A Visit to Fernando Noronha

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22nd.—Left Uwozu in the morning, and, as the road next the sea-coast had been rendered impassable from the bridges having been carried away by the floods, passed round by the foot of the mountains, and across a finely-constructed bridge over the river at the gorge through which it issues from the mountains. The scenery here is very interesting. The road thus followed, passes through a well-cultivated district, where the usual crosses are raised. Arrived at Tomari at noon, and in the evening at Uta.

April 23rd to May 1st.—From Uta the road lay along the beach as in coming. Was detained by sickness from April 25th to May 1st at Kakizaki. Arrived in the afternoon of May 1st at Kashiwazaki.

May 2nd.—Kashiwazaki to Hiyohoji.

3rd.—Hiyohoji to the town of Yoita, the seat of a Chihanji. Passed by the petroleum wells near Hiyohoji.

4th.—Proceeded from Yoita to Nügata by boat down the Shinangawa.

The following are the approximate distances in English miles between the chief points on the route :—

Nügata to Kashiwazaki ..	54 miles
Kashiwazaki to Imamachi ..	27 „
Imamachi to Toyama ..	90 „
Toyama to Kanasawa ..	27 „
Kanasawa to Daishoji ..	34 „
Kanasawa to Nanao ..	42 „
Nanao to Toyama ..	35 „

XVIII.—*A Visit to Fernando Noronha.* By ALEXANDER RATTRAY, Esq., M.D., R.N.

FERNANDO NORONHA, situated in S. Lat. 3° 50', and W. Long. 32° 25', and about 194 miles north-east of Cape San Roque, the most eastern point of the Brazils, lies out of the usual track of ships, and is one of the seldom visited islands of the South-Atlantic. Hence it is so little known that the Admiralty chart, an imperfect one, chiefly from French authorities, is dated 1735. The visit of H.M.S. *Bristol*, a brief one of two days (August 22-3, 1871), was chiefly meant to add to our imperfect knowledge, especially of the anchorage, height of the principal peak, &c.*

The island is said to have been infested by Dutch pirates, from whom it was taken by the Brazilians and converted into a

* The result has been the issue of a new Admiralty chart, dated January 1st, 1872.

penal settlement. Reminiscences of the pirates however, are still to be found in the local names, e. g. *l'anse des Forbans*, and in legends as to the existence of mysterious caves in the singularly-shaped and inaccessible peak.

The chief island of the group is about four miles long, and on an average one mile broad; it consists chiefly of an undulating plateau from 100 to 300 feet above the sea-level, sloping steeply towards sandy beaches or bays, or ending in bold bluffs or cliffs, but rising occasionally into what the inhabitants jocularly term "mountains," of which there are four or five, from 500 to 700 feet high. At the eastern end lie five or six small islets, chiefly rocky and almost unused. The general trend of the whole is about south-east and north-west.

The anchorage off the convict village, about the eastern third of the north-eastern side of the island, is open and easy of access; and large ships may anchor close to the Fort rock and the narrow sandy beach on which landing is usually effected. Rollers, common at Ascension and St. Helena, are here unknown, and light winds render the place at all times still more safe.

Brazilian men-of-war, and on an average from 10 to 12 whalers, visit the place annually to refit and procure supplies. A small steamer, chartered by government, carries stores, convicts and mails twice a month to and from Pernambuco, the nearest Brazilian port. With this exception and occasional brief calls like ours, the island is entirely cut off from the civilized world.

The convict village, termed the "city," is built principally on the slope rising steeply from the landing-place, and numbers about 1000 inhabitants. The chief part is a square, so called, formed by the Governor's residence, a small church, the prison, workshop and government stores; all stone-built, whitewashed buildings. From this three or four streets radiate up the hill or to the right; in one of which, fronting the sea, are several small badly-furnished stone-built stores. The detached houses or rather huts of the convicts are fragile wattle-built edifices, roughly and thinly mud-plastered, through which light and air find entrance in many places besides the badly fitting doors and windows. They are usually imperfectly partitioned—one side being the family dwelling, the other, smaller, being the store for beans or maize; behind is a small, often neglected garden. A few, better built and whitewashed, shew some signs of comfort, from which we may often judge of the taste, habits, occupation, and social standing of the occupier.

