

Haiti, or Hispaniola

R. STUART

Journal of The Royal Geographical Society
of London, Vol. 48 1878



portions north of Leh that have been traversed by members of the Mission, have been taken from the last edition of Colonel Walker's Map of Turkistan, but all the positions in the latter have been shifted three minutes to the west in longitude in order to allow for the most recently determined value of the longitude of Madras, viz. $80^{\circ} 14' 19.5''$ east of Greenwich.

In the portion of country traversed by Members and Attachés of the Mission, use has been made of all the material collected by them. The maps of Messrs. Shaw and Hayward have also been called into requisition.

The reductions of the astronomical observations, and the computations of heights, have all been made in the Office of Colonel Walker, R.E., the Superintendent of the Great Trigonometrical Survey, in whose office also the map compiled by myself has been drawn and photozincographed. A large amount of work has been got through in a moderate space of time, and I am deeply indebted to Colonel Walker for the facilities he has given, and to Messrs. Hennessey, Keelan, and Wood, in the Computing Office, and Messrs. Atkinson and Sinden in the Drawing Office, for the assistance afforded by them in their several departments.

H. TROTTER, Capt. R.E.

VI.—*Haiti*, or *Hispaniola*. By Major R. STUART,
H.M. Minister, *Haiti*.

LITTLE is commonly known of an island which, from its size, natural wealth, and position, was, not far back in modern times, the theme of widespread speculation, which was marked out to be the metropolis of a prospective empire, but is now in a state of poverty and decay, in painful contrast with the grandeur of its early destinies.

The island I allude to is known by the names of *Haiti* and *Hispaniola*, and also, but with insufficient warrant, by that of *Santo Domingo*. The object of this paper is to give some account of it, and recall attention to its forgotten importance, seeing that one day the force of progress and the march of events must restore to it a prominent place in commerce and in political consideration.

When speaking of the island as a whole, I shall call it by the name of *Haiti*.

Looking in any good atlas to the map of the West Indies and Central America, one will find this island lying between the 18th and 20th parallels of N. latitude, and between $68^{\circ} 20'$ and $74^{\circ} 26'$ W. longitude from the meridian of Greenwich. Its extreme length from Cape Engano on the east, to Cape Irois on the west, is 356 nautical miles;* its greatest breadth is 140 miles, from Cape Beata, in latitude $17^{\circ} 53'$ in the south, to the highest point on the north coast, which is $19^{\circ} 58'$. The coast

* Throughout this Paper the miles given are nautical miles.



line, measuring indentations, may be taken roughly at 1100 miles, and the superficies, with a nearer approach to accuracy, at 26,000 square miles, or, to bring it home at once to the reader's mind, about the same as that of Ireland.

The axis of the island lies nearly due east and west; the south line of coast ranges north of the 18th parallel of latitude, which cuts through the promontory of Beata. The 20th parallel almost shaves the north coast.

In outline *Haiti* bears a resemblance to a turtle, the eastern promontory forming the head, the two western promontories answering to the animal's hinder extremities. A view of the island in profile is also suggestive of the same likeness, presenting, as it does, a swelling mass emerging from the deep and attaining its greatest height in the middle.

The island is essentially of a mountainous character; and there are three distinct formations: the central, the northern, and the southern, which have no common nucleus or connecting bands. The northern and the southern are well-defined single chains; the central, from its extent and more complex tracing, deserves the name of *system*. It is complete in itself, and constitutes an integral feature in the physiognomy of the island.

Speaking figuratively, this system forms an oval crest on the turtle's back, conforming to the contour of the shell, equidistant from the sides, and approaching the tail in an irregular line. To a bird's-eye view it would resemble a racket with an elongated palm, the handle being the low ridge which, starting from the oval in lat. $18^{\circ} 54'$, long. $70^{\circ} 8'$, runs through the eastern promontory to its extremity, a distance of about 95 miles.

This ridge is in no part more than a thousand feet high; but at the point of junction with the oval it rises in a dome-shaped mountain of considerable elevation, out of which emerge, on the other side, two distinct chains, of which one holds a direct and nearly continuous course through the whole body of the island, terminating at Cape St. Nicolas, the north-western point. The other deflects to the south-west for about 40 miles as far as Mount Ocoa, when, taking a westerly direction, it stretches away in a slight curve until stopped by the sea on the west.

When at their greatest divergence these two chains are connected by a lofty ridge, which bends away south-west from the northern chain, about 125 miles from the eastern end of the oval, and, after an S-shaped course of some 70 miles, impinges on the southern chain, about 18 miles from its extremity.

The oval thus formed constitutes what may be called the



mountain-system proper of the island, the disconnected chains on the north and south being only subordinate outliers.

The northern side of the oval is the dominant chain, and is the backbone of the whole island. It is called Cibao, said to be from *Ciba*, the Indian word for *rock*. From end to end, that is, from Point Macao, its eastern extremity, to Mount St. Nicolas, its western, it may be stated at about 300 miles in length. It is divided into three segments: the eastern terminal part, which, as already stated, is about 95 miles long; the central, which extends from the parting of the chains to the deflection of the connecting ridge, about 125 miles; and the western terminal part, which is about 80 miles in length, making altogether 300 miles of rough measurement.

The topography of the region adjoining the eastern terminal segment of the chain belongs to the southern division of the island. The central segment therefore stands first in order for notice, as well from its relative position as from its richness in materials for description.

This part of the chain is in fact par excellence "The Cibao." Starting from the point of divergence, it is at first broken and so irregular as almost to lose its trend among the foot-hills of the southern bend; but at Mount Guana, about 23 miles to the west, it asserts itself again, the ridge becomes clearly defined, and, rising as it advances, attains towards the middle an average height of nearly 7000 feet. From distance to distance it throws up peaks from 1000 to 1500 feet higher still; such are Mount Entre los Rios, Mount Gallo, and Mount Jicome, all three within a space of about 15 miles, on the middle part of the segment.

The highest points, however, are not on the crest, but in the angle at the east end of the oval, which is filled with a confused mass of mountain heights, connected at the base but without any defined trend. Out of this mass emerge the two highest points of the island, namely, Loma (Mount) Tina, and the Pico del Yaqui, also called "El Rucillo," from the wreath of silvery clouds that always encircles its summit.

Between Sir R. Schomburgk and Mr. Gabb, the well-known American topographer, there is a difference of opinion as to the respective claims of these two mountains to the pre-eminence. And, strange to say, Schomburgk, in his excellent map of Haïti, committed the oversight of marking in figures on Yaqui the height which he designates in the marginal tracings for Tina. That height is 2955 metres = 9695 feet English.* According

* 1 metre = 39·371 inches English.



this altitude for the present to the Pico del Yaqui, I proceed to say that that mountain stands in lat. $19^{\circ} 2' N.$, long. $70^{\circ} 54' W.$, a little south of Cibao, and occupying, as nearly as may be, the central spot of the island. It rises from the midst of its own group of satellites; and from its flanks issue the head-waters of the northern and the southern Yaqui, two out of the four principal rivers in Haiti. The former forces a passage through the broken part of Cibao, and, reinforced on the other side by the Jimenoa, one of its main affluents, it holds its course nearly due north, to Santiago de los Cabelleros, situated 24 miles north of the crest of Cibao, at the main watershed of the great northern valley. Here the river bends westward, and, after a tortuous course of about 60 miles, as the arrow flies, falls into the bay of Manzanillo.

Between this river and the mountain-chain and great valley of Cibao there are such close topographical relations that, as I proceed, it will be necessary to combine them in description.

The southern or lesser Yaqui, also called "The Neyba," springs in part from the Pico del Yaqui, in part from the higher slopes of Mount Entre los Rios, and, after collecting its affluents into one volume, it finds a passage through the southern ridge of the oval, and flows due south to the sea at the Bay of Neyba, a course of about 50 miles.

At a direct distance of 37 miles south-east of the Pico del Yaqui, the rival mountain, Loma Tina, lifts its head. It is the culmination of a cluster of heights which, intervening between it and the Pico del Yaqui, nearly fill up the angular inclosure. A deep valley separates it from Mount Ocoa in the southern ridge of the oval, and through this valley flows one of the head-streams of the Las Cuevas, a tributary of the southern Yaqui or Neyba.

Speaking of this mountain, Mr. Gabb makes the following observations:—"I cannot believe that Loma Tina is as high as Schomburgk's figures make it (9695 feet). So far as an eye-estimate will warrant me in the expression of an opinion, I do not think it so high as the peak of the Yaqui, although it is certainly a high mountain. It is a long slope ending in a point, from which the opposite side descends precipitously. It is surrounded by many other points approaching it in height, say over 6000 feet, so that it is not so prominent nor so imposing an object as the silver-capped 'Rucillo,' the father of the two Yaquis."

"The people of the country," observes the same author, "say that it is impossible to reach the summit of Loma Tina, the route lying through dense forests, every step impeded by vines and bushes, and on reaching its flanks it must be necessary, as



is the case in all other highlands of St. Domingo (or *Haïti*), for the traveller to cut his way through thickets of fern, often so close that he must crawl on hands and knees through a tunnel, as it were, scratched by thorns and blinded by the fern spores at every step."

I have thought it opportune to quote the authority of the learned writer on this point, in his own graphic words. And I would add that not only in mountain exploration are difficulties encountered in this country, but also to a greater or less degree in every department of local research. For, of the means of passage and communication constructed by the Spaniards and the French in former years, but few traces now remain, while a luxuriant nature has long since reasserted her reign, almost as of old. Hence a liberal margin must be allowed for shortcomings in the attempt to portray, under such circumstances, the physical aspect of the country.

The Cibao chain, with the heights and ridges connected with it, forms the main watershed and river-source of the island. El Rucillo is the father, as Mr. Gabb says, of the two rivers Yaqui. The river Yuna springs in part from the heights around Loma Tina, in part from the southern rim of the oval. Working its way through the broken heights from which Cibao proper emerges, it flows N.N.E. about 20 miles to La Vega Reale ("the royal plain"), where it is joined by its great confluent the Camu, that gathers the waters of the transverse watershed, and thence the united streams roll, in a full but meandering volume, about 28 miles to Samana Bay.

From Mount Guana, a detached height at the eastern end and in the line of Cibao proper, a low spur strikes out north for a distance of about 12 miles, then bends to the west for 7 miles, then again north about 20 miles, where it mingles with the spurs of Monte Christi, the northern chain of the island. This transverse ridge is an important feature in the structure of these regions; all the waters east of it belong to the Yuna, those west of it to the Yaqui, for it is the watershed—*divortia aquarum*—of the great valley that lies between Cibao and Monte Christi. This valley it cuts into two nearly equal parts, the one declining eastward to Samana Bay, the other westward to Manzanillo Bay. The planes of these valleys intersect, at Santiago, at about 650 feet above sea-level, in lat. $19^{\circ} 28' \text{ N}$. long. $70^{\circ} 41' \text{ W}$. Westward of this line of longitude the main chain throws out ridges and spurs too numerous to be named in detail, if, indeed, that were possible in our still imperfect knowledge of the country. The hollows between these counterforts are, in general, deep and precipitous, and are all watered with streams of varying volume, which, spring-



ing from the main crest, descend to swell the waters of the Yaqui. The head streamlets, in their downward course, unite by pairs and by trios; and, this process again and sometimes again repeated, a considerable tributary is formed at length for the main river.

