



THE ISTHMUS OF PANAMA, SHOWING PROPOSED ROUTES.

PANAMA AND THE ISTHMUS.



PANAMA, as every school-boy knows, is the name by which the isthmus which joins the two Americas is now generally known, as well as of the city that stands thereon. The east and north coasts of the isthmus are said to have been discovered by Christopher Columbus, in the year 1494.

But Vasco Nunez de Balbao, governor of the Spanish colony on the west coast of the Gulf of Darien, or Uraba, was the first European to discover the Pacific Ocean (September 26th, 1513), by crossing from the Atlantic to the Pacific side. The isthmus lies between the eighth and ninth degrees of north latitude, and the eightieth and ninetieth degrees of west longitude, and consequently enjoys a tropical climate. And there being an abundance of rain during most part of the year, the vegetation is extremely luxuriant; gigantic trees interlaced with climbing plants, cocoanut palms, bananas, sugar-cane, maize, mangoes—indeed almost every tropical fruit being produced in abundance.

On the east coast of this isthmus (then better known as Darien) William Paterson, the founder of the Bank of England, attempted to found the settlement known as the "Darien Colony" in 1698-9,

composed chiefly of Scotchmen. Through the jealousy of the West India merchants, as well as the hostility of the Spanish and French Governments, and the company not having a regular charter, it was broken up and abandoned to the Spaniards, in the year 1700—not without some ill feeling, and after a loss of some £400,000, more than three-fourths of which was a year or two afterwards made up to the survivors by a Parliamentary compensation.

The Spaniards under Pizarro formed a settlement here on the west, or more correctly south coast, where they erected the city of Panama, about three miles to the east of the present one, and the ruins of which are covered with rank vegetation, or near the beach with heaps of sand, the old city having been burnt by Sir Henry Morgan the buccaneer, in 1670. The present city, on the south-west side of the isthmus, forms nearly the arc of a circle, sheltering a very beautiful and commodious bay, in which are several palm-clothed islets, which serve for shelter to ships as well as sites for store-houses. To one arriving from a voyage along the barren desolate-looking coasts of Chili and Peru, the scene presents a strong contrast by its beauty and fertility. The city was formerly strongly fortified with masonry and brick walls, towers, and bastions, but the fortifications are either crumbling and falling into the sea, or are partly laid out as a promenade, where after the heat of the day the citizens enjoy the cool sea-air, and the strains of a band of music which plays by turns in the plaza and on the old ramparts. The city, which contains about 15,000 souls, seems to have suffered much by fires; and many large buildings are in ruins,



BUENO VISTA, PANAMA RAILWAY.

including a Jesuit college, one or two churches, and a convent. These ruins, like those of old Goa, similarly situated for climate on the west coast of India, are so overgrown with creepers and other rank vegetation, that they look much older than they really are. There is, however, in the principal square, or *plaza*, a noble cathedral with a fine façade, on which the twelve apostles are sculptured. Like many of the Spanish cathedrals of South America and elsewhere, it has two towers, one of which contains a fine peal of bells, and a clock which chimes.

In the *plaza*, besides several good shops, is the Grand Hotel, the only really good one in the city. The Hôtel Valparaiso and the Railway Hotel, kept by English or American citizens, and one or two others are near the railway station and afford sufficient accommodation, except on rare occasions, to passing travellers. There are said to be about 100 English and United States white people, 200 Jews, and from 600 to 800 coloured people, mostly English subjects from Jamaica, in the city. Many of these are employed on the railway which an American company built and opened across the isthmus in 1855, or nearly a quarter of a century ago, at a cost, including rolling-stock, stations, piers, and sheds, of two millions and a half sterling. Many of these poor people keep small drinking-shops, and in some streets nearly every house is of this class, the immorality being fearfully great. These people stay here for years, though many of them look forward to returning to Jamaica as their home. They are mostly Protestants of some kind, and though they will sometimes ask the Roman Catholic priest to baptise their children, they do not worship in the Roman Catholic churches, and have consequently no spiritual guide or overseer. Mr. Hugh Malet, H.B.M.'s Consul, exercises a general oversight among them, and is often their kind adviser. The writer, when recently passing that way, held at their request a meeting of them, at which an address was given in

the railway workshop to about 200 eager listeners, many of whom thanked him heartily, and expressed a wish for a church and minister of their own; but they are too poor to provide these for themselves. Will not some society take a hint here for their good?

The Spanish citizens are, if possible, worse in morals than the Jamaicans; cock-fighting and gambling seem to be their chief occupations, especially on Sunday afternoons, and numerous quarrels arise therefrom, and from the drinking that is carried on day and night. Yet, with all this, the place is said to be not so bad as formerly, and especially when the railway was in course of construction.