Commanding the village and anchorage, and built on the summit of a high rock, jutting well into the sea at one end of the landing-place, is the principal and only respectable part. Formerly there were eight forts in different parts of the island,

but now there are only four, with 32 guns in all, many old and rusty. Only one fort is used. At the further end of the bay rises the singular-looking peak, a needle-shaped, bald, inaccessible elevation, which towers 1014 feet into the air, and casts a long shadow on the adjacent slope, so as to form an admirable sun-dial.

The island is held by 150 soldiers and 6 officers, under a Governor. The soldiers, who guard the stores, though not specially the convicts, occupy the fort. The convicts are 1500 in number, chiefly Brazilians, negroes and half-castes, with a few Italians, a half-caste American and an Englishman. Sixty of the number are women. There are about 200 women in all, including female convicts and the wives and daughters of soldiers and male prisoners. Children raise the total island population to about 2000.

The chief crimes for which they have been banished are murder, embezzlement, coining, forgery, &c.; many of the women for poisoning or murdering their husbands. Of the 1500, one-third or 500, including the women, live and work in the village; the women employed in sewing, tailoring, &c., and the men, each at his own special trade. All have their allotted tasks. So many are told off daily for fishing, working in the government stores, in landing cargo, &c. Fishing is carried on in small catamarans. Able-bodied artificers must work in the workshop under *surveillance*; but the aged, the infirm and the crippled are privileged by being allowed to do their carpentering, shoe-making, &c. at home. The remaining 1000 are divided into 10 companies of a hundred each, who cultivate 10 plantations, situated in different parts of the island. Over the whole are 16 sergeants, of whom the sergeant-major alone is a free man; the remainder being "specials" *i.e.* well-behaved, or time-nearly-expired men. One superintends the women; four, the village men; and ten, the plantation companies. The sergeant-major oversees all. The convicts are mustered every evening, either in the square or at the plantations. On Sunday they must dress cleanly and attend church, to which two French Roman Catholic "*padres*" are attached; the music being by a convict instrumental and vocal choir.

Of the 500 who live in the village, 400 occupy the prison. The remaining 100 are women and married men. No women live in the prison—so called. This is merely a stone-built erection of a ground-floor, consisting of an open court-yard, around which is a long, rough-looking, comfortless, stone-floored room, along either side of which the closely-packed convicts sleep, eat, and keep their scanty and usually worthless stock of clothes, &c., on long wooden tables. At the further end

is a primitive dirty kitchen where they grind and cook their maize, &c. The only fettered man in the island was here; a large-boned, flabby, ungainly, scowling individual, evidently despised by some of his fellow-convicts for having murdered a man while asleep, thus proving himself "good for nothing," according to my informant and guide, an American half-caste, who with another man now on the island, had murdered eight Brazilians in a drunken brawl on shipboard at Rio. The workshop near the prison is a similar building, in which the artificers work, sheltered from the dew and rain.

As a rule the convicts live half of their "time" in the prison, after which they may dwell outside, and build their own house, cultivate their garden, &c., Government allotting each a certain portion of ground. If well-behaved, especially if married, this boon may be granted at an earlier period by application to the Governor. The married convict may insist on having his wife and children beside him. Marriages occur on the island; males marrying female convicts or their daughters. Puberty occurs early. As might be expected, morality is at a low ebb.

There are two schools, one for the children of officers and soldiers, the other for those of convicts; the teachers in both being male convicts. The children of convicts must remain on the island with their parents till twelve years old, after which girls may leave or remain. If they prefer to go, they are sent, at Government expense, to a sewing society or hospital at Pernambuco. Boys *must* go at 12, and are sent to the high school there to train for soldiers. As there are no boats on the island, except catamarans, escape to the distant coast is scarcely possible, and hence seldom attempted. Even if managed, the escaped prisoner is almost certain to be recognised and caught on reaching Brazil.

Each has an allotted portion of work to perform daily, whether of hoeing, manioc, maize, or seed planting and gathering, &c. But as the Brazilian standard of work is not high, they are not overworked; and, like slaves, convicts will seldom do more than they are forced to. The amount of labour necessarily depends much on the season, state of the soil, crops, &c.; and its duration varies from 10 A.M. to 2, 4 or 6 P.M.

Various punishments are inflicted on the lazy or refractory. For example, solitary confinement in the prison cell. The lash is pretty often and freely used, in the square, when all must be present. For laziness they get from 50 to 100, but sometimes from 150 to 300 are given at once. Very lately 1500 were administered at one whipping to a Brazilian convict for stabbing his wife; the man being now in hospital to recover. There are

no capital punishments in the Brazils. But the punishment most dreaded is banishment to Rats Islet, for six months or a year, where they live a Robinson Crusoe life, and may starve unless they fish and cultivate the soil.