The chief of these tributaries, beginning from the east, are: the Bao, Amina, Mao, Gurabo, Cana, Caoba, Maguaca, and the Macabu, which joins the Yaqui at the apex of its delta.

These affluents vary somewhat in volume; in length, however, but little, because the course of the Yaqui runs nearly parallel with the crest of Mount Cibao; and the horizontal distance between the crest and the river is about 25 miles. But the streams acquire a much greater length from the sinuosity of the deep channels through which they flow. The inclosing ridges necessarily exhibit the same sinuosity: they are high and precipitous, and many of them so sharp at the crest as to have suggested the name "Cuchillo" ("knife"), given to them by the Spaniards.

Along this central part of the chain a continuous pine-forest clothes the ridge on the north side from the base to a height of some 4000 feet. Above this there is a broad belt of forest trees, and thence to the summit a dense growth of fern prevails.

The northern foot-hills consist for the most part of high rolling lands of a red gravelly soil, cut up by deep ravines and water-courses. Like the lower levels of the chain, these lands are covered with pine-forests, in the shade of which they yield also a growth of rank, coarse grass, which is utilised by the inhabitants for live stock of different sorts. Rain is scarce in these regions, and the soil is barren; settlers consequently are few, and cultivation scanty in proportion. Nevertheless, good tobacco in considerable quantities is raised on some of the lower table-lands and in the valleys wherever a breadth of alluvial deposit is formed. Indeed the ridge between the Gurabo and the Cana is so congenial to this plant as to have obtained the name of "Sierra Tabaco."

The Yaqui is almost wholly fed by the tributaries supplied by the central part of the Cibao chain. From Santiago to San Lorenzo, a distance of about 45 miles, the river flows through a valley flanked on the south by a low range of heights that border the foot-hills of Cibao, on the north by the precipitous slopes of Monte Christi. This valley gradually widens as it stretches from east to west; and at the river Caoba, where it is freed from the southern confine, it expands into a wide alluvial plain, which reaches to the river Dajabon (Massacre), a distance of about 15 miles.



Beyond the band which forms the western end of the oval, the main chain, after a break, is prolonged in two ridges, of which the northern, called "Plaisance," terminates at Port-de-Paix, lat. $19^{\circ} 56'$ N. long. $72^{\circ} 50'$ W.; the other, as already mentioned, at Cape St. Nicolas. Between these two ridges flows "Les Trois Rivières," a small river, so called from its three fountain-heads.

The great northern valley, already alluded to in part, calls for a more detailed description. It lies between the central part of Cibao and the parallel chain to the north, which Mr. Gabb has aptly christened "Monte Christi," the name given by Columbus to the peak forming its western extremity. The valley stretches from Samana Bay to Manzanillo Bay, is about 125 miles long, and 12 in average breadth. When first seen by Columbus on clearing the pass called "Puerto de los Hidalgos," the great explorer, in his admiration, called it "La Vega Reale"—the royal plain—which name, commonly shortened to "La Vega," is now confined to the eastern half of the valley; the western half being called "the valley of Santiago," while the aggregate name for the whole is the valley of Cibao.

The valley of Santiago has already been in part described, together with the river Yaqui, which flows through it.

The Vega is watered by the Yuna, which, in volume and length of course, is about equal to the Yaqui. The sources of the Yuna and of its main confluent, the Camu, have already been noticed. It remains to add that below the point of junction the river is further enriched by tributaries from the north and south, but chiefly from the south. It enters Samana Bay by several channels, and one channel more strikes due north and isolates the promontory of Samana. This channel is called "Gran Restero"—"Great Creek"—a name that would lead to the conclusion that in the time of the Spaniards there was here an inlet of the sea that penetrated nearly to the bay. And in fact Charlevoix, who wrote in the early part of last century, says that the peninsula was then joined to the mainland by a marshy isthmus a quarter of a league broad, whereas the same isthmus is now more than two leagues across.

The Yuna and the Yaqui have some points of resemblance: they are of nearly equal length and volume, and they are both very tortuous from source to mouth. But while the only craft on the Yaqui are ferry-canoes, vessels of light draught can and do navigate the Yuna as far up as its confluence with the Camu; and thence, as far as Concepcion de la Vega, loaded canoes are continually plying up and down. The difficulty with the Yaqui is owing to the shallows which obstruct the mouth of the river, and even reach some distance up the channel. By reason of



these shallows and mud-flats, the Yaqui, I may add, shifts its lower channel; for, when discovered by Columbus, its embouchure was close to Monte Christi, about 6 miles north of the present mouth. The bed of the forsaken channel can still be easily traced.

The Yuna, suffers, but in a much less degree, from the like impediments. In both rivers they could easily be removed, and the channels kept clear, by the employment of ordinary dredging machines.

About 5 miles north of Concepcion de la Vega, an eminence called "Santo Cerro"—"Holy Hill"—forms a conspicuous feature in the panorama: it is nearly 800 feet high, and is crowned by a church. From its summit one beholds La Vega in its whole length, from its broadest expansion beneath his feet, as it narrows away towards the sea, and the view is lost in distance.

The story goes that this eminence owes its name to an apparition of the Blessed Virgin at a critical moment of battle between Columbus and the Indians. Acting the part of the Dioscuri with the Roman armies, the heavenly vision, having alighted on the arm of a cross hard by, defeated the heathen enemy by turning their arrows back on themselves. A church was built on the spot in pious remembrance of this miraculous intercession; and within the church the hole is shown in which stood the foot of the cross, the same hole having by this time become a good-sized pit, because the earth in it, being holy, is sold to pilgrims at a shilling per measure of an ounce or so.

Between the Vega and the valley of Santiago there exists a noteworthy difference in respect to climate, and consequently of vegetation. For the north-east trade-winds, which are almost perennial in this part of the Atlantic, not only strike the headlands close outside the Vega, but draw through the Bay of Samana as through a funnel; and, compressed as it were between two walls of mountain, they discharge their load of moisture as they advance, diffusing coolness, verdure, and fertility on both sides. On arriving at the ridge which parts the two valleys, these winds are well-nigh relieved of their burden. As they press onward they become harsher and drier; the aspect of the country and the character of the vegetation change under their influence, until at length we come to a region of unkindly aridity, and of droughts that sometimes last a twelvemonth through.

The chain of Monte Christi, which forms the northern boundary of the valley of Cibao, is about 150 miles long, from Cape Samaná, on the east, to Sella de Caballo, the terminal peak, on the west. In breadth it varies from 10 to 30 miles; and while

VOL. XLVIII.

R



its southern flank is scarped and precipitous, on the north it slopes with an easy incline that reaches in places to the shore.

Only in a topographical sense can the ridge of Samana be said to belong to the Monte Christi chain. Though apparently a disconnected segment of the mainland formation, it differs from it, as will further on be shown, and from all the northern part of the island, in geological structure and composition.

As circumstances of recent date have lent a certain interest to Samana and the adjoining bay of the same name, it may not be out of place here to bestow on both a brief descriptive notice.

The island, or peninsula, as it is generally called, is about 30 miles in length, 10 in greatest breadth, diminishing to 5 miles at the west. It may be described as a mountain-ridge projecting into the sea, abounding in fertile slopes and terraces, and well watered on both flanks with rivulets that never fail. The crest of the ridge rather hugs the southern shore; it is in no part of any great height, and it terminates at the east in two conspicuous points, Pilon de Azucar, or the "Sugar-loaf," the more northern, 1936 feet high, and Monte Diablo, which I need not translate, about 1300 feet. Both these eminences are a little inland, and are well-known landmarks to the navigator.

Beyond these peaks the land terminates in a triangular expansion, of which Cape Cabron is the northern point, Cape Samana the middle, and Cape Balandra the southern. Cape Samana lies 5 miles south-east of Cape Cabron. The intervening shore curves inland, forming the shallow bay of Rincon, behind which lies a tract of fertile land stretching up 3 miles or so to the mountains. From Cape Samana, which is very prominent, a wall of red cliff strikes nearly due south about 3 miles to Point Vacca, where it trends to south-west for nearly 8 miles to Cape Balandra, a bold, rocky headland, formed by a spur of Mount Diablo. This part of the coast is peculiarly wild and repulsive: a rough, sea-worn face of limestone, against which the waves of the Atlantic beat with unceasing violence.

The soil on the heights is in places scant; but in the numerous dells and on the terraces it is deep, rich, and well watered, whether by perennial streams, or the heavy rains almost daily swept in from the Atlantic. Here every natural requisite exists for the profitable cultivation of sugar, coffee, tobacco, cocoa, and other tropical and extra-tropical products. The fruits are of great excellence, especially the pine-apple, which for size and flavour can nowhere be surpassed. The mountain-slopes are clothed with wood to the water's edge; and



wherever there is a piece of sandy beach, tall coconut-trees and palmettos skirt the shore in close file and cluster in the re-entering nooks.

The inhabitants of the *Peninsula* are comparatively few; and among them are a remnant and some descendants of American negroes who immigrated into the country in 1824. They are settled chiefly in Santa Barbara, the chief town of the peninsula, and in the immediate vicinity. Quiet, of good repute, and moderately industrious, they retain the English language, and faithfully hold to the Wesleyan denomination; they mingle but little with their neighbours, and they maintain their isolation by habitual intermarriage.

Of the other inhabitants there is but little to be said: they are mostly a light-coloured cross between Spanish and Indian blood, with a sprinkling of British subjects from the Bahamas, of Americans and Italians, all congregated in and about Santa Barbara. The Creoles are excellent in the chase of wild swine (*cochons marrons*), with which the woods and uplands of the peninsula abound. And for this chase they have imported and otherwise got together a breed of dogs of great strength, activity, and courage.

The Bay of Samana presents a superficies nearly corresponding in outline and measurement to that of the peninsula. It is about 9 miles across from north to south, and some 26 miles in length due east and west, giving an area of say 240 square miles. The bay opens to the east, and is therefore exposed to the force of the north-east trades, which, once drawn within the inner barrier, conform to the line of the land. A chain of coral reefs, springing from the south coast outside the entrance of the bay, stretches obliquely across to within a mile and a half of the northern shore within the entrance; and the space thus left is further narrowed to about three-quarters of a mile by a cluster of islets that stand out from the northern extremity of the coral reef. Between these islets and the shore there is an easy passage for ships of the deepest draught; and, once inside, they are in a place of safety proof to all weathers. For, in the first place, the coral reef acts as a breakwater against the seas rolling in from the Atlantic; and, secondly, the bay, in addition to the shelter it could afford on its own bosom, has side-harbours on both the north and the south coast, of various capacities, where vessels, if still hard pressed, could run for safety.

The Bay of Santa Barbara on the north, 16 miles west of Cape Balandra, cannot be entered by vessels of more than 14 feet draught; and, when entered, careful pilotage is needed



to avoid the coral reefs and mud banks that obstruct the interior. The bay is protected on the south by a chain of islets, a mile or so in length, nearly parallel with the shore, and about a third of a mile distant from it.

