the trees some way from the bank. Disturbed by wild beasts at night.

May 5th.—At first we glided down the river calmly enough, the men pushing our raft along with their "polancas"; but after about a couple of hours we came on rocks and rapids, over which the raft could not be passed, but had to be taken laboriously to pieces, and pulled over stick by stick. While this operation was being performed we saw a jaguar of an extraordinary size, fully as large as a Bengal tiger, cross a small tributary running into the river on the right, and make towards us. The raft was fortunately ready for embarkation again; so we deprived our friend—who, I believe, would have attacked the whole party—of the chance of a meal. I must here note that, like all else, our bullets had long since been expended, and it would have been foolhardiness to court a contest with such a brute against B.B. shot.

During this day no less than five rapids were passed; and so laborious was the work of taking to pieces and putting together the raft, that we travelled scarcely more than two miles. The river was a succession of long pools, fifteen to twenty feet deep, and about 150 feet wide, with scarcely a perceptible current, connected sometimes by rapids, with gravelly bottom strewn with boulders, and at others by crevasses in the basaltic rocks, in which the water would be confined in narrow, tortuous, and grimly black passages, down which it rushed boiling and frothing to another silent pool. A few banana-trees were seen before night, which gave us hopes that we might fall in with Indians. In times past some of the Ramas must have come up as far as this point. There were plenty of water-fowl, bittern and cinerous boatbills (*Cancroma cochlearii*), with their queer beaks.

At the head of one of these romantic chasms we camped the first night. The wild animals always use these contractions of the river for crossings, as they can jump from one rock to the other without entering the water. So many jaguars and tapirs, who have a peculiar penchant for trampling out fires, surrounded us during the night, that we had to keep watch turn by turn for fear of an attack, while those not on duty, having left their hammocks behind, would seek the most comfortable holes in the rocks and curl themselves up to sleep until their turn for watching arrived.

May 6th.—We are up betimes, and whilst the men are hauling the logs of the raft over the rocky barrier, which here dams the river, into the pool beneath, I find a few

remaining fish-hooks in an envelope (a last present from my brother Farquharson), and catch some savallo and guapote, of which we make a good breakfast, *i.e.* about fourteen pounds of fish to us six men.

We embark again on our frail craft, again reduced in size, and, after continual windings and many turns of the river, whose banks are now further apart, we halt for a mid-day meal. The water-fowl are numerous, including various herons (*Ardea virescens*, *A. candidissima*, *A. cærulea*), *Alcedininae*, as *Ceryle torquata*, *C. cabanisi*, *C. amazonia*, as well as the fish-eating toucan (*Rhamphastos piscivorus*), and rails (*Aramides* and *Porzana*, *sp.?*). More rapids and longer stretches of open water, over the deeper parts of which we float with the stream lazily, and using the polancas when shallow enough. Before evening I bagged two large, fat, female iguanas as well as a bittern.

Arriving at some falls before night, we halt and bivouac for the night. On the banks of the stream were willow-like trees, such as the *Lindenia rivalis*, mingled with *sung-sung* bushes and the execrably thorny bamboo called *sookwa*, which makes impenetrable thickets. Out of the undergrowth uprose taller flowering *Bignoniaceæ* (*Astianthus longifolius*) and *compositæ*, with the "Sillico" palms and lofty silver-barked guavas, whose branches are even too slippery and polished for the monkeys to ascend, and consequently they are the favourite resort of mot-mots and orioles.

May 7th.—Early this morning fishing, and find a nest of alligator's eggs in the sand; open some of them and find the young alligators nearly hatched, and quite alive and lively; try them as bait for guapote, but they do not answer well. Still rapids and pools alternately presented themselves, and so frequently came the former, that more than three-quarters of the day we were up to our waists in water, passing our "mountain-mohoe" logs (by this time reduced in number to *six* planks) down the torrents. Halted at a lovely spot to breakfast on a large iguana I shot, and where the butterflies were noticeable for their beauty, as *Urania sloaneus*, *U. leilus*, &c.

Resuming our voyage, we floated down a long beautiful stretch of the tranquil waters of the Rama. On a sudden, turning a sharp corner, a cheer burst from all hands; for there ahead of us, not 300 yards distant, on a prominent rock jutting out into the river, was Captain Pim, accompanied by Charles (the "boss" of Collinson's 1863 expedition) and another Créole, who represented our provisioning party. The Atlantic and Pacific were at last united, and all our anxieties were at rest.