The Isthmus of Panama, or Darien, has long been an object of interest from the possibility of cutting a ship-canal through it. The desirability and importance of this were seen by Humboldt (early in this century) and have been matters of speculation to many others before M. Lesseps took up the idea, which he hopes to realise in ten years' time. Whether this be done or not, the project is a most important one. Such a canal will shorten the distance between some American ports by 8,000 miles, and between New York and Shanghai by 5,000 miles, and the voyage from England to Australia by a similar or even a greater distance; while the economy of money which will result from the saving of time and distance consequent on the abolition of the long and tedious voyage round Cape Horn, or through the Straits of Magellan, has been estimated at 80 francs or £3 4s. a ton; the toll or tariff for a ship's passage being estimated at 15 francs or 12s. a ton. And when it is calculated that from 6,000,000 to 7,500,000 tons of shipping will probably pass the canal annually, yielding a revenue of 90,000,000 francs, or £3,600,000, while the expense of administration will not much exceed 35,000,000 francs, or £1,400,000, some idea of its importance is at once seen.

The cost of such an interoceanic canal has been variously estimated at from 600,000,000 to 700,000,000 francs, or from £24,000,000 to £26,000,000 sterling; with a breadth of 140 feet at the bottom, and a

depth of 30 feet at low water. And the amount of earth to be removed by either of the two shortest of the six schemes (viz., between Colon or Aspinwall, on the Atlantic side, *viâ* the river Chagres or the Rio Grande) would be 47,000,000 cubic metres, and the lowest estimated time not less than six years. These estimates, it has been farther shown, must be higher if there are to be neither locks nor a tunnel, and these the International Congress, held in Paris in June last, decided by 74 votes against 18 must not be. The subject was subsequently debated at the Literary Congress held in London, also in June last, at which M. Lesseps stated that England was at present paying 100,000 francs a day, or £1,460,000 per annum, to the toll dues of the Suez Canal; and the inference was drawn that as commerce to Australia and New Zealand, to the isles of the Pacific, and the west coast of North and South America increases, so would be the increase of tolls through a Panama Canal. This would no doubt be fair, if it could be predicated with certainty that the increase of commerce by the Panama Canal would be as great as it has been by the Suez Canal. Some hold that it will be much greater, and probabilities are in favour of the idea. Even now merchandise valued at some *seventeen millions sterling* passes the isthmus yearly by the railway, with its cumbrous methods of loading and unloading, shipping and trans-shipping, and an area of commerce almost entirely confined to the west coast of America. But when the vastly extended area of Australia and China is embraced, and the increased commerce of the west coast of America is alike considered, the present amount will probably be little more than as the drop in the bucket. The canal is no doubt more than ever needed, and though the estimated "dividend of 11½ per cent. from the time of opening," promised by M. Lesseps to shareholders, may be never realised, yet there needs, it is evident, but concentration and capital for eight or ten years to realise as great, if not a greater success than has been achieved at the Isthmus of Suez.

The reports of Lieut. Wise and others, which have been laid before the International Interoceanic Com-

mission, and which have already appeared in the *Panama Star and Herald*, the *Daily News*, and some other papers, show that six, or with a variation in one of them, *seven routes* have been surveyed with more or less attention. To begin with the most southern:—

No. 1 commences on the eastward, near the head of the Gulf of Uraba, and ascends the river Atrato, and enters the Pacific at the Bay of Chiri Chiri. The total length is 180 miles, of which 31 miles would be canal proper. There would be 22 locks and a tunnel four miles long. The earthwork is estimated at 29,000,000 cubic metres of cutting and 3,000,000 of embankment. Surveyed by Selfridge. This would occupy about nine years in construction.

No. 2 also has its eastern entrance near the head of the Gulf of Uraba, ascends the rivers Atrato and Tuyra a short distance, and enters the Pacific at the Gulf of San Miguel. The total length is 146 miles, of which 80 miles would be canal proper. There would be 22 locks, and probably half a mile of tunnel. The earthwork is estimated at 60,000,000 cubic metres of cutting and 6,000,000 of embankment. Surveyed by the International Commission. This would require twelve years to construct.

No. 3. The eastern entrance is at Acanti, at the entrance of the Gulf of Uraba. This scheme utilises a part of the Chucunaque and Tuyra rivers, and enters the Pacific, like No. 2, at the Gulf of San Miguel. The length is 78 miles, of which 46 would be canal proper; there would be no locks, but a fearful tunnel of 10 miles. Estimated earthwork, 70,000,000 cubic metres of excavation—and would take twelve years to construct. This scheme, we think, may be at once laid aside.

No. 4. Eastern entrance at the Gulf of San Blas, partly



ASPINWALL: THE CHURCH, AND PALMS.

utilises the river Mamoni, and enters the Pacific opposite the Isle of Chepillo in the Gulf of Panama. This would require 34,000,000 cubic metres of excavation, and occupy ten years in construction; though the total length would be only 33 miles, of which 26 would be canal proper, without locks, but with 10 miles of tunnel—a most formidable objection.