The chief side ports on the south are San Lorenzo and Savana la Mar. By constructing roads across the eastern prolongation of Cibao, these ports might be made the commercial outlets of the great plain of Seybo, which occupies one-half of the eastern peninsula of the island. Samana Bay is already the natural outlet of the valley of the Yuna, La Vega Reale; and if to the commercial capabilities of these fertile regions be added the fisheries of the bay, it must be evident that here is to be found an extraordinary concentration of the material sources of wealth.

Speaking of the fisheries, I may mention that the inhabitants of the neighbouring shores affirm that whales sometimes visit the bay in great numbers, when vessels put out or follow in pursuit, and make well by their captures. I am inclined to think that, in such cases, the name of *whale* is given by mistake to the common dolphin, which abounds in these waters, and attains in them its largest size.

The advantages, maritime and territorial, of Samana, have, from an early date, been recognised. Passing over the attempts made upon it by the filibusters before they formed a settlement at Tortuga, and by the French when they wanted to expel the Spaniards from the island, let us come down to the present times, and we shall find that the position has been but yesterday, as it were, openly coveted by foreign enterprise, if not by foreign power. During 1869-70 the United States had there a naval station at a rent of 30,000*l.* a year. In 1872 the peninsula and bay were actually conceded to an American Company, which proceeded at once to operations. Santa Barbara de Samana was declared a free port; a commercial agent, with quasi-consular powers, was appointed; the American flag was hoisted. Further, the three islets that command the entrance to the bay, namely, Pascal, Alevantado, and Arona, were leased by the company to the United States Government for a naval and coaling station.

The subsequent history of the company is too fresh and too well known to need repetition here. The object of the company was that of all other companies, namely, profitable speculation. That object was not attained, and, after a short time, did not appear to be attainable. The enterprise consequently fell through, and disappeared without leaving a tangible vestige behind.



However that may be, Samana, with all its natural advantages, political and commercial, is still there, awaiting in solitude the enterprise of a future day—the advent of more auspicious times. It cannot be that it will have long to wait. For, be it observed, it lies at the entrance of the Caribbean Sea, on the direct line of traffic between Europe and Central America. Such a position is not to be neglected: and its value will be tenfold increased when the imperious duty shall have been accomplished of cutting a canal through the narrow ridge that separates the Atlantic from the Pacific.

It is now time to return to Monte Christi chain, from which I was led into a partial digression by the special interest attaching to Samana.

The chain is highest towards the east, where it may average 1200 feet or so for a length of some 40 miles as far as Mount Cucurucho; here there is a break in the ridge; and thence westward a slight diminution in height. At irregular distances along its whole length the chain throws up dome-shaped heights, some rising from the crest, some detached from it. Towards the middle part there is quite a group of those heights, of which the chief is Mount Diego Campo, with an altitude of nearly 4000 feet. This height is in the longitude of the Pico del Yaqui. About 4 miles south-west of Sella de Caballo, the western terminal point is Monte Christi, a table mountain about 800 feet high, from which the whole chain has been called, as well as the adjacent bay, district, and port-town.

From causes already explained, Monte Christi chain ministers but little to the waters of the Yaqui, but rather abundantly to those of the Yuna. The greatest breadth of the mountain is at the eastern end, where the spurs and foot-hills reach down to the sea, and form a somewhat precipitous line of coast extending from the neck of Samana round by Old Cape François to the rivulet Jobo, a distance of about 50 miles. Here the spurs recede and give room to a fine plain reaching as far as Mount Isabella, the conspicuous mountain that rises aback of Porto Plata to the height of about 2300 feet. From the middle of this part of the coast-line protrudes the bluff headland called Point Macoris, which, as well as old Cape François, gives useful bearings to the coast navigator; the former being in $19^{\circ} 47' 50''$ lat. N. and $70^{\circ} 22'$ long. W., the latter in $19^{\circ} 40'$ lat., $69^{\circ} 52' 20''$ long.

There is no want of mountain streams in these parts; and the plain just mentioned is abundantly watered in its whole extent, especially by the meandering Yastica, which may almost claim the title of *river*. Some miles up this little river, a rather numerous settlement of American negroes is esta-



blished on its banks, the descendants of a colony of slaves brought into the country in 1824 from Florida by their owner, Mr. Kinsley. They were to be made free by a graduated process, intended to cover some years. But seeing the prize within easy reach, and waiting only to be grasped, they summarily asserted their freedom soon after landing; and at the same time settled down into a quiet, hard-working community, a character still maintained by the "Kinsley boys," their well-known appellation throughout the district and along the coast. The lands they occupy pass for the best cultivated and the most productive in the whole island, the staple of produce being the sugar-cane, to which the soil is eminently congenial.

At Porto Plata the coast and the back-lying country resume a mountainous character, which they retain for a distance westward of about 30 miles. The salient points of this segment of the coast are Capes Patilla and Isabella. The latter is commonly reckoned the most northern point of the island, $19^{\circ} 58' 30''$ lat. N., which is less, however, by $30''$ than the lat. of "Grande Pointe," the eastern barrier of Port-de-Paix.

From Mount Isabella, that overlooks Porto Plata, issues a small river of the same name, which drains this hilly quadrilateral, and falls into the sea hard by Cape Isabella to the westward.

One will, perhaps, be struck with the frequent recurrence of the name "Isabella" in the topographic nomenclature in these parts. There is the mountain, the river, and the cape of that name, to which is to be added "Fort Isabella," the ruined stronghold of one of the earliest Spanish settlements—a settlement abandoned almost as soon as established. When we work round to the south we shall come upon another group of the same name. Both north and south the name was thus profusely bestowed by Columbus in grateful homage to Ferdinand's wife, the Queen of Castile, who from the first had been his staunch patroness, and his main support in the accomplishment of his grand project of discovery.

From Cape Isabella to Point Fragata, a direct distance of 33 miles, the coast bends slightly to the south; and, curving inwards, approaches the main ridge of Monte Christi, which here exhibits a serrated and irregular outline. The line of coast is broken by frequent indentations which lie between the projecting roots of the mountain. And the prevailing rock here being limestone, a close-lying breakwater of coral reefs conforms exactly to the contour of the shore. This coral formation is called "the great mangrove reef," because on some of the islets which it throws up a soil has accumulated,



on which the mangrove (*Rhizophora mangle*) has taken vigorous root.

Here the chain of Monte Christi terminates in the peak Sella de Camballo, about 3900 feet high, and situated in lat. 19° 53' n., long. 71° 30' w.

From Point Fragata the coast bends abruptly to the south in a very irregular line, and forms the Bay of Manzanillo. This bay, though presenting a broad sheet of well-sheltered water, will never be much frequented by foreign navigation, or even by the coasting trade; for the coast is in great part formed of the alluvium brought down by the Yaqui and the Dajabon (river of Massacre), and is therefore low and marshy, while a broad band of shoal water renders approach difficult. A little outside to the north-west lies a group of coral islets, called from their number "the seven brothers." And at the inner angle or bottom of the bay, a deep creek, shaped like a pruning-knife, penetrates 5 miles into the alluvial plain of Canonigo, which lies between the Dajabon and the Macaboa, the lowest affluent of the Yaqui.

Dajabon is the Indian word for massacre; and the river of this name was so called because of the bloody conflicts that used to take place on its banks between the early Spanish and French settlers. From this river a plain extends westward with varying width between the mountains and the sea, nearly 40 miles, as far as the little River Rouge or Limbé, which springs from the north flank of the prolongation of Cibao. This strip of maritime land is called "the Plain of the Cape." It is chiefly composed of the detritus of the neighbouring heights resting on a foundation of limestone and coral, and is traversed at broad intervals by counterforts from the main chain, which exercise a beneficial influence both on the climate and the soil. The plain runs up in tongues between these protruding ridges, and is happily well watered by mountain streams and rivulets, otherwise it would be scarcely habitable by reason of the protracted droughts that but too often visit it.

Moreau de St. Méry, whose work closes with the year 1789, speaks of an anchor found at 900 fathoms from the sea, and at a depth of 4 feet in the soil, on an estate in the district of Limonade, which nearly adjoins Port Caracol, one of the ports of the plain of the cape. The anchor was of Spanish make; its stalk was 9 feet 9 inches long; and as it was off Port Caracol that the *St. Mary*, Columbus' ship, was wrecked on the night of December 24-5, 1492, St. Méry concludes that it belonged to that ill-fated vessel.

But how, it may be asked, did it get to the spot where it was found? The *St. Mary*, according to Charlevoix, stuck on a



reef about a mile and a half from the shore, and between that reef and the land there is deep water. Could the anchor have been ejected by submarine volcanic disturbance, and, wrapped up in other less ponderous matter, washed in by the landward rush of upheaved water that follows such disturbances? The region hereabout, let me add, is subject to violent earthquakes.

But another conjecture may be offered. In 1504 a small colony of Spaniards was established at the Bay of Caracol, at first called "Puerto Reale." Both then and subsequently in 1519 attempts were made to work the gold-mines found on the neighbouring heights; and the colonists, wanting iron for the works, and thinking they could reforge the anchor, may have hauled it so far inland, when, unable to get it farther on, they abandoned it on the spot where it was found.

From the River Rouge to Port-de-Paix, 25 miles, Mount Plaisance flanks the coast, and its spurs descend to the sea-line. Between the projecting ends of these spurs are hollowed out numerous little bays and inlets, in which the small coasting vessels of the country can find shelter, and fishing craft ply their trade.

Port-de-Paix is more an open roadstead than a port. But it affords safe anchorage, being sheltered by the island of Tortuga, or La Tortue, about 5 miles distant to the north.

The space between Port-de-Paix and Cape St. Nicolas is the *débouché* of the valley between the two terminal ridges of Cibao. The coast is low; and the back-lying lands are for some distance inland quite devoid of trees.

The harbour of Nicolas-mole, as it is called, is entered from the west, between Cape Mole on the north and Cape St. Nicolas on the south, three-quarters of a mile apart. Lying due east and west, the harbour gradually narrows for about a mile, when, having a breadth of not more than two furlongs, it bends to N.N.E. about three-quarters of a mile to the bottom. The inner harbour is separated from the outer sea on the north by a low isthmus about half a mile across. It is quite landlocked, with deep water and good anchorage throughout. At the bend lat. $19^{\circ} 49' 30''$ N., long. $73^{\circ} 22' 34''$ W.

It was here that Columbus first landed in Haïti, on the 6th of December 1492, having quitted Cuba on the preceding day with the firm conviction that that island was terra firma. He was struck with the security of the harbour, but did not fail to note the barren aspect of the surrounding country.

Negotiations, I may add, have not very long since been attempted for the acquisition of this port by a foreign power.

I have been somewhat particular in delineating the northern



features of the island, because to those parts the chief historic interest of the country belongs. As regards the present, they still maintain their relative importance. And it would not be in the nature of things that, with the manifold advantages they possess, they should fall to the rear in the future.