After the first joy of our meeting had subsided, on inquiry we found that the bulk of our provisions had been left outside the bar of the Rama in a sheltered nook called Grindstone Bay, as the sea was running too high at the time to admit of a safe entrance for a loaded canoe. Collecting together all the party had brought up with them, we sent some men back to Mr. Deering to inform him of our success and stay his further progress down the river. A large portion of Collinson's diary, which was fuller than mine, is here incorporated, as my original pencil jottings of this portion of the journey are here very illegible and incoherent. See Proceedings of Geographical Society, Nov. 25, 1867.

We then continued the descent of the river, and, following the party to where

their canoes had been left, we came on the grandest falls yet seen. We had often heard rumours from the natives of the "Big Falls" just above the junction of the north and south branches, and of their terrible nature, but until then had set down much to their fondness for exaggeration. But we were rapidly undeceived, and understood how easily the superstitious feelings of the Indians would be worked on by the sight that now met my eyes. The river running its placid course between low banks covered with "scutch" grass, wild plantains, tree-ferns, and the venerable spreading Indian fig-tree, clothed with a matting of creepers (*Bauhinias*), and vines falling down over the water from their overhanging branches, like a curtain, suddenly changed: a great upheaval of volcanic rock, which had evidently, by damming the river, formed the long deep pool above, barred its progress, but opened a narrow winding passage, down which the water rushed for over half a mile, and dashing up against the caverns it had hollowed underneath, often obstructed in its course by immense masses of rock hurled by some convulsions of nature into the stream, sent for miles an ominous sound like confined thunder. The rocks, bare of vegetation, and frowning black and perpendicular from the waters, completed the weird contrast of the picture.

May 8th.—This day, the 8th, we arrived at Rama Station, an old Indian village. We then continued our voyage as far as the first inhabited Indian village. The chief, who had assumed the name of "Shepherd," soon recognised us and held out the right hand of fellowship. This man is about the finest Indian I ever met—a Rama, though perhaps hardly pure, as he has a slight moustache, but preserving all the other characteristics, clean shining brown skin, height fully six feet (though, from his immense breadth and muscular power, he seemed much shorter), with an intelligent expression and severe and determined countenance. He soon stirred up his wife, who, according to their rigid laws, may not speak to anyone out of the tribe, and ordered her to prepare some *mishla* for us, but, at my request, without the chewing process. This *mishla* is a drink prepared in a similar manner to the *kava* of the South Sea Islands, out of cassada (*Jatropha manihot*), ripe plautains, pine-apples, and cocoa-nuts.

May 9th.—At 3 A.M., in a heavy shower of rain, sleeping like a babe, but perfectly wet through, I am awakened by Captain Pim, who tells me that we have arrived at the village at the mouth of the Rama River. We soon take up our quarters in an empty hut, and renew our damp slumbers, in our still dripping rugs, till 6 A.M., when a cup of rye-coffee and a ripe banana, followed by a hasty bathe, revived us; and after hastily swallowing a cup of coffee, we started off for the bar, knowing the necessity of crossing it as soon as possible, for fear of one of the gales, which often occur at that season of the year, arising and stopping our progress. To our intense disappointment the bar was declared impracticable, there being three distinct lines of breakers, one outside the other; two were the limit, our men said, they could cross in safety; nevertheless we determined to cross.

Tincum's village, a collection of about twenty huts, was certainly a model Indian settlement; the huts were all beautifully built of stout posts of lancewood (*Duguetia*

*quitarensis*), filled in with tough "silico" stems, and roofed with the leaves of the swamp-growing "scumfra." They were incomparably superior to the wretched Spanish hovels of San Miguelito, and showed strongly the superiority of the pure Indian over the mongrel descendants of his race and the Spanish conquerors.

The hatred of the Ramas for the Spaniards was intense, and only the friendly feeling of the former towards me saved the latter from destruction. Before parting Shepherd gave the Spaniards a hint that if they ever came to his country alone he would have the greatest pleasure in killing them all. The statement was made in such a serious matter-of-fact way that I could not help laughing; but the poor Spaniards, gazing on the giant's proportions, evidently did not feel safe or happy until they had left him some way behind.

In spite of our men's warning of the still dangerous appearance of the bar, our patience was exhausted, and we determined to try it; packing our canoes we steered steadily for it, and, watching our opportunity, darted over with a slight ducking, but in perfect safety. That evening we slept at "Great Grindstone Bay," as the men feared the Greytown bar at night. Sand-flies innumerable bit us during our hasty sleep.