No. 5. Eastern entrance at the head of the Bay of Simon, near the port of Colon or Aspinwall, ascends the river Chagres, and enters the Pacific in the Bay of Panama some way to the west of the city. Total length 45 miles, the whole of it being canal proper. There would be no tunnel, but 25 locks. Estimated earthwork, 37,000,000 cubic metres of cutting, and 5,000,000 of embankment. This would require six years to construct. Surveyed by the International Commission.

No. 6 is the same as No. 5 to within a short distance of Panama, when it runs nearer that city and utilises the Rio Grande and the present ports. The present railway would also be useful in the construction. Total length, $45\frac{1}{2}$ miles, all canal; no locks, but a tunnel four miles long. Estimated earthwork, 47,000,000 cubic metres of cutting. It would require six years in construction, or ten years without the tunnel. This is the most favoured route, and with some additional cost and labour there is some hope that both locks and tunnel will be avoided, and an open canal be cut wherever necessary, in addition to deepening the Rio Chagres, in which rocks might have to be blown up, as at Hell Gate near New York. When we recall to mind the fact that the Canadians, who number less than 4,000,000, have nearly completed a grand system of canals of over 70 miles of artificial navigation at an estimated cost of over 50,000,000 dollars, or a sum equal to half the cost of the canal, while New Zealand, with a population of about half a million, has entered into an outlay of over ten millions for public works, the nature and extent of the Panama Canal can hardly appear formidable from an international standpoint.

No. 7. This scheme has the eastern entrance of the canal far to the north-west, at the mouth of the San Juan river, which is utilised to the Nicaragua Lake, whence a cutting is proposed to the Bay of Brito. Total length, 181 miles, of which 120 would be canal, with 21 locks, but no tunnel. Estimated earthwork, 48,000,000 cubic metres, with 5,500,000 of embankment, and would take ten years in construction. A route favoured by the late Emperor of the French, Napoleon III., who would have had the cutting more north. But this route is long and impracticable, and the localities extremely pestilential, with little chance of trade on the way, or of making an *entrepôt* on the route, such as Panama.

No other route economises distance so much as No. 6. United States ships will save 8,500 miles between their eastern and western ports, San Francisco and others; and English ships 6,500 miles in steaming from Great Britain, Vancouver's Island, and British Columbia. The whole of the trade of the west coasts of South and North America would be brought many thousand miles nearer, as well as that of Australasia,

and much of that of China; while the dangers, by no means small, in winds and fogs, of Cape Horn and Magellan's Straits would be entirely avoided; the present ports and railway of the isthmus being used would also lessen the expense and facilitate navigation.

The wonder to one passing over Panama is that the canal has not been cut before. Nowhere does the rock or land to be pierced rise so high as 300 feet, and the distance is less than 50 miles; and a river, the Chagres, is already navigable for barges more than 40 miles of that distance. Climatic difficulties too have been greatly overstated. If workmen would eat and drink less in a climate so warm, or eat lighter and more suitable food than they have been accustomed to in cold latitudes, and abstain altogether from intoxicants except as medicines, the mortality among workmen in such a climate might no doubt be greatly reduced. The diffusion of simple sanitary knowledge, and the adoption of sanitary rules and regulations, have done much in India to save life among both soldiers and sailors, and made some of the places formerly regarded as the sepulchres of Englishmen nearly as healthy as our metropolis and other cities at home. Why should not the same results be produced in Central America? And when the workmen are brought to prefer self-discipline, sobriety, and thrift, to prodigality, drunkenness, licentiousness, and suicide, the abnormal mortality will decrease, and savings-banks rather than grog-shops will be in the ascendant.

There have been one or two objections to the Panama Interoceanic Canal which, if not so frequent, would be too trifling for serious thought. There are some who tell us that the different levels between the waters of the Atlantic and Pacific Oceans will render the use of the Canal impracticable, even if the cutting be possible. These objectors generally incline to the idea (why, no one knows) that the Pacific is the higher of the two oceans—just as wiseacres formerly thought the Red Sea higher than the Mediterranean. The tides of the Pacific side, it is reported, do rise somewhat higher than those on the Atlantic side; and it is hoped will consequently be of much service in scouring the canal, just as the higher tides in the Red Sea are of service in supplying the loss of water by evaporation in the Bitter Lakes of the Isthmus of Suez. The fact is that what we are accustomed to regard as restless seas and oceans are really the only stable element on the surface of the globe.

I have now briefly described the several plans or schemes for the Panama Ship Canal, and noticed some of the principal objections and advantages. The speculations as to the possibility and desirability of this stupendous work have been carried on and indulged in, at least from the beginning of this century. And if there is any weight, as some think there is, in the old Greek adage, "Counsel slowly, but execute promptly," then is the time come for prompt and earnest work; and if this goes on and capital suffices—and there is no reason why it should not—long ere the close of the century we may yet see completed in the Panama Canal one of the grandest achievements for commerce and international unity.