Returning now to the mountain-formation, I proceed to note that at the western extremity of the central segment of Cibao a ridge turns off to the south, and bends back like a retort for a distance of about 25 miles. Eight or ten miles from the end of this retort a fine peak stands out, from its crest called "Nalga de Maco," from which numerous spurs precipitously descend on both sides. In the recess formed by this retort the Artibonite, the chief river of Haïti, takes its main source, while its chief confluent, the Guayamuco, is supplied by the outer concentric ranges. This latter head-stream, enlarged in its progress by numerous tributaries, waters the fine valley-plain called *Savana de Guaba*, and joins the Artibonite nearly in lat. $18^{\circ} 50' N.$, long. $71^{\circ} 45' W.$ About five miles farther down the Artibonite is further swelled by the junction of another confluent from the south-east, the *Cana*, which collects the waters that descend into the western division of the great plain of St. John. Thenceforward the Artibonite flows in a very meandering course, through the plain to which it gives its own name, and falls into the sea in about lat. $19^{\circ} 16'$, long. $72^{\circ} 46'$.

The southern rim of the oval, as far as yet explored, would not seem, in any respect, to offer to the topographer the same amount of interest as the northern. It has already been noticed, in a cursory way, it is true, but sufficiently perhaps for the purport and limits of this paper. Of the mountain formations, therefore, of the island there remains only for notice that part which I have designated the secondary chain of the south.

This chain is separated from the central system by a succession of valley plains and lakes which reach from the Bay of Neyba to the neighbourhood of Port-au-Prince, a distance of about 75 miles. Its east end rises abruptly from the water's edge, in long. $71^{\circ} 5' W.$, whence the chain runs nearly due west to Cape Tiburon (the cape of sharks), its western extremity. Its whole length is about 170 miles, of which say one-half lies within the main body of the island; the other half forms the ridge and backbone of the horn-like promontory which projects from the south-west.

Near its middle part the chain is somewhat broken in continuity, not far from the place where the southern promontory springs from the mainland. There is no integral name for the whole ridge; but it is called Bahuruco at the eastern end



La Selle in the middle of the eastern half, from the peak of the same name, that rises to a height of nearly 9000 feet, and towards the western end La Hotte, a lofty crest culminating in a peak.

Besides these names, the intermediate heights and peaks have local designations of their own, which it would not be easy to collect or allocate.

From Bahuruco as a base a triangular promontory extends south as far as lat. $17^{\circ} 37' N.$, where it terminates in Cape Beata. The surface of this promontory is mountainous, well watered, and densely covered with primeval forests. The whole region, up to the crest of Bahuruco, is possessed by a colony of pure negroes, who hold no intercourse with the other parts or inhabitants of the island. They are said to be descendants of French maroon (runaway) slaves; at any rate, they speak, it is said, a language that resembles the creole patois of the Haitians. In habit and mode of life they are described as savages of the most unalloyed type, wandering naked through their untouched forests, and living by hunting and fishing. Never crossing their own frontiers, they are most jealous of the intrusion of strangers. Armed with bows and poisoned arrows, they warn off all approach, whether by sea or by the difficult passes of their mountain barrier.

Of the streams that water this promontory, the chief are the Nyanco, on the east, and the Pedernales, on the west. This latter marks on the south, as the Dajabon does on the north, the boundary line agreed upon in 1776 between the Spanish and the French parts of the island.

The whole of this southern chain keeps close to the shore. At the western extremity a secondary chain, called "Mornes de Macova," runs parallel to La Hotte for a distance of about 40 miles. So that the whole promontory may be said to consist of a mountain ridge and its counterforts. Between these counterforts there are some fertile dells; and a strip of fine land nearly margins the coast all round, spreading out in places on the north side into undulating plains. Such are the plains of Nippes, Miragoane, and Leogane.

The coast lands are well watered by streams that descend through the dells and ravines. These streams are too inconsiderable to be particularised, with the exception of La Grande Rivière, which falls into the Bay of Jacmel on the south, and, with more pretension, the Leogane on the north, which, rising in the Sierra de la Selle, runs a course of nearly 40 miles. Parallel to the Leogane, and within short distances, are the lesser streams Le Bateau, La Froide, and, farther east, La Grande Rivière du Cul-de-Sac, La Blanche, and La Creuse. The three



latter rise in the Sierra de la Selle, and fall, the two first into the sea, north of Port-au-Prince, the third into the Laguna del Fondo, of which more presently.

Springing from Loma de Barranca, on the southern rim of the oval, a broken and irregular ridge strikes eastward and loses itself in the mountain mass that intervenes between Azua and Sto. Domingo. Through a deep gorge in this ridge the southern Yaqui, or Neyba, one of the four primary rivers of the island, finds a passage, as already noticed, to the sea. Going on eastward, we cross in succession the Tabara, Hura, Ocoa, and Nizao, all secondary rivers, which descend from the oval, and, forcing their way through the ridge just mentioned, work their difficult courses, in parallel lines, to the sea. The Nizao hems in on the west the core of the mountainous block we are traversing. This core past, we come on the Nigua, then on the larger Jaina, and, farther on, to the Ozama, which bounds on the east the mountainous region.

The Ozama has numerous outspreading confluent and tributaries, which give to it on the map the likeness of a leafless oak. It may be considered the chief of the secondary rivers of the island. Yet it is not navigable, except for canoes, for more than 10 miles from the sea, namely, to the point of junction with its confluent, the Isabella.

Observe, the name *Isabella* here crops up again.

The segment of country between the Jaina and the Ozama is abundantly watered by transverse streamlets, which not only serve to fertilize the soil, but offer to help in turning to account the known wealth of the district in precious minerals.

Stretching eastward from the Ozama is the great plain of Seybo, about 85 miles in length and 15 in average breadth. It occupies the southern half of the eastern extremity of the island, being the correlative of the terminal part of Cibao which covers the northern half. This plain is abundantly watered by five rivers which traverse it in their descent to the sea. Their names are: the Ozama, Macoris, Soco, Quiabon, and the Yuma. There is a sixth, called the Bruguelas, which, flowing midway between the Ozama and the Macoris, disappears under ground about 20 miles from the coast. All these rivers are formed from numerous, wide-branching affluents supplied by the cross-valleys of the mountain range to the north. The Macoris is navigable for a greater distance into the interior than the Ozama.

The sea margin of the plain of Seybo consists of a honey-combed wall of limestone rock some 40 to 50 feet high, from which the land slopes upwards about as much more, then subsides so as to form a natural embankment. Along this line of



coast there is no sea inlet where vessels might ride at anchor. The mouth of the Macoris could receive sea-going vessels, but it is open to the south, from which quarter the most dangerous winds in these parts blow.

The great plain of Seybo is in part savana, in part forest. I cannot here do better than quote the description given of it by Mr. Gabb: "The savanas continue to beyond Higuey, interrupted by strips of timber along the streams, and a little clump occasionally in low places, where the drainage of the water supplies a greater amount of moisture than over the other parts of the plain."

"Coming from the west, the first intimation of the savana is the occasional appearance of a little grassy opening in the woods. These become larger, more numerous, and close together, until finally the country becomes one continuous park, carpeted with green, dotted by clumps of trees, through which the cattle roam in herds, while here and there may be seen the palm-thatched cottage of a herder, embowered in a cluster of coco-nuts. On its northern margin the boundary of the savana is exceedingly irregular; it is encroached on by numerous spurs of the mountain, and, in its turn, not only sends long tongues back into the hills, but even surmounts them in places. A very few of the hills are entirely grass-covered, while many of the outer ones are divided between grass and forest."

Such is the grand plain of Seybo. It has the character of being specially adapted to pasture and cattle-breeding, as the plain of the lower Artibonite is to cotton, and the plains of Cul-de-Sac and Azua to the sugar-cane. Accident may at first have determined these special cultures, and habit continued them; but wider experience cannot fail to show that the productive capabilities of those lands admit of no such restriction.

Lakes.—There are but few lakes in those countries where the disposition of mountain and valley, and the nature of the component rocks, are favourable to the growth and constant flow of rivers. The foregoing pages show that the conformation of Haïti favours the free flow of water. Accordingly there are but few lakes or marshes in the island. In the northern and central parts none are to be found. But in the depression which separates the oval from the detached chain on the south there are land-locked reservoirs, which may be said to constitute all that there is of lake-system in the country.

These lakes are three in number, two large and one small. The former lie end on, that is, they have the same axis, and they are separated by a low belt of land about 6 miles wide, which is often covered in the rainy season. When this happens, the united expanse of water is of rather imposing dimensions,



being about 45 miles long by 8 in greatest width. Taking the lakes separately, the larger lies to the eastward, and is about 27 miles in length by 8 in greatest breadth. It is called in French, *Etang salé*, in Spanish *Xaragua*, and also *Henriquillo*, because the Indian cacique Henry, who so long withstood the Spaniards, had his hiding-place in a small islet standing in the middle of the lake. This islet conforms to the contour of the lake, is about 5 miles long and 1 broad, and is called Cabrito, from the wild goats which are now its sole tenants.

Etang Salé receives on its north side the waters that descend from Mount Barranca; on the south, those of Baburuco. It is very deep, and as it has no outlet the waters are carried off only by evaporation, which in these regions is very active all the year round. Hence the waters that remain are very salt, and emit a strong odour. The lake swarms with fish in great variety, together with caymans, the alligator of the country.

The other lake bears the name of Lago de Fondo, and also of Etang Saumâtre, because of its brackish waters. It is about 16 miles long by 4 in average breadth, and is chiefly fed by four streams from Mount La Selle that enter it on the south side.

The level of these lakes above the sea has been stated to me at 300 feet. From a glance at the features of the surrounding country, this figure would appear to be, at least approximately, correct.

The small lake alluded to is called Icotea de Limon; it lies on the south side of Etang Salé, and is about 5 miles in length by 2 in breadth. It is of fresh water, and must therefore have an underground exit, for there is none on the surface.

The other lakes are Rincon, which communicates with the River Neyba (southern Yaqui), about 15 miles from its mouth, and Lake Miragoane, on the north coast of the south-western promontory. To these may be added three reservoirs called Lakes Navarro, curiously placed on the top of a lofty eminence near Loma de Tina, and also a few perennial pools at the western end of the plain of Seybo.

I do not include in the list the few coast lagunes of the island, as they belong more to the class of salines than to that of lakes.

Ports.—The island is but sparingly furnished with ports, and the distribution of those it possesses is partial and unequal. Two stand out immeasurably before the rest, namely, Samana Bay and Port-au-Prince. The former has already been described, not as a port *in esse*, but *in posse*, reserved for future enterprise. The latter merits a rather detailed notice.

Port-au-Prince lies at the bottom of the great triangular bay



embraced by the two horn-like promontories that project, the one from the north-western, the other from the south-western, extremity of the island. The island of Gonave, 36 miles long and 27 miles distant from the apex of the triangle, acts as a barrier against the western winds, and a breakwater against the western waves; so that inside of it there is never a tumultuous sea or a force of wind dangerous to well-secured shipping. The island of Gonave divides the breadth of water into two channels, which, with moderate care, are of safe navigation, both going in and going out. The area of anchoring ground may roughly be taken at 200 square miles. But close into the apex there are coral-reefs, which oblige vessels of deep draught to lie out about a mile and a half. These reefs could easily be removed, or, at any rate, a passage could be cut through them; and then, with the construction of piers and quays, vessels of any tonnage might safely move close in shore, and the shipping and landing of goods and passengers be rendered as easy as at Liverpool or New York.