At 11 P.M. we re-embarked, had plenty of rain, and arrived at Greytown over a tranquil bar at half-past 8 next morning. So ragged and wet and worn, without shoes or stockings, which had long since quitted us, were we on arriving, that the honest people hardly knew us; but a good sleep, wash, and decent clothes soon put us to rights. Our health, notwithstanding all hardships, had never been better.

May 10th.—Pim embarked in the *Santiago de Cuba* steamer, in which (on his way to New York) he was wrecked a few days subsequently on the coast of New Jersey, five lives being lost in the attempt to land.

On embarking on board the *Danube* steamer, lying at anchor in the roadstead off Greytown, on the 12th May 1867, I was informed that the ship was haunted by most curious noises at night since she had arrived, and that the superstitious black sailors were much frightened at what they thought must be a ghost. The captain and officers could make nothing of it, and it afforded a great matter for discussion. On inquiry I found out that other iron ships had been similarly affected. Curiously enough this noise was only heard at night, and at certain hours. Some attributed it to fish, suckers, turtle, &c., others to the change of tide or current; but no satisfactory conclusion could be arrived at. When night came on there was no mistake about the noise; it was quite loud enough to awaken me, and could be heard distinctly all over the ship. It was not dissimilar to the low monotone of an Æolian harp, and the noise was evidently caused by the vibration of the plates of the iron hull, which could be sensibly perceived to vibrate. At first the vibration was slow, giving *beats*; then as the vibratory motion quickened, these beats merged into a low booming tone, the regular "*grave-harmonic*."\* What caused this peculiar vibration? Not the change of current and tide, because, if so, it would be heard by day. Like everything else that we cannot explain, I suppose we must put it down to

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\* See "Nature," vol. ii., 1870, pp. 25, 46, 356; vol. iv., 1871, p. 26.

electricity, magnetism, &c. If this should meet the eye of any of the officers of the above-mentioned steamer, or others who have noticed this phenomenon, I should be glad to hear whether this effect still continues, or if any satisfactory conclusion has yet been arrived at. I may add that from the hold of the vessel the grunts of the toad-fish could be distinctly heard.

The remainder of this journey *off duty* need not be detailed. Suffice it to say I reached Southampton on the 13th June, and reported myself at Fort Brockhurst the following day. As soon as I could get leave, I once more found myself within the sound of the church bells of Bovinger.



BOVINGER CHURCH.

## APPENDIX TO PART III.

## DANS LES FORÊTS.

C'ÉTAIT le 2 Mai 1867 que notre petite colonne d'exploration campa dans les forêts sur la rive nord d'une rivière découverte le jour précédent, et que nous supposions être probablement la Rivière Rama, cherchée par nous pendant plusieurs jours.

Depuis que nous avons quitté le bord du lac Nicaragua, le chemin que nous nous frayâmes nous conduisit toujours dans des forêts et des fourrés si épais qu'ils interceptaient les rayons du soleil. Cependant ça et là dans cette obscurité solennelle nous trouvions de petits oasis (*wind-rows*); on les trouve ordinairement dans les lieux les plus exposés aux ouragans, qui déracinent les grands arbres dont les troncs s'empilent les uns sur les autres. Les arbres de haute futaie sont magnifiques; entre autres l'acajou, l'éboe, le caoutchouc, des espèces nombreuses de palmiers et des bambous variés. Leurs branches et leurs troncs énormes sont attachés par des lianes entremêlées de plantes parasites et grimpantes, et de begnes, d'une nature inextricable qui ressemblent au cordage, ou aux cables et aux chaînes d'un navire. Une variété innombrable de plantes aériennes d'orchidées et de fougères couvrent les troncs et les tiges, tandis que les mousses, les lichens, les champignons et les lycopodes suspendus font briller de mille couleurs jusqu'aux arbres renversés. En dehors des arbres de haute futaie et du caoutchouc ces forêts sont très riches en arbres qui produisent des teintures diverses, et la vanille et le cacao sont des productions indigènes. On peut, si l'on considère que l'expédition ne pouvait avancer de plus d'un mille par jour, s'imaginer l'extrême densité de la futaie et il arrivait souvent qu'après le travail le plus dur, le progrès en avant était d'un demi-mille seulement. Les naturels Caraïbes sont bons pionniers et très habiles avec la cognée et le machete (espèce de grand croissant). A cette date (1r. Mai) notre petite expédition était dans une situation peu digne d'envie, notre nombre était diminué par la désertion des métis Indiens, Espagnols, bien que les Caraïbes nous fussent restés fidèles, nos bêtes de somme étant d'autre part mortes par l'excès du travail, par la mauvaise nourriture, et par la dent des bêtes féroces. Nos comestibles aussi

