ALFRED RUSSEL WALLACE

TRAVELS ON THE AMAZON

Alfred Wallace
Travels on the Amazon

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Travels on the Amazon:

Содержание

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PREFACE

AN earnest desire to visit a tropical country, to behold the luxuriance of animal and vegetable life said to exist there, and to see with my own eyes all those wonders which I had so much delighted to read of in the narratives of travellers, were the motives that induced me to break through the trammels of business and the ties of home, and start for

"Some far land where endless summer reigns."

My attention was directed to Pará and the Amazon by Mr. Edwards's little book, "A Voyage up the Amazon," and I decided upon going there, both on account of its easiness of access and the little that was known of it compared with most other parts of South America.

I proposed to pay my expenses by making collections in Natural History, and I have been enabled to do so; and the pleasures I have found in the contemplation of the strange and beautiful objects continually met with, and the deep interest arising from the study in their native wilds of the varied races

of mankind, have been such as to determine my continuing in the pursuit I have entered upon, and to cause me to look forward with pleasure to again visiting the wild and luxuriant scenery and the sparkling life of the tropics.

In the following pages I have given a narrative of my journeys and of the impressions excited at the time. The first and last portions are from my journals, with little alteration; but all the notes made during two years, with the greater part of my collections and sketches, were lost by the burning of the ship on my homeward voyage. From the fragmentary notes and papers which I have saved I have written the intermediate portion, and the four last chapters on the Natural History of the country and on the Indian tribes, which, had I saved all my materials, were intended to form a separate work on the Physical History of the Amazon.

In conclusion, I trust that the great loss of materials which I have suffered, and which every naturalist and traveller will fully appreciate, may be taken into consideration, to explain the inequalities and imperfections of the narrative, and the meagreness of the other part of the work, so little proportionate to what might be expected from a four years' residence in such an interesting and little-known country.

London, *October*, 1853.

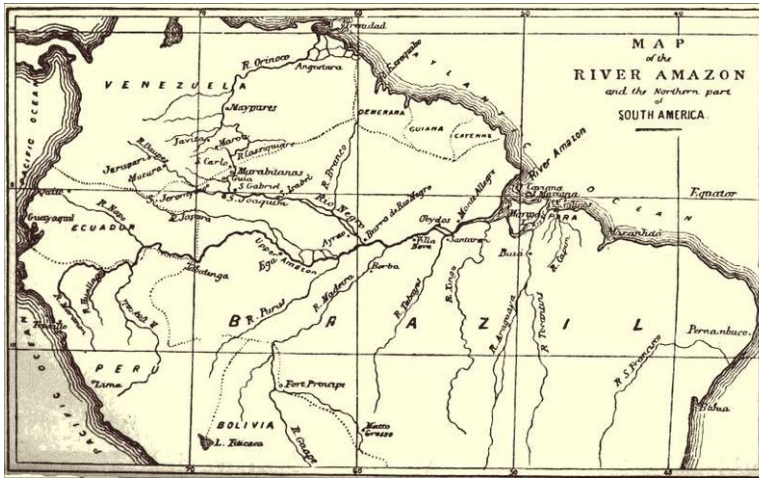
PREFACE TO NEW EDITION

THIS issue is substantially a reprint of the original work, but the proof sheets have been carefully revised and many verbal corrections made. A few notes have been added, and English names have in many cases been substituted for the local terms, which were used too freely in the first edition. The only omissions are the vocabularies of Indian languages and Dr. Latham's observations on them, which were thought to be unsuitable to the general reader.

A. R. W.

Parkstone, Dorset, *October*, 1889.

PLATE I.



MAP *of the* RIVER AMAZON *and the Northern part of* SOUTH AMERICA.

CHAPTER I

PARÁ

Arrival at Pará—Appearance of the City and its Environs—The Inhabitants and their Costume—Vegetation—Sensitive Plants—Lizards—Ants and other Insects—Birds—Climate—Food of the Inhabitants.

IT was on the morning of the 26th of May, 1848, that after a short passage of twenty-nine days from Liverpool, we came to anchor opposite the southern entrance to the River Amazon, and obtained our first view of South America. In the afternoon the pilot came on board, and the next morning we sailed with a fair wind up the river, which for fifty miles could only be distinguished from the ocean by its calmness and discoloured water, the northern shore being invisible, and the southern at a distance of ten or twelve miles. Early on the morning of the 28th we again anchored; and when the sun rose in a cloudless sky, the city of Pará, surrounded by the dense forest, and overtopped by palms and plantains, greeted our sight, appearing doubly beautiful from the presence of those luxuriant tropical productions in a state of nature, which we had so often admired in the conservatories of Kew and Chatsworth. The canoes passing

with their motley crews of Negroes and Indians, the vultures soaring overhead or walking lazily about the beach, and the crowds of swallows on the churches and house-tops, all served to occupy our attention till the Custom-house officers visited us, and we were allowed to go on shore.

Pará contains about 15,000 inhabitants, and does not cover a great extent of ground; yet it is the largest city on the greatest river in the world, the Amazon, and is the capital of a province equal in extent to all Western Europe. It is the residence of a President appointed by the Emperor of Brazil, and of a Bishop whose see extends two thousand miles into the interior, over a country peopled by countless tribes of unconverted Indians. The province of Pará is the most northern portion of Brazil, and though it is naturally the richest part of that vast empire, it is the least known, and at present of the least commercial importance.

The appearance of the city from the river, which is the best view that can be obtained of it, is not more foreign than that of Calais or Boulogne. The houses are generally white, and several handsome churches and public buildings raise their towers and domes above them. The vigour of vegetation is everywhere apparent. The ledges and mouldings support a growth of small plants, and from the wall-tops and window-openings of the churches often spring luxuriant weeds and sometimes small trees. Above and below and behind the city, as far as the eye can reach, extends the unbroken forest; all the small islands in the river are wooded to the water's edge, and many sandbanks flooded

at high-water are covered with shrubs and small trees, whose tops only now appeared above the surface. The general aspect of the trees was not different from those of Europe, except where the "feathery palm-trees" raised their graceful forms; but our imaginations were busy picturing the wonderful scenes to be beheld in their dark recesses, and we longed for the time when we should be at liberty to explore them.

On landing, we proceeded to the house of Mr. Miller, the consignee of our vessel, by whom we were most kindly received, and invited to remain till we could settle ourselves as we should find most convenient. We were here introduced to most of the English and American residents, who are all engaged in trade, and are few in number. For the four following days we were occupied in walking in the neighbourhood of the city, presenting our passports and obtaining license to reside, familiarising ourselves with the people and the vegetation, and endeavouring to obtain a residence fitted for our pursuits. Finding that this could not be immediately done, we removed to Mr. Miller's "rosinha," or country-house, situated about half a mile from the city, which he kindly gave us the use of till we could find more convenient quarters. Beds and bedsteads are not wanted here, as cotton woven hammocks are universally used for sleeping in, and are very convenient on account of their portability. These, with a few chairs and tables and our boxes, are all the furniture we had or required. We hired an old Negro man named Isidora for a cook and servant of all work, and regularly commenced

house-keeping, learning Portuguese, and investigating the natural productions of the country.

My previous wanderings had been confined to England and a short trip on the Continent, so that everything here had the charm of perfect novelty. Nevertheless, on the whole I was disappointed. The weather was not so hot, the people were not so peculiar, the vegetation was not so striking, as the glowing picture I had conjured up in my imagination, and had been brooding over during the tedium of a sea-voyage. And this is almost always the case with everything but a single view of some one definite object. A piece of fine scenery, as beheld from a given point, can scarcely be overdrawn; and there are many such, which will not disappoint even the most expectant beholder. It is the general effect that strikes at once and commands the whole attention: the beauties have not to be sought, they are all before you. With a district or a country the case is very different. There are individual objects of interest, which have to be sought out and observed and appreciated. The charms of a district grow upon one in proportion as the several parts come successively into view, and in proportion as our education and habits lead us to understand and admire them. This is particularly the case with tropical countries. Some such places will no doubt strike at once as altogether unequalled, but in the majority of cases it is only in time that the various peculiarities, the costume of the people, the strange forms of vegetation, and the novelty of the animal world, will present themselves so

as to form a connected and definite impression on the mind. Thus it is that travellers who crowd into one description all the wonders and novelties which it took them weeks and months to observe, must produce an erroneous impression on the reader, and cause him, when he visits the spot, to experience much disappointment. As one instance of what is meant, it may be mentioned that during the first week of our residence in Pará, though constantly in the forest in the neighbourhood of the city, I did not see a single humming-bird, parrot, or monkey. And yet, as I afterwards found, humming-birds, parrots, and monkeys are plentiful enough in the neighbourhood of Pará; but they require looking for, and a certain amount of acquaintance with them is necessary in order to discover their haunts, and some practice is required to see them in the thick forest, even when you hear them close by you.

But still Pará has quite enough to redeem it from the imputations we may be supposed to have cast upon it. Every day showed us something fresh to admire, some new wonder we had been taught to expect as the invariable accompaniment of a luxuriant country within a degree of the equator. Even now, while writing by the last glimmer of twilight, the vampire bat is fluttering about the room, hovering among the timbers of the roof (for there are no ceilings), and now and then whizzing past my ears with a most spectral noise.

The city has been laid out on a most extensive plan; many of the churches and public buildings are very handsome, but

decay and incongruous repairs have injured some of them, and bits of gardens and waste ground intervening between the houses, fenced in with rotten palings, and filled with rank weeds and a few banana-plants, look strange and unsightly to a European eye. The squares and public places are picturesque, either from the churches and pretty houses which surround them, or from the elegant palms of various species, which with the plantain and banana everywhere occur; but they bear more resemblance to village-greens than to parts of a great city. A few paths lead across them in different directions through a tangled vegetation of weedy cassias, shrubby convolvuli, and the pretty orange-flowered *Asclepias curassavica*,—plants which here take the place of the rushes, docks, and nettles of England. The principal street, the "Rua dos Mercadores" (Street of Merchants), contains almost the only good shops in the city. The houses are many of them only one storey high, but the shops, which are often completely open in front, are very neatly and attractively furnished, though with rather a miscellaneous assortment of articles. Here are seen at intervals a few yards of foot-paving, though so little as only to render the rest of your walk over rough stones or deep sand more unpleasant by comparison. The other streets are all very narrow. They consist either of very rough stones, apparently the remains of the original paving, which has never been repaired, or of deep sand and mud-holes. The houses are irregular and low, mostly built of a coarse ferruginous sandstone, common in the neighbourhood,

and plastered over. The windows, which have no glass, have the lower part filled with lattice, hung above, so that the bottom may be pushed out and a peep obtained sideways in either direction, and from these many dark eyes glanced at us as we passed. Yellow and blue wash are liberally used about most of the houses and churches in decorating the pilasters and door and window openings, which are in a debased but picturesque style of Italian architecture. The building now used as custom-house and barracks, formerly a convent, is handsome and very extensive.

Beyond the actual streets of the city is a large extent of ground covered with roads and lanes intersecting each other at right angles. In the spaces formed by these are the "rosinhas," or country-houses, one, two, or more on each block. They are of one storey, with several spacious rooms and a large verandah, which is generally the dining-room and most pleasant sitting and working apartment. The ground attached is usually a swamp or a wilderness of weeds or fruit-trees. Sometimes a portion is formed into a flower-garden, but seldom with much care or taste, and the plants and flowers of Europe are preferred to the splendid and ornamental productions of the country. The general impression of the city to a person fresh from England is not very favourable. There is such a want of neatness and order, such an appearance of neglect and decay, such evidences of apathy and indolence, as to be at first absolutely painful. But this soon wears off, and some of these peculiarities are seen to be dependent on the climate. The large and lofty rooms, with boarded floors and scanty furniture,

and with half-a-dozen doors and windows in each, look at first comfortless, but are nevertheless exactly adapted to a tropical country, in which a carpeted, curtained, and cushioned room would be unbearable.

The inhabitants of Pará present a most varied and interesting mixture of races. There is the fresh-coloured Englishman, who seems to thrive as well here as in the cooler climate of his native country, the sallow American, the swarthy Portuguese, the more corpulent Brazilian, the merry Negro, and the apathetic but finely formed Indian; and between these a hundred shades and mixtures, which it requires an experienced eye to detect. The white inhabitants generally dress with great neatness in linen clothes of spotless purity. Some adhere to the black cloth coat and cravat, and look most uncomfortably clad with the thermometer from 85° to 90° in the shade. The men's dress, whether Negro or Indian, is simply a pair of striped or white cotton trousers, to which they sometimes add a shirt of the same material. The women and girls on most gala occasions dress in pure white, which, contrasting with their glossy black or brown skins, has a very pleasing effect; and it is then that the stranger is astonished to behold the massy gold chains and ornaments worn by these women, many of whom are slaves. Children are seen in every degree of clothing, down to perfect nudity, which is the general condition of all the male coloured population under eight or ten years of age. Indians fresh from the interior are sometimes seen looking very mild and mannerly, and, except for holes in

their ears large enough to put a cart-rope through, and a peculiar wildness with which they gaze at all around them, they would hardly be noticed among the motley crowd of regular inhabitants.

I have already stated that the natural productions of the tropics did not at first realise my expectations. This is principally owing to the accounts of picture-drawing travellers, who, by only describing the beautiful, the picturesque, and the magnificent, would almost lead a person to believe that nothing of a different character could exist under a tropical sun. Our having arrived at Pará at the end of the wet season, may also explain why we did not at first see all the glories of the vegetation. The beauty of the palm-trees can scarcely be too highly drawn; they are peculiarly characteristic of the tropics, and their varied and elegant forms, their beautiful foliage, and their fruits, often useful to man, give them a never-failing interest to the naturalist, and to all who are familiar with descriptions of the countries where they most abound. The rest of the vegetation was hardly what I expected. We found many beautiful flowers and climbing plants, but there are also many places which are just as weedy in their appearance as in our own bleak climate. But very few of the forest-trees were in flower, and most of them had nothing very peculiar in their appearance. The eye of the botanist, indeed, detects numerous tropical forms in the structure of the stems, and the form and arrangement of the leaves; but most of them produce an effect in the landscape remarkably similar to that of our own oaks, elms, and beeches. These remarks apply only to

the immediate vicinity of the city, where the whole surface has been cleared, and the present vegetation is a second growth. On proceeding a few miles out of the town into the forest which everywhere surrounds it, a very different scene is beheld. Trees of an enormous height rise on every side. The foliage varies from the most light and airy to the darkest and most massive. Climbing and parasitic plants, with large shining leaves, run up the trunks, and often mount even to the highest branches, while others, with fantastic stems, hang like ropes and cables from their summits. Many curious seeds and fruits are here seen scattered on the ground; and there is enough to engage the wonder and admiration of every lover of nature. But even here there is something wanting that we expected to find. The splendid Orchideous plants, so much sought after in Europe, we had thought must abound in every luxuriant tropical forest; yet here are none but a few small species with dull brown or yellow flowers. Most of the parasitic plants which clothe the stems of every old or fallen tree with verdure, are of quite a different character, being ferns, *Tillandsias*, and species of *Pothos* and *Caladium*, plants resembling the Ethiopian lily so commonly cultivated in houses. Among the shrubs near the city that immediately attracted our attention were several *Solanums*, which are allied to our potato. One of these grows from eight to twelve feet high, with large woolly leaves, spines on both leaves and stem, and handsome purple flowers larger than those of the potato. Some other species have white flowers, and one much resembles our bitter-

sweet (*Solanum Dulcamara*). Many handsome convolvuluses climb over the hedges, as well as several most beautiful *Bignonias* or trumpet-flowers, with yellow, orange, or purple blossoms. But most striking of all are the passion-flowers, which are abundant on the skirts of the forest, and are of various colours,—purple, scarlet, or pale pink: the purple ones have an exquisite perfume, and they all produce an agreeable fruit—the grenadilla of the West Indies. There are besides many other elegant flowers, and numbers of less conspicuous ones. The papilionaceous flowers, or peas, are common; cassias are very numerous, some being mere weeds, others handsome trees, having a profusion of bright yellow blossoms. Then there are the curious sensitive plants (*Mimosa*), looked upon with such interest in our greenhouses, but which here abound as common wayside weeds. Most of them have purple or white globular heads of flowers. Some are very sensitive, a gentle touch causing many leaves to drop and fold up; others require a ruder hand to make them exhibit their peculiar properties; while others again will scarcely show any signs of feeling, though ever so roughly treated. They are all more or less armed with sharp prickles, which may partly answer the purpose of guarding their delicate frames from some of the numerous shocks they would otherwise receive.

The immense number of orange-trees about the city is an interesting feature, and renders that delicious fruit always abundant and cheap. Many of the public roads are lined with them, and every garden is well stocked, so that the cost is merely

the trouble of gathering and taking to market. The mango is also abundant, and in some of the public avenues is planted alternately with the Mangabeira, or silk cotton-tree, which grows to a great size, though, as its leaves are deciduous, it is not so well adapted to produce the shade so much required as some evergreen trees. On almost every roadside, thicket, or waste, the coffee-tree is seen growing, and generally with flower or fruit, and often both; yet such is the scarcity of labour or indolence of the people, that none is gathered but a little for private consumption, while the city is almost entirely supplied with coffee grown in other parts of Brazil.

Turning our attention to the world of animal life, what first attract notice are the lizards. They abound everywhere. In the city they are seen running along the walls and palings, sunning themselves on logs of wood, or creeping up to the eaves of the lower houses. In every garden, road, and dry sandy situation they are scampering out of the way as we walk along. Now they crawl round the trunk of a tree, watching us as we pass, and keeping carefully out of sight, just as a squirrel will do under similar circumstances; now they walk up a smooth wall or paling as composedly and securely as if they had the plain earth beneath them. Some are of a dark coppery colour, some with backs of the most brilliant silky green and blue, and others marked with delicate shades and lines of yellow and brown. On this sandy soil, and beneath this bright sunshine, they seem to enjoy every moment of their existence, basking in the hot sun with the most

indolent satisfaction, then scampering off as if every ray had lent vivacity and vigour to their chilly constitutions. Far different from the little lizards with us, which cannot raise their body from the ground, and drag their long tails like an encumbrance after them, these denizens of a happier clime carry their tails stuck out in the air, and gallop away on their four legs with as much freedom and muscular power as a warm-blooded quadruped. To catch such lively creatures was of course no easy matter, and all our attempts utterly failed; but we soon got the little Negro and Indian boys to shoot them for us with their bows and arrows, and thus obtained many specimens.

Next to the lizards, the ants cannot fail to be noticed. They startle you with the apparition of scraps of paper, dead leaves, and feathers, endued with locomotive powers; processions engaged in some abstruse engineering operations stretch across the public paths; the flowers you gather or the fruit you pluck is covered with them, and they spread over your hand in such swarms as to make you hastily drop your prize. At meals they make themselves quite at home upon the tablecloth, in your plate, and in the sugar-basin, though not in such numbers as to offer any serious obstruction to your meal. In these situations, and in many others, you will find them, and in each situation it will be a distinct kind. Many plants have ants peculiar to them. Their nests are seen forming huge black masses, several feet in diameter, on the branches of trees. In paths in woods and gardens we often see a gigantic black species wandering about singly or in pairs,

measuring near an inch and a half long; while some of the species that frequent houses are so small as to require a box-lid to fit very closely in order to keep them out. They are great enemies to any dead animal matter, especially insects and small birds. In drying the specimens of insects we procured, we found it necessary to hang up the boxes containing them to the roof of the verandah; but even then a party got possession by descending the string, as we caught them in the act, and found that in a few hours they had destroyed several fine insects. We were then informed that the Andiroba oil of the country, which is very bitter, would keep them away, and by well soaking the suspending string we have since been free from their incursions.