Proceeding northward from Port-au-Prince, we come first to St. Mark's, lat. $19^{\circ} 7' 0''$ N., long. $72^{\circ} 45' 0''$ W., a small bay open to the west, with deep water close in shore; a good deal frequented on account of the trade it supplies in coffee of a superior quality.

Gonaïves, lat. $19^{\circ} 25' 42''$ N., long. $72^{\circ} 42' 52''$ W. In reality a large bay open to the west, $3\frac{1}{4}$ miles wide at the entrance, and nearly 4 miles deep; but divided into two by a little island, separated from the mainland by a narrow channel that projects from the bottom and bends to the north. The southern division is called Tortue (Turtle) Bay; the northern, Hospital Bay. The harbour of resort, as well as the town of Gonaïves, lies to the north of this latter; it is exposed to the south-west.

The next port is St. Nicolas-mole, which has been described further back, and also Port-de-Paix, the first anchoring-place on the north coast for vessels bound eastward.

Passing over some 25 miles of coast which offers nothing to arrest attention, we arrive at the Plain of the Cape, which is rich in ports and harbours. The first is Acul Bay, lat. $19^{\circ} 50'$ N., long. $72^{\circ} 17' 16''$ W., an inlet 4 miles deep and nearly 2 in average width, with deep water, good anchorage, and complete shelter inside. But it is difficult and sometimes dangerous of approach by reason of the coral-reefs and sand-banks that beset the entrance.

Next is the harbour of Cape Haïti, lat. $19^{\circ} 46' 40''$ N., long. $72^{\circ} 10' 42''$ W., a large roadstead open to the north and north-east, and obstructed inside by numerous coral-banks, which can be avoided only by careful pilotage. These passed there is a fine



expanse of deep water and good holding ground. Here was the first capital of the French settlement in Haïti, Little Paris, as it was called by the colonists. It was destroyed by an earthquake in 1842, and as yet has been but partially rebuilt. Still it is commercially an important place, and is the chief, almost the only, outlet of the great plain of the north.

Some 10 miles farther eastward is the Bay of Caracol, called by the Spaniards Port Royal. It is open to the north; the entrance is a good deal obstructed by coral-reefs, and on account of the numerous streams that enter it the water all round the land is very shoal. This port is but little frequented. Lat. $19^{\circ} 41' \text{ n.}$, long. $72^{\circ} 0' 0'' \text{ w.}$

Still holding eastward, we come next to Fort Liberté, the Port Dauphin of the French, lat. $19^{\circ} 44' \text{ n.}$, long. $71^{\circ} 51' \text{ w.}$, a perfectly land-locked basin of about 15 square miles, with deep water and good anchorage over all; safely approached from without, and entered by a narrow strait about a mile and a half in length. Yet its many advantages notwithstanding, this port is scarcely used, chiefly owing to the shipping monopoly acquired by the neighbouring harbour of Cape Haïti.

Manzanillo Bay offers no good harbour, for the circumjacent land, as already noticed, being all alluvial, the inshore water is shoal for a considerable distance seaward. In fact, from Fort Liberté to Samana there is no good port or harbour on the north coast. Port Isabella is little more than an indentation in the land-line, and is only permissively called a port, in compliment perhaps to Columbus, who, as before noticed, thought to establish there his metropolitan settlement. Porto Plata presents the surface appearance of a safe and commodious harbour, and may, in reality, have been so in former times. But now the entrance is beset with coral formations, and the inshore curve is rimmed with concentric bands of alluvium, which are constantly pushing the anchorage farther out.

From Samana round by the east coast of the island there is no port until we come to Santo Domingo, the capital of the republic of the same name, situated at the mouth of the river Ozama. The pretension of this place to be a port can be admitted only by craft that draw less than 12 feet of water, and that can turn round within half a cable's breadth. Large sea-going vessels must lie off near a mile from land, where there is good anchorage in 7 or 8 fathoms, but where there is always a heavy swell, at times forbidding communication with the shore.

No amount of expense or labour can ever make of Santo Domingo a port or harbour for sea-going ships of the present day. Nor is it a well-chosen sight for a metropolis and arsenal, seeing that it is exposed to easy bombardment from the sea.



Coasting westward, we come, after some 50 miles, to the great opening which terminates inland in the twin bays of Ocoa and Neyba. This inlet forms the area of an amphitheatre of mountains, which in some places descend to the water's-edge, forming a steep, repellent coast; in other places they recede, leaving a shore of easy approach. On entering this opening from the east, we come at once upon an inlet which seems to promise all that can be desired for the reception of shipping. This inlet is called Calderas Bay, lat. $18^{\circ} 12' N.$, long. $70^{\circ} 36' W.$ Lying east and west, it is about 2 miles long by 1 broad, with entrance at the north-west, so that it is thoroughly sheltered from every wind that blows. Nothing could look better to the eye. But soundings give a different story. The entrance and nearly the whole interior are so obstructed by mud-banks and coral-reefs that this attractive basin is almost inaccessible to vessels of deep draught. These obstructions could be removed, and, comparatively, at no great expense. Removed they will be some day, and then Calderas Bay will become one of the chief ports of the south; for it is within easy distance of auriferous mountains, of some of the finest sugar-cane lands in the island, and of fisheries that might be made to rival in value both the gold-mines and the cane-fields. Such a well-placed harbour cannot for ever remain neglected.

Round the southern promontory that ends in Cape Beata there is no harbour. Holding a still westward course, we arrive at Jacmel, lat. $18^{\circ} 13' N.$, long. $72^{\circ} 34' W.$, a nearly circular bay about a mile in diameter, open to the south-east. The necessities of commerce have made a harbour of this bay, although it is often dreadfully scourged by storms from the south and south-east.

Twelve miles farther on is the Bay of Bainet: it is like that of Jacmel in character and position, but on a much smaller scale.

Five or six miles westward of the Bay of Bainet we pass Cape Raimond, in lat. $18^{\circ} 6' N.$, long. $72^{\circ} 51' W.$, the eastern extremity of the Sierra de la Hotte. This chain hugs the sea in its whole length, except at its culmination, where it throws out a mountainous promontory terminating in the points Abacon and Gravois. Separated from Point Abacon by a channel about 5 miles wide is the island La Vache, 9 miles long and about 2 broad, parallel in its length to La Hotte, of which it is in fact a typical outlier.

In this part of the coast a number of deep inlets penetrate more or less inland between projecting spurs of La Hotte. They all contain deep water for a good way down, some to the very bottom, and would constitute excellent ports if they were more



accessible, and if they were backed by a greater breadth of productive country. Acquin, lat. $18^{\circ} 12' N.$, long. $73^{\circ} 23' W.$, and St. Louis, lat. $18^{\circ} 14' N.$, long. $73^{\circ} 33' W.$, are both ports of easy access. But the adjoining lands yield but little to attract commerce. Caution must be used in approaching the parallel inlets of Meste and Flamand, for coral formations of rapid growth and immense extent obstruct the way.

Due north of the passage between Point Abacon and Ile de Vache is situated, on the coast, the town of Cayes. It is fed by a fine tract of rolling country, extending far back among the roots and counterforts of La Hotte. Cayes, however, is not a port, but is fronted by a roadstead which is not at all protected from the south wind, and but partially from the east and south-east. For vessels of deep draught, the approach to it is rendered intricate by the coral formations already noticed. And here I would observe that the soundings in these waters, published with corrections to 1868, are no longer an infallible guide for navigation.

Observations taken from the north-west point of Ile de Vache give for the Bay of Cayes lat. $18^{\circ} 6' N.$, long. $73^{\circ} 43' 40'' W.$ Hence all round to Port-au-Prince the only good natural harbour is the Bay of Baraderes, situated on the north side of the promontory in lat. $18^{\circ} 34' N.$, long. $73^{\circ} 40' W.$ It is, however, but little frequented, owing to the scarcity of local produce and population. But so imperious are the exigencies of commerce, even in an early state of development, that several indentations of the coast are made use of as ports, and some of them are visited occasionally by the foreign steamers that trade with the country. Such are—Jeremie, Miragoane, and Petit Goave.

Adjacent Islands.—Taking the dependent islands in the order of magnitude, the first is Gonave, the natural breakwater of Port-au-Prince. It is 32 miles in length by about $8\frac{1}{2}$ in breadth, and is covered with forests of mahogany and other valuable woods. The soil is excellent and the climate delicious; yet the island is uninhabited, unless by a few unnoticed squatters.

La Tortue, or Tortuga, off the north coast, opposite Port-de-Paix, is 22 miles long by about 5 in greatest width. Like Gonave, this island abounds in fine timber of various sorts, and was once celebrated for its coffee and tobacco. The historic associations of La Tortue, connected as they are with buccaneers, filibusters, and the first settlement of the French in these parts, are of more than common interest.

La Saône, or Adamanay, is separated by a narrow strait, called Bocca Catuano, from the south-east point of the mainland. It is 15 miles long by about $3\frac{1}{2}$ in breadth. Though very fertile, it has lain uninhabited since the disappearance of the Indians.



L'Île de Vache, off Cayes, has already been mentioned. It is admirably situated for a fishing station, abounds in feathered game of great variety, and is of such fertility that it could produce live stock, fruit, and vegetables in quantities sufficient for the supply of the neighbouring mainland.

Great Cayemite, 5 miles long by about 3 in breadth, lies off the peninsula of Bec à Marsouin (Porpoise's Snout), which helps to inclose the Bay of Baradères on the north coast of the south-western promontory.

La Beata, 5 miles long by about 2 broad, is separated from the cape of the same name, the most southern point of the mainland, by a channel some 4 miles wide. It is, I believe, at present uninhabited, although formerly it contained both plantations and cattle-pens.

Besides those islands there are numerous islets in various parts off the coast, but all too small to merit notice, mere specks emerging from the waves, some with names, some without. Of those with names I would merely mention Catalina and Catinita, off the south-east coast; and Alta Vela, 7 miles s.s.w. of the island of La Beata. This islet covers an area of about 500 acres, and owes its name to its conical shape, which gives to it at a distance the appearance of a ship under sail. This bit of land has a little history of its own in connection with a deposit of phosphate of alumina which it contains. The transactions respecting this deposit within the last few years have acquired a certain notoriety in commercial circles both in London and Paris.

One more island is claimed by Haïti, but the claim is in abeyance. I mean Navasa, which is situated (north-west point) in lat. $18^{\circ} 24' 30''$ N., long. $75^{\circ} 3'$ W., 33 miles from Cape Tiburon (Haïti), and 70 from Point Morant (Jamaica). It is about 2 miles in length by a mile and a half in breadth, and is a flat rock, apparently of volcanic origin, rising to a height of about 300 feet above sea-level. All round the coast line exhibits an abrupt overhanging cliff, some 20 feet high, with only one break admitting of approach, which is at the north-west. There is no spring or fountain on the island, and no vegetation beyond a covering of low shrubs; but sea-fowl in great quantities inhabit the cliffs, and the surrounding waters abound in excellent fish of infinite variety.

Here, on this island, there is a valuable deposit of phosphate of chalk, in working which an American company has successfully been engaged since 1855. All necessary plant and machinery have been brought from the United States; and a body of skilled hands are constantly at work, for whose wants every provision has been regularly organised.