Instead of being clothed and fed by Government, they are allowed about 1*l.* per month, with which they purchase food and necessities, and, when they can, tobacco and other luxuries.

All the farm produce and manufactured articles are claimed by Government; and the labourers get nothing beyond a few heads of maize after their day's work. Their clothing is coarse but strong, and they have no distinctive dress. Their usual food, purchased either at the Government or general stores, consists of maize, manioc, black and white beans, all island produce, and jerked beef from the Brazils. Food and necessities are on the whole dear; and their scanty pay makes luxuries like tea, coffee, &c., for which they are charged enormously, for the most part beyond their reach.

The private "general stores" are small dirty dens of which the stock in trade might apparently be purchased in England for five or ten pounds. They belong to privileged convicts, some of whom are wealthy and do not scruple to still further enrich themselves by preying on their poorer fellow-prisoners. One, said to be worth 300,000 dollars, was formerly a bank cashier, and banished for twenty years for embezzlement. Some female convicts, transported for husband poisoning, are also well to do. Neither the wealth nor possessions of the Brazilian convict are forfeit to the crown. Nor is Brazilian society less lenient, inasmuch as the time-expired convict may soon, especially if wealthy, regain his old social position. Here as elsewhere, however, banishment does not always prove an effectual cure for crime. A detective is now on the island to ascertain from whence certain counterfeit coins are emanating. He must be an adept who contrives to carry on secret coining in such adverse circumstances, and pass base money in such a community.

Some of the prisoners for life, who have been long here, and have grown old in the place, like it, and appear contented—if not happy. On the whole there does not appear to be much discontent. Many of the prisoners would not be taken for other than well-conducted labourers, farm-servants, or artisans. But others have a demoralized, self-conscious hang-dog look, an unprepossessing countenance, a low-typed cranial development, and the lazy, dirty, slovenly habits, which long familiarity with crime often begets.

Their amusements are few. A theatre in which they themselves performed, was lately burnt down. They have an instrumental band, which also forms the church choir. In the evenings

they assemble for gossip in the public square. Books and literature appear at a discount.

The surface rock of the group is a conglomerate of reddish clay—enclosing boulders of basalt, and occasionally penetrated by huge masses of basalt and granite, which form the peak and other hills, headlands, cliffs and rocks. There are no known minerals.

The deep, reddish, clayey soil, parched and cracked during the dry season, but, like the roads, soft and muddy during the rainy season, is highly fertile. Almost the entire island is under cultivation. During the wet season, which is the chief time for planting, the surface is of a vivid green from the profuseness of the vegetation. And so fertile is the soil, that crops of maize, bean, manioc, &c., are always in progress, three and often four being obtained during the year. Farm implements are very primitive; the plough is unknown, and a hoe, which only turns up the surface soil, alone used. Clumsy bullock carts, with wooden axles, and heavy solid wooden wheels, draw the farm produce lazily to the store.

The chief vegetable productions are maize, manioc, beans and castor-oil, which are grown in alternate rows of maize and manioc, or maize and beans, or manioc and castor-oil plant. Maize is the chief production, and the entire crop is consumed on the island. A little fine manioc is made for the officers; but most of the root is sent to Pernambuco for manufacture and re-importation in a coarse, dark form for sale to the convicts. The plant appears to be the sweet cassava (*Janipha Lœffingii*), the root being smooth, brown, spindle-shaped, and about 6 oz. in weight. From the castor-oil bean, both the medicinal oil, and a coarse, bad-smelling lamp-oil are made on the island. The small black and brown "macass" bean is the produce of a leguminous shrub named *Tajung*. Sugar is grown in small quantities, but, like the island water, its juice is brackish. Cotton, very white but small in the pod, is grown in trifling quantity for exportation, and might be more extensively cultivated. Rice also might be profitably introduced. The *Cajutree*, yielding a large almond-shaped plum-like fruit, and the *amendoa* fruit, red and plum-like with a large stone, are common. There is a plantation of coco-nut trees, another of banana and fig trees, all yielding good fruit. Mammee apples, sweet lemons, a few oranges, and also water and marsh melons, pumpkins, sweet potatoes, and a small variety of tamarind are also grown. In one spot in the south-west part of the island, locally termed "sou-oest," all kinds of plants and fruits may be grown. By introducing modern farm implements and other improvements, these plantations might unquestionably, under enlightened,

systematic and energetic management, be both better cultivated and more productive than now.