Having at first employed ourselves principally in collecting insects, I am enabled to say something about the other families of that numerous class. None of the orders of insects were so numerous as I expected, with the exception of the diurnal *Lepidoptera*, or butterflies; and even these, though the number of different species was very great, did not abound in individuals to the extent I had been led to anticipate. In about three weeks Mr. B. and myself had captured upwards of a hundred and fifty distinct species of butterflies. Among them were eight species of the handsome genus *Papilio*, and three *Morphos*, those splendid large metallic-blue butterflies which are always first noticed by travellers in South America, in which country alone they are found, and where, flying lazily along the paths in the forest, alternately in deep shade and bright sunshine, they present one of

the most striking sights the insect world can produce. Among the smaller species the exquisite colouring and variety of marking is wonderful. The species seem inexhaustible, and probably not one-half of those which exist in this country are yet discovered. We did not fall in with any of the large and remarkable insects of South America, such as the rhinoceros or harlequin beetles, but saw numerous specimens of a large *Mantis*, or praying insect, and also several of the large *Mygale*, or bird-catching spiders, which are here improperly called "tarantulas," and are said to be very venomous. We found one which had a nest on a silk cotton-tree, formed like the web of some of our house-spiders, as a place of concealment, but of a very strong texture, almost like silk. Other species live in holes in the ground. Beetles and flies were generally very scarce, and, with few exceptions, of small size, but bees and wasps were abundant, and many of them very large and handsome. Mosquitoes, in the low parts of the city and on shipboard, are very annoying, but on the higher grounds and in the suburbs there are none. The moqueen, a small red tick, scarcely visible—the "bête rouge" of Cayenne—abounds in the grass, and, getting on the legs, is very irritating; but these are trifles which one soon gets used to, and in fact would hardly think oneself in the tropics without them.

Of birds we at first saw but few, and those not very remarkable ones. The only brilliant-coloured bird common about the city is the yellow troupial (*Cassicus icteronotus*), which builds its nests in colonies, suspended from the ends of the branches of

trees. A tree is sometimes covered with their long purse-like nests, and the brilliant black and yellow birds flying in and out have a pretty effect. This bird has a variety of loud clear notes, and has an extraordinary power of imitating the song of other birds, so as to render it worthy of the title of the South American mocking-bird. Besides this, the common silver-beak tanager (*Rhamphocœlus jacapa*), some pale blue tanagers, called here "Sayis," and the yellow-breasted tyrant flycatchers are the only conspicuous birds common in the suburbs of Pará. In the forest are constantly heard the curious notes of the bush-shrikes, tooo-too-to-to-t-t-t, each succeeding sound quicker and quicker, like the successive reboundings of a hammer from an anvil. In the dusk of the evening many goat-suckers fly about and utter their singular and melancholy cries. One says "Whip-poor-will," just like the North American bird so called, and another with remarkable distinctness keeps asking, "Who are *you*?" and as their voices often alternate, an interesting though rather monotonous conversation takes place between them.

The climate, so far as we had yet experienced, was delightful. The thermometer did not rise above 87° in the afternoon, nor sink below 74° during the night. The mornings and evenings were most agreeably cool, and we had generally a shower and a fine breeze in the afternoon, which was very refreshing, and purified the air. On moonlight evenings till eight o'clock ladies walk about the streets and suburbs without any headdress and in ball-room attire, and the Brazilians, in their rosinhas, sit outside their houses

bareheaded and in their shirt-sleeves till nine or ten o'clock, quite unmindful of the night airs and heavy dews of the tropics, which we have been accustomed to consider so deadly.

We will now add a few words on the food of the people. Beef is almost the only meat used. The cattle are kept on estates some days' journey across and up the river, whence they are brought in canoes; they refuse food during the voyage, and so lose most of their fat, and arrive in very poor condition. They are killed in the morning for the day's consumption, and are cut up with axes and cutlasses, with a total disregard to appearance, the blood being allowed to run all over the meat. About six every morning a number of loaded carts may be seen going to the different butchers' shops, the contents bearing such a resemblance to horse-flesh going to a kennel of hounds, as to make a person of delicate stomach rather uneasy when he sees nothing but beef on the table at dinner-time. Fish is sometimes obtained, but it is very dear, and pork is killed only on Sundays. Bread made from United States flour, Irish and American butter, and other foreign products, are in general use among the white population; but farinha, rice, salt-fish, and fruits are the principal food of the Indians and Negroes. Farinha is a preparation from the root of the mandiocca or cassava plant, of which tapioca is also made; it looks something like coarsely ground peas, or perhaps more like sawdust, and when soaked in water or broth is rather glutinous, and is a very nutritious article of food. This, with a little salt-fish, chili peppers, bananas, oranges, and assai (a preparation from a

palm fruit), forms almost the entire subsistence of a great part of the population of the city. Our own bill of fare comprised coffee, tea, bread, butter, beef, rice, farinha, pumpkins, bananas, and oranges. Isidora was a good cook, and made all sorts of roasts and stews out of our daily lump of tough beef; and the bananas and oranges were such a luxury to us, that, with the good appetite which our walks in the forest always gave us, we had nothing to complain of.

CHAPTER II

PARÁ

Festas—Portuguese and Brazilian Currency—M. Borlaz' Estate—Walk to the Rice-mills—The Virgin Forest, its Plants and Insects—Milk-tree—Saw and Rice Mills—Caripé or Pottery-tree—India-rubber-tree—Flowers and Trees in Blossom—Saüba Ants, Wasps, and Chegoes—Journey by Water to Magoary—The Monkeys—The Commandante at Laranjeiras—Vampire Bats—The Timber-trade—Boa Constrictor and Sloth.

About a fortnight after our arrival at Pará there were several holidays, or "festas," as they are called. Those of the "Espirito Santo" and the "Trinidade" lasted each nine days. The former was held at the cathedral, the latter at one of the smaller churches in the suburbs. The general character of these festas is the same, some being more celebrated and more attractive than others. They consist of fireworks every night before the church; Negro girls selling "doces," or sweetmeats, cakes, and fruit; processions of saints and crucifixes; the church open, with regular services; kissing of images and relics; and a miscellaneous crowd of Negroes and Indians, all dressed in white, thoroughly enjoying the fun, and the women in all the glory of their massive gold

chains and earrings. Besides these, a number of the higher classes and foreign residents grace the scene with their presence; showy processions are got up at the commencement and termination, and on the last evening a grand display of fireworks takes place, which is generally provided by some person who is chosen or volunteers to be "Juiz da festa," or governor of the feast,—a rather expensive honour among people who, not content with an unlimited supply of rockets at night, amuse themselves by firing off great quantities during the day for the sake of the whiz and the bang that accompany them. The rockets are looked upon as quite a part of the religious ceremony: on asking an old Negro why they were let off in the morning, he looked up to the sky and answered very gravely, "Por Deos" (for God). Music, noise, and fireworks are the three essentials to please a Brazilian populace; and for a fortnight we had enough of them, for besides the above-mentioned amusements, they fire off guns, pistols, and cannon from morning to night.

After many inquiries, we at last succeeded in procuring a house to suit us. It was situated at Nazaré, about a mile and a half south of the city, just opposite a pretty little chapel. Close behind, the forest commences, and there are many good localities for birds, insects, and plants in the neighbourhood. The house consisted of a ground-floor of four rooms, with a verandah extending completely round it, affording a rather extensive and very pleasant promenade. The grounds contained oranges and bananas, and a great many forest and fruit trees, with coffee and

mandiocca plantations. We were to pay twenty milreis a month rent (equal to £2 5*s.*), which is very dear for Pará, but we could get no other house so convenient. Isidora took possession of an old mud-walled shed as the domain of his culinary operations; we worked and took our meals in the verandah, and seldom used the inner rooms but as sleeping apartments.

We now found much less difficulty in mustering up sufficient Portuguese to explain our various wants. We were some time getting into the use of the Portuguese, or rather Brazilian, money, which is peculiar and puzzling. It consists of paper, silver, and copper. The rey is the unit or standard, but the milrey, or thousand reis, is the value of the lowest note, and serves as the unit in which accounts are kept; so that the system is a decimal one, and very easy, were it not complicated by several other coins, which are used in reckoning; as the vintem, which is twenty reis, the patac, three hundred and twenty, and the crusado, four hundred, in all of which coins sums of money are often reckoned, which is puzzling to a beginner, because the patac is not an integral part of the milrey (three patacs and two vintems making a milrey), and the Spanish dollars which are current here are worth six patacs. The milrey was originally worth 5*s.* 7½*d.*, but now fluctuates from 2*s.* 1*d.* to 2*s.* 4*d.* or not quite half, owing probably to the over-issue of paper and its inconvertibility into coin. The metallic currency, being then of less nominal than real value, would soon have been melted down, so it became necessary to increase its value. This was done by restamping it

and making it pass for double. Thus a vintem restamped is two vintems; a patac with one hundred and sixty on it counts for three hundred and twenty reis; a two-vintem piece counts for four. The newer coinage also having been diminished in size with the depreciation of the currency, there has arisen such a confusion, that the size of the coin is scarcely any index to its value, and when two pieces are of exactly the same size one may be double the value of the other. An accurate examination of each coin is therefore necessary, which renders the making up of a large sum a matter requiring much practice and attention.

There were living on the premises three Negroes, who had the care of the coffee- and fruit-trees, and of the mandiocca field. The principal one, named Vincente, was a fine stout handsome Negro, who was celebrated as a catcher of "bichos," as they here call all insects, reptiles, and small animals. He soon brought us in several insects. One was a gigantic hairy spider, a *Mygale*, which he skilfully dug out of its hole in the earth, and caught in a leaf. He told us he was once bitten by one, and was bad some time. When questioned on the matter, he said the "bicho" was "muito mal" (very bad), and concluded with an expressive "whew-w-w," which just answers to a schoolboy's "Ain't it though?" and intimates that there can be no doubt at all about the matter. It seems probable therefore that this insect is not armed in vain with such powerful fangs, but is capable of inflicting with them an envenomed wound.

During one of our exploratory rambles we came upon the

country-house of a French gentleman, M. Borlaz, who is Swiss Consul in Pará. Much to our surprise he addressed us in English, and then showed us round his grounds, and pointed out to us the paths in the woods we should find most practicable. The vegetation here on the banks of the river, a mile below Pará, was very rich. The Miriti (*Mauritia flexuosa*), a fine fan-palm, and a slender species, the Marajá (*Bactris Maraja*), a small prickly tree which bears a fruit with a thin outer pulp, of a pleasant subacid taste, were both abundant. A mass of cactus, thirty feet high, grew near the house, having a most tropical aspect, but this was planted. The thickets were full of curious *Bromeliaceæ* and *Arums*, and many singular trees and shrubs, and in their shady recesses we captured some very fine insects. The splendid blue and orange butterflies (*Epicalia ancea*) were abundant, settling on the leaves; and they would repeatedly return to the same tree, and even to the same leaf, so that, though very difficult to capture, five specimens were taken without removing from the spot.

On our return to the house M. Borlaz treated us to some fine fruits,—the berribee, a species of *Anona*, with a pleasant acid custard-like pulp, the nuts of the bread-fruit roasted, very similar to Spanish chestnuts, and plantains dried in the sun, and much resembling figs. The situation of the house was delightful, looking over the river to the opposite islands, yet sufficiently elevated to be dry and healthy. The moist woods along the bank of the river were so productive that we often afterwards

availed ourselves of M. Borlaz' kind invitation to visit his grounds whenever we felt disposed. As an instance of the voracity of the ants, I may mention that, having laid down my collecting-box in the verandah during half-an-hour's conversation, I was horrified to find, on opening it to put in a fresh capture, that it swarmed with small red ants, who had already separated the wings from near a dozen insects, and were dragging them in different directions about the box; others were at the process of dismemberment, while some had buried themselves in the plumpest bodies, where they were enjoying a delicious repast. I had great difficulty in making them quit their prey, and gained some useful experience at the expense of half a successful day's captures, including some of the splendid *Epicalias* which I so much prized.

On the morning of the 23rd of June we started early to walk to the rice-mills at Magoary, which we had been invited to visit by the proprietor, Mr. Upton, and the manager, Mr. Leavens, both American gentlemen. At about two miles from the city we entered the virgin forest, which the increased height of the trees and the deeper shade had some time told us we were approaching. Its striking characteristics were, the great number and variety of the forest-trees, their trunks rising frequently for sixty or eighty feet without a branch, and perfectly straight; the huge creepers, which climb about them, sometimes stretching obliquely from their summits like the stays of a mast, sometimes winding around their trunks like immense serpents waiting for

their prey. Here, two or three together, twisting spirally round each other, form a complete living cable, as if to bind securely these monarchs of the forest; there, they form tangled festoons, and, covered themselves with smaller creepers and parasitic plants, hide the parent stem from sight.

Among the trees the various kinds that have buttresses projecting around their base are the most striking and peculiar. Some of these buttresses are much longer than they are high springing from a distance of eight or ten feet from the base, and reaching only four or five feet high on the trunk, while others rise to the height of twenty or thirty feet, and can even be distinguished as ribs on the stem to forty or fifty. They are complete wooden walls, from six inches to a foot thick, sometimes branching into two or three, and extending straight out to such a distance as to afford room for a comfortable hut in the angle between them. Large square pieces are often cut out of them to make paddles, and for other uses, the wood being generally very light and soft.

Other trees, again, appear as if they were formed by a number of slender stems growing together. They are deeply furrowed and ribbed for their whole height, and in places these furrows reach quite through them, like windows in a narrow tower, yet they run up as high as the loftiest trees of the forest, with a straight stem of uniform diameter. Another most curious form is presented by those which have many of their roots high above the surface of the ground, appearing to stand on many legs, and often forming

archways large enough for a man to walk beneath.

The stems of all these trees, and the climbers that wind or wave around them, support a multitude of dependants. *Tillandsias* and other *Bromeliaceæ*, resembling wild pine-apples, large climbing *Arums*, with their dark green arrowhead-shaped leaves, peppers in great variety, and large-leaved ferns, shoot out at intervals all up the stem, to the very topmost branches. Between these, creeping ferns and delicate little species like our *Hymenophyllum* abound, and in moist dark places the leaves of these are again covered with minute creeping mosses and *Hepaticæ*,—so that we have parasites on parasites, and on these parasites again. On looking upwards, the finely-divided foliage, strongly defined against the clear sky, is a striking characteristic of the tropical forests, as is repeatedly remarked by Humboldt. Many of the largest forest-trees have leaves as delicate as those of the trembling *Mimosa*, belonging like them to the extensive family of the *Leguminosæ*, while the huge palmate leaves of the *Cecropias*, the oval glossy leaves of the *Clusias*, and a hundred others of intermediate forms, afford sufficient variety; and the bright sunshine lighting up all above while a sombre gloom reigns below, adds to the grandeur and solemnity of the scene.

Flowers were very few and far between, a few small *Orchideæ* and inconspicuous wayside weeds, with now and then a white- or green-blossomed shrub, being all that we met with. On the ground many varieties of fruits lay decaying: curiously twisted legumes like peas a yard long, huge broad beans, nuts of various

sizes and forms, and large fruits of the pot-trees, which have lids like the utensil from which they derive their name. The herbage consisted principally of ferns, *Scitamineæ*, a few grasses and small creeping plants; but dead leaves and rotten wood occupied the greater part of the surface.

We found very few insects, but almost all that we met with were new to us. Our greatest treasure was the beautiful clear-winged butterfly, with a bright violet patch on its lower wings, the *Hætera esmeralda*, which we now saw and caught for the first time. Many other rare insects were also obtained, and the gigantic blue *Morphos* frequently passed us, but their undulating flight baffled all our efforts at capturing them. Of quadrupeds we saw none, and of birds but few, though we heard enough of the latter to assure us that they were not altogether wanting. We are inclined to think that the general statement, that the birds of the tropics have a deficiency of song proportionate to their brilliancy of plumage, requires to be modified. Many of the brilliant birds of the tropics belong to families or groups which have no song; but our most brilliantly coloured birds, as the goldfinch and canary, are not the less musical, and there are many beautiful little birds here which are equally so. We heard notes resembling those of the blackbird and the robin, and one bird gave forth three or four sweet plaintive tones that particularly attracted our attention; while many have peculiar cries, in which words may easily be traced by the fanciful, and which in the stillness of the forest have a very pleasing effect.

On reaching the mills we found it was one o'clock, the interesting objects on the road having caused us to linger for six hours on a distance of scarcely twelve miles. We were kindly welcomed by Mr. Leavens, who soon set before us substantial fare. After dinner we strolled round the premises, and saw for the first time toucans and paroquets in their native haunts. They frequent certain wild fruit-trees, and Mr. Leavens has many specimens which he has shot, and preserved in a manner seldom equalled. There are three mills—a saw-mill and two for cleaning rice. One rice-mill is driven by steam, the other two by water-power, which is obtained by damming up two or three small streams, and thus forming extensive mill-pools. The saw-mill was recently erected by Mr. Leavens, who is a practical millwright. It is of the kind commonly used in the United States, and the manner of applying the water is rather different from which we generally see in England. There is a fall of water of about ten feet, which, instead of being applied to an overshot or breast-wheel, is allowed to rush out of a longitudinal aperture at the bottom, against the narrow floats of a wheel only twenty inches in diameter, which thus revolves with great velocity, and communicates motion by means of a crank and connecting-rod directly to the saw, which of course makes a double stroke to each revolution of the wheel. The expense of a large slow-motion wheel is thus saved, as well as all the gearing necessary for producing a sufficiently rapid motion of the saws; and the whole having a smaller number of working parts, is much less liable to

get out of order, and requires few repairs. The platform carrying the log is propelled on against the saw in the usual manner, but the method of carrying it back at the end of the cut is ingenious. The water is shut off from the main wheel, and let on at another shoot against a vertical wheel, on the top of the upright shaft of which is a cog-wheel working into a rack on the frame, which runs it back with great rapidity, and in the simplest manner. One saw only is used, the various thicknesses into which the trees are cut rendering more inconvenient.

We here saw the different kinds of timber used, both in the log and in boards, and were told their various uses by Mr. Leavens. Some are very hard woods resembling oak, and others lighter and less durable. What most interested us, however, were several large logs of the Masseranduba, or Milk-tree. On our way through the forest we had seen some trunks much notched by persons who had been extracting the milk. It is one of the noblest trees of the forest, rising with a straight stem to an enormous height. The timber is very hard, fine-grained, and durable, and is valuable for works which are much exposed to the weather. The fruit is eatable and very good, the size of a small apple, and full of a rich and very juicy pulp. But strangest of all is the vegetable milk, which exudes in abundance when the bark is cut: it has about the consistence of thick cream, and but for a very slight peculiar taste could scarcely be distinguished from the genuine product of the cow. Mr. Leavens ordered a man to tap some logs that had lain nearly a month in the yard. He cut several

notches in the bark with an axe, and in a minute the rich sap was running out in great quantities. It was collected in a basin, diluted with water, strained, and brought up at teatime and at breakfast next morning. The peculiar flavour of the milk seemed rather to improve the quality of the tea, and gave it as good a colour as rich cream; in coffee it is equally good. Mr. Leavens informed us that he had made a custard of it, and that, though it had a curious dark colour, it was very well tasted. The milk is also used for glue, and is said to be as durable as that made use of by carpenters. As a specimen of its capabilities in this line, Mr. Leavens showed us a violin he had made, the belly-board of which, formed of two pieces, he had glued together with it applied fresh from the tree without any preparation. It had been done two years; the instrument had been in constant use, and the joint was now perfectly good and sound throughout its whole length. As the milk hardens by exposure to air, it becomes a very tough, slightly elastic substance, much resembling gutta-percha; but, not having the property of being softened by hot water, is not likely to become so extensively useful as that article.