The deposit would seem to be of great extent, and the substance to be of good quality, while no diminution is heard of in the *out-put*. The undertaking would therefore appear to be attended with profitable results.

Omitting Navasa, the islands and islets above mentioned share respectively the physical characteristics of the coast they outlie. Saona is rather low, like the adjacent margin of the plain of Seybo; but through each of the others there runs length-ways a fragment of mountain-chain, which might easily be identified with the parent mass.

Tides.—The rise of tide depends in a great measure on the prevailing wind, which in these regions is an almost perennial north-east. On the north and east coasts the rise may, approximately, be taken at 3 feet; on the south or lee side of the island, at from 2 to 3 feet; and at 1 foot on the west, that is, in the great western bay, where the air-currents of the outer ocean are but little felt.

Variation of the Compass.—The variation of the compass is at present, and has been for a good many years, with an eastern tendency. At Samana it was $1^{\circ} 20'$ E. in 1872, and 4° E. at Cayes in 1868. At Navasa it was $4^{\circ} 20'$ E. in 1862, and was nearly stationary. The notes which I have at hand show an annual decrease of about two minutes in the amount of variation.

Climate.—Mr. Moreau de St. Méry writes as follows of the climate:—"From the conformation of the surface of the island, which alternates in mountains and plains, there results a great variation in its climate and temperature. This is chiefly owing to the situation of the island in the region of the trade-winds; for the prevailing east wind, of which the island feels the influence in its whole length, produces currents of air between the mountain-chains which refresh and temper the same—an advantage not shared by the plains, inasmuch as the ridges sometimes intercept these currents or change their direction. Moreover, a host of local circumstances, such as the elevation of the land, the quantity, more or less considerable, of water which irrigates the plains, the scarcity or abundance of forests, &c., have a sensible influence on the character of the climate.

"Without these counterbalancing causes, the temperature would be insupportable, unless by those designed by nature for such a climate.

"To the tempering influence of the wind must be added the nearly equal length of day and night throughout the year; and also the abundant rains, which refresh the atmosphere, and, after saturating the soil, reascend in part in cooling evaporations.



"The summer and winter seasons are more marked in the mountains than in the plains; and, as a rule, atmospheric changes are more frequent in the former. On the heights one never feels an intense heat, and those violent winds are unknown which parch rather than refresh the air. The thermometer seldom rises there above 76° Fahr., while on the plains and in the towns it often marks 100°. The nights sometimes approach even to coldness, so that a fire in the evening is a real enjoyment. Not that the cold is excessive, for the thermometer on the mountain-slopes seldom falls below 60° or so; but any change of temperature is so sensibly felt in tropical latitudes that the words *cold* and *heat* have not there quite the same meaning as in temperate regions."

Such are the observations of an accurate observer, slightly abridged in translation.

The unequal fall of rain in the eastern and the western regions of the northern part of the island has already been noticed: and its causes and effects have, in part, been explained. The south coast is somewhat differently affected in the matter of rain, being subject to a more equable atmospheric action, which guarantees those parts, if not from excessive rains, at any rate from droughts. While the central parts of the island, thanks to the lofty wood-covered mountains, never lack a full supply of moisture.

The western coast—that is, the land which lines the western bay—is provided for in this respect by a different law. The outer winds are drawn aside from their westward course and sucked in to replace the strata of rarefied air that ascend from the heated lowlands during the middle hours of every day. This sea-breeze, bending round the two horn-like promontories that inclose the bay, sets in nearly every forenoon, and, as it advances down the bay, discharges its load of moisture in partial showers along the coast. It often happens that the whole supply is exhausted before Port-au-Prince is reached, or that the rain-bearing strata pass over to the highlands of the interior. Hence occasional droughts are known in the low-lying circumference of the capital; and there are seasons of dry weather every year which act very sensibly on health and vegetation.

In this district the period included between the middle of November and the middle of February is normally rainless. Heavy rains, with thunder and lightning, are expected about the spring equinox; they fall in abundance in April, May, and June; are less frequent, and sometimes fail altogether, in July and August, usually to recommence in September, and continue, with intervals, until November.

These remarks are confined to the western plains, and are by



no means of strict or regular application. For, though meteorology has its fixed laws, its action appears to our limited knowledge to be sometimes capricious.

No meteorological observations have for many years been made in this island. For the following notes I am indebted to the work of Moreau de St. Méry. They were taken at Trou, on the plain of the cape, in lat. $19^{\circ} 35' N.$, long. $71^{\circ} 53' W.$, about 8 miles from the coast, at the foot of the mountains, at what elevation above sea-level is not mentioned.

1783	.	51 inches rain in	76 days.
1784	.	77	109 "
1785	.	43	81 "
1786	.	58	85 "

The rainy months in that region are, adds the same writer, June, July, August, September, October, and November. (Instead of calling these "the rainy months," it would be more correct to say that they are "the months in which rain usually falls.") They gave as follows in rain and rainy days:—

1783	.	24·50 inches in	38 days.
1784	.	49·00	71 "
1785	.	20·25	51 "
1786	.	40·50	61 "

It was remarked, continues M. de St. Méry, that of these four years the most favourable to agriculture was 1785, because it had been preceded by a very rainy year, during which the rains had been equally distributed—a circumstance which infinitely increases their effect. On the other hand, the year 1786 was one of drought, the wells dried up, the pools, the mountain streams, and even some rivers failed, although more rain fell in that year than in 1783 or 1785. But the drought had prevailed from November, 1785, to July, 1786; so that the evaporation was very great in the first rains that succeeded this long period of expectation.

"During these four years the greatest elevation of the barometer was 28 inches 4 lines; its least, 27 inches 6 lines.

"The thermometer marked 104° for the greatest heat in the shade; 66 for the least.

"The dominant winds were N.E. by day and W.S.W. by night; the most rare, the N.W. and S.E.

"Fifteen shocks of earthquake were felt in those four years, of which only two were very sensible, namely, those of June 18, 1784, and July 11, 1785. They undulated from W. to E., and without a trembling movement (*mouvement de trépidation*).

"The 5th of May, 1786, there prevailed at Trou an insup-



portable heat. The wind was s., varying to eastward and westward. More than two hundred mahogany presses and tables flew and were split from top to bottom."

To these notes of St. Méry I would add that this is a country of earthquakes, though now perhaps in a less degree than formerly. In 1564 the town Concepcion de la Vega was destroyed by one of these disturbances. In 1760 the same fate befell the nascent metropolitan city of Port-au-Prince; and so lately as 1842, the beautiful town of Cape Haïtien, the pride of Western Haïti, was in the same way reduced to a heap of ruins. I was near forgetting the terrible earthquake of 1751, which, among other widespread damages, entirely destroyed the town of Azua in the south.

Shocks still occur in various parts of the island; but, as it would appear, with decreasing intensity.

In the plain of Cul-de-Sac, lying aback of Port-au-Prince, a subterranean detonation is sometimes heard in the spring and autumn, followed by a sharp vertical shock of double or treble movement. This phenomenon, locally called "Gouffre," is produced by some cause as yet unexplained. It is much feared by the inhabitants, more perhaps from superstition than an apprehension of danger; for, so far as I have been able to learn, the Gouffre is not a destructive sort of disturbance.

St. Méry concludes, from certain indications to be met with in the eastern parts of the plain of the cape, that volcanic action once existed in the neighbouring mountains. He may be right, but later observers are silent on the subject. It must, however, be borne in mind that this island has as yet but in part been subjected to scientific exploration.

The skirts of the hurricane which, starting from the Caribbean Sea, swept through the West Indian Islands in September, 1875—its skirts, I say, brushed along the south coast of Haïti, extending some leagues inland, but without doing much damage. And this year an unusual heat prevailed through all these western regions during the month of August, when England was visited with unseasonable cold and rain.

Geology.—All the lands washed by the Gulf of Mexico and the Caribbean Sea are in a state of continual emergence. This is made evident by an examination of the upland soil, which in many places will be found to consist of rocks of submarine formation.

The following notices are taken from Mr. Gabb's treatise on the geology of this island, published in vol. xv. of the Transactions of the American Philosophical Society.

"No formation older than the Secondary has been found in the island; the oldest group being the great mass of slates,



conglomerates, and limestones which form its core. These are uptilted and broken by numerous intrusive masses of crystalline rocks, which may be, for convenience, grouped under the generic name of Syenite, since they almost invariably consist of the three necessary minerals, quartz, feldspar, and hornblende.

"Flanking the slates, &c., of the Sierra, there is a broad development of Tertiary marking all the northern and a part of the southern side of the island; and this, in turn, is bordered by a more recent deposit of limestones and gravels, which I shall call 'the coast formation.'

"The Sierra group forms all of the mountain mass of the interior length of the eastern republic; and it seems to form at least one, if not both, the long peninsulas of the west. It also constitutes the greater part of the peninsula of Samana, and appears as a single little outlier, under the Tertiary, near Porto Plata. It everywhere shows the evidence of active subterranean forces, being not only metamorphosed, with hardly a single local exception, but is everywhere much uptilted, and usually strongly folded.

"In the interior of the mountains, especially in the western two-thirds, the disturbance has been greatest; and the reason appears in the existence of great masses of eruptive rock, which have pushed up the slates, broken them, and, in some cases, penetrated them by dykes, to a distance of several miles from the parent mass."

"In its original state, this group of beds seems to have consisted of a series of clay-shales, thinly bedded, others more heavily bedded, and with layers of sandstone conglomerate, limestone, and heavy-bedded sandstones. The changes produced in these rocks by metamorphism are almost infinite."

Farther on Mr. Gabb says: "Almost everywhere the metamorphosed slates carry quartz-veins, sometimes barren, sometimes auriferous. Those nearest to the intrusive rocks are always gold-bearing, and those at a distance from them are invariably barren. Further, every stream running through the metamorphic rocks, in the immediate neighbourhood of masses of syenite, carries gold in its sands, while all those running exclusively in the Syenites, or at a great distance from them, are without the precious metal."

In conformity with these data it has been found that the waters of the Nigua and Jaina, of the Nizao and Ocoa, all flowing through the mountainous region west of St. Domingo city, carry gold; and the same may be said of nearly all the tributaries of the Yaqui which descend from the northern flank of Cibao.



Mr. Gabb sums up his opinion of the auriferous capabilities of the country in the following observations:—

“I do not wish to be understood as stating that there is sufficient inducement to bring foreigners here with the exclusive object of mining gold. Usually the gravels are not rich enough intrinsically; or where they are, the quantity in any one spot is so limited, that mining on any large scale is not likely to be profitable. Nor, again, do I wish to discourage the detailed examination of the quartz-veins. They are numerous; and some of the pieces I caused to be examined gave returns that would be considered very encouraging in California. Occasionally a vein can be found that, on account of its thickness, extent, general appearance, and the results of assays of its quartz, would certainly be opened in California. I know of no reason why it should not be in Sto. Domingo.”

These opinions, the result of personal researches conducted under the light of modern science, must command respect, and even be deemed authoritative. In deference, therefore, to them, we must consent to modify the ideas previously entertained of the abundance of the precious metals in this country; which ideas were derived from the older writers, who were themselves led by the reports of others, and who, in their enthusiasm for the subject, were sometimes apt to paint everything occidental in hues of gold.