étaient presque consommés à l'exception des fèves sèches (*Frijolas*) et d'un peu de thé, mais cependant nous avons repris notre gaité après la découverte de la rivière aux eaux chaudes, dans laquelle nous pouvions voir des alligators, tandis que dans les buissons aux bords de l'eau nous rencontrions des iguanas immenses. Ces derniers à la moindre alarme se plongeant dans le courant: comme à l'ordinaire les mosquitoes et les tiques étaient innombrables, et de plus une certaine espèce de grandes fourmis nous causa de cuisantes douleurs. Nous étions descendus depuis quelque temps des passes entre les montagnes; et par conséquent le climat était plus étouffant, mais cependant assez agréable. La nuit les miaulements des jaguars et les hurlements des singes noirs n'étaient pas très agréables. Notre réserve de fèves était si maigre que le 2 Mai vers midi je quittai mes travailleurs en avant des bucherons Caraïbes, et je revins seul sur mes pas vers le camp à la recherche du gibier.

Ma carabine rayée était restée au camp, mais je portais un bon fusil à deux coups (système Lefauchaux fabriqué à Liège chez Jongen Frères) chargé avec des cartouches à aiguilles contenant du plomb de chasse (petits boulets), j'avais l'œil ouvert et j'étais tous oreilles pour le bruit des sangliers ou pour le pas d'un cerf dans le fourré; d'ailleurs quand j'approchai de la rivière je me tins en alerte dans l'espoir de voir un tapir. A trois heures après midi j'arrivai à une petite ravine (*quebrada*) au fond de laquelle était un ruisseau et ça et là un trou peu large mais profond. Il fallait éviter les trous et se trainer peu à peu jusque sous une haute berge ayant les arbres en surplomb, et par conséquent j'étais forcé de désarmer les batteries du fusil. J'avais à peine touché le terrain plat et j'avançais en bas du ravin que tout-à-coup j'entendis l'élan d'un animal tombant d'en haut et je me retournai le fusi lépaulé en face d'un magnifique puma qui venait de s'abattre tout près de moi. Je le mis en joue visant aux yeux car il se ramassait pour une attaque finale, mais cependant il parut indécis et je lâchai les détentes. Hélas! les batteries étaient désarmées et je manquai mes deux coups. On peut imaginer avec quelle promptitude je rectifiai mon erreur presque fatale. La bête féroce frémit au bruit du feu de mes batteries, battait ses flancs de sa queue, intimidée par la fixité de mon regard, cependant les bouches de mes canons touchaient presque son front, et après un moment de suspension, je fis feu d'un coup entre ses yeux; le grand choc de la décharge le fit tomber immédiatement, mais le plomb de trop petit calibre ne pénétra pas dans sa tête mais s'applatirent sur le crâne; il se releva et se ramassa encore pour s'élancer sur moi, mais le visant cette fois à l'œil je fis feu de mon second coup et il tomba alors blessé à mort; se trainant tout sanglant, grinçant des dents ralant avec des sourds rugissements, et quelques secondes après il battait l'air de ses pattes et roula mort dans l'eau.

Je fus très heureux de voir cette fin du puma à cause de mon plomb d'un trop petit calibre et si la bête avait été à une plus longue portée il ne l'aurait pas atteint mortellement. Je laissai le corps dans l'eau parcequ'il fut trop gros et trop lourd pour être enlevé par moi seul, et je continuai la chasse sans succès, une dinde sauvage étant le seul pièce de gibier que j'eusse gagné. Vers le soir je rejoignis mes camarades et retournant avec eux je leur montrai le corps du puma dans l'eau. Nos Caraïbes eurent bientôt enlevé et

écorché le corps de l'animal, mettant à part les pattes et les griffes tranchantes, et ayant grand soin d'extraire les lentilles cristallines des yeux comme de très précieuses amulettes contre le mauvais sort.

Par l'autopsie de la tête nous trouvâmes les grains de plomb aplatis sur le crâne mais deux ou trois grains, au plus, avaient pénétré dans la cervelle par l'œil droit.



NO PLACE LIKE HOME!



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