After leaving the wood-yard, we next visited the rice-mills, and inspected the process by which the rice is freed from its husk. There are several operations to effect this. The grain first passes between two mill-stones, not cut as for grinding flour, but worked flat, and by them the outer husk is rubbed off. It is then conveyed between two boards of similar size and shape to the stones, set all over with stiff iron wires about three-eighths of an inch long, so

close together that a grain of rice can just be pushed in between them. The two surfaces very nearly touch one another, so that the rice is forced through the spaces of the wires, which rub off the rest of the husk and polish the grain. A quantity, however, is broken by this operation, so it is next shaken through sifters of different degrees of fineness, which separate the dust from the broken rice. The whole rice is then fanned, to blow off the remaining dust, and finally passes between rubbers covered with sheepskin with the wool on, which clean it thoroughly, and render it fit for the market. The Pará rice is remarkably fine, being equal in quality to that of Carolina, but, owing to the carelessness with which it is cultivated, it seldom shows so good a sample. No care is taken in choosing seed or in preparing the ground; and in harvesting, a portion is cut green, because there are not hands enough to get it in quickly when it is ripe, and rice is a grain which rapidly falls out of the ear and is wasted. It is therefore seldom cultivated on a large scale, the greater portion being the produce of Indians and small landholders, who bring it to the mills to sell.

In the morning, after a refreshing shower-bath under the mill-feeder, we shouldered our guns, insect-nets, and pouches, and, accompanied by Mr. Leavens, took a walk into the forest. On our way we saw the long-toed jacanas on the river-side, Bemteví[1] flycatchers on the branches of every bare tree, and toucans flying with out-stretched bills to their morning repast. Their peculiar creaking note was often heard, with now and then the loud

[1] "Bemteví" (I saw you well); the bird's note resembles this word.

tapping of the great woodpeckers, and the extraordinary sounds uttered by the howling monkeys, all telling us plainly that we were in the vast forests of tropical America. We were not successful in shooting, but returned with a good appetite to our coffee and masseranduba milk, pirarucú, and eggs. The pirarucú is the dried fish which, with farinha, forms the chief subsistence of the native population, and in the interior is often the only thing to be obtained, so we thought it as well to get used to it at once. It resembles in appearance nothing eatable, looking as much like a dry cowhide grated up into fibres and pressed into cakes, as anything I can compare it with. When eaten, it is boiled or slightly roasted, pulled to pieces, and mixed with vinegar, oil, pepper, onions, and farinha, and altogether forms a very savoury mess for a person with a good appetite and a strong stomach.

After breakfast, we loaded our old Negro (who had come with us to show the way) with plants that we had collected, and a basket to hold anything interesting we might meet with on the road, and set out to walk home, promising soon to make a longer visit. We reached Nazaré with boxes full of insects, and heads full of the many interesting things we had seen, among which the milk-giving tree, supplying us with a necessary of life from so new and strange a source, held a prominent place.

Wishing to obtain specimens of a tree called Caripé, the bark of which is used in the manufacture of the pottery of the country, we inquired of Isidora if he knew such a tree, and where it grew. He replied that he knew the tree very well, but that it grew in the

forest a long way off. So one fine morning after breakfast we told him to shoulder his axe and come with us in search of the Caripé, —he in his usual dishabille of a pair of trousers,—shirt, hat, and shoes being altogether dispensed with in this fine climate; and we in our shirt-sleeves, and with our hunting apparatus across our shoulders. Our old conductor, though now following the domestic occupation of cook and servant of all work to two foreign gentlemen, had worked much in the forest, and was well acquainted with the various trees, could tell their names, and was learned in their uses and properties. He was of rather a taciturn disposition, except when excited by our exceeding dulness in understanding what he wanted, when he would gesticulate with a vehemence and perform dumb-show with a minuteness worthy of a more extensive audience; yet he was rather fond of displaying his knowledge on a subject of which we were in a state of the most benighted ignorance, and at the same time quite willing to learn. His method of instruction was by a series of parenthetical remarks on the trees as he passed them, appearing to speak rather to them than to us, unless we elicited by questions further information.

"This," he would say, "is Ocöóba, very good medicine, good for sore-throat," which he explained by going through the action of gargling, and showed us that a watery sap issued freely on the bark being cut. The tree, like many others, was notched all over by the number of patients who came for the healing juice. "This," said he, glancing at a magnificent tall straight tree, "is

good wood for houses, good for floors; call it Quaröóba." "This," pointing to one of the curious furrowed trees that look as if a bundle of enormously long sticks had grown into one mass, "is wood for making paddles;" and, as we did not understand this in Portuguese, he imitated rowing in a canoe; the name of this was Poetiéka. "This," pointing to another large forest-tree, "is good wood for burning, to make charcoal; good hard wood for everything,—makes the best charcoal for forges," which he explained by intimating that the wood made the fire to make the iron of the axe he held in his hand. This tree rejoiced in the name of Nowará. Next came the Caripé itself, but it was a young tree with neither fruit nor flowers, so we had to content ourselves with specimens of the wood and bark only; it grew on the edge of a swamp filled with splendid palm-trees. Here the Assai Palm, so common about the city, reached an enormous height. With a smooth stem only four inches in diameter, some specimens were eighty feet high. Sometimes they are perfectly straight, sometimes gently curved, and, with the drooping crowns of foliage, are most beautiful. Here also grew the Inajá, a fine thick-stemmed species, with a very large dense head of foliage. The undeveloped leaves of this as well as many other kinds form an excellent vegetable, called here *palmeto*, and probably very similar to that produced by the cabbage-palm of the West Indies. A prickly-stemmed fan-leaved palm, which we had observed at the mills, was also growing here. But the most striking and curious of all was the Paxiuba, a tall, straight, perfectly smooth-

stemmed palm, with a most elegant head, formed of a few large curiously-cut leaves. Its great singularity is, that the greater part of its roots are above ground, and they successively die away, fresh ones springing out of the stem higher up, so that the whole tree is supported on three or four stout straight roots, sometimes so high that a person can stand between them with the lofty tree growing over his head. The main roots often diverge again before they reach the ground, each into three or more smaller ones, not an inch each in diameter. Though the stem of the tree is quite smooth, the roots are thickly covered with large tuberculous prickles. Numbers of small trees of a few feet high grow all around, each standing on spreading legs, a miniature copy of its parent. Isidora cut down an Assai palm, to get some *palmeto* for our dinner; it forms an agreeable vegetable of a sweetish flavour. Just as we were returning, we were startled by a quiet remark that the tree close by us was the Seringa, or India-rubber-tree. We rushed to it, axe in hand, cut off a piece of bark, and had the satisfaction to see the extraordinary juice come out. Catching a little in a box I had with me, I next day found it genuine india-rubber, of a yellowish colour, but possessing all its peculiar properties.

It being some saint's day, in the evening a fire was lit in the road in front of our house, and going out we found Isidora and Vincente keeping it up. Several others were visible in the street, and there appeared to be a line of them reaching to the city. They seemed to be made quite as a matter of business, being

a mark of respect to certain of the more illustrious saints, and, with rockets and processions, form the greater part of the religion here. The glorious southern constellations, with their crowded nebulæ, were shining brilliantly in the heavens as the fire expired, and we turned into our hammocks well satisfied with all that we had seen during the day.

July 4th.—The vegetation now improved in appearance as the dry season advanced. Plants were successively budding and bursting their blossoms, and bright green leaves displaced the half-withered ones of the past season. The climbers were particularly remarkable, as much for the beauty of their foliage as for their flowers. Often two or three climb over one tree or shrub, mingling in the most perplexing though elegant confusion, so that it is a matter of much difficulty to decide to which plant the different blossoms belong, and should they be high up it is impossible. A delicate white and a fine yellow convolvulus were now plentiful; the purple and yellow trumpet-flowers were still among the most showy; and some noble thick-leaved climbers mounted to the tops of trees, and sent aloft bright spikes of scarlet flowers. Among the plants not in flower, the twin-leaved *Bauhinias* of various forms were most frequently noticed. The species are very numerous: some are shrubs, others delicate climbers, and one is the most extraordinary among the extraordinary climbers of the forest, its broad flattened woody stems being twisted in and out in a most singular manner, mounting to the summits of the very loftiest forest-

trees, and hanging from their branches in gigantic festoons, many hundred feet in length. A handsome pink and white *Clusia* was now abundant, with large shining leaves, and flowers having a powerful and very fragrant odour. It grows not only as a good-sized tree out of the ground, but is also parasitical on almost every other forest-tree. Its large round whitish fruits are called "cebola braba" (wild onion), by the natives, and are much eaten by birds, which thus probably convey the seeds into the forks of lofty trees, where it seems most readily to take root in any little decaying vegetable matter, dung of birds, etc., that may be there; and when it arrives at such a size as to require more nourishment than it can there obtain, it sends down long shoots to the ground, which take root, and grow into a new stem. At Nazaré there is a tree by the road-side, out of the fork of which grows a large Mucujá palm, and on the palm are three or four young *Clusia* trees, which no doubt have, or will have, *Orchideæ* and ferns again growing upon them. A few forest-trees were also in blossom; and it was truly a magnificent sight to behold a great tree covered with one mass of flowers, and to hear the deep distant hum of millions of insects gathered together to enjoy the honeyed feast. But all is out of reach of the curious and admiring naturalist. It is only over the outside of the great dome of verdure exposed to the vertical rays of the sun that flowers are produced, and on many of these trees there is not a single blossom to be found at a less height than a hundred feet. The whole glory of these forests could only be seen by sailing gently in a balloon over the undulating flowery

surface above: such a treat is perhaps reserved for the traveller of a future age.

A jararáca, said to be one of the most deadly serpents in Brazil, was killed by a Negro in our garden. It was small, and not brightly coloured. A fine coral snake was also brought in; it was about a yard long, and beautifully marked with black, red, and yellow bands. Having, perhaps, had some experience of the lavish manner in which foreigners pay for such things, the man had the coolness to ask two milreis, or 4*s.* 6*d.* for it, so he had to throw it away, and got nothing. A penny or twopence is enough to give for such things, which are of no value to the natives; and though they will not search much after them for such a price, yet they will bring you all that come in their way when they know you will purchase them. Snakes were unpleasantly abundant at this time. I nearly trod on one about ten feet long, which rather startled me, and it, too, to judge by the rapid manner in which it glided away. I caught also a small *Amphisbena* under the coffee-trees in our garden. Though it is known to have no poison-fangs, the Negroes declared it was very dangerous, and that its bite could not be cured. It is commonly known as the two-headed snake, from the tail being blunt and the head scarcely visible; and they believe that if it is cut in two, and the two parts thrown some yards apart, they will come together again, and join into an entire animal.

Among the curious things we meet with in the woods are large heaps of earth and sand, sometimes by the roadside,

and sometimes extending quite across the path, making the pedestrian ascend and descend (a pleasing variety in this flat country), and looking just as if some "Pará and Peru direct Railway Company" had commenced operations. These mounds are often thirty or forty feet long, by ten or fifteen wide, and about three or four feet high; but instead of being the work of a lot of railway labourers, we find it is all due to the industry of a native insect, the much-dreaded Saüba ant. This insect is of a light-red colour, about the size of our largest English species, the wood-ant, but with much more powerful jaws. It does great injury to young trees, and will sometimes strip them of their leaves in a single night. We often see, hurrying across the pathways, rows of small green leaves; these are the Saübas, each with a piece of leaf cut as smoothly as with scissors, and completely hiding the body from sight. The orange-tree is very subject to their attacks, and in our garden the young trees were each planted in the centre of a ring-shaped earthen vessel, which being filled with water completely surrounded the stem, preventing the ants from reaching it. Some places are so infested by them that it is useless planting anything. No means of destroying them are known, their numbers being so immense, as may readily be seen from the great quantities of earth they remove.

Many different kinds of wasps' and bees' nests are constantly met with; but we were rather shy of meddling with them. They are generally attached to the undersides of leaves, especially of

the young Tucumá palm, which are broad, and offer a good shelter. Some are little flat domes, with a single small opening; others have the cells all exposed. Some have only two or three cells, others a great number. These are all of a delicate papery substance; but some have large cylindrical nests, on high trees, of a material like thick cardboard. Then again there are nests in hollow trees, and others among their roots in the earth, while the solitary species make little holes in the paths, and pierce the mud-walls of the houses, till they appear as if riddled with shot. Many of these insects sting very painfully; and some are so fierce, that on their nests being approached, they will fly out and attack the unwary passer-by. The larger kinds of wasps have very long stings, and can so greatly extend their bodies that we were often stung when endeavouring to secure them for our collections.

I also suffered a little from another of our insect enemies: the celebrated *chigoe* at length paid us a visit. I found a tender pimple on the side of my foot, which Isidora pronounced to be a "bicho do pé" or chigoe; so preferring to extract it myself, I set to work with a needle, but not being used to the operation, could not get it out entire. I then rubbed a little snuff in the wound, and afterwards felt no more of it. The insect is a minute flea, which burrows into the skin of the toes, where it grows into a large bag of eggs as big as a pea, the insect being just distinguishable as a black speck on one side of it. When it first enters it causes a slight irritation, and if found may then be easily extracted; but when it grows large it is very painful, and if neglected may produce a

serious wound. With care and attention, however, this dreaded insect is not so annoying as the mosquito or our own domestic flea.

Having made arrangements for another and a longer visit to Magoary, we packed up our hammocks, nets, and boxes, and went on board a canoe which trades regularly to the mills, bringing the rice and timber, and taking whatever is required there. We left Pará about nine at night, when the tide served, and at five the next morning found the vessel lying at anchor, waiting for the flood. We were to proceed on to the mills in a montaria, or small Indian canoe, and as we were five with the Negroes who were to paddle, I felt rather nervous on finding that we sank the little boat to within two inches of the water's edge, and that a slight motion of any one of the party would be enough to swamp us altogether. However, there was no help for it, so off we went, but soon found that with its unusual load our boat leaked so much that we had to keep baling by turns with a calabash all the time. This was not very agreeable; but after a few miles we got used to it, and looked to the safe termination of our voyage as not altogether improbable.

The picturesque and novel appearance of the river's banks, as the sun rose, attracted all our attention. The stream, though but an insignificant tributary of the Amazon, was wider than the Thames. The banks were everywhere clothed with a dense forest. In places were numerous mangroves, their roots descending from the branches into the water, having a curious appearance; on

some we saw the fruit germinating on the tree, sending out a shoot which would descend to the water, and form another root to the parent. Behind these rose large forest-trees, mingled with the Assai, Miriti, and other palms while passion-flowers and convolvuluses hung their festoons to the water's edge.

As we advanced the river became narrower, and about seven o'clock we landed, to stretch our cramped limbs, at a sitio, where there was a tree covered with the hanging nests of the yellow troupial, with numbers of the birds continually flying in and out. In an hour more we passed Larangeiras, a pretty spot, where there are a few huts, and the residence of Senhor C., the Commandante of the district. Further on we turned into a narrow igaripé, which wound about in the forest for a mile or two, when a sudden turn at length brought us the welcome sight of the mills. Here a hearty welcome from Mr. Leavens, and a good breakfast, quite compensated for our four hours' cramping in the montaria, and prepared us for an exploring expedition among the woods, paths, and lakes in the vicinity.

Our daily routine during our stay at the mills was as follows:—We rose at half-past five, when whoever pleased took a bath at the mill-stream. We then started, generally with our guns, into the forest, as early in the morning is the best time for shooting, and Mr. Leavens often accompanied us, to show us the best feeding-trees. At eight we returned to breakfast, and then again started off in search of insects and plants till dinner-time. After dinner we generally had another walk for an hour or two; and

the rest of the evening was occupied in preparing and drying our captures, and in conversation. Sometimes we would start down the igaripé in the montaria, not returning till late in the afternoon; but it was in my early expeditions into the forest that I had my curiosity most gratified by the sight of many strange birds and other animals. Toucans and parrots were abundant, and the splendid blue and purple chatterers were also sometimes met with. Hummingbirds would dart by us, and disappear in the depths of the forest, and woodpeckers and creepers of various sizes and colours were running up the trunks and along the branches. The little red-headed and puff-throated manakins were also seen, and heard making a loud clapping noise with their wings which it seemed hardly possible for so small a bird to produce.

But to me the greatest treat was making my first acquaintance with the monkeys. One morning, when walking alone in the forest, I heard a rustling of the leaves and branches, as if a man were walking quickly among them, and expected every minute to see some Indian hunter make his appearance, when all at once the sounds appeared to be in the branches above, and turning up my eyes there, I saw a large monkey looking down at me, and seeming as much astonished as I was myself. I should have liked to have had a good look at him, but he thought it safer to retreat. The next day, being out with Mr. Leavens, near the same place, we heard a similar sound, and it was soon evident that a whole troop of monkeys were approaching. We therefore hid ourselves

under some trees, and, with guns cocked, waited their coming. Presently we caught a glimpse of them skipping about among the trees, leaping from branch to branch, and passing from one tree to another with the greatest ease. At last one approached too near for its safety. Mr. Leavens fired, and it fell, the rest making off with all possible speed. The poor little animal was not quite dead, and its cries, its innocent-looking countenance, and delicate little hands were quite childlike. Having often heard how good monkey was, I took it home, and had it cut up and fried for breakfast: there was about as much of it as a fowl, and the meat something resembled rabbit, without any very peculiar or unpleasant flavour. Another new dish was the Cotia or Agouti, a little animal, something between a guinea-pig and a hare, but with longer legs. It is abundant, and considered good eating, but the meat is rather dry and tasteless.

One day we took the montaria and started to pay a visit to the Commandante at Larangeiras. The morning was beautiful; swallows and kingfishers flew before us, but the beautiful *pavon* (*Eurypygia helias*), which I most wanted, wisely kept out of the way. The banks of the igaripé were covered with a species of *Inga*, in flower, from which Mr. B. obtained some fine floral beetles. Among the roots of the mangroves numbers of "calling crabs" were running about; their one large claw held up, as if beckoning, having a very grotesque appearance. At Larangeiras the Commandante welcomed us with much politeness in his palace of posts and clay, and offered us wine and bananas. He

then produced a large bean, very thick and hard, on breaking which, with a hammer, the whole interior was seen to be filled with a farinaceous yellow substance enveloping the seeds: it has a sweet taste, and is eaten by the Indians with much relish. On our expressing a wish to go into the forest, he kindly volunteered to accompany us. We soon reached a lofty forest-tree, under which lay many of the legumes, of which we collected some fine specimens. The old gentleman then took us along several paths, showing us the various trees, some useful as timber, others as "remedios" for all the ills of life. One tree, which is very plentiful, produces a substance intermediate between camphor and turpentine. It is called here white pitch, and is extensively collected, and when melted up with oil, is used for pitching boats. Its strong camphor-like odour might, perhaps, render it useful in some other way.

In the grounds around the house were a breadfruit-tree, some cotton-plants, and a fine castanha, or Brazil-nut tree, on which were several large fruits, and many nests of the yellow troupial, which seems to prefer the vicinity of houses. Finding in Mr. Edwards's book a mention of his having obtained some good shells from Larangeiras, we spoke to Senhor C. about them, when he immediately went to a box and produced two or three tolerable specimens; so we engaged his son, a boy of eleven or twelve, to get us a lot at a vintem (halfpenny) each, and send them to Mr. Leavens at the mill, which, however, he never did.

During our makeshift conversation, carried on with our very

slender Portuguese vocabulary, Senhor C. would frequently ask us what such and such a word was in "Americano" (for so the English language is here called), and appeared highly amused at the absurd and incomprehensible terms used by us in ordinary conversation. Among other things we told him that we called "rapaz" in Americano "boy," which word (*boi*) in Portuguese means an ox. This was to him a complete climax of absurdity, and tickled him into roars of laughter, and he made us repeat it to him several times, that he might not forget so good a joke; even when we were pulling away into the middle of the stream, and waving our "adeos," his last words were, as loud as he could bawl, "O que se chama rapaz?" (What do you call *rapaz*?)

A day or two before we left the mills we had an opportunity of seeing the effects of the vampire's[2] operations on a young horse Mr. Leavens had just purchased. The first morning after its arrival the poor animal presented a most pitiable appearance, large streams of clotted blood running down from several wounds on its back and sides. The appearance was, however, I daresay, worse than the reality, as the bats have the skill to bleed without giving pain, and it is quite possible the horse, like a patient under the influence of chloroform, may have known nothing of the matter. The danger is in the attacks being repeated every night till the loss of blood becomes serious. To prevent this, red peppers are usually rubbed on the parts wounded, and on all likely places;

[2] This is a blood-sucking bat (Phyllostoma sp.), misnamed "vampyre," while the bats of the genus Vampyrus are fruit-eaters.

and this will partly check the sanguinivorous appetite of the bats, but not entirely, as in spite of this application the poor animal was again bitten the next night in fresh places.

Mr. Leavens is a native of Canada, and has been much engaged in the timber-trade of that country, and we had many conversations on the possibility of obtaining a good supply of timber from the Amazons. It seems somewhat extraordinary that the greater part of our timber should be brought from countries where the navigation is stopped nearly half the year by ice, and where the rivers are at all times obstructed by rapids and subject to storms, which render the bringing down the rafts a business of great danger; where, too, there is little variety of timber, and much of it of such poor quality as only to be used on account of its cheapness. On the other hand the valley of the Amazon and its countless tributary streams, offers a country where the rivers are open all the year, and are for hundreds and even thousands of miles unobstructed by rapids, and where violent storms at any season seldom occur. The banks of all these streams are clothed with virgin forests, containing timber-trees in inexhaustible quantities, and of such countless varieties that there seems no purpose for which wood is required but one of a fitting quality may be found. In particular, there is cedar, said to be so abundant in some localities, that it could, on account of the advantages before mentioned, be sent to England at a less price than even the Canada white pine. It is a wood which works nearly as easy as pine, has a fine aromatic odour, and is equal in

appearance to common mahogany, and is therefore well adapted for doors and all internal finishings of houses; yet, owing to the want of a regular supply, the merchants here are obliged to have pine from the States to make their packing-cases. For centuries the woodman's axe has been the pioneer of civilisation in the gloomy forests of Canada, while the treasures of this great and fertile country are still unknown.

Mr. Leavens had been informed that plenty of cedar is to be found on the Tocantíns, the first great tributary of the Amazon from the south, and much wished to make a trip to examine it, and, if practicable, bring a raft of the timber down to Pará; in which case we agreed to go with him, for the purpose of investigating the natural history of that almost unknown district. We determined to start, if at all, in a few weeks; so having been nearly a fortnight at the mills, we returned to Pará on foot, sending our luggage and collections by the canoe.

Vessels had arrived from the States and from Rio. A law had been lately passed by the Imperial Government, which was expected to produce a very beneficial effect on the commerce and tranquillity of the province. It had hitherto been the custom to obtain almost all the recruits for the Brazilian army from this province. Indians, who came down the rivers with produce, were forcibly seized and carried off for soldiers. This was called voluntary enlistment, and had gone on for many years, till the fear of it kept the natives from coming down to Pará, and thus seriously checked the trade of the province. A law had now

been passed (in consequence of the repeated complaints of the authorities here, frightening the Government with the prospect of another revolution), forbidding enlistment in the province of Pará for fifteen years; so we may now hope to be free from any disturbances which might have arisen from this cause.

Nothing impressed me more than the quiet and orderly state of the city and neighbourhood. No class of people carry knives or other weapons, and there is less noise, fighting, or drunkenness in the streets both day and night, than in any town in England of equal population. When it is remembered that the population is mostly uneducated, that it consists of slaves, Indians, Brazilians, Portuguese, and foreigners, and that rum is sold at every corner at about twopence per pint, it says much for the good-nature and pacific disposition of the people.

August 3rd.—We received a fresh inmate into our verandah in the person of a fine young boa constrictor. A man who had caught it in the forest left it for our inspection. It was tightly tied round the neck to a good-sized stick, which hindered the freedom of its movements, and appeared nearly to stop respiration. It was about ten feet long, and very large, being as thick as a man's thigh. Here it lay writhing about for two or three days, dragging its clog along with it, sometimes stretching its mouth open with a most suspicious yawn, and twisting up the end of its tail into a very tight curl. At length we agreed with the man to purchase it for two milreis (4*s.* 6*d.*), and having fitted up a box with bars at the top, got the seller to put it into the cage. It immediately

began making up for lost time by breathing most violently, the expirations sounding like high-pressure steam escaping from a Great Western locomotive. This it continued for some hours, making about four and a half inspirations per minute, and then settled down into silence, which it afterwards maintained, unless when disturbed or irritated.

Though it was without food for more than a week, the birds we gave it were refused, even when alive. Rats are said to be their favourite food, but these we could not procure. These serpents are not at all uncommon, even close to the city, and are considered quite harmless. They are caught by pushing a large stick under them, when they twist round it, and their head being then cautiously seized and tied to the stick, they are easily carried home. Another interesting little animal was a young sloth, which Antonio, an Indian boy, who had enlisted himself in our service, brought alive from the forest. It was not larger than a rabbit, was covered with coarse grey and brown hair, and had a little round head and face resembling the human countenance quite as much as a monkey's, but with a very sad and melancholy expression. It could scarcely crawl along the ground, but appeared quite at home on a chair, hanging on the back, legs, or rails. It was a most quiet, harmless little animal, submitting to any kind of examination with no other manifestation of displeasure than a melancholy whine. It slept hanging with its back downwards and its head between its fore-feet. Its favourite food is the leaf of the *Cecropia peltata*, of which it sometimes ate a little from a

branch we furnished it with. After remaining with us three days, we found it dead in the garden, whither it had wandered, hoping no doubt to reach its forest home. It had eaten scarcely anything with us, and appeared to have died of hunger.

We were now busy packing up our first collection of insects to send to England. In just two months we had taken the large number of 553 species of *Lepidoptera* of which more than 400 were butterflies, 450 beetles, and 400 of other orders, making in all 1,300 species of insects.

Mr. Leavens decided on making the Tocantíns trip, and we agreed to start in a week, looking forward with much pleasure to visiting a new and unexplored district.

CHAPTER III

THE TOCANTÍNS

Canoe, Stores, and Crew—River Mojú—Igaripé Miri —Cametá—Senhor Gomez and his Establishment—Search for a Dinner—Jambouassú—Polite Letter—Baião and its Inhabitants—A Swarm of Wasps—Enter the Rocky District—The Mutuca—Difficulty of getting Men—A Village without Houses—Catching an Alligator—Duck-shooting—Aroyas, and the Falls—A Nocturnal Concert —Blue Macaws—Turtles' Eggs—A Slight Accident—Capabilities of the Country—Return to Pará.

On the afternoon of the 26th of August we left Pará for the Tocantíns. Mr. Leavens had undertaken to arrange all the details of the voyage. He had hired one of the country canoes, roughly made, but in some respects convenient, having a tolda, or palm-thatched roof, like a gipsy's tent, over the stern, which formed our cabin; and in the forepart a similar one, but lower, under which most of our provisions and baggage were stowed. Over this was a rough deck of cedar-boards, where the men rowed, and where we could take our meals when the sun was not too hot. The canoe had two masts and fore and aft sails, and was about twenty-four feet long and eight wide.

Besides our guns, ammunition, and boxes to preserve our collections in, we had a three months' stock of provisions, consisting of farinha, fish, and caxaça for the men; with the addition of tea, coffee, biscuits, sugar, rice, salt beef, and cheese, for ourselves. This, with clothes, crockery, and about a bushel sack of copper money—the only coin current in the interior—pretty well loaded our little craft. Our crew consisted of old Isidora, as cook; Alexander, an Indian from the mills, who was named Captain; Domingo, who had been up the river, and was therefore to be our pilot; and Antonio, the boy before mentioned. Another Indian deserted when we were about to leave, so we started without him, trusting to get two or three more as we went along.

Though in such a small boat, and going up a river in the same province, we were not allowed to leave Pará without passports and clearances from the custom-house, and as much difficulty and delay as if we had been taking a two hundred ton ship into a foreign country. But such is the rule here, even the internal trade of the province, carried on by Brazilian subjects, not being exempt from it. The forms to be filled up, the signing and countersigning at different offices, the applications to be made and formalities to be observed, are so numerous and complicated, that it is quite impossible for a stranger to go through them; and had not Mr. Leavens managed all this part of the business, we should probably have been obliged, from this cause alone, to have given up our projected journey.

Soon after leaving the city night came on, and the tide turning against us, we had to anchor. We were up at five the next morning, and found that we were in the Mojú, up which our way lay, and which enters the Pará river from the south. The morning was delightful; the Suacuras, a kind of rail, were tuning their melancholy notes, which are always to be heard on the river-banks night and morning; lofty palms rose on either side, and when the sun appeared all was fresh and beautiful. About eight, we passed Jaguararí, an estate belonging to Count Brisson, where there are a hundred and fifty slaves engaged principally in cultivating mandiocca. We breakfasted on board, and about two in the afternoon reached Jighery, a very pretty spot, with steep grassy banks, cocoa and other palms, and oranges in profusion. Here we stayed for the tide, and dined on shore, and Mr. B. and myself went in search of insects. We found them rather abundant, and immediately took two species of butterflies we had never seen at Pará. We had not expected to find, in so short a distance, such a difference in the insects; though, as the same thing takes place in England, why should it not here? I saw a very long and slender snake, of a brown colour, twining among the bushes, so that till it moved it was hardly distinguishable from the stem of a climbing plant. Our men had caught a sloth in the morning, as it was swimming across the river, which was about half a mile wide; it was different from the species we had had alive at Pará, having a patch of short yellow and black fur on the back. The Indians stewed it for their dinner, and as they consider the meat a

great delicacy, I tasted it, and found it tender and very palatable.

In the evening, at sunset, the scene was lovely. The groups of elegant palms, the large cotton-trees relieved against the golden sky, the Negro houses surrounded with orange and mango trees, the grassy bank, the noble river, and the background of eternal forest, all softened by the mellowed light of the magical half-hour after sunset, formed a picture indescribably beautiful.

At nine A.M., on the 28th, we entered the Igaripé Mirí, which is a cut made for about half a mile, connecting the Mojú river with a stream flowing into the Tocantíns, nearly opposite Cametá; thus forming an inner passage, safer than the navigation by the Pará river, where vessels are at times exposed to a heavy swell and violent gales, and where there are rocky shoals, very dangerous for the small canoes by which the Cametá trade is principally carried on. When about halfway through, we found the tide running against us, and the water very shallow, and were obliged to wait, fastening the canoe to a tree. In a short time the rope by which we were moored broke, and we were drifted broadside down the stream, and should have been upset by coming against a shoal, but were luckily able to turn into a little bay where the water was still. On getting out of the canal, we sailed and rowed along a winding river, often completely walled in with a luxuriant vegetation of trees and climbing plants. A handsome tree with a mass of purple blossoms was not uncommon, and a large aquatic *Arum*, with its fine white flowers and curious fruits, grew on all the mud-banks along the shores.

The Miriti palm here covered extensive tracts of ground, and often reached an enormous height.

At five P.M. we arrived at Santa Anna, a village with a pretty church in the picturesque Italian architecture usual in Pará. We had anticipated some delay here with our passports; but finding there was no official to examine them we continued our journey.

The 29th was spent in progressing slowly among intricate channels and shoals, on which we several times got aground, till we at last reached the main stream of the Tocantíns, studded with innumerable palm-covered islands.

On the 30th, at daylight, we crossed over the river, which is five or six miles wide, to Cametá, one of the principal towns in the province. Its trade is in Brazil-nuts, cacao, india-rubber, and cotton, which are produced in abundance by the surrounding district. It is a small straggling place, and though there are several shops, such a thing as a watch-key, which I required, was not to be obtained. It has a picturesque appearance, being situated on a bank thirty or forty feet high; and the view from it, of the river studded with island beyond island, as far as the eye can reach, is very fine. We breakfasted here with Senhor Le Roque, a merchant with whom Mr. Leavens is acquainted, and who showed us round the place, and then offered to accompany us in his boat to the sitio of Senhor Gomez, about thirty miles up the river, to whom we had an introduction, and who we hoped would be able to furnish us with some more men.

On going to our canoe, however, one of our men, Domingo,

the pilot, was absent; but the tide serving, Senhor Le Roque set off, and we promised to follow as soon as we could find our pilot, who was, no doubt, hidden in some *taverna*, or liquor-shop, in the town. But after making every inquiry and search for him in vain, waiting till the tide was almost gone, we determined to start without him, and send back word by Senhor Le Roque, that he was to come on in a montaria the next day. If we had had more experience of the Indian character, we should have waited patiently till the following morning, when we should, no doubt, have found him. As it was, we never saw him during the rest of the voyage, though he had left clothes and several other articles in the canoe.

In consequence of our delay we lost the wind, and our remaining man and boy had to row almost all the way, which put them rather out of humour; and before we arrived, we met Senhor Le Roque returning. Senhor Gomez received us kindly, and we stayed with him two days, waiting for men he was trying to procure for us. We amused ourselves very well, shooting and entomologising. Near the house was a large leguminous tree loaded with yellow blossoms, which were frequented by paroquets and humming-birds. Up the igaripé were numbers of the curious and handsome birds, called "Ciganos," or Gipsies (*Opisthocomus cristatus*). They are as large as a fowl, have an elegant movable crest on their head, and a varied brown and white plumage. I shot two, but they were not in good condition; and as they are plentiful on all these streams, though not found at Pará, it

was with less regret that I threw them away. They keep in flocks on low trees and bushes on the banks of the river, feeding on the fruits and leaves of the large *Arum* before mentioned. They never descend to the ground, and have a slow and unsteady flight.

In the Campos, about a mile through the forest, I found wax-bills, pigeons, toucans, and white-winged and blue chatterers. In the forest we found some fine new *Heliconias* and *Erycinidæ* and I took two *Cicadas* sitting on the trunk of a tree: when caught they make a noise almost deafening; they generally rest high up on the trees, and though daily and hourly heard, are seldom seen or captured. As I was returning to the house, I met a little Indian boy, and at the same time a large iguana at least three feet long, with crested back and hanging dewlap, looking very fierce, ran across the path. The boy immediately rushed after it, and seizing the tail with both hands, dashed the creature's head against a tree, killing it on the spot, and then carried it home, where it no doubt made a very savoury supper.

We here had an opportunity of seeing something of the arrangements and customs of a Brazilian country-house. The whole edifice in this case was raised four or five feet on piles, to keep it above water at the high spring tides. Running out to low-water mark was a substantial wooden pier, terminated by a flight of steps. This leads from a verandah, opening out of which is a room where guests are received and business transacted, and close by is the sugar-mill and distillery. Quite detached is the house where the mistress, children, and servants reside, the

approach to it being through the verandah, and along a raised causeway forty or fifty feet in length. We took our meals in the verandah with Senhor Gomez, never once being honoured by the presence of the lady or her grown-up daughters. At six A.M. we had coffee; at nine, breakfast, consisting of beef and dried fish, with farinha, which supplies the place of bread; and, to finish, coffee and farinha cakes, and the rather unusual luxury of butter. We dined at three, and had rice or shrimp soup, a variety of meat, game or fresh fish, terminating with fruit, principally pine-apples and oranges, cut up in slices and served in saucers; and at eight in the evening we had tea and farinha cakes. Two or three Negro and Indian boys wait at table, constantly changing the plates, which, as soon as empty, are whipped off the table, and replaced by clean ones, a woman just behind being constantly at work washing them.

Our boy Antonio had here turned lazy, disobeyed orders, and was discharged on the spot, going off with a party who were proceeding up the Amazon after pirarucú. We now had but one man left, and with two that Senhor Gomez lent us to go as far as Baião, we left Vista Alegre on the morning of the 2nd of September. The river presented the same appearance as below, —innumerable islands, most of them several miles long, and the two shores never to be seen at once. As we had nothing for dinner, I went with Mr. Leavens in the montaria, which our Indians were to return in, to a house up an igaripé, to see what we could buy. Cattle and sheep, fowls and ducks were in plenty, and we thought

we had come to the right place; but we were mistaken, for the following conversation took place between Mr. Leavens and a Negro woman, the only person we saw:—"Have you any fowls to sell?"—"No." "Any ducks?"—"No." "Any meat?"—"No." "What do you do here then?"—"Nothing." "Have you any eggs to sell?"—"No, the hens don't lay eggs." And notwithstanding our declaration that we had nothing to eat, we were obliged to go away as empty as we came, because her master was not at home, and nothing was hers to sell. At another house we were lucky enough to buy a small turtle, which made us an excellent meal.

We were to call at Jambouassú, a sitio about fifteen miles below Baião, where Senhor Seixus, to whom we had a letter, sometimes resided. The house is situated up a narrow igaripé, the entrance to which even our Indians had much difficulty in discovering, as it was night when we reached the place. Mr. Leavens and myself then went in the montaria up the narrow stream, which the tall trees, almost meeting overhead, made intensely dark and gloomy. It was but a few hundred yards to the house, where we found Senhor Seixus, and delivered the letter from his partner in Pará; and as it is a very good specimen of Portuguese composition and politeness, I will here give a literal translation of it.

"*Senhor Jozé Antonio Correio Seixus & Co., Baião.*

Friends and Gentlemen,—

Knowing that it is always agreeable for you to have an opportunity of showing your hospitable and generous

feelings towards strangers in general, and more particularly to those who visit our country for the purpose of making discoveries and extending the sphere of their knowledge; I do not hesitate to take advantage of the opportunity which the journey of Mr. Charles Leavens and his two worthy companions presents, to recommend them to your friendship and protection in the scientific enterprise which they have undertaken, in order to obtain those natural productions which render our province a classic land in the history of animals and plants.

In this laborious enterprise, which the illustrious (*elites*) travellers have undertaken, I much wish that they may find in you all that the limited resources of the place allows, not only that whatever difficulties they encounter may be removed, but that you may render less irksome the labours and privations they must necessarily endure; and for men like them, devoted to science, and whose very aliment is Natural History, in a country like ours abounding in the most exquisite productions, it is easy to find means to gratify them.

I therefore hope, and above all pray you to fulfil my wishes in the attentions you pay to Senhor Leavens and his companions, and thus give me another proof of your esteem and friendship.

Your friend and obedient servant,
João Augusto Correio."

After reading the letter Senhor Seixus told us that he was going to Baião in two or three days, and that we could either

remain here, or have the use of his house there till he arrived. We determined to proceed, as we wished to send back the men Senhor Gomez had lent us, and therefore returned to our canoe to be ready to start the next tide. In the morning I went on ahead in the montaria, with Alexander, to shoot some birds. We saw numbers of kingfishers and small green-backed swallows, and some pretty red-headed finches (*Tanagra gularis*), called here "marinheiros," or sailors: they are always found near the water, on low trees and bushes. We landed on an extensive sandy beach, where many terns and gulls were flying about, of which, after a good many ineffectual attempts, we shot two. We reached the canoe again as she came to anchor at Baião, under a very steep bank about a hundred feet high, which commences a few miles below. Here we had about a hundred and twenty irregular steps to ascend, when we found the village on level ground, and the house of Senhor Seixus close at hand, which, though the floors and walls were of mud, was neatly whitewashed. As the house was quite empty, we had to bring a great many necessaries up from the canoe, which was very laborious work in the hot sun. We did not see a floored house in the village, which is not to be wondered at when it is considered that there is not such a thing as a sawn board in this part of the country. A tree is cut longitudinally down the middle with an axe, and the outside then hewn away, and the surface finished off with an adze, so that a tree makes but two boards. All the boarded floors at Cametá, and many at Pará, have been thus formed, without the use of either

saw or plane.

We remained here some days, and had very good sport. Birds were tolerably plentiful, and I obtained a brown jacamar, a purple-headed parrot, and some fine pigeons. All round the village, for some miles, on the dry high land, are coffee-plantations and second-growth forest, which produced many butterflies new to us, particularly the whites and yellows, of which we obtained six or seven species we had not before met with. While preparing insects or skinning birds in the house, the window which opened into the street was generally crowded with boys and men, who would wait for hours, watching my operations with the most untiring curiosity. The constantly-repeated remark, on seeing a bird skinned, was, "Oh, the patience of the whites!" Then one would whisper to another, "Does he take all the meat out?" "Well, I never!" "Look, he makes eyes of cotton!" And then would come a little conversation as to what they could possibly be wanted for. "Para mostrar" (to show) was the general solution; but they seemed to think it rather unsatisfactory, and that the English could hardly be such fools as to want to see a few parrot and pigeon skins. The butterflies they settled much to their own satisfaction, deciding that they were for the purpose of obtaining new patterns for printed calicoes and other goods, while the ugly insects were supposed to be valuable for "remedios," or medicine. We found it best quietly to assent to this, as it saved us a deal of questioning, and no other explanation that we could give would be at all intelligible to them.

One day, while I was in the woods pursuing some insects, I was suddenly attacked by a whole swarm of small wasps, whose nest, hanging from a leaf, I had inadvertently disturbed. They covered my face and neck, stinging me severely, while in my haste to escape, and free myself from them, I knocked off my spectacles, which I did not perceive till I was at some distance from the spot, and as I was quite out of any path, and had not noticed where I was, it was useless to seek them. The pain of the stings, which was at first very severe, went off altogether in about an hour; and as I had several more glasses with me, I did not suffer any inconvenience from my loss.

The soil here is red clay, in some places of so bright a colour as to be used for painting earthenware. Igaripés are much rarer than they were lower down, and where they occur form little valleys or ravines in the high bank. When Senhor Seixus arrived, he insisted on our all taking our meals with him, and was in every way very obliging to us. His son, a little boy of six or seven, ran about the house completely naked.

The neighbours would drop in once or twice a day to see how the *brancos* (white people) got on, and have a little conversation, mostly with Mr. Leavens, who spoke Portuguese fluently. One inquired if in America (meaning in the United States) there was any *terra firma*, appearing to have an idea that it was all a cluster of islands. Another asked if there were campos, and if the people had mandiocca and seringa. On being told they had neither, he asked why they did not plant them, and said he thought it

would answer well to plant seringa-trees, and so have fresh milk every day to make india-rubber shoes. When told that the climate was too cold for mandiocca or seringa to grow if planted, he was quite astonished, and wondered how people could live in a country where such necessaries of life could not be grown; and he no doubt felt a kind of superiority over us, on account of our coming to his country to buy india-rubber and cocoa, just as the inhabitants of the Celestial Empire think that we must be very poor miserable barbarians, indeed, to be obliged to come so far to buy their tea.

Even Senhor Seixus himself, an educated Brazilian and the Commandante of the district, inquired if the government of England were constitutional or despotic, and was surprised to hear that our Sovereign was a woman.

We at length procured two men, and proceeded on our journey up the river, having spent four days very pleasantly at Baião. As we went slowly along the shore, we saw on a tree an iguana, called here a chameleon, which Mr. Leavens shot, and our men cooked for their supper. In the evening, we anchored under a fine bank, where a large leguminous tree was covered with clusters of pink and white flowers and large pale green flat pods. Venus and the moon were shining brilliantly, and the air was deliciously cool, when, at nine o'clock, we turned in under our tolda, but mosquitoes and sand-flies would not allow us to sleep for some hours. The next day we had a good wind and went along briskly; the river was narrower and had fewer islands; palms were less

abundant than below, but the vegetation of the banks was equally luxuriant. Here were plenty of porpoises, and we saw some handsome birds like golden orioles.

On the 9th, early in the morning, we arrived at Jutahí, a cattle estate, where we expected to get more men; but the owner of the place being out, we had to wait till he returned. We obtained here about a gallon of delicious new milk, a great treat for us. We shot a few birds, and found some small shells in the river, but none of any size or beauty, and could see scarcely any insects.

As the man we wanted did not arrive, we left on the 10th, hoping to meet him up the river. I walked across an extensive sandbank, where, about noon, it was decidedly hot. There were numerous little Carabideous beetles on the sand, very active, and of a pale colour with dark markings, reminding me of insects that frequent similar situations in England. In the afternoon we reached a house, and made a fire on the beach to cook our dinner. Here were a number of men and women, and naked children. The house was a mere open shed,—a roof of palm-thatch supported on posts, between which the *rédés* (hammocks) are hung, which serve the purpose of bed and chair. At one end was a small platform, raised about three feet above the floor, ascended by deep notches cut in a post, instead of a ladder. This seemed to be a sort of boudoir, or ladies' room, as they alone occupied it; and it was useful to keep clothes and food out of the way of the fowls, ducks, pigs, and dogs, which freely ranged below. The head of the establishment was a Brazilian, who had come down from the

mines. He had in cultivation cotton, tobacco, cacao, mandiocca, and abundance of bananas. He wanted powder and shot, which Mr. Leavens furnished him with in exchange for tobacco. He said they had not had any rain for three months, and that the crops were much injured in consequence. At Pará, from which we were not distant more than one hundred and fifty miles, there had never been more than three days without rain. The proximity to the great body of water of the Amazon and the ocean, together with the greater extent of lowland and dense forest about the city, are probably the causes of this great difference of climate in so short a distance.

Proceeding on our way, we still passed innumerable islands, the river being four or five miles wide. About four in the afternoon, we came in sight of the first rocks we met with on the river, on a projecting point, rugged and volcanic in appearance, with little detached islands in the stream, and great blocks lying along the shore. After so much flat alluvial country, it had quite a picturesque effect. A mile further, we reached Patos, a small village, were we hoped to get men, and anchored for the night. I took a walk along the shore to examine the rocks, and found them to be decidedly volcanic, of a dark colour, and often as rugged as the scoriæ of an iron-furnace. There was also a coarse conglomerate, containing blackened quartz pebbles, and in the hollows a very fine white quartz sand.

We remained here two days; Mr. Leavens going up the igaripé to look for cedar, while we remained hunting for birds, insects,

and shells. I shot several pretty birds, and saw, for the first time, the beautiful blue macaws, which we had been told we should meet with up the Tocantíns. They are entirely of a fine indigo-blue, with a whitish beak; but they flew very high, and we could not find their feeding-place. The insects most abundant were the yellow butterflies, which often settled in great numbers on the beach, and when disturbed rose in a body, forming a complete yellow and orange fluttering cloud. Shells were tolerably plentiful, and we added some new ones to our small stock. Since leaving Baião, a small fly, with curiously marked black and white wings, had much annoyed us, setting on our hands and faces in the quietest manner, and then suddenly piercing them like the prick of a needle. The people call it the Mutúca, and say it is one of the torments of the interior, being in many parts much more abundant than it is here.

Mr. Leavens having ascertained that there was no cedar within a mile of the water, we arranged to proceed the next day, when a pilot and two men from Patos had agreed to accompany us to the Falls. In the morning we waited till eight o'clock, and no one making their appearance, we sent to them, when they replied, they could not come; so after having waited a day, we were at last obliged to go on without them, hoping to be able to get as far as the Falls, and then return. Cedar was quite out of the question, as men could not be got to work the canoe, much less to cut timber. We had now altogether been delayed nine or ten days waiting for men, and in only one instance had got them after

all. This is one of the greatest difficulties travellers here have to encounter. All the men you want must be taken from Pará, and if they choose to run away, as they are almost sure to do, others cannot be procured.

At ten in the morning we reached Troquera, on the west bank of the river, where there is a small igaripé, on which there are some falls. There were several families living here, yet they had not a house among them, but had chosen a nice clear space under some trees, between the trunks and from the branches of which they hung their *rédés*. Numbers of children were rolling about naked in the sand, while the women and some of the men were lounging in their hammocks. Their canoes were pulled up on the beach, their guns were leaning against the trees, a couple of large earthen pots were on the fire, and they seemed to possess, in their own estimation, every luxury that man can desire. As in the winter the place is all under water, it is only a summer encampment; during which season they collect seringa, grow a little cotton, mandiocca, and maize, catch fish and hunt. All they wanted of us was ammunition and caxaça (rum), which Mr. Leavens supplied them with, taking rubber in exchange.

We walked about a mile through the forest to the Falls on the igaripé. Black slaty rocks rose up at a high angle in the bed of the brook, in irregular stratified masses, among which the water foams and dashes for about a quarter of a mile: "a splendid place for a sawmill," said Mr. Leavens. There were no palms here, or any striking forms of tropical vegetation; the mosses and small

plants had nothing peculiar in them; and, altogether, the place was very like many I have seen at home. The depths of the virgin forest are solemn and grand, but there is nothing in this country to surpass the beauty of our river and woodland scenery. Here and there some exquisite clump of plants covered with blossoms, or a huge tree overrun with flowering climbers, strikes us as really tropical; but this is not the general character of the scenery. In the second-growth woods, in the campos, and in many other places, there is nothing to tell any one but a naturalist that he is out of Europe.

Before leaving Troquera, I shot some goat-suckers, which were flying about and settling upon the rocks in the hot sunshine. We went on to Panajá, where there is a house occupied by some seringa-gatherers, and stayed there for the night. All along the sandy shore, from Baião to this place, are trailing prickly cassias, frequently forming an impenetrable barrier; and, in places, there is a large shrubby species, also prickly. The large-stemmed arums had now disappeared, and with them the ciganos. The next morning I went with our Indian, Alexander, to visit a lake, about a mile through the woods. There was a small montaria, which would just hold two, in which we embarked to explore it, and shoot some birds. Alligators were very abundant, showing their heads every now and then above water. Alexander fired at one, which immediately disappeared, but soon came up again, half turned over, and with one leg out of water; so we thought he was quite dead, and paddled up to secure him. I seized hold of the

elevated claw, when—dash! splash!—over he turned, and dived down under our little boat, which he had half filled with water and nearly upset. Again he appeared at the surface, and this time we poked him with a long stick, to see if he were really dead or shamming, when he again dived down and appeared no more.

We went to the end of the lake, which was about a mile long, and then returned to the place where we had embarked. I had shot a kingfisher, and was loading my gun, when Alexander shot at a small coot or rail, and having a large charge, the shock threw me off my balance, and to save myself I dropped my gun into the water and very nearly swamped the canoe. I thought my shooting for this voyage was all over; but, luckily, the water was only three or four feet deep, and we soon hooked the gun up. I employed the rest of the morning in taking off the locks, and by careful cleaning and oiling got all right again.

We went on with a fair wind for a few hours, when two of our men proposed taking the montaria to go and shoot ducks at a place near, where they abounded; so Mr. B. and myself agreed to go with them, while Mr. Leavens proceeded a mile or two on, to get dinner ready and wait for us. We had about half a mile of paddling to reach the shore, then half a mile of walking over a sandy beach, when our Indians plunged into the forest along a narrow path, we following in silence. About a mile more brought us to some open ground, where there was abundance of fine grass and scattered clumps of low trees and shrubs, among which were many pretty flowers. We walked for a mile through this kind of

country, along a track which was often quite imperceptible to us, till at length we reached an extensive morass covered with aquatic plants, with some clumps of bushes and blackened clumps of trees.

Our Indians, without saying a word, plunged in up to their knees, and waded after the ducks, which we could see at a distance, with egrets and other aquatic birds. As we could do nothing on shore, we followed them, floundering about in mud and water, among immersed trees and shrubs, and tangled roots of aquatic plants, feeling warm and slimy, as if tenanted by all sorts of creeping things. The ducks were far from easy to get at, being very wild and shy. After one or two ineffectual long shots, I saw one sitting on the top of a stump, and by creeping cautiously along under cover of some bushes, got within shot and fired. The bird flew away, I thought unhurt, but soon fell into the water, where I picked it up dead. It had been shot through the head, and flown, I suppose, in the same manner that fowls will run after being decapitated.

I then came out on to dry land, and waited for the Indians, who soon appeared, but all empty-handed. A pale yellow water-lily and some pretty buttercups and bladder-worts were abundant in the lake. We had a long row to reach the canoe, which we found at Jucahipuá, where Senhor Joaquim resided, who, we had been told, would pilot us up to the Falls. After a good dinner of turtle I skinned my birds, and then took a walk along the beach: here were fine crystalline sandstone rocks, in regularly stratified

beds. In the evening a small *Ephemera* was so abundant about the candle as to fall on the paper like rain, and get into our hair and down our necks in such abundance as to be very annoying.

In the morning we passed the locality of the old settlement of Alcobaza, where there was once a fort and a considerable village, but now no signs of any habitation. The inhabitants were murdered by the Indians about fifty years ago, and since then it has never been re-settled. The river was now about a mile wide, and had fewer islands. There was a fine flat-bedded sandstone here, very suitable for building. We were shown a stone on which is said to be writing which no man can read, being circular and pothook marks, almost as much like the work of nature as of art. The water was here beautifully transparent, and there were many pretty fishes variously marked and spotted.

About noon we reached the "Ilha dos Santos," a small sandy island in the middle of the river, where there was a house, the inhabitants of which continually asked us for caxaça. We had a land-tortoise for dinner to-day, which was as good as turtle. Two hours further we landed for the night. The river was now very full of rocks and eddies, and we were unable to go in our large canoe. The next morning, having put our *rédés* and some provisions into the montaria, we started with two of our men and Senhor Joaquim, leaving one man and old Isidora in charge of the canoe till we returned. In about an hour we all had to get out of the boat for the men to pull it up a little rapid over some rocks. The whole river is here full of small rocky islands and masses

of rock above and under water. In the wet season the water is fifteen to twenty feet higher than it was now, and this part is then safe for large canoes. We passed the mouth of an igaripé on the west bank, and another on the opposite side, in both of which gold is said to exist. Large silk-cotton-trees appear at intervals, raising their semi-globular heads above the rest of the forest, and the castanha, or Brazil-nut, grows on the river-banks, where we saw many of the trees covered with fruit.

We passed the Ilha das Pacas, which is completely covered with wood, and very abrupt and rocky. The rocks in the river were now thicker than ever, and we frequently scraped against them; but as the bottoms of the montarins are hollowed out of the trunks of trees and left very thick, they do not readily receive any injury. At three P.M. we reached Aroyas, a mile below the Falls. Here the bank of the river slopes up to a height of about three hundred feet, and is thickly wooded. There was a house near the river, with numerous orange-trees, and on the top of the hill were mandiocca and coffee plantations. We dined here; and when we had finished, the mistress handed round a basin of water and a clean napkin to wash our hands,—a refinement we had hardly expected in a room without walls, and at such a distance from civilisation.

After dinner we went on to see the Falls. The river was still about a mile wide, and more wild and rocky than before. Near the Falls are vast masses of volcanic rock; one in particular, which we passed close under in the montaria is of a cubical form, thirty

feet on the side and twenty feet high. There are also small islands composed entirely of scoria-like rocks, heaped up and containing caves and hollows of a most picturesque appearance, affording evident proofs of violent volcanic action at some former period. On both sides of the river, and as far as the sight extends, is an undulating country, from four to five hundred feet high, covered with forest, the commencement of the elevated plains of central Brazil.

On arriving at the Falls we found the central channel about a quarter of a mile wide, bounded by rocks, with a deep and very powerful stream rushing down in an unbroken sweep of dark green waters, and producing eddies and whirlpools below more dangerous to canoes than the Fall itself. When the river is full they are much more perilous, the force of the current being almost irresistible, and much skill is required to avoid the eddies and sunken rocks. The great cubical block I have mentioned is then just under water, and has caused the loss of many canoes. The strata were much twisted and confused, dipping in various directions about 12°, with volcanic masses rising up among them. As nearly as we could judge by the distances we had come, these rapids must be in about 4° of south latitude, where a considerable bend in the river occurs. Above are numerous falls and rapids, and after a time the forest ceases, and open undulating plains are found. From the point we reached, the country becomes very interesting, and we much regretted that we were unable to explore it further.

On our return to Aroyas, our men, while descending the various smaller rapids, shouted and sang in the most wild and excited manner, and appeared to enjoy it amazingly. They had had a hard day's work, having paddled and poled about twenty miles against a powerful current, in some places so strong as to require all their exertions to keep the boat's head up the stream. At Aroyas we took some coffee, and then turned into our *rédés* in an open shed about twelve feet square, at the back part of the house, where six or eight other members of the family also found room for themselves. We were kept awake some time by our pilot, who had got drunk on caxaça, and was very violent and abusive, so to quiet him we administered another glass or two, which soon had the desired sedative effect. The next morning he looked very dull and sheepish; in fact, most of the Tapuyas, or half-civilised Indians, consider it disgraceful to get drunk, and seem ashamed afterwards.

After paying our hostess in biscuit, tea, and sugar, which were great luxuries to her, we started on our return to the canoe, which we reached about noon, having stayed an hour to explore the igaripé for gold, but without the smallest success. At the canoe we found that Isidora had some turtle stew ready, to which we did ample justice, and, finding the man we had left with him very ill, went on immediately to Jucahipuah, where he could have some "remedios" given him by the women. We found there a canoe going to Baião, and sent him by it, as he would thus get home sooner than if he remained with us.

While walking on the beach I saw a tall, narrow-leaved, white-flowered *Polygonum*, so like some of our British species as to call up thoughts of home and of my botanical rambles there. Many curious land-shells were found, but all dead and bleached, and though we searched repeatedly we could find no living specimens. The feathers of the blue macaw were lying about the ground where the people had been feasting off their flesh, but we could not succeed in obtaining any specimens.

Every night, while in the upper part of the river, we had a concert of frogs, which made most extraordinary noises. There are three kinds, which can frequently be all heard at once. One of these makes a noise something like what one would expect a frog to make, namely a dismal croak, but the sounds uttered by the others were like no animal noise that I ever heard before. A distant railway-train approaching, and a blacksmith hammering on his anvil, are what they exactly resemble. They are such true imitations, that when lying half-dozing in the canoe I have often fancied myself at home, hearing the familiar sounds of the approaching mail-train, and the hammering of the boiler-makers at the iron-works. Then we often had the "guarhibas," or howling monkeys, with their terrific noises, the shrill grating whistle of the cicadas and locusts, and the peculiar notes of the suacúras and other aquatic birds; add to these the loud unpleasant hum of the mosquito in your immediate vicinity, and you have a pretty good idea of our nightly concert on the Tocantíns.

On the morning of the 19th, at Panajá, where we had passed

the night, I took my gun and went into the forest, but found nothing. I saw, however, an immense silk-cotton-tree, one of the buttresses of which ran out twenty feet from the trunk. On the beach was a pretty yellow *Œnothera*, which is common all along this part of the river, as well as a small white passion-flower. Mr. Leavens here bought some rubber, and we then rowed or sailed on for the rest of the day. In the afternoon I took the montaria, with Isidora, to try and shoot some of the pretty yellow orioles. I killed one, but it stuck in a thick prickly tree, and we were obliged to come away without it. We passed Patos in the afternoon; near it was a tree covered with a mass of bright yellow blossoms, more brilliant than laburnum, and a really gorgeous sight.

The next day we left the land of the blue macaw without a single specimen. From this place to the Falls we had seen them every day, morning and evening, flying high over the river. At almost every house feathers were on the ground, showing that this splendid bird is often shot for food. Alexander once had a chance at them, but his gun missed fire, and they immediately flew off. Lower down the river they are scarcely ever seen, and never below Baião, while from this place up they are very abundant. What can be the causes which so exactly limit the range of such a strongly-flying bird? It appears with the rock, and with this there is no doubt a corresponding change in the fruits on which the birds feed.

Our Indians seeing a likely place on the beach for turtles' eggs, went on shore in the montaria, and were fortunate enough to find

a hundred and twenty-three buried in the sand. They are oily and very savoury, and we had an immense omelet for dinner. The shell is leathery, and the white never coagulates, but is thrown away, and the yolk only eaten. The Indians eat them also raw, mixed with farinha. We dined on the beach, where there was abundance of a plant much resembling chamomile. The sands were very hot, so that it was almost impossible to walk over them barefooted. The Indians, in crossing extensive beaches, stop and dig holes in the sand to cool their feet in. We now got on very slowly, having to tack across and across the river, the wind blowing up it, as it always does at this season.

Where we stopped for breakfast on the 21st, I shot a very prettily-marked small hawk. Insects were also rather abundant, and we captured some fine *Papilios*, and two or three new species of clear-winged *Heliconia*. Alexander found a bees'-nest in a hole in a tree, and got about two quarts of honey, which when strained was very sweet, but with a hot waxy taste. The comb consists of oval cells of black wax, very irregular in shape and size, and displaying little of the skill of our bees at home. The next night, rather late, we arrived at Jambouassu, the sitio of Senhor Seixus, where we were kindly received, and, about nine o'clock, turned into our *rédés* in his verandah.

The next morning I walked out to examine the premises. The whole of the forest, for some miles round the house, is a cacao plantation, there being about sixty thousand trees, which have all been planted; the small trees and brush having been cleared

from the forest, but all the seringa and other large forest-trees left for shade, which the cacao requires. The milk from the seringa-trees is collected every morning in large univalve shells, which are stuck with clay to the tree, and a small incision made in the bark above. It is formed into shoes or bottles, on moulds of clay, or into flat cakes. It hardens in a few hours, and is blackened with a smoke produced by burning the nuts of the Urucurí palm, and is then india-rubber. Just before leaving this place I met with an accident, which might have been very serious. My gun was lying loaded on the top of the canoe, and wishing to shoot some small birds near the house, I drew it towards me by the muzzle, which, standing on the steps of the landing-place, was the only part I could reach. The hammer, however, lay in a joint of the boards, and as I drew the gun towards me it was raised up, and let fall on the cap, firing off the gun, the charge carrying off a small piece of the under-side of my hand near the wrist, and, passing under my arm within a few inches of my body luckily missed a number of people who were behind me. I felt my hand violently blown away, and looking at it, saw a stream of blood, but felt no pain for some minutes. As we had nothing to put to it, I tied it up with a quantity of cotton; and about twelve o'clock, the tide serving, we bade adieu to Senhor Seixus, who had treated us very kindly both here and at Baião.

On the 24th we stayed for the tide, at a house on an island abounding in cacao and seringa. The water of the river had become muddy, but not ill-tasted. On the 25th we stayed at a

sugar estate, where there was a tree full of the hanging nests of the japims, or yellow troupials. Seeing a number of the large frigate-bird pelican over the river, I went out with Alexander in the montaria to try and shoot one, and, after a few ineffectual shots, Alexander succeeded in doing so. It measured seven feet from wing to wing; the feet were very small and webbed, and the bill long and hooked at the end. They appear almost to live upon the wing, going in small flocks over the river, and darting down to seize any fish which may appear near the surface. The neck is partly bare, and very extensible, like that of the true pelicans. There are two kinds, which fly together, one with the body entirely black, the other with the head and neck white, which are said to be the male and female of the same species.

On the 26th we stayed for the tide at a low island covered with palms and underwood. Just as we were going to step on shore we saw a large snake twisted on a branch overhead, so we hung back a little till Mr. Leavens shot it. It was about ten feet long, and very handsomely marked with yellow and black slanting lines. In the wood we got some assai, and made a quantity of the drink so much liked by the people here, and which is very good when you are used to it. The fruit grows in large bunches on the summit of a graceful palm, and is about the size and colour of a sloe. On examining it, a person would think that it contained nothing eatable, as immediately under the skin is a hard stone. The very thin, hardly perceptible pulp, between the skin and the stone, is what is used. To prepare it, the fruit is soaked half an hour in

water, just warm enough to bear the hand in. It is next rubbed and kneaded with the hands, till all the skin and pulp is worn off the stones. The liquid is then poured off, and strained, and is of the consistence of cream, and of a fine purple colour. It is eaten with sugar and farinha; with use it becomes very agreeable to the taste, something resembling nuts and cream, and is no doubt very nourishing; it is much used in Pará, where it is constantly sold in the streets, and, owing to the fruit ripening at different seasons, according to the locality, is to be had there all the year round.

On the east side of the river, along which we had kept in our descent, there was more cultivation than on the side we went up. A short distance from the shore the land rises, and most of the houses are situated on the slope, with the ground cleared down to the river. Some of the places are kept in tolerable order, but there are numbers of houses and cottages unoccupied and in ruins, with land once cultivated, overgrown with weeds and brushwood. Rubber-making and gathering cacao and Brazil-nuts are better liked than the regular cultivation of the soil.

In the districts we passed through, sugar, cotton, coffee, and rice might be grown in any quantity and of the finest quality. The navigation is always safe and uninterrupted, and the whole country is so intersected by igaripés and rivers that every estate has water-carriage for its productions. But the indolent disposition of the people, and the scarcity of labour, will prevent the capabilities of this fine country from being developed till European or North American colonies are formed. There is no

country in the world where people can produce for themselves so many of the necessaries and luxuries of life. Indian corn, rice, mandiocca, sugar, coffee, and cotton, beef, poultry, and pork, with oranges, bananas, and abundance of other fruits and vegetables, thrive with little care. With these articles in abundance, a house of wood, calabashes, cups and pottery of the country, they may live in plenty without a single exotic production. And then what advantages there are in a country where there is no stoppage of agricultural operations during winter, but where crops may be had, and poultry be reared, all the year round; where the least possible amount of clothing is the most comfortable, and where a hundred little necessaries of a cold region are altogether superfluous. With regard to the climate I have said enough already; and I repeat, that a man can work as well here as in the hot summer months in England, and that if he will only work three hours in the morning and three in the evening, he will produce more of the necessaries and comforts of life than by twelve hours' daily labour at home.

Nothing more of importance occurred, and we arrived safely at Pará on the 30th of September, just five weeks from the day we left. We had not had a wet day the whole voyage, yet found to our surprise that it had been there the same as usual—a shower and a thunderstorm every second or third day.

CHAPTER IV

MEXIANA AND MARAJÓ

Visit to Olería—Habits of Birds—Voyage to Mexiana—Arrival—Birds—Description of the Island—Population—Slaves, their Treatment and Habits—Journey to the Lake—Beautiful Stream—Fish and Birds at the Lake—Catching Alligators—Strange Sounds, and Abundance of Animal Life—Walk back—Jaguar Meat—Visit to Jungcal in Marajó—Embarking Cattle—Ilha das Frechas.

Soon after our return to Pará, my hand became so much inflamed, that I was obliged to put my arm in a sling, and go to a doctor, under whose treatment I remained a fortnight, unable to do anything, not even pin an insect, and consequently rather miserable. As I intended, as soon as possible, going to the great island of Marajó, in search of some of the curious and rare water-birds which abound there, I obtained permission from Mr. C., an English gentleman, to visit his cattle estates; but as there was no canoe going there for some weeks, I spent the interim at Olería, where M. Borlaz kindly offered me a room and a place at his table.

I found plenty of occupation in procuring specimens of

the various small birds, and making myself acquainted with their habits. None were more abundant, both in species and individuals, than the bush-shrikes, which are all remarkable for the same kind of falling note I have already alluded to, though each one has some slight peculiarity by which it may be distinguished. They generally hide themselves in the very thickest and most impenetrable bushes, where it is impossible to see them except by creeping up within a distance of two yards, when it is difficult to shoot without blowing them to pieces. They are small birds with very loose, long, silky feathers, prettily banded or spotted with black and white, and are constantly hopping about the bushes and twigs, picking off whatever small insects they fall in with.

The ant-thrushes are another closely allied group, which are equally abundant. They have stronger legs and very short tails, and walk more on the ground, picking up insects, especially ants, very much after the manner of poultry. When one is shot, it is often a dangerous matter to go and fetch it, for the ground generally swarms with ants, which attack an intruder most unmercifully both with stings and jaws. Many times, after a fruitless attempt, have I been obliged to leave the dead body on the field, and beat an inglorious retreat.

In all works on Natural History, we constantly find details of the marvellous adaptation of animals to their food, their habits, and the localities in which they are found. But naturalists are now beginning to look beyond this, and to see that there must

be some other principle regulating the infinitely varied forms of animal life. It must strike every one, that the numbers of birds and insects of different groups, having scarcely any resemblance to each other, which yet feed on the same food and inhabit the same localities, cannot have been so differently constructed and adorned for that purpose alone. Thus the goat-suckers, the swallows, the tyrant fly-catchers, and the jacamars, all use the same kind of food, and procure it in the same manner: they all capture insects on the wing, yet how entirely different is the structure and the whole appearance of these birds! The swallows, with their powerful wings, are almost entirely inhabitants of the air; the goat-suckers, nearly allied to them, but of a much weaker structure, and with largely developed eyes, are semi-nocturnal birds, sometimes flying in the evening in company with the swallows, but most frequently settling on the ground, seizing their prey by short flights from it, and then returning to the same spot. The fly-catchers are strong-legged, but short-winged birds, which can perch, but cannot fly with the ease of the swallows: they generally seat themselves on a bare tree, and from it watch for any insects which may come within reach of a short swoop, and which their broad bills and wide gape enable them to seize. But with the jacamars this is not the case: their bills are long and pointed—in fact, a weak kingfisher's bill—yet they have similar habits to the preceding: they sit on branches in open parts of the forest, from thence flying after insects, which they catch on the wing, and then return to their former station to devour them.

Then there are the trogons, with a strong serrated bill, which have similar habits; and the little humming-birds, though they generally procure insects from the flowers, often take them on the wing, like any other fissirostral bird.

What birds can have their bills more peculiarly formed than the ibis, the spoonbill, and the heron? Yet they may be seen side by side, picking up the same food from the shallow water on the beach; and on opening their stomachs, we find the same little crustacea and shell-fish in them all. Then among the fruit-eating birds, there are pigeons, parrots, toucans, and chatterers, —families as distinct and widely separated as possible,—which yet may be often seen feeding all together on the same tree; for in the forests of South America, certain fruits are favourites with almost every kind of fruit-eating bird. It has been assumed by some writers on Natural History, that every wild fruit is the food of some bird or animal, and that the varied forms and structure of their mouths may be necessitated by the peculiar character of the fruits they are to feed on; but there is more of imagination than fact in this statement: the number of wild fruits furnishing food for birds is very limited, and birds of the most varied structure and of every size will be found visiting the same tree.

Insects were now more abundant than ever, and new kinds were met with almost every day. Lovely little butterflies, spangled with gold, or glittering with the most splendid metallic tints, hid themselves under leaves or expanded their wings in the morning sun; while the larger and more majestic kinds flew lazily

along the shaded forest paths. The more sombre *Hesperidæ* were the most abundant, and it would often happen that, of a dozen specimens taken in a day's excursion, no two were alike.

At length the canoe, for which I had been waiting, was ready to sail; and on the 3rd of November we left Pará for the island of Mexiana, situated in the main stream of the Amazon, between the great island of Marajó and the northern shore. We had to go down the Pará river, and round the eastern point of Marajó, where we were quite exposed to the ocean; and, though most of the time in fresh water, I was very sea-sick all the voyage, which lasted four days. The canoe was intended for the conveyance of cattle, and therefore had no particular accommodation for human passengers. There was certainly a little cabin, with two berths just five feet long, but not at all suitable for me (I am six feet two inches high), so I preferred the hold. Our crew consisted of eight young Tapuyas,—fine active fellows, from fifteen to twenty years of age. Each wore a tight-fitting pair of trousers and a very short shirt, so that six inches of red skin appeared between the two garments. The shrouds of the canoe consisted of the stay-ropes only, without any rattlins or cross-steps, yet up these they would run like monkeys, holding on with their toes.

The island of Mexiana is about twenty-five miles long by twelve broad, of a regular oval shape, and is situated exactly on the equator. It is quite flat, and is all *campo*, or open ground, but dotted with scattered trees and bushes, and with a little forest at the water's edge. It is celebrated for its birds, alligators,

and onças, and is used as a cattle estate by the proprietor. The alligators abound in a lake in the centre of the island, where they are killed in great numbers for their fat, which is made into oil.

I was accompanied by Mr. Yates, a collector of Orchids, who, after a few weeks' stay, not finding much variety of those plants, returned to Pará. On our arrival we were received by Senhor Leonardo, a German, who is the overseer, to whom we presented our letter from Mr. C. We were then shown the rooms we were to occupy in the house, which is spacious and has an upper story; and having got our luggage on shore, we soon made ourselves at home. Round the house are a good many orange and mango trees, behind which is a row of cottages, where reside the *vaqueiros* or herdsmen, who are mostly Negroes and slaves; and beyond, as far as the eye can reach, is the flat campo, dotted over with cattle and horses.

On inquiring about the best localities for insects, birds, and plants, we were rather alarmed by being told that onças were very numerous, even near the house, and that it was dangerous to walk out alone or unarmed. We soon found, however, that no one had been actually attacked by them; though they, poor animals, are by no means unmolested, as numerous handsome skins drying in the sun, and teeth and skulls lying about, sufficiently proved. There is no doubt but they are unpleasant animals to encounter, and their teeth and claws are so fearfully adapted to destroy whatever may come within their reach, that it is much better to be a little cautious, than to run any risk: I therefore put half-a-dozen bullets

in my game-bag, in case of an encounter.

Some of the horses and cattle were miserable-looking objects, from wounds inflicted by the bats, which cause them to lose much blood, and sometimes, by successive attacks, kill them. Senhor Leonardo informed us that they particularly abounded in some parts of the island, and that he often has bat-hunts, when several thousands are killed. It is a large species, of coffee-brown colour, probably the *Phyllostoma hastatum*.

The morning after my arrival I took my gun, and walked out to see what sport the island afforded. First going to a tree near the house, which Senhor Leonardo pointed out to me, I found numerous humming-birds fluttering about the leaves (which were still wet with dew), and seeming to wash and cool themselves with the moisture: they were of a blue and green colour, with a long forked tail (*Campylopterus hirundinaceus*). Walking on in the campo, I found abundance of Bemteví fly-catchers, cuckoos, and tanagers, and also shot a buzzard and a black eagle different from any I had seen at Pará. Insects were very scarce, owing to the dryness of the season and the absence of forest; so I soon gave up collecting them, and attended entirely to birds, which were rather plentiful, though not very rare or handsome. In ten days I obtained seventy specimens, among which were fourteen hawks and eagles, several herons, egrets, paroquets, woodpeckers, and one of the large yellow-billed toucans (*Rhamphastos Toco*), which are not found at Pará.

Having made several excursions for some miles into the

interior of the island and along the coast, I obtained a tolerable idea of its geography. It is everywhere a perfect flat, the greatest elevations being a very few feet. Along the shore in most places, and extending along the banks of the creeks inland, is a belt of forest, varying in width from a hundred yards to half a mile, containing a few palms and lofty trees, and abundance of bamboos and climbers, rendering it almost impassable. The whole of the interior is campo, or open plain, covered with a coarse herbage, and in places sprinkled with round-headed palms, and with low branching trees bearing a profusion of yellow flowers. Scattered about, at intervals of a few miles, are clumps of trees and bushes, some very small, but others sufficiently extensive to form little forests. These are generally known as "ilhas," or islands, and many of them have separate names, as, "Ilha do São Pedro," "Ilha dos Urubus." In the wet season a great part of the island appears to be flooded, and dead crabs and fresh-water shells are found a long way inland: these groves are then probably real islands, though not perceptibly above the general level.

A phenomenon, which is seen on the banks of the Mississippi and most other rivers which overflow their banks, also occurs here. The land is highest near the water's edge, and gradually falls inland, caused by the heavier sediment being deposited during floods at the shortest distance, while the lighter matter only is carried inland, and spread over a larger area. The surface of the campos is very uneven for walking, being in little clumps or

hillocks, so that it is equally tiresome and fatiguing to walk on their summits or between them. The stems of the palms were all covered with orchideous plants, but they had now generally neither leaves nor flowers, and seemed to be of very little variety of species. In the marshy places shrubby convolvuli are abundant, and in others are large beds of cassias and mimosas, while scattered among them are many delicate little flowers.

Long-tailed, light-coloured cuckoos were continually flying about from tree to tree, uttering their peculiar note, not at all like that of our cuckoo, but more like the creaking of a rusty hinge, which the name given to them, *Carerú*, is intended to resemble. Equally abundant are the black hornbill cuckoos, called Anús; and on almost every tree may be seen sitting a hawk or buzzard, the variety of which is very great, as in a few weeks I obtained eight different kinds. Pretty paroquets, with white and orange bands on their wings, and others with an orange-coloured crown, were very plentiful, and it was amusing to watch the activity with which they climbed about over the trees, and how suddenly and simultaneously they flew away when alarmed. Their plumage is so near the colour of the foliage, that it is sometimes impossible to see them, though you may have watched a whole flock enter a tree, and can hear them twittering overhead, when, after gazing until your patience is exhausted they will suddenly fly off with a scream of triumph.

Then among the bushes there were flocks of the beautiful red-breasted oriole, *Icterus militaris*; but they were unfortunately not

in good plumage at the time of my visit. The common black vulture is generally to be seen sailing overhead, or seated on some dead tree; and great Muscovy ducks fly past with a rushing sound, like some great aërial machine beating the air violently to support its ponderous body, and offering a striking contrast to the great wood-ibis, which sails along with noiseless wings in flocks of ten or a dozen. In the skirts of forest and in the larger "ilhas," black and spotted jaguars are often found, while pacas, cotias, tatus or armadillos, deer, and other small game are plentiful.

The whole population of the island consists of about forty persons, of whom twenty are slaves, and the remainder free Indians and Negroes in the employ of the proprietors. These are all engaged in attending to the cattle and horses on the island, which vary in number, and were much more numerous three or four years ago; the horses in particular having been almost exterminated by a disease which suddenly appeared among them. There were now about fifteen hundred head of cattle, besides a great number of wild ones, which keep in the remote parts of the island, and four hundred horses. The slaves and labourers are allowed farinha only; but they can cultivate Indian corn and vegetables for themselves, and have powder and shot given them for hunting, so that they do not fare so badly. They also have tobacco allowed them, and most of them earn money by making baskets or other trifles, or by killing onças, the skin being worth from five to ten shillings. Besides attending to the cattle and horses, they have to build houses and corrals, to hunt alligators

for oil, and kill bats, which do great injury to the cattle by sucking their blood night after night. The bats live in holes in trees, where they are killed in considerable numbers, Senhor Leonardo informing me that they had destroyed about seven thousand during the last six months. Many hundreds of cattle are said to have been killed by them in a few years.

The slaves appeared contented and happy, as slaves generally do. Every evening at sunset they came to bid good-night to Senhor Leonardo and myself, a similar salutation taking place when they first met us in the morning. If a negro goes out for the day to any distance, he bids adieu to all he may meet, as if he were parting from his dearest friends on the eve of a long journey; contrasting strongly with the apathy of the Indian, who scarcely ever exhibits any feelings of regret on parting, or of pleasure on his return. In the evening they play and sing in their own houses: their instrument is a home-made guitar, from which they obtain three or four notes, which are repeated for hours with the most wearisome monotony. To this music they join an extempore song, generally relating to some events of the day; and the doings of the "brancos," or white people, have often a considerable share in it. Many of them keep fowls and ducks, which they sell, to buy any little luxuries they may require, and they often go fishing to supply the house, when they have a share for themselves.

Every Saturday evening they meet for Divine service, which is performed in a room fitted up as a chapel, with an altar gaily

decorated with figures of the Virgin and Child, and several saints painted and gilt in a most brilliant manner. Some of these figures are the work of Senhor Leonardo, who is an excellent self-taught carver; and when the candles are lit, and all is in order, the effect is equal to that of many village churches. Two of the oldest Negroes conduct the service, kneeling at the altar; the rest kneel or stand about the room. What they chant is, I believe, part of the vesper service of the Roman Catholic Church, and all join in the responses with much fervour, though without understanding a word. Sunday is their own day, for working in their gardens, hunting, or idleness, as they choose; and in the evening they often assemble in the verandah to dance, and sometimes keep it up all night.

While I was on the island a child of a few weeks old was to be baptized. This they consider a most important ceremony; so the father and mother, with godfathers and godmothers, set out in a canoe for Chaves, on the island of Marajó, the nearest place where there is a priest. They were absent three days, and then returned with the news that the Padre was ill, and could not perform the ceremony; so they were obliged to bring back the poor little unsanctified creature, liable, according to their ideas, should it die, to eternal perdition. The same evening they sang for three hours to their usual music the whole history of their journey, judging from the portions which were here and there intelligible. They made every fact into a verse, which was several times repeated. Thus one would suddenly burst out,—

"The Padre was ill, and could not come,
The Padre was ill, and could not come."

CHORUS

"The Padre was ill, and could not come."

Then for a time the music continued without the voices, while they were trying to find another fact to found a verse upon. At length some one continued the subject:—

"He told us to come the next day,
To see if he was better."

CHORUS

"He told us to come the next day,
To see if he was better."

And so on to the end of the history, which struck me as being probably very similar to the unwritten lays of the ancient bards, who could thus make well-known facts interesting by being sung

to music in an appropriate and enthusiastic manner. In a warlike nation, what more would at first be necessary than to relate the bold deeds of the warriors, the discomfiture of the enemy, and the trophies of victory, in order to raise the enthusiasm of the audience to the highest pitch? Some of these would be handed down from generation to generation, the language improved, and when they came to be reduced to writing, rhyme would be added, and a regular poem constructed.

Having now arrived at the height of the dry season, and the waters of the lake before mentioned being sufficiently low, the German steward informed me that he should make an excursion there to kill alligators, and I determined to accompany him. There are two ways to reach the place—overland in nearly a direct line, or round to the other side of the island in a boat and up a stream, which can be ascended to within a few miles of the lake, with which indeed in the wet season it communicates. The tide served for the boat to start about midnight, and I decided on going in it, as I thought I should thus see more of the island. The overseer was to go by land in the morning. Being roused up at midnight, I got into the canoe with three Negroes, and tried to compose myself for a nap as well as I could upon the baskets of farinha and salt with which it was loaded. It was a large clumsy canoe, and with a sail and the tide we went on pretty well; but as morning dawned we got out rather far from land into the ocean-like river, and the swell beginning to be disagreeable, I arose from my uneven couch very qualmish and uncomfortable.

However, about ten o'clock we reached the mouth of the igaripé, or small stream we were to ascend, and I was very glad to get into still water. We stayed for breakfast in a little clear space under a fine tree, and I enjoyed a cup of coffee and a little biscuit, while the men luxuriated on fish and farinha. We then proceeded up the stream, which was at its commencement about two hundred yards wide, but soon narrowed to fifty or eighty. I was much delighted with the beauty of the vegetation, which surpassed anything I had seen before: at every bend of the stream some new object presented itself,—now a huge cedar hanging over the water, or a great silk-cotton-tree standing like a giant above the rest of the forest. The graceful assaí palms occurred continually, in clumps of various sizes, sometimes raising their stems a hundred feet into the air, or bending in graceful curves till they almost met from the opposite banks. The majestic murutí palm was also abundant, its straight and cylindrical stems like Grecian columns, and with its immense fan-shaped leaves and gigantic bunches of fruit, produced an imposing spectacle. Some of these bunches were larger than any I had before seen, being eight or ten feet in length, weighing probably two or three hundredweight: each consisted of several bushels of a large reticulated fruit. These palms were often clothed with creepers, which ran up to the summits, and there put forth their blossoms. Lower down, on the water's edge, were numerous flowering shrubs, often completely covered with convolvuluses, passion-flowers, or bignonias. Every dead or half-

rotten tree was clothed with parasites of singular forms or bearing beautiful flowers, while smaller palms, curiously-shaped stems, and twisting climbers, formed a background in the interior of the forest.

Nor were there wanting animated figures to complete the picture. Brilliant scarlet and yellow macaws flew continually overhead, while screaming parrots and paroquets were passing from tree to tree in search of food. Sometimes from a branch over the water were suspended the hanging nests of the black and yellow troupial (*Cassicus icteronotus*), into which those handsome birds were continually entering. The effect of the scene was much heightened by the river often curving to one side or the other, so as to bring to view a constant variety of objects. At every bend we would see before us a flock of the elegant white heron, seated on some dead tree overhanging the water; but as soon as we came in sight of them, they would take flight, and on passing another bend we would find them again perched in front of us, and so on for a considerable distance. On many of the flowering shrubs gay butterflies were settled, and sometimes on a muddy bank a young alligator would be seen comfortably reposing in the sun.

We continued our journey thus for several hours, the men rowing vigorously for fear of the tide turning against us before we reached our destination: this, however, happened just as we entered a narrower part of the stream. The scenery was now much more gloomy; the tall trees closed overhead so as to

keep out every sunbeam. The palms twisted and bent in various contortions, so that we sometimes could hardly pass beneath, and sunken logs often lay across from bank to bank, compelling us to get out of the canoe, and use all our exertions to force it over. Our progress was therefore very slow, and the stream was every minute running stronger against us. Here was a building-place for various aquatic birds: the wood-ibis and numerous cranes and herons had their nests on the summits of the lofty trees over the water, while lower down was the station chosen by the boat-bill. There was a continual rustle and flapping of wings as these long-legged, clumsy birds flew about, startled at our approach; and when I shot one of the large wood-ibises, the confusion was at its height. Numerous kingfishers were continually passing up and down, or darting from some dead stick into the water to seize their prey.

After about two hours of very hard and disagreeable work, we reached the landing-place, where there was an old deserted cottage, and the overseer and several Negroes with horses were waiting to convey the provisions we had brought to the Lake. We immediately set off on foot over an extensive plain, which was in places completely bare, and in others thinly clothed with low trees. There could not be a greater contrast than between the scene we had just left, and that which we now entered upon. The one was all luxuriance and verdure, the other as brown and barren as could be,—a dreary waste of marsh, now parched up by the burning sun, and covered with tufts of a wiry grass, with here and

there rushes and prickly sensitive plants, and a few pretty little flowers occasionally growing up among them. The trees, which in some places were abundant, did not much diminish the general dreariness of the prospect, for many of the leaves had fallen off owing to the continued drought, and those that were left were brown and half-shrivelled. The ground was very disagreeable for walking, being composed of numerous little clumps and ridges, placed so closely together that you could neither step securely upon nor between them: they appeared to be caused by the rains and floods in the wet season washing away the earth from between the roots of the grass-tufts, the whole being afterwards hardened by the excessive heat of the sun, and the grass almost entirely burnt away.

After walking over four or five miles of such ground, we arrived at the Lake just as it was getting dark. The only building there was a small shed without any walls, under which we hung our hammocks, while the Negroes used the neighbouring trees and bushes for the same purpose. A large fire was blazing, and round it were numerous wooden spits, containing pieces of fresh fish and alligator's tail for our supper. While it was getting ready, we went to look at some fish which had just been caught, and lay ready for salting and drying the next day: they were the pirarucú (*Sudis gigas*), a splendid species, five or six feet long, with large scales of more than an inch in diameter, and beautifully marked and spotted with red. The Lake contains great quantities of them, and they are salted and dried for the Pará market. It is a very fine-

flavoured fish, the belly in particular being so fat and rich that it cannot be cured, and is therefore generally eaten fresh. This, with farinha and some coffee, made us an excellent supper, and the alligator's tail, which I now tasted for the first time, was by no means to be despised. We soon turned into our hammocks, and slept soundly after the fatigue of the day. Jaguars were abundant, and had carried off some fish a night or two before; the alligators too were plunging and snorting within twenty yards of us: but we did not suffer such trifles to disturb our slumbers.

Before daybreak I had my gun upon my shoulder, eager to make an attack upon the ducks and other aquatic birds which swarmed about the lake. I soon found plenty of them, and, my gun being loaded with small shot, I killed seven or eight at the first fire. They were very pretty little birds, with metallic-green and white wings, and besides forming good specimens, provided us with an excellent breakfast. After the first discharge, however, they became remarkably shy, so I went after the roseate spoonbills, white herons, and long-legged plovers, which I saw on the other side: they also seemed to have taken warning by the fate of their companions, for I could not get near enough for a shot, as there was no means of concealing my approach.

What is called the Lake is a long, winding piece of water, from thirty to fifty yards wide and of little depth. It is bordered with aquatic plants and shrubs, and in some parts is thickly covered with floating grass and duckweed. It is inhabited by immense numbers of the fish already mentioned, and alligators, which are

so thick that there is scarcely any place where you may not stir one up. There are also great quantities of very small fish about two inches long, which I suppose serve as food for the larger ones, which in their turn are probably sometimes devoured by the alligators; though it appears almost a mystery how so many large animals can find a subsistence, crowded together in such a small space.

After breakfast the overseer commenced the alligator-hunt. A number of Negroes went into the water with long poles, driving the animals to the side, where others awaited them with harpoons and lassos.

Sometimes the lasso was at once thrown over their heads, or, if first harpooned, a lasso was then secured to them, either over the head or the tail; and they were easily dragged to the shore by the united force of ten or twelve men. Another lasso was fixed, if necessary, so as to fasten them at both ends, and on being pulled out of the water a Negro cautiously approached with an axe, and cut a deep gash across the root of the tail, rendering that formidable weapon useless; another blow across the neck disabled the head, and the animal was then left, and pursuit of another commenced, which was speedily reduced to the same condition. Sometimes the cord would break, or the harpoon get loose, and the Negroes had often to wade into the water among the ferocious animals in a very hazardous manner. They were from ten to eighteen feet long, sometimes even twenty, with enormous mis-shapen heads, and fearful rows of long sharp

teeth. When a number were out on the land, dead or dying, they were cut open, and the fat which accumulates in considerable quantities about the intestines was taken out, and made up into packets in the skins of the smaller ones, taken off for the purpose. There is another smaller kind, here called Jacaré-tinga, which is the one eaten, the flesh being more delicate than in the larger species. After killing twelve or fifteen, the overseer and his party went off to another lake at a short distance, where the alligators were more plentiful, and by night had killed near fifty. The next day they killed twenty or thirty more, and got out the fat from the others.

I amused myself very well with my gun, creeping among the long grass, to get a shot at the shy aquatic birds, and sometimes wandering about the campo, where a woodpecker or a macaw rewarded my perseverance. I was much pleased when I first brought down a splendid blue and yellow macaw, but it gave me some hours of hard work to skin and prepare it, for the head is so fleshy and muscular, that it is no trifling matter to clean it thoroughly. The great tuyuyú (*Mycteria Americana*) was often seen stalking about; but, with every precaution, I could not get within gunshot of it. The large and small white herons were abundant, as well as black and grey ibises, boat-bills, blue storks, and ducks of several species; there were also many black and yellow orioles, and a glossy starling,—of all of which I procured specimens.

I had an opportunity of seeing the manner of curing fish

practised here. They are partially skinned, and a large piece of meat cut out from each side, leaving the backbone with the head and skin attached. Each piece of meat is then cut lengthways, so as to unfold into a large flat slab, which is then slightly sprinkled with salt and laid upon a board. Other slices are laid on this, and, when the salt has penetrated sufficiently, they are hung upon poles or laid upon the ground in the sun to dry, which does not occupy more than two or three days. They are then packed up in bundles of about a hundred pounds each, and are ready for market. The bones and heads furnish a fine feast for the vultures, and sometimes a jaguar will carry them away in the night, but he prefers an entire fish if one is left in his way.

Immediately on the fish being cut up, every part of it is blackened by thousand of flies, which keep up a continual hum the whole day. In fact, the sound of animal life never ceases. Directly after sunset, the herons, bitterns, and cranes begin their discordant cries, and the boat-bills and frogs set up a dismal croaking. The note of one frog deserves a better name: it is an agreeable whistle, and, could it be brought into civilised society, would doubtless have as many admirers as the singing mouse, or the still more marvellous whistling oyster described by *Punch*. All night long, the alligators and fish keep up a continual plunging; but, with the grey of morning, commence the most extraordinary noises. All of a sudden ten thousand white-winged paroquets begin their morning song with such a confusion of piercing shrieks as it is quite impossible to describe: a hundred

knife-grinders at full work would give but a faint idea of it. A little later, and another noise is heard: the flies, which had weighed down every blade of grass, now wake up, and, with a sounding hum, commence their attack upon the fish: every piece that has lain a few hours upon the ground has deposited around it masses of their eggs as large as walnuts. In fact, the abundance of every kind of animal life crowded into a small space was here very striking, compared with the sparing manner in which it is scattered in the virgin forests. It seems to force us to the conclusion, that the luxuriance of tropical vegetation is not favourable to the production and support of animal life. The plains are always more thickly peopled than the forest; and a temperate zone, as has been pointed out by Mr. Darwin, seems better adapted to the support of large land-animals than the tropics.

In this lake the overseer informed me he had killed as many as a hundred alligators in a few days, whereas in the Amazon or Pará rivers it would be difficult to procure as many in a year. Geologists, judging from the number of large reptiles, the remains of which are found in considerable quantities in certain strata, tell us of a time when the whole world was peopled by such animals, before a sufficient quantity of dry land had been formed to support land quadrupeds. But, as it is evident that the remains of these alligators would be found accumulated together should any revolution of the earth cause their death, it would appear that such descriptions are founded upon insufficient data, and

that considerable portions of the earth might have been as much elevated as they are at present, notwithstanding the numerous remains of aquatic reptiles, which would seem to indicate a great extent of shallow water for their abode.

The alligator fat and a quantity of fish were now ready, so we prepared to return home. I determined this time to walk overland, so as to see the character of the interior of the island. I returned with the two Negroes to the ruined cottage before mentioned, so as to be ready to start the next morning for a walk of some ten or twelve miles across the campo. On our way to the hut we passed over a part which was burning, and saw the curious phenomenon of the fire proceeding in two opposite directions at once. The wind carried the fire rapidly in a westerly direction, while, at the same time, by causing the tall grass to bend over into the flames, they progressed, though at a slower rate, towards the east. The campos are set on fire purposely every summer, as the coarse grass being burnt down, leaves room for a fine crop to spring up afresh with the first rains. Near the hut I shot a large grey heron, which made us a very good supper; and we then hung up our hammocks for the night in the little dirty ruined hut, from which a short time before a jaguar had carried away a large bundle of fish.

In the morning the canoe was loaded to return, and I proceeded along a faint track homewards. The scene was generally very desolate and barren. Sometimes there was not a blade of grass for miles. Then would come a wide bed of gigantic

rushes, which extends across the island nearly from one side to the other. In other places were large beds of prickly mimosas, and, at intervals, considerable tracts covered with leafless trees about which numbers of woodpeckers were busily at work. Hawks and vultures were also seen, and the great red-billed toucan (*Rhamphastos Toco*) flew by in an undulating course in parties of three or four. It was cloudy, and there was a good deal of wind; but at this time of the year no rain ever falls here, so I did not hurry myself on that account, and, early in the afternoon, reached the house, rather tired, but much interested with my walk. I forgot to mention that in the evening, after the alligator-hunt, the Negroes sang several hymns, as a thanksgiving for having escaped their jaws.

The next day all were busily employed boiling the fat into oil, which supplies the lamps on all Mr. C.'s estates. It has rather a disagreeable smell, but not worse than train-oil. I now went out every day with my gun about the campo, or to the clumps of wood called islands, on the banks of the small streams. The principal birds I procured were toucans, parrots, hawks, and buzzards, the red-headed manakin, and numerous small finches and fly-catchers. The mango-trees were loaded with ripe fruit, and attracted many small tanagers and paroquets. I now ate the mango for the first time, and soon got to like it very much. It is not generally eaten in Pará except by the Negroes, who seem very fond of it, to judge by the certainty with which every fruit disappeared the moment it became ripe. There seems to

be scarcely an animal that is not fond of it,—cattle, sheep, pigs, ducks, and fowls, all rush to secure every fruit that falls.

Soon after Christmas we had a few showers at intervals, and the grass began to grow more greenly—a sign that the summer was nearly at an end. Some butterflies and moths now made their appearance, and the skirts of the forest were covered with passion-flowers, convolvuluses, and many other flowers. Bees and wasps also began to abound, and several aquatic birds I had not before seen made their appearance. In January, Mr. C. and his family and some visitors arrived to spend a few weeks on the island, and the time passed more pleasantly. Several of the Negroes were sent hunting, and wild ducks of various species, deer, armadillos, and fish, with beef and mutton, gave us plenty for our table. Several jaguars were killed, as Mr. C. pays about eight shillings each for their skins: one day we had some steaks at the table, and found the meat very white, and without any bad taste.

It appears evident to me that the common idea of the food of an animal determining the quality of its meat is quite erroneous. Domestic poultry and pigs are the most unclean animals in their food, yet their flesh is very highly esteemed, while rats and squirrels, which eat only vegetable food, are in general disrepute. Carnivorous fish are not less delicate eating than herbivorous ones, and there appears no reason why some carnivorous animals should not furnish wholesome and palatable food. Venison, so highly esteemed at home, is here the most dry and tasteless meat

that can be had, as it must be cooked within twelve hours after it is killed.

A great deal more rain now fell, and small pools were formed in some parts of the campos. About these, plovers and other birds were to be seen wading, and a small flock of the elegant long-legged plover (*Himantopus*). After much difficulty I succeeded in killing three or four of them. The curious razor-bill was also often seen skimming over the water, and the great tuyuyú occasionally approached near the house, but always kept out of gunshot, and although I crawled along prostrate to get within reach of him, he always found me out in time for his own safety.

As I was getting scarcely any insects here, and the birds were not very valuable, I determined to return to Pará with Mr. C, who was going to pass a week at his other estate on the island of Marajó by the way.

The journey across in Mr. C.'s schooner occupied but a few hours, and we then entered a river which leads up to the estate called Jungcal. On arriving we found a mud-walled house not quite finished, which was to be our abode while we stayed. At the back of the house stretched out, as far as the eye could reach, a perfectly flat plain or campo, on which fed numerous herds of cattle. Round about were "corrals" fenced in for collecting the cattle, and huts for the "vaqueiros," or cowherds; and along the banks of the river were patches of wood, and thickets of a great prickly bamboo. About the campo were numerous marshes and narrow streams or ditches, which contained many curious and

pretty aquatic plants. Mosquitoes were plentiful, and annoyed us much in the evenings, when we wished to enjoy the cool air in the verandah.

The Negroes and Mulattoes employed about the estate were mostly fine young men, and led a life of alternate idleness and excitement, which they seemed to enjoy very much. All their work is done on horseback, where they showed to great advantage, only wearing a pair of trousers and a cap with a tassel, displaying the fine symmetry of their bodies. We were much amused by seeing them bring in the cattle, driving them into the corral, or using the lasso when one was to be slaughtered. For this purpose they generally get two lassos on the head or legs of the animal, the end of each of which is held by a horseman. The "matador" then goes up and hamstrings the poor animal with a cutlass. This quite disables him: in vain he tries to rise on his legs and run at his merciless assailants, till the cutlass is thrust into his neck and deep down into his chest. He is hardly dead when he is skinned and cut up, and the dogs and vultures rush to feast upon the pool of blood and entrails which mark the spot. The sight was a sickening one, and I did not care to witness it more than once.

There were few birds or insects worth catching, and it was not the time of the year for the spoonbills and ibises, which have a building-place near, and arrive in immense numbers in the month of June.

After spending about a week at Jungcal we embarked to return to Pará. A cattle-canoe was to accompany us, and we were to take

some of the animals on board our schooner. We started early in the morning, and in about an hour arrived at a corral on the river-side, where the cattle were. The boat was anchored about twenty yards from the shore, and a block and fall rigged to haul them up on deck. In the corral were twenty or thirty wild cattle, which had been kicking and plunging about till they had filled the place with mud knee-deep. Several men with lassos were trying to secure them, by throwing the loops over their horns. The cattle used all their endeavours to avoid being caught, by shaking their heads and throwing the cords off before they could be pulled tight. Each man kept his attention directed to one animal, following it about to every part of the corral. After a few attempts he generally succeeded in getting the loop fixed over the horns, and then half a dozen came to his assistance, to get the ox out of the corral into the water. This was done by some pulling at the lassos, while others poked and beat the animal with long poles, which would so irritate it that it would roll itself on the ground and rush at the men with all its force. At this they did not seem to be much alarmed, but jumped on one side or sprang on to the rails of the corral, and then immediately returned to the attack. At length the creature would be either pulled or driven into the water, and the end of the rope being quickly thrown on board the canoe, the ox was towed up to the vessel's side. A strong rope was then noosed over its horns, by which it was lifted into the air, struggling as helplessly as a kitten held by the skin of its neck; it was then lowered into the hold, where, after a little disturbance, it soon became quiet. One

after another were put on board in this manner, each offering something interesting, arising from the fury of the animal or the great skill and coolness of the vaqueiros. Once or twice the lasso, which is made of twisted hide, was thrown short of the canoe, and I then admired the rapidity with which an Indian plunged head foremost after it, not stopping even to take the cap from his head; he then gave the rope to those on board, and mounting on the back of the swimming ox, rode in triumph to the canoe.

We did not get them all on board without an accident. The principal herdsman, a strong and active Mulatto, was in the corral, driving the cattle to one end of it, when a furious ox rushed at him, and with the rapidity of lightning he was stretched, apparently dead, upon the ground. The other men immediately carried him out, and Mr. and Mrs. C. went on shore to attend to him. In about half an hour he revived a little. He appeared to have been struck in the chest by the animal's head, the horns not having injured him. In a very short time he was in the corral again, as if nothing had happened, and when all were embarked he came on board and made a hearty dinner, his appetite not having suffered by the accident.

We then proceeded on our voyage, and as soon as we got into the Amazon I again experienced the uncomfortable sensation of sea-sickness, though in fresh-water. The next night we had a very strong wind, which split our mainsail all to pieces. The following day we landed at a little island called Ilha das Frechas (the Isle of Arrows), on account of the quantity of a peculiar kind of reed,

used by the Indians for making their arrows, which grows there. We stayed nearly the whole day, dining under the shade of the trees, and roaming about, picking a wild fruit, like a small plum, which grew there in abundance; there were also many curious fruits and handsome flowers which attracted our attention. Some years ago the island is said to have swarmed with wild hogs, but they are now nearly exterminated. The next day we passed the eastern point of the island of Marajó, where there is a sudden change from the waters of the Amazon to those of the Pará river, the former being yellow and fresh, the latter green and salt: they mix but little at the junction, so that we passed in a moment from one kind of water to the other. In two days more we reached Pará.

CHAPTER V

THE GUAMÁ AND CAPIM RIVERS

Natterer's Hunter, Luiz—Birds and Insects—Prepare for a Journey—First Sight of the Piroróco—St. Domingo—Senhor Calistro—Slaves and Slavery—Anecdote—Cane-field—Journey into the Forest—Game—Explanation of the Piroróco—Return to Pará—Bell-birds and Yellow Parrots.

I HAD written to Mr. Miller to get me a small house at Nazaré, and I now at once moved into it, and set regularly to work in the forest, as much as the showery and changeable weather would allow me. An old Portuguese, who kept a kind of tavern next door, supplied my meals, and I was thus enabled to do without a servant. The boys in the neighbourhood soon got to know of my arrival, and that I was a purchaser of all kinds of "bichos." Snakes were now rather abundant, and almost every day I had some brought me, which I preserved in spirits.

As insects were not very plentiful at this season, I wished to get a hunter to shoot birds for me, and came to an arrangement with a Negro named Luiz, who had had much experience. He had been with Dr. Natterer during the whole of his seventeen years' residence in Brazil, having been purchased by him in Rio

de Janeiro when a boy; and when the doctor left Pará, in 1835, he gave him his freedom. His whole occupation while with Dr. Natterer was shooting and assisting to skin birds and animals. He had now a little land, and had saved enough to purchase a couple of slaves himself,—a degree of providence that the less careful Indian seldom attains to. He is a native of Congo, and a very tall and handsome man. I agreed to give him a milrei (2*s.* 3*d.*) a day and his living. He used to amuse me much by his accounts of his travels with the doctor, as he always called Natterer. He said he treated him very well, and gave him a small present whenever he brought a new bird.

Luiz was an excellent hunter. He would wander in the woods from morning to night, going a great distance, and generally bringing home some handsome bird. He soon got me several fine cardinal chatterers, red-breasted trogons, toucans, etc. He knew the haunts and habits of almost every bird, and could imitate their several notes so as to call them to him.

In this showery weather the pretty little esmeralda butterfly (*Hætera Esmeralda*) seemed to delight, for almost every wet day I got one or two specimens in a certain narrow gloomy path in the forest, though I never found but one in any other place. Once or twice I walked over to the rice-mills, to see my friend Mr. Leavens, and get some of the curious insects which were seldom met with near the city. Several young men in Pará were now making collections, and it is a proof of the immense abundance and luxuriance of insect life in this country, that in

every collection, however small, I almost always saw something new to me.

Having heard much of the "Piroróco," or bore, that occurs in the Guamá River at spring-tides, I determined to take a little trip in order to see it, and make some variation from my rather monotonous life at Pará. I wished to go in a canoe of my own, so as to be able to stop where and when I liked, and I also thought it would be useful afterwards in ascending the Amazon. I therefore agreed to purchase one that I thought would suit me, of a Frenchman in Pará, and having paid part of the purchase-money, got it fitted up and laid in a stock of requisites for the voyage. I took a barrel and a quantity of spirits for preserving fish, and everything necessary for collecting and preparing birds and insects. As the canoe was small, I did not want many men, for whom there would not indeed have been room, so determined to manage with only a pilot, and one man or boy besides Luiz.

I soon found a boy who lived near, and had been accustomed to bring me insects. To all appearance he was an Indian, but his mother had Negro blood in her, and was a slave, so her son of course shared her fate. I had, therefore, to hire him of his master, an officer, and agreed for three milreis (about seven shillings) a month. People said that the boy's master was his father, which, as he certainly resembled him, might have been the case. He generally had a large chain round his body and leg as a punishment, and to prevent his running away; he wore it concealed under his trousers, and it clanked very disagreeably at

every step he took. Of course this was taken off when he was delivered over to me, and he promised to be very faithful and industrious if I took him with me. I also agreed with a lame Spaniard to go as pilot, because he said he knew the river, and some little experience is required at the time of the Piroróco. He begged for a few milreis beforehand to purchase some clothes; and when I wanted him to assist me in loading the canoe he was feasting on biscuit and cheese, with oil, vinegar, and garlic, washing it down so plentifully with caxaça that he was quite intoxicated, so I was obliged to wait till the next day, when, having spent all his money and got a little sober, he was very quiet and submissive.

At length, all being ready, we started, rowing along quietly with the flood-tide, as there was no wind, and at night, when the tide turned, anchoring a few miles up the Guamá. This is a fine stream, about half a mile wide in the lower part. A short distance up, the banks are rather undulating, with many pretty sitios. During ebb-tide we managed generally to anchor near some house or cottage, where we could get on shore and make a fire under a tree to cook our dinner or supper. Luiz would then take his gun and I my insect-net, and start off into the forest to make the most of our time till the tide turned again, when we would continue our voyage, and I generally had occupation skinning birds or setting out insects till the evening. About thirty miles above Pará the Piroróco commences. There was formerly an island in the river at this point, but it is said to have been

completely washed away by the continual action of the bore, which, after passing this place, we rather expected to see, now being the time of the highest tides, though at this season (May) they are not generally high enough to produce it with any great force. It came, however, with a sudden rush, a wave travelling rapidly up the stream, and breaking in foam all along the shore and on the shallows. It lifted our canoe just as a great rolling ocean-wave would do, but, being deep water, did no harm, and was past in an instant, the tide then continuing to flow up with very great velocity. The highest tide was now past, so at the next we had no wave, but the flood began running up, instantaneously, and not gradually, as is generally the case.

The next day we arrived at São Domingo, a little village at the junction of the Guamá and Capim rivers. I had a letter of introduction to a Brazilian trader residing here, on presenting which he placed his house at my disposal. I took him at his word, and said I should stay a few days. Luiz went into the woods every day, generally bringing home some birds, and I wandered about in search of insects, which I did not find very abundant, the dry season having scarcely begun; there were, however, plenty of pleasant paths about the woods to the rice and mandiocca-fields, and abundance of oranges and other fruit. Our food was principally fish from the river and some jerked beef, with beans and rice. The house was little better than a mud hovel, with a bench, a rickety table, and a few hammocks for furniture; but in this country the people away from the towns never think of

expending any great labour or going to any expense to make a comfortable house.

After staying nearly a week, with not much success in my collections, I proceeded up the west branch of the river, called the Capim. My canoe was a very unsteady and top-heavy one, and soon after leaving the village a sudden squall nearly upset us, the water pouring in over the side, and it was with some difficulty we got the sail down and secured the boat to a bush on the river's bank till the storm had passed over. We went pleasantly along for two or three days, the country being prettily diversified with cane-fields, rice-grounds, and houses built by the early Portuguese settlers, with elegant little chapels attached, and cottages for the Negroes and Indians around, all much superior in appearance and taste to anything erected now. At length we reached São Jozé, the estate of Senhor Calistro, to whom I brought letters of introduction. He received me very kindly, and on my telling him the purpose of my visit he invited me to stay with him as long as I liked, and promised to do all he could to assist me. He was a stout, good-humoured looking man, of not much more than thirty. He had recently built a rice-mill and warehouses, one of the best modern buildings I had seen in the country. It was entirely of stone; the mill was approached by arches in the centre, and the warehouses, offices, and dwelling apartments were at the sides. There was a gallery or verandah on the first floor connecting the two ends of the building, and looking down upon the mill, with its great water-wheel in the

centre, and out through the windows on to the river, and a handsome stone quay which ran along the whole front of the building. It was all substantially constructed, and had cost him several thousand pounds.

He had about fifty slaves of all ages, and about as many Indians, employed in his cane-and rice-fields, and in the mills, and on board his canoes. He made sugar and caxaça, but most of the latter as it paid best. Every kind of work was done on the premises: he had shoemakers, tailors, carpenters, smiths, boat-builders, and masons, either slaves or Indians, some of whom could make good locks for doors and boxes, and tin and copper articles of all kinds. He told me that by having slaves and Indians working together he was enabled to get more work out of the latter than by any other system. Indians will not submit to strict rules when working by themselves, but when with slaves, who have regular hours to commence and leave off work, and stated tasks to perform, they submit to the same regulations and cheerfully do the same work. Every evening at sunset all the workpeople come up to Senhor Calistro to say good-night or ask his blessing. He was seated in an easy chair in the verandah, and each passed by with a salutation suited to his age or station. The Indians would generally be content with "Boa noite" (good-night); the younger ones, and most of the women and children, both Indians and slaves, would hold out their hand, saying, "Sua benção" (your blessing), to which he would reply, "Deos te bençoe". Others—and these were mostly the old Negroes—

would gravely repeat, "Louvado seja o nome do Senhor Jesu Christo" (blessed be the name of the Lord Jesus Christ), to which he would reply, with equal gravity, "Para sempre" (for ever).

Children of all classes never meet their parents in the morning or leave them at night without in the same manner asking their blessing, and they do the same invariably of every stranger who enters the house. In fact, it is the common salutation of children and inferiors, and has a very pleasing effect.

The slaves here were treated remarkably well. Senhor Calistro assured me he buys slaves, but never sells any, except as the last punishment for incorrigibly bad conduct. They have holidays on all the principal saints' days and festivals, which are pretty often, and on these occasions an ox is killed for them, and a quantity of rum given, to make themselves merry. Every evening, as they come round, they prefer their several petitions: one wants a little coffee and sugar for his wife, who is unwell; another requires a new pair of trousers or a shirt; a third is going with a canoe to Pará, and asks for a milrei to buy something. These requests are invariably granted, and Senhor Calistro told me that he never had cause for refusal, because the slaves never begged for anything unreasonable, nor asked favours when from bad conduct they did not deserve them. In fact, all seemed to regard him in quite a patriarchal view, at the same time he was not to be trifled with, and was pretty severe against absolute idleness. When picking rice, all had a regular quantity to bring in, and any who were considerably deficient several times, from idleness alone, were

punished with a moderate flogging. He told me of one Negro he had bought, who was incorrigibly lazy, though quite strong and healthy. The first day he was set a moderate task, and did not near complete it, and received a moderate flogging. The next day he was set a much larger task, with the promise of a severe flogging if he did not get through it: he failed, saying it was quite beyond his ability, and received the flogging. The third day he was set a still larger amount of work, with the promise of a much severer flogging if he failed to finish it; and so, finding that the two former promises had been strictly kept, and that he was likely to gain nothing by carrying out his plan any longer, he completed the work with ease, and had ever since done the same quantity, which was after all only what every good workman did on the estate. Every Sunday morning and evening, though they do not work, they are required to appear before their master, unless they have special leave to be absent: this, Senhor Calistro told me, was to prevent their going to a great distance to other plantations to steal, as, if they could go off after work on Saturday evening, and not return till Monday morning, they might go to such a distance to commit robbery as to be quite free from suspicion.

In fact, Senhor Calistro attends to his slaves just as he would to a large family of children. He gives them amusement, relaxation, and punishment in the same way, and takes the same precautions to keep them out of mischief. The consequence is, they are perhaps as happy as children: they have no care and no wants, they are provided for in sickness and old age, their children are

never separated from them, nor are husbands separated from their wives, except under such circumstances as would render them liable to the same separation, were they free, by the laws of the country. Here, then, slavery is perhaps seen under its most favourable aspect, and, in a mere physical point of view, the slave may be said to be better off than many a freeman. This, however, is merely one particular case,—it is by no means a necessary consequence of slavery, and from what we know of human nature, can be but a rare occurrence.

But looking at it in this, its most favourable light, can we say that slavery is good or justifiable? Can it be right to keep a number of our fellow-creatures in a state of adult infancy, —of unthinking childhood? It is the responsibility and self-dependence of manhood that calls forth the highest powers and energies of our race. It is the struggle for existence, the "battle of life," which exercises the moral faculties and calls forth the latent sparks of genius. The hope of gain, the love of power, the desire of fame and approbation, excite to noble deeds, and call into action all those faculties which are the distinctive attributes of man.

Childhood is the animal part of man's existence, manhood the intellectual; and when the weakness and imbecility of childhood remain, without its simplicity and pureness, its grace and beauty, how degrading is the spectacle! And this is the state of the slave when slavery is the best that it can be. He has no care of providing food for his family, no provision to make for old age. He has

nothing to incite him to labour but the fear of punishment, no hope of bettering his condition, no future to look forward to of a brighter aspect. Everything he receives is a favour; he has no rights,—what can he know therefore of duties? Every desire beyond the narrow circle of his daily labours is shut out from his acquisition. He has no intellectual pleasures, and, could he have education and taste them, they would assuredly embitter his life; for what hope of increased knowledge, what chance of any further acquaintance with the wonders of nature or the triumphs of art, than the mere hearing of them, can exist for one who is the property of another, and can never hope for the liberty of working for his own living in the manner that may be most agreeable to him?

But such views as these are of course too refined for a Brazilian slaveholder, who can see nothing beyond the physical wants of the slave. And as the teetotalers have declared that the example of the moderate drinker is more pernicious than that of the drunkard, so may the philanthropist consider that a good and kind slave-master does an injury to the cause of freedom, by rendering people generally unable to perceive the false principles inherent in the system, and which, whenever they find a suitable soil in the bad passions of man, are ready to spring up and produce effects so vile and degrading as to make honest men blush for disgraced human nature.

Senhor C. was as kind and good-tempered a man as I have ever met with. I had but to mention anything I should like, and,

if it was in his power, it was immediately got for me. He altered his dinner-hour to suit my excursions in the forest, and made every arrangement he could for my accommodation. A Jewish gentleman called when I was there: he was going up the river to collect some debts, and brought a letter for Senhor C. He stayed with us some days, and, as he would not eat any meat, because it had not been killed according to the rules of his religion, nor any fish that had not scales, which include some of the best these rivers produce, he hardly found anything at table the first day that he could partake of. Every day afterwards, however, while he was with us, there was a variety of scaled fish provided, boiled and roasted, stewed and fried, with eggs, rice, and vegetables in abundance, so that he could always make an excellent meal. Senhor C. was much amused at his scruples, though perfectly polite about them, and delighted to ask him about the rites of his religion, and me about mine, and would then tell us the Catholic doctrine on the same questions. He related to us many anecdotes, of which the following is a specimen, serving to illustrate the credulity of the Negroes. "There was a Negro," said he, "who had a pretty wife, to whom another Negro was rather attentive when he had the chance. One day the husband went out to hunt, and the other party thought it a good opportunity to pay a visit to the lady. The husband, however, returned rather unexpectedly, and the visitor climbed up on the rafters to be out of sight among the old boards and baskets that were stowed away there. The husband put his gun by in a corner, and called to his wife to get his supper,

and then sat down in his hammock. Casting his eyes up to the rafters, he saw a leg protruding from among the baskets, and, thinking it something supernatural, crossed himself, and said, 'Lord, deliver us from the legs appearing overhead!' The other, hearing this, attempted to draw up his legs out of sight, but, losing his balance, came down suddenly on the floor in front of the astonished husband, who, half frightened, asked,'Where do you come from?' 'I have just come from heaven,' said the other, 'and have brought you news of your little daughter Maria.' 'Oh! wife, wife! come and see a man who has brought us news of our little daughter Maria;' then, turning to the visitor, continued, 'And what was my little daughter doing when you left?' 'Oh! she was sitting at the feet of the Virgin, with a golden crown on her head, and smoking a golden pipe a yard long.' 'And did she not send any message to us?' 'Oh yes, she sent many remembrances, and begged you to send her two pounds of your tobacco from the little rhossa, they have not got any half so good up there.' 'Oh! wife, wife! bring two pounds of our tobacco from the little rhossa, for our daughter Maria is in heaven, and she says they have not any half so good up there.' So the tobacco was brought, and the visitor was departing, when he was asked, 'Are there many white men up there?' 'Very few,' he replied; 'they are all down below with the *diabo*.' 'I thought so,' the other replied, apparently quite satisfied; 'good-night!'"

Senhor Calistro had a beautiful canoe made of a single piece of wood, without a nail, the benches being all notched in. He

often went in it to Pará, near two hundred miles, and, with twelve good Indians to paddle, and plenty of caxaça, reached the city, without stopping, in twenty-four hours. We sometimes went out to inspect the cane-fields in this canoe, with eight little Negro and Indian boys to paddle, who were always ready for such service. I then took my gun and net, and shot some birds or caught any insects that we met with, while Senhor Calistro would send the boys to climb after any handsome flowers I admired, or to gather the fruit of the passion-flowers, which hung like golden apples in the thickets on the banks. His cane-field this year was a mile and a half long and a quarter of a mile wide, and very luxuriant; across it were eight roads, all planted on each side with bananas and pine-apples. He informed me that when the fruit was in full season all the slaves and Indians had as much as they liked to take, and could never finish them all; but, said he, "It is not much trouble planting them when setting the cane-field, and I always do it, for I like to have plenty." It was altogether a noble sight,—a sample of the over-flowing abundance produced by a fertile soil and a tropical sun. Having mentioned that I much wished to get a collection of fish to preserve in spirits, he set several Indians to work stopping up igaripés to poison the water, and others to fish at night with line and bow and arrow; all that they procured being brought to me to select from, and the rest sent to the kitchen. The best way of catching a variety was, however, with a large drag-net fifty or sixty yards long. We went out one day in two canoes, and with about twenty Negroes and Indians, who swam with the

net in the water, making a circuit, and then drew it out on to a beach. We had not very good fortune, but soon filled two half-bushel baskets with a great variety of fish, large and small, from which I selected a number of species to increase my collection.

Конец ознакомительного фрагмента.