Upon the subject of coal Mr. Gabb speaks in terms so absolute and decisive as here to merit a full place. “So much has been said,” he observes, “about the coal of this island, that it is necessary to refer to it more explicitly than circumstances would otherwise warrant. Throughout the country, wherever the upper parts of Miocene are found, there are small beds of an exceedingly impure lignite. In no case do the seams exceed three or four inches; and in no case is the material more than an imperfect lignite, earthy, and crumbling readily on exposure to the air. In a country like Sto. Domingo, where the demand for fuel is so limited, and the supply so extensive, a coal must be of extraordinarily good quality to warrant mining. In that case it might be made available for sea-going vessels or for export. It could never be much in request for home-consumption; and, unless sufficiently good for export, it is necessarily valueless.”

Mineral Waters.—Minerals naturally suggest the presence of mineral waters. Of these there is an abundance in the island; but they are little noticed, and not even commonly known. The virtues of chemical waters are not always instinctively appreciated; and springs of extraordinary quality are by many regarded only as something curious, without any idea of the



value of their properties. It is chiefly from memorials of the last century that I cull the following notes:—

La Cuvrière.—A short distance inland from the bay of Moustique, between Port-de-Paix and St. Nicolas-mole; so called from a very fetid source that issues from a calcareous rock, and falls into a basin 10 feet in depth and in diameter, whence it escapes by a fall of some 20 feet.

The water, on issuing from the rock, is cold, limpid, and colourless; but it emits a strong odour of decomposed sulphur, and suffocating exhalations at the approach of rains and storms. In the basin it is white, bluish, and soapy.

Port-à-Piment, in nearly the same longitude as the Bay of Moustique, on the south coast of the horn; seven springs within a small area; very curative.

Dondon, Plain of the Cape, mineral springs; ferruginous, vitriolic, and aluminous.

Plaisance, in the upper valley of Les Trois Rivières, which falls into the sea at Port-de-Paix, ferruginous springs.

Arcahaie, on the west coast, at the foot of Mount Terrible; copper, very abundant; emit an odour so strong as to have obtained for the waters the name of Sources Puantes.

Banica, on the upper confluent of the Artibonite; four copious springs.

Mirabalais, on the Artibonite.

Jacmel, on the south coast.

Dame Marie, or *Dalmarie*, *Irois*, and *Tiburon*, on the extremity of the south-west promontory.

These springs, it will be observed, are all in the western part of the island, where the French were established. I have no notes on the subject relating to the eastern part. But I may observe that the acidity of Lake Xaragua or Enriquillo is popularly attributed to percolation from the mines of rock-salt in the foot of the mountains that descend to the northern shore.

Vegetable Kingdom.—The vegetable kingdom of Haïti is very extensive, and it has been considerably enlarged by the introduction of exotics. Descourtiz has done much for the illustration of this subject in his voluminous work entitled 'Flore pittoresque et medicale des Antilles.' To afford an introductory glance, I transcribe as follows from a useful little volume called 'A Guide to Haïti,' edited by Mr. James Redpath, and published in Boston, U.S., in 1861:—

"An inhabitant," says Mr. Redpath, "of the temperate zones can hardly conceive how rich Haïti is in every species of vegetable wealth. She has every tree and fruit and flower of the tropics in her plains; and there is nothing that grows in the



States or in Canada that cannot be successfully cultivated on her highlands. Land alike of the pine and the palm, of the bread-fruit and the strawberry, of the gigantic cactus and the lowly violet, for richness of verdure and variety of vegetable products *Haiti* is not excelled, perhaps not equalled, by any country in the world."

As tropical trees and plants are now pretty generally known, it will suffice here to note a few of those productions of the island that are chiefly made use of by man, beginning with plants:—

Indigenous.—Tobacco, cotton, rice, Indian corn, cocoa, ginger, indigo, castor-oil tree, arrow-root, pimento, manioc or cassava, banana, plantain, artichoke, pine-apple, yam, sweet potato.

Imported.—Sugar-cane, coffee, indigo (distinguished from native by epithet "franc"), bamboo, grape, bread-fruit, peas, beans, melons, lucerne, cabbage, guinea-grass, &c.

Imported Fruit-trees.—Orange, almond, apple, mulberry, fig, mango, caimito.

The two last have taken readily to the soil, especially the mango, which has now spread over nearly the whole island; and its fruit has become, one may say, a necessary article of food to the people.

On the exotics a few remarks may not be without interest.

Foremost in commercial and economical importance stands the sugar-cane. The first plant was introduced in 1506 by a Spaniard named Pierre d'Atenza, who brought it from the Canary Islands; and the first sugar-mill was set up by a proprietor in the eastern part, named Gonzalez de Veloza.

There are extensive tracts of land in this country where the cane has gone on these fifty years past, annually reproducing itself by spontaneous growth, often attaining 24 feet in height and 5 inches in diameter; whereas in other sugar-producing countries, and some, too, of high repute, the cane must be planted afresh every three or four or five years, and in Florida even every year. Here, in fact, it requires no further care than to be cut down when it reaches maturity.

Of the coffee-tree a story is told that two young plants were sent as a present by the Superintendent of the Botanical Gardens at Amsterdam to Louis XIV., who sent them to the establishment of Jesuits at Martinique. Here they were successfully cultivated; and, some years after, the Jesuits sent some plants to their brethren settled at Dondon, in the northern part of this island. Tended with skillful care, these plants thrived abundantly, and became the fruitful origin of a product which soon took its place next to sugar as a commercial staple of the island.



The native indigo, called *bâtard*, *marron*, or *sauvage*, was at one time largely cultivated, though inferior to *l'indigo franc*, which had been introduced some time in the 17th century. In some places both suffered fatally from the attacks of a peculiar insect; nor can the plant resist torrential rains. In 1694 Governor Ducasse wrote home to say that, with a monopoly, he would undertake to furnish Haïtian indigo of prime mark in quantities sufficient for the whole consumption of France, and have a large surplus for other markets. The offer was not accepted. The cultivation of indigo has long ceased in Haïti.

The bamboo was imported from Martinique in 1759. At first it thrived marvellously; but, after a while, it was attacked by a destructive insect, which to this day prevents its wide diffusion through the island.

The poplar and the willow were introduced about the same time as the bamboo; but neither succeeded.

The grape, orange, almond, mulberry, and fig have degenerated, chiefly, perhaps, from want of care.

The breadfruit-tree took well to the soil, and is now common throughout the island. But the fruit is not esteemed by the inhabitants.

Amongst the botanical productions, medicinal, narcotic, and poisonous plants deserve a more detailed mention than can be here accorded to them. The use of poisonous plants is, from time immemorial, a revered science in the estimation of Haïtian negroes, known to but few, and jealously regarded as the distinguishing right of hereditary priesthood. The African word "wanga," which would seem to denote the art of poisoning, the poison, and the poisoner, is heard with awe by the Haïtian of African origin.

Woods.—Under this head the variety of production seems to be almost infinite, and the supply inexhaustible. Of the class called *incorruptible* the following are only a few. The locust-tree (*Hymenda courbaril*), Brazil-wood, rose-wood, cinnamon-wood, gri-gri, iron-wood, cypress or cedar of Bermuda, which often yields a spar 60 feet long and 18 inches in diameter; the yellow Acoma; the Yaraï Palmetto, excellent for submarine pile-driving, as it is proof to the effects of sea-water; and many others. The island furnishes magnificent pines, of which some may be seen 80 feet high and 2 in diameter; also a species of oak (*Bignonia quercus*), as firm as that of Europe, and impervious to worms. Then there are forests of mahogany of the best quality, both speckled and wavy; satin-wood, red and yellow; and of dye-woods, fustic (*Morus tinctoria*), *Myrthus cotenifolia*, *Saurus sassafras*, *Malphigia ureus*, and many others,



including logwood, which was imported from Campeche in 1730, and is now widely naturalised in the country.

The palm-tree of the Cape of Good Hope, the date-tree of Senegal, and the paper-mulberry of China, together with the bread-tree, were brought to the country late in the past century, and were entrusted to the care of the Jesuits at Cape Haïtian, who had an extensive nursery attached to their Hôpital de la Charité. How it fared with the three trees first mentioned I have not been able to learn; the bread-tree has already been noticed.

I must not forget the Manzanillo, which seems to be confined to La Tortue. But it is diligently burnt down by the natives, lest the land-crabs on which they love to feast should eat of the fruit and become poisonous.

Aborigines.—When Columbus discovered Haïti in December, 1492, the island was peopled by a couple of millions of a very low type of the human race, an off-shoot, as was afterwards seen, of the inhabitants of the mainland.

As this insular branch of the widespread American family is now extinct, it may not be out of place here to borrow, through the pages of Charlevoix, a few notices of them from the historians Oviedo and Las Casas.

Columbus, still possessed with the idea of an East Indian discovery, called these people *Indians*—a name which, with the progress of discovery, spread to their congeners on the mainland, and, by a singular admission of error, was allowed to remain, and is now stereotyped by almost universal sanction.

These so-called Indians, however, are of Mongolian origin: and the group of them in Haïti, nearly isolated as they were, acquired some peculiar habits and characteristics of their own. In appearance these islanders had a debased resemblance to the continental Indians: the men were beardless, and all were of a feeble temperament, phlegmatic and melancholy, weak in intellect, almost without passion or impulse, and both morally and physically defective.

This is the general description that has been handed down to us; and yet we know that some of these Indians, under their cacique Henry, were able to make a long stand against the Spaniards; and that their kinsmen in Samana and all the eastern parts could repel the invasions of the ferocious Caribs. These Caribs were cannibals; they inhabited Florida and some of the lesser Antilles; and the object of their descents on the coast of Haïti is so tersely described by Charlevoix that I cannot do better than describe his words:—"When these barbarians made prisoners, they first killed the men, ate their entrails, and salted their flesh; the male children they kept to



eat at their feasts, to which end they used to shut them up in pens to fatten. The young women they took to their homes, and made slaves of the old.³

The necessity of repelling such evils as these could not fail to breed courage in the faintest heart.

How and when the Indians first reached Haïti is wholly a matter of conjecture; for they had no records, and their traditions, which were embodied in popular songs, did not reach farther back than the beginning of the reign for the time being. With the accession of a new cacique began a new series of songs, and the old series was consigned to oblivion.

According to the belief of the country, the human species took its origin in Haïti. The first man, say they, accompanied by the sun and moon, issued from the sacred cave near Dondon in the north. This cave is about 150 feet deep and as many high; the entrance is narrow, and the walls are covered with rude sculptures representing the objects of Indian worship, such as frogs, turtles, snakes, caymans, and monstrous imitations of the human figure.

And here I may mention that the late Sir R. Schomburgk, when her Majesty's Consul at St. Domingo, became there possessed of a rude stone sculpture representing a serpent forming a circle by grasping its tail in its mouth, the Greek emblem of eternity. The circle is about 18 inches in diameter; and, if I am rightly informed, Sir Robert presented this curious relic to a museum in Berlin.