There are about 160 or 170 horses and 500 cows on the island, belonging chiefly to the sergeants. Milk is abundant, and usually bought by the convicts. Cattle are occasionally killed for the soldiers. Except pigs and dogs, no other larger quadrupeds exist than rats and mice, both common in the fields. Fowls are plentiful. Our sportsmen bagged many small doves, but suffered from a troublesome stinging-nettle, and from the effects of a tree whose leaf or stem sap caused much pain and swelling in the part on which it accidentally dropped. Lizards and wasps abound in the fields, and also a black burrowing cricket (*gryllus*). The water-birds are: wideawakes, gannets, tern boobies, noddies, boatswain birds, &c. Fish are abundant, large and good.

The geographical position of Fernando Noronha is just where the Brazilian current diverges southward from the main equatorial ocean current, which here begins to take a north-west course along the shores of Maranhão. It in fact lies at the apex of, and has doubtless contributed to form, the pointed bank which juts out from Cape San Roque and the adjacent coasts to the north-west and southward, by which the great equatorial current is split. It further lies in a debateable region as regards the prevailing winds of the South Atlantic, being neither fully in the south-east trades, nor entirely out of them, nor even at some seasons entirely clear of the southern prolongation Brazil-ward of the north-west trades. When more fully investigated, it will probably be found that its peculiar situation makes its climate and meteorology singular and exceptional.

The seasons are the wet and the-dry; the former lasting over March, April, May, June, and part of July, during which it rains heavily night and day. The dry season prevails during the remainder of the year, the sun being very hot in sheltered places, but tempered in the open by the breeze. The island lies near the isotherm of 80° F., and the thermal equator is here 4° to the north of the physical equator, *i.e.* about 7° to the north of Fernando Noronha. It is thus to the south of the equatorial belt of calms, even when this is farthest south, which accounts for the comparative coolness of its climate. The temperature at the anchorage during our visit, ranged from 77° F. to 79° F.; that of the sea being 78° F. and 79° F., the relative humidity of the air, as shown by the wet and dry bulbs, being 80°.

The rain-bringing winds come from the south and south-west. During our stay S.E. and E.S.E. winds prevailed, and are probably the chief winds of the island. But north and north-eastern winds are also said to occur. Of what nature are these winds? May not the north and north-east ones be merely a southern

prolongation during certain seasons of the trades of the northern hemisphere. Our Admiralty charts* show that the latter during January, February and March extend as far north as the north-east coast of Brazil to within 120 miles of Cape San Roque, and their moveable limit is not yet very certain, far less fixed. The rainy south and south-west winds may be regarded as a modification of the south-east trade. The rainy season of Noronha closely corresponds with that of the adjacent coast to the south of Cape San Roque; and the winds of the one, like those of the other, may also be partially periodic.

Though tropical, the climate is essentially fine and healthy, as shown by the appearance of the inhabitants. Here, as at Ascension, it is not so much those employed in the sun who suffer from the heat or deteriorate in health, as those who work indoors, especially at sedentary occupations. The most prevalent diseases are diarrhoea and occasionally dysentery, both doubtless predisposed to by the heat, but most probably excited in most cases by the muddy, brackish water, not over-abundant on the island, and only got near the beach. The average daily number sick usually ranges from 20 to 30. Malingering is not uncommon. The military surgeon, the only medical man on the island, has a small hospital for soldiers and convicts; the latter while under treatment being fed at Government expense.

The scenery, especially of some of the bays, is by no means unpicturesque. On the whole the island is well worth a visit, and would especially repay the curiosity of the naturalist.

XIX.—*Papers connected with the Upper Oxus Regions.* By Colonel H. YULE, C.B.

1. *Pandit Manphúl's Report on Badakhshán.*
2. *Múnshi Faiz Bakhsh's Journey from Pesháwar viâ Kábul, Badakhshán, and Pamir to Káshgar.*
3. *Remarks by the Present Writer on the Origin of some of the Erroneous or Apocryphal Topography which till quite recently appeared in many Maps of the Upper Oxus Regions.*

As far as I can learn, Pandit Manphúl's Report, written in 1867, has not hitherto been printed, nor am I aware whether it has ever reached the India Office. It was sent to me by the Pandit himself, as a comprehensive reply to various questions regarding Badakhshán, which I had addressed to him through my friend Colonel R. Maclagan, R.E., when occupied with Marco Polo.

* Atlantic Ocean Pilot Chart.