Some silver pieces of 25 and 12 sous, coined for the Haïtian Government in 1815, bear this emblem on the obverse, to signify, perhaps, to the world that the Haïtian Republic, then in its eleventh year, was to last for ever.

The Indians called their idols by the name of *Zemés*; they made them of chalk, stone, or baked clay, and placed them as Penates in all the corners of their houses, and on whatsoever articles of furniture they possessed. They used also to tattoo outlines of them on their skin.

Their religion was entirely of a deprecatory nature, and was administered by priests called *Butios*, who, skilled in simples, practised at the same time as physicians, surgeons, and druggists. Charlatanism was one of the chief ingredients of their skill, of which the Spanish historians record some amusing instances. It was not, however, without risk that the *Butios* exercised the art of healing, for he was liable to be torn to pieces if a patient died under his hands.

In infancy the foreheads were flattened by compression, in order to render the skulls hard and strong; and this end was so effectually attained, that, if the early historians are to be



credited, Spanish swords have been broken on Indian heads without cleaving them.

Their domestic habits were very primitive, but by no means innocent. The grown people of both sexes went nearly naked; those in adolescence, like the children, quite so. Their food was chiefly vegetable, relieved at times by fish and game. Of the vegetables most in use may be mentioned—rice, Indian corn, millet, cassava, yam, and potatoes. Of these last they had several varieties, all good, including one called the “potato of six weeks,” because it was ripe within that time after planting.

They were hard smokers, and often indulged to stupefaction. On these occasions their way was to spread undried leaves of tobacco on slow charcoal embers, and, conducting the smoke into the stalk of a pipe shaped like the letter Y, inhale it through the two branches, into the nostrils. This pipe was called *tabaco*, which name was transferred by the Spaniards to the plant, the Indian word for the same being *cohiba*.

But it was not alone on tobacco that the Indians got drunk: they had also an intoxicating beverage obtained from Indian corn. Benzoni relates that women used to masticate the grain, and eject it from the mouth, when reduced to a pulp, on a platter or leaf, from which it was thrown into a jar with other ingredients, boiled, strained off, and left to cool, when it was fit for use.

Polygamy was common among these Indians; and when a cacique died, two from the number of his wives were buried alive with him. It was a case of volunteering which was always zealously responded to. The bodies of the caciques were preserved before interment in a rough way, very unlike the elaborate process of embalming practised by the ancient Egyptians, as described by Herodotus.

The agriculture was carried on chiefly by means of fire. Implements for the purpose the islanders had none; but after burning the savana, they scratched the surface with a stick, and then threw on the seed which the rain beat into the soil deep enough for germination. They understood the mode of producing fire by the friction of hard wood against soft. It was with fire also that they hollowed out their canoes from the trunk of the sand-box tree (*Hura crepitans*)—a tree useful for no other purpose.

Hatchets of a greenish, vitreous stone, of various sizes, but of the common form, are still found in considerable numbers in different parts of the island. They are now used by the Obec priests and priestesses of the blacks in their religious ceremonies.



Their arms were limited to a javelin of hard wood and a thick pointed stick.

Their houses were of two kinds; the one was a superior style of wigwam, that is: a capacious, single-chambered hut, generally of polygonal ground-plan, with upright walls about 6 or 8 feet high, from which sprang a conical roof. The other differed but little from the ordinary two-roomed houses of our own backwood colonists. Both kinds were built of timber, strongly put together, and well thatched, so that they were proof to both wind and rain.

Of the Indian language scarcely a vestige remains. Charlevoix pretends that it has bequeathed to us the words *tobacco*, *canoe*, *hammock*, and *hurricane*. The first I am disposed to admit, because it is from *Haiti* that the plant so called was first obtained. Still, it is curious to note, there is the Turkish word *chibook*, which, like *tabaco*, also means *pipe*; and the Persian word *tumbeki*, the tobacco smoked in the nargileh. About the other words I am sceptical, because we have the Latin *canna*, Greek *κάννα*, which came to signify a *small boat*. *Hammock* might, I think, be *Hangmatté* of the Germans, who have supplied so many of our naval terms. And for *hurricane* there is the low Latin *auragium* (from *aura*), whence the French *ouragan* and *orage*.

When discovered by Columbus, *Haiti* was divided into a pentarchy. The pentarchs were called *cacique*, which, in the language of the country, meant *prince*. They were hereditary; and, in default of direct issue, collaterals on the female side were preferred to those on the male, because of the less uncertainty of the blood.

The cacique ruled despotically; his judgments on crimes touching person or property were draconic, but they had the effect of maintaining order and security.

Such were the natives of *Haiti* when first brought under the eye of European observers. Not a remnant of them now survives; they died out with unexampled rapidity under the withering contact of the Spaniards. Self-destruction, the last resource of despair, exotic vices and diseases, and grinding labour under relentless taskmasters, swept them off by thousands and tens of thousands; so that in less than thirty years from the day Columbus landed on *Haitian* soil, they had nearly all disappeared. There were a few Spaniards, and but a few, who were touched with the sad picture of a whole people dying out. Among these few was the licentiate Barthélemy de las Casas, who had been some years in the island as a teacher of Christianity. His mission was to the oppressed natives; and, by his active sympathy with their cause, he has merited the name of



"The Friend of the Indians." In 1517 this zealous apostle succeeded in procuring the issue of a royal edict, authorising the importation into Haïti of 4000 negroes a year, from the West Coast of Africa. The monopoly of this trade was granted to a Flemish nobleman, chamberlain of Charles V., who sold it for 23,000 ducats to a commercial house in Genoa.

This was the beginning of the "African Slave-trade." For, although some Africans had been brought to Haïti by Portuguese traders as early as 1505, and some more afterwards at odd times, no recognised trade of the kind existed across the Atlantic until 1517. And a good many years elapsed after the warrant had been issued, before the trade acquired a regular systematic form.

Passing over a hundred years or so, we find the Indians extinct, and Africans strongly planted on the soil of Haïti. The greater strength and endurance of the negro enabled him even to thrive under the discipline which had exterminated his predecessor; and to this day he holds his ground, though under very altered conditions. For in the beginning of the present century he became a free man; and there are now on this island two independent republics, in membership with the family of civilised nations, namely: the Haïtian Republic, of French origin, and the Dominican, of Spanish. Of these the former, with one-third of the island as territory, has a population of about 550,000;* the latter, with two-thirds of the island, a population of 150,000. In all 700,000 to a territory of 30,000 square miles, that is, 23 to the square mile. Now, speaking well within bounds, the island could support a population of 7,000,000.

Of the 550,000 Haïtians, not less than 500,000, or ten-elevenths, are of pure African descent; and amongst them the female sex largely preponderate in numbers. They do not increase; indeed, many are of opinion that they decrease; and grounds can be stated for such opinion that would seem to be conclusive.

The Dominican population does not contain more perhaps than one-sixth of the pure African element; and while the creoles in that part of the country increase and multiply at a rapid rate, the most that can be said of the negroes is that they keep up to their number.

The black population of this country is descended from contributions furnished from all the tribes inhabiting that part of the West Coast of Africa inclosed between the rivers Senegal and Niger, together with contingents from Madagascar and

* Others say only 450,000.



Mozambique. These tribes differ much in type, intellect, religion, and language. But here their descendants seem to have fused into one mass, and to have forgotten the distinctions of their forefathers.

But the African does not always change by transplantation; and in Haiti, left as he now is to the free exercise of his own instincts, he is as typical in tastes, habits, and mode of living as if he had never quitted the land of his fathers.

The language of the blacks at the east end of the island is good Spanish; at the west end, a very impure French patois.

Of the mixed races, or the mulattoes, there are about 175,000 all told, viz. 125,000 Spaniards and 50,000 French.

Attempts have from time to time been made to increase the population by immigration. In 1764 some 800 Germans were tempted out here by French proprietors. They were established near Dondon, where, in a few years, the most of them were buried. Some of the survivors were removed to St. Nicolas-mole; and there too they soon disappeared.

It fared better with the Canariens. I have no note of the time of their arrival in the island; but there is a settlement of them, numbering about a thousand souls, inhabiting one of the suburbs of Santo Domingo city, which they built for themselves and occupy exclusively. They possess extensive lands not far off, which they cultivate with care and profit.

Another prosperous colony of the same people is established at Savana la Mar, on the south coast of Samana Bay.

It is difficult to account for the failure of repeated attempts to attract hither black settlers from the Southern States and from the neighbouring islands. On three different occasions since the declaration of Independence, namely, in 1806, 1824, and 1859, the Haitian Government has seriously taken up the question. Agencies were appointed, guide-books written, and large inducements offered, but all to little purpose. A few families came each time; of these, some went back in disappointment, some, to use a homely expression, went to the bad, and some held on with indifferent success.

The Indian names of this island were *Haiti* and *Quisquica*, the first signifying a mountainous country, the second a vast country. Columbus gave to it the name of *Espagnola* (Little Spain), which was latinized to *Hispaniola*. When the French had established themselves in force in the western part, they called the territory they occupied *Saint Domingue*, which name they extended to the whole island in 1795, when by the Treaty of Basle they became possessors of the eastern part. When the French blacks achieved their independence in 1804, they restored the name of *Haiti* to the portion of the island they had won: while

VOL. XLVIII.

T



the Spaniards retained, and still retain, the French name of St. Domingue, modified to the Spanish form of St. Domingo.

Let me, then, for clearness' sake, briefly recapitulate. The island was called "Haïti" by the Indians, "Hispaniola" by the Spaniards, "St. Domingue," or "Santo Domingo," by the French. *Haïti* is now the territory of the Haïtian Republic in the west; Santo Domingo, of the Dominican Republic in the east. There is no integral name at present for the whole island.

VII.—*A Visit to the Gold-Fields of Wassaw, West Africa.*

By J. A. SKERTCHLY, F.R.G.S.

EARLY in March of 1877 I arrived at Cape Coast Castle in command of an expedition whose object was to inspect the gold-mines of Wassaw, one of the late subjugated districts of Ashanti. Several English and foreign expeditions had been fitted out for a similar purpose, in the hope of establishing a gold-mining company, in order to reap a portion of that rich auriferous harvest a few ears of which were being culled by the native miners. From one cause or another all these expeditions have failed: a principal reason being the attempt to form a mining company upon a plan similar to that on which companies are based in Australia, California, and other civilised portions of the globe. In Africa, however, we have difficulties to contend with which are not met with elsewhere. A climate enervating in the extreme, and which speedily finds out the weak spots in a European constitution, want of means of transport, a lack of food on the scene of operations suitable to Europeans, and lastly the innate and universal laziness of the natives—all these difficulties have to be met and overcome, rendering the task a by no means easy one. Still, however, I was determined to ascertain the practicability of Europeans working the mines of the Gold Coast, not by their own personal labour, as was attempted by the French and Dutch, but under their supervision. On the Western Coast of Africa, however energetic a man may naturally be, the enervating character of the climate is such as to take all the "go" out of the greatest enthusiast in a few months, while it would be impossible for any white man to work day by day in a similar manner to our navvies and miners.

Our first difficulty was to obtain carriers for our tools and stores. Everything had to be carried to the scene of operation on the heads of men and women along roads for the most part







Proyecto de Digitalización
Academia Dominicana de